

Request for Bid

Fixed-Price Bid to Result

Remediation To Closure

Solicitor

Jill Kostelansky

Solomon's Mini Mart

615 Hancock Avenue

Vandergrift, Pennsylvania 15690

PADEP Facility ID #: 65-81314 PAUSTIF Claim #: 2010-0128(I)

Date of Issuance

April 4, 2014

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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. Reimbursement of Solicitor-approved, reasonable and necessary costs up to claim limits for the corrective action work described in this RFB will be provided by PAUSTIF. 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	Friday, April 18, 2014 by 5 p.m.
Mandatory Pre-Bid Site Visit	Monday, April 21, 2014 at 11 a.m.
Deadline to Submit Questions	Thursday, May 8, 2014 by 5 p.m.
Bid Due Date and Time	Thursday, May 15, 2014 by 3 p.m.

Contact Information

ICF International	Solicitor	Technical Contact
Mr. Ronald Moore Claim Investigator ICF International 4000 Vine Street Middletown, PA 17057	Ms. Jill Kostelansky 615 Hancock Avenue Vandergrift, PA 15690	Mr. Joseph Ozog, Jr., P.G. Excalibur Group, LLC 91 Park Avenue Windber, PA 15963 joeozog@excaliburgrp.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. **Note that bids will be scored technically based on those tasks/milestones included in the Bid Cost Spreadsheet and the total bid cost. Any optional milestones or cost adders that were not requested as part of this RFB will not be considered by the Bid Evaluation Committee in the technical review and technical score.**

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. 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 from 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.

Background Summary

The Solomons Mini Mart facility is located at 615 Hancock Avenue in the town of Vandergrift, Pennsylvania, and occupies ~0.3-acre, irregular-shaped, property adjoining the east/northeast corner of the intersection between Hancock Avenue and Longfellow Street (see Figures 1 and 2, Attachment 3a). The Site is occupied by a two-story, masonry block and brick structure with no basement located in the northern portion of the Site and a steel dispenser island canopy southwest of the Site building. The Site building is currently occupied by an active coin-operated Laundromat and offices. Former operations included a car wash, convenience store, and retail gasoline and diesel fuel sales. The former car wash operations and convenience store were located in the existing Site building. Retail gasoline and diesel fuel sales ceased in October 2010.

Surrounding properties consist of a mixture of commercial businesses and residences. The site adjoins the right-of-way (ROW) for Hancock Avenue to the northwest and ROW for Longfellow Street to the southwest. An active retail gasoline service station (Solomon's Mini Mart II) is located ~200 feet to the north-northwest of the Site (see Figures 1 and 2, Attachment 3a), which is currently under remediation for an unleaded gasoline release reported in January 2007.

Supreme Quality Retread Inc. owned and operated on the Site until 1991, when the Site was purchased by the current owner/operator (and Claimant), Ms. Jill Kostelansky. Retail gasoline and diesel fuel sales continued at the site until October 2010. The former UST system owned/operated by Ms. Kostelansky included the following: one 3,000-gallon diesel fuel (Tank 001); one 1,000-gallon unleaded gasoline (Tank 002); one 4,000-gallon super unleaded gasoline (Tank 003); one 6,000-gallon regular unleaded gasoline (Tank 004); and one 8,000-gallon regular unleaded gasoline (Tank 005); product piping; and one product dispenser island. All five USTs were installed in October 1989 and situated within a common tank cavity located in the southern portion of the Site. Tanks 001 through 004 were constructed of steel and Tank 005 was constructed of single-wall fiberglass. The product dispenser island was located beneath the existing steel canopy located on the northwest side of the Site. See Figures 2 and 3 in Attachment 3a for the location and layout of the former UST system.

Release History / UST System Closure

In September 2005, a release was suspected from the regular unleaded gasoline USTs (Tanks 004 and 005) and the diesel fuel UST (Tank 001) during the performance of UST system tightness testing by CROMPCO CORP.¹ As a result, a 15-day Notification of Reportable Release (NORR) was submitted to the PADEP. The suspected leak was characterized as “most likely” originating from a common vent line associated with the three tanks.² The vent pipe was repaired and this issue was resolved as the suspected release could not be verified during the repairs.

In October 2010, a release from the former UST system (associated with Claim #2010-0128(I)) was suspected as a result of anomalous statistical inventory reconciliation (SIR) data, and the Solicitor reported to ICFI / PAUSTIF a loss of ~1,200 gallons of product. On October 25, 2010 tank tightness testing was performed on Tanks 004 and 005. The unleaded gasoline UST (Tank 005) failed on the ullage (dry) portion of the leak test, indicated by “air intrusion into tank” above the product level in the tank³, and no groundwater was drawn into the tank during and following the vacuum-type test.⁴ Because of the failed test result, Tank 005 was immediately taken out of service, and a verbal NORR was reported to PADEP on October 25, 2010, followed by the written NORR sent to PADEP on November 8, 2010. The entire UST system was taken out of service in October 2010, and included removal of all remaining product from the USTs.

The UST system, which included the five USTs, associated piping and dispensers, was unearthed and removed from the Site in September 2012. During the closure activities, all of the USTs reportedly appeared to be in “fair to good” condition. However, a loose coupling was discovered in the product piping associated with Tank 004.⁵ Additionally, petroleum impacted soil and water were observed within the tank cavity. It was deduced that the source of the impacts was likely “the loose coupling associated with unleaded gasoline Tank 004.”⁶

Water was encountered within the tank cavity at a depth of ~7 feet below grade and ~3,200 gallons of petroleum-impacted water was removed from the Site for off-site disposal during the closure activities. Immediately following removal of the USTs and other system infrastructure, ~274 tons of impacted soil was removed from the tank cavity, piping trenches, and in area of the dispenser island. Excavation depths varied by location as follows – 10 feet in the northern

¹ Environmental Site Characterization Report, prepared by Letterle & Associates, LLC, dated April 2012 (Attachments 3j through 3l).

² “Notification of Reportable Release Form”, prepared by CROMPCO CORP, dated September 23, 2005 (Attachment 3m).

³ At the time of the test, it is reported that Tank 005 only contained 142 gallons of product; therefore, the ullage (dry) volume of the tank was 7,858 gallons (~95% of tank void of product).

⁴ Tank Tightness Testing Reports, prepared by Leak Detection Systems, Inc, dated October 25, 2010 (Attachment 3m).

⁵ Page 7 of 12, “Underground Storage Tank Report Form”, prepared by Letterle & Associates, LLC, dated October 18, 2012 (Attachment 3i).

⁶ Page 9 of 12, “Underground Storage Tank Report Form”, prepared by Letterle & Associates, LLC, dated October 18, 2012 (Attachment 3i).

portion; 13 feet in the southern portion; 8 feet in the area of former product line trenches; and 4 feet at the former dispenser island. According to the Solicitor's consultant, Letterle & Associates, LLC (Letterle), a buried concrete pad was encountered at a depth of 10 feet in the northern portion of the former tank cavity preventing excavating any deeper in this area.

A total of seven post-excavation soil samples were collected from the completed excavation – five at the sidewalls in the area of the former tank cavity; one on the excavation floor in the area of former piping trenches; and one on the excavation floor in the area of former dispensers. Results of the soil samples were either “non-detect” or contained concentrations of the contaminants of concern (COC) well below PADEP Statewide Health Standards (SHS). The former location of the UST system and extent of soil excavation is shown on Figures 2 and 3 in Attachment 3a. Post-excavation soil sample locations are provided on Figure 3 (Attachment 3a).

Site Characterization & Interim Remedial Activities

Site characterization activities, associated with Claim #2010-0128(I), were initiated in June 2011 by the Solicitor's consultant, Letterle, in response to the October 2010 suspected release. The characterization activities included advancing three soil borings (GB-1, GB-2, and GB-3, see Figures 3 and 4, Attachment 3a) in the vicinity of the UST field, and collecting / analyzing soil and grab groundwater samples from the three borings. Between October 2011 through May 2013, the Solicitor's consultant, Letterle, performed additional characterization activities along with interim remedial activities (IRA). The supplemental characterization activities included – advancing and sampling 17 additional soil borings (SB-1 through SB-17) on- and off- Site; converting soil borings SB-1 through SB-10 into groundwater monitoring wells MW-1 through MW-10; converting boring SB-11 into a recovery well RW-1; converting borings SB-12 through SB-14 into soil vapor sampling points VP-1 through VP-3; converting boring SB-15 into bedrock monitoring well MW-11D; converting borings SB-16 and SB-17 into recovery wells RW-2 and RW-3; collecting / analyzing groundwater samples; aquifer slug testing; and vacuum enhanced groundwater extraction (VEGE) pilot testing. The IRA's included periodic dual-phase high vacuum extraction (DPE) events⁷ at recovery well RW-3, and limited source soil removal following removal of the UST system. Locations for the soil borings and monitoring wells are shown on Figures 2, 3, and 4 in Attachment 3a.

Based on the available Site information, the unconsolidated materials underlying the Site and surrounding area consist of about one to five feet of fill material (consisting of clay, silt, gravel, and rock fragments), underlain by a residuum which includes primarily silty clay with discontinuous layers of silt, sand, silty sand, sandy silt, and clay to a depth ~24 to 31 feet. A discontinuous layer of weathered shale underlies the residuum, with competent sandstone bedrock at around 31 feet. Groundwater is reportedly first encountered on-site within the silty

⁷ These events are identified as Focused Source Remedial (or FSR) events in the attached background documents.

clay and sandy silt / silty sand soils at a depth of ~16 to 25 feet below grade, and off-site within silty clay and sand soils at a depth of ~18 feet below grade. The groundwater flow direction (north-northwest) is shown on Figure 2 in Attachment 3a.

Only three of the soil samples collected from the unsaturated or periodically saturated zones were found impacted with COCs exceeding SHS – soil sample from boring GB-2, collected near the former UST cavity; and samples from borings SB-5 and SB-17, collected from the smear zone soils in the northern corner of the property. Location for these soil borings are shown on Figures 3 and 4 in Attachment 3a. Approximate area for soil impacts exceeding SHS is shown on Figure 5 in Attachment 3a.

The current monitoring well network consists of on-property wells MW-1 through MW-5, MW-9, MW-10, and MW-11D, and off-property wells MW-6, MW-7, and MW-8, located on the side- and downgradient commercial properties. In addition, there are three wells intended to be used for groundwater recovery (RW-1, RW-2, and RW-3). Static groundwater levels within the on-property shallow wells have ranged from ~15 to 23 feet below top of casing, and within off-property wells the water levels have ranged from ~15 to 20 feet below top of casing. The water levels in the on-property deep well (MW-11D) has ranged from ~22 to 24 feet below top of casing.

On-property well MW-1, immediately downgradient of the former tank cavity (source area), currently exhibits the highest concentrations of the COC, with concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX); MTBE; naphthalene, 1,2,4-trimethylbenzene (1,2,4-TMB), and 1,3,5-trimethylbenzene (1,3,5-TMB) exceeding SHS. On-property well MW-3, also downgradient of the former tank cavity, exhibits concentrations exceeding SHS for benzene, MTBE, and both TMB-isomers; however, at several orders-of-magnitude (OOM) lower than MW-1. On-property well MW-4, which is apparently on the upgradient side of the former tank cavity, has concentrations of only MTBE exceeding SHS. On-property, downgradient well MW-5, located at the northern corner of the Site has exhibited concentrations of only benzene exceeding SHS. Off-property well MW-7, located in downgradient direction from Site, is the only off-site well containing contaminants (benzene, MTBE, and both TMB-isomers) exhibiting concentrations exceeding SHS. The assumed extent of the contaminant plumes for the COC exceeding SHS in the shallow overburden groundwater is shown on Figure 6.

Soil vapor samples were only collected from VP-1 and VP-2 located adjoining the Site building. VP-1 and VP-2 were each sampled twice (April and May 2012). According to the Solicitor's consultant, Letterle, soil vapor sampling point VP-3 has contained water during both sampling events; therefore, no samples could be collected from VP-3. Sample results from VP-1 and VP-2 did not exceed the PADEP indoor air screening levels. Although, no samples could be collected from VP-3, a nearby well MW-2 has historically either been non-detect with exception of very low levels of MTBE below SHS. PADEP provided approval of the Site Characterization Report (SCR) and Remedial Action Plan (RAP) (with no comments/modifications) via letter to

the Solicitor dated February 1, 2013. Should additional soil vapor sampling be required by PADEP in the future, it will be addressed at that time outside the RFB SOW.

A total of six DPE events have been performed at on-property recovery well RW-2 from May 22, 2012 through September 5, 2012. A total of 998 gallons of groundwater was recovered from RW-2 and transported off-site for disposal.

Solicitor's Selected Closure Standards & Remedial Approach

Solicitor's chosen closure approach for the Site is SHS for both soil and groundwater. In April 2012, the Solicitor's consultant, Letterle, provided PADEP with a SCR and in November 2012, Letterle provided PADEP with a combined Additional SCR / RAP prescribing the use of a VEGE system on-property and use of periodic DPE events off-property to remediate both soils and groundwater impacts. PADEP subsequently provided approval of the remedial goals and proposed approach (with no comments/modifications) via letter to the Solicitor dated February 1, 2013.

Pilot testing to assess the feasibility of the proposed remedial approach was performed at the Site in March and May 2012. On-property wells RW-1 and RW-3 were used for the extraction of groundwater and vapors during the pilot testing. During the VEGE pilot test on RW-1, the Solicitor's consultant, Letterle, determined that the groundwater recovery yielded ~0.25 gallons per minute (gpm) under an applied vacuum of 13 inches of mercury (in Hg) after six hours of extraction, and a vapor extraction rate of 40.6 standard cubic feet per minute (scfm) at 13 in Hg was obtained during the pilot test. A total of 325 gallons of groundwater was extracted over the duration of the pilot test. The groundwater influence zone was interpreted to extend 180 feet to the north (off-property across Hancock Avenue) but less than 20 feet in the south, west and east directions. A pneumatic zone of influence was estimated at 188 feet to the north based on the observed response from the surrounding monitoring wells.

During the VEGE pilot test on RW-3, the groundwater recovery yield was similar to RW-1 at ~0.25 gpm; however, under a lower applied vacuum of 10 in Hg after six hours of extraction, with a vapor extraction rate of 48 scfm at 10 in Hg being obtained during the test. A total of 100 gallons of groundwater was extracted over the duration of the pilot test. The groundwater influence zone was interpreted to extend to similar distances as the test at RW-1 at 180 feet to the north, but less than 20 feet influence in all other directions. A pneumatic zone of influence was estimated to be 156 feet to the north based on observed response from surrounding wells.

The November 2012 RAP proposes limited duration DPE events in the vicinity of off-property MW-7. These events would involve using a mobile high vacuum extraction system, operating

on a periodic basis (twice per month for a period of 6 months) at an off-property proposed recovery well location near MW-7⁸⁹.

The November 2012 RAP indicates that the VEGE system would include the use of five on-property recovery wells¹⁰, located north and south of the existing dispenser island canopy. Anticipated vapor flow rate is 41 scfm with 0.25 gpm of extracted groundwater at an applied vacuum of 14.7 in Hg from each recovery well. The RAP does not include any recovery wells installed through the former UST cavity to more directly address the underlying soil nor does it include any recovery wells near GB-2 where soil exceeded SHS.

The November 2012 Additional SCR proposed installing an additional off-property monitoring / delineation well downgradient from existing off-property well MW-7, and to be located on the Solomon's Mini Mart II site. This well has not been installed and is not part of this RFB due to a spill and ongoing remediation at the Solomon's Mini Mart II site. Should further groundwater delineation be required in the future, it will be addressed at that time outside the RFB SOW through consideration of other alternative locations (i.e. roadway ROW).

Other Information

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 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.

⁸ This off-property recovery well has not yet been installed.

⁹ Should a bidder decide to bid implementation of the RAP "as-is", these off-property limited duration DPE events shall be bid as a contingency task which is dependent on the effectiveness of the on-property VEGE system reducing off-property contaminant levels.

¹⁰ RW-4 and RW-5 have not yet been installed at the Site.

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 – Southwest Regional Office (SWRO) has reviewed and did not have any comments on the SOW provided within this RFB.

Objective

Solicitor seeks competitive, fixed-price bids, for this Bid to Result RFB to complete the eight (8) milestones outlined below intended to take this Site to closure. To be deemed responsive, each bid must respond in detail to each of the milestones, including describing the bidder's understanding of the conceptual site model and how that model relates to the bidder's proposed approach to executing the SOW. "Bid to Result" RFBs identify task goals and rely on the bidders to provide a high level of project-specific detail on how they will achieve the goal. Each bid must detail the approach and specific methods for achieving the milestone objectives. In reviewing the quality of bids submitted under Bid to Result solicitations, there is an increased emphasis placed on technical approach and reduced emphasis on cost (as compared to bids for "Defined Scope of Work" RFBs). The Solicitor has elected to pursue environmental closure based on demonstrating attainment of the PADEP Act 2 used aquifer SHS Medium-Specific Concentrations (MSCs) in a Residential setting for soils and groundwater.

Constituents of Concern (COCs)

The COC for soils, groundwater, and vapors are the post-March 2008 short list for unleaded gasoline, which consist of benzene, toluene, ethylbenzene, xylenes (BTEX); MTBE, 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:¹¹

- 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 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

¹¹ As such, all bids shall include the costs of these activities and associated functions within the quote for applicable tasks/milestones.

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

Milestone A – Supplemental Site Characterization Activities and Reporting. This milestone provides bidders the opportunity to identify which additional site characterization work will be completed in advance of finalizing the remedial approach design and moving ahead with its implementation. Conducting supplemental investigative activities under this milestone is mandatory. PAUSTIF will be reimbursing up to \$10,000 for supplemental site characterization and reporting costs under this milestone. Bidders are to describe what supplemental site characterization will be completed, the rationale for the work and how the derived data will be used. For purposes of bidding, and to ensure consistent cost scoring of bids, each bidder will enter exactly \$10,000 as the bid price for Milestone A in the Bid Cost Spreadsheet. PAUSTIF will only reimburse up to \$10,000 of reasonable and necessary costs for those tasks actually performed. The selected bidder must provide time and material documentation in addition to supporting documentation required (in Exhibit C of the executed Remediation Agreement) to support the requested reimbursement and completion of this milestone.

Bidders may use this opportunity to: 1) confirm any elements of the site characterization completed by a previous consultant; 2) address any perceived data gaps in the existing site characterization work; 3) assist in the evaluation and determination of remedial technologies and system design; 4) assist with refining the cleanup timeframe estimate and/or other reasons related to validating the bidder's remedial approach and design.

Supplemental work under this task may include additional environmental media sampling and analyses and/or remedial pilot testing.

For example, a bidder may wish to:

- Further delineate / characterize soil and groundwater contamination in order to better identify specific remedial target areas and where future soil attainment will need to occur (i.e. no soil and groundwater data exists beneath the footprint of the former UST cavity, apparent source area);
- Complete additional pilot testing to modify or add remediation wells (i.e. more directly address soil and groundwater impacts beneath and around former UST cavity); and/or
- Other.

Milestone A activities shall be conducted as soon as possible following execution of the Fixed-Price Agreement.

Each bidder shall describe in detail its scope of work for additional site characterization activities and/or pilot testing along with corresponding technical justification to support the need for each additional activity. When considering what additional site characterization activities may or may not be necessary, bidders are strongly encouraged to review Letterle's April 2012 SCR and November 2012 Additional SCR / RAP (Attachments 3h through 3g, respectively) and the other documents provided in Attachment 3, rather than relying solely on the summary information presented in this RFB. As mentioned above, supplemental site characterization activities and/or pilot testing shall be initiated upon execution of the Fixed-Price Agreement.

Potential considerations regarding the need for Milestone A activities include – determination of site-specific remedial design data; confirmation that the proposed technology is technically feasible; confirmation that the proposed technology is cost-effective; and confirmation that the proposed technology will provide a timely closure of the site under PADEP Act 2.

Any and all Milestone A activities that are proposed with your firm's bid shall be accompanied by the following:

- The purpose and need for each Milestone A activity and an appropriate breakdown;
- A detailed scope description of each activity including the use and incorporation of any pre-existing site data;
- The timing and schedule of each activity relative to the overall project schedule;
- A description of the anticipated results of each activity and how such results may impact your proposed conceptual remedial action plan; and

- For activities involving the evaluation of a remedial technology, such as a feasibility study or pilot test, bids shall describe in detail the likelihood that the resulting data will dictate a change in the conceptual remedial action plan proposed in your bid.

The additional site characterization work and/or remedial feasibility pilot testing completed under Milestone A shall be documented in an addendum to the existing SCR / RAP (SCR / RAP Addendum). Should a bidder propose modifications to the existing PADEP-approved remedial approach, or an alternative remedial approach (i.e. source soil excavation/removal), this work shall be documented in the RAP Addendum.¹².

The project schedule shall allow two (2) weeks for Solicitor and PAUSTIF review of the draft report(s) before a final version is submitted to the PADEP. Following Solicitor / PAUSTIF review of the draft document, the selected consultant shall address any comments and submit the final report to the PADEP. The report shall be consistent (with regard to approach and level of effort) with the conceptual plan for remedial action provided in the selected consultant's bid and 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 for and documented in the report). The fixed-price cost for this milestone must also account for addressing potential PADEP comments on the SCR / RAP Addendum.

Pilot Study "Off-Ramp" / Changed Condition

The selected consultant and the Solicitor are protected from being obligated to move forward with a remedial action under Milestone C if the pilot testing data is inconsistent with the Milestone C proposed remedial approach or the proposed remedial approach could be expected to fail based on the pilot study data from Milestone A. While the selected bidder will be under no obligation to cancel the Fixed-Price Remediation Agreement if the pilot test results are outside the criteria or range specified in the bidder's RFB Solicitation response, the following are the only possible outcomes associated with these unanticipated results:

- 1) With advanced Solicitor and PAUSTIF approval, the selected bidder may elect to modify the Milestone C remediation plan to accommodate the pilot testing information and continue with the cleanup at no additional cost; that is, for the same total fixed price provided in the selected bidder's response to this RFB Solicitation, complete the cleanup using the modified approach the bidder believes is demanded by the pilot testing information.

¹² In order to receive reimbursement under this task, thorough documentation of any additional site characterization and remedial pilot testing activities must be provided to PAUSTIF.

- 2) Or if the Solicitor or PAUSTIF do not accept the selected bidder's revised plan adjusting to the Milestone A pilot testing data, the Fixed-Price Remediation Agreement for the project will terminate.
- 3) Or if the selected bidder adequately demonstrates the site conditions revealed by Milestone A pilot testing activities are significant and could not have reasonably been expected prior to conducting the Milestone A activities, the selected bidder may elect to not proceed and withdraw from / terminate the Fixed-Price Remediation Agreement for the project.

In any case, there will be no negotiations on changing bid work scope or pricing in response to the results of Milestone A activities.

Bidders shall, therefore, specify within their bids the critical criteria (if any) that will be used by Solicitor, PAUSTIF and the selected bidder to evaluate the significance of pilot testing data obtained through Milestone A activities. These critical criteria shall be used to assess if the pilot testing data change the feasibility of the Milestone C proposed remedial approach. As such, and as applicable, bids shall list critical criterion that will define the range of acceptable results (i.e., feasibility study or pilot testing results) relevant to the proposed Milestone C remedial approach. These criteria must be measurements or calculations that could be independently measured or verified by others during testing. Based on these criteria, Exhibit A of the Fixed-Price Remediation Agreement (Attachment 1) will contain a provision allowing cancellation of the Agreement should pilot test results (i.e., the pilot testing data obtained during the implementation of Milestone A) do not meet certain bidder-defined criteria. Each bidder, therefore, shall explicitly specify any and all critical criteria for key design elements on which the Milestone C proposed remedy depends (i.e., the critical criteria and quantified limits of values that will make the proposed conceptual remedial action plan technically feasible, cost-effective, and timely).

For example, bids shall include language such as:

“For our Milestone C proposed remedial action approach to be successful and for the technology(ies) used thereby to operate as planned and meet our proposed cleanup schedule, the Milestone A testing must show:

1. A sustained groundwater recovery rate and soil vapor air flow from the pilot test extraction well shall be greater than X gpm and Y cfm; and
2. Hydraulic and vacuum influence measured within a minimum of Y feet of the pilot extraction well.”

End of example bid language.

Actual bid language, if any, and the associated critical criteria will vary by bidder. Pilot study off-ramp assumptions must be specific to evaluating the feasibility of the technology relative to the

consultant's bid approach. Identifying assumptions regarding the bidder's remedial system design is not acceptable. Some examples of inappropriate assumptions for this "Bid to Result" include: length of remedial system trenching, number of extraction points, type of remediation equipment, duration of remediation, etc.

The critical criteria identified in each bid and their associated acceptable range of pilot testing results will be evaluated by the bid evaluation committee as part of the technical review. Unrealistic criteria or criteria that are unreasonably narrow will reduce the favorability of the bid as viewed by the bid review committee.

Milestone B – Pre-Remediation Quarterly Groundwater Monitoring, Sampling & Reporting. Under this task, bidders shall provide a firm fixed-price to continue with quarterly groundwater monitoring, sampling, and reporting events while performing the supplemental site characterization activities (Milestone A) and design / installation of the remedial system. For the purposes of this RFB, it is assumed the Milestone B activities will be required for two (2) quarters. However, each bid must specify the number of quarterly events that will be needed prior to implementation of the remedial approach (Milestone C). Additional quarterly monitoring and reporting events beyond two quarters will be addressed under optional unit cost Milestone I.

Each groundwater monitoring and sampling event shall include all eleven (11) existing on- and off-property monitoring wells (MW-1 through MW-10 and MW-11D). The conduct and results of each event shall be documented in quarterly Remedial Action Progress Reports (RAPRs). During each quarterly groundwater monitoring and sampling event, the depth to groundwater shall be gauged in all existing available monitoring wells and prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each of the monitoring wells designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any well exhibiting a measurable thickness of SPH shall not be purged and sampled. Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP SWRO guidance.

Groundwater samples shall be analyzed for the post-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) 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.¹³ In addition, each event shall include field measurements for the following

¹³ Each bidder's approach to implementing Milestone B shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, purge water management methods, and other key assumptions affecting the bid price.

parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

The RAPRs describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each RAPR shall contain the following:

- A summary of site operations and remedial progress made during the reporting period;
- 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 historical quantitative groundwater analytical results including results from the current quarter;
- Current quarter laboratory analytical report(s);
- One site-wide iso-concentration contour map for each compound detected in any one well above the SHS during the quarter;¹⁴
- For each well exceeding SHS, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations;
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends;
- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume;
- Treatment and disposal documentation for waste generated during the reporting period; and
- Demonstration of compliance with the required Federal, State, and local permits and approvals.

PAUSTIF will only reimburse for the necessary quarterly groundwater sampling / reporting events actually completed under this milestone (e.g., this milestone shall be considered completed with the initiation of Milestone D). Each RAPR shall be sealed by a Professional Geologist and / or Professional Engineer registered in the Commonwealth of Pennsylvania

¹⁴ All figures included in each RAPR (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

(bidders shall refer to state licensing laws to determine which seals are required based on the work performed for and documented in the groundwater attainment demonstration report).

Milestone C – Implementation of the Remedial Approach. Under this milestone, bidders shall prepare a fixed-price cost to implement the VEGE remedial approach described in the November 2012 RAP or an alternative bid solution that will also be described by the successful bidder in a RAP Addendum. The cost breakdown of the RAP-specified or other proposed in-situ remediation system shall follow the format prescribed below.

Milestone C1. Installation of Recovery Wells. Under this task, bidders shall provide a firm fixed-price cost for installing the two additional VEGE recovery wells described in the RAP or an alternative number of wells as the bidder shall detail in the bid response. Proposed locations for the additional recovery wells (RW-4 and RW-5) are shown on Figure 7 in Attachment 3a. Each bidder shall independently consider the final locations relative to utilities; bidder's own interpretation of groundwater flow variations; evaluation of remedial feasibility testing data; and configuration of the dissolved-phase plume. Each bidder in their bid response shall show the proposed locations for the recovery wells on a site drawing. If a bidder believes the remediation wells should be placed elsewhere or that more or fewer wells are needed, the bidder shall identify the alternative location(s) and provide rationale.

The borings for the remediation wells shall be advanced to intersect the shallow water-bearing zone intercepted by nearby on-property monitoring wells. This interval is expected to be present at depths between ~16 to 23 feet below grade based on the existing water level data. Bidders shall assume examining and described drilling cuttings / soil cores for lithology, groundwater occurrence, and potential staining / odor indicative of hydrocarbon contamination. No soil samples will be collected from the well borehole for laboratory analysis.

The remediation wells shall be constructed in general accordance with the PADEP Groundwater Monitoring Guidance Manual. Each bidder in the bid response shall indicate the drilling methods used to advance boreholes, total depth for each well, and well construction details (i.e. well casing diameter, screened interval, sand pack, etc.). Final construction must ensure that the screened interval intersects the water table surface and accounts for seasonal groundwater fluctuations.

Each bidder's fixed-price cost 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 the borehole location to a minimum depth of 5 feet using vacuum excavation; (ii) well development activities; (iii) management of IDW; and (iv) professional surveying of the new well locations and top-of-casing elevations. Well drilling / installation and development along with supporting documentation (e.g., waste manifests, boring logs and construction details, etc.) shall be documented in a quarterly RAPR (Milestone D).

Milestone C2 – In-situ Remedial System Final Design, Equipment Purchase, and Assembly.

Any equipment¹⁵ necessary to implement the RAP (or RAP Addendum) shall be purchased new and preferably pre-assembled and tested as much as possible at the equipment vendor factory as a turn-key prefabricated system prior to site deployment. Under this approach, the purchased equipment is to be fully integrated and tested electrically and mechanically inside an enclosure (properly insulated with appropriate lighting, and heating & ventilation systems) before being shipped to the site. After delivery and setting in place, final connections shall be made to the electrical service and subsurface piping / conduits installed as part of the Site Preparation Work (see below). Clear and legible copies of all equipment manuals and warranties shall be provided to Solicitor.

The PADEP approved RAP does not include any equipment to filter recovered groundwater to address potential iron fouling of the remedial system. Bidders shall review the iron and manganese data obtained by the current consultant and determine if additional equipment is necessary, and if a bidder does believe that an iron filtration unit is needed, the bidder shall provide the rationale, and the fixed price costs for the purchase, installation, and O&M of this filtration unit. The successful bidder may use Milestone A to confirm its conclusions and equipment requirements. Bidders that elect to not propose any additional equipment to address the inorganics must provide the technical rationale (basis) for this decision within their bid, and must explicitly state within their bid that they understand and have accounted for iron and other hardness fouling potential in their operational estimates.

Please note that the proposed remedial system shall be equipped with some form of telemetry as indicated in the approved RAP. The selected consultant shall coordinate with the telephone, cable or internet service provider to bring and provide appropriate service to the location of the remediation equipment to allow remote communications and document up-time. Payment of the service connection shall be the responsibility of the selected consultant and shall be accounted for in the quoted fixed-price bid.

Milestone C3. Site Preparation Work. The selected consultant shall obtain all necessary construction and operational permits and/ or permit exemptions and post same as required. Solicitor shall be provided copies of all permits / permit exemptions before field construction activities commence. On-site mark-out of buried utilities shall be completed in advance of any drilling or trenching activities. PA One Call notification shall be made and documented prior to drilling or trenching activities.

The selected consultant shall coordinate with the electrical service provider to bring and provide appropriate electrical service to the location of the remediation equipment. Payment of the electrical service connection shall be the responsibility of the selected consultant and accounted for in the fixed-price bid.

¹⁵ All equipment purchased under this contract will become the property of the Solicitor. The selected consultant shall be responsible for operating and maintaining the equipment for the specified number of years included within their bid beginning from the date of successful remediation system startup.

Milestone C4 – In-situ Remediation Equipment Pad, Trenching, Subsurface Piping, Mechanical, and Electrical. The selected consultant shall prepare the area where the remediation equipment will be located as specified in the RAP (or RAP Addendum) or as otherwise directed by the Solicitor, including, if necessary, construction of a concrete pad. Required and appropriately sized piping and electrical conduit/wiring shall be trenched and buried below the frost line extending between the remediation equipment location and the recovery wells. Buried piping shall be installed with tracer wire to facilitate locating the subsurface lines after the trenches have been backfilled. Buried piping shall be tested for integrity and documented before trench backfilling. Buried piping and conduit stub-ups shall be terminated and secured in the remediation equipment area to facilitate final connections to remediation equipment and winterization of the stub-ups. Surface restoration from all trenching and well head completions shall be similar to current conditions.

Milestone C5 – Final Connections and Startup / Trouble-Shooting of the In-situ Remediation System. The selected consultant shall make the final connections between piping/conduit stub ups and power drop/meter and the manifold(s)/conduits on the interior of the pre-assembled and tested treatment system. Any sections of above-grade piping located outside of the equipment enclosure will need to be freeze-protected (e.g., by insulation and heat tracing).

The selected consultant shall start up and demonstrate proper operation of the remediation system equipment. At a minimum, such demonstration shall include documentation that: (a) all below- and above-grade equipment is operational; (b) the design parameters are achievable at the treatment system and at the well heads; (c) all safety and control switches function properly; and (d) the system can operate automatically (without manual intervention). The successful bidder shall provide the Solicitor with startup documentation demonstrating proper operation of the system. To the extent problems are identified during the site work preparation and/or remediation system installation and start-up phases, the successful bidder shall repair these problems and repeat the proper system operation demonstration.

Also as part of this task, the selected consultant shall prepare an operations and maintenance (O&M) Plan, and as part of the O&M Plan, the selected consultant shall also be responsible for developing a checklist to be completed by field technicians during subsequent O&M visits that will provide key information deemed necessary to evaluate remediation performance, permit compliance, and system maintenance on a continuing basis. Each bid response shall include an appropriate example of an O&M checklist that identifies typical minimum data requirements to be recorded during each O&M site visit.

The selected consultant will provide the Solicitor with a copy of the O&M Plan prior to remediation system startup, and a hard copy of as-built drawings for the remediation system upon completion of the successful system startup.

The Solicitor and the Fund shall have the opportunity to inspect and confirm that the system has been installed as described in the fixed-price agreement and in the remedial system final design and is in daily operation as described in the remedial system final design.

Milestone C6 – Other Remediation Activities. Other remediation / activities (e.g., ex-situ approaches) not fitting into the above categories can be described with associated costs listed under Milestone C6.

Milestone D – Remediation System O&M, Site Monitoring & Sampling, & Reporting. For this milestone, bidders shall provide the Solicitor and PAUSTIF with firm quarterly fixed-price unit costs that would include the routine O&M of the remedial system; quarterly groundwater, monitoring, and sampling of the on- and off-property monitoring wells; and reporting. For the purposes of this RFB, it is assumed the Milestone D activities will be required for 8 quarters (2 years). However, each bid must specify the remediation timeframe (i.e., number of O&M quarters) that the bidder's proposed remedial approach will need in order to achieve the project goal of reducing soil and groundwater contaminant concentrations to below residential SHS, enabling initiation of groundwater and soil attainment demonstration.^{16 17} The bidders remediation timeframe (number of quarters) shall be defined on the Bid Cost Spreadsheet, and shall include the additional number of remediation quarters, beyond 8 quarters specified in this RFB (i.e., if a bidder believes it can complete the remediation in a total of 12 quarters of O&M, the additional number of quarters to be included on the Bid Cost Spreadsheet is four (4) quarters). If the bidder's O&M remediation timeframe exceeds the RFB-specified 8 quarters, the number of quarters exceeding 8 will be incorporated in the Remediation Agreement as Optional Milestone J. Bidders shall assume that the remediation will need to continue until the contaminant concentrations in all of the point of compliance (POC) wells (as defined in Milestone E) are either below the PADEP SHS or "non-detect" for at least two consecutive quarterly monitoring and sampling events. Under these conditions, it is deemed reasonable to initiate the groundwater attainment demonstration. Each bid must explicitly state bidder's understanding of the project goal for when the remedial system would be discontinued and attainment sampling shall begin.

Each bid must specify the number of site visits to occur each quarter. O&M tasks will be primarily focused on data collection and evaluations to: (1) determine, demonstrate, and document remediation performance; (2) properly maintain the system equipment; and (3) demonstrate compliance with permits and other applicable regulatory requirements.

¹⁶ During the bidder's specified timeframe of site operations, maintenance, and monitoring subsequent to remediation system startup, the selected consultant, at its own expense, including all associated labor, shall be responsible for repairing or replacing equipment purchased for the RAP implementation that becomes damaged, destroyed, or defective.

¹⁷ If the groundwater data allows for discontinuing remedial activities prior to reaching the bidders specified timeframe for remedial system operation, the selected consultant will only be reimbursed for O&M events that have been completed.

- *Performance monitoring* shall include data collection and evaluations geared toward evaluating how well the remedial strategy is working and making necessary adjustments to the system operational configuration to optimize system performance. Performance monitoring activities are to include, but not necessarily be limited to, measurements that allow contaminant mass recovery quantification. The selected consultant shall report quarterly concerning its evaluations of system performance and system optimizations performed.
- *System maintenance & monitoring* shall include monitoring and routine maintenance as specified by the equipment manufacturer(s) to ensure warranties are not voided and the equipment is kept in good working order. Operational time shall be logged by system instrumentation and reported quarterly to the Solicitor. The selected consultant is expected to maintain at least an 85% uptime on the system during each quarter. Failure to meet this minimum expectation over two consecutive quarters will constitute, at the Solicitor's sole discretion, a breach of contract and the Solicitor may chose to terminate the contract.
- *Compliance monitoring* shall include system and site sampling needed to demonstrate compliance with permits and other applicable regulatory requirements. Documentation of compliance shall be provided to the Solicitor in quarterly RAPRs and in any other reporting required by permitting agencies (i.e. local POTW).

The quarterly groundwater monitoring and sampling events will include all eleven (11) existing on- and off-property monitoring wells (MW-1 through MW-10 and MW-11D)¹⁸, the three existing recovery wells (RW-1 through RW-3), and the two proposed recovery wells to be installed under Milestone C. If a RAP Addendum is proposed which includes fewer or more remediation wells, this should be explicitly stated in the Milestone D response and accounted for in the bidder's Milestone D quarterly and total cost.

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 shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient. The conduct and results of each event shall be documented in RAPRs. Any well exhibiting more than a sheen of SPH shall not be purged and sampled.¹⁹ Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP SWRO guidance.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) by a PADEP-

¹⁸ The fixed price cost shall also include any additional monitoring wells installed under Milestone A.

¹⁹ No SPH has historically been observed in any of the monitoring wells installed on- and off-property.

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.²⁰ In addition, each event shall include field measurements for these water quality parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

The RAPRs describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each RAPR shall contain the following:

- A summary of site operations and remedial progress made during the reporting period, including contaminant mass recovery estimates in groundwater;
- 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 historical quantitative groundwater analytical results including results from the current quarter;
- Current quarter laboratory analytical report(s);
- One site-wide iso-concentration contour map for each compound detected in any one well above the SHS during the quarter;²¹
- For each well exceeding SHS, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations;
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends;
- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume;
- Evaluation of system performance including contaminant mass recovery quantification and system optimizations performed;
- Operational time shall be logged by system instrumentation and reported in the RAPRs. If less than 85% uptime has been achieved, documentation of

²⁰ Each bidder's approach to implementing Milestone D shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, purge water management methods, and other key assumptions affecting the bid price.

²¹ All figures included in each RAPR (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

operations problems shall be provided along with the changes/modifications implemented to improve performance consistency;

- Treatment and disposal documentation for waste generated during the reporting period; and
- Demonstration of compliance with the required Federal, State, and local permits and approvals.

PAUSTIF will only reimburse for the necessary quarterly O&M and groundwater sampling / reporting events actually completed under this milestone (e.g., this milestone shall be considered completed with the initiation of Milestone E). If, in order to achieve the cleanup goals, it is necessary to extend the period of O&M beyond the RFB-specified 8 quarters, each additional quarter, up to the total number of Consultant's bid O&M remedial timeframe, will be addressed via Optional Cost Adder Milestone J. Consultant shall seek and obtain written approval from Solicitor and PAUSTIF to continue operation of the remedial system (Milestone J).²²

Each quarterly RAPR 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 for and documented in the RAPR).

To provide added incentive to the successful bidder to regularly scrutinize remedial system performance and optimize system operations for maximal efficiency in completing the remedial O&M to achieve closure as expeditiously and cost effectively as possible, **10% of each quarterly payment for this milestone (and Milestone J, if implemented) will be withheld and accumulated pending successful completion of remediation and initiation of soil and groundwater attainment activities (Milestones E and F).** When this condition has been met, the accumulation of 10% holdback payments, for the Milestones actually completed, will be reimbursed in one lump sum to the successful bidder.²³ The 10% hold-back milestone will not be paid for an in-situ remediation system that has not attained the cleanup goal within the Consultant's bid remediation timeframe.

Should a bidder decide to implement the RAP "as-is", the periodic off-property DPE events detailed in the PADEP approved November 2012 RAP shall be treated as a contingency. This contingency task would be implemented depending on the effectiveness of the remediation system. As such, the bidder *must* provide the criteria that would trigger implementing these off-property DPE events. Installation of an off-property recovery well and implementation of these off-property remedial activities will be addressed under optional unit cost Milestones K and L.

²² The Remediation Agreement includes a Site Specific Assumption that remediation will be complete and soil and groundwater attainment activities will be initiated within the O&M timeframe Consultant has bid.

²³ Lump sum payment request shall be made prior to the on-set of initiating Milestones E and F.

Milestone E – Groundwater Attainment Demonstration. Under this task, bidders shall provide a firm fixed-price to complete up to eight quarters of groundwater monitoring and sampling events.²⁴ Each groundwater monitoring and sampling event shall include on-property POC wells MW-2, MW-4, MW-5, MW-9, and MW-10; interior source well MW-1; and off-property wells MW-6, MW-7, and MW-8. The conduct and results of each event shall be documented in quarterly RAPRs.

During each quarterly groundwater monitoring and sampling event, the depth to groundwater shall be gauged in all existing available monitoring wells and prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each of the monitoring wells designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any well exhibiting a measurable thickness of SPH shall not be purged and sampled. Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP SWRO guidance.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) 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.²⁵ In addition, each event shall include field measurements for the following parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

The groundwater attainment demonstration reports describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each attainment demonstration report shall contain the following:

- A summary of site operations and remedial progress made during the reporting period;
- 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;

²⁴ Bidders shall include language in their bid that if groundwater data in the POC wells has been either non-detect or below SHS for four consecutive quarters, the PADEP will be petitioned to approve a reduction in the number of groundwater attainment sampling events.

²⁵ Each bidder's approach to implementing Milestone E shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, purge water management methods, and other key assumptions affecting the bid price.

- Groundwater elevation contour maps depicting groundwater flow direction;
- Tabulated historical quantitative groundwater analytical results including results from the current quarter;
- Current quarter laboratory analytical report(s);
- One site-wide iso-concentration contour map for each compound detected in any one well above the SHS during the quarter;²⁶
- For each well exceeding SHS, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations;
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends and results of any qualitative and quantitative analysis;
- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume;
- Treatment and disposal documentation for waste generated during the reporting period; and
- Demonstration of compliance with the required Federal, State, and local permits and approvals.

Each groundwater attainment demonstration report shall be 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 for and documented in the groundwater attainment demonstration report).

Milestone F – Soil Attainment Demonstration. Under this task, bidders shall develop and implement a soil boring program for systematic random soil sampling to demonstrate attainment of the SHS for the unsaturated and periodically saturated soils in the area of the former dispenser island and UST cavity and other areas of the Site where previous site characterization activities have identified soil exceedences of the SHS. Three dimensional attainment sampling shall be completed to demonstrate attainment of this area and each bid *must* describe in detail their approach at addressing soil attainment, and include the depth interval and a drawing showing the locations where the sampling grid would be applied to demonstrate soil attainment.

The location / depth of the soil samples shall be determined using PADEP's systematic random sampling (SRSS) procedures, assuming one soil sample per boring shall be submitted for laboratory analysis. Alternate SRSS points shall be selected for any primary SRSS sample

²⁶ All figures included in each RAPR (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

locations positioned within the clean backfill of the former UST cavity and any existing below grade utilities (i.e. public water and natural gas). Soil samples shall be analyzed for the **post**-March 2008 PADEP short list for unleaded gasoline parameters (BTEX, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB). Appropriate quality assurance/quality control (QA/QC) samples shall also be obtained for laboratory analysis. The soil sampling results shall be analyzed using PADEP's 75%/10x Ad Hoc Rule, which shall be documented in detail in the RACR²⁷.

Milestone G – Preparation, Submission, and PADEP Approval of Remedial Action Completion Report (RACR). Under this milestone, the bidder will prepare a fixed-price cost to prepare a draft and final RACR following the completion of milestones D, E, and F. The RACR shall be prepared in accordance with Section 245.313. At a minimum, the RACR shall provide the details for Tasks A through F. The RACR shall also discuss the selected closure criteria for the site, provide proof of soil and groundwater attainment, and request permanent closure for the site for the current release under an Act 2 Relief of Liability (ROL). The project schedule should allow two (2) weeks for Solicitor and PAUSTIF review of the draft RACR before a final version is submitted to the PADEP. The selected consultant shall then prepare and submit the final RACR to the PADEP in accordance with Section 245.313, and be 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 for and documented in the RACR). The fixed-price cost shall also include addressing any PADEP comments on the RACR.

Milestone H – Site Closure / Restoration Activities. Under this milestone, the bidder shall describe and provide a fixed-price bid for properly closing the site, including: removal of the remedial system and proper disposal of any remaining wastes; in-place abandonment of remedial system below grade piping; in-place abandonment of monitoring & recovery wells and vapor monitoring points consistent with PADEP guidelines; well head removals; and re-vegetation, concrete / asphalt repairs, as necessary, for areas that have been disturbed by site characterization or remedial action activities. This task shall also include photo-documenting the site restoration work and completion / submittal of the well abandonment forms. Copies of these photographs and forms shall be provided for the Solicitor's files.

Each bid shall specify the number of days for initiating Milestone H following approval of the RACR by PADEP, and shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Well, vapor monitoring point abandonment, remedial system removal, and restoration activities will be coordinated with the Solicitor.

²⁷ If the sampling data does not allow for attainment of the selected standard, additional work will be considered an out-of-scope task under the Fixed-Price Agreement, which will require Solicitor and PAUSTIF approval of a work plan and cost estimate before beginning the work.

The selected consultant shall determine whether the Solicitor wishes to maintain any components of the remedial system (e.g. treatment building), as applicable, before removing it from the Site.

Milestone I – Pre-Remediation Additional Quarterly Monitoring, Sampling & Reporting (Optional Cost Adder Milestone). Under this milestone, bidders shall provide the Solicitor and PAUSTIF with a firm quarterly unit fixed-price cost that would include the quarterly groundwater monitoring, sampling / analysis of the 11 on- and off-property monitoring wells; and reporting beyond the two quarters specified in Milestone B. The SOW for this unit cost adder milestone should follow Milestone B guidelines. Each bid must include the rationale for needing to implement this optional cost adder milestone.

Milestone J – Additional Remediation System O&M, Site Monitoring, Sampling, & Reporting (Optional Cost Adder Milestone). Under this milestone, bidders shall provide the Solicitor and PAUSTIF with a firm quarterly unit fixed-price cost that would include the routine O&M of the remedial system; quarterly groundwater, monitoring, and sampling of the on- and off-property monitoring and recovery wells; and reporting beyond the timeframe specified in Milestone D. The SOW for this unit cost adder milestone should follow Milestone D guidelines. As described in Milestone D, a 10% holdback will be applied to each Milestone J payment. Each bid must include the rationale for needing to implement this optional cost adder milestone.

Milestone K – Installation of Off-Property Recovery Well (Optional Cost Adder Milestone). Under this optional cost adder milestone, bidders shall provide a firm fixed-price cost for installing one off-property recovery well as described in the RAP or an alternative number of recovery wells as described in the bid response. The proposed location for the off-property recovery well is shown on Figure 4 in Attachment 3a. Each bidder shall independently consider the final location relative to utilities; bidder's own interpretation of groundwater flow variations; and configuration of the dissolved-phase plume. Each bidder in their bid response must show the proposed location for the off-property recovery well on a site drawing. If a bidder believes the remediation well should be placed elsewhere or that more or fewer wells are needed, the bidder shall identify the alternative location(s) and provide rationale. The SOW for this unit cost adder milestone should follow Milestone C1 guidelines. The fixed price for this optional milestone shall be inclusive of all labor, equipment, subcontractor, management and disposal of IDW, well development, surveying, and obtaining site access.

Milestone L – Periodic Off-Property Dual Phase High Vacuum Extraction Events (Optional Cost Adder Milestone). Under this milestone, the bidder *must* describe in detail and provide a fixed-price unit cost for performing periodic DPE events in the area of off-property well MW-7. In addition, each bidder must describe and provide the rationale for terminating these off-property events. The fixed price for this optional milestone shall be inclusive of all labor, equipment, subcontractor, management and disposal of all IDW and recovered groundwater, and permitting.

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 1 through 5
 - b. Remedial Action Progress Report, 4th Quarter 2013, dated November 2013
 - c. Remedial Action Progress Report, 3rd Quarter 2013, dated October 2013
 - d. Remedial Action Progress Report, 2nd Quarter 2013, dated July 2013
 - e. Remedial Action Progress Report, 1st Quarter 2013, dated April 2013
 - f. PADEP SCR & RAP Approval Letter, dated February 1, 2013
 - g. Additional Site Characterization Report / Remedial Action Plan, dated November 2012
 - h. Environmental Site Characterization Report, dated April 2012
 - i. Miscellaneous Information