

COMPETITIVE FIXED-PRICE BID SOLICITATION

RAP IMPLEMENTATION, INCLUDING LIMITED SOIL EXCAVATION & HIGH-VACUUM EXTRACTION, GROUNDWATER MONITORING, ATTAINMENT DEMONSTRATIONS, REMEDIAL ACTION COMPLETION REPORT, AND SITE CLOSURE ACTIVITIES

UNITED KWIK FILL STATION #S-171
400 ALLEGHENY RIVER BOULEVARD
OAKMONT, ALLEGHENY COUNTY, PENNSYLVANIA 15139

PADEP FACILITY ID #02-29317

USTIF CLAIM #2010-0118(F)

December 15, 2011

This Request for Bid (RFB) has been issued by the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF or "Fund") on behalf of the Claimant, United Refining Company of Pennsylvania, hereafter referred to as "Client" or "Solicitor." In general, this RFB references a fixed-price scope of work (SOW) for performing soil and groundwater remediation activities, conducting the associated attainment demonstrations, preparing a Remedial Action Completion Report (RACR), and completing the site closure & restoration activities at the subject site.¹ The site includes an active convenience store and retail motor fuels sales facility known as Kwik Fill Station #S-171 located at 400 Allegheny River Boulevard in Oakmont, Allegheny County, Pennsylvania.

The Solicitor has elected to close this site under the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended) and the Pennsylvania Land Recycling and Environmental Remediation Standards Act of 1995 (Act 2) and to obtain an associated relief from liability release from the Pennsylvania Department of Environmental Protection (PADEP) based upon demonstrating attainment of the Statewide Health Standard Medium-Specific Concentrations (SHS-MSCs) for a used aquifer in a residential setting for all constituents of concern (COCs) in soil, soil gas, and groundwater without the use of activity and use limitations, engineering controls, or institutional controls.

This Solicitor requests competitive bids from qualified consultants to perform **fixed price-to-closure** activities in accordance with the tasks/milestones referenced herein and the PADEP-approved *Remedial Action Plan* (RAP) developed for this site (see the electronic files accompanying this RFB). These to-closure tasks/milestones will be incorporated into a Fixed-Price Agreement (Attachment 1) between the Solicitor and the selected consultant. A bid submitted in response to this RFB must provide a written approach, schedule, and firm fixed price to complete Tasks 1 through 8 in accordance with the RAP, standard industry practices,

¹ In this RFB, the term "site" is used as the PADEP typically applies this term, namely, "the extent of contamination originating within the property boundaries and all areas in close proximity to the contamination necessary for the implementation of remediation activities to be conducted." Otherwise, references to areas within or portions of the site, such as the facility or land parcel owned and/or controlled by the Solicitor, are made as specifically as possible.

and all applicable federal, state, and local laws and regulations, PADEP guidance, PADEP directives, and PADEP regulations. Although not a party to this Fixed-Price Agreement, the Fund will reimburse 100 percent of the reasonable, necessary, and appropriate prices referenced in the Milestone Payment Schedule specified in Section 4 below and as incorporated into the signed Fixed-Price Agreement.

- Task 1. Monthly Pre-Excavation High-Vacuum Extraction (HVE) Events
- Task 2. Limited Soil Excavation & Soil Attainment Demonstration
- Task 3. Restoration of Monitoring Well & Soil Vapor Monitoring Point Network
- Task 4. Pre- & Post-Excavation Groundwater Monitoring, Sampling, and Reporting
- Task 5. Quarterly Post-Excavation High-Vacuum Extraction Events (if necessary)
- Task 6. Groundwater Attainment Demonstration
- Task 7. Prepare a Draft and Final RACR
- Task 8. Well Abandonment & Site Restoration Activities

Each bidder should carefully review the existing site information (as provided in the electronic files accompanying this RFB) and seek out other appropriate sources of information to develop its bid response. Nothing stated or implied within this RFB shall be construed as an endorsement by PAUSTIF of a particular remedial technology or remedial solution for this site, including the remedial technology specified in the PADEP-approved RAP. However, proceeding with implementation of the PADEP-approved RAP has been deemed necessary and appropriate.

The electronic files accompanying this RFB include the following documents:

- Attachments 1 and 4 as cited in this RFB (Attachments 2 and 3 are included in the RFB);
- January 2010 *UST Closure and Site Characterization Report (Chapter 245.310b)* (pertains to the diesel fuel release only);
- September 2011 *Site Characterization Report (SCR)* and *Remedial Action Plan (RAP)*;
- September 21, 2011 letter from the PADEP approving the September 2011 SCR/RAP; and
- Third Quarter 2011 *Remedial Action Progress Report*.

By submitting a bid in response to this RFB, each bidder indicates its acceptance of the contractual terms (Attachment 1) and task/milestone requirements of this project, including any stated schedule deadlines, unless explicitly stated to the contrary in its bid. Fixed-prices and unit prices quoted by bidders in response to this RFB shall be inclusive of, but not necessarily limited to, all of the following: the associated specified or implied work; associated planning and preparation activities; associated project management activities; procurement and adherence to associated permits; associated direct and indirect costs; associated transportation and disposal costs; costs associated with specified

or implied documentation of the work conducted; costs associated with adherence to federal, state, and local laws and regulations, PADEP guidance, PADEP directives, and PADEP regulations; direct and indirect labor costs, taxes and fees, and associated profit.

To be considered for selection, one hard copy of the signed bid package and one electronic copy (one PDF file on a compact disk included with the hard copy) must be provided directly to the Funds' third-party administrator, ICF International (ICF) to the attention of Deb Cassel, Contracts Administrator. Ms. Cassel 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 firms who 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: Deb Cassel. The outside of the shipping package containing the bid response must be clearly marked and labeled with "Bid – Claim #2010-0118(F)."** 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 below for submission. Firms mailing bid responses should allow adequate delivery time to ensure timely receipt of the bid package. **No bid responses will be accepted via e-mail.**

The bid responses must be received by 3:00 PM on January 18, 2012. Bids will be opened immediately after the 3:00 PM deadline on the due date. Any bid package 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 Fund's third party administrator's office is closed on the due date for the bid response, the deadline for submission will automatically be extended to the next business day on which the office is open, but the hour for submitting the bid response will remain the same. The Fund's third-party administrator may notify all firms who attended the mandatory pre-bid site meeting of an extended due date. **Submitted bid responses are subject to Pennsylvania's Right-to-Know Law.**

Bids will be considered individually in a manner consistent with the evaluation process described in the PAUSTIF Competitive Bidding Fact Sheet, which can be downloaded from the PAUSTIF website (www.insurance.pa.gov). While the Technical Contact will assist ICFI, PAUSTIF, and the Solicitor in evaluating the bids, it is up to the Solicitor to select the bidder from those bids deemed acceptable to PAUSTIF as reasonable, necessary, and appropriate. The Technical Contact will also assist the Solicitor in communicating its choice of the successful bidder. Notification of bid award will likely occur within six weeks after receiving the bids.

1. ICFI, SOLICITOR, AND TECHNICAL CONTACT INFORMATION

<p>ICF International Mr. Gerald Hawk ICF International 4000 Vine Street Middletown, PA 17057</p>	<p>Solicitor Scott Wonsettler, P.G. Environmental Manager United Refining Co. of PA PO Box 688 Warren, PA 16365</p>	<p>Technical Contact Frank Markert, P.G., P.E. Excalibur Group, LLC 120 Wesport Drive, Pittsburgh, PA 15238 Phone: (412) 968-9245 Email: fmarkert@excaliburgrpplc.com</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Please note that the Technical Contact is the single point of contact regarding this RFB. Questions regarding this RFB and the associated site conditions must be directed **in writing** to the Technical Contact only, i.e., not to the Solicitor or PAUSTIF. **Bidder questions must be received no later than seven (7) calendar days prior to the due date for the bid.** Bidders shall not contact or discuss this RFB with the Solicitor, USTIF, ICFI, or the PADEP unless approved by the Technical Contact. However, this RFB may be discussed with subcontractors and vendors to the extent required for preparing a responsive bid. If a bidder has specific questions for the PADEP, such questions shall be submitted only to the Technical Contact, who will forward the questions to PADEP. The PADEP may choose not to reply to questions it receives, or may not reply in time for its response to be beneficial.

Please note that unless a bidder successfully demonstrates its question is proprietary in nature, all questions and responses exchanged before, during, and after the mandatory pre-bid site meeting will be provided to all bidders on a non-attributable basis. A bidder must specify any questions it regards as proprietary at the time it submits these questions to the Technical Contact. If said question(s) is (are) determined to be non-proprietary by the Solicitor and the Technical Contact, the bidder will be given the option of withdrawing its question(s) before it is answered and a response distributed.

2. SITE INFORMATION²

This active retail gasoline sales facility, which is owned and operated by the Solicitor, is located at 400 Allegheny River Boulevard in Oakmont, Allegheny County, PA. The 0.29-acre and roughly square-shaped property occupies the northeast corner of the intersection of Allegheny River Boulevard and Washington Avenue. The facility is located in a mixed residential and commercial area. Adjoining the property to its north are various commercial tenants in the Village Square business center; to its east is Isabella Street across which is an apartment complex; to its west is Allegheny River Boulevard across which are railroad tracks and then Allegheny Avenue and the Riverside Community Church; and to its south is Washington Avenue across which are both residential and commercial properties.

The Solicitor reportedly purchased this location from the Beaver Gasoline Company in March 1981 (its pre-1981 history is not described in September 2011 SCR/RAP) and installed three, single-wall, steel, 10,000-gallon gasoline USTs (registered tanks #001-#003) in a common cavity situated to the southeast of the one-story station building and near the southern property boundary. An overhead canopy spans the station building to cover a single dispenser island to the east of the building and two dispenser islands to the west of the building. Prior to September 2010, there was also a single 10,000-gallon diesel fuel UST (registered tank #004) located in a separate cavity situated to the northeast of the station building. This diesel fuel UST was removed on 9/22/10 after petroleum-impacted soil was discovered during demolition

² The information presented in his section has been excerpted and/or summarized from the September 2011 SCR/RAP. If there is any conflict between the information provided in this RFB and the source documents, bidders shall defer to the source documents.

of the concrete diesel tank cavity pad. This release was reported to the PADEP, and soil impacts were observed along with groundwater exhibiting a petroleum sheen within the diesel tank cavity. Approximately 220.87 tons of petroleum-impacted soil was subsequently excavated from within an around the diesel tank cavity. As described in both the January 2011 *UST Closure and Site Characterization Report* and the September 2011 SCR/RAP, the Solicitor received a "no further action" letter concerning the diesel fuel release (which was the subject of USTIF Claim #2010-117[F]) after post-UST closure and site characterization sampling confirmed that neither soil or groundwater were media of concern.

Petroleum Release Related to this USTIF Claim

The unleaded gasoline release that is the subject of this RFB and USTIF Claim #2010-118(F) was reported to the PADEP on 9/14/10 when a failed tank tightness test was reported for registered gasoline tank #002. This tank was taken out of service and emptied, but remains in place. The unleaded gasoline release was subsequently confirmed through the completion and sampling of two soil borings, which were converted into groundwater monitoring wells MW-2 and MW-3, respectively (MW-1 was installed as part of the diesel fuel UST closure). These initial soil and groundwater samples confirmed the presence of adsorbed- and dissolved-phase hydrocarbon contamination at concentrations above the SHS-MSCs for a used aquifer in a residential setting. As described in the September 2010 SCR/RAP, site characterization activities have partially delineated the presence of adsorbed- and dissolved-phase impacts exceeding the SHS-MSCs for a used aquifer in a residential setting in an area generally between the western dispenser islands and the Allegheny River Boulevard property boundary. Adsorbed- and dissolved-phase hydrocarbon impacts were not detected in soil or groundwater at two soil boring locations completed off the property in the area between Allegheny River Boulevard and the railroad tracks.

Physical Setting

The subject facility is located at an approximate elevation of 764 ft above mean sea level. The regional topography slopes to the west and toward the Allegheny River, which is located approximately 0.35 miles from the site. The facility is completely paved with either concrete or asphalt. Surface water runoff is directed across the pavement to storm water catch basins positioned on the western property boundary.

The site is located in the Pittsburgh Low Plateau Section of the Appalachian Plateau Physiographic Province, which is characterized by a smooth undulating upland surface cut by numerous, narrow, and relatively shallow valleys.

Soils underlying the facility are composed of fill material belonging to the Urban Land—Rainsboro complex and composed of silt loam, sandy clay loam, and gravelly sand loam. Bedrock underlying the facility is identified as the Conemaugh Group-Glenshaw Formation.

Contaminants of Concern (COCs)

Unleaded gasoline constituents detected in site soil at concentrations above the applicable residential used aquifer SHS-MSCs are benzene, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Unleaded gasoline constituents detected in site groundwater at concentrations above the residential used aquifer SHS-MSCs have included benzene, ethyl benzene, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.

Subsurface Conditions

Site characterization activities indicate the subsurface, at least to the maximum explored depth of 20 ft below ground surface (bgs), consists of unconsolidated gravel, sand, silt, and clay in varying amounts with traces of weathered shale and siltstone. Bidders may find geologic cross sections prepared by the current consultant of record as Figures 6, 6A, and 6B in the September 2011 SCR/RAP. These cross sections depict a layer of fill material composed of varying amounts of gravel, sandstone fragments, sand, and silt to a depth of approximately 5 to 6 ft bgs underlain by unconsolidated silty or clayey sand over varying amounts of gravel, sand, and silt to at least 16 ft bgs. A 2-ft thick layer of clay was observed at MW-6, and a discontinuous 1- to 3-ft thick layer of clay was observed at the locations of MW-6, MW-3, MW-5, and MW-4R beginning at a depths ranging from 9.5 ft bgs to 19 ft bgs. A discontinuous 1- to 3-ft layer of clay was also observed at MW-5 and MW-5R at depths ranging from 15-19 ft bgs. Siltstone was observed at MW-6 at a depth ranging from 11 to 14 ft bgs. Weathered shale was encountered at MW-8 and MW-4R at a depth ranging from 16 to 19 ft bgs.

Soil & Groundwater Sampling Activity to Date

Bidders are directed to the January 2011 *UST Closure and Site Characterization Report (Chapter 245.310b)* for the soil and groundwater sampling conducted at this site pursuant to the diesel fuel UST closure and subsequent site characterization that resulted in the PADEP issuing a "no further action" letter for that confirmed release.

Figures 9 and 3 in the September 2011 SCR/RAP depict the soil boring and groundwater monitoring well locations at the subject site, respectively. On 10/26/10, two soil borings were completed to evaluate the potential extent of adsorbed-phase hydrocarbon impacts to soil associated with the unleaded gasoline release. Both these initial soil borings were completed as groundwater monitoring wells, MW-2 and MW-3. Further delineation of the adsorbed-phase impacts was attempted with the installation of additional soil borings between 2/15/11 and 2/17/11, and each of these borings were completed as monitoring wells (MW-4 through MW-6). Soil samples were also collected from borings completed as monitoring wells MW-7 and MW-8 on 5/11/11 and from the borings for replacement wells MW-4R and MW-5R completed on 5/17/11 through 5/19/11. Finally, additional soil samples were collected from the four soil vapor monitoring points (VP-1 through VP-4) and to off-property soil borings in May 2011. In all, a total of 32 soil samples and two geotechnical samples have been collected at this site from depths ranging from 2 ft bgs to 18 ft bgs. The following table summarizes the data for those soil samples in which one or more unleaded gasoline constituents was detected at a

concentration exceeding the used aquifer residential SHS-MSCs applicable to soil in the unsaturated zone or to soil in the zone of intermittent saturation ("saturated" soils).

Sample ID	Sample Date	Sample Depth (ft)	Benzene (µg/Kg)	Naphthalene (µg/Kg)	1,2,4-TMB (µg/Kg)	1,3,5-TMB (µg/Kg)
PADEP U/R SHS-MSCs (saturated/unsaturated)			500	10,000 / 25,000	1,500 / 8,400	1,300 / 2,300
MW-3	10/26/10	3 – 5			23,000	
MW-5	2/17/11	7 – 9	2,300	20,000	56,000	34,000
MW-8	5/18/11	6 – 8			4,680	1,790
MW-5R	5/19/11	7 - 8	1,000	11,200	56,100	22,300

Borings logs and well construction details are included in Appendix C of the September 2011 SCR/RAP.

With respect to the confirmed unleaded gasoline release, groundwater has been gauged and sampled on six separate occasions between November 2010 and the date of this RFB. There are presently eight groundwater monitoring wells designated MW-1, MW-2, MW-3, MW-4R, MW-5R, MW-6, MW-7, and MW-8. MW-1 was installed in the former diesel fuel UST cavity on 10/26/10. MW-2 and MW-3 were completed in two soil borings installed in October 2010 for the purpose of assessing the potential extent and nature of the unleaded gasoline release. MW-4, MW-5, and MW-6 were installed in February 2011, but MW-4 and MW-5 were inadvertently destroyed during station sewer line repair activities in early May 2011. These two wells were replaced by MW-4R and MW-5R in mid-May 2011 when MW-7 and MW-8 were also installed. Finally, two off-property soil borings (SB-1 and SB-2) and four soil vapor monitoring points (VP-1 through VP-4) were installed in May 2011. The following table summarizes the well construction details for the eight on-site monitoring wells.

Well ID	Diameter (in)	Length of Screen (ft)	Length of Riser (ft)	Total Well Depth (ft)
MW-1	4	15	4	19
MW-2	4	15	4	19
MW-3	4	10	7	17
MW-4R	4	14	5	19
MW-5R	4	14	5	19
MW-6	4	9	5	14
MW-7	4	14	5	19
MW-8	4	13.25	5	18.25

The following table summarizes the SHS-MSC exceedances detected in groundwater through and including the 11/10/11 sampling event.

Well	Date	Benzene (µg/L)	Ethyl Benzene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)
U/R SHS-MSCs		5	700	20	100	15	13
MW-3	11/8/10	250				27	
MW-3	2/25/11	327				44.4	13.5
MW-4		19.9					
MW-5		91.1					
MW-3	5/27/11	296		21.7		169	63
MW-4R		95.4					
MW-5R		398					
MW-8		2,170	1,010		274	363	110
MW-3	6/24/11	375		26.2		110	31.3
MW-8		935			168	226	49
MW-3	8/22/11	140				30.6	
MW-4R		47					
MW-5R		618					
MW-8		794			104	63.8	
MW-3	11/23/11	178					
MW-4R		48.1					
MW-5R		550				40.4	65.5
MW-8		416				20.5	

Vapor Intrusion into Buildings

A soil vapor intrusion sampling event was completed at this site in May 2011. Soil vapor samples were collected from four monitoring points (VP-1 through VP-4) and analyzed for the post-2008 PADEP short list of unleaded gasoline constituents. The analytical results reported in the September 2011 SCR/RAP indicate that all attenuation-adjusted unleaded gasoline constituent concentrations at these four locations were below the applicable residential and non-residential indoor air quality MSCs.

Interim Remedial Action

Since the PADEP approved the SCR/RAP on 9/21/11, the current consultant of record has been conducting monthly pre-excavation HVE events utilizing a vacuum truck and on-property monitoring wells MW-3, MW-4R, MW-5R, and MW-8 either individually or in various combinations as dictated by pre-event sampling data. Reportedly, three HVE events have been completed as of this date (on 8/17/11, 10/18/11, and 11/10/11), with certain wells being pumped for approximately eight (8) hours (using MW-8 only on 8/17/11 and 10/18/11, and using MW-8 and MW-5R simultaneously on 11/10/11). Attachment 2 in the electronic files accompanying this RFB summarizes the per-event analytical results provided by the Solicitor for the three pre-excavation HVE events conducted to date. [NOTE: A fourth HVE event was conducted during the week of 12/5/11; data from that event are pending.] In addition, the current consultant of record has continued with its program of quarterly groundwater monitoring, sampling, and reporting events, with the last event completed on 11/23/11.

Previous Feasibility Testing

On 6/14/11, the current consultant of record performed a feasibility study "to evaluate various remedial technologies that could be viable in addressing on-site adsorbed- and dissolved-phase hydrocarbon impacts" associated with the unleaded gasoline release. As described in Section 9.0 of the September 2011 SCR/RAP, feasibility tests were performed to evaluate the possible use of total phase extraction (TPE) or vacuum-enhanced groundwater extraction (VEGE).

Selected Remedial Actions

The PADEP-approved RAP specifies the following remedial actions to mitigate site-related COCs within subsurface soils and groundwater:

- Excavating residually impacted soils in areas between the dispenser islands and the western boundary of the Kwik Fill station #S-171 parcel;
- Demonstrating attainment of the SHS-MSCs for all site-related COCs in soil;
- Restoration of the groundwater monitoring well and/or soil vapor monitoring point network affected by the soil excavation activity;
- Monitoring groundwater conditions post-excavation for a minimum of two quarters;
- If necessary, conducting up to three quarterly post-excavation high-vacuum extraction (HVE) events utilizing MW-3, MW-4R, MW-5R, and MW-8 and/or their restored/replacement equivalents;
- Conducting one additional round of soil vapor sampling;
- Completing the groundwater attainment demonstration;
- Preparing & submitting a Remedial Action Completion Report (RACR);
- Abandoning the monitoring wells and restoring site conditions in kind.

3. SCOPE OF WORK OBJECTIVES

This Solicitor seeks competitive, fixed-price bids to complete the nine tasks specified below. **To be deemed responsive, each bid must respond in detail to each of the SOW tasks, 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.** In other words, bidders shall respond to the tasks specified herein to enable as much of an "apples-to-apples" comparison of the bids as possible. Recommendations for changes/additions to the SOW shall

be discussed, quantified, and priced separately; however, **failure to bid the SOW "as is" may result in a bid not being considered.**

General SOW Requirements

The bidder's approach to achieving closure of this site under PA Act 2 and securing an associated release of liability from the PADEP for the subject release 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 necessarily limited to meeting the 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 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.

Each bid must provide the Solicitor and PAUSTIF with a schedule that begins with execution of the Fixed-Price Agreement with the Solicitor and ends with site closure under Pennsylvania Act 2 (and the associated release of liability from PADEP). Schedules must also indicate the approximate start and end of each of the tasks/milestones specified below, and indicate the timing of all proposed key milestone activities. Per the Solicitor's request, the SOW covered by Tasks 1 through 3, must be completed within **four months** following execution of the Fixed-Price Agreement. **Each bidder's proposed project schedule for Tasks 1 through 3 (including all Task 1, 2, and 3 milestones) shall meet this requirement clearly and unambiguously.** The project schedule must also specify no less than two weeks for the Solicitor and PAUSTIF to review and comment on the draft RACR before it is finalized and submitted to the PADEP for its review and comment. Task 8 would be performed following PADEP review and approval of the RACR (Task 7). Therefore, the bid shall also include time to address any PADEP comments received on the RACR.

During completion of the task/milestone objectives specified below and throughout implementation of the project, the selected consultant shall:³

- Conduct necessary, reasonable, and appropriate project planning and management activities until the project (i.e., Fixed-Price Agreement) is

³ As such, all bids shall include the costs of these activities and associated functions within the quote for applicable tasks/milestones.

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, etc.). Project planning and management activities will also include preparing and implementing plans for Health and Safety, Waste Management, Field Sampling/Analysis, and/or other plans that may be required by regulations or that may be necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. Project 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.⁴ As appropriate, project management costs shall be included in each bidder's pricing to complete the tasks/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 and purge water should 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 upon request.
- 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 prompted by a failure to make the necessary logistical arrangements in advance will **not** constitute a change in the selected consultant's SOW or compensation under the Fixed-Price Agreement.
- Be responsible for keeping all site monitoring wells in good condition, with each well properly sealed and locked in between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the period of the Fixed-Price Agreement at its expense. If, during the mandatory pre-bid site meeting, any well(s) is (are) identified to be in need of repair or replacement, each bidder shall provide its estimated cost to repair/replace said well(s) in its bid. NOTE: Any request for Fund reimbursement

⁴ Pennsylvania's Underground Utility Line Protection Law requires anyone who engages in any type of excavation or demolition, (see the Act for definition of excavation), to provide advance notice. The Act requires, "Notice in the design or planning phase of every work operation that involves the movement of earth with powered equipment...not less than 10 nor more than 90 business days before final design approval, and notice in the construction phase of a work operation involving movement of earth with powered equipment or explosives...is required at least 3 business days but not more than 10 business days prior to actual excavation." The Pennsylvania One Call website is www.paonecall.org.

of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

Finally, subsequent to bid award, any modification of the selected consultant's SOW will require prior written approval by the Solicitor **and PAUSTIF** through its third-party administrator, and may require PADEP pre-approval. Bidders should also note that this SOW was provided to and reviewed by the PADEP-SWRO case manager.

Task 1 – Monthly Pre-Excavation HVE Events (Milestone A Series)

Under this task, the selected consultant shall continue with the sequence of monthly pre-excavation HVE events already underway until weather conditions and the assured availability of asphalt permit the conduct and full completion of the limited soil excavation activity (Task 2). At the time of this writing, the current consultant of record has completed three monthly pre-excavation HVE events utilizing a 425-horsepower vacuum truck capable of holding 3,000 gallons of recovered groundwater. However, while the approved RAP speaks of extracting total fluids simultaneously from MW-3, MW-4R, MW-5R, and MW-8, the pre-excavation HVE events conducted to date have reportedly used MW-8 only (on 8/22/11 and 10/18/11) and MW-8 and MW-5R (on 11/10/11). These HVE events are being conducted as an interim remedial action in agreement with the PADEP because there is not enough time left to complete the limited soil excavation activity specified in Task 2 below before area asphalt plants are likely be closed for the winter months, thereby delaying full restoration of the excavated area.

For the purpose of this bid, bidders shall assume conducting an additional **three (3) monthly pre-excavation HVE events** (Milestones A1, A2, and A3). The fixed per event quote for Task 1 shall be based on setting up a temporary manifold to simultaneously extract total fluids from MW-4, MW-4R, MW-5R, and MW-8 via appropriately sized and slotted (for air lift priming) drop tubes placed in each well and reaching a depth of at least 17 ft below ground surface. Each event shall be conducted for a total of eight (8) hours of pumping activity or until the capacity of the 3,000-gallon holding tank is reached, whichever occurs first. Recovered groundwater shall be contained within the 3,000-gallon holding tank on the vacuum truck and then transported off-site for proper disposal per all applicable regulations, guidance, and directives. Extracted vapors shall be discharged in accordance with the PADEP-approved RAP.

Task 1 shall also include collecting a pre-and post-HVE event groundwater sample from the four extraction wells for analysis of the post-March 2008 PADEP short-list of unleaded petroleum products, unleaded gasoline category. A vapor sample shall be collected from the total fluids stream entering the vacuum truck at the approximate mid-point time of extraction. The samples collected for each HVE event shall be analyzed by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. The analytical results, which shall be reported in the quarterly RAPRs issued under Task 4, and the estimated extracted groundwater and vapor volumes are to be used to estimate the hydrocarbon mass removed during each HVE event. This estimated amount of hydrocarbon mass removed and the dissolved-phase concentrations detected in the monitoring wells shall be assessed and discussed in each quarterly RAPR as an evaluation of HVE event effectiveness. In addition, each bid response

shall specify maintaining a log and providing the following data in the quarterly reports issued pursuant to Task 4:

- Extraction time for each event;
- Total volume of groundwater extracted during each extraction event and cumulatively;
- A measured air flow rate and cumulative vapor removal volume;
- The applied wellhead vacuum;
- Photoionization detector (PID) measurements collected from the extracted off-gas; and
- Documentation as to the disposition of the recovered groundwater.

For a bid to be considered complete and technically sound, it must include an unambiguous statement that the information listed above will be collected and included in each quarterly report issued under Task 4.

Depending on the results of the three monthly pre-excavation HVE events, the frequency of these events may be adjusted, but only after consultation with the Solicitor and PAUSTIF. Milestone payments for this task will be made based on actual number of HVE events performed and according to the Milestone Payment Schedule. Also, if the parties agree to continue the HVE events post-excavation (i.e., Task 5), the unit rate quoted for the HVE events conducted under Task 1 shall apply to the Task 5 quarterly events.

Task 2 – Limited Soil Excavation and Soil Attainment Demonstration

Impacted Soil Excavation (Milestone B1). Under this task, bidders shall provide a fixed price bid inclusive of excavation planning and preparation work (e.g., buried utility location/mark-out, surveying excavation locations, etc.), excavation, backfilling and soil attainment sampling for area defined on RFB Figure 1 (Attachment 3). As discussed more fully in the SCR/RAP, impacted soil on the western margin of this property is to be excavated to remove adsorbed-phase hydrocarbon impacts “to the maximum extent practicable” as a function of physical constraints, safety considerations, field observations, and soil screening levels. The stated goal in the RAP is to remove impacted soil from an area that “coincides with the location of residual adsorbed-phase hydrocarbon impacts observed in the vicinity of groundwater monitoring wells MW-3, MW-4R, MW-5R, and MW-8.” Bidders will note that the RAP text anticipates removing impacted soils from two separate excavations with each excavation measuring approximately 5 ft in length, 5 ft in width, and 8 to 10 ft in depth. However, RAP Figure 25 depicting the excavations shows the dimensions to be approximately 10 ft x 8 ft and 10 ft by 20 ft. To resolve the RAP discrepancy and account for the likely soil contamination between MW-3 and MW-8 and beneath VP-2, the fixed price quoted for Task 2/Milestone B1 should be based on excavating a single continuous area measuring approximately 15 ft in width, 35 ft in length, and 10 ft in depth (RFB Figure 1). As noted in the RAP, field observations may dictate expansion of the length and/or width of the excavation, and

the RFB anticipates this by asking bidders to quote appropriate per unit pricing (see below). This includes the possibility of vertical expansion should deeper excessively impacted soil be present to aid the improvement of groundwater quality on the western margin of the property and beyond. In no case will the excavation dimensions be reduced from that specified in this RFB.

The SCR/RAP (Section 11.2) discusses screening and segregating the excavated soils either for re-use on-site as backfill or removal for off-site disposal on the basis of visual indications and field screening results, but does not reference any specific threshold values. Therefore, to be deemed responsive to this task, bids must discuss: (1) the PID screening value selected within the range of 20 to 50 parts per million that will be applied to segregate the "obviously contaminated" and "not suspected to be contaminated" soil removed from the excavation, and (2) the field screening approach and frequency. However, please note that the fixed price quoted for Task 2 should **not** include costs for transportation and disposal of excessively contaminated soil or costs for imported clean fill as the quantities of each are currently unknown and cannot be estimated reliably. Similarly, bidders should note that groundwater level data for the existing monitoring wells in the area targeted for excavation suggest groundwater is likely to enter and accumulate in the excavation, which may require the sampling, removal, handling, transportation, and disposal of impacted groundwater. Therefore, these activities will be subject to the requested unit-price quotes (see below). However, based on the information presented in the SCR/RAP, bidders should anticipate not having to include costs for dealing with, repairing, or replacing utilities in the excavation as the western margin of the excavation is to stop short of the sidewalk and street. Therefore, should utilities be encountered within the limits of the excavation, this will be a new condition as that term is defined in the Fixed-Price Agreement, and will be handled accordingly.

The fixed cost quoted for Task 2/Milestone B1 shall include the costs to perform all work necessary to safely excavate, screen, segregate, and manage⁵ soil removed from the area shown on RFB Figure 1, inclusive of the process for obtaining any required permits. Therefore, the fixed-price quote for Task 2/Milestone B1 shall:

- Reflect include concurrent PID⁶ screening of excavated soil for volatile organic compounds (VOCs) consistent with the bidder's specified PID threshold value for the head space readings (see above). Only excavated soils with PID headspace readings greater than the specified threshold shall be loaded, transported and disposed off-site. Excavated soils with PID headspace readings below the specified threshold values shall be staged, managed, and reused to backfill the excavation after appropriate testing (see below).
- Include costs for any waste profiling (including any sampling and laboratory work) and securing waste facility acceptance prior to beginning the soil excavation activity in the field.

⁵ While staged on-site, the removed soils shall be placed on and covered with plastic sheeting and otherwise managed to minimize the infiltration of water into or loss of the staged soils.

⁶ PID with a 10.6 eV lamp calibrated to 100 parts per million isobutylene.

- Include costs for backfilling and mechanically compacting in lifts utilizing a combination of re-used site soil and imported clean fill to within five inches of grade. The excavated material stockpiled on site for re-use as backfill should be sampled prior to use⁷ therefore, the fixed price quote should include costs for the sampling and laboratory work in accordance with PADEP guidance documents.
- Include costs for in-kind surface completion/restoration based on observations of the area targeted for excavation during the pre-bid site meeting.

In addition to providing a fixed price bid for excavating, backfilling, and restoring the defined soil excavation area, bidders shall also provide excavation-related unit costs for:

- Unit Cost B3: Management, loading, transportation and proper off-site disposal of excessively contaminated soils (cost per ton);
- Unit Cost B4: Management, sampling/analysis, loading, transportation and disposal of impacted groundwater removed from the soil excavations (cost per gallon);
- Unit Cost B5: Purchase, transportation, on-site management, placement, and compaction of clean imported fill (cost per ton);
- Unit Cost B6: Surface completion for paved areas beyond the identified targeted excavation area limits (cost per square foot) if and only if the additional area was disturbed by conduct of the excavation;
- Unit Cost B7: Additional excavation, soil screening, backfilling (excluding clean fill costs) and compaction beyond lateral and vertical boundaries of identified above for the targeted excavation area (cost per in-place cubic yard).⁷

However, it should be noted that the selected consultant cannot count on reimbursement of the costs to expand the excavation beyond the limits depicted in RFB Figure 1 unless it sought and obtained the Solicitor's and PAUSTIF's (or their agents') prior written approval of the supplemental work.

As for the groundwater monitoring wells and soil vapor monitoring points that lie within or that might fall within the boundaries of the targeted excavation area, Task 3 addresses how the bidders may approach the obligation to restore the wells/points affected by the soil excavation activity given that the RAP indicates "impacted soil will be removed up to and surrounding each...well riser and/or well screen."

⁷ The successful bidder cannot count on reimbursement of excavation beyond the limits depicted in RFB Figure 1 without having obtained the Solicitor's and PAUSTIF's (or their agents') prior written approval of the supplemental work.

Soil Attainment Demonstration (Milestone B2). Per Sections 11.3 and 14.2 of the RAP, the post-excavation confirmatory soil sampling and demonstration of attainment is to be based on (a) collecting biased samples from along the sidewalls of the excavation,⁸ (b) analyzing the samples for the post-March 2008 shortlist of unleaded gasoline constituents, and (c) comparing the analytical results to the SHS-MSCs for a used aquifer in a residential setting through application of the 75%-10X ad hoc statistical rule. As noted in Section 14.2, the RAP specifies biased sampling and application of the 75%-10X statistical rule (which is more often applied to analytical results for soil samples collected on systematic random basis) "based on the structural limitations within the proposed excavation area and the difficulty in developing an appropriate post-excavation [systematic] random soil sampling approach." In addition, the SCR notes that given the nature and location of the release within the western dispenser island area, full characterization and delineation of the area of soil impacted above the SHS-MSCs was not possible. Consequently, the RAP indicates soil samples will be collected at approximately 5- to 10-ft intervals along the sidewalls of the excavation and at a depth of approximately 1 ft above the soil-groundwater interface based on visual, olfactory, and PID screening indications of possible contamination. For the purpose of this bid, it should be assumed that a total of 15 sidewall samples will be required in the excavation, along with appropriate QA/QC samples.

With respect to Task 2/Milestone B2, bidders may elect to either provide a fixed price quote following the approach outlined in the RAP, which has been approved by the PADEP (but appropriately scaled up for the targeted excavation area specified in the RFB), or employing the systematic random sampling protocol specified in the regulations and PADEP guidance *if* the bidder believes it can apply this protocol to the proposed excavation area successfully. Either way, the bid must clearly and completely describe the soil attainment sampling approach and plan, including the assumed number of soil samples. For example, if a bidder chooses to base its fixed price quote for Task 2/Milestone B2 on applying the systematic random sampling protocol, the bid must (a) address the concerns noted in the RAP to justify selecting a biased sampling approach and (b) describe the approach or the actual grid to be used for sidewall attainment soil sampling from the completed excavation consistent with applicable PADEP guidance. However, whatever soil attainment sampling approach and plan is specified in the bid, the selected consultant will be expected to present its approach and plan to the PADEP in advance of initiating the soil excavation activity and indicating that the plan will be followed unless the PADEP objects or requests modifications.

The assumed number of attainment soil samples specified in the bid shall be analyzed for the **post**-March 2008 PADEP shortlist of unleaded gasoline parameters by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Should the biased or systematic random soil sample results fail the 75%-10X statistical test, this will represent a changed condition under the executed Fixed-Price Agreement. Under this scenario, some or all

⁸ Collecting post-excavation soil samples from the base of the excavation is not anticipated on the assumption that the depth of the excavation will reach the observed depth of the zone of permanent saturation. However, if groundwater is not encountered or should the excavated depth remain above the zone of permanent saturation, collecting and analyzing grab samples from the base of the excavation would be subject to the requested per sample unit rate.

the remaining components of the Fixed-Price Agreement work scope would not be completed (e.g., Tasks 4 through 8).

The details of the source soil removal activities and soil attainment demonstration sampling shall be documented in the RACR (Task 7) and at a minimum shall include the following: scaled drawings depicting the lateral and vertical dimensions of the completed excavation superimposed on the site plan with locations of soil samples collected to demonstrate attainment; field observations and PID readings; the in-situ volume and weight of excavated soils, soils transported and disposed of off-site, excavated soils that were re-used as excavation backfill, and materials that were and imported from off-site locations and used as excavation backfill; waste profiling documentation; soil waste disposal manifests and disposal facility; the name(s) and address(es) of all off-site backfill sources, including the weight and in-situ volume of such soils by individual source; impacted groundwater management, sampling, analysis, and disposal (if needed); date-stamped photographs taken before breaking ground, throughout the excavation process, and after site restoration; and documentation (boring logs/well construction diagram and survey information) for any replacement wells or points (see Task 3).

The RFB SOW has been developed to meet, at a minimum, the RAP specifications while helping to ensure a cost-effective site closure. As such, the following sections of the September 2011 SCR/RAP are supplemented, modified, or superseded by the protocols/requirements specified within this RFB:

- Section 11.3 – Remedial Soil Excavation & Sampling
- Section 14.2 – Soil Attainment Demonstration

All Task 2 activities shall be documented by representative date-stamped photographs and the cost associated therewith shall be included in Milestones B1 and B2. Costs associated with RACR documentation of all Task 2 activities shall be included in the bid for Task 2, i.e., these costs are not to be double-counted in the quote for Task 7.

Finally, as noted in the RAP, it is possible that residual soil impacts following soil excavation may fail the attainment demonstration requiring additional corrective action measures to demonstrate attainment of the used aquifer SHS-MSCs for soil in a residential setting. The need to implement additional corrective action measures (which may necessitate revising the RAP) will be considered a new condition as that term is defined in the Fixed-Price Agreement.

Task 3—Restoration of Monitoring Well & Soil Vapor Monitoring Point Network

At least three existing groundwater monitoring wells (MW-3, MW-5R, and MW-8) and possibly two soil vapor monitoring points (VP-1 and VP-2) may lie within the area from which soils will be excavated to remove adsorbed-phase hydrocarbon impacts “to the maximum extent practicable” (Task 2). Section 11.3 in the SCR/RAP suggests removing impacted soil up to and surrounding each monitoring well/vapor monitoring point riser and/or screen. It is also suggested that this goal can be achieved *without* destroying or sacrificing the affected wells or points and that it will be possible to restore (i.e., reseat) the wells and points following the

excavation activities. According to the RAP, no monitoring well or point would be replaced unless it is "damaged during the remedial action." However, the RAP does not specify the method by which these two objectives would be met.

To be deemed responsive to this task, bidders shall compare the costs of a specified well restoration protocol that meets the objectives outlined in the RAP (i.e., removing all soil and then resealing the well) versus pre-excavation sacrificing the existing well or point and post-excavation replacing it with another whose construction specifications account for the presence/depth of the backfilled materials. The bidder may then base its fixed price quote for Task 3 (Milestone C) on the one approach it believes is most cost effective and best suited to meeting the remedial action objectives. In making this choice, bidders should remember that the "restored" or replaced versions of MW-3, MW-5R, and MW-8 are to be used (along with MW-4R, which lies outside the targeted excavation area) for the quarterly post-excavation HVE events (Task 5), if necessary.

Should a bidder elect to "restore" the well or point as suggested in the RAP, the specific procedure by which this would be accomplished must be described in detail, including how the adequacy of the restored well seal will be tested and verified. Should a bidder elect to sacrifice the existing groundwater monitoring wells and soil vapor monitoring points, the specified well decommissioning procedures (pre-excavation) shall be in accordance with PADEP guidance, including documenting the monitoring well/point abandonment activities submitting the documentation required by PADEP. New well construction diagrams shall be developed for each new monitoring well or point. To the extent possible, each replaced well or point shall be installed as close to their pre-excavation location and total depth as possible and shall be designated by adding an "R" to the current well or point designation (i.e., MW-5R becomes MW-5RR and MW-8 becomes MW-8R). How the restored or replaced monitoring well or point will be redeveloped shall also be described in the bid.

At the present time, it is not expected that the remedial excavation will extend far enough to affect any additional monitoring wells or soil vapor monitoring points on the property (e.g., MW-4R). However, should the extent of the excavation affect an additional monitoring well or point, the costs to restore or replace these additional wells or points would be handled on a unit cost basis.

Task 4—Pre-Excavation & Post-Excavation Groundwater Monitoring, Sampling, and Reporting

Under this task, bidders shall provide a unit price (per quarterly event) to complete two (2) quarters of pre-excavation (Milestones D1 and D2) and two (2) quarters of post-excavation groundwater monitoring, sampling and reporting events (Milestones D3 and D4). Each pre-excavation event shall utilize all the pre-existing monitoring wells and shall commence with the first quarterly event scheduled to take place after executing the Fixed-Price Agreement with the Solicitor. Each post-excavation event shall utilize all available monitoring wells (including the restored/replaced wells, as applicable), and shall commence following the completion of all Task 2 milestones. The results of each quarterly groundwater monitoring & sampling event shall be documented in separate quarterly RAPRs (see below). Bidders are advised that the Fund will

only reimburse for the necessary quarterly groundwater sampling/reporting events actually completed under this task; therefore, conducting more than two quarterly pre-excitation or two quarterly post-excitation groundwater monitoring, sampling, and reporting events under this task requires the Solicitor's and PAUSTIF's prior written approval.

Each quarterly event shall include gauging the depth to groundwater (and separate-phase hydrocarbons if unexpectedly present)⁹ 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 consistent with the current (most recent) vertical land survey datum used at the site to assess groundwater flow direction and hydraulic gradient.

Each monitoring well designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual, other applicable PADEP guidance and directives, and standard industry practices. Any well with a numerically quantifiable thickness of separate-phase hydrocarbons shall not be purged and sampled. Bidders shall manage equipment decontamination fluids and groundwater generated by the well purging and sampling activities in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

Groundwater samples shall be analyzed for total dissolved solids (TDS) and the post-March 2008 PADEP short-list of unleaded petroleum products, unleaded gasoline category by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate quality assurance/quality control (QA/QC) samples shall also be collected and analyzed for the same parameters as part of each event.¹⁰

Each quarterly event shall also include collecting groundwater samples from each site monitoring well for analysis and documentation of monitored natural attenuation (MNA) parameters. Temperature, pH, specific conductance, dissolved oxygen (DO), and oxidation/reduction potential (ORP) shall be measured and documented in the field at the time of sample collection. The MNA (e.g., DO, ORP, contaminant trends) monitoring activities, analysis results, and interpretation shall also be documented in the separate quarterly RAPRs.

Each quarterly RAPR shall be prepared, completed, and submitted for PADEP review in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Each quarterly report shall provide the data generated during the reporting period, shall be complete and concisely organized, and shall contain at least the following elements:

⁹ If separate-phase hydrocarbons (SPH) are detected at this site, SPH recovery and the need to demonstrate that free-phase product has been removed to the maximum extent practicable will constitute a changed condition under the executed Fixed-Price Agreement.

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

- A summary of site operations and remedial progress made during the reporting period that addresses whether or not the degree of remedial progress is reasonably "on track" to achieve a timely and cost-effective Site closure.
- Data collected from the monitored wells, including the depth to groundwater and thickness of any separate-phase hydrocarbon encountered.
- At least one groundwater elevation contour map, which also depicts a licensed professional's interpretation of groundwater flow direction.
- Tabulated historical quantitative groundwater analytical results, including results from the current quarter.
- The laboratory analytical report(s) for the samples collected during the current quarter.
- One site-wide iso-concentration contour map for each compound detected in groundwater at a concentration exceeding the applicable SHS-MSC during the quarter.¹¹
- For each well that has exhibited an SHS-MSC exceedance during the reporting period and/or during the previous year, 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. This assessment should specifically address whether observed dissolved-phase constituent concentration fluctuations may be related to changing hydrogeologic conditions or whether these fluctuations may be potentially indicative of changed conditions requiring further investigation and/or a possible change in the Site closure strategy.
- For each well that has exhibited an SHS-MSC exceedance during the reporting period or previously, a graphical depiction of recent key contaminant concentration trends. Each quarter, contaminant concentration trend lines shall be calculated using the previous two-years of analytical data (or data collected after the active remediation has been initiated, if applicable) to be plotted on an x-y scatter plot with a logarithmic scale. The exponential trend lines shall be projected forward in time to assess the pace of or projected timeframe for remediation to achieve attainment of the selected remediation standard(s).

¹¹ All figures included in each quarterly report (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

- Discussion and analysis of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume and, therefore, whether or not the plume appears to be responding to the remedial action in a manner suggestive of a timely and cost-effective Site closure.
- Discussion and analysis of the MNA data to assess the continued viability of this remedial technology (MNA enhance by in-situ enhanced bioremediation, as applicable).
- Treatment and disposal documentation for waste generated during the reporting period.

Each quarterly RAPR shall be signed and sealed by a Professional Geologist registered in the Commonwealth of Pennsylvania.

Task 5—Additional Quarterly Post-Excavation HVE Events, If Necessary

If, after consultation with the Solicitor and PAUSTIF, the post-excavation groundwater sampling results generated under Task 4 indicate that the pre-excavation HVE events (Task 1) and source area removal effort (Task 2) failed to produce COC concentration reductions in groundwater sufficient to initiate groundwater attainment sampling, Task 5 shall be conducted. This task (Milestones E1, E2, and E3) shall be conducted and bid in the same manner as Task 1 except the post-excavation HVE events shall be conducted on a quarterly basis. For the purpose of this bid, bidders shall assume conducting up to three (3) additional quarterly post-excavation HVE events utilizing MW-3, MW-4R, MW-5R, and MW-8 (or their replacement/restored well counterparts, as applicable) with each event subject to the same requirements as specified for Task 1.

Depending on the results of the initial three quarterly post-excavation HVE events, the frequency of these events may be adjusted, but only after consultation again with the Solicitor and PAUSTIF. If the parties agree to continue the program of post-excavation HVE events, the unit rate quoted for the three HVE events conducted under Task 5 shall apply for up to another four quarterly events. Milestone payments for this task will be made based on actual number of HVE events performed and according to the Milestone Payment Schedule.

Task 6—Groundwater Attainment Demonstration

Under this task, bidders shall provide a unit price (per quarterly event) to complete eight consecutive quarters of groundwater attainment demonstration monitoring, sampling and reporting events.¹² The designated point-of-compliance (POC) wells are identified in the SCR/RAP as MW-3, MW-4R, MW-4R, MW-5R, MW-6, and MW-8 (or their replacement/restored well counterparts, as applicable). The events conducted under this task shall commence

¹² Bidders shall include language in their bid that if groundwater data in site monitoring wells meet the conditions for site closure after four consecutive quarterly events, a petition to approve a reduction in the total number of groundwater attainment sampling events shall be filed with the PADEP.

following the completion of Task 4 unless Task 5 is implemented, whereupon this task shall commence after the completion of Task 5. The results of each quarterly groundwater monitoring event shall be documented in separate RAPRs (see Task 4 for RAPR requirements).

Each event shall include gauging the depth to groundwater 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 consistent with the current (most recent) vertical land survey datum used at the Site to assess groundwater flow direction and hydraulic gradient.

Each monitoring well designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual, other applicable PADEP guidance and directives, and standard industry practices. Any well with a numerically quantifiable thickness of separate-phase hydrocarbons shall not be purged and sampled. Bidders shall manage equipment decontamination fluids and groundwater generated by the well purging and sampling activities in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. .

Groundwater samples shall be analyzed for the TDS and the post-March 2008 PADEP short-list of unleaded petroleum products, unleaded gasoline category by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate quality assurance/quality control (QA/QC) samples shall also be collected and analyzed for the same parameters as part of each event.¹³

Each quarterly RAPR report shall be prepared, completed, and submitted for PADEP review in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Each quarterly RAPR shall be signed and sealed by a Professional Geologist registered in the Commonwealth of Pennsylvania. Bidders are advised that PAUSTIF will only reimburse for necessary quarterly groundwater attainment sampling/reporting events actually completed under this task.

Task 7—Prepare Draft and Final RACR

Under this task, the bidder will prepare a fixed-price to prepare a draft and final RACR following the completion of Tasks 1 through 6. The RACR shall be prepared in accordance with Section 245.313. At a minimum, the RACR shall provide the implementation, analysis, and results details for Tasks 1 through 6. The RACR shall also discuss the selected closure criteria for the site, provide proof of soil, groundwater, soil gas attainment, and request permanent closure for the site for the current release under an Act 2 Relief of Liability (ROL). The project schedule shall allow two 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

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

RACR to the PADEP in accordance with Section 245.313, and be sealed by a Professional Geologist registered in the Commonwealth of Pennsylvania. The fixed-price shall also include addressing any PADEP comments on the RACR.

Task 8 –Well Abandonment and Site Restoration Activities

Under this task, bidders shall provide a fixed-price for: proper abandonment of all site-related monitoring wells; removal and proper disposal of any remaining wastes associated with site remedial or characterization activities; as-needed grading of all ground surface areas that have been disturbed by site characterization or remedial action activities; and in-kind restoration (pavement or vegetation) of all ground surface areas that have been disturbed by site characterization or remedial action activities save for those areas previously restored in kind under Task 2.

Work and bid pricing for this task shall include all associated documentation required by PADEP or the Solicitor. This includes, but is not limited to: daily photo-documentation of all site restoration and well abandonment activities, and submitting properly completed well abandonment forms to PADEP on behalf of the Solicitor. Copies of these photographs and well abandonment forms shall be provided to the Solicitor and PAUSTIF.

Work under this task shall be completed within 60 days of final RACR approval by the PADEP and shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Monitor well abandonment and site restoration activities will be coordinated with the Solicitor.

All groundwater monitoring wells and vapor monitoring wells (as applicable) at the site shall be properly abandoned in a manner consistent with PADEP's 2001 Groundwater Monitoring Guidance Manual. Copies of the completed Groundwater Monitoring Abandonment Forms shall be forwarded to PADEP so that PADEP may close its files on this facility. Prior to abandonment, all wells and piezometers shall be checked for obstructions that may interfere with any abandonment grouting protocol. If obstructions are found, they shall be removed prior to well or piezometer abandonment.

All debris and waste materials generated during well abandonment and site renovation activities shall be properly disposed of in accordance with all applicable laws, regulations, and PADEP guidance, all applicable federal, state, and local laws and regulations, PADEP guidance, PADEP directives, and PADEP regulations. IDW waste and purge water should be disposed of per the DEP SWRO guidance; check with the SWRO for current requirements.

4. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable, firm, Fixed-Price Agreement for the work addressed by Task 1 through 8. The ceiling for this Fixed-Price Agreement is increased or decreased only through applying the applicable and appropriate unit prices consistent with the selected consultant's bid response and as incorporated into the Fixed-Price Agreement. A

sample Fixed-Price Agreement is included as Attachment 1.¹⁴ As noted earlier, **a bidder's response to this RFB means it has accepted all the contractual terms unless explicitly stated to the contrary in the bid response.** Therefore, any requested changes to the Fixed-Price Agreement shall be explicitly specified in submitted bids. Please note that these changes will need to be reviewed and agreed upon by both the Solicitor and PAUSTIF.

Each bid shall clearly identify the basis of all unit prices within the bid (e.g., rates for labor, other direct costs, and equipment, as well as proposed mark-ups on other direct costs and subcontracted services for Tasks 1 through 8). Task (e.g., Milestone E) and subtask (e.g., Milestone E3) prices shall be entered into the Standardized Bid Form that is included as Table 1 (provided as Attachment 4 with the accompanying electronic files) of this RFB. As stated above, **all fixed-prices and unit prices shall include all associated direct and indirect costs (etc.), including those costs that the bidder may regard as "variable."** **Such variable costs will not be handled outside of the total fixed price quoted for the SOW.** Finally, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

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

- Milestone A Series – Monthly Pre-Excavation HVE Events (Task 1). Milestone A has three sub-payments (Milestones A1, A2, and A3) associated with each of three anticipated monthly pre-excavation HVE events performed using MW-3, MW-4R, MW-5R, and/or MW-8.
- Milestone B Series – Limited Soil Excavation and Soil Attainment Demonstration (Task 2).
- Milestone C – Restoration of Monitoring Well & Soil Vapor Monitoring Point Network (Task 3).
- Milestone D Series – Pre-Excavation & Post-Excavation Groundwater Monitoring, Sampling, and Reporting (Task 4). Milestone D has four sub-payments associated with each of two anticipated quarterly pre-excavation groundwater monitoring, sampling, and reporting events (D1 and D2) and each of the two quarterly post-excavation groundwater monitoring, sampling, and reporting events (D3 and D4).
- Milestone E Series – Quarterly Post-Excavation HVE Events (Task 5), if necessary. Milestone E has at least three sub-payments (Milestones E1, E2, and

¹⁴ The selected consultant will be provided an electronic copy (template) of the Fixed-Price Agreement in Word format to allow agreement-specific information to be added.

E3) associated with each of three anticipated post-excavation quarterly HVE events performed using MW-3, MW-4R, MW-5R, and MW-8.

- Milestone F Series – Groundwater Attainment Demonstration (Task 6). Milestone F has eight sub-payments (Milestones F1 through F8) associated with each of anticipated eight consecutive groundwater attainment sampling events.
- Milestone G – Prepare a Draft and Final RACR (Task 7).
- Milestone H – Well Abandonment and Site Restoration Activities (Task 8).

TABLE 2 – SAMPLE MILESTONE COMPLETION / PAYMENT SCHEDULE

Estimated Month After Fixed-Price Agreement Award	SOW Activities Anticipated/Completed for that Month	Milestone¹
	Monthly Pre-Excavation HVE Events	A1, A2 and A3
	Pre-Excavation Quarterly Groundwater Monitoring, Sampling, and Reporting (Event #1)	D1
	Pre-Excavation Quarterly Groundwater Monitoring, Sampling, and Reporting (Event #2)	D2
	Limited Soil Excavation	B1
	Soil Attainment Demonstration	B2
N/A	Management, loading, transportation and proper off-site disposal of excessively contaminated soils (cost per ton);	B3
N/A	Management, sampling/analysis, loading, transportation and disposal of impacted groundwater removed from the soil excavations (cost per gallon)	B4
N/A	Purchase, transportation, on-site management, placement, and compaction of clean imported fill (cost per ton)	B5
N/A	Surface completion for paved areas beyond the identified targeted excavation area limits (cost per square foot) if and only if the additional area was disturbed by conduct of the excavation	B6
N/A	Additional excavation, soil screening, backfilling (excluding clean fill costs) and compaction beyond lateral boundaries of the targeted excavation area (cost per in-place cubic yard)	B7
	Restoration of Groundwater Monitoring Well & Soil Vapor Monitoring Point Network	C
	Post-Excavation Quarterly Groundwater Monitoring, Sampling, and Reporting (Event #1)	D3
	Post-Excavation Quarterly Groundwater Monitoring, Sampling, and Reporting (Event #2)	D4

Estimated Month After Fixed-Price Agreement Award	SOW Activities Anticipated/Completed for that Month	Milestone¹
	Quarterly Post-Excavation HVE Event	E1
	Quarterly Post-Excavation HVE Event	E2
	Quarterly Post-Excavation HVE Event	E3
	Quarterly Groundwater Attainment Sampling (Event #1)	F1
	Quarterly Groundwater Attainment Sampling (Event #2)	F2
	Quarterly Groundwater Attainment Sampling (Event #3)	F3
	Quarterly Groundwater Attainment Sampling (Event #4)	F4
	Quarterly Groundwater Attainment Sampling (Event #5)	F5
	Quarterly Groundwater Attainment Sampling (Event #6)	F6
	Quarterly Groundwater Attainment Sampling (Event #7)	F7
	Quarterly Groundwater Attainment Sampling (Event #8)	F8
	Prepare Draft and Final RACR	G
	Well Abandonment & Site Restoration Activities	H

1. Each bidder shall modify this sample Milestone Completion/Payment Schedule for all tasks to reflect its proposed task schedule, as long as the proposed schedule meets the deliverable deadlines specified in Section 3 of this RFB.

Please note that the selected consultant's work may be subject to ongoing review by the PAUSTIF or its representatives to assess whether the proposed and completed work and the associated prices are reasonable, necessary, and appropriate. In order to facilitate review and reimbursement of submitted invoices by PAUSTIF, project prices shall be invoiced following the task/milestone payment structure specified in the RFB.

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

ADDITIONAL BID PACKAGE REQUIREMENTS

Each submitted bid response must include the following:

- A reasonable demonstration that the bidder (i) understands the objectives of the project, (ii) offers a reasonable approach for achieving those objectives efficiently, and (iii) has reviewed the existing Site information provided in or attached to this RFB.
- Provide an answer to the following questions regarding the bidder's qualifications and experience:
 - How many Chapter 245/250 sites has your company closed (i.e., obtained a Release of Liability under Act 2) in Pennsylvania?
 - How many Chapter 245/250 sites has your company or the proposed PA-licensed Professional Geologist (P.G.) and Professional Engineer (P.E.) closed (i.e., obtained a Release of Liability from the PADEP) under either the SHS and/or the Site Specific Standard? [*NOTE: The Solicitor requires the work described herein to be completed under the responsible care and directly supervised by a P.G. and P.E. consistent with applicable regulations and licensing standards.*]
 - Whether there were or were not circumstances consistent with the cancellation provision of a signed contractual agreement, and has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.
- Complete fixed-price bids for Tasks 1 through 8 by completing the Standardized Bid Form provided in Attachment 1 (included among the accompanying electronic files) following the SOW task structure specified herein.
- A description and discussion of all level-of-effort and pricing assumptions.
- Indicate whether the bidder accepts the proposed Fixed-Price Agreement / terms and conditions (see Attachment 1) or has provided a list of requested changes to the Fixed-Price Agreement.
- Provide a statement of applicable/pertinent qualifications, including the qualifications of any proposed subcontractors (relevant project descriptions are encouraged).
- Identify the proposed project team and provide resumes for the key project staff, including the proposed Professional Geologist and Professional Engineer of

Record who will be responsible for endorsing work products prepared for PADEP review and approval.

- Provide a task-by-task description of the proposed technical approach. **If this task-by-task description fails to address a specific requirement of this RFB, it will be assumed that the bidder has accepted all the requirements specified herein by task.**
- Identify and sufficiently describe subcontractor involvement by task (if any).
- Provide a detailed schedule complete with specific by-month dates for completing the proposed SOW (Tasks 1 through 8), inclusive of reasonable assumptions regarding the timing and duration of client, PAUSTIF, and PADEP reviews needed to complete the SOW. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule of activities.
- Describe your approach to working with the PADEP from project inception to site closure. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed as to project status.
- Describe how the Solicitor and ICFI / PAUSTIF will be kept informed as to project progress and developments and how the Solicitors will be informed of, and participate in, evaluating potential alternatives/tradeoffs with regard to the SOW addressed by Tasks 1 through 8.

5. MANDATORY PRE-BID SITE VISIT

On JANUARY 4, 2012, THERE WILL BE A MANDATORY PRE-BID SITE MEETING facilitated by the Technical Contact. The Technical Contact will be present at the site between 10:00 AM and 11:00 AM to answer general questions and conduct a site tour for no more than two participants per firm. **Any firm that does not attend this mandatory pre-bid site meeting on the date and during the hours specified will not be eligible to submit a bid.**

A CONFIRMATION OF YOUR INTENT TO ATTEND THIS PRE-BID SITE MEETING IS REQUESTED and shall be provided to the Technical Contact via e-mail at least three business days in advance of this date with the subject header "United Kwik Fill #S-171, Claim #2010-0118(F), Site Meeting Attendance Confirmation." This e-mail is to indicate the number and names of the participants (no more than two) attending from your firm. Each attending firm will be asked to enter the contact information for the individual at the firm who is to receive all subsequent RFB-related communications to help ensure the receipt of this information (e.g., responses to bidder questions).

Questions will be entertained during the pre-bid site meeting and every attempt will be made to answer questions at that time. Verbal questions and responses discussed during the site meeting will also be distributed in writing to the attendees after the tour, as will the answers to any non-proprietary questions submitted in writing after the pre-bid site meeting has been

concluded. Consequently, bidders are strongly encouraged to ask clarifying questions sufficient to minimize the number of assumptions, special conditions, and exemptions referenced in the submitted bid.¹⁵ Questions will be accepted up by the Technical Contact up to seven days prior to the date when bids are due.

¹⁵ As appropriate, the list of assumptions, special conditions, or exemptions will be discussed with the Solicitor. As part of that discussion, the PAUSTIF may advise the Solicitor that some or all of the assumptions, special conditions, or exemptions that are likely to generate change orders may be the financial responsibility of the Solicitor.

ATTACHMENT 1

Fixed-Price Agreement

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

ATTACHMENT 2

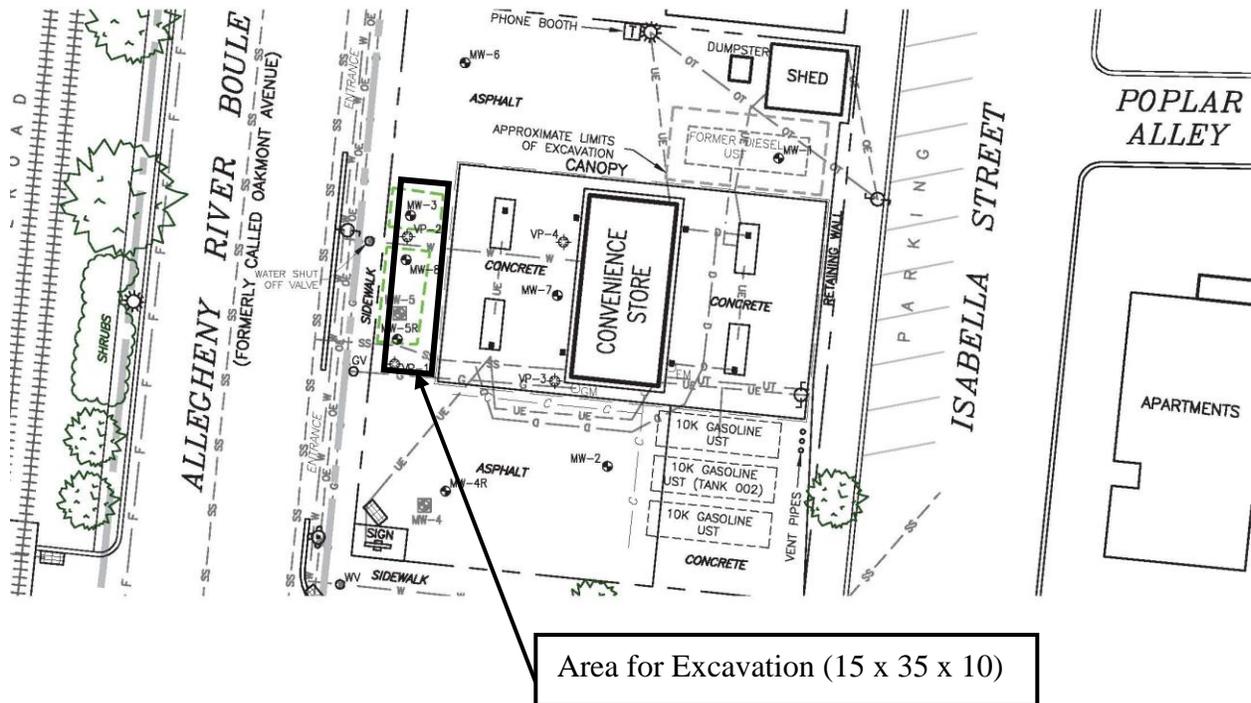
Data on Monthly Pre-Excavation HVE Events Completed to Date

Date	Well(s) Used	Event Duration	Gallons Recovered	Pre-HVE Event Sample Results								
				Benzene (µg/L)	Ethyl Benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Cumene (µg/L)	Naphthalene (µg/L)	1,2,4 TMB (µg/L)	1,3,5-TMB (µg/L)
8/17/11	MW-8	~8 hrs	370	315	130	5.7	52.2	7.1	11.9	44.1	30.8	<5
10/18/11	MW-8	~ 8 hrs	180	880	377	13.2	201	9.2	28.1	157	90.7	<5
11/10/11	MW-8	~8 hrs	220	386	131	4.7	67.1	12.4	13.8	61.8	41.1	1.3
	MW-5R			747	183	17.1	150	1.1	18.7	93.3	85.5	19

Date	Well(s) Used	Post-HVE Event Sample Results								
		Benzene (µg/L)	Ethyl Benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Cumene (µg/L)	Naphthalene (µg/L)	1,2,4 TMB (µg/L)	1,3,5-TMB (µg/L)
8/17/11	MW-8	215	79.4	13.8	79.5	11	5.5	66.8	40	9.5
10/18/11	MW-8	249	72.5	<5	23.8	15.9	7.5	36.9	11.2	<5
11/10/11	MW-8	109	27.8	<1	4.6	31	6.0	4.7	6.8	1.0
	MW-5R	62	47.8	1.7	16.9	1.5	7.1	10.8	9.4	2.5

ATTACHMENT 3

RFB Figure 1



Area for Excavation (15 x 35 x 10)

*Request for Bid
USTIF #2010-0118(F)
United Kwik Fill #S-171
Oakmont, PA
December 15, 2011*

ATTACHMENT 4

Standardized Bid Form (Table 1)