

Request for Bid

Fixed-Price Bid to Result

Remediation Project and Closure Activities

Solicitor

Golden Oil Company

1600 Oakdale Road

PO Box 275

Oakdale, PA 15071

PADEP FACILITY ID #02-21391

PAUSTIF CLAIM #2000-0179(F)

Date of Issuance

March 22, 2016

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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 is the current owner of the Site. PAUSTIF has determined that the claim reported by the Solicitor is eligible for coverage from the PAUSTIF subject to the applicable statutes and regulations. Reimbursement of Solicitor approved reasonable and necessary costs, not to exceed the claim aggregate limit, 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 <https://ustif.pa.gov>

Calendar of Events

Activity	Date and Time
Notification of Intent to Attend Site Visit	April 10, 2016 by 5 p.m.
Mandatory Pre-Bid Site Visit	April 12, 2016 at 1 p.m.
Deadline to Submit Questions	April 19, 2016 by 5 p.m.
Bid Due Date and Time	May 3, 2016 by 3 p.m.

Contact Information

Technical Contact
Mr. Mark Bedle B&B Diversified Enterprises, Inc. PO Box 16 Barto, PA 19504 Phone – 610-845-0640 Fax – 610-845-0650 Email – mbedle@bbde.com

All questions regarding this RFB and the subject Site conditions must be directed via email 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 conduct a Site tour for one (1) participant per bidding company. The Technical Contact may answer questions at the Site meeting or may collect questions and respond via email. All questions and answers will be provided via email to all attendees. 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 email. Notification of intent to attend is appreciated; however, it is not required. Attendance at the Pre-Bid Site Meeting is mandatory.

Submission of Bids

To be considered for selection, **one (1) hard copy of the signed bid package and one (1) electronic copy (one (1) 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 Pre-Bid Site Meeting of an extended due date. The hour for submission of bids shall remain the same. Submitted bid responses are subject to the 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 RFB. 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 (1) 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 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. The technical score for bids will be based solely on those tasks represented as milestones included in the Bid Cost Spreadsheet and the total bid cost. Any optional bidder-defined tasks, milestones, or cost adders that are not requested as part of this RFB will not be considered by the Bid Evaluation Committee in the technical review and technical score for the bid.

In addition, the bidder shall provide:

1. The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs, and equipment;
2. The bidder's proposed markup on other direct costs and subcontractors (if any);
3. The bidder's estimated total cost by task consistent with the proposed SOW identifying all level-of-effort and costing assumptions; and
4. A unit rate schedule that will be used for any out of scope work on this project.

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

Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable". These variable cost items will not be handled outside of the total fixed-price quoted for the SOW unless the RFB requests costing alternatives for specific items or services. 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.

The RFB is requesting a total fixed-price bid (unless the RFB requests costing alternatives for specific items or services). PAUSTIF will not agree to assumptions (in bids or the selected bidders executed Remediation Agreement) referencing a level of effort and/or hours. Costs provided in your bid should be developed using your professional opinion, experience, and the data provided. PAUSTIF will not reimburse costs for additional hours to complete activities included as part of the base bid/contract price.

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 10.
 - 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 date of each of the tasks/milestones specified in the Scope of Work, and indicate the timing of all proposed key milestone activities (e.g., within 30 days of the contract being executed).

8. A description of how the Solicitor, ICF, and the PAUSTIF will be kept informed as to project progress and developments and how the Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project.
9. A description of your approach to working with the PADEP. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed of activities at the Site.
10. Key exceptions, assumptions, or special conditions applicable to the proposed SOW and/or used in formulating the proposed cost estimate. Please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exceptions may result in the bid response being deemed “unresponsive”.

General Site Background and Description

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

Site Address

Former Golden Oil – East McKeesport
1153 Fifth Avenue
East McKeesport, Pennsylvania 15035
Borough of East McKeesport, Allegheny County

Site Location and Operation Information

The Site is located on the northeast corner of Fifth Avenue and Lincoln Highway (PA Rt. 30) in the borough of East McKeesport, Allegheny County. The subject property is a vacant automotive service station. Historic operations at the Site included retail fuel sales and an automotive repair service in a three-bay, slab-on-grade, masonry garage. The subject underground storage tanks (USTs) were installed in 1969, and the Site was purchased by the claimant, Golden Oil, in 1990. The claimant continued retail fuel sales at the Site until 2003 when the UST system was taken out of service. The UST registration was amended at that time to “Temporarily Out of Service.”

The Site is located in an area zoned for mixed-use. There is a GetGo gas station and convenience store located south of the Site across Lincoln Highway; a Rite Aid pharmacy located southwest across Lincoln Highway and Fifth Avenue; a landscape supply business and an insurance agency located west across Fifth Avenue; an auto parts shop located northwest across Fifth Avenue; mixed commercial businesses, including a roofing contractor’s office, a hair salon, and hobby shop, and a bank, located north of the Site; and a funeral home located immediately east of the Site. The Site location is shown on figures in Attachment 3.

Municipal water in the area of the Site is supplied by the Wilkesburg-Penn Joint Water Authority (WPJWA). The WPJWA draws water from the Allegheny River, located approximately 5 miles north of the Site. The municipal water supply is then treated at a facility in Verona, PA. The borough has no mandatory tie-in ordinances that would require a property owner to connect to the public water system. There have been no domestic potable wells, public water supply wells or wellhead protection areas identified within one-half mile of the Site. Subsurface water, sanitary sewer, natural gas, and fiber optic lines have been documented running along the north

side of Lincoln Highway, continuous with the Site. Overhead electric lines run along the north side of Lincoln Highway.

Site Background Information

On March 4, 2000, a property adjacent to the Site reported a hydrocarbon odor, which was investigated by the PADEP and the Allegheny County Health Department. The PADEP discovered that a release of gasoline from USTs had occurred over the previous three-day period upon inspection of inventory records for the Site. The release detection system did not detect the release from the UST system. A leaking union joint was discovered in one of the product dispensers that had reportedly been repaired two weeks before the hydrocarbon odors were noted. PADEP personnel stated to the Site owners that a Site Characterization Report (SCR) would be required to delineate environmental impact due to the release.

On March 22, 2000, a total of seven soil borings were advanced at the Site. Soil samples were screened with a photoionization detector (PID). Soil contamination was noted, as elevated PID readings were observed in borings B-1 through B-5 at approximately 4 feet below grade (ftbg). Soil samples collected from B-1, B-2, B-3, and B-5 were collected at depths from 4 ftbg to 8 ftbg. Laboratory analysis of soil samples B-2 (8') and B-3 (8') showed concentrations of unleaded gasoline target compounds in exceedance of their Medium-Specific Concentrations (MSCs). Laboratory analysis of a groundwater sample taken from the B-2 borehole was also found to contain concentrations of unleaded gasoline target compounds in exceedance of their MSCs.

On August 22, 2000, three groundwater monitoring wells (MW-1 through MW-3) were installed around the Site. In addition, one overburden extraction well that was installed in the southeast end of the UST field was installed. Monitoring wells MW-1, MW-2, and MW-3 were installed to depths of 35 ftbg, 49 ftbg, and 40 ftbg, respectively. Monitoring well MW-3 was able to be sampled, but monitoring wells MW-1 and MW-2 reportedly did not produce enough water to be sampled. The rock observed was described as abundantly fractured with water bearing zones. Reportedly numerous subsidence fractures and voids relating to a coal seam underlying the Site were observed at a depth of 40 ftbg to 50 ftbg which complicated drilling activities.

On September 19 and 20, 2011, one 5,000-gallon and two 6,000-gallon steel USTs and associated dispensers and piping (see Figure 1 in Attachment 3) were removed. During UST removal activities, impacted soil was noted in the southwest corner of the UST field and beneath a joint in the product line in the dispenser area. Concentrations of unleaded gasoline target parameters were noted at concentrations exceeding their MSCs in soil samples SCR-N-3, SCR-N-4, SCR-N-5, which were collected from the former UST field. The soil in these areas was excavated and taken off-site for disposal. One soil sample (L-1) was found to contain concentrations of unleaded gasoline target parameters at concentrations exceeding their PADEP Statewide Health Standards (SHS) in soil, but soil in this area was not removed. Free

product was also observed on groundwater present in the UST field excavation. Groundwater samples designated W-1 and W-2 were collected from the UST field excavation. The groundwater sample designated W-1 was found to contain concentrations of benzene, ethylbenzene, xylenes, naphthalene, cumene, 1,2,4-trimethylbenzene, (124-TMB) and 1,3,5-trimethylbenzene (135-TMB) in exceedance of their SHS. The groundwater sample designated W-2 was found to contain concentrations of benzene, 124-TMB, and 135-TMB in exceedance of the SHS. A total of 71.9 tons of impacted soil was removed from the Site in connection with UST removal activities. The monitoring wells MW-1 and MW-2 installed in August 2000 were still present at the Site as of 2011; however, MW-3 could not be located.

On September 26, 2011, a Notice of Contamination was submitted to the PADEP relating to the impact observed during the UST removal activities.

On January 31, 2012, a work plan was submitted to PAUSTIF. The work plan proposed to install five groundwater monitoring wells in the bedrock aquifer and complete 20 soil borings at the Site. Soil samples were to be collected from the soil borings and submitted for laboratory analysis of unleaded gasoline compounds.

On April 26 and 27, 2012, a total of 32 soil borings were advanced at the Site with depths ranging from 3 ftbg to 12 ftbg. Laboratory analysis of soil samples SB-6(2-4'), SB-14(2-4'), SB-17(4-6'), SB-18(8-9.5'), SB-23(10-12'), and SB-26(10-12') showed concentrations of unleaded gasoline target parameters above the laboratory detection limit but below the MSCs. Laboratory analysis of soil sample SB-10(2-4') showed concentrations of 124-TMB and 135-TMB in exceedance of their respective SHS. Figure 2 depicts the location of all soil borings from this sampling event.

On May 1, 2012, two groundwater monitoring wells (MW-1 and MW-2) were installed at the Site to 28 and 35 ftbg, respectively. The monitoring wells installed during the 2000 investigation and originally named MW-1 and MW-2 were renamed as MW-N and MW-S, respectively (see Attachment 3 - Figure 1). The original MW-3 was never located by the current consultant. The 2012 installed monitoring well MW-1 was constructed with slotted PVC well screen from 21 ftbg to 28 ftbg, and the 2012 installed monitoring well MW-2 was constructed with slotted PVC well screen from 15 ftbg to 35 ftbg.

On May 29 and 30, 2012, Flynn Environmental, Inc (FEI) installed three additional groundwater monitoring wells (MW-3, MW-4, and MW-5) at the Site. The wells were drilled to depths of 25.7 ftbg, 25.7 ftbg, and 26 ftbg, respectively, and were constructed with 10 feet of slotted PVC well screen.

On June 6, 2012, FEI completed a groundwater sampling event at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-5. Laboratory analysis of the groundwater samples indicated that all wells sampled contained concentrations of unleaded

gasoline target compounds above their respective MSCs. Observed water levels ranged from 12 ftbg to 20 ftbg.

On July 16, 2012 through July 18, 2012, five additional groundwater monitoring wells (MW-6 through MW-10) were installed at the Site. Monitoring wells MW-6 through MW-9 were drilled to a depth of 35 ftbg and were constructed with slotted PVC well screen from 15 to 35 ftbg. Monitoring well MW-10 was drilled to 14 ftbg and was constructed with slotted PVC well screen from 4 ftbg to 14 ftbg.

On July 31, 2012, FEI completed a groundwater sampling event at the Site. Groundwater samples were collected from monitoring wells MW-6, MW-7, MW-9, and MW-10. MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled contained concentrations of at least one unleaded gasoline target compound above its respective MSC. Observed water levels ranged from 8 ftbg in MW-10 to 32 ftbg in MW-6. It appears that MW-10 was installed on the edge of the backfilled UST excavation.

On September 24, 2012, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, MW-9, and MW-10. MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except for MW-1 contained concentrations of at least one unleaded gasoline target compound above its respective MSC. Observed water levels ranged from 8 ftbg in MW-10 to 33 ftbg in MW-6.

On December 11, 2012, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-10. MW-8 was found to be dry and MW-9 was not accessible at this time. Laboratory analysis of the groundwater samples indicated that all wells sampled except for MW-1 contained concentrations of at least one unleaded gasoline target compound above its respective MSCs. Observed water levels ranged from 7 ftbg in MW-10 to 32 ftbg in MW-6.

On February 11, 2013, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-3, MW-5 through MW-7, MW-9, and MW-10. MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except MW-1 and MW-10 contained concentrations of at least one unleaded gasoline target compound above its respective MSC. Observed water levels ranged from 6 ftbg in MW-10 to 33 ftbg in MW-6.

On April 8, 2013, two additional groundwater monitoring wells (MW-11 and MW-12) were installed at the Site. The monitoring wells were drilled to a depth of 34 ftbg and were constructed with slotted PVC well screen from 14 ftbg to 34 ftbg.

On April 11, 2013, a groundwater sampling event was completed at the Site. Groundwater samples were collected from the newly installed monitoring wells MW-11 and MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that monitoring well MW-11 contained MTBE above its MSC, while concentrations of unleaded gas target compounds were not observed above laboratory detection limits in monitoring well MW-12. A free product thickness of 0.05 feet was noted in MW-3. Observed water levels ranged from 8 ftbg in MW-10 to 33 ftbg in MW-6.

On May 6, 2013, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except for MW-1, MW-9, and MW-12 contained concentrations of at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 8 ftbg in MW-10 to 32 ftbg in MW-6.

On August 20, 2013, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except MW-1, MW-9, and MW-12 contained concentrations of at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 9 ftbg in MW-10 to 33 ftbg in MW-6.

On October 30, 2013, a SCR was submitted to the PADEP. The report detailed the site characterization work completed at the Site since 2011. The report stated that based on historic maps of the area, all four corners of the intersection on which the Site resides were historically gasoline dispensing stations. Groundwater contaminant isoconcentration maps contained in the SCR indicated that groundwater characterization was not complete in the west and southwest directions from the Site.

On November 19, 2013, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except MW-1, MW-9, and MW-12 contained concentrations of at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 9 ftbg in MW-10 to 33 ftbg in MW-6.

On February 10, 2014, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except MW-1, MW-9, MW-11, and MW-12 contained concentrations of at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 9 ftbg in MW-10 to 32 ftbg in MW-6.

On May 12, 2014, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells MW-1, MW-3, MW-9, MW-10, MW-11, and MW-12 did not contain concentrations of any unleaded gasoline target compounds above their respective MSCs. Monitoring wells MW-2, MW-4, MW-5, MW-6, and MW-7 were reported to have at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 8 ftbg in MW-10 to 33 ftbg in MW-6. A groundwater flow map for this monitoring event is provided as Figure 3.

On August 27, 2014, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells MW-1, MW-6, MW-9, MW-10, MW-11, and MW-12 did not contain concentrations of any unleaded gasoline target compounds above their respective MSCs. Monitoring wells MW-2, MW-3, MW-4, MW-5, and MW-7 were reported to have at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 7 ftbg in MW-10 to 33 ftbg in MW-6. A groundwater flow map for this monitoring event is provided as Figure 4.

On November 4, 2014, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except MW-1, MW-9, and MW-12 contained concentrations of at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 9 ftbg in MW-10 to 32 ftbg in MW-6. A groundwater flow map for this monitoring event is provided as Figure 5. A benzene isoconcentration map for this event is provided as Figure 6, and a MTBE isoconcentration map is provided as Figure 7.

On February 18, 2015, a groundwater sampling event was completed at the Site. Groundwater samples were collected from monitoring wells MW-1 through MW-7, and MW-9 through MW-12. Monitoring well MW-8 was found to be dry. Laboratory analysis of the groundwater samples indicated that all wells sampled except MW-1, MW-9, MW-10, MW-11, and MW-12 contained concentrations of at least one unleaded gasoline target compound above its MSC. Observed water levels ranged from 8 ftbg in MW-10 to 33 ftbg in MW-6. A groundwater flow map for this monitoring event is provided as Figure 8. A benzene isoconcentration map for this event is provided as Figure 9, and a MTBE isoconcentration map is provided as Figure 10.

Offsite Access Attempts

The current consultant has attempted to obtain offsite access to Mr. James Hanna's property, located west of the Site across Fifth Avenue at the intersection with Lincoln Highway. In

addition, an access letter was sent to Mr. Ed Barrett of Barrett Insurance Company, also located west of the Site, at 1154 Fifth Avenue. Reportedly, Mr. Hanna did not claim the registered letter sent to him requesting access. Mr. Barrett, however, did respond, stating that he would not allow access, because he had agreed to allow another environmental consultant to perform groundwater characterization work on his property as part of a site characterization investigation at Mr. Hanna's property. Mr. Barrett recalled that the USTs on Hanna's property, located near the southern boundary of Hanna's property, had been removed in the late 1970s shortly after Barrett purchased his property. PADEP has no record of historic USTs at Hanna's property. The Allegheny County Fire Marshall's office had no record of USTs ever having been removed from the Hanna property. If Hanna's USTs were removed in the 1970s, they would have predated Act 32 of 1989. PADEP, therefore, would have no enforcement authority under Act 32 for impacts at Hanna's property. On January 24, 2014, PADEP sent a letter to Mr. Hanna to try to urge his cooperation in allowing access to FEI to install monitoring wells on his property to fully characterize contamination associated with the Golden Oil Site. Mr. Hanna never responded to the PADEP letter.

In May 2014, Mr. Hanna's consultant installed a monitoring well in the southwestern portion of the Barrett property. At the time access was granted, Mr. Hanna reportedly promised Mr. Barrett that he would share the analytical results from subsequent groundwater sampling events. However, after sampling of that monitoring well, Mr. Hanna declined to share the analytical results with Mr. Barrett. In a follow-up conversation with Mr. Barrett, Mr. Barrett still declined access to install a monitoring well for use in the Golden investigation. But Mr. Barrett offered to allow the current consultant to sample the Hanna monitoring well on his property, however he did not want an additional monitoring well installed in his parking lot. Sampling of the monitoring well on Barrett's property was not conducted because of concerns with sampling a non-owned monitoring well without permission of the well owner. In addition, the well construction details for Hanna's well on Barrett's property are not known.

Scope of Work (SOW)

This RFB seeks competitive bids from qualified contractors to perform the activities in the SOW specified herein. The SOW presented in this RFB was provided to the PADEP for review and comment. No response was received from the PADEP.

Objective

This RFB is seeking qualified firms to prepare and submit a fixed price proposal to complete a Bid to Result project. "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).

For this Site, the selected goal for the project is to obtain a release of liability from the PADEP under Chapter 245 regulations by demonstrating attainment of the selected Statewide Health Standards for both soil and groundwater. In order to achieve the aforementioned goals, Bidders may propose to remediate the Site by one of the strategies listed below:

- Vacuum Enhanced Groundwater Extraction (Submersible groundwater pumping with High-Vacuum enhancement)
- Combination of Liquid Ring Pump Total Phase Extraction in the shallower groundwater areas and Vacuum Enhanced Groundwater Extraction (Submersible pumping using LRP vacuum enhancement) in the deeper groundwater area(s).
- In Situ Chemical Oxidation - Ozone Injection (potentially combined with groundwater extraction for enhanced groundwater throughout)

The specific remedial technologies previously mentioned shall be the basis for preparing a SOW and presenting a competitive fixed-price bid. The selected bidder shall perform pilot testing to confirm that the remedial technology proposed in their bid would be feasible to meet the milestone objectives and remedial goal for this site.

Constituents of Concern (COCs)

The list of COCs for this Site include the following:

- Benzene
- Toluene
- Ethylbenzene
- Xylenes
- MTBE
- Naphthalene
- Cumene
- 1,2,4-Trimethylbenzene
- 1,3,5-Trimethylbenzene

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:¹

¹ As such, all bids shall include the costs of these activities and associated functions within the quote for applicable tasks/milestones.

- 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 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. All investigation derived wastes shall be handled and disposed 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 Guidelines

As part of this RFB, the selected consultant will need to consider the following site - specific guidelines:

- **Scheduling:** As part of this RFB, the selected consultant shall provide a clear deadline (e.g. within 30 days of the contract being executed) as to when each of the milestones will be completed. This includes the expected date (e.g. within 90 days of the contract being executed) when the draft deliverables will be submitted to the Solicitor and PAUSTIF for review. All on-site work should be completed during the normal working days and hours of 8 am to 5 pm from Monday through Friday.
- **Responsibility:** The selected consultant will be the consultant of record for the Site. They will be required to take ownership and responsibility for the project and will be responsible for representing the interests of the Solicitor and PAUSTIF with respect to the project. This includes utilizing their professional judgment to ensure reasonable and appropriate actions are recommended and undertaken to protect sensitive receptors and move the Site towards closure.
- **Scope of Work:** Please bid the scope of work as provided in the RFB. Consultants are welcome to propose or suggest a change in the SOW; however the consultant should bid the SOW as presented in the RFB and provide any suggested modification to the SOW and provide the cost difference (+ or -) separately in the proposal.
- **Selected Standards:** The claimant has selected to remediate the Site to the PADEP Non-Residential Statewide Health Standard (SHS) for Used Aquifers for all constituents of concern in all affected media.
- **Safety Measures:** Each consultant should determine the level of safety measures needed to appropriately complete the milestones. Specifically, if a consultant feels it is appropriate and necessary to complete additional safety measures other than or beyond what is required in the SOW, the cost should be included in their proposal and costs. More importantly, if a consultant includes the cost to complete safety activities, they should specify it in their proposal and discuss why it is appropriate and necessary and indicate which methods will be utilized and to what extent. As discussed in the RFB, cost is not the only factor when evaluating proposals and other factors are taken into consideration during the review process, including appropriate safety measures.
- **Waste Disposal:** The IDW waste (including soil/rock cuttings, development water, and liquids generated during installation and aquifer testing) should be disposed of per the instructions included in the “General SOW Requirements” section of the RFB. Bidders will be responsible for arranging any offsite waste disposal (if required) and including costs in their bid response to cover the disposal of all potential waste related to the milestones included in the SOW. Containerized soil and groundwater may be temporarily stored on site, but should be removed from the Site in a timely manner. In an effort to eliminate or minimize the need for change orders on a fixed price contract, please

include costs to dispose of all anticipated volumes of waste in your bid response. PAUSTIF will not entertain any assumptions on the contract with regards to a volume of waste (i.e. Project costs assume that no more than 1,000 gallons of groundwater will require disposal after the completion of the pump test). Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the milestones included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid. If your bid proposes to dispose of waste under a permit, then your bid needs to address the potential situation of a permit not being approved. Bids need to specifically indicate that your bid costs include the costs to dispose of the waste even if a permit is not approved. As indicated in the bid, there should be no assumptions on waste and assuming that a permit will be approved is still making an assumption on waste.

- **Standard Operating Procedures:** Please include in the bid as an attachment, your firm's standard operating procedures for all major field tasks proposed in the scope of work.
- **Optional Cost Adder Milestones:** Milestone A through Milestone P (excluding Milestone C4, Milestone C5, Milestone C6, Milestone D2, Milestone D3, and Milestone M9 through Milestone M12) represents the base Scope of Work for this RFB solicitation. These milestones have been specifically developed in an effort to complete the applicable PADEP requirements. In addition to the above base Scope of Work, the Optional Cost Adder Milestones (Milestone C4, Milestone C5, Milestone C6, Milestone D2, Milestone D3, Milestone M9 through Milestone M12, Milestone Q, and Milestone R) need to be addressed in your bid response. These cost adders will not be part of your initially approved base contract price. However, if it becomes necessary to complete any of these activities, they will be completed under the Remediation Agreement signed as part of this project. For consideration of PAUSTIF reimbursement, Solicitor and PAUSTIF approval must be obtained prior to completing Optional Cost Adder Milestones.

Site-Specific Milestones

The following Milestones are to be included in bid responses:

Milestone A – Supplemental Site Characterization Activities and Reporting. This Milestone provides bidders the opportunity to identify the additional site characterization work that 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 B 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 which are characterization-type activities (e.g., analysis for C₄-C₁₀); 4) assist with refining the cleanup timeframe estimate and/or other reasons related to validating the bidder's remedial approach and design (e.g., additional sampling to better determine mass in place). Note that all tasks and costs related to pilot testing and reporting must be captured under the Pilot Testing and Reporting Milestone, not Supplemental Site Characterization Activities and Reporting. If pilot testing tasks and costs are included in this Site Characterization Milestone, the bidder's technical score will be negatively impacted.

Please note that the expectation is that bidders will use at least a portion of this Milestone to propose a comprehensive soil investigation that will tighten the delineation of the soil to further define the area of soil contamination requiring remediation. Specifically, bidders should consider a soil boring investigation that will include the advancement of a sufficient number of soil borings and the collection of an appropriate number of soil samples to define the area to excavated both vertically and horizontally.

During the 2011 UST closure at the Site, the previous consultant identified petroleum impacts within the tank cavity. During their 2012 soil boring program, the previous consultant identified exceedances of benzene, 124-TMB, and 135-TMB in soil sample SB-10, which was collected from the former product line near the former dispenser island (Figure 2). The exceedances in sample SB-10 are delineated to the east by sample SB-7 and to the west by sample SB-9; however, impacts at SB-10 were not well delineated in other directions with regards to defining the limits of the proposed soil excavation activities. Tighter delineation of impacted soils is necessary to accurately estimate the volume of soil that must be remediated and possibly excavated.

Bid responses should provide clear details and specifics on what will be completed as part of Milestone A and the specific methods in which the proposed activities will be completed. Details should include such items as soil sampling depths, boring locations, number of samples, sampling methods, etc. All activities completed as part of Milestone A should be summarized in the SCR/RAP to be submitted in Milestone K.

Milestone B – Private Utility Markout. Prior to any intrusive investigation work at the Site (i.e. soil borings, excavation, system install), a private markout is to be conducted at the Site (and/or off-site location where intrusive activities will be conducted) to confirm the location of any obstruction or underground utility present in the vicinity of the proposed intrusive activity locations. The locations of the identified features should be marked with white paint on the asphalt areas and white flags in grassy areas. A report shall be provided with an explanation of the identified features.

Milestones C1 through C6 – Soil Excavation. Bidders shall describe specifics on how the limited on-site excavation will be completed. Each bid response must clearly describe in detail the bidders approach and provide a cost inclusive of all excavation related activities such as planning, preparation, excavation, backfilling, restoration, etc. The proposed excavation is to be completed in the area of soil boring SB-10 and is estimated to be approximately 18 cubic yards based on the available data. The exact dimensions and extent of the excavation is unknown until the selected consultant completes the soil boring investigation that was suggested in Milestone A. The dimensions were estimated at 9' by 12' with an estimated total depth of 4.5'.

To enable demonstration of attainment of the SHS in soils in the area of soil boring SB-10, the impacted soil with contaminant concentrations exceeding SHS shall be removed. Bidders should take into consideration that they may need to field screen and segregate soils from below surface cover all the way to bedrock in certain sections of the excavation. It should not be assumed that the selected consultant will dig to a uniform depth without analytical data and field PID measurements to justify it. Bidders should assume that the soil will be field screened and segregated to separate the “not suspected to be contaminated” and “obviously contaminated” soil. To be deemed responsive to this task, bids must discuss:

- The photoionization detector (PID) screening value selected somewhere around 50 parts per million (ppm) that will be applied to segregate the “obviously contaminated” and “not suspected to be contaminated” soil removed from the excavation;
- The field screening approach and frequency. All “obviously contaminated” soil shall be removed from the site for off-site disposal and “clean” fill shall be imported to replace the exported soil.

Contaminated soil transportation and off-site disposal and clean fill import costs shall not be included in the base fixed excavation cost of Milestone C1. The contaminated soil transportation and off-site disposal costs as well as the clean fill import costs will be handled separately on an actual per ton unit cost in Milestones C2 and C3, respectively.

After the excavation is completed, and prior to backfilling, appropriate systematic random sampling shall be conducted. Bids shall describe the sampling approach, including the number of soil samples, and discuss methods to be used. The soil samples collected following the excavation shall be collected both in laboratory-sterilized sample jars and using a PADEP approved soil sampling method. The samples will then be placed on ice and delivered to an accredited laboratory to be tested for the required constituents of concern in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2. Specifically, each sample will be analyzed for BTEX, MTBE, naphthalene, cumene, 1,2,4-TMB and 1,3,5-TMB. Samples should be properly handled under chain of custody documentation protocol and kept cold from sample collection until the samples are relinquished to the accredited laboratory. The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the Solicitor and PAUSTIF (or its designated representative). Bids should also both discuss and include costs for the appropriate quality assurance/quality control (QA/QC) samples to be obtained for laboratory analysis during the event.

Bids shall include backfilling and mechanically compacting the excavated area in lifts. The successful bidder shall backfill to within 5 inches of grade using a combination of reused "clean" site soil and imported clean fill. Excavated material stockpiled on site for re-use shall be sampled prior to backfilling, and the fixed-price bid shall include costs for the sampling and laboratory work in accordance with PADEP guidance documents. Backfill material and placement/compaction methods shall result in a stabilized soil condition capable of supporting normal traffic and use loads. The backfill materials shall be free of vegetation, lumps, trash, lumber, and other unsuitable materials. In general, backfill shall be mechanically compacted by means of tamping rollers, sheep foot rollers, pneumatic tire rollers, vibrating rollers, or other mechanical tampers which are appropriate for the material being compacted. Bids shall also include surface completion / restoration to restore the area to pre-excavation conditions.

The details of the soil removal activities shall be documented in an appropriately timed quarterly RAPR (Milestone I), SCR/RAP (Milestone K), as well as the RACR (Milestone O), 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; all field observations and PID readings; the quantity of soil excavated, disposed off site, used as backfill, and imported for backfill; waste profiling documentation; soil waste

disposal manifests and disposal facility; source and amount of imported fill; and dated photographs taken before breaking ground, throughout the excavation, and after restoration. Additionally, the locations and results of the soil attainment sampling shall be well detailed and documented in text, photographs and figures.

Specifics on how bidders should prepare costs for each of the excavation related Milestones are discussed below. Please note that Milestone C1 is related to the base soil excavation estimated at 18 cubic yards. Should the selected consultant determine using analytical data and field screening data that the excavation needs to be expanded beyond the 18 cubic yards, then the costs related to the expansion will be handled using Milestones C4 through C6.

Milestone C1 – Milestone C1 will include all of the fixed costs to complete the base excavation activities (Excavating, Sampling, Backfilling, and Restoring the excavation area (assumed to be approximately 18 cubic yards) with the exception of the actual costs for transportation and disposal of the contaminated soil as well as the cost of the replacement clean fill which will be handled under Milestone C2 and Milestone C3 on an actual per ton cost. Any costs related to necessary waste profiling (including any sampling & laboratory work) and securing waste facility acceptance prior to beginning the soil excavation, should also be included in the fixed costs in Milestone C1.

Milestone C2 - Milestone C2 will include the management, loading, transportation and proper off-site disposal of excessively contaminated soils. The cost should be presented on a per ton basis.

Milestone C3 – Milestone C3 will include the purchase, transportation and on-site management of clean imported fill to replace exported excessively contaminated soil. The cost should be presented on a per ton basis.

Milestone C4 (Cost Adder Milestone) - Milestone C4 will include the surface restoration of areas beyond the base excavation if the excavation needs to be expanded based on analytical data and field screening data. The cost should be presented on a per square foot basis.

Milestone C5 (Cost Adder Milestone) – Milestone C5 will include any additional excavation, backfilling, and compaction beyond the base excavation if the excavation needs to be expanded based on analytical data and field screening data. The cost should be presented on a per in-place cubic yard basis, but should exclude excessively contaminated soil transportation / disposal costs and clean imported fill costs since these are captured under Milestone C2 and Milestone C3.

Milestone C6 (Cost Adder Milestone) – Milestone C6 will include the Management, sampling / analysis, loading, transportation and disposal of impacted groundwater removed from the soil excavation (cost per gallon).

For the purpose of fairly evaluating the costs included in the bid responses, each bidder's unit costs for Milestone C2 and Milestone C3 will be added to the bidder's costs provided for Milestone C1 using the following assumed volumes for Milestone C2 and Milestone C3 – 20.25 tons for T&D of impacted soils (75% excavated from the assumed excavation size provided in Milestone C1) and 20.25 tons of imported clean fill.

With regards to the soil excavation milestones, bidders should also note the following:

- Monitoring well MW-1 was installed at the location of soil boring SB-10. Bidders should try to maintain the integrity of that monitoring well, if possible. Specifically, caution should be used to ensure that the integrity of MW-1's PVC Riser and well screen are not adversely affected by the remedial excavation, if possible.
- Groundwater is not anticipated to be encountered during the excavation activities. As such, dewatering of the excavation is not anticipated as part of this scope of work. However, if dewatering is determined to be necessary; then the selected consultant will need to contact the Solicitor and USTIF to discuss and provide photographic documentation. Any groundwater extracted from the excavation will require prior approval and will be handled separately on an actual per gallon unit cost in Milestone C6.

Milestone D – Off-Site Access. Provide a Unit Cost to secure offsite access on one (1) residential/commercial property in an effort to complete intrusive work as well as access for routine sampling. The cost should cover the necessary time and materials needed to contact the off-site property owner, draft an access agreement, and obtain approval with one (1) draft revision to the access agreement. The cost does not include any legal fees, payments or permitting costs. Providing this Unit Cost does not commit the consultant to obtain the access agreement. If necessary, the cost should also cover the necessary time and material needed to provide the PADEP with the information they will require to facilitate access to the property.

Due to the difficulties with securing access to closer downgradient properties and in an effort to ensure that any downgradient concentrations of target compounds from the Site are properly characterized downgradient, access for two monitoring wells at relevant locations along Broadway Avenue must be obtained. Based on extensive discussions between B&B and the PADEP project officer, it was determined that PADEP would accept the results of monitoring wells installed on Broadway Avenue to document downgradient delineation from the Site. Because the reported former USTs at the Hanna property are believed to have been removed prior to 1980, MTBE is not expected to be a

COC for the Hanna site. MTBE is currently the only COC for the Golden site that is present above its SHS in the Site's POC point of compliance (POC) monitoring wells. Therefore, if concentrations of MTBE in the planned Broadway Avenue delineation wells are less than MTBE concentrations in the Golden POC wells, PADEP will consider downgradient delineation of MTBE to be complete. Two monitoring wells should be located within the area indicated on the included Proposed Monitoring Well Location Map (Figure 11). The wells should be located at technically justifiable locations within the designated area, pending access approval.

The unit cost requested is just to obtain access to one property. If it is later determined that access is needed beyond the one property included in the Milestone D costs (to be noted as Milestone D1 in the Remediation Agreement), then up to 2 additional properties will be handled as an Optional Cost Adder (Milestones D2 and D3). Optional Cost Adder Milestones D2 and D3 will require approval from all parties before proceeding.

Specifically, bidders should include the following costs in their bid response –

- Milestone D1 – Provide a Unit Cost to obtain access to one offsite property.
- Milestone D2 (Optional Cost Adder) - Provide a Unit Cost to obtain access to one offsite property. The scope of work for this cost adder should follow Milestone D1.
- Milestone D3 (Optional Cost Adder) - Provide a Unit Cost to obtain access to one offsite property. The scope of work for this cost adder should follow Milestone D1.

Milestone E – Installation of Monitoring Wells. A total of two off-site monitoring wells are proposed for installation in an effort to delineate groundwater at the Site. The monitoring wells should be installed at technically justifiable locations within the area designated on Figure 11, pending access approval. As part of the installation of the wells, the selected consultant should consider the following:

- Both proposed monitoring wells should be constructed appropriately using schedule 40 PVC materials and should be advanced to an approximate depth of 35 ftbg. The two aforementioned monitoring wells should be constructed in a manner similar to the current monitoring well network and should be identified as monitoring wells MW-13 and MW-14.
- If a consultant feels it is appropriate and necessary to complete hole-clearing activities before drilling the monitoring wells, the cost should be included in their proposal and costs. If a consultant includes the cost to complete hole-clearing, they should state it in their proposal and discuss why it is appropriate and necessary. As discussed in the RFB, cost is not the only factor when evaluating

proposals and other factors are taken into consideration during the review process, including appropriate safety measures.

- Drilling is to be conducted under the supervision of a Pennsylvania-licensed Professional Geologist and the construction specifications will be determined by the Professional Geologist and dictated by actual site conditions (i.e. actual depth to groundwater, etc.). The total depth is approximated based on available information from previous investigations. The screening and casing intervals should be installed appropriately to intersect the appropriately identified aquifer. Bid responses should provide a clear description as to how the consultant anticipates the wells will be installed (i.e. drilling method and anticipated casing and screening lengths) using their professional opinion.
- The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated December 1, 2001 (Document # 383-3000-001). In addition, careful consideration needs to be taken when installing the proposed monitoring wells. Specifically, the wells should not be over drilled, under screened, or screened across multiple water bearing zones. Shallow refusal due to underscoping of equipment is not acceptable and will not be reimbursed. The selected consultant is responsible for appropriately installing the wells.
- A flush-mounted manhole shall be cemented into place to complete each of the wells at grade level. A locking, pressure fit, watertight cap will be used to prevent the infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals.
- The newly installed monitoring wells should be developed to promote adequate hydraulic connection between the aquifer and the well. Depending on the depth and amount of sediment in the well, development should be completed via mechanical surging using either a bailer or an electric submersible pump, or by airlift techniques.
- Field findings shall be compiled into comprehensive monitoring well construction diagrams and logs that should be submitted in an appropriately timed quarterly RAPR (Milestone I), SCR/RAP (Milestone K), as well as the RACR (Milestone O),
- Drilling should be conducted under the supervision of a Pennsylvania-licensed Professional Geologist, although a field supervisor may be used in the field on a day-to-day basis. The field supervisor should visually inspect subsurface materials encountered during drilling, screen cuttings with an appropriate field-screening instrument, and complete field well construction logs. When

encountered, soils should be described using the Unified Soil Classification System. Bedrock should be described using USGS descriptive protocol, with the identification of the depth of and size of potential fractures and/or other subsurface anomalies.

- **All IDW waste** should be disposed of per the instructions included in the “General SOW Requirements” and “Site Specific Milestones” section of the RFB.
- **The expectation is that both proposed off-site monitoring wells will be installed in a single mobilization event and costs included in the bid response should reflect that expectation. Please note, if access to an offsite property leads to a reduction in the number of wells installed during this milestone and needs to be completed in a separate mobilization, then that scenario will be handled using the costs provided in the relevant Cost Adder milestones.**

Milestone F – Soil Vapor Sampling Point Installation and Soil Gas Sampling.

Recently, the PADEP has advised that the Vapor Intrusion Guidance is currently being revised and as a result vapor assessments may change significantly. The aforementioned PADEP guidance document has not yet been finalized; however, it may be in place prior to the completion of the investigation included in this RFB. The PADEP has advised that the new draft guidance document is requiring that vapor points be constructed to near source sample depths. In an effort to cover both scenarios – completing the investigation with the revised guidance document in place as well as completing it under the current guidance document; the RFB is requesting two separate milestone costs to complete the task (Milestone F1 and Milestone F2). The scope of both Milestone F1 and Milestone F2 will be identical with the exception of the total installed depth of the proposed soil vapor points (SVPs). Just prior to the time of contract execution, PAUSTIF, the solicitor and the selected consultant will make the determination as to which milestone (Milestone F1 or Milestone F2) will be completed based on the status of the PADEP’s Vapor Intrusion Guidance. For the purpose of fairly evaluating the costs included in the bid responses, each bidder’s cost provided for Milestone F1 will be used in the total bid base cost analysis. A Bidder’s Milestone F2 will be reviewed in a manner consistent to that of an optional cost adder milestone.

- Milestone F1 will be if the existing guidance document is still in place and the SVPs will be installed to an approximate total depth of 5.0 ftbg or to the interface with weathered bedrock if encountered at a depth shallower than 5.0 ftbg.
- Milestone F2 will be utilized if the revised guidance document is in place. The SVPs should be constructed to near source sample depths. Bid responses should clearly discuss how points will be constructed.

For both Milestone F1 and Milestone F2, the costs should include the installation and sampling for a total of three onsite SVPs (VP-1 through VP-3). Samples are to be collected from each of the three proposed SVPs during two separate sampling events appropriately spaced. The selected consultant should install three permanent SVPs at the Site as part of the selected milestone (Milestone F1 or Milestone F2). Please note that PAUSTIF will only pay the selected firm for the actual number of events conducted (i.e. if a firm includes the costs to complete 1 event, but no event is conducted; then the firm will not be paid for the milestone). The selected consultant should be prepared to conduct the first soil gas sampling event at the Site within two weeks of the installation of the three SVPs. The selected consultant should conduct the second event approximately 45 days after the first event. As part of the soil gas investigation, the selected consultant should consider the following:

- Bidders should select three appropriate locations to install the Soil Vapor Points at the Site and provide those locations in their bid response. The points will be advanced in the location proposed in the selected consultant's bid response, unless the presence of utilities, obstructions, or safety concerns requires a change in the location.
- Sampling should be performed using a tracer gas to confirm that ambient air is not short-circuiting and mixing with the soil gas samples. Photodocumentation of the tracer gas procedure should be part of the documentation required for this milestone.
- The vapor intrusion investigation should be completed in a manner consistent with the Land Recycling Technical Guidance Manual – Section IV.A.4 Vapor Intrusion Into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standards, Document 253-0330-100, dated January 24, 2004. Bid responses should specifically indicate how the consultant anticipates constructing the proposed soil gas point and completing the proposed sampling events.
- Samples should be collected in laboratory provided Summa canisters equipped with laboratory calibrated flow regulators and analyzed for benzene, toluene, ethylbenzene, MTBE, naphthalene, isopropylbenzene, 1,3,5-TMB, and 1,2,4-TMB via TO-15.
- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the solicitor and PAUSTIF (or its designated representative).

- Results from soil gas point installation and soil gas/indoor air sampling activities should be summarized and in an appropriately timed quarterly RAPR (Milestone I), SCR/RAP (Milestone K), as well as the RACR (Milestone O),

Milestone G – Site Survey. Following the completion of Milestone A through Milestone F, a professional survey of the Site by a Pennsylvania-licensed surveyor including all current site features (i.e., buildings, property boundaries, monitoring wells, sanitary and storm sewers, etc.) shall be completed. All onsite and offsite monitoring wells, soil borings, soil gas points, stormwater inlets, and other important Site features are to be surveyed with the purpose of placing their horizontal coordinates on a scaled site map. In addition, the vertical coordinates of the new monitoring well top of casings and surface grades stormwater inlets. The benchmark elevation shall be obtained by referencing the approximate ground surface elevation of the property or from an available benchmark from a USGS topographic map or benchmark elevation marker located at the Site. In conjunction with collecting depth to groundwater readings during sampling events and in an effort to establish groundwater flow at the Site, tops of casing for the existing monitoring wells are to be surveyed to facilitate the construction of a Site wide groundwater flow map. In addition, the presence of SPL (if detected) needs to be taken into consideration when calculating the static water levels in the wells and constructing a Site wide groundwater flow map. Groundwater elevation data collected following the installation of the additional monitoring wells along with data from the site survey will be utilized to produce a series of summary figures which will provide additional information as to the groundwater flow direction in each of the monitored water bearing zones.

Milestone H – Pilot Testing and Reporting. Bidders shall prepare a conceptual remedial action plan including the conceptual design of a remedial system in their response to this RFB. It is industry practice to perform a pilot test and provide the results of this testing to support the feasibility of the proposed remedial technology and approach. More specifically, the purpose of the pilot test is to:

- Confirm that the proposed technology is technically feasible;
- Confirm that the proposed technology is cost-effective;
- Confirm that the proposed technology will provide a timely closure; and,
- Determine design criteria.

The bidder shall provide a detailed description of the proposed pilot testing including rationale, the use of existing or installation of new data monitoring/collection points, proposed equipment to be used, and the data that is proposed to be collected.

Additionally, the bidder shall specify up to five basic, objective criteria that would be evaluated to determine whether the remedial action proposed in the bid response document is feasible. These “critical criteria” shall be listed with an upper and lower limit that will define the range of acceptable results (i.e., pilot testing results) relevant to the proposed remedial approach. These critical criteria must be tightly-controlled measurements or calculations that could be independently measured or verified by others during the pilot test.

For example, bids shall include language such as, “For our proposed remedial action approach to be successful and for the technology(ies) used thereby to operate as planned and meet our proposed clean up schedule, the Milestone H pilot testing must show:

1. A hydraulic conductivity greater than A, but not more than B;
2. A pumping rate exceeding AA gpm at the end of BB hours of vacuum-enhanced pumping;
3. The capacity to generate a soil vapor extraction vacuum of at least A in the native soil while not exceeding a soil flow rate of B; and,
4. Iron and manganese hardness within groundwater at or below AA milligrams per liter (mg/L).”

This is only an example. Actual bid language and the associated critical criteria will vary by bidder.

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

Please note that all bidders shall perform a pilot test, even if the bidder is proposing to use exactly the same remedial technology and design as specified in a PADEP approved RAP for the subject site. In the event a bidder is proposing to use exactly the same remedial technology and design as specified in a PADEP approved RAP for the subject site, the bidder shall perform pilot testing to confirm the data and conclusions presented in the PADEP approved RAP and to confirm that the proposed remedial system and design as proposed in the bid response is feasible.

The selected bidder will prepare a Pilot Test Report and submit it to the Solicitor and PAUSTIF. The Pilot Test Report shall show that the pilot test was conducted according to the selected consultant’s bid and shall constitute documentation for payment of Milestone H regardless of the result. If the results of the pilot testing show that the proposed remedial action is feasible based on the specified critical criteria and ranges, the selected consultant shall move forward on the project.

“Pilot Test Off-Ramp” – The selected consultant and the Solicitor are protected from being obligated to move forward with a remedial action under the executed Remediation Agreement if the proposed remedial approach cannot be implemented as proposed in the conceptual design based on critical criteria outside the bidder's defined ranges from the pilot test data from Milestone H. Exhibit A of the Remediation Agreement (Attachment 1) will contain a provision that if the selected consultant's proposed remedial approach is not reasonable based solely on pilot test results indicating that it cannot be implemented as proposed in the conceptual design based on critical criteria outside the bidders defined ranges from the pilot test data from Milestone H, then one of the following conditions will apply:

1. With advance Solicitor and PAUSTIF approval, the selected bidder may elect to modify the remediation plan and continue with the project at no additional cost; that is, for the same total fixed price found in the bid response or a lesser fixed-cost. If selected consultant's modified plan is approved by Solicitor and by PAUSTIF for funding, the executed Remediation Agreement may be amended, if necessary, to agree with the modified remediation plan and costs; however, the total fixed price of the Remediation Agreement shall not be increased.
2. If the Solicitor or PAUSTIF choose not to approve the selected consultant's revised remediation plan adjusting to the new data, the Remediation Agreement for the project will terminate.
3. If the selected consultant adequately demonstrates the site conditions revealed by the results of pilot testing performed under Milestone H could not have reasonably been expected prior to conducting the Milestone H activities, the selected consultant may elect to not proceed and to terminate the Remediation Agreement for the project.

If either party elects to cancel the Remediation Agreement, the PAUSTIF will have complete discretion with regard to the use of the information obtained during Milestone H activities and/or in the Pilot Test Report. The PAUSTIF may use the data as the basis for rebidding the project; however, it will be specified that any use that a third party makes of the supplemental site characterization data and/or Pilot Test Report will be at the sole risk of the third party. End of “Pilot Test Off-Ramp” language.

For consistency, bidders shall budget a maximum of 10% of the total bid cost for this Milestone, with a maximum of \$50,000. For example, if the total proposed cost for Milestones A through P (excluding E and all cost adder milestones (C4, C5, C6, D2, D3, and M9 through M12)) is determined to be \$300,000, the fixed-price cost of Milestone E specified in the bid cost spreadsheet shall be up to, but not exceed \$30,000. However, if the total proposed cost for Milestones A through P (excluding E and all cost adder milestones (C4, C5, C6, D2, D3, and M9 through M12)) is determined to be \$550,000,

the fixed-price cost of Milestone H specified on the bid cost spreadsheet shall be up to, but not exceed \$50,000.

Milestone I – Quarterly Groundwater Monitoring, Sampling, and Reporting Before Remediation Implementation. For this milestone, the total number of groundwater monitoring and sampling events that will be needed will be based on the schedule proposed by the consultant. Specifically, consultants should include costs to complete all quarterly groundwater sampling activities scheduled to be completed prior to the implementation of the remedial strategy. Bid responses as well as the Bid Cost Spreadsheet should clearly indicate the number of quarters that are included in the costs for this milestone. Please note that USTIF will only pay the selected firm for the actual number of events conducted (i.e. if a firm includes the costs to complete two (2) events, but only one (1) event is conducted; then the firm will only be paid for the one (1) event completed). Following the completion of each quarterly groundwater sampling event, the selected consultant should prepare a summary progress report for submittal to the PADEP.

Each event should include the following:

- As part of this milestone, the selected consultant will gauge and sample the entire expanded monitoring well network (11 current wells plus 2 proposed wells – MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14) during each of the proposed sampling events. **Costs to sample monitoring well MW-8 should not be included in this milestone. Monitoring well MW-8 has been consistently dry since installation. The selected consultant should gauge MW-8 during each event and if sufficient water is present to sample, then the costs to complete the sampling of monitoring well MW-8 will be done under Cost Adder Milestone M3.**
- **In the event that the offsite access takes longer to obtain than anticipated and as such the proposed off site monitoring well installation activities are delayed, a groundwater sampling event completed at the Site before the access is secured and the monitoring wells are installed would be done so under the costs provided in the Optional Cost Adder Milestone M1.**
- Collect water level readings from each of the monitoring wells using an interface probe capable of distinguishing water and/or the presence or absence of product to the nearest 0.01 feet.

- Record the depth to water readings from the monitoring wells and then use the data to determine water level elevations such that groundwater flow direction can be confirmed.
- Groundwater sampling activities should be conducted in accordance with generally accepted practices as outlined in the final version of the PADEP Groundwater Monitoring Guidance Manual.
- Prior to the collection of groundwater samples, the water column in each of the monitoring wells should be purged by either the removal of approximately three (3) volumes of the water column or via low flow sampling method.
- Sampling equipment should be decontaminated prior to sample collection in accordance with generally accepted industry practices.
- Following purging activities, groundwater samples should be collected as quickly as practical from each of the wells into laboratory supplied bottleware.
- Samples should be properly handled under chain of custody documentation protocol and kept cold from sample collection until the samples are relinquished to the accredited laboratory.
- Groundwater samples collected during each of the events will be sent to an accredited laboratory to be tested for the required constituents of concern in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2. Specifically, each sample will be analyzed for BTEX, MTBE, naphthalene, cumene, 1,2,4-TMB and 1,3,5-TMB.
- In addition to the samples collected from the monitoring wells, one (1) duplicate sample and one (1) equipment blank sample will be collected and submitted per day of sampling.

- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the solicitor and PAUSTIF (or its designated representative).
- The quarterly progress reports should detail the observations documented during the event, summarize the analytical results, map the groundwater flow direction for the Site, provide iso-concentration maps for compounds exceeding the SWHS, provide hydro-graphs, discuss the interim remediation efforts (if any), and provide additional scheduling details for upcoming events. A draft of the progress report should be provided to the Solicitor for review and approval prior to submittal to the PADEP. Once the report is approved by the Solicitor, the report can be finalized and submitted to the PADEP.
- **All IDW waste** should be disposed of per the instructions included in the “General SOW Requirements” and “Site Specific Milestones” section of the RFB.

Milestone J - Fate and Transport Modeling. Fate and Transport evaluations shall be completed as appropriate and consistent with Act 2 guidance documents in order to assess the potential for contaminant migration. This evaluation should take into consideration both the groundwater and soil exceedances at the Site. Each firm should evaluate the data and site specific information provided and determine the most applicable model or models needed to complete appropriate fate and transport modeling for the Site. Please specify which modeling software will be used to predict fate and transport of the COCs exceeding the PADEP SHS in groundwater at the release location and its applicability to the Site. Bidders must identify a fate and transport modeling software capable of modeling contaminants in a bedrock aquifer.

Milestone K – Preparation of a Site Characterization Report (SCR) / Remedial Action Plan (RAP). Following the completion of the activities proposed in Milestone A, Milestone B, Milestone C, Milestone D, Milestone E, relevant number of events in Milestone F, Milestone G, Milestone H, Milestone I, and Milestone J; the selected consultant will prepare a combined SCR/RAP for the Site. The information gathered during the aforementioned milestones should be incorporated into a comprehensive SCR with RAP that will be submitted to the PADEP and will facilitate the objective to complete regulatory requirements governing both the SCR and RAP and gain PADEP approval. Specifically, the SCR should summarize the results of the recent investigations, the findings of the previous investigations, a comprehensive Site history, sensitive receptor information, risk assessment, geologic data, results and analysis of

the aquifer testing, discussion on the completed remediation efforts, summary of the predictive modeling efforts completed, and a series of summary tables, appendices, and figures illustrating the information provided in the report.

The RAP should present a clear discussion to the PADEP as to what testing has been completed, the results (lab and fields) collected, and a structured argument as to why the selected remedial design is appropriate and applicable for this Site. The RAP should also reference the feasibility testing results as well as provide the design and specifications of the remedial strategy to be implemented at the Site. Specifically, the selected consultant should include tables, figures, and attachments that detail the proposed remediation specifics, equipment specifications, operation parameters, and any applicable drawings or figures (i.e. P&IDs, remediation equipment and treatment point location figures, etc.) in the RAP. The RAP should clearly identify the parameters to be tested and the methodology that will be incorporated to determine when active remediation is completed. In addition, the RAP should clearly define the anticipated standards selected for the project. The aforementioned standards should be supported in the RAP by pathway elimination and/or risk assessment, as required by the applicable regulations and guidelines.

The Report will be completed following the guidelines specified in Pennsylvania Code, Title 25, Chapter 245 and the Land Recycling Program (Act 2) Technical Guidance Manual with regards to both the Site Characterization Report as well as a Remedial Action Plan. The report will be appropriately signed and sealed by a Professional Geologist and a Professional Engineer registered in the Commonwealth of Pennsylvania.

The draft SCR / RAP and all AutoCAD maps / plans included in the report (e.g., site plan / base map, groundwater elevation maps, dissolved plume maps, soil contaminant distribution maps, etc.) and appendices (e.g., boring logs, tables, waste disposal documentation, aquifer testing and analysis, transducer survey results and analysis, and sensitive receptor information) shall be submitted electronically (in Adobe PDF format) to the Solicitor and PAUSTIF for review / comment prior to finalizing the RAP. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP. The draft report is to be submitted no later than the date specified in the schedule presented by the selected bidder.

Milestone L – Remedial Design, Installation and Implementation. For this milestone, bidders should include all necessary activities and costs associated with the design, purchase, installation, startup, and implementation of the remedial strategy. The successful bidder shall demonstrate that their remedial strategy selection would be effective in attaining the remediation goals for the project in the schedule proposed. The

three generally acceptable remedial technologies discussed with PADEP include:

- Vacuum Enhanced Groundwater Extraction (Submersible groundwater pumping with High-Vacuum enhancement)
- Combination of Liquid Ring Pump Total Phase Extraction in the shallower groundwater areas and Vacuum Enhanced Groundwater Extraction (Submersible pumping using LRP vacuum enhancement) in the deeper groundwater area(s).
- In Situ Chemical Oxidation - Ozone Injection (potentially combined with groundwater extraction for enhanced groundwater throughout)

Bidders must propose one of these three alternatives as their proposed remedial approach, and it is critical that the bidder show that their proposed technology and system design is feasible on a conceptual level before pilot testing. The bidder should perform a thorough demonstration of the feasibility and practicality during pilot testing. It is also critical that any proposed alternatives do not exacerbate site impacts.

This milestone would cover all activities and costs related to the implementation of the strategy as described in the selected consultant's approved RAP including the quarterly groundwater sampling events and quarterly remedial progress reports to be completed during the implementation of the remedial strategy. As discussed, the fixed cost for this milestone in submitted bid responses needs to include all activities and sufficient costs related to the selected remediation strategy. Where applicable, this may include activities such as all telemetry triggered visits, all carbon change outs, and equipment maintenance, etc. The only cost that should be excluded from the bid response is the monthly electric bill, which is discussed below in greater detail.

Bid responses should note the following:

- Bid responses should describe in great detail how the strategy has been designed and how it will be implemented.
- Bid responses should clearly discuss the reasons as to why the selected strategy is applicable to this site.
- Bid responses should clearly note on a schedule how the payments for this milestone will be specifically broken out for the remedial strategy, the anticipated completion date, and the documentation to be submitted as proof of payment by providing a specific milestone schedule in the bid response that details the strategy proposed in the bid response. The aforementioned milestone schedule should be in a format similar to the milestone schedule included in the Remediation Agreement.

- Where applicable, the bid response should provide specifics on all equipment and vendors to be utilized.
- Where applicable, the bid response should provide Process and Instrumentation Diagrams and Cut Sheets.
- The Solicitor and PAUSTIF will be provided the opportunity to inspect and confirm the remediation strategy has been implemented as per the RAP.
- Where applicable, the bid response should describe what permits are anticipated and include all associated costs in this milestone.
- Bid response should describe with detail how progress of the remedial strategy will be monitored and how/when adjustments may be made. Bid response should provide specific parameters to be monitored and data values.
- Bid responses should provide a specific proposed remediation timeline and expected results with a discussion as to how the proposed timeline was calculated.
- Bid responses need to provide a clear discussion referencing specific data and available information that supports that the proposed remedial strategy will remediate the contaminants to the selected standards in the proposed timeframe.
- Bid responses need to clearly define both intermediate and end remedial strategy goals that will be used as a guideline to determine if the proposed strategy is successfully remediating the site. The end goals would be used to determine when remediation will be considered complete and successful.
- Quarterly groundwater sampling events proposed to be completed during the implementation of the remedial strategy should be included in Milestone L and conducted in a manner consistent with Milestone I.
- Following the completion of each quarterly groundwater sampling event, the selected consultant should prepare a Remedial Action Progress Report (RAPR) for submittal to the PADEP. The RAPR should detail the observations documented during the event, summarize the analytical results, provide applicable summary maps and tables, provide iso-concentration maps for compounds exceeding the SWHS, provide hydro-graphs, discuss/detail the remediation efforts, and provide additional scheduling details for upcoming events. A draft of the progress report should be provided to the Solicitor for review and approval prior to submittal to the PADEP. Once the report is approved by the Solicitor, the report can be finalized and submitted to the PADEP.

- Please note that PAUSTIF will only pay the selected firm for the actual number of milestone or events conducted (i.e. if a firm includes the costs to complete two (2) events, but only one (1) event is conducted; then the firm will only be paid for the one (1) event completed).
- 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 in a RAPR. 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 choose to terminate the contract.
- If there is an unscheduled shutdown of the system, the selected bidder must notify the Solicitor and PAUSTIF within 48 hours after knowledge of the shutdown. If there is a scheduled shutdown of the system that will last greater than seven days, the selected bidder must notify the Solicitor and PAUSTIF at least 30 days prior to the planned system shutdown.
- Since the monthly electric charges can be variable, consultants should not include any costs for monthly electric charges in their fixed price bid, as all monthly electric charges will be handled separately. Monthly electric bills will be paid based on the actual bill amount and will be treated as a separate milestone payment in the Remediation Agreement with a cost to be listed in the milestone schedule as TBD. Please note that USTIF will not reimburse any markup added the monthly electric bill as it is a utility related expense.

With this being a Bid-to-Result RFB, please note that this Milestone also has a performance-based component to it. In the event that the remedial system operated for the entire time specified in the selected bidder's bid response, and the criteria for demonstrating attainment of the selected standards as described in the RFB is not met either prior to the initiation of attainment activities, during any of the eight quarters of the initial attainment groundwater demonstration following system shutdown, or based on soil attainment sampling then the system must be restarted within seven days following the receipt of the analytical results and operated for an additional two quarters at no additional cost to the Solicitor. Please note, this includes the necessary groundwater sampling as well as reporting costs required to be completed during each of the quarters. The two aforementioned quarters will be included in the milestone schedule with separate milestone designations in the Remediation Agreement with \$0 and marked as TBD in a similar fashion to the Optional Cost Adder Milestones.

If, following system shut down and restart, attainment of the selected standards can be reinitiated, PAUSTIF will reimburse (assuming all conditions have been met) remaining Milestone L events (L1 through L8). Any additional attainment groundwater sampling events beyond the 8 events included as part of Milestone L will be completed as an Optional Cost Adder Milestone L9 through L12 and will require approval from all parties before proceeding. In the event that attainment of the applicable remediation standards are determined to not be feasible following the additional two quarters of system operation, the selected bidder or the Solicitor would have the option to terminate or modify the Remediation Agreement.

Milestone M – Demonstration of Groundwater Attainment. For this milestone, bidders should include all necessary activities and costs associated with the completion of a groundwater monitoring and sampling attainment program. Bid responses should clearly detail the approach proposed (i.e. wells, quarters, etc.) to complete the PADEP's attainment monitoring requirements. Costs for each quarterly event in Milestone J should include the costs to prepare and submit quarterly RAPRs as well. The groundwater monitoring, sampling and reporting efforts completed as part of the demonstration of attainment should be done in a manner consistent with Milestone I.

As discussed in Milestone L, this is a Bid-to-Result RFB and as such there are some performance based components to the project. If some or all of the events included in Milestone L are unable to be completed due to the incomplete remediation of the Site to the selected standards, then PAUSTIF will only pay the selected firm for the actual number of milestone or events conducted (i.e. if a firm includes the costs to complete 8 quarterly events, but only one event is conducted; then the firm will only be paid for the one (1) event completed).

If additional groundwater attainment monitoring Milestone M quarterly events (sampling and reporting) beyond the 8 quarterly events included in the Milestone M costs (to be noted as Milestone M1 through M8 in the Remediation Agreement) are needed, then up to 4 additional events will be handled as an Optional Cost Adder (Milestones M9 through M12). Optional Cost Adder Milestones M9 through M12 will require approval from all parties before proceeding.

Specifically, bidders should include the following costs in their bid response –

- Milestone M (Milestone M1 through Milestone M8) – Costs to complete the 8 quarterly groundwater attainment events (sampling and reporting)
- Milestone M9 (Optional Cost Adder) - Provide a Unit Cost to complete one additional groundwater attainment sampling event and the subsequent RAPR preparation. The scope of work for this cost adder should follow Milestone M.

- Milestone M10 (Optional Cost Adder) - Provide a Unit Cost to complete one additional groundwater attainment sampling event and the subsequent RAPR preparation. The scope of work for this cost adder should follow Milestone M.
- Milestone M11 (Optional Cost Adder) - Provide a Unit Cost to complete one additional groundwater attainment sampling event and the subsequent RAPR preparation. The scope of work for this cost adder should follow Milestone M.
- Milestone M12 (Optional Cost Adder) - Provide a Unit Cost to complete one additional groundwater attainment sampling event and the subsequent RAPR preparation. The scope of work for this cost adder should follow Milestone M.

Milestone N – Demonstration of Soil Attainment. For this milestone, bidders should include all necessary activities and costs associated with the completion of a soil boring program that will demonstrate attainment with the selected soil standards for all COCs. Bid responses must describe in detail how the soil boring program will be completed and reference relevant data and historic investigations. Specifically, each bid response should discuss the soil sampling depth interval, the interpreted depth to the saturation zone, an illustration of the sampling grid location and extent, and how the aforementioned parameters were selected. The soil investigation should take into consideration the following:

- The locations and depths of the soil samples shall be determined using the recent recommendation from the PADEP on the subject of Soil attainment.
- If a consultant feels it is appropriate and necessary to complete hole-clearing activities before advancing the borings, the cost should be included in their proposal and costs. If a consultant includes the cost to complete hole-clearing, they should state it in their proposal and discuss why it is appropriate and necessary. As discussed in the RFB, cost is not the only factor when evaluating proposals and other factors are taken into consideration during the review process, including appropriate safety measures.
- Soil samples shall be collected using Encore Samplers (or equivalent) and field-preserved in laboratory-provided glassware with the appropriate preservatives (e.g., methanol or sodium bisulfate) provided by the laboratory in general accordance with USEPA Method 5035 and the PADEP guidance.
- In addition, one (1) duplicate sample and one (1) equipment blank sample will be collected and submitted per day of sampling.

- Samples should be properly handled under chain of custody documentation protocol and kept cold from sample collection until the samples are relinquished to the accredited laboratory.
- Soil samples shall be analyzed for benzene, toluene, ethylbenzene, total xylenes, MTBE, naphthalene, cumene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene using laboratory EPA method 8260B in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2.
- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the Solicitor and PAUSTIF (or its designated representative).
- Compile the field findings and laboratory data into a summary table and comprehensive soil boring logs.

Milestone O – Preparation of Remedial Action Completion Report. Prepare and submit a RACR for the PADEP approval that will appropriately present an evaluation of current Site conditions and present significant conclusions and request closure and a release from liability from the PADEP for all COCs. The information gathered during the activities completed as part of Milestone A through Milestone N should be incorporated into a comprehensive RACR that will be submitted to the PADEP and will facilitate the objective to complete regulatory requirements governing the RACR and gain PADEP approval for the report. Specifically, the report should summarize the results of the recent investigations, the findings of the previous investigations, a comprehensive Site history, sensitive receptor information, geologic data, results and analysis of historical aquifer testing, discussion on the completed remediation efforts, summary of the predictive modeling efforts completed, risk assessments, and a series of summary tables, appendices, and figures illustrating the information provided in the report.

The Report will be completed following the guidelines specified in Pennsylvania Code, Title 25, Chapter 245 and the Land Recycling Program (Act 2) Technical Guidance Manual for a Remedial Action Completion Report. The RACR shall be sealed by a Professional Geologist registered in the Commonwealth of Pennsylvania. A draft RACR shall be submitted electronically (in Adobe PDF format) to Solicitor and PAUSTIF for review / comment prior to finalizing the RACR. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP. The report submission is to be submitted no later than the date specified in the schedule presented by the selected consultant. All AutoCAD maps / plans included in the report (e.g., site plan / base map, groundwater elevation maps, dissolved plume maps, soil contaminant distribution maps, etc.) and appendices (e.g., boring logs, tables, disposal documentation, fate and transport modeling, risk

assessment and sensitive receptor information) shall also be submitted electronically to the Solicitor and Technical Contact for review / comment prior to finalizing it.

Milestone P – Site Restoration / Well Abandonment. Following confirmation that cessation of the remedial strategy is appropriate, any remaining equipment should be removed, and the site restored to as close a condition as possible prior to the remediation efforts. The selected consultant will abandon all of the monitoring wells in accordance with Pennsylvania Act 610 and the Groundwater Monitoring Guidance Manual dated February 29, 1996. Upon completion, a well abandonment report will be prepared and submitted to the DCNR on behalf of the claimant. Bidders should specify in the bid packages how the wells will be abandoned and the site restoration activities included in the specified costs.

Milestone Q - Soil Gas Sampling (Cost Adder Milestone). Provide a Unit Cost for the collection of one round of samples from all vapor sampling points. The scope of work for this cost adder should follow the sampling guidelines in Milestone F.

Milestone R – Additional Quarterly Groundwater Monitoring, Sampling, and Reporting Before Remediation Implementation. (Cost Adder Milestone). Provide a Unit Cost to complete one additional groundwater sampling event and the subsequent RAPR preparation. The scope of work for this cost adder should follow Milestone I.

Milestone R1 - The cost provided should be to complete only one (1) event with only the existing monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-9, MW-10, MW-11, and MW-12). In the event that the off-site access takes longer to obtain than anticipated, this cost adder would be utilized for a groundwater sampling event completed at the Site before the access is secured and the proposed monitoring wells are installed.

Milestone R2 - The cost provided should be to complete only one (1) event with all the existing and proposed monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14).

Milestone R3 - The cost provided should be to sample one (1) additional monitoring well during a groundwater sampling event. The provided cost would be to cover all labor, equipment, laboratory, waste, etc.

Milestone S – Update Survey (Cost Adder Milestone). Provide a Unit Cost to update the Site's survey to include any additional monitoring well location(s). The scope of work for this cost adder should follow Milestone G.

Milestone T – Installation of Additional Monitoring Well (Cost Adder Milestone).

Provide a Unit Cost to install one (1) additional monitoring well. The scope of work for this cost adder should follow Milestone E construction guidelines. Please provide costs for the following:

- **Milestone T1** – Installation of one (1) additional monitoring well during a separate mobilization event. The provided cost would be to cover all labor, equipment, subcontractors, waste, etc.
- **Milestone T2** - Installation of one (1) additional monitoring well as an add-on to a drilling investigation where mobilization costs has already been included. The provided cost would be to cover all labor, equipment, subcontractors, waste, etc.

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 identified in the executed Remediation Agreement. 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. Modifications to the executed Remediation Agreement will require the 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. Attachment 3A – Summary Figures
 - b. Attachment 3B – Monitoring Well Construction Logs
 - c. Attachment 3C – SCR dated October 2013
 - d. Attachment 3D – RAPR dated March 2015