Request for Bid

Fixed-Price Defined Scope of Work

Remedial Pilot Testing

Solicitor

Monsignor Raymond Riffle

Greensburg Catholic Cemetery

179 Donohoe Road, Greensburg, PA 15601-6986

PADEP Facility ID #: 65-10207 **PAUSTIF Claim #: 2012-0061(I)**

Date of Issuance

January 28, 2022

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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/operator 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	February 22, 2022 by 5 p.m.
Mandatory Pre-Bid Site Visit	February 23, 2022 at 10 a.m.
Deadline to Submit Questions	March 9, 2022 by 5 p.m.
Bid Due Date and Time	March 16, 2022 by 3 p.m.

Contact Information

Technical Contact
Christopher D. O'Neil, P.G. **Groundwater Sciences Corporation** **2550 Interstate Drive, Suite 303** **Harrisburg, PA 17110** **coneil@groundwatersciences.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 **"Greensburg Catholic Cemetery - 2012-0061(I) – RFB QUESTION".** Bidders must neither contact nor discuss this RFB with the Solicitor, PAUSTIF, the Pennsylvania Department of Environmental Protection (PADEP), Pennsylvania Department of Transportation (PennDOT) or 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. Questions and their respective answers will become part of the RFB, which in turn, will become part of the final contract. Bidders are responsible to monitor questions and answers and address any changes, modifications or clarifications made to the RFB as a result of the questions and answers.

Requirements

Mandatory Pre-Bid Site Meeting

On behalf of 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 will 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 "Greensburg Catholic Cemetery - 2012-0061(I) – 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 and each attendee must sign-in with the Technical Contact on site to record attendance. Due to the circumstances surrounding the COVID-19 pandemic, all attendees should follow CDC safety guidelines. Changes to the Site meeting date and/or time due to inclement weather conditions or other unexpected circumstances will be posted at https://ustif.pa.gov/bids; and, the Technical Contact may notify via email all companies that provided Site Meeting Attendance Notification.

Submission of Bids

To be considered for selection, an electronic .pdf version of the signed bid package must be submitted to RA-Bid-Submission@icf.com by the bid due date and time in the Calendar of Events. Bid cost spreadsheets may be submitted in Microsoft Excel format. File sizes in excess of 5 MB are to be submitted using a file share service of your choosing. If you do not have access to a file share service, an email must be sent to RA-Bid-Submission@icf.com, at least 24 hours prior to the bid due date and time, to request access to PAUSTIF's third party administrator, ICF, file share service. Reply messages will be sent to acknowledge receipt of emails. Bid responses will only be accepted from those companies that attended the Mandatory Pre-Bid Site Meeting. Bids attempted to be submitted through ground services such as USPS, UPS, Fed-Ex, etc. or hand delivery will not be considered for selection. PAUSTIF, in its discretion, reserves the right to reject or allow correction to bid submissions that are substantively deficient in some manner, but any late submission will be rejected**.**

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 returned. If, due to inclement weather, natural disaster, or any other cause, the deadline for submission may be extended. 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.

Bid Requirements

The Bid Submission Coversheet included as Attachment 1 to this RFB must be completed, signed by an authorized representative of the company, and included as the first page of the Bid Submission. Bids that are not signed may be rejected. The name and contact information of the person who is to be contacted in the event clarification is required and/or the bid is selected by the Solicitor must be listed on the Bid Submission Coversheet.

The Solicitor wishes to execute a mutually agreeable contract with the selected consultant ("Remediation Agreement"). The Remediation Agreement is included as Attachment 2 to this RFB. The bidder must indicate if the Remediation Agreement is accepted with no changes. If changes are proposed, bidder must identify and document proposed modifications to the Remediation Agreement language 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 must be listed on the Required Responses Submission Form (Attachment 3), including, but not limited to, terms and conditions, Exhibits A and B, Site-Specific Assumptions and Provisions; and, will be one of the criteria used to evaluate the bid and will need to be agreed upon by both the Solicitor and PAUSTIF (for funding).

The selected consultant will be provided an electronic copy 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 must complete and include in their bid response the Required Responses Submission Form, included as Attachment 3 to this RFB.

The bidder shall provide its bid cost only in the Bid Cost Submission Form (included as Attachment 4) with descriptions for each task provided in the body of the bid document. No cost information should be provided in the technical submittal. Bidders are responsible to ensure all costs are provided in the Bid Cost Submission Form, and calculations (including, but not limited to the total bid cost) are accurate; the Bid Cost Submission Form must be signed by an authorized representative of the company. In addition, bidders are required to include, as backup for the Bid Cost Submission Form, a list of bid labor rates and a detailed breakdown of each milestone fixed-cost including, but not limited to, labor, subcontractor costs and mark-up, direct costs, and equipment. Copies of subcontractor quotes and/or estimates should be included as part of the cost submittal backup. The technical score for bids will be based solely on those tasks represented as milestones included in the Bid Cost Submission Form 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.

Each bid will be assumed to be valid for a period of up to 180 days after receipt unless otherwise noted. The costs quoted in the Bid Cost Submission Form 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.

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. Completed Bid Submission Coversheet (Attachment 1), Required Responses Submission Form (Attachment 3) and Bid Cost Submission Form (Attachment 4 and must include supporting documentation).

2. Demonstration of the bidder’s understanding of the Site information provided in this RFB, standard industry practices, and objectives of the project.

3. 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). Bidders must bid the Scope of Work as requested in this RFB. Recommendations for changes/additions to the Scope of Work proposed in this RFB shall be discussed, quantified, and priced separately; however, failure to also bid the SOW "as is" may result in a low technical score. Bids should include enough original language conveying bidder's thought such that the understanding of site conditions, closure approach (if applicable), and approach to addressing the scope of work can be evaluated. Since bidders are not prequalified, the bid response must provide the Bid Evaluation Committee and Solicitor enough information to complete a thorough review of the bid and bidder.

4. 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.

5. The names and brief resumes and statement of 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)). Resumes should directly follow the Required Responses Submission Form.

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.) as part of the bid cost submission back up. 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. Key exceptions, assumptions, or special conditions that bidder proposes as modification to the Remediation Agreement must be identified and listed on the Required Responses Submission Form (Attachment 3). Please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exceptions will be considered during bid evaluation and may negatively impact technical score.

Bid Review and Evaluation

1. Bid Review and Scoring

   Bid submissions where the bidder was represented at the mandatory pre-bid site meeting and that were properly submitted by the designated due date and time will be accepted for review.

   Clarification & Additional Information

   After receipt of the bids, the USTIF shall have the right to contact Bidders for the purpose of:

   - Seeking clarification of the Bid which informs the USTIF's understanding of statements or information in the Bid;
   - As a result of clarification, determining whether the bidder seeks to withdraw their bid.

   Administrative Evaluation

   USTIF will determine if a bid is administratively qualified based on certain criteria including, but not limited to acceptance of the Remediation Agreement, proposed modifications to the Remediation Agreement, history of terminated Remediation Agreements and demonstration of insurance requirements.

   Technical Scoring

   Bids that are considered administratively qualified are evaluated for technical viability before cost is considered. Bids that have technical scores that are equal to or greater than 70% of the highest technical score will advance to cost scoring. Bids with technical scores below 70% of the highest technical score are eliminated from further consideration.

   Numerical values will be assigned for defined SOW bids for two categories:

   - Understanding the problem and demonstrating knowledge of how to perform the work
   - Qualifications and Experience

   Numerical values will be assigned to three categories in those cases where there is a bid-to-result request:

   - Understanding of the problem
   - Technical and Regulatory Approach to Remediation
   - Qualifications and Experience

   Cost Scoring

Cost scores are determined by a cost formula. The bid(s) with the lowest total cost receives the maximum cost points available. The remaining bids are scored by applying the following cost formula: (1-((B-A)/A)) x C = D

A = the lowest bid cost
B = the bidder's cost being scored
C = the maximum number of cost points available
D = bidder's cost score (points)

If a bid cost is double or greater than double the amount of the lowest bid cost the bid will be assigned zero cost points.

2. Evaluation of Bids

A committee comprised of at least two members of the USTIF staff, two members of TPA staff, and the TPR who assisted in developing the RFB will score all bids that are administratively qualified based on the above criteria. USTIF reserves the right to assign additional non-scoring members to the evaluation committee as needed. USTIF recognizes that several bids may be acceptable and receive similar numerical scores. At the conclusion of the scoring process, the claimant will receive those bids whose numerical scores place them in the category of meeting Reasonable and Necessary criteria and acceptable for USTIF funding. The claimant may select any of the consulting firms that had a technical score that allowed the bid to advance to cost scoring, to implement the tasks described in the bid; however, USTIF will only provide funding up to the highest fixed price of those bids determined to be Reasonable and Necessary for USTIF funding.

General Site Background and Description

Each bidder should carefully review the existing information and documentation provided in Attachment 5. 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 5, the bidder should defer to the source documents. All figures, reports, and logs referenced in this Section are included in Attachment 5.

Site Name and Address
Greensburg Catholic Cemetery, 179 Donahoe Road, Greensburg, Pennsylvania 15601-6986

Facility Description
The cemetery is located on a 32.2-acre property along Donahoe Road (State Route 1026) in Hempfield Township, Westmoreland County, Pennsylvania (**Figure 1**). The property is connected to municipal sewer and water. As shown on **Figure 2**, the property is surrounded by commercial properties to the north, Donahoe Road to the south, Crows Nest Road to the east, and Roseytown Road to the west.

The former underground storage tank (UST) system associated with PAUSTIF claim 2012-0061(I) was located on the southeast corner of the property adjacent to an office/garage building (**Figure 3**). The former UST system consisted of one 550-gallon gasoline tank (Tank 001) that was installed in 1981 and removed in 2012.

Release Description and Characterization/Remediation Activities
In April 2012, petroleum hydrocarbon impact was discovered during the removal of former Tank 001. The release occurred from a cracked product pipeline located above the former UST. The release was reported to the PADEP and assigned Incident No. 43788. Interim Remedial Actions (IRAs) consisted of the removal and disposal of petroleum impacted soil (30 tons) and water (200 gallons) during removal of the former UST. A copy of the UST System Closure Report Form for Tank 001 is in Appendix A of the Site Characterization – Remedial Action Plan (SCR-RAP) dated October 2013.

As discussed in the SCR-RAP, characterization activities included the installation and sampling of soil borings SB-1 through SB-28 and monitoring wells MW-1 through MW-13. PADEP unleaded gasoline short-list parameters were detected in soil and groundwater samples at concentrations exceeding the PADEP nonresidential used aquifer Statewide health standard (SHS) medium specific concentrations (MSCs)

The SCR-RAP identified the selected remediation standard as the site-specific standard (SSS) for soil and groundwater. Remedial excavation activities were recommended in the SCR-RAP to

address petroleum impacted soil in the former Tank 001 source area. PADEP approved the SCR-RAP in a letter to the claimant dated January 7, 2014.

In October 2014, the remedial excavation recommended in the SCR-RAP was completed in the area shown on **Figure 4**. As discussed in the Remedial Action Progress Report (RAPR) dated January 2015, a total of 503 tons of petroleum-impacted soil and 1,145 gallons of water were removed from the subsurface during the remedial excavation. The lateral extent of the excavation was limited to the south towards Donahoe Road due to underground utilities and excavation stability concerns. Therefore, petroleum impacted soil between the southern end of the remedial excavation and Donahoe Road was not able to be excavated.

In March through August 2016, seven groundwater recovery events were performed using a truck-mounted vacuum system. A total of 3,200 gallons of petroleum-impacted groundwater were removed from monitoring wells MW-3R, MW-6, and MW-10 during the recovery events.

In August 2019 and June 2020, soil borings SB-29 through SB-44 were installed and sampled to delineate the extent of petroleum-impacted soil between the southern end of the 2014 remedial excavation and Donahoe Road. As stated in the RAPR dated October 2020 "…*it appears that the soil impacts are limited to an area of soil approximately 25 feet long and 15 feet wide located between the former 2014 excavation and the white line for Donohoe Road (SB-38 through SB-42), bracketed by SB-29, SB-34, and SB-44 to the southwest and SB-32 and SB-43 to the northeast.*"

In August 2021, the claimant confirmed their intent to modify the selected remediation standard for the site from the SSS to the SHS.

Surface Topography

As shown on **Figures 2 and 3**, former Tank 001 is located on the southern flank of a hill. The elevation of the ground surface in the vicinity of the former UST is 1,210 feet above mean sea level (amsl) and topography in that area slopes southward towards Donahoe Road and Hugh Black Road further to the south. The nearest surface water body to the former UST is an unnamed tributary to Slate Creek that flows southward as shown on **Figure 3**.

Geology and Hydrogeology

Soil at the Site is mapped by the United States Department of Agriculture (USDA) as the Gurnsey Silt loam. Bedrock is mapped as the Pennsylvanian age Casselman Formation of the upper Conemaugh Group that consists of sedimentary rocks (shale, siltstone, sandstone, claystone, limestone, and non-persistent coal beds). Cross sections showing site soil and geology are included in the RAPR dated October 2020.

In 2019 through mid-2021, depth to groundwater measurements in monitoring wells ranged from one to eighteen feet below top of well casing (BTOC). Monitoring wells MW-9 and MW-11 are

typically dry (no water in well). As shown on **Figure 4**, the inferred direction of localized groundwater flow is radial in the vicinity of the 2014 remedial excavation with regional groundwater flow to the south consistent with topography.

Soil Quality

Figure 5 shows the locations for samples of saturated and/or unsaturated soils (as those terms are defined by the PADEP) with concentrations that exceed the PADEP non-residential SHS MSCs. Nine samples from seven sample locations had concentrations that exceeded the MSCs. The soil samples with MSC exceedances are all located between the southern end of the 2014 remedial excavation and Donahoe Road and potentially extend beneath underground utilities located in the right-of-way (stormwater and water supply pipelines). Sample locations, depths, and parameters with MSC exceedances are as follows:

1. MW-1 (4 to 6 feet below ground surface (bgs)) – benzene, naphthalene, and 1,2,4-Trimethylbenzene (124TMB),
2. SB-2 (2 to 4 feet bgs) - benzene,
3. SB-2 (7 to 8 feet bgs) – benzene,
4. SB-3 (4 to 6 feet bgs) - benzene,
5. SB-30 (2 to 2.5 feet bgs) – benzene,
6. SB-30 (7 to 7.5 feet bgs) – benzene , naphthalene, and 124TMB,
7. SB-35 (6.5 to 7 feet bgs) - benzene,
8. SB-36 (5 to 5.5 feet bgs) – naphthalene and 124TMB, and
9. SB-37 (6 to 6.5 feet bgs) - 124TMB.

Groundwater Quality

In December 2012, sampling and analysis of groundwater from site monitoring wells was initiated. No samples have been collected from MW-9 and MW-11 because the wells were dry during each monitoring event. In 2017 and 2018, sampling of MW-2, MW-3R, MW-4, MW-5, MW-7, MW-8, MW-12, and MW-13 was discontinued because multiple consecutive samples showed concentrations below the PADEP nonresidential used aquifer MSCs. Quarterly groundwater sampling at MW-1, MW-6, and MW-10 is ongoing. Methyl tertiary butyl ether (MTBE) is the only parameter detected at concentrations that exceed the PADEP nonresidential used aquifer MSC of 20 micrograms per liter (µg/L) in groundwater samples from MW-1, MW-6, and MW-10 (**Figure 6**).

Separate Phase Liquid

No separate-phase liquid (SPL) has been measured in monitoring wells at the site.

Scope of Work (SOW)

This RFB seeks competitive bids from qualified contractors to perform the activities in the SOW specified herein. The PADEP reviewed and commented on this RFB.

Objective

This SOW includes remedial pilot testing activities as part of a Defined Scope of Work RFB. Following completion of the SOW in this RFB, remaining corrective action activities necessary for the Solicitor to obtain relief from liability under the SHS will either be competitively bid or the consultant selected for this RFB may be invited to continue work under a fixed-price remediation agreement.

Constituents of Concern (COCs)

The COCs for this Site are the PADEP unleaded gasoline short-list parameters that include benzene, toluene, ethylbenzene, xylenes (total), isopropylbenzene (cumene), methyl tertiary butyl ether (MTBE), naphthalene, 1,2,4-trimethylbenzene (124TMB), and 1,3,5-trimethylbenzene (135TMB).

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, Title 25, Chapter 250 - Administration of Land Recycling Program; and
- The PADEP Land Recycling Program Technical Guidance Manual (TGM) dated March 27, 2021 (Technical Guidance Document 261-0300-101); 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, the selected consultant shall:[1]

- Conduct necessary, reasonable, and appropriate project planning and management activities. 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). 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. 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

- **Responsibility**: Upon execution of the Remediation Agreement, the selected consultant shall become the consultant of record for the Site and the Solicitor. It is expected that the consultant will represent the interest of the Solicitor and PAUSTIF during the execution of all aspects of the project associated with this RFB.

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

- **Field Work**. Provide 72-hour advance notification to the Solicitor prior to field work activities. Field activities should be conducted Monday through Friday between 8:00 AM to 5:00 PM, unless authorized by the Solicitor.
- **Safety Measures**: Each bidder should determine the level of safety measures needed to appropriately complete the work. If a bidder believes it is appropriate and necessary to implement safety measures other than or beyond what is required in the SOW, it should be included in their bid response and fixed-price cost. If a bidder includes costs to conduct specific safety measures or activities, the bidder should specify it in the bid response and discuss why it is appropriate and necessary and indicate which methods will be utilized and to what extent. Cost is not the only factor when evaluating proposals and other factors are taken into consideration during the review process, including appropriate safety measures.
- **Investigation Derived Waste Disposal**: Investigation derived waste (IDW), including soil/rock cuttings, development and purge water, SPL (if present), vapor-phase carbon (if required), and liquids, should be disposed of per the instructions included in the "General SOW Requirements" section of the RFB. The selected consultant will be responsible for arranging any off-site waste disposal (as 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 IDW may be temporarily stored on Site at a location agreeable to the Solicitor and should be removed from the Site in a timely manner. Except for IDW volumes specified in Milestone F for multi-phase extraction (MPE) and groundwater extraction pilot testing, PAUSTIF will not entertain any assumptions on the contract for costs regarding a volume of waste. Bidders are responsible for including costs to manage and dispose of all anticipated volumes of waste in your bid response based on professional opinion, experience, and data provided. Invoices submitted to cover additional costs for waste generated as part of activities included under the fixed price contract for this Site will not be paid.
- **Milestones Requiring Approval Prior to Initiation:** This RFB includes Optional Milestones I through T that may not be reasonable and necessary to perform based on the information gathered by the selected consultant upon completion of the SOW for Site-Specific Milestones A through H. Therefore, the selected consultant shall obtain approval from the Solicitor and PAUSTIF (for funding consideration) prior to initiating optional milestones.

Site-Specific Milestones

Bidders shall provide costs for each Milestone in Attachment 4. The cost for each Milestone shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, expenses, and waste handling.

Milestone A – Private Utility Mark Out. Conduct a private utility mark out to confirm locations of underground utilities within 10 feet of the proposed new wells. The mark out is to include notification to the Pennsylvania One Call System, discussions with the Solicitor regarding utilities, and a geophysical survey using ground-penetrating radar (GPR), metal detectors, and utility/line locators. The mark out should include determining the location, construction, use, and depth of underground utilities (e.g., storm sewers, sanitary sewers, water supply lines, drainage pipelines, and conduits).

Underground utilities shall be marked on the ground surface with paint and/or stakes during the mark out and photographed. A report shall be prepared with the results of the private utility mark out and a discussion of utilities.

Milestone B – Obtain Off-Property Access. Secure off-site access to monitoring wells MW-12 and MW-13 on the property shown on **Figure 4** (Parcel ID 50-16-00-0-096) to perform well gauging, sampling, and abandonment services. According to the Solicitor's consultant who installed MW-12 and MW-13 in 2013, verbal permission to access to the property was granted based on discussion between the consultant and the property owner.

Securing access should include obtaining contact information for the owner of the property, contacting the property owner (verbally and/or in writing), answering questions from the property owner, preparing an access agreement, and executing the agreement. Providing this cost does not commit the consultant to obtain the access agreement.

The milestone schedule shall provide one (1) week for Solicitor and PAUSTIF review of the draft access agreement. The final agreement shall address comments received from the Solicitor and PAUSTIF on the draft agreement before it is submitted to the property owner. The cost should also cover the required effort necessary to provide the PADEP with the information they would need to assist in facilitating access to the property.

Milestone B activities shall be completed as soon as possible following execution of the Remediation Agreement.

Milestone C - Well Installations. Drill, sample, construct, and develop monitoring well MW-14, multi-phase extraction wells MPE-1, MPE-2, and MPE-3, and groundwater extraction well EW-1 at the locations shown on **Figure 5** and **Figure 7**. The well installations shall be completed under the supervision of a Pennsylvania-licensed Professional Geologist.

Requirements for obtaining Pennsylvania Department of Transportation (PennDOT) approval for the installation of MPE-1 and MPE-2 shall be identified. Cost associated with a Right-of-Entry (ROE) agreement, if required, are to be included as Optional Milestone P.

The locations and construction of wells MW-14, MPE-1, MPE-2, MPE-3, and EW-1 are specifically intended to conduct MPE pilot testing in Milestone F. Therefore, if the well locations need to be adjusted more than two feet from the mapped locations or well construction varies by more than two feet from the descriptions in this Milestone (below), the selected consultant shall notify the Solicitor and PAUSTIF and provide the technical justification before proceeding.

Each well location shall be pre-cleared prior to drilling. Pre-clearing shall be completed to a diameter equal to or greater than the diameter of the down-hole drilling equipment to a minimum depth of five feet bgs.

Soil samples shall be collected prior to air rotary drilling using Direct Push Technology (DPT) to the total depth of the well or refusal, whichever is encountered first. Samples are to be inspected at two-foot depth intervals and field screened with a flame ionization detector (FID), calibrated to hexane (1,000 parts per million by volume (ppmv)), using a consistent head-space type analysis within 20 minutes of sample collection as follows:

- Transfer soil sample into a dedicated resealable polyethylene bag and seal the bag,
- Manually break up soil clumps and shake the bag,
- Allow headspace development for at least 10 minutes at approximate room temperature,
- Introduce the instrument sampling probe through a small opening in the bag into the headspace, and
- Record the highest FID response.

Two discrete samples per well location shall be submitted for laboratory analysis based on FID screening results. Samples shall be collected in laboratory-provided containers and analyzed by a PADEP-accredited laboratory using appropriate analytical methods and detection levels for the substances listed in the COC section of this RFB.

One geotechnical sample shall also be collected from each well location to determine particle-size distribution of soil. Each sample shall be representative of soil targeted for remediation and shall be submitted to a laboratory for sieve and hydrometer analysis using American Society for Testing and Materials (ASTM) D422 or equivalent method. Analysis results, including a particle-size distribution (gradation) curve, shall be provided in a report prepared by the laboratory.

The wells shall be completed and developed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, included as Appendix A to the PADEP's TGM as follows:

- Complete two-inch diameter monitoring well MW-14 to a depth of 23 feet bgs. The well shall be installed using air-rotary drilling methods and constructed using schedule 40 polyvinyl chloride (PVC) materials with screen installed from a depth of 3 to 23 feet bgs.
- Complete four-inch diameter multi-phase extraction wells MPE-1, MPE-2, and MPE-3 to a depth of 23 feet bgs. The wells shall be installed using air-rotary drilling methods. The wells shall be constructed using schedule 40 PVC materials with the top of the well screens set at a depth of no less than three feet bgs to allow for both air and water to enter the well and to limit potential short circuiting of atmospheric air during pilot testing (Milestone F).
- Complete four-inch diameter groundwater extraction well EW-1 to a depth of 23 feet bgs. The well shall be installed using air-rotary drilling methods and constructed using schedule 40 PVC materials with screen installed from a depth of 3 to 23 feet bgs.
- Each new monitoring, multi-phase extraction, and groundwater extraction well shall be developed no sooner than 24 hours following construction. Existing wells MW-1, MW-2, and MW-3R shall also be developed in preparation for the MPE pilot test in Milestone F. The objective of development is to remove fine-grained material from the well/filter pack and provide hydraulic communication between the well screen and surrounding formation. A surge block combined with a water removal mechanism (e.g., air lift or pump) shall be used for development. The surge block shall be raised and lowered over the entire length of the well screen several times concurrent with water removal. Development should be performed for a minimum of 1 hour or until turbidity is measured at less than 10 Nephelometric Turbidity Units (NTUs) in three consecutive discharge water samples, whichever is sooner.
- Bidders shall include in their bid response procedures for well drilling and construction.

The wells shall be completed at the surface in a monitoring well manhole with a water- tight lid, set in concrete flush with the ground surface. A locking, pressure-fit, watertight cap shall be placed on each well to prevent surface water infiltration and to restrict unauthorized access.

A log for each well shall be prepared that includes classification of encountered soils/rock using a standard and consistent classification system procedure (e.g., Modified Burmister or Unified Soil Classification System (USCS)) and construction details. The headspace screening results must be recorded on all logs. The logs shall be prepared under the supervision of a Pennsylvania-licensed Professional Geologist.

Milestone D – Site Survey. Complete a site survey by a Pennsylvania-licensed Professional Land Surveyor. The survey should include the office/garage building, underground utilities

identified during the private utility mark out, existing monitoring wells, new monitoring well, MPE wells, and groundwater extraction well.

The survey shall be referenced to the Pennsylvania State Plane coordinate system with reference to the North American Datum of 1983 (NAD 83) and feature elevations shall be surveyed to a vertical accuracy of 0.01 feet using the North American Vertical Datum (NAVD 88).

The Site survey results shall be documented in a report that is signed and sealed by a Pennsylvania-licensed Land Surveyor that includes the following:

- Scaled map showing surveyed features,
- Tabulated information for monitoring, MPE, and groundwater extraction wells (top of well casing and ground surface elevations and geographic coordinates (northings and eastings)), and
- References to datums used for the survey.

Milestone E – Groundwater Monitoring and Sampling. Perform two (2) rounds of groundwater monitoring and sampling, an initial event and second confirmatory event. The initial event (Milestone E1) includes the new Milestone C monitoring, MPE, and groundwater extraction wells and shall be completed no sooner than two weeks following development. The second event (Milestone E2) is to include existing monitoring wells MW-1, MW-6, and MW-10 and new monitoring, MPE, and groundwater extraction wells and shall be completed no sooner than four weeks following the initial event. The second event shall be completed so it occurs during the calendar quarter following the most recent quarterly groundwater sampling event performed by the consultant retained by the claimant prior to the execution of the Remediation Agreement associated with this RFB.

During each event, the depth to groundwater and SPL thickness (if present) in all site wells shall be gauged (measured) prior to purging for sampling. If a measurable thickness of SPL is present in a well, it shall be removed, and the volume removed measured and recorded for each well under prior to the collection of a groundwater sample.

The monitoring, MPE, and groundwater extraction wells shall be purged using a low-flow method and sampled in general accordance with the Groundwater Monitoring Guidance document, included as Appendix A to the PADEP's TGM. Field parameters to be measured and recorded at each well during purging shall consist of pH, temperature, specific conductance, dissolved oxygen, and oxidation/reduction potential. Groundwater and quality assurance/quality control (QA/QC) samples shall be collected in laboratory-provided containers and analyzed by a PADEP-accredited laboratory using appropriate analytical methods and detection levels for the substances listed in the COC section of this RFB.

Bidders are required to provide in their bid response document the following:

- Purging and sampling methods,

- QA/QC sample collection protocols, and
- Laboratory analysis methods.

Milestone F – Multi-phase Extraction (MPE) Remedial Pilot Testing and Extraction Well (EW) Hydraulic Testing. The scope of testing includes the following:

- 24-hour MPE test on MPE-1 concurrent with hydraulic testing of EW-1.
- 8-hour MPE test on MPE-2 and MPE-3 (concurrently) immediately following completion of the 24-hour test on MPE-1 and EW-1.

The primary purpose of groundwater extraction well EW-1 is to dewater the remedial excavation backfill and tank pit areas to promote more efficient soil dewatering so the MPE system can access the smear zone during the duration of testing. For purposes of this RFB, MPE is defined as using a single vacuum pump to extract water, vapor, and SPL (if present) through a 1.5-inch diameter drop (stinger) tube installed within six-inches of the bottom of the well and inserted into the four-inch diameter MPE wells. The MPE testing shall be conducted with a minimum 15 horsepower (HP) rotary claw or rotary lobe blower cable of generating a minimum air flow of 100 actual cubic feet per minute (acfm) for each well tested; the system should have an operating vacuum of at least 20-inches of mercury (Hg). Because wells MPE-2 and MPE-3 will be tested concurrently, the blower must have the capability to generate a minimum of 200 acfm. The groundwater extraction well pump (placed in EW-1) shall be sized to generate up to 5 gallons per minute (gpm) when set at a depth of approximately 21 feet. Use of a vacuum truck to perform any part of this testing is not acceptable.

Objectives of pilot testing are to obtain data for use in the design of full-scale MPE and EW systems, given favorable pilot test results as follows:

- Determine water extraction rate to draw groundwater below the smear zone in MPE wells and adjoining monitoring wells. The smear zone is considered the maximum fluctuation of water levels outside the source area and determined by FID measurements from characterization activities within and adjacent to the source area,
- Determine maximum applied blower vacuum and air-flow rate to maximize vapor and water removal,
- Measure and report the air-flow rate on the discharge side of the blower,
- Obtain vapor influent hydrocarbon concentrations (using laboratory analysis from Tedlar® bag air samples) and mass removal rate (using field FID measurements),
- Determine water level drawdown in wells MPE-1, MPE-2, and MPE-3 and site monitoring wells during MPE testing (MW-1 through MW-14),
- Determine water level drawdown in EW-1 and site monitoring wells during EW-1 hydraulic testing (MW-1 through MW-14),
- Determine sustainable groundwater yield after 24-hours of hydraulic testing in EW-1,
- Determine mass removal rate in extracted groundwater,

- Obtain stinger tube and casing vacuum measurements at extraction wells (the target operating casing vacuum in MPE wells tested is 8-10 inches of Hg, or more),
- Determine vacuum response in site monitoring wells during MPE testing (MW-1 through MW-14),
- Quantify the vapor radius of influence (ROI) - defined in this RFB as an arbitrary 1-inch of water column vacuum at the end of the 24- and 8-hour tests,
- Determine steady-state groundwater extraction rate required to expose the smear zone to air in the MPE and surrounding wells,
- Obtain the physical chemistry of the groundwater (dissolved oxygen, pH, specific conductance, temperature, total suspended solids (TSS), total/dissolved iron and manganese, and turbidity),
- Estimate SPL extraction rates and determine whether SPL separation is necessary,
- Estimate carbon usage for vapor and liquid-phase treatment,
- Determine potential future extraction well spacing, and
- Determine if a thermal/catalytic oxidizer is required for vapor treatment.

Bidders shall include in their bid response for pilot testing the following:

- Process and instrumentation diagram (P&ID) of the pilot test equipment set-up. The P&ID should indicate locations and sizes/types of piping, moisture/vapor separation tank, blower, liquid containment tank, vapor treatment, sampling locations (vapor and liquid), meters, gauges, and electrical/controls instrumentation. Individual piping runs from each extraction well (home run piping), shall be used so that air/water flow and mass recovery can be determined on an individual MPE/extraction well basis. In addition, the P&ID should identify instrumentation used to measure vacuum, pressure, flow, and temperature.
- Information on subcontracted pilot test services and/or equipment, if proposed.
- Power source and power source requirements for testing equipment.
- Specification for pilot test blower (manufacture, type/model, motor size, and performance curves for vacuum operation).
- Description of pilot test equipment enclosure.
- Permit requirements and a scope/schedule for obtaining regulatory approval. This shall include determining whether an air quality request for determination (RFD) is required to be submitted to the PADEP southwest regional office for pilot testing. Cost for RFD effort, if required, are to be included in Optional Milestone R.
- Specification for vapor-phase carbon treatment (e.g., carbon type and amount), if required.
- Copies of field data sheets for documenting testing results.
- Health and safety procedures.
- Monitoring and sampling procedures that include the following:
    - <u>Procedures for monitoring well vacuum and water level monitoring.</u> Use of pressure transducers can lead to erroneous results under vacuum conditions and are not to be used. Therefore, monitoring wells should be sealed (capped) between gauging events for vacuum to be maintained. Vacuum measurements shall be obtained using a

portable mechanical vacuum gauge from a fitting/control valve or a fixed (dedicated) vacuum gauge installed on the top of the well cap. Water levels shall be measured manually. Although some water level fluctuation may occur when the well cap is temporarily removed for measuring, the rate of water level change should be sufficiently slow to allow for adequate water level measurements.

- Procedure for measuring air flow rates. Air flow rates must be measured after the knockout tank and on the discharge side of the blower (any make-up air used must be accounted for in air flow and mass removal calculations) and corrected for vacuum, pressure, and temperature. Redundant air-flow measurement methods are required to ensure precision. A pitot tube, venturi, or orifice plate should be used as one air-flow measurement method.
- Method and equipment for field measurements of hydrocarbon levels in extracted vapor samples collected at regular intervals throughout the testing of each MPE well to calculate mass removal rates. Measurements must be collected using an FID (note: pilot test mass removal rates from vapor are calculated from field measurement data, not laboratory data).
- Method and equipment for measuring the volume of groundwater removed from each MPE and groundwater extraction well to calculate extraction rate in gpm.
- Procedure for groundwater and vapor sample collection and analysis. Samples shall be collected from MPE-1 and EW-1 at the start, middle, and end of the 24-hour test. During the subsequent 8-hour testing, samples shall be collected from MPE-2 and MPE-3 at the beginning and end of the test. Groundwater samples shall be collected from the wells if SPL is present and following its removal. Samples shall be collected in laboratory-provided containers and analyzed by a PADEP-accredited laboratory using appropriate analytical methods and detection levels for the substances listed in the COC section of this RFB. In addition, analyze groundwater samples collected from EW-1 and MPE-1 at the end of the testing for dissolved oxygen, pH, specific conductance, temperature, total suspended solids (TSS), total/dissolved iron and manganese, and turbidity.
- Procedures for IDW management and disposal in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives as follows:
  - Groundwater containment and disposal. For the purposes of this RFB, bidders shall assume 12,000 gallons of groundwater will be generated during testing.
  - Disposal of vapor-phase carbon if treatment of extracted vapors during testing is required.
  - SPL containment (e.g., oil water separator) and disposal. For the purposes of this RFB, bidders shall assume 20 gallons of SPL will be generated during testing.

Milestone G – Preparation of Remedial Action Progress Report. Prepare a RAPR presenting data and results generated during the completion of Milestones A through F. The RAPR shall include the following:

- Comprehensive well gauging data,
- Comprehensive soil and groundwater quality results,
- Groundwater elevation contour maps and discussion of groundwater flow,
- Time versus concentration graphs for wells with COC concentrations in groundwater samples that exceed the PADEP nonresidential used aquifer MSCs,
- Iso-concentration maps for the substances that exceed the PADEP nonresidential used aquifer MSCs,
- Laboratory reports, chains of custody forms, and field sampling documentation,
- Geologic, construction, and development logs for the wells installed in Milestone C,
- Pilot test procedures, data evaluation, and results presented in text, tables, graphs, and figures,
- Recommendations regarding whether MPE is a feasible and cost-effective remedial technology for this Site, and
- Design criteria for full-scale MPE developed from pilot testing given favorable results.

The RAPR shall be prepared in draft form for review and comment by the Solicitor and the PAUSTIF. The draft RAPR shall be provided within 60 days following the completion of Milestones A through F. The timeframe for the completion of the RAPR shall provide two weeks for the Solicitor's and PAUSTIF's review and the selected consultant shall address comments received from the Solicitor and the PAUSTIF before submission of the RAPR to PADEP. The RAPR shall be signed and sealed by a Pennsylvania-licensed Professional Geologist and a Professional Engineer (if applicable).

Milestone H – Preparation of Revised Remedial Action Plan (RAP). Prepare and submit a revised RAP to PADEP with the elements in 25 Pa. Code § 245.311 that include but is not limited to, implementation of MPE to attain the SHS for soil and groundwater at the site. Revised RAP preparation under this Milestone is contingent upon the bidder successfully demonstrating MPE is feasible, cost effective, and performance of the Milestone has been agreed to by the Solicitor and PAUSTIF.

The revised RAP shall be prepared in draft form for review and comment by the Solicitor and the PAUSTIF. The draft revised RAP shall be provided within 60 days following the completion of the RAPR in Milestone G. The timeframe for the completion of the revised RAP shall provide two weeks for the Solicitor's and PAUSTIF's review and the selected consultant shall address comments received from the Solicitor and the PAUSTIF before submission of the revised RAP to PADEP. The revised RAP shall be signed and sealed by a Pennsylvania-licensed Professional Geologist and a Professional Engineer (if applicable).

The cost for Milestone H will be reimbursed as follows:

- **Milestone H1** – Revised RAP submittal to PADEP: 75% of Milestone H.
- **Milestone H2** – Revised RAP approval by PADEP: 25% of Milestone H.

Optional Milestones

All bidders shall provide the cost for each Optional Milestone included in this SOW in Attachment 4. The cost for each Optional Milestone shall include, but not be limited to, mobilizations, subcontracts, labor, equipment, expenses, and waste handling/disposal. The activation of Optional Milestones requires the prior approval from the Solicitor and PAUSTIF (for funding).

Optional Milestone I – Soil Sampling. Collection and laboratory analysis of one soil sample during well drilling in laboratory-provided containers and analyzed by a PADEP-accredited laboratory using appropriate analytical methods and detection levels for the substances listed in the COC section of this RFB. This cost will be used to modify the reimbursement for Milestone C and Optional Milestones J, K, and L in the event more or less than two soil samples are collected during drilling of a well.

Optional Milestone J - Installation of Additional Monitoring Well. Pre-clear, drill, sample soil, construct, and develop one additional monitoring well following the SOW in Milestone C as follows:

- **Optional Milestone J1** – Install one additional monitoring well during a separate mobilization event.
- **Optional Milestone J2** – Install one additional monitoring well as an add-on to Milestone C or Optional Milestone J1 where mobilization cost has already been included.
- **Optional Milestone J3** – Provide a per-foot cost to modify the reimbursement for installation of a monitoring well accounted for by Milestone C or Optional Milestones J1 and J2 if a well is advanced shallower or deeper than then the prescribed depth of 23 feet bgs.

Optional Milestone K - Installation of Additional MPE Well. Pre-clear, drill, sample soil, construct, and develop one additional MPE well following the SOW in Milestone C as follows:

- **Optional Milestone K1** – Install one additional MPE well during a separate mobilization event.
- **Optional Milestone K2** – Install one additional MPE well as an add-on to Milestone C or Optional Milestone K1 where mobilization cost has already been included.
- **Optional Milestone K3** – Provide a per-foot cost to modify the reimbursement for installation of a MPE well accounted for by Milestone C or Optional Milestones K1 and K2 if a well is advanced shallower or deeper than then the prescribed depth of 23 feet bgs.

Optional Milestone L - Installation of Additional Groundwater Extraction well. Pre-clear, drill, sample soil, construct, and develop one additional groundwater extraction well following the SOW in Milestone C as follows:

- **Optional Milestone L1** – Install one additional groundwater extraction well during a separate mobilization event.
- **Optional Milestone L2** – Install one additional groundwater extraction well as an add-on to Milestone C or Optional Milestone L1 where mobilization cost has already been included.
- **Optional Milestone L3** – Provide a per-foot cost to modify the reimbursement for installation of a groundwater extraction well accounted for by Milestone C or Optional Milestones L1 and L2 if a well is advanced shallower or deeper than then the prescribed depth of 23 feet bgs.

Optional Milestone M - Update Site Survey. Update site survey to include Optional Milestone Wells J, K, and L following the SOW in Milestone D.

Optional Milestone N – Additional Groundwater Monitoring and Sampling. Perform additional groundwater monitoring and sampling in accordance with the SOW in Milestone E as follows:

- **Optional Milestone N1** – Complete one round of water level measurements from all site monitoring, MPE, and groundwater extraction wells and one sampling event from all Site monitoring wells (MW-1 through MW-14) for the substances listed in the COC section of this RFB consistent with the procedures described in Milestone E.
- **Optional Milestone N2** – Complete one round of water level measurements from all site monitoring, MPE, and groundwater extraction wells and sample MW-1, MW-6, and MW-10 for the substances listed in the COC section of this RFB consistent with the procedures described in Milestone E.
- **Optional Milestone N3** – Complete sampling of one monitoring well for the substances listed in the COC section of this RFB as an add-on to a Milestone or Optional Milestone where mobilization cost has already been included.
- **Optional Milestone N4** – Complete sampling of one MPE well for the substances listed in the COC section of this RFB as an add-on to a Milestone or Optional Milestone where mobilization cost has already been included.
- **Optional Milestone N5** – Complete sampling of one groundwater extraction well for the substances listed in the COC section of this RFB as an add-on to a Milestone or Optional Milestone where mobilization cost has already been included.

Optional Milestone O - Monitoring Well Repairs. Complete monitoring, MPE, and/or groundwater extraction well surface completion repairs as indicated below. PAUSTIF reimbursement of well repair costs are considered on a case by case basis. Prior approval (for reimbursement) shall be requested and should include documentation of the necessity of well repair, how the well was damaged (if known) and photos of the damaged well.

- **Optional Milestone O1** – Minor repair of a well surface completion that includes the costs to replace manhole lid bolts, manhole lid O-ring, lockable monitoring well “J” plug, and

lock. Assume the minor repair will be completed as an add-on to a Milestone or Optional Milestone where mobilization cost has already been included.

- **Optional Milestone O2** – Major repair of a well surface completion that includes the costs to remove, dispose of, and replace the concrete pad and manhole, and the replacement of the "J" plug and lock. Assume the major repair will be completed as an add-on to a Milestone or Optional Milestone where mobilization cost has already been included.
- **Optional Milestone O3** – Major repair of a well surface completion that includes the costs to remove, dispose of, and replace the concrete pad and manhole, and the replacement of the "J" plug and lock. Assume the major repair will be completed as a stand-alone optional milestone where mobilization cost is included.

Optional Milestone P – Pennsylvania Department of Transportation (PennDOT) Right of Entry (ROE) Agreement. PennDOT previously approved ROE agreements for characterization activities performed along Donahoe Road (State Route 1026). Correspondence related to the agreements (No. 821154 and 821427) is in Attachment 5. A ROE agreement may be required to install MPE wells along Donahoe Road under Milestone C or Optional Milestone K as follows:

- **Optional Milestone P1** – Completion and approval of a new PennDOT ROE agreement.
- **Optional Milestone P2** – Completion and approval of a revised PennDOT ROE agreement.

Do not include the PennDOT security fee in this Optional Milestone's cost. PennDOT security fee is waived on 100% funded PAUSTIF claim sites.

Optional Milestone Q – Traffic Control Measures. Provide traffic control measures if required during the installation of MPE wells along Donahoe Road (State Route 1026) under Milestone C or Optional Milestone K. This cost should also include preparation of traffic control plan.

Optional Milestone R – Air Quality Request for Determination (RFD). Complete and submit air quality RFD and review fee to PADEP for approval prior to performing MPE pilot testing under Milestone F. If required by PADEP, the RFD shall be submitted to PADEP as soon as possible following execution of the Remediation Agreement.

Optional Milestone S – Groundwater, Carbon, and SPL Disposal. Complete disposal of groundwater, carbon, and SPL as an optional milestone to modify reimbursement for Milestone F as follows:

- **Optional Milestone S1** – Disposal cost on a per gallon basis if more or less than 12,000 gallons of impacted groundwater are generated during Milestone F.
- **Optional Milestone S2** – Disposal cost on a per pound basis if vapor-phase carbon proposed by the bidder is not used to treat extracted vapors generated during Milestone F.

- **Optional Milestone S3** – Disposal cost on a per gallon basis if more or less than 20 gallons of SPL are generated during Milestone F.

Optional Milestone T – Preparation of Remedial Action Progress Report (RAPR). Prepare and submit RAPR to PADEP in accordance with Milestone G as follows:

- **Optional Milestone T1** - Monitoring and sampling in support of Optional Milestone N1.
- **Optional Milestone T2** - Monitoring and sampling in support of Optional Milestone N2.

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 2, 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 (for funding consideration). PADEP approval may also be required.

List of Attachments

1. Bid Submission Coversheet
2. Remediation Agreement
3. Required Responses Submission Form
4. Bid Cost Submission Form
5. Site Information/Historic Documents
    a. Figures 1 through 7
        Figure 1 - Site Location Map
        Figure 2 - Site Features Map
        Figure 3 - Site Plan
        Figure 4 - Groundwater Elevation Contour Map February 9, 2021
        Figure 5 - Soil Sample and Pilot Test Well Location Map
        Figure 6 - MTBE Concentrations Monitoring Well Groundwater Samples
        Figure 7 - Pilot Test Well Location Map
    b. Site Characterization – Remedial Action Plan, October 2013
    c. SCR and RAP Approval, January 2014
    d. RAPR for 4th Quarter 2014, January 2015
    e. PennDOT Information
        PennDOT Right of Entry Agreement, June 22, 2012
        Work Plan for PennDOT, March 4, 2019
        PennDOT Approval Letter, August 2, 2019
        Revised Work Plan for PennDOT, October 16, 2019
        PennDOT Approval Letter, December 11, 2019
        PennDOT Approval Letter, May 21, 2020
    f. RAPR for 2nd and 3rd Quarter 2020, October 2020
    g. RAPR for 4th Quarter 2020 and 1st Quarter 2021, April 2021
    h. RAPR for 2nd and 3rd Quarter 2021, October 2021
    i. Logs for Soil Borings and Wells