Request for Bid

Fixed-Price Defined Scope of Work
For Additional Site Characterization

Solicitor

Dave Panasiti
Woodland Food & Fuel, Inc.
2829 Woodland Bigler Highway
Woodland, PA 16881

PADEP Facility ID #: 17-70935 **PAUSTIF Claim #: 2017-0178(I)**

Date of Issuance

August 12, 2019

Table of Contents

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	August 28, 2019 by 5 p.m.
Mandatory Pre-Bid Site Visit	August 29, 2019 at 11:00 a.m.
Deadline to Submit Questions	September 13, 2019 by 5 p.m.
Bid Due Date and Time	October 3, 2019 by 3 p.m.

Contact Information

Technical Contact
Christopher O'Neil, P.G. **Groundwater Sciences Corporation** **2601 Market Place Street, Suite 310** **Harrisburg, PA 17110**

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 **"Woodland Food and Fuel – RFB QUESTION".** Bidders must neither contact nor discuss this RFB with the Solicitor, PAUSTIF, the Pennsylvania Department of Environmental Protection (PADEP), 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.

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 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 "Woodland Food and Fuel – 20170178(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. 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, **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, 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 # 20170178".** 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. 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.

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”.

11. The name and contact information of the person who is to be contacted in the event the bid is selected by the Solicitor and/or a Right to Know request is received by PAUSTIF.

Bid Review and Evaluation

1. Bid Review and Scoring

   Bidders' submissions that are administratively qualified (attend the mandatory pre-bid site meeting, submission of the bid by the designated due date and time) will be evaluated.

   Technical Scoring

   Bids are evaluated for technical viability before cost is considered. Bids that have technical scores that fall within 75% of the highest technical score will advance to cost scoring. Bids with technical scores below 75% 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: $(1-((B-A)/A)) \times C = D$

   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 equal to, or greater than, twice the amount of the lowest bid cost, the formula calculation will result in a negative number and 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 ICF staff, and the TPR who assisted in developing the bid package will score all bids that are administratively qualified based on the above criteria. 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 submitted a qualified bid package 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 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:
Woodland Food and Fuel, Inc.
2829 Woodland Bigler Highway
Woodland, PA 16881

Site Description and Operation History

The Woodland Food and Fuel facility (the "Site") is located along Woodland Bigler Highway at the intersection of Woodland Bigler Highway (State Route 322) and Shawville Highway (State Route 970) in Bradford Township, Clearfield County. A map showing the location of the Site is included as Figure 1 in Attachment 3a.

The Woodland Food and Fuel facility is a combination petroleum dispensing facility, convenience store, and restaurant (Gios' BBQ). The Site has reportedly been used as a petroleum dispensing facility since 1987. The convenience store and restaurant are located within the same building, the only building located on the Site property, located in the southwest corner of the Site property.

The Site consists of two parcels. According to the on-line Clearfield County Mapping application, the main parcel (parcel 1060-N08-000-084.1) is 2.135 acres in size and includes the Site property boundary and the site building while the second parcel (parcel 1060-N08-000-00177), which is located within the confines of the main parcel, is 0.04 acres in size and includes the dispenser island and canopy. The majority of the surface of the western portion of the Site property is covered in pavement and concrete while the majority of the eastern portion of the Site property is covered in gravel.

There are currently four underground storage tanks (USTs), UST 001, 002, 003, and 004 located to the northeast of the Site building. USTs 001, 002, and 003 are used to store unleaded gasoline and UST 004 is used to store kerosene. USTs 001 and 002 are each 8,000-gallons in capacity while USTs 003 and 004 are each 4,000-gallons in capacity. USTs 001, 002, and 003 serve the dispensing islands located northwest of the USTs (north of the Site building) and UST 004 serves the kerosene dispenser located between the Site building and

UST 004. The configuration of the USTs and dispensers is shown on Figure 2 in Attachment 3a.

Surrounding Land Use

The Site is located in the rural community of Woodland and is bound to the north by State Route 322 and to the west and south by State Route 970. The property immediately to the east of the Site property is undeveloped. The properties beyond State Routes 322 and 970 are a mixture of undeveloped, residential, and industrial.

Physiography, Topography, and Regional Geology/Hydrogeology

There is a gentle slope from west to east across the Site property and a steep downward slope along the southern property boundary (towards State Route 970) and beyond. The approximate surface elevation in the vicinity of the USTs on the Site is 1,620 feet above mean sea level (amsl) and the nearest body of water is Roaring Run. Roaring Run is located approximately 1,200 feet to the south/southeast at an elevation of approximately 1,460 feet amsl. Roaring Run flows to the west and is a tributary of Clearfield Creek.

The bedrock beneath the Site is mapped as the Pennsylvanian-aged Allegheny Group. According to the USGS, the Allegheny Group is described as having cyclic sequences of sandstone, shale, limestone, clay, and coal.

Historic Releases

According to reports prepared by Mountain Research, LLC (Mountain) and included as Attachments to this RFB, a Notification of Reportable Release/Notification of Contamination form was submitted on October 8, 1996. The notification documented the discovery of suspected unleaded gasoline contamination during a product piping upgrade near the dispenser islands and the excavation of 40 tons of soil that was “stockpiled on plastic at the site and sampled”.

On October 25, 1996, on behalf of the Site owner, Perry Petroleum Equipment, Ltd submitted an Underground Storage Tank System Closure Report Form that documented the “change-in-service” for USTs 001, 002, and 003. According to the report, product piping was “removed from the ground and replaced with APT double wall piping”. Two soil samples were collected from beneath sections of product piping and one soil sample was collected from the soil stockpile. All three soil samples were analyzed for select volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). The laboratory results for the soil samples collected during the piping upgrade indicated the presence of analyzed substances in two of the three soil samples. There was no USTIF claim filed for this release, the fate of the soil stockpile is unknown, and no other documentation is known to exist for this event.

Nature of Confirmed Releases and Subsequent Corrective Actions

In December 2017, a discrepancy between the volume of super grade unleaded gasoline required to fill UST 003 and sales records was discovered by the Claimant. The Claimant contracted Bolger Brothers (Bolger) to investigate the discrepancy. On December 22, 2017, Bolger reportedly discovered a "failure of the functional element at the top of Tank #003". As a result of the failed component, unleaded gasoline was sprayed into the backfill surrounding the UST. An estimated 1,000 gallons of super grade unleaded gasoline was released below grade and USTF Claim 2017-0178 was filed.

On December 22, 2017, in response to unleaded gasoline odors reported by building occupants, a trench was excavated along the eastern side of the Site building between the sub slab and the tank field. The purpose of the 3-feet deep and 30-feet long trench was to intercept unleaded gasoline vapors by allowing them to short circuit to the surface prior to entering the building. Photoionization Detector (PID) readings obtained by emergency responders from a joint in the concrete slab of the Site building prior to the trench were in excess of 1,000 parts per million vapor (ppmv). The unleaded gasoline odor and PID readings reportedly ceased following the creation of the trench. A subslab vapor mitigation system, which applies a vacuum to the backfill beneath the floor of a stockroom in the southeast corner of the Site building, was installed by Mountain to "further prevent nuisance odors or vapors from entering the building". The approximate location of the mitigation system and trench is shown on Figure 2. During a visit to the Site by GSC on May 2, 2019, the mitigation system was operating.

On January 9, 2018, an exploratory excavation was performed along the eastern edge of the UST field. The approximate location of the exploratory excavation is shown on Figure 2. Suspected contaminated backfill and free product perched in the bottom of the tank field basin was reportedly encountered and an estimated 5 tons of material was removed for off-site disposal.

On January 16 and 17, 2018, two vapor recovery wells (RW-1 and RW-2) were installed to the east and south of the USTs, respectively. The location of RW-1 and RW-2 is shown on Figure 2 in Attachment 3a. Subsequent to their installation, total phase vacuum extraction events were initiated on these wells to recover separate phase liquid (SPL) and vapor.

Between March 2018 and November 2018, 25 soil samples were collected from 18 soil borings (SB-1 through SB-18) and 14 groundwater monitoring wells (MW-1 through MW-9, MW-1BR through MW-5BR) were installed at the Site. The locations of the soil borings and groundwater monitoring wells are shown on Figure 2 in attachment 3a and soil boring logs and groundwater monitoring well logs are presented in the Site Characterization Reports included as attachments 3b and 3c. On June 13, 2018, a Pennsylvania Department of Transportation (PennDOT) Right Of Entry Agreement was executed for the installation of groundwater monitoring wells MW-5 and MW-6. A copy of the Right Of Entry Agreement is included as Attachment 3d. Soil

samples collected from the soil borings and groundwater samples collected from the monitoring wells were analyzed for the substances on the PADEP short list of unleaded gasoline.

As part of the soil boring installation and sampling of SB-6, one geotechnical soil sample was collected from 10-12 fbg to be analyzed for field capacity, density, and bulk density by Geotechnical Testing Services (GTS). According to the report provided by GTS, the Unified Soil Classification System (USCS) description for the soil sample is "Clayey Sand with Gravel".

On November 27 and 28, 2019, falling head and rising head slug tests were performed in monitoring wells MW-2, MW-3BR, and MW-4BR. According to aquifer test data analysis, the hydraulic conductivity of the unconfined shallow aquifer was 0.136 ft/day and the hydraulic conductivity of the confined shallow aquifer was 0.085 ft/day.

On December 11, 2018, a sub-slab soil vapor point (SSVP-1) was installed through the concrete floor of the stockroom inside the Site building and sampled. The location of SSVP-1 is shown on Figure 2. During the sampling event, a duplicate sample was collected from SSVP-1 and a sample was collected from the vapor mitigation system vapor stream.

Two geophysical surveys have been performed at the Site. On March 2, 2018, THG Geophysics, Ltd. (THG) performed a survey of the Site property to confirm the locations of USTs and subsurface utilities. The March 2, 2018 survey included the use of electromagnetic and groundwater penetrating radar techniques. On September 18 and 19, 2018, THG performed an electrical imaging survey and a very low frequency electromagnetic survey to identify fractures and previous excavations at the Site property. The results of the March and September geophysical surveys are included in the December 2018 SCR included as Attachment 3c.

On March 1, 2019, product piping associated with UST 003 failed a line test. On March 14, 2019, the product piping was repaired and a Notification of Reportable Release report was submitted to the PADEP. Based on the "Site drawing" that accompanied the report documenting the piping test results, the repair was made immediately west of the UST 003. The approximate location of the repair is shown on Figure 2 in Attachment 3a. According to the claimant, approximately 300 gallons of unleaded gasoline was released as a result of the leak. Information pertaining to the release identified in March 2019 is included as Attachment 3e and PAUSTIF Claim 2019-0059(I) was reported for this release on April 11, 2019.

Separate Phase Liquid Presence and Recovery

Prior to the March 2019 release, measurable SPL was present in RW-1 and RW-2 once (0.25 inches in RW-1 on January 26, 2018 and 2.00 inches in RW-2 on January 28, 2018) and in MW-4 twice (approximately 0.13 inches on March 13 and 20, 2018). Between January and November 2018, 16 vacuum extraction events were performed at the Site, and approximately 3,600 gallons of water and SPL mixture were reportedly removed.

On March 28, 2019, Mountain measured several feet of SPL in RW-1 and RW-2, and 0.75 inches of SPL in MW-3. The volume and timing of the SPL in RW-1, RW-2, and MW-3, suggests that the source of the SPL is the March 2019 release. Since the discovery of the SPL in March 2019, Mountain has performed interim remedial actions that have included manual bailing, the emplacement of petroleum absorbent socks, and total phase vacuum extractions to remove SPL from these wells.

On June 3, 2019, 2.0 feet of SPL was measured in RW-1, 0.67 feet of SPL was measured in RW-2, and 0.17 feet of SPL was measured in MW-3. A vacuum extraction event, which included RW-1 and RW-2, was performed on June 19, 2019.

Corrective Action Reporting

Since the December 2017 release, Mountain has submitted to the PADEP two Site Characterization Reports (SCRs). The first SCR was submitted on September 19, 2018, and the second SCR was submitted on December 20, 2018. The two SCRs, which describe the work performed in response to the December 2017 release (and summarized above), are included as Attachments 3b and 3c, respectively. The September SCR was disapproved by the PADEP in correspondence dated October 11, 2018, and PADEP acknowledged receipt of the December SCR in correspondence dated January 2, 2019. The December 20, 2018 SCR documents the Non-Residential Used Aquifer (NRUA) Statewide Health Standard (SHS) as the remedial goal for soil and groundwater at the Site. No corrective action reports have been prepared to date in response to the March 2019 release.

Site Geology/Hydrogeology

Well logs and soil boring logs provided in the two SCRs prepared by Mountain and included as attachments to this RFB indicate that the depth to shale bedrock beneath the Site is variable (ranging from 5 fbg (SB-10) to 20 fbg (MW-5BR)). The logs generally describe the overlying material as being silty clay. As discussed above, the soil sample collected from a depth of 10-12 fbg from SB-6, was described by GTS as “Clayey Sand with Gravel”. Coal was reportedly encountered in bedrock at locations.

According to the PADEP Mine Subsidence Insurance Map, the Site property is located in an “Underground Mining Area”, defined as being “over or near a known mined area”. According to mine maps available on the Pennsylvania Mine Map Atlas website, several deep mine-related tunnels existed beneath the Site. A figure showing the “Harrison and Walker Woodland Mine Map”, retrieved from the Pennsylvania Mine Map Atlas website, overlaying a site detail map is include as Figure 3 in Attachment 3a. According to the “Harrison and Walker Woodland Mine Map”, the elevation of the base of coal in the vicinity of the Site ranged from approximately 1,460 to 1,466 feet amsl and the surface elevation ranged from approximately 1,599 to 1,626 feet amsl. The surface elevation of the Site on the topographical map included as Figure 1 in Attachment 3a correlates with the surface elevations documented on the mine map and

suggests that the deep mine-related tunnels were located approximately 130 feet below the Site surface. A cross section of the Site is presented as Figure 4 in Attachment 3a. Included on the cross section for reference are the mining tunnels shown on Figure 3 in Attachment 3a.

Characterization data collected by Mountain indicates the presence of an overburden aquifer in the southern portion of the Site property and bedrock aquifer with a downward vertical gradient that is several times greater than the lateral gradient. The downward vertical gradient can be explained by the mine tunnels beneath the Site draining the bedrock aquifer. Based on construction of the existing groundwater monitoring wells at the Site, Groundwater Sciences Corporation (GSC) prepared three groundwater elevation contour maps for the March 2019 water level measurements collected by Mountain. The figures, presented as Figures 5, 6, and 7 in Attachment 3a, show groundwater elevations and contours for the overburden, shallow bedrock, and deep bedrock, respectively.

Current Site Conditions

All soil, groundwater, and vapor samples collected by Mountain as part of site characterization activities were analyzed for the substances listed on the PADEP unleaded gasoline shortlist.

Based on the soil data collected by Mountain, concentrations of benzene, toluene, and 1,2,4-trimethylbenzene (124TMB) were reported above the NRUA soil-to-groundwater Medium Specific Concentration (MSC). A soil concentration map is included as Figure 8 in Attachment 3a. As shown on Figure 8, concentrations of analyzed substances above the NRUA soil-to-groundwater MSC are not delineated to the southeast, east, and north/northeast of SB-18. It should be noted that no soil samples have been collected from the Site following the March 2019 release. Soil data tables are included in the Site Characterization Reports included as Attachments 3b and 3c.

Based on the groundwater data collected by Mountain, concentrations of benzene, toluene, ethylbenzene, total xylenes, 124TMB, 1,3,5-trimethylbenzene (135TMB), naphthalene, and methyl tert-butyl ether (MTBE) were reported above the NRUA SHS MSC in groundwater samples collected from groundwater monitoring wells at the Site. Dissolved-phase concentration plume maps showing the distribution of benzene, toluene, 124TMB, and 135TMB in the overburden, shallow bedrock, and deep bedrock aquifers for the March 2019 groundwater sampling event are included as Figures 9 through 20 in Attachment 3a. As shown on these figures, dissolved-phase concentrations of analyzed substances above the NRUA SHS MSC are not delineated in the overburden aquifer to the south and to the east/northeast in the shallow and deep bedrock. Groundwater elevation and chemistry data through June 2019 is provided in Tables 2 and 5 in Attachment 3f.

No analyzed substance was detected in the sample collected from the sub-slab sampling point (SSVP-1) installed through the Site building slab. Although the concentrations of all analyzed substances were reportedly below laboratory detection limits, it should be noted that the sample

was collected while the vapor mitigation system was operating. The sub-slab sampling data is included in the December 2018 SCR included as Attachment 3c.

Measurable SPL was present in RW-1 (2.0 feet), RW-2 (0.67 feet), and MW-3 (0.17 feet) June 3, 2019. A vacuum extraction event performed on RW-1 and RW-2, which reportedly removed 257 gallons of water-product mixture and 135 gallons of product, was performed on June 19, 2019. Data tables that provide vacuum extraction event information and product thickness measurements are included as Tables 1 and 3 in Attachment 3f.

Scope of Work (SOW)

This RFB seeks competitive bids from qualified contractors to perform the activities in the SOW specified herein. The RFB was provided to the PADEP for review and comment. The PADEP provided comments on the RFB and those comments were incorporated into the SOW.

Objective

The objective of this RFB is to execute the defined SOW that will gather additional soil quality data, groundwater quality data, and other subsurface information necessary to evaluate Site conditions and allow for the preparation and submission of a complete SCR that successfully characterizes the unleaded gasoline releases that occurred in 2017 (PAUSTIF Claim 2017-0178(I) and 2019 (PAUSTIF Claim 2019-0059(I)).

Following the completion of the SOW specified in this RFB, the remaining corrective action activities necessary for the Solicitor to obtain relief from liability will either be competitively bid or the consultant selected for this RFB may be invited to continue work under a fixed-price contract. The remedial goal for the Site at the time this RFB was published is the Non-Residential Statewide Health Standard for soil and groundwater.

Constituents of Concern (COCs)

The COCs for this Site are the substances identified on the unleaded gasoline parameter short list provided in the PADEP December 15, 2012 Technical Document (technical Guidance Number 263-4500-601) Closure Requirements for Underground Storage Tank Systems. Specifically, the COCs are benzene, toluene, ethylbenzene, xylenes (total), cumene (isopropylbenzene), MTBE, naphthalene, 1,2,4-trimethylbenzene, and 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]

- 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

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

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 bidder shall consider the following site-specific guidelines:

Scheduling

- The selected bidder shall provide a schedule for which each milestone is expected to be completed (i.e., within 30 days from the execution of the Remediation Agreement).
- The selected bidder shall provide a 72-hour notification of all pending on-site work to the Solicitor so that the Solicitor can notify any tenant or occupant of the property so that the tenant or occupant can make the necessary arrangements to allow the selected bidder access to the Site.

Responsibility

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

Milestones Requiring Approval Prior to Initiation

- The SOW contained within this RFB includes optional milestones that may not be reasonable and necessary to perform based on information gathered by the selected bidder upon completion of base scope of work milestones. For this reason, the selected bidder shall be required to obtain approval from the Solicitor and PAUSTIF prior to initiating any of the optional milestones (listed below) and any sub-milestone to the optional milestones. The optional milestones are:

    - Optional Milestone F – Vapor Intrusion Sampling
    - Optional Milestone G – Supplemental Soil Sampling
    - Optional Milestone H – Supplemental Overburden Groundwater Monitoring Well Installation, Survey, and Development
    - Optional Milestone I – Supplemental Shallow Bedrock Groundwater Monitoring Well Installation, Survey, and Development
    - Optional Milestone J – Supplemental Deep Bedrock Groundwater Monitoring Well Installation, Survey, and Development
    - Optional Milestone K – Supplemental Groundwater Sampling
    - Optional Milestone L – Monitoring Well Repairs
    - Optional Milestone M – Off-Site Access
    - Optional Milestone N – Vacuum Extraction Event

BASE SCOPE OF WORK MILESTONES

Milestone A: Professional Land Survey

The purpose of this Milestone is to:

- Identify the boundary of parcel 1060-N08-000-084.1 and the principal features of the parcel.

All bidders are required to provide in Attachment 2 the cost to conduct a professional land survey of the Site. The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, and equipment.

The survey shall be conducted by a Pennsylvania-licensed land surveyor. The survey shall be illustrated on a sealed map and include all principal Site features (including but not limited to: buildings, curbs, manholes, existing groundwater monitoring wells and recovery wells, utility poles, and public utility valves) and the property boundary lines and rights of way.

Milestone B: Soil Boring Installation and Sampling, Groundwater Monitoring Well Installation and Development, and Recovery Well Replacement and Development

The purpose of this Milestone is to:

- Investigate soil and groundwater impacts from the March 2019 release of unleaded gasoline to the west of UST 003,
- Delineate the extent of COCs in soil above the NRUA SHS MSC to the southeast, east, and north/northeast of SB-18,
- Establish a comprehensive overburden, shallow bedrock, and deep bedrock groundwater monitoring well network that delineates the extent of dissolved-phase COCs in the overburden, shallow bedrock, and deep bedrock portions of the aquifer to the NRUA SHS MSC,
- Delineate the extent of SPL on groundwater, and
- Reconstruct recovery wells RW-1 and RW-2 with longer and shallower well screens.

All bidders shall provide in Attachment 2 all reasonable and necessary costs to:

- Over-drill, reconstruct, and develop recovery wells RW-1 and RW-2 with screens that extend from the top of bedrock upward to above the groundwater table,
- Install seven soil borings (SB-19 through SB-25),
- Collect two soil samples each from soil borings (SB-19, SB-23, SB-24, and SB-25),
- Install and develop six overburden groundwater monitoring wells (MW-10 through MW-15) in soil borings SB-19 through SB-23 and SB-25, respectfully,

- Install and develop two shallow bedrock groundwater monitoring wells (MW-12I and MW-15I),
- Install and develop one deep bedrock groundwater monitoring well (MW-15D),
- Survey the locations of the soil borings, and
- Survey the locations and elevations of the groundwater monitoring wells and the newly reconstructed recovery wells.

For the purposes of this RFB, all bidders shall assume that traffic control services and a PennDOT Right Of Entry Agreement will be required prior to the installation of soil borings and groundwater monitoring wells along the southern property boundary (SB-20/MW-11, SB-21/MW-12, MW-12I, SB-22/MW-13, and SB-23/MW-14).

The locations of the proposed soil borings and monitoring wells are shown on Figure 21 in Attachment 3a. The costs included in Attachment 2 for Milestone B shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, and waste handling.

Soil boring SB-19 shall be drilled using direct-push technology while SB-20 through SB-25 shall be drilled using hollow stem augers with split spoons advanced ahead of the augers to the top of competent bedrock. For the purposes of this RFB, all bidders shall assume that competent bedrock will be encountered at 13 fbg.

During the installation of soil borings SB-19, SB-23, SB-24, and SB-25 soil shall be screened at two-foot intervals with a PID (using headspace measurements) and two samples shall be collected from each of the four soil borings in laboratory-provided containers and analyzed by EPA Method 8260B for the substances listed in the COC section of this RFB. From each of the four soil borings, one sample shall be collected from the non-saturated soil interval with highest PID measurement encountered above the overburden/bedrock interface and one sample shall be collected from the overburden/bedrock interface. In the event that no PID measurements above background are encountered, the sampled soil interval will be determined at the discretion of the selected bidder.

The six overburden groundwater monitoring wells (MW-10 through MW-15) shall be constructed of two-inch diameter PVC materials with no more than 10 feet of screen straddling the water table.

The two shallow bedrock groundwater monitoring wells (MW-12I and MW-15I) shall be installed by the selected bidder using air rotary drilling techniques. The shallow bedrock groundwater monitoring wells shall be constructed of two-inch diameter PVC materials with a 10-foot length of screen set exclusively in bedrock. For the purposes of this RFB, all bidders shall assume the shallow bedrock groundwater monitoring well screens will be set from 15 to 25 fbg.

The deep bedrock groundwater monitoring well (MW-14D) shall be installed by the selected bidder using air rotary drilling techniques. The deep bedrock groundwater monitoring well shall be constructed of two-inch diameter PVC materials with a 10-foot length of screen set exclusively in bedrock. For the purposes of this RFB, all bidders shall assume the deep bedrock groundwater monitoring well screen will be set from 55 to 65 fbg.

The two recovery wells (RW-1 and RW-2) shall be constructed of four-inch diameter PVC materials with the screened interval extending from the top of bedrock upward to above the groundwater table (approximately 14 to 5 fbg). All bidders shall assume that measurable separate phase liquid will be present in RW-1 and RW-2 during the drilling and construction of the wells. For this reason, the installation of RW-1 and RW-2 shall be performed after the installation of the monitoring wells to minimize cross contamination.

The selected bidder shall refer to the results of the two geophysical surveys performed by THG in 2018 and other utility mark out procedures (e.g., PA One Call, etc.) and the professional land survey prior to drilling the soil borings and groundwater monitoring wells to avoid subsurface utilities and ensure the monitoring wells are located on the Site property. If any of the prescribed groundwater monitoring well locations are to be modified significantly or the if well construction details vary from the assumptions presented above, the selected bidder shall notify the Solicitor and PAUSTIF with a technical justification to do so before proceeding.

All groundwater monitoring wells and recovery wells shall be completed at the surface with a securable manhole, set in concrete flush with the ground surface. A locking, pressure fit, watertight cap shall be used to prevent the infiltration of surface runoff and rainwater and to restrict unauthorized access.

Continuous geological logs for the soil borings and well logs for the groundwater monitoring wells shall be prepared by a Professional Geologist licensed in the Commonwealth using a standard and consistent classification system procedure (e.g., Modified Burmister or USCS).

The tops of casings of the groundwater monitoring wells and recovery wells shall be vertically and horizontally surveyed by a licensed surveyor to allow for the calculation of groundwater elevations across the Site.

Following the installation of the groundwater monitoring wells, the selected bidder shall develop the new groundwater monitoring wells and recovery wells in accordance with generally-accepted practices as outlined in the Groundwater Monitoring Guidance

document, included as Appendix A to the PADEP's January 19, 2019 Land Recycling Program Technical Guidance Manual (TGM) (Document #261-0300-101).

All bidders shall provide in Attachment 2 the per foot cost to drill the soil borings and to drill and construct the groundwater monitoring wells installed as part of this milestone. The per-foot costs to install soil borings and groundwater monitoring wells should be provided as Optional Milestones G through J. If it is reasonable and necessary to drill any of the soil borings and/or drill and construct any of the groundwater monitoring wells installed as part of this milestone to depths other than those proposed, then the appropriate per-foot cost will be used to modify the reimbursement for Milestone B.

Milestone C: Groundwater Sampling

The purpose of this Milestone is to:

- Collect groundwater levels, SPL thickness measurements (if present), and dissolved-phase COC concentration data from the groundwater water monitoring well network established by Milestone B, and
- Remove SPL (if present).

All bidders shall provide in Attachment 2, the cost to perform two groundwater sampling events at the Site (sampling event #1 and sampling event #2). Sampling event #1 shall include only the groundwater monitoring wells and recovery wells installed as part of Milestone B and sampling event #2 shall be a comprehensive groundwater sampling event that includes all of the groundwater monitoring wells and recovery wells installed at the Site (RW-1, RW-2, MW-1 through MW-15, MW-12I, MW-15I, MW-15D, and MW-1BR through MW-5BR).

Groundwater elevations and SPL thicknesses (if present) shall be collected from each well prior to sampling and each well shall be purged and sampled in general accordance with the Groundwater Monitoring Guidance document, included as Appendix A to the PADEP's January 19, 2019 TGM. In the event that a measurable thickness of SPL is measured in any groundwater monitoring well or recovery well during a groundwater sampling event, the selected bidder shall remove the SPL using a peristaltic pump. For fate and transport analysis purposes, groundwater samples shall be obtained from all groundwater monitoring wells and recovery wells even if SPL is present during the sampling event. Groundwater samples collected from wells that contain SPL shall be done in a manner that minimizes the biases associated with stagnant water and SPL. As discussed in the General Site Background and Description Section of this RFB, SPL has been reported in monitoring wells MW-3 and MW-4 and recovery wells RW-1 and RW-2. For the purposes of this RFB, all bidders shall assume that SPL will be present in groundwater monitoring well MW-3 and recovery wells RW-1 and RW-2.

All bidders shall emplace a petroleum absorbent sock in each well that contained SPL upon completion of the collection of a groundwater sample.

Groundwater sampling event #1 shall occur no sooner than 2 weeks following the completion of Milestone B and sampling event #2 shall be performed no sooner than 2 weeks following sampling event #1.

The selected bidder shall schedule groundwater sampling event #2 such that it occurs during the calendar quarter following the most recent comprehensive quarterly groundwater sampling event performed by the consultant retained by the claimant prior to the execution of the Remediation Agreement associated with this RFB.

The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, and waste handling. All bidders shall provide in Attachment 2 the costs to collect one groundwater sample from a well that does not contain SPL and the cost to perform additional groundwater sampling events (Optional Milestones K). The purpose of Optional Milestone K is to allow for the collection of more or less groundwater samples and/or more or less groundwater sampling events to occur as deemed reasonable and necessary.

All groundwater samples shall be collected in laboratory-provided containers and analyzed by EPA Method 8260B for the substances listed in the COC section of this RFB.

At a minimum, all bidders are required to provide in their bid response document the following:

- A description on how the groundwater monitoring wells will be purged and sampled;
- A description on how SPL removal and disposal will be performed;
- A description on how a representative groundwater sample will be collected from a well that contains measurable SPL; and
- A description on proposed QA/QC samples associated with each groundwater sampling event.

Milestone D: Hydraulic Aquifer Testing and the Collection of Continuous Groundwater Elevation Measurements

The purpose of this Milestone is to:

- Collect aquifer data to support the fate and transport of SPL and dissolved-phase concentrations of COCs at the Site.

All bidders shall provide in Attachment 2, the cost to perform slug testing on three overburden groundwater monitoring wells and the collection of continuous groundwater levels in seven groundwater monitoring wells using submersible pressure transducers.

The slug tests, which shall include a minimum of two rising head and two falling head tests, shall be performed on two occasions in three overburden groundwater monitoring wells (MW-5, MW-12, and MW-15).

The continuous groundwater levels shall be collected from MW-5, MW-12, MW-12I, MW-4BR, MW-15, MW-15I, and MW-15D using submersible pressure transducers set to record measurements at least hourly during the same continuous 30-day period. The pressure transducers shall be set in the wells subsequent to the completion of the slug tests described above.

The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, and waste handling.

The aquifer test data shall be analyzed by a Professional Geologist using standard industry practices and applicable guidance and all bidders shall explain the equipment and methods used as part of completing Milestone B.

Milestone E: Preparation of Site Characterization Report

The purpose of this Milestone is to:

- Prepare and submit to the Pennsylvania Department of Environmental Protection a Site Characterization Report for the unleaded gasoline releases that occurred in 2017 (PAUSTIF Claim 2017-0178(I) and 2019 (PAUSTIF Claim 2019-0059(I)).

All bidders shall provide in Attachment 2, the cost to prepare an SCR. Upon completion of Milestones A, B, C, and D (and any optional milestones approved by the Solicitor and PAUSTIF), the selected bidder shall prepare the SCR in accordance with 25 Pa Code §245.310 and §245.314. The SCR must be a stand-alone document that includes a summary of previous investigations and a detailed site background. The files used in the preparation of this RFB will be made available to the successful bidder. The selected bidder may include by reference previous data in the bidder-prepared SCR. The selected bidder shall prepare the SCR in draft form for review and comment by the Solicitor and the PAUSTIF. The selected bidder's schedule shall provide two weeks for this review. The selected bidder shall address all of the comments received by the Solicitor and the PAUSTIF before submission of the SCR to the PADEP.

Prior to starting the SCR, the selected bidder shall contact the Solicitor to present the characterization data to the Solicitor and discuss all of the remedial standard options for the Site. Following the Solicitor's remedial standard selection, the selected bidder shall prepare the SCR that documents and discusses the data obtained and the conclusions drawn from the completion of the work contained within this RFB.

Tables, figures, and other attachments that support the text shall include but not be limited to the following:

- An evaluation of vapor intrusion performed in accordance with the TGM;
- A receptor survey for potential future remedial actions that include, but is not limited to:
    1. A review of the PA Groundwater Information System (PAGWIS) records available from the PA Topographic and Geologic Survey website. This task shall include plotting all recorded wells within a ½-mile radius of the Site on a scaled map and including a copy of the database records for the search distance in an appendix to the SCR; and
    2. A review of the Pennsylvania Natural Diversity Inventory (PNDI) to evaluate for the presence of special concern species and resources.
- Comprehensive groundwater elevation data in table form;
- Comprehensive groundwater sampling results in table form;
- Comprehensive soil sampling results in table form;
- Comprehensive sub-slab and/or indoor air sampling results in table form (if applicable);
- Scaled figures showing the location of monitoring wells, soil samples, and indoor air and/or vapor samples (if applicable);
- Scaled figures for each round of groundwater elevation data collection showing groundwater elevations, groundwater elevation contours, and inferred direction(s) of groundwater flow;
- Scaled isoconcentration maps for each COC found to be above the applicable MSC for each round of groundwater sampling. Each figure should show COC concentrations in each well and isoconcentration contours;
- Laboratory reports, chains of custody, and field sampling documentation for all media sampled as part of characterization;
- Logs for all soil borings and monitoring wells, including well construction logs;
- Slug test and continuous groundwater elevation monitoring data (including graphs, calculations, etc.);
- An exposure pathway evaluation;
- If necessary, clearly defined additional investigation work proposed for the characterization of the Site.

Option Milestones

Optional Milestone F: Vapor Intrusion Sampling

The purpose of this optional milestone is to allow for the evaluation of vapor intrusion via sub-slab soil gas sampling and/or indoor air sampling if deemed necessary. The activation of Optional Milestones F1, F2, and F3 (described below) will require the prior

approval of the Solicitor and PAUSTIF. The costs associated with Optional Milestones F1, F2, and F3 shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling. All vapor intrusion samples collected as part of this optional milestone shall be analyzed for the substances in the COC Section of this RFB.

Optional Milestone F1 – All bidders shall provide in Attachment 2 the cost to install one sub-slab soil gas sampling point in the Site building and perform one sub-slab soil gas sampling event that includes the existing sub-slab soil gas sampling point (SSVP-1) and the sub-slab soil gas sampling point installed as part of this optional milestone. The soil gas sampling point shall be installed through the concrete slab of the Site building in accordance with Section IV of the TGM at a location determined by the selected bidder based on professional judgement that compliments sampling point SSVP-1.

All bidders are required to provide in their bid response document a description of how the sub-slab soil gas sampling point would be installed and how the two sub-slab soil gas sampling points would be purged and sampled. The QA/QC actions associated with the collection of the sub-slab soil gas samples shall also be described (e.g., pre-sampling survey and chemical inventory, leak testing, duplicate samples, ambient air samples, etc.).

Optional Milestone F2 – All bidders shall provide in Attachment 2 the cost to complete an additional comprehensive sub-slab soil gas sampling event that includes two sub-slab soil gas sampling points. The sub-slab soil gas samples collected as part of Optional Milestone F2 shall be collected and analyzed in accordance with the procedures used to collect the samples in Optional Milestone F1.

Optional Milestone F3 – All bidders shall provide in Attachment 2 the cost to collect two indoor air samples from within the Site building on two separate occasions. Both sampling events shall occur during the heating season and both sampling events shall be separated by at least 45 days. All bidders shall assume that a total of four indoor air samples shall be collected and analyzed as part of this optional milestone.

All bidders are required to provide in their bid response document a description of how the indoor air samples would be collected and the QA/QC actions associated with the collection of the samples (e.g., pre-sampling survey and chemical inventory, outside ambient air samples, etc.).

Optional Milestone G: Supplemental Soil Sampling

The purpose of this optional milestone is to allow for the collection of additional soil data, as deemed necessary, following the completion of Milestone B. The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor,

equipment, and waste handling. The activation of Optional Milestones G1 through G5 (described below) will require the prior approval of the Solicitor and PAUSTIF.

The soil borings described in Optional Milestones G1 and G2 shall be drilled to the top of competent bedrock using direct-push techniques. For the purpose of this RFB, all bidders shall assume that competent bedrock is located at 13 fbg. Soil samples from each soil boring should be screened at two-foot intervals with a PID (using headspace measurements).

Continuous geological logs shall be prepared by Professional Geologist licensed in the Commonwealth for each boring using the same standard and consistent classification system procedure used in Milestone B.

All soil samples shall be collected as part of Optional Milestone G shall be collected in laboratory-provided containers and analyzed by EPA Method 8260B for the substances listed in the COC section of this RFB.

Optional Milestone G1 – All bidders shall provide in Attachment 2 the cost to complete one soil boring with the collection and analysis of one soil sample. The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

Optional Milestone G2 – All bidders shall provide in Attachment 2 the cost to advance an additional soil boring with the collection and analysis of one soil sample as an add-on to Optional Milestone G1 (which accounts for mobilization costs). The costs shall include all subcontractors, labor, equipment, and waste handling.

Optional Milestone G3 – All bidders shall provide in Attachment 2 the cost for the collection and analysis of one soil sample from a soil boring accounted for in Optional Milestones G1 and G2, and Milestone B. The Optional Milestone G3 cost will be used to modify the reimbursement for Optional Milestones G1 and G2 and Milestone B in the event more or less soil samples are collected from these borings.

Optional Milestone G4 – All bidders shall provide in Attachment 2 the cost to advance a direct-push soil boring one foot in a soil boring accounted for in Optional Milestones G1 and G2 and Milestone B. The Optional Milestone G4 per-foot cost will be used to modify the reimbursement for direct-push soil boring costs accounted for by Optional Milestones G1 and G2 and Milestone B in the event direct-push soil borings are advanced shallower or deeper than the proposed depth of 13 fbg.

Optional Milestone G5 – All bidders shall provide in Attachment 2 the cost to advance split spoons two feet in a soil boring accounted for in Milestone B. The Optional

Milestone G5 cost will be used to modify the reimbursement for spilt spoon soil boring costs accounted for by Milestone B in the event split spoon soil borings are advanced shallower or deeper than the proposed depth of 13 fbg.

Optional Milestone H: Supplemental Overburden Groundwater Monitoring Well Installation, Survey, and Development

The purpose of this optional milestone is to allow for the installation, development, and survey of additional overburden groundwater monitoring wells if deemed necessary. For the purposes of this optional milestone, all bidders shall assume that supplemental overburden groundwater monitoring wells will be installed to a total depth of 13 fbg, and constructed of two-inch diameter PVC materials with no more than 10 feet of screen straddling the water table. The activation of Optional Milestones H1, H2, and H3 (described below) will require the prior approval of the Solicitor and PAUSTIF.

Well construction logs and continuous geological logs for supplemental overburden groundwater monitoring wells shall be prepared by a Professional Geologist licensed in the Commonwealth using a standard and consistent classification system procedure (e.g., Modified Burmister or USCS).

Optional Milestone H1 – All bidders shall provide in Attachment 2 the cost to install, survey, and develop one overburden groundwater monitoring well in accordance with Milestone B (including the advancement of split spoons ahead of augers for the collection of soil samples for logging). The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

Optional Milestone H2 – All bidders shall provide in Attachment 2 the cost to install, survey, and develop one additional overburden groundwater monitoring well in accordance with Milestone B (including the advancement of split spoons ahead of augers for the collection of soil samples for logging) as an add-on to Optional Milestone H1 (which accounts for mobilization costs). The costs shall include, but not be limited to, labor, equipment, subcontractors, and waste handling.

Optional Milestone H3 – All bidders shall provide in Attachment 2 the per-foot cost to drill and construct the overburden groundwater monitoring wells specified in Optional Milestones H1 and H2 and Milestone B. The Optional Milestone H3 cost will be used to modify the reimbursement for Optional Milestones H1 and H2 and Milestone B in the event any overburden groundwater monitoring well is drilled and constructed shallower or deeper than the proposed depth of 13 fbg.

Optional Milestone I: Supplemental Shallow Bedrock Groundwater Monitoring Well Installation, Survey, and Development

The purpose of this optional milestone is to allow for the installation, development, and survey of additional shallow bedrock groundwater monitoring wells if deemed necessary. For the purposes of this optional milestone, all bidders shall assume that supplemental shallow bedrock groundwater monitoring wells will be installed to a total depth of 25 fbg, and constructed of two-inch diameter PVC materials with 10 feet of screen set in exclusively in bedrock. The activation of Optional Milestones I1, I2, and I3 (described below) will require the prior approval of the Solicitor and PAUSTIF.

Well construction logs and continuous geological logs for supplemental shallow bedrock groundwater monitoring wells shall be prepared by a Professional Geologist licensed in the Commonwealth using a standard and consistent classification system procedure (e.g., Modified Burmister or USCS).

Optional Milestone I1 – All bidders shall provide in Attachment 2 the cost to install, survey, and develop one shallow bedrock groundwater monitoring well in accordance with Milestone B. The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

Optional Milestone I2 – All bidders shall provide in Attachment 2 the cost to install, survey, and develop one additional shallow bedrock groundwater monitoring well in accordance with Milestone B as an add-on to Optional Milestone I1 (which accounts for mobilization costs). The costs shall include, but not be limited to, labor, equipment, subcontractors, and waste handling.

Optional Milestone I3 – All bidders shall provide in Attachment 2 the per-foot cost to drill and construct the groundwater monitoring wells specified in Optional Milestones I1 and I2 and Milestone B. The Optional Milestone I3 cost will be used to modify the reimbursement for Optional Milestones I1 and I2 and Milestone B in the event any shallow bedrock groundwater monitoring well is drilled and constructed shallower or deeper than the proposed depth of 25 fbg.

Optional Milestone J: Supplemental Deep Bedrock Groundwater Monitoring Well Installation, Survey, and Development

The purpose of this optional milestone is to allow for the installation, development, and survey of additional deep bedrock groundwater monitoring wells if deemed necessary. For the purposes of this optional milestone, all bidders shall assume that supplemental deep bedrock groundwater monitoring wells will be installed to a total depth of 65 fbg, and constructed of two-inch diameter PVC materials with no more than 10 feet of screen set in bedrock. The activation of Optional Milestone J1, J2, and J3 (described below) will require the prior approval of the Solicitor and PAUSTIF.

Well construction logs and continuous geological logs for supplemental deep bedrock groundwater monitoring wells shall be prepared by a Professional Geologist licensed in the Commonwealth using a standard and consistent classification system procedure (e.g., Modified Burmister or USCS).

Optional Milestone J1 – All bidders shall provide in Attachment 2 the cost to install, survey, and develop one deep bedrock groundwater monitoring well in accordance with Milestone B. The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

Optional Milestone J2 – All bidders shall provide in Attachment 2 the cost to install, survey, and develop one additional deep bedrock groundwater monitoring well in accordance with Milestone B as an add-on to Optional Milestone J1 (which accounts for mobilization costs). The costs shall include, but not be limited to, labor, equipment, subcontractors, and waste handling.

Optional Milestone J3 – All bidders shall provide in Attachment 2 the per-foot cost to drill and construct the deep bedrock groundwater monitoring wells specified in Optional Milestones J1 and J2 and Milestone B. The Optional Milestone J3 cost will be used to modify the reimbursement for Optional Milestones J1 and J2 and Milestone B in the event any deep bedrock groundwater monitoring well is drilled and constructed shallower or deeper than the proposed depth of 65 fbg.

Optional Milestone K: Supplemental Groundwater Sampling

The purpose of this optional milestone is to allow for the collection of additional groundwater samples. The activation of Optional Milestones K1, K2, and K3 (described below) will require the prior approval of the Solicitor and PAUSTIF.

Optional Milestone K1 – All bidders shall provide in Attachment 2 the cost to complete one comprehensive groundwater sampling event. The sampling event shall include the gauging, purging, and sampling of groundwater monitoring wells MW-1 through MW-15, MW-12I, MW-15I, MW-15D, and MW-1BR through MW-5BR. The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

Optional Milestone K2 – All bidders shall provide in Attachment 2 the cost to purge and collect one groundwater sample from one groundwater monitoring well with a total depth of less than 35 feet as an add on to another milestone or optional milestone that includes mobilization and should therefore not include mobilization costs. The costs shall include, but not be limited to, labor, equipment, subcontractors, and waste handling and will be used to modify as necessary the reimbursement for other milestones and optional milestones.

Optional Milestone K3 – All bidders shall provide in Attachment 2 the cost to purge and collect one groundwater sample from one groundwater monitoring well with a total depth of greater than 35 feet as an add on to another milestone or optional milestone that includes mobilization and should therefore not include mobilization costs. The costs shall include, but not be limited to, labor, equipment, subcontractors, and waste handling and will be used to modify as necessary the reimbursement for other milestones and optional milestones.

Optional Milestone L: Monitoring Well Repairs

The purpose of this optional milestone is to allow for minor and major monitoring well surface completion repairs.

All bidders are required to provide in Attachment 2, the cost to repair (Optional Milestone L1) and replace (Optional Milestones L2 and L3) one monitoring well surface completion. The activation of Milestones L1, L2, and L3 will require the prior approval of the Solicitor and PAUSTIF.

Optional Milestone L1 – All bidders shall provide in Attachment 2 the cost to perform one minor repair to one existing groundwater monitoring well surface completion. The minor repair shall include the costs associated with replacing the manhole lid bolts, manhole lid o-ring, lockable monitoring well "J" plug, and lock. All bidders shall assume that Optional Milestone L1 can be completed as part of another milestone that accounts for mobilization costs. Costs for Optional Milestone L1 shall include, but not be limited to, labor, equipment, subcontractors, and waste handling.

Optional Milestone L2 – All bidders shall provide in Attachment 2 the cost to perform one major repair to one existing groundwater monitoring well surface completion. The major repair shall include the costs associated to remove, dispose of, and replace the concrete pad and manhole, and the replacement of the "J" plug and lock. All bidders shall assume that Optional Milestone L2 shall be performed as a stand-alone optional milestone; therefore the costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

Optional Milestone L3 – All bidders shall provide in Attachment 2 the cost to perform one major repair to one existing groundwater monitoring well surface completion as an add-on to a milestone or optional milestone that already accounts for mobilization costs. The major repair shall include the costs associated to remove, dispose of, and replace the concrete pad and manhole and the replacement of the "J" plug and lock. Costs for Optional Milestone L3 shall include, but not be limited to, labor, equipment, subcontractors, and waste handling.

Optional Milestone M: Off-Site Access

The purpose of this optional milestone is to allow for access to one or more off-site properties for the delineation of soil and/or groundwater contamination. The activation of Optional Milestone M will require the prior approval of the Solicitor and PAUSTIF.

All bidders shall provide in Attachment 2 the cost to secure a formal access agreement to one property located in the immediate vicinity of the Site and include an example of a blank access agreement. For the purpose of this RFB, all bidders shall assume that the subject property owner(s) will execute an access agreement for the purpose of installation groundwater monitoring wells and/or soil borings.

Optional Milestone N: Vacuum Extraction Event

The purpose of this optional milestone is to allow for the removal of SPL, petroleum contaminated groundwater, and vapor from one or more groundwater monitoring wells or recovery wells via a vacuum extraction event using a vacuum truck. The selected bidder shall consider activating a vacuum extraction event whenever SPL accumulates in one or more groundwater monitoring well or recovery well. The activation of Optional Milestone N1 and N2 will require the prior approval of the Solicitor and PAUSTIF.

Optional Milestone N1 – All bidders shall provide in Attachment 2 the cost to perform one vacuum extraction event at the Site. The SPL removal event shall include the application of a vacuum to the groundwater monitoring wells and/or recovery wells that contain measurable SPL. Each vacuum extraction event shall be performed for a minimum of 6 hours. The goal for Optional Milestone N1 shall be to maximize the amount of SPL, contaminated groundwater, and soil vapor removed while minimizing the depression of the groundwater table to avoid smearing the SPL. For the purposes of this bid, all bidders shall assume that a minimum of 400 gallons of SPL and petroleum impacted groundwater will be removed during the event. The costs for the vacuum extraction event shall include, but not be limited to, mobilization, labor, equipment, subcontractors, and waste handling.

All bidders shall include in their bid response document a detailed description on how the vacuum extraction event would be performed.

Optional Milestone N2 – All bidders shall provide in Attachment 2 the per-gallon cost for SPL and petroleum impacted groundwater disposal. The Optional Milestone N2 cost will be used to modify the reimbursement for Optional Milestones N1 in the event that more than 400 gallons of SPL and petroleum impacted groundwater is removed during a vacuum extraction event.

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

List of Attachments

1. Remediation Agreement
2. Bid Cost Spreadsheet
3. Site Information/Historic Documents
   a. Figure 1 Site Location Map
      Figure 2 Site Detail Map
      Figure 3 Site Detail Map with Mining Map Overlay and Cross Section Key
      Figure 4 Cross Section A-A'
      Figure 5 Groundwater Elevation Contour Map, Overburden Wells, March 25-26, 2019
      Figure 6 Groundwater Elevation Contour Map, Shallow Bedrock Wells, March 25-26, 2019
      Figure 7 Groundwater Elevation Contour Map, Deep Bedrock Wells, March 25-26, 2019
      Figure 8 Soil Concentration Map
      Figure 9 Benzene Concentration in Groundwater, Overburden Wells, March 25, 2019
      Figure 10 Benzene Concentration in Groundwater, Shallow Bedrock Wells, March 25, 2019
      Figure 11 Benzene Concentration in Groundwater, Deep Bedrock Wells, March 25, 2019
      Figure 12 Toluene Concentration in Groundwater, Overburden Wells, March 25, 2019
      Figure 13 Toluene Concentration in Groundwater, Shallow Bedrock Wells, March 25, 2019
      Figure 14 Toluene Concentration in Groundwater, Deep Bedrock Wells, March 25, 2019
      Figure 15 124TMB Concentration in Groundwater, Overburden Wells, March 25, 2019
      Figure 16 124TMB Concentration in Groundwater, Shallow Bedrock Wells, March 25, 2019
      Figure 17 124TMB Concentration in Groundwater, Deep Bedrock Wells, March 25, 2019
      Figure 18 135TMB Concentration in Groundwater, Overburden Wells, March 25, 2019
      Figure 19 135TMB Concentration in Groundwater, Shallow Bedrock Wells, March 25, 2019
      Figure 20 135TMB Concentration in Groundwater, Deep Bedrock Wells, March 25, 2019
      Figure 21 Proposed Monitoring Well and Soil Boring Location Map
   b. September 2018 SCR
   c. December 2018 SCR
   d. Right Of Entry Agreement
   e. March 2019 Release Information
   f. Data Tables