COMPETITIVE FIXED-PRICE BID SOLICITATION

REMEDIAL ACTION PLAN DESIGN FINALIZATION, RAP IMPLEMENTATION, ATTAINMENT DEMONSTRATION, REMEDIAL ACTION COMPLETION AND RESTORATION ACTIVITIES

UNITED REFINING KWIK FILL M-90 SITE
1322 SOUTH 2ND STREET
CLEARFIELD, CLEARFIELD COUNTY, PENNSYLVANIA 16830

PADEP FACILITY ID #17-14821
PAUSTIF CLAIM #2008-034(M)

September 7, 2011

This Request for Bid (RFB) Solicitation has been issued by the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF or "Fund") on behalf of the Claimant, United Refining Company, who hereafter is referred to as the Client or Solicitor. In general, this RFB references a scope of work (SOW) for implementing a Revised Remedial Action Plan (RAP) for the current retail gasoline sales facility located at the 1322 South 2nd Street in Clearfield, Pennsylvania (Site). The SOW includes installing a remedial system and operating the system over two years with the goal of cleaning up the contaminated media to meet the Pennsylvania Department of Environmental Protection (PADEP) Act 2 Statewide Health Standard (SHS). Should the RAP remedial approach as finalized under the basic RFB SOW fail to meet SHS closure standards within two years of its start of operation and maintenance, contingency RFB SOW tasks will be implemented to close the Site to Act 2 Site Specific Standards (SSS) incorporating the necessary institutional controls and post-remedial care requirements.

Work elements (tasks) of this solicitation are listed below. Subsequent paragraphs of this Solicitation present the more detailed and defined SOW along with a request for a written approach, schedule, and **firm fixed-price** bid to complete the SOW as follows:

Task 1 – Abandonment of Specific Off-Site Monitoring Wells (Former BMC Property)

Task 2 – Remediation System Final Design and Equipment Purchase / Assembly

Task 3 – Site Installation Work

Task 4 – Final Connections and Start-up / Trouble-Shoot Remediation

Task 5 – Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting

Task 6 – Soil Attainment and Soil Vapor Attainment Sampling

Task 7 – Groundwater Attainment Monitoring

Task 8 – Prepare and Issue the Remedial Action Completion Report

Task 9 – Site Closure / Restoration Activities

Contingency Task 10 – Interim Remediation System Operation and Maintenance and Groundwater Monitoring / Reporting Pending PADEP Approval of Revised RAP for SSS Closure

Contingency Task 11 – Exposure Evaluation and Risk Assessment

Contingency Task 12 – Prepare a Draft and Final Revised SCR / RAP – SSS

Contingency Task 13 – Off-Site Enhanced Bioremediation (If Necessary and Appropriate)

Please note that a bidder's response to this RFB Solicitation Package means it has accepted all the contractual terms and SOW requirements (for example, but not limited to, any report submittal deadlines), including acceptance of the terms of the Access Agreement for the off-Site former BMC property (see Attachment 1), unless explicitly stated to the contrary in the bid response. No proposed changes to the Access Agreement for the off-Site former BMC property will be considered. However, bidders are still expected to describe their approach to completing the SOW in full and in detail.

Should your company elect to respond to this RFB Solicitation, one copy of the signed bid package must be provided directly to Funds' third-party administrator, ICF International (ICFI), at the address and to the attention of the person identified in Section 1, below. In addition to this one hard copy submittal, the complete bid response must be submitted to ICFI electronically (one electronic file in Adobe PDF format) on a compact disk (CD) to be included with the hard copy bid response. ***The outside of the bid response package must be clearly marked and labeled with "Bid – Claim #2008-034(M)***."

Please note that **the bid response (hard copy and digital version) is to be sent only to ICFI** who will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. No bid responses will be opened for review until the due date and time elapses.

The signed bid package (hard copy and electronic copy) sent to ICFI must arrive no later than close of business (5 p.m.) on Friday, October 28, 2011. Please note that if your bid response is not received by ICFI by this due date and time, it will not be considered, i.e., only those bid responses received by the specified due date and time from those bidders who also attended the mandatory pre-bid Site visit (see Section 6) will be considered.

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 (www.insurance.pa.gov). While the Technical Contact will assist ICFI, PAUSTIF, and the Solicitor in evaluating the bid responses, it is up to the Solicitor to select the bidder from those bid responses deemed acceptable to PAUSTIF as reasonable, necessary, and appropriate. The Technical Contact will assist the Solicitor in communicating its choice of the successful bidder, which is anticipated to occur within six (6) weeks after receipt of the bid responses.

1. SOLICITOR AND TECHNICAL CONTACT INFORMATION

ICF International	Solicitor	Technical Contact
Mr. Jerry Hawk ICF International 4000 Vine Street Middletown, PA 17057	Mr. Scott Wonsettler, P.G. Environmental Manager United Refining Company of PA PO Box 688 Warren, PA 16365	Lawrence Martin, P.E. Excalibur Group, LLC 1350 Beverly Road STE 115, PMB 443 McLean, VA 22101 **lmartin@excaliburgrpllc.com**

NOTE: Submitted bid responses are subject to Pennsylvania's Right-to-Know Law.

Please note that there is a single point of contact regarding this RFB Solicitation. All questions regarding this RFB Solicitation and the Site conditions must be directed **in written form only** to the Technical Contact and must be received no later than seven (7) calendar days prior to the due date for the bid response. Bidders must neither contact nor discuss this RFB Solicitation with the Solicitors, PAUSTIF, or ICFI unless approved by the Technical Contact. This RFB Solicitation may be discussed with subcontractors and vendors to the extent required for preparing the bid response. Bidders must also not contact or discuss this RFB Solicitation with PADEP. If a bidder has specific questions it wishes to discuss with PADEP, these questions should be provided to the Technical Contact who will forward them to PADEP, but PADEP may elect not to reply to any questions it receives.

Please note that unless a question can be successfully demonstrated to be proprietary in nature, all submitted questions and responses submitted during and after the pre-bid Site visit will be shared with all bidders on a non-attributable basis. A bidder shall specify any questions it regards as proprietary upon submitting these questions to the Technical Contact. If said question(s) is (are) determined to be non-proprietary by the Solicitor and the Technical Contact, the bidder will be given the option of withdrawing its question(s) before it is answered and a response distributed.

2. SITE LOCATION AND BACKGROUND

Site and background information have been excerpted, paraphrased or inferred from various Site reports and presented below for convenience.

The Kwik Fill M-90 is located on South 2nd Street, approximately 250 feet north of State Route 879 in Clearfield, Pennsylvania. As indicated on the USGS topographic map (USGS topographic map: Clearfield and Glen Richey Quadrangles), the elevation of the Site is approximately 1,110 feet above mean sea level (msl). The Site coordinates are latitude (north) 41" 00' 17" and longitude (west) 78" 27' 20. The Site is situated in a wide river valley approximately 500 feet east of the West Branch of the Susquehanna River (River). The Site and surrounding area are zoned primarily for light commercial. Adjacent properties include an automotive repair business (currently Clearfield Imports [Clearfield]) to the northeast, a heavy machine sales and service company to the north across South 2nd Street (formerly BMC), and

commercial properties to the southwest across State Route 879, and undeveloped land and railroad right-of-way to the southeast

Site History

The Site is currently an active retail gasoline / diesel station, which has two (2) 10,000-gallon and one (1) 8,000-gallon cathodically protected steel underground storage tanks (USTs). The two 10,000-gallon USTs were installed in 1969 and the 8,000-gallon UST was installed in 1974. One 10,000-gallon capacity UST and one (1) 8,000-gallon contain unleaded gasoline and the remaining 10,000-gallon UST (in the middle) contains diesel fuel.

On June 15, 1995, the 10,000-gallon unleaded gasoline UST (#002) failed a tightness test. The PADEP was notified of the failure and subsequently, Mountain Research, Inc. (Mountain) was retained by URC (May 1996) to perform site characterization activities. Groundwater analytical results for the monitoring wells indicated elevated regulated gasoline constituents above their respective Medium-Specific Concentration (MSC) values. In June 1997, soil and groundwater Geoprobe samples were collected on-Site and in the right-of-way of South 2nd Street.

The results of the Geoprobe investigation indicated several soil / groundwater samples contained regulated gasoline constituents above their respective MSC values. Mountain prepared a Remedial Action Plan (RAP) in July 1999 proposing a trailer-mounted oxygen injection system. The PADEP approved the system in January 2000, based on a December 1999 amendment to the July 1999 RAP. In February 2000, system installation was initiated. The system consisted of eight oxygen injection points and small trailer to house any ancillary equipment. On April 12, 2000, the system was activated. The system was active from April 12, 2000 until 1st quarter 2005.

In early 2005, Austin James Associates, Inc. (AJA) was contracted to review the Site history, conduct additional site investigations, and reevaluate the selected remedial technology for the Site. As a result of these investigations, an October 2006 *Supplemental Site Characterization Report & Remedial Action Plan Addendum* was prepared and submitted to PADEP that identified two different source areas:

1. URC Site (Source Area #1) - Benzene and MTBE concentrations in monitoring wells at the source area as well as down-gradient, on the former BMC property.

2. BMC's "Parts Cleaning" –Oil / water Separator Area / UST (Unknown Source Area #2) - The groundwater results indicated the existence of an unknown source of benzene (unrelated to the URC Site) which has impacted the BMC “parts cleaning”, oil / water separator / former UST area. Unknown Source Area #2 is unrelated to this SOW and is identified for informational purposes only.

AJA proposed in their December 2006 *Remedial Action Plan Addendum* the installation of an air sparge / soul vapor extraction (AS/SVE) system to remediate the on-Site and off-Site groundwater. The PADEP approved this plan and an AS/SVE system was installed and became operational on November 6, 2007. This system operated for one year, until November 5, 2007, whereupon it was turned off to start the post-remediation compliance monitoring period. After several quarters of monitoring, the system was restarted on July 2, 2008 in order to

complete further remediation following a rebound of groundwater concentrations. The system operated until the 4th quarter of 2008, at which time the above ground equipment portion was removed from the Site.

In February 2008, a second Notice of Reportable Release (NORR) was filed with PADEP for a suspected leak at the dispenser island. Subsequently, additional soil and groundwater sampling was conducted by AJA at the Site to aid in the delineation of this new source area. In early 2008, Kleinfelder East, Inc. (Kleinfelder) was contracted to complete additional site characterization and pilot testing activities and develop a Supplemental SCR and Revised RAP for the Site.

Kleinfelder installed nine additional soil borings and evaluated soil and groundwater samples from the Site. The Site was tested for several remedial technologies, including monitored natural attenuation (MNA), enhanced in-situ bioremediation (EB), dual phase extraction (DPE), and soil vapor extraction (SVE). Based on the pilot testing and previous remedial work conducted, Kleinfelder recommended and Solicitor agreed with the use of a dual DPE / SVE system for treating on-Site soils and groundwater and EB for treating off-Site groundwater. Based on these recommendations, Solicitor presented a June 2011 *Additional Site Characterization and Remedial Action Plan Addendum* (June 2011 RAP Addendum) to PADEP for approval. The Solicitor's RAP was approved for implementation by PADEP on July 11, 2011.

Regional Geology / Hydrogeology

The study area is located on the Allegheny Plateau in the Pottsville Group. The rocks within this section are primarily composed of cyclic sequences of sedimentary rocks consisting primarily of sandstones, siltstones, shales, red beds, and limestone and thin beds of coal from the Pennsylvanian Period. Near the study area, the dominant sedimentary rock types consist primarily of sandstone and shale characteristic of the Allegheny and Pottsville Groups. The Pottsville Group is characterized by light to dark gray, fine grained to coarsely conglomeritic sandstone. Subordinate amounts of gray shale, siltstone, limestone, coal, and claystone occur within the formation. This group tends to have numerous, well formed joints with wide spacing in the sandstone and close in the shale. These joints are open and situated vertically within the formation.

Shallow hydrogeologic conditions near the study area may be characterized as a one or two component system. The water bearing system is generally comprised of a shallow surficial water-bearing system within the uppermost unconsolidated alluvial deposits and a deeper water-bearing system within the underlying Pottsville Group. When the thickness of the unconsolidated material is limited, a shallow water-bearing system exists within the Pottsville Group alone.

The Pottsville Group is massive in areal extent and is considered a good potential for the development of water. Based on specific capacity data collected from wells penetrating this formation, a median yield may be estimated to be approximately 50 gallons per minute. The sandstone beds have a high to moderate primary porosity. Within the higher yielding wells, water moves through the well-formed, wide spaced joints and fractures. Consequently, total

effective porosity is high. General water quality contained within the Pottsville Group is generally good; however, iron and salt-water (at depth) concentrations may be high in localized areas.

Site-Specific Geology/Hydrogeology: Bedrock
Monitoring wells MW1 through MW6, MW8 through MW27, MWIA, and MW2A were advanced to total depths that ranged from 20 to 23 feet below ground surface (bgs). Bedrock was encountered during the installation of all monitoring wells at 10 to 17 feet bgs. The descriptive Site geology logs are consistent with local and regional geologic interpretations.

Site-Specific Geology/Hydrogeology: Unconsolidated Material
Within the geographic area, the topography exhibits crests, flanks of ridges, and other breaks in topography with steep, stable slopes. The underlying sandstone is highly to moderately resistant to weathering; therefore, the overlying mantle tends to be thin. The study area, however, is in close proximity of the river and is situated on alluvial deposits typically found on the floodplains. These deposits are made up primarily of unconsolidated clay, silt, and gravel. Surface drainage in this material is good. The water table is encountered at relatively shallow depths ranging from approximately 1 to 7 feet bgs across the study area. The unconsolidated material in this area is considered to have a low potential as an aquifer. The material generally cannot provide a sustained yield due to its limited saturated thickness, its low permeability, and/or the heterogeneity of the material.

Site-Specific Hvdrogeology / Shallow Groundwater Movement
Shallow groundwater was observed by Solicitor's consultants within the unconsolidated material at depths ranging between 1.0 feet (MW-6) and 7.0 (MW-20) feet bgs. Based on the data obtained from the liquid level gauging events, the Solicitor's consultants inferred the direction of groundwater flow generally trending to the northeast (across South 2nd Street and the BCM property) towards the West Branch of the Susquehanna River. The average hydraulic gradient across the study area is determined to be approximately 0.023 ft/ft.

Area Water Supply Resources
Solicitor's consultants have found no domestic or private supply wells located within a ½ mile radius of the Site as identified by the "EDR-Radius Map with GeoCheck" (EDR) report. The EDR report identified approximately four (4) wells (a combination of two (2) USGS observation wells and two (2) PA State observation wells) located within a ½ mile radius of the Site. The locations of these wells are shown on the "Physical Setting Source Map" in the EDR report. The nearest domestic supply well is located approximately ¾ mile north of the Site. There are no other domestic supply wells listed within a one-mile radius of the Site. The West Branch of the Susquehanna River is located approximately 300 feet northwest of the Site.

Bidders are directed to the documents on the PAUSTIF website where this RFB is posted for additional Site background information (see Attachment 1 for a list of these documents).[1] **If there is any conflict between the information provided in the RFB and the source documents, the bidder should defer to the information presented in the source documents**. The bidder should review the accompanying historical information carefully; each bidder should base its bid upon its own evaluation of the information provided with this RFB.

[1] The best scanned-in version of each document available to the Technical Contact has been posted on Fund website along with this RFB.

For a bid response to be deemed responsive, the bidder must include and describe its conceptual site model as it pertains to its proposed SOW and the RFB objectives and requirements.

3. OBJECTIVES / SCOPE OF WORK

The Solicitor seeks competitive, fixed-price bids to complete the tasks outlined below. To be deemed responsive, each bid must respond in detail to each of the SOW tasks as well as describe and apply the bidder's conceptual site model interpretation as it pertains to conduct of the proposed SOW. Any modification to the selected consultant's SOW for Tasks 1 through 9 and Contingency Tasks 10 through 13 will require prior written approval by the Solicitor **and PAUSTIF** through its third-party administrator, and may also require PADEP pre-approval.

The selected consultant's approach to completing the SOW shall be in accordance with standard industry practices and all applicable federal, state, and local laws and regulations, PADEP guidance, PADEP directives, and PADEP regulations. This includes, but is not limited to, satisfying the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended), PA Code, Title 25, Chapter 245, and meeting and demonstrating attainment of the standards established under the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and PA Code, Chapter 250 (Administration of Land Recycling Program). All work shall appropriately address and conform with the updates to 25 Pa. Code Chapter 250 that became effective January 8, 2010. The updates include changes to the some regulated substances listed in the Statewide Health Cleanup Standard tables and a requirement to evaluate impacts due to vapor intrusion in accordance with the Department's guidance document titled "*Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard*".

In addition to the SOW tasks specified below, the selected consultant shall also:

- Complete necessary, reasonable, and appropriate project planning and management activities until the SOW specified in the executed Fixed-Price Agreement has been completed. Such activities would be expected to include client communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location, etc.). Project planning and management activities will also include preparing and implementing plans for Health and Safety, Waste Management, Field Sampling/Analysis, and/or other plans that may be required by regulations or that may be necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. Project planning and management shall include identifying and taking appropriate safety precautions to not disturb Site utilities, including, but not limited to, contacting Pennsylvania One Call (dial 811) as required prior to any ground-invasive work.[2] Project

[2] Pennsylvania's Underground Utility Line Protection Law, Act 287 of 1974, as amended by Act 121 of 2008 (the "Act"); OSHA Standard 1926.651 (revised 1990); the Federal Pipeline Safety Act of 1968, as amended, protecting underground liquid (CFR 49 Part 195) and natural gas

management costs shall be included in the fixed-price quoted for Tasks 1 through 9 and Contingency Tasks 10 through 13, as appropriate.

- 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 in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to the Solicitor upon request. Waste disposal costs shall be included in the fixed-price quoted for Tasks 1 through 9 and Contingency Tasks 10 through 13, as appropriate.
- Be responsible for providing the Solicitor and Site owner, with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor and Site operator to ensure that appropriate areas of the property are accessible. Return visits to the Site prompted by a failure to make the necessary logistical arrangements in advance will **not** constitute a change in the selected consultant's SOW or total project cost for Tasks 1 through 9 and Contingency Tasks 10 through 13.
- Be responsible for keeping all Site monitoring wells in good condition, with each well properly sealed and locked in-between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the period of this Fixed-Price Agreement at its expense. Any request for Fund reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

(CFR 49 Part 192.614) pipelines; and the National Electric Safety Code, ANSI C-2 (revised 1997); require anyone who engages in any type of excavation or demolition, (see the Act for definition of excavation), to provide advance notice. In Pennsylvania, the Act requires "*notice in the design or planning phase of every work operation that involves the movement of earth with powered equipment. This notice is not less than 10 nor more than 90 business days before final design approval. In the Construction phase of a work operation involving movement of earth with powered equipment or explosives the notice required is at least 3 business days but not more than 10 business days prior to actual excavation.*" The Pennsylvania One Call website is www.paonecall.org.

Task 1 – Abandonment of Specific Off-Site Monitoring Well Abandonments (Former BMC Property)

a. Abandon nine off-Site monitoring wells per PADEP Groundwater Monitoring Guidance Manual, December 1, 2001. Monitoring wells to be abandoned are identified on Site maps attached to this RFB as MW-11, MW-13, MW-16, MW-18, MW-19, MW-20, MW-24, MW-25 and MW-26. The subject wells are located on the former BMC property. Successful bidder / selected consultant will coordinate access with the property owner per requirements in the attached Access Agreement for the off-Site former BMC property (see Attachment 1). At a minimum, all well casings / screens shall be removed (by over-drilling if necessary). Saturated interval of the boring shall be filled with aggregate material. The unsaturated interval shall be filled with a sealant of sufficient mechanical strength to prevent collapse of the boring. The curb box shall be removed and the surrounding area restored as appropriate to match the adjacent surface material.

b. Monitoring Well Abandonment Reporting: Work and bid pricing for this task shall include all associated documentation required by PADEP or the Solicitor. This includes, but is not limited to: photo-documentation of well abandonment activities, and submitting properly completed well abandonment forms to Pennsylvania Bureau of Topographic and Geologic Survey and PADEP on behalf of the Solicitor. Copies of these photographs and well abandonment forms shall be provided to the Solicitor and USTIF.

Work under this task shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Well abandonment activities will be coordinated with the Solicitor.

The nine off-Site monitoring wells shall be properly abandoned in a manner consistent with PADEP's 2001 *Groundwater Monitoring Guidance Manual*. Prior to abandonment, all wells shall be checked for obstructions that may interfere with any abandonment grouting protocol. If obstructions are found, they shall be removed prior to well abandonment.

All debris and waste materials generated during well abandonment activities shall be properly disposed of in accordance with all applicable laws, regulations, and PADEP guidance, all applicable federal, state, and local laws and regulations, PADEP guidance, PADEP directives, and PADEP regulations.

Task 2 – Remediation System Final Design and Equipment Purchase / Assembly

a. RAP Final Design: Under this task, the successful bidder / selected consultant shall further develop and finalize the remedial system design and specifications presented in the RAP so that the successful bidder is able to install a proper and effective functioning system in fulfillment of the RAP. Design elements to be finalized include, equipment and materials specification, instrumentation / controls, drawings (e.g., P&ID), and permit requirements / plan. Having completed the final design of the RAP remedy, the successful bidder will have responsibility for the design and shall, therefore, be responsible for ensuring that the installed system properly operates as intended by the RAP. By submitting a bid, the bidder agrees that the RAP remedy can be expected to be effective and successfully implemented by adding additional design details and specifications in the final design but without significant or fundamental modifications to the RAP.

In particular, the selected consultant shall further develop and finalize the RAP design for dual phase extraction (DPE) / soil vapor extraction (SVE) to identify specific system components to be installed and monitored in fulfillment of the RAP. The design elements to be finalized include, but are not necessarily limited to, an equipment list (with equipment name, manufacturer, and model number), specifications, P&ID, and applicable permits. The selected consultant shall also be responsible for developing a checklist to be completed by field technicians during operation and maintenance (O&M) visits that will provide key information deemed necessary to continually evaluate remediation performance, permit compliance, and system maintenance. The RAP Final Design documentation (including O&M checklist) shall be submitted to *and approved* by the Solicitor *prior* to the purchase of equipment.

b. Remediation System Equipment Purchase, Assembly, Pre-Shipment Testing, and Delivery / Setting in Place: The DPE and SVE equipment[3] necessary to implement the RAP shall be purchased new and preferably pre-assembled and tested at the equipment vendor factory as a turn-key prefabricated system prior to Site deployment. Under this approach, the purchased equipment is to be fully integrated and tested electrically and mechanically inside a shed[4] (properly insulated with appropriate lighting, and heating & ventilation systems) before being

[3] All equipment purchased under this Fixed-Price Agreement will become the property of the Solicitor. The selected consultant shall be responsible for operating and maintaining the equipment for two years beginning from the date of successful remediation system startup.

[4] The Solicitor distinctly prefers that the remediation system equipment shall be pre-assembled, factory-tested (electrically and mechanically) as much as practical, and integrated within a suitable enclosure prior to drop-shipment to the site. However, if the bidder wishes to propose constructing the shed on-Site and then installing and testing the remediation system equipment, the bidder may propose this approach as an alternative to the requested SOW and identify the cost differential.

shipped to the Site.[5] After delivery and setting in place, final connections shall be made to the electrical service and subsurface piping / conduits installed as part of the Site Preparation Work (see below). Clear and legible copies of all equipment manuals and warranties shall be provided to Solicitor.

Task 3 – Site Installation Work

The selected consultant will need to complete all necessary system installation activities (SOW elements) to install the RAP-specified DPE / SVE system. These activities are expected to include (but not necessarily be limited to) the following:

a. Construction and Operation Permits: The selected consultant shall obtain all necessary construction and operational permits and/ or permit exemptions and post same as required. Solicitor shall be provided copies of all permits / permit exemptions before field construction activities commence. An Injection Permit exemption request letter shall be prepared in accordance with the RAP to meet United States Environmental Protection Agency (USEPA) Underground Injection Control (UIC) program requirements for the EB system.

b. Utility Mark-Out and One-Call Notification: The selected consultant shall complete on-Site mark-out of buried utilities in advance of any drilling or trenching activities. PA One Call notification shall be made and documented prior to drilling or trenching activities.

c. Remediation Well Installations: The selected consultant shall complete the necessary remediation system well installations as specified in the RAP. The RAP provides specifications for the installation of three new wells (PMW-34, PMW-35, and PMW-36) and for the retrofit of five existing wells (MW-1, MW-1A, MW-2, MW-28 and MW-31). As-built well construction diagrams shall be generated, included in the appropriate quarterly RAPR, and provided to the Solicitor upon completing this activity.

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

e. Equipment Pad, Trenching, Subsurface Piping, Mechanical, and Electrical: The selected consultant shall prepare the area where the remediation equipment will be located as specified in the RAP or as otherwise directed by the Solicitor, including, if necessary, construction of a concrete pad. Required and appropriately-sized piping and electrical conduit / wiring shall be trenched and buried below the frost line extending between the remediation equipment location and the recovery wells and discharge location. If concrete or asphalt will be disturbed during trenching operations, they shall be saw-cut prior to excavation to facilitate post-trenching restoration of disturbed areas. Additionally, trenches located around pre-existing electrical or other utility lines must be

[5] The vapor-phase granular activated carbon vessels need not necessarily be contained within the enclosure.

soft-dug in the area of the lines. Buried piping shall be bedded in pea gravel or appropriately sized crushed stone and installed with tracer wire to facilitate locating the subsurface lines after the trenches have been backfilled. Only clean, sorted, and graded backfill shall be utilized. Buried piping shall be tested for integrity and documented before trench backfilling. Wellhead modifications, backfilling, and surface completion shall be as specified in the RAP. Storm sewer tap and connections shall be made in accordance with local authority requirements. Buried piping and conduit stub-ups shall be terminated and secured in the remediation equipment area to facilitate final connections to remediation equipment and winterization of the stub-ups.

f. Waste Management and Disposal: The selected consultant shall be responsible for the disposal of all impacted soils generated by trenching and well drilling activities, as well as waters and derivative wastes generated during the implementation of this work. Transport and disposal fees for all wastes shall be the responsibility of the selected consultant and accounted for in the fixed-price bid. If possible, clean soils may be re-used on-Site in accordance with the Clean Fill Policy. A Wastewater Discharge to the local POTW or an NPDES permit shall be obtained for the discharge of waters from the remediation system. The selected consultant shall be responsible for segregating and containerizing wastes in a manner consistent with PADEP and Solicitor requirements and sampling and analyzing these wastes to characterize and determine appropriate means of disposal. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to Solicitor. All wastes generated during the implementation of this SOW in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

Task 4 – Final Connections and Start-Up / Trouble-Shoot Remediation System

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

b. **Startup / Trouble-Shooting of the Remediation System:** The selected consultant shall start up and demonstrate proper operation of the remediation system equipment. At a minimum, such demonstration shall include documentation that: (a) all below- and above-grade equipment is operational; (b) the design parameters are achievable at the treatment system and at the well heads; (c) all safety and control switches function properly; and (d) the system can operate automatically (without manual intervention). The selected consultant shall provide the Solicitor with startup documentation demonstrating proper operation of the system. To the extent problems are identified during the Site Work Preparation and/or remediation system installation and start-up phases, the selected consultant shall repair these problems and repeat the proper system operation demonstration. The selected consultant shall also verify that the system is operating as designed in the RAP, and if not, shall suggest required modifications to ensure satisfactory operation.

c. **As-Built Drawings.** The selected consultant will provide the Solicitor with as-built drawings for the remediation system in hard copy form upon completion of the successful startup.

Task 5 – Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting

Under this task, bidders shall provide a firm fixed-price to complete the activities described herein.

a. **Remediation System O&M:** The selected consultant shall operate and maintain the remediation system it designed / installed for a period of two years from the date of successful system startup / O&M activities (SOW elements) will be primarily focused on data collection and evaluations to: (1) determine, demonstrate, and document remediation performance; (2) properly maintain the system equipment; and (3) demonstrate compliance with permits and other applicable regulatory requirements. The selected consultant shall submit an O&M Plan to the Solicitor and obtain the Solicitor's approval of this Plan prior to remediation system startup. O&M schedules identified in the June 2011 RAP Addendum are bi-monthly Site visits over the remedial system's lifespan with more frequent visits during the first two months of remedial system operation to ensure proper start-up is maintained. Bidders shall base their bids on this required minimum O&M Site visit frequency.

Performance monitoring shall include data collection and evaluations geared toward evaluating how well the remedial strategy is working and making necessary adjustments to the system operational configuration to optimize system performance. Performance monitoring activities are to include, but not necessarily be limited to, measurements that allow hydraulic and pneumatic area of influence and contaminant mass recovery quantification. The selected consultant shall report quarterly concerning its evaluations of system performance and system optimizations performed (see 4C below).

System maintenance & monitoring shall include monitoring and routine maintenance as specified by the equipment manufacturer(s) to ensure warranties are not voided and the equipment is kept in good working order.[6] Operational time shall be logged by system instrumentation and reported quarterly to the Solicitor (see 4C below). The selected consultant is expected to maintain at least an 85% uptime on the system during each quarter. Repeated failure (two consecutive quarters) to meet this minimum expectation would, at Solicitor's sole discretion, constitute a breach of contract and the Solicitor could chose to terminate the Fixed-Price Agreement.

[6] During the two years of site operations, maintenance, and monitoring subsequent to remediation system startup, the selected consultant, at their own expense including all associated labor, shall be responsible for repairing or replacing equipment that was purchased for the RAP implementation which becomes damaged, destroyed, or defective.

Compliance monitoring shall include the system and Site sampling needed to demonstrate compliance with permits and other applicable regulatory requirements. Documentation of compliance shall be provided to the Solicitor in quarterly reports and in any reports required by permitting agencies (see 4C below).

b. **Enhanced In-Situ Bioremediation (EB) Feasibility / Treatability Study:** The treatability study shall be conducted utilizing off-Site monitoring wells MW-21 and MW-29. MW-29 shall serve as the injection well and MW-21 as the observation well. Baseline measurements of dissolved oxygen (DO), pH, oxidation reduction potential (ORP), PADEP's "short-list" of unleaded gasoline chemicals of concern (COCs), PM-1 enzyme (MTBE) degrader and PHE enzyme (benzene) degrader will be obtained from each well.

   Subsequently, 25 pounds (lbs) of oxygen releasing substance shall be injected as a 20% slurry into MW-29. One month later, 50 gallons of COC-degrader microbial culture (Site-specific or commercially available generic) shall be injected in MW-29.

   At three, six and nine months post oxygen releasing compounds injection, collect measurements of DO, pH, ORP, COCs and enzymes from both MW-21 and MW-29. The baseline and post injection data from these wells shall be reviewed and interpreted to determine what conclusions might be reached on how the injections accelerated natural attenuation of the COCs. If it can be concluded that the injections accelerated natural attenuation of the COCs, the data review shall describe how the injection program could be scaled up to address a larger area if scaling-up should become necessary. The methods, results and conclusions write-up shall be incorporated into the quarterly report produced subsequent to the final round of post-injection response sampling (i.e., nine months after the oxygen releasing compounds injection).

   Note: A Temporary Discharge Request (see form included in Attachment 1) must be submitted to PADEP's North Central Regional Office as well as notifying the USEPA Underground Injection Control Program before the injection can begin (see PADEP July 11, 2011 correspondence approving the revised RAP).

c. **Quarterly Groundwater Monitoring Well Sampling and Analysis:** Groundwater sampling and analysis for constituents of concern shall be performed as specified in PADEP-approved RAP. These data shall be used in conjunction with the remedial system O&M data (see 4A above) to evaluate the performance and effectiveness of the remediation program and system. A groundwater database shall be maintained (in Excel format) that summarizes the historical groundwater monitoring and analytical data associated with each well. Pre- and post-remediation contaminant trends shall be evaluated for each well (see 4C below). The selected consultant shall provide the Solicitor with a copy of the groundwater database upon request. Wells to be monitored during remedial system O&M consist of all 3 on-Site non-remediation monitoring wells (MW-2A, MW-32, and MW-33) and 11 off-Site monitoring wells MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, and MW-30.

d. PADEP Reporting: The selected consultant shall prepare quarterly Remedial Action Progress Reports (RAPRs) to meet the requirements of and to be submitted to PADEP. Each RAPR shall provide the data generated during the reporting period and shall show progress to date toward attainment of the remediation standard(s) indicated in PADEP-approved RAP. Each report shall be complete and concisely organized and shall contain the following elements:

- A summary of Site operations and remedial progress made during the reporting period, including contaminant mass recovery estimates in groundwater and soil vapor, and that addresses whether or not the degree of remedial progress is reasonably "on track" to achieve a timely and cost-effective SHS attainment at the points of compliance.
- Tabulated data collected from the monitored wells documenting the depth to groundwater and thickness of any free product encountered.
- At least one groundwater elevation contour map depicting groundwater flow direction.
- Tabulated historical quantitative groundwater analytical results, including results from the current quarter.
- Current quarter laboratory analytical report(s);
- One Site-wide isoconcentration contour map for each compound detected in any one well above the SHS during the quarter.[7]
- For each well that has exhibited an SHS exceedance during the reporting period, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations. This assessment should specifically address whether or not observed dissolved-phase constituent concentration fluctuations may be related to changing hydrogeologic conditions or whether these fluctuations may be potentially indicative of changed conditions requiring further investigation and/or a possible change in the Site closure strategy.
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends. Each quarter, contaminant concentration trendlines shall be calculated using the previous two-years of analytical data (or data collected after the active remediation has been initiated) to be plotted on an x-y scatter plot with a semi-logarithmic scale. The exponential trendlines shall be projected forward in time to assess the pace of remediation towards attainment of the selected remediation standard(s). Dissolved phase COC concentration vs.

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

time trend graphs for MW-3, MW-9, MW-14, MW-21, MW-29 and MW-30.

- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume and, therefore, whether or not the plume appears to be responding to the remedial action in a manner suggestive of a timely and cost-effective Site closure.
- Evaluation of system performance including contaminant mass recovery quantification and system optimizations performed.
- Operational time shall be logged by system instrumentation and reported in the RAPRs.
- Treatment and disposal documentation for waste generated during the reporting period.
- The O&M Site visit checklists specified in 2A above.
- Demonstration that required Federal, State, and local permits and approvals are being complied with.
- The findings of the EB Feasibility / Treatability Study shall be presented in the first RAPR or, alternatively the first RAPR in which the data are available and all RAPRs thereafter covering periods in which EB data were collected.
- RAPRs shall be signed and sealed by a Professional Engineer / Geologist registered in the Commonwealth of Pennsylvania.

Task 6 - Soil Attainment and Soil Vapor Attainment Sampling

Under this task, bidders shall develop and implement a soil boring program for systematic random soil sampling to demonstrate attainment of the soil SHS. Historical Site characterization data indicate there have been SHS exceedances in soil above the zone of permanent saturation (approximately nine feet). In particular, as shown on Figure 4 of the June 2011 RAP Addendum, the 2008 and 2010 Site soil investigations revealed two areas of soil contamination: Zone A/B and Zone C. The goal of Task 6 is to determine if the soil in these areas has statistically attained SHS following the completion of Site remediation activities (i.e., completion of Task 5 under SHS).[8]

Each bid shall describe in detail their approach at addressing soil attainment and shall assume advancing a total of twelve (12) soil borings for each of the areas per PADEP's guidance of 250.703(c)(d). The intent is to collect soil samples at randomly selected locations / depths within the areas indicated on Figure 4 of the June 2011 RAP Addendum, as can be accomplished safely and without risking damage to any below grade utilities in these areas.

Soil samples from each boring shall be collected from the unsaturated and periodically saturated soils. Soils exceeding SHS have not been identified in Site surface horizon therefore; bidders shall assume the systematic random sampling grids would begin at two feet below

[8] If after seven of the eight scheduled quarterly groundwater monitoring events under Task 5, groundwater SHS standards have not been reached AND if successful demonstration of attainment of SHS for groundwater cannot reasonably be expected within the nine subsequent groundwater monitoring events (one final event under Task 5 and eight subsequent events under Task 7), Task 6 will not be implemented under the Fixed-Price Agreement associated with this RFB.

grade and extend to a depth of nine feet, where permanent saturation begins. Bidders shall assume some borings may need to be completed to 9 feet but others will be much shallower depending on the randomly selected locations on the grids.

The location / depth of the soil samples shall be determined using PADEP's systematic random sampling procedures, assuming one soil sample per boring shall be submitted for laboratory analysis (24 total). Soil samples shall be analyzed for the **pre**-March 2008 PADEP short list of unleaded gasoline parameters (excluding 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene). Appropriate quality assurance/quality control (QA/QC) samples shall also be obtained for laboratory analysis. The soil sampling results shall be analyzed using PADEP's 75%/10x Ad Hoc Rule.

Activities under Task 6 shall also include: (i) contacting the PA One Call System, Inc.; (ii) professional surveying of the soil boring locations and elevations for inclusion on the Site plan; (iii) sealing each boring with bentonite and an asphalt or concrete surface patch after completion; and (iv) managing the drilling and personal protective equipment wastes in accordance with applicable regulations, guidance, and directives. Soil attainment demonstration boring program methods, results, and conclusions shall be detailed in the RACR to be prepared under Task 8.

In addition to contacting PA One Call, bidders shall assume clearing and sampling each boring location to a depth of three feet using a hand auger[9]. Once cleared, each soil boring shall be advanced using direct-push drilling and sampling methods.

Waste Management & Disposal - The successful bidder shall be responsible for coordinating, managing and completing the proper disposal of all impacted soils, waters, and derivative wastes generated during the implementation of this work. The successful bidder shall be responsible for segregating and containerizing wastes in a manner consistent with PADEP and Solicitor requirements and sampling and analyzing these wastes to characterize and determine appropriate means of disposal. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to Solicitor upon request. All wastes generated during the implementation of this SOW in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

Past soil gas sampling has indicated unacceptable levels of petroleum contaminants. Therefore, in addition to the soil attainment sampling described above, bidder shall also obtain two rounds of post-remediation samples from the existing on-Site soil gas monitoring points SG-1 and SG-2, with samples taken at least three months apart. Prior to sampling, the soil vapor points shall be purged of approximately three times their volume of air to obtain representative soil gas. Soil vapor samples will then collected utilizing 6L Summa canisters with sampling rates not to exceed 200 ml/min. Bidders shall base their bids on the required canister

[9] If a generated systematic random sample grid point happens to be located within three feet of grade, the successful bidder may need to modify the utility clearing method. In this case, bidders will need to employ best professional judgment in how to best clear the location while simultaneously ensuring soil sample integrity is preserved and the soil sample is representative.

size, sample flow rates below 200 ml/min and other PADEP guidance on soil gas sampling methodology. The soil vapor samples are to be analyzed for the pre 2008 PADEP "short list" of unleaded gasoline parameters including BTEX, MTBE, naphthalene and cumene by USEPA Method TO-15.
Updates to 25 Pa. Code Chapter 250 that became effective January 8, 2010 include a requirement to evaluate impacts due to vapor intrusion in accordance with the Department's guidance document titled "*Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard*".

Soil vapor sampling methods, results, and conclusions shall be detailed in the Remedial Action Completion Report to be prepared under Task 8.

Task 7 – Groundwater Attainment Monitoring

Under this task, bidders shall provide a firm fixed-price to complete eight quarters of groundwater attainment monitoring and sampling events following the completion of Task 5.[10] The conduct and results of each event shall be documented in quarterly Groundwater Attainment Monitoring Reports. Following remedial system shutdown, the following point of compliance (POC) wells will be sampled quarterly for attainment: five (5) on-Site POCs MW-1, MW-2, MW-28, MW-31, and MW-32 and remediation wells PMW-34, PMW-35, and PMW-36; and eleven (11) off-Site POCs MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, and MW-30.

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

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

Groundwater samples collected during the sampling event shall be analyzed for the **pre**-March 2008 PADEP short-list of unleaded gasoline parameters by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected during each event and analyzed for the same parameters.[11]

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[10] Bidders shall include language in the bid that if groundwater data in the POC wells has been either non-detect or below SHS (or the calculated risk-based SSS) for four consecutive quarters, PADEP will be petitioned to approve a reduction in the number of groundwater attainment sampling events.

[11] Each bidder's approach to implementing Task 7 shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, and other key assumptions affecting the bid price.

The Groundwater Attainment Monitoring Reports describing the sampling methods and results will be provided to PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each Groundwater Attainment Monitoring Report shall contain the following: a) A narrative description of the sampling procedures and results; b) tabulated data from current quarterly and all historical data; c) maps depicting groundwater flow directions and groundwater analytical data; d) discussion of the data to offer an updated assessment as to whether these data are consistent with a stable, shrinking, or expanding plume; and e) shall be sealed by a Professional Geologist or Professional Engineer registered in the Commonwealth of Pennsylvania.

Task 8 - Prepare and Issue the Remedial Action Completion Report

Each bidder shall provide a fixed -price bid for preparing / issuing the RACR. The RACR shall document and discuss the results of Final RAP implementation, present and discuss the results of Tasks 1, 2, and 5; present and discuss the results of Contingency Tasks 10 and 13 (if the Site is ultimately to be close under SSS); present and discuss the selected closure criteria for the Site; present, discuss, and provide proof of soil and groundwater attainment demonstrations (as necessary and appropriate); and request an Act 2 release of liability for the property (Site). The draft RACR developed in accordance with the requirements of Chapter 245 Sections 245.311 and 245.312 and its quality and content shall be sufficient to reasonably expect PADEP approval of the document. The draft RACR shall be issued to the Solicitor and PAUSTIF (through its third-party administrator) before it is submitted in final form to PADEP for its review and comment. The proposed project schedule shall allow for two (2) weeks of review by the Solicitor and PAUSTIF. The Draft RACR shall then be submitted to PADEP for their review and comment. If necessary, PADEP comments will be addressed and a final RACR produced for submittal to PADEP. Once the final RACR is approved by PADEP, Site restoration work (Task 9) shall commence.

Task 9 – Site Closure / Restoration Activities

Under this task, the bidder shall describe and provide a fixed-price bid for properly closing (restoring) the Site, including: removal of the above-grade elements of the remediation system; proper in-place abandonment of monitoring/recovery wells and below-grade remediation system elements consistent with PADEP guidelines; well head removals; removal and proper disposal of any remaining wastes associated with Site remedial or characterization activities, as-needed grading of all ground surface areas that have been disturbed by site characterization or remedial action activities, and in-kind restoration (pavement or vegetation) of all ground surface areas that have been disturbed by site characterization or remedial action activities. The selected consultant shall determine whether the Solicitor wishes to maintain any components of the remedial system (e.g., the shed) before removing it from the property.

Work and bid pricing for this task shall include all associated documentation required by PADEP or the Solicitor. This includes, but is not limited to: daily photo-documentation of all site restoration and well abandonment activities, and submitting properly completed well abandonment forms to Pennsylvania Bureau of Topographic and Geologic Survey and PADEP

on behalf of the Solicitor. Copies of these photographs and well abandonment forms shall be provided to the Solicitor and USTIF.

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

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

All debris and waste materials generated during well abandonment and Site closure (renovation) activities shall be properly disposed of in accordance with all applicable laws, regulations, and PADEP guidance, all applicable federal, state, and local laws and regulations, PADEP guidance, PADEP directives, and PADEP regulations.

CONTINGENCY TASKS

The Solicitor's RAP-specified remediation system will be operated for a total period of two years (24 months). If after seven of the eight scheduled quarterly groundwater monitoring events under Task 5, groundwater SHS standards have not been reached AND if successful demonstration of attainment of SHS for groundwater cannot reasonably be expected within the nine subsequent groundwater monitoring events (one final event under Task 5 and eight subsequent events under Task 7) the selected Consultant shall advise Solicitor and PAUSTIF of this realization (Site condition) at least 60 days before the end of the scheduled two-year O&M period (Task 5). The selected Consultant shall then begin to implement the contingency tasks for a SSS closure, prior to implementing Tasks 7, 8, and 9. In this case, Task 6 will not be implemented under the Fixed-Price Agreement associated with this RFB. In the event that this occurs, the contingency tasks specified below will be implemented for a SSS closure.

Contingency Task 10 – Interim Remediation System Operation and Maintenance and Groundwater Monitoring / Reporting Pending PADEP Approval of Revised RAP for SSS Closure

Following determination of the necessity to seek SSS closure, the remedial system O&M and groundwater monitoring program shall be extended pending PADEP receipt and approval of the Site risk assessment and Revised SCR-RAP specifying SSS closure. During this time, the Remediation System Operation and Maintenance, and Groundwater Monitoring / Reporting activities specified under Task 5 shall continue without interruption until PADEP approval for the Revised SCR-RAP (Contingency Task 12) is received. Once such approval from PADEP is received, operation and maintenance of the remediation system shall be terminated and the

remediation shall be properly system shut-down. Bidders shall provide a quarterly unit cost inclusive of all quarterly costs for this task.

Contingency Task 11 – Exposure Evaluation and Risk Assessment

Should implementation of Tasks 1 through 9 fail to successfully achieve Site closure via SHS and implementation of the contingency tasks become necessary, the successful bidder shall provide a fixed-price cost for performing a subsequent exposure evaluation and risk assessment. This task shall include conducting an exposure pathway analysis to determine complete, partially complete, or incomplete exposure pathways followed by a risk assessment to calculate risk-based numerical Site-specific standards for soils and/or groundwater with respect to any complete exposure pathway that cannot be eliminated by means of environmental covenants or post-remedial care. A residential / commercial well use survey and evaluation of local groundwater ordinances shall also be performed as part of this task, as well as research concerning zoning ordinances, flood zones, and future land use plans for the properties in the area of concern.

The risk assessment shall encompass an evaluation of exposure, toxicity, and human health risk. The identification of exposure pathways for the Site shall be based upon guidance from the American Society for Testing and Materials (ASTM) and the United States Environmental Protection Agency (USEPA), as required by Act 2, Section 250.404. The exposure pathway analysis shall consider these four pathway elements:[12]

- A source and mechanism of release;
- A retention or transport medium (e.g., groundwater);
- A point where a receptor can contact the impacted medium (e.g., a drinking water well); and
- A mechanism (exposure route) by which the receptor contacts the impacted medium (e.g., ingestion).

The chemicals of potential concern (COPCs) shall be those constituents whose concentrations in soil and groundwater do not screen out when compared to the USEPA Region 3 risk-based screening levels, i.e., if constituent concentrations are less than the risk-based screening levels, it is not a COPC.[13] Exposure pathways for the identified COPCs shall then be evaluated to determine if the pathway is complete or can be rendered incomplete through the application of pathway elimination measures, i.e., institutional and/or engineering controls. For any exposure pathways that cannot be eliminated by means of institutional and/or engineering controls, a

[12] All four elements are necessary for an exposure pathway to be deemed complete; otherwise, the pathway is not complete and there is no risk.

[13] Based on discussions with PADEP, constituent concentrations are to be screened against the USEPA Region 3 risk-based screening levels and not against PADEP Statewide Health Standards (SHS). Only those constituents that do not screen out against the risk-based screening levels remain as COPCs for the exposure pathway analysis and/for demonstrating attainment of PADEP SHS or a risk-based numeric Site Specific Standard.

toxicity assessment and risk characterization shall be performed. The determination of whether exposure to a COPC will cause adverse health effects in exposed individuals shall be evaluated based on available toxicity information and regulatory limits, and, if required, risk-based numeric Site-Specific Standards shall be developed.

For carcinogenic substances, cancer slope factors developed by the USEPA shall be used to assess the increased probability of developing cancer following exposure to a chemical. For non-carcinogenic (or systemic) substances, reference doses developed by the USEPA shall be used to estimate potential for adverse effects other than cancer. The COPCs that yield an adverse risk level shall be further evaluated during the risk characterization step, which shall combine the components of exposure (i.e., estimate of intake) and toxicity to estimate potential risk for the completed exposure pathways.

For those COPCs that cannot be screened during pathway analysis, an ecological screening assessment shall be conducted to determine if the Site poses an unacceptable risk to ecological receptors. The screening assessment shall be conducted in accordance with Chapter H of the Pennsylvania Land Recycling Program's Technical Guidance Manual and USEPA Region 3 risk assessment screening criteria insofar as is necessary for determining any potential ecological risk.

For complete exposure pathways which cannot be eliminated through institutional controls and that also may present future unacceptable levels of risk to human health or the environment, a post remedial care plan shall be identified that will enable these potentially excessive risks to be managed.

After completing the exposure analysis & risk assessment, the selected consultant will present its draft findings to the Solicitor and PAUSTIF for review and comment as a separate deliverable. Following this review, the final exposure analysis and risk assessment shall be incorporated into the Revised SCR / RAP.

Contingency Task 12 – Prepare a Draft and Final Revised SCR / RAP - SSS

Upon completing Task 11 described above, the selected consultant shall prepare a Revised SCR / RAP – SSS that: (a) Documents, describes, and evaluates all activities, results, and conclusions associated with Tasks 1 through 11 (as applicable); (b) Incorporates appropriate data and information from previous Site-related documents; and (c) Presents and discusses up-to-date groundwater monitoring data. This Revised SCR / RAP - SSS shall contain all necessary information required under 25 PA Code §§245.311 and 312 and be of sufficient quality and content to reasonably expect PADEP approval. The document shall also:

- Contain all necessary figures, tabulated data, and appendices;
- Reference the selected remedial goal for soil and groundwater (combination SHS and SSS);
- Discuss the recommended Site closure strategy and its viability for achieving the remedial goal within a reasonable time frame;
- Present draft deed restriction language;

- Present a post-remedial care plan (if needed); and
- Present a detailed schedule for implementing the recommended remedial approach,

The quality and content of the Draft SSCR / RAP- SSS should be sufficient to reasonably expect PADEP approval of the document and ready implementation of a feasible and cost-effective remedial solution to close the Site to SSS. The revised SCR- RAP -SSS shall be signed and sealed by a Professional Geologist and Professional Engineer registered in the Commonwealth of Pennsylvania.[14]

Initially, the draft Revised SCR / RAP-SSS shall be submitted to the Solicitor and PAUSTIF for review and comment. Each bidder's project schedule shall provide two (2) weeks for Solicitor and PAUSTIF review of the draft document. The final Revised SCR / RAP -SSS shall address comments received from the Solicitor and PAUSTIF on the draft report before it is submitted to PADEP for its review. The bidder's cost to complete this task shall also include time to address any PADEP comments on the Revised SCR / RAP-SSS.

Contingency Task 13 – Off-Site Enhanced Bioremediation

Should implementation of Tasks 1 through 9 fail to successfully achieve Site closure via SHS and implementation of the contingency tasks become necessary, the successful bidder shall complete EB for the off-Site property as part of the risk-based closure strategy provided that the pilot / feasibility testing completed under Task 5 shows that the technological approach significantly enhances natural attenuation and is cost-effective. In this case, as soon as practical after completing the two years of system operation (Task 5), the Solicitor requires the successful bidder shall inject 25 pounds of oxygen releasing compounds (ORC) as a 20% slurry into each of the off-Site wells that contain MTBE and benzene concentrations in groundwater above SHS. For the purposes of this RFB, bidders shall assume such injections will need to occur in MW-3, MW-7, MW-9, MW-21, MW-29 and MW-30. Once month later, 50 gallons of COC-degrader microbial cultures (PM-1 and PHE enzymes) shall be injected into each of these wells. Monitoring of DO, pH, ORP, COCs and PM-1 and PHE enzymes shall be collected and analyzed initially and then bi-monthly (every other month) until the revised RAP for SSS closure is approved by PADEP. For the purposes of this RFB, bidders shall assume that 4 sets of samples will need to be collected, analyzed and reviewed. The results of this testing and analyses shall be provided in the routine quarterly reporting to PADEP. Should the pilot / feasibility testing completed under Task 5 indicate to Solicitor or PAUSTIF that the EB approach will not significantly enhances natural attenuation or be cost-effective, Contingency Task 13 will not be implemented. Should additional pilot testing, design, and / or alternative implementation scheme for EB be deemed necessary, this will be considered a "Changed Condition" under the Fixed-Price Agreement.

[14] If additional investigative activities are deemed necessary following an evaluation of the results provided from the site characterization tasks defined in this RFB, an Interim Progress Letter will be prepared and submitted to PADEP in lieu of an SCR. The letter will summarize the site characterization methods and results to date along with recommendations and a schedule for completing additional investigation tasks. This potential alternative reporting task would be performed according to the "New Conditions" section of the Fixed-Price Agreement.

Note: As previously stated, a Temporary Discharge Request (see form included in Attachment 1) must be submitted to PADEP's North Central Regional Office as well as notifying the USEPA Underground Injection Control Program before the injection can begin (see PADEP July 11, 2011 correspondence approving the revised RAP).

4. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable, firm, fixed-price, not-to-exceed contract (agreement) for the SOW addressed by Tasks 1 through 9, and Contingency Tasks 10 through 13. A sample Fixed-Price Agreement is included as Attachment 2,[15] and, although Fund will not be a party to this Agreement, Fund will facilitate the process of getting the Fixed-Price Agreement in place.

As noted earlier, **a bidder's response to this RFB Solicitation Package means it has accepted all the contractual terms, including the Access Agreement for the off-Site former BMC property (see Attachment 1), unless explicitly stated to the contrary in its bid response.** Therefore, any requested changes to the Fixed-Price Agreement must be specified in the bid response. No requested changes will be considered for the Access Agreement for the off-Site former BMC property. Please note that these changes will need to be reviewed and agreed upon by both the Solicitor and the PAUSTIF.

Each bid is to identify unit cost rates for labor, other direct costs, and equipment, as well as proposed mark-ups on other direct costs and subcontracted services for all SOW Tasks 1 through 9, and Contingency Tasks 10 through 13. The by-task and by-subtask (e.g., task activities) quotes are to be entered into the Cost Tabulation Spreadsheet / Standardized Bid Format included as Table 2 in Attachment 3 to this RFB. Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable,." i.e., these variable cost items will not be handled outside of the Total Fixed Price quoted for the SOW. Finally, please also note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

Payment Milestones: Table 1 below illustrates the approximate timing expected for completion of respective milestone tasks and milestone payouts assuming SHS standards are met for the site. Table 2 illustrates the approximate timing of tasks if the remediation system cannot reasonably be expected to meet the groundwater, soil and soil gas SHS closure criteria after two years of remediation. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone.

[15] The selected consultant will be provided an electronic copy of the sample Fixed-Price Agreement in Word format to allow contract-specific information to be added.

Payment milestones under the Fixed-Price Agreement shall be broken out as follows:

Milestone A – Task 1 – Abandonment of Specific Off-Site Monitoring Wells (Former BMC Property)

Milestone B – Task 2 – Remediation System Final Design and Equipment Purchase / Assembly

Milestone C – Task 3 – Site Installation Work

Milestone D – Task 4 – Final Connections and Start-up / Trouble-Shoot Remediation System

Milestones E1 to E8 – Task 5 – Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting

Milestone F – Task 6 – Soil Attainment and Soil Vapor Attainment Sampling

Milestones G1 to G8 – Task 7 – Groundwater Attainment Monitoring

Milestone H – Task 8 – Prepare and Issue the Remedial Action Completion Report

Milestone I – Task 9 – Site Closure / Restoration Activities

Milestones J1 to J3 – Contingency Task 10 – Interim Remediation System Operation and Maintenance and Groundwater Monitoring / Reporting Pending PADEP Approval of Revised RAP for SSS Closure

Milestone K – Contingency Task 11 – Exposure Evaluation and Risk Assessment

Milestone L – Contingency Task 12 – Prepare a Draft and Final Revised SCR / RAP – SSS

Milestone M – Contingency Task 13 – Off-Site Enhanced Bioremediation (If Necessary and Appropriate)

TABLE 1
SAMPLE MILESTONE COMPLETION
AND PAYMENT SCHEDULE FOR BASE SOW SHS SITE CLOSURE

Estimated Milestone Timing Month After Fixed-Price Agreement Award	Base SOW Activities Anticipated / Completed for that Month	Milestone[16]
1	Abandonment of Specific Off-Site Monitoring Wells (Former BMC Property)	A
1	Remediation System Final Design and Equipment Purchase / Assembly	B
2	Site Installation Work	C
4	Final Connections and Start-Up / Trouble-shoot Remediation System	D
4	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E1
7	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E2
10	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E3
13	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E4
16	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E5
19	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E6
22	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E7
25	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E8

[16] Each bidder should modify this sample Milestone Completion / Payment Schedule to reflect its proposed task schedule.

Estimated Milestone Timing Month After Fixed-Price Agreement Award	Base SOW Activities Anticipated / Completed for that Month	Milestone[16]
28	Soil Attainment and Soil Vapor Attainment Sampling; Groundwater Attainment Monitoring	F & G1
31	Groundwater Attainment Monitoring	G2
34	Groundwater Attainment Monitoring	G3
37	Groundwater Attainment Monitoring	G4
40	Groundwater Attainment Monitoring	G5
43	Groundwater Attainment Monitoring	G6
46	Groundwater Attainment Monitoring	G7
49	Groundwater Attainment Monitoring	G8
49	Prepare and Issue Draft and Final RACR	H
50	Site Closure / Restoration Activities	I

TABLE 2
SAMPLE MILESTONE COMPLETION AND
PAYMENT SCHEDULE FOR CONTINGENT SSS SITE CLOSURE

Estimated Milestone Timing Month After Fixed-Price Agreement Award	Base SOW Activities Anticipated / Completed for that Month	Milestone[17]
1	Abandonment of Specific Off-Site Monitoring Wells (Former BMC Property)	A
1	Remediation System Final Design and Equipment Purchase / Assembly	B
2	Site Installation Work	C
4	Final Connections and Start-Up / Trouble-Shoot Remediation System	D
4	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E1
7	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E2
10	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E3
13	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E4
16	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E5
19	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E6
22	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E7
25	Remediation System Operation and Maintenance, Enhanced Bioremediation Feasibility / Treatability Study and Groundwater Monitoring / Reporting	E8

[17] Each bidder should modify this sample Milestone Completion / Payment Schedule to reflect its proposed task schedule.

Estimated Milestone Timing Month After Fixed-Price Agreement Award	**Base SOW Activities Anticipated / Completed for that Month**	**Milestone[17]**
28	Interim Remediation System Operation and Maintenance and Groundwater Monitoring / Reporting Pending PADEP Approval of Revised RAP for SSS Closure	J1
30	Exposure Evaluation and Risk Assessment; Off-Site Enhanced Bioremediation (If Necessary and Appropriate)	K & M
31	Interim Remediation System Operation and Maintenance and Groundwater Monitoring / Reporting Pending PADEP Approval of Revised RAP for SSS Closure	J2
32	Prepare a Draft and Final Revised SCR / RAP – SSS	L
34	Interim Remediation System Operation and Maintenance and Groundwater Monitoring / Reporting Pending PADEP Approval of Revised RAP for SSS Closure	J3
37	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G1
40	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G2
43	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G3
46	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G4
49	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G5
52	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G6
55	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G7
58	Groundwater Attainment Monitoring (If Necessary and Appropriate)	G8
60	Prepare and Issue the Remedial Action Completion Report	H

Estimated Milestone Timing Month After Fixed-Price Agreement Award	Base SOW Activities Anticipated / Completed for that Month	Milestone[17]
62	Site Closure / Restoration Activities	I

Please note that the selected consultant's work may be subject to ongoing review by the PAUSTIF or its representatives. In order to facilitate review and reimbursement of submitted invoices by PAUSTIF, project costs shall be invoiced following the task structure specified in the selected bidder's bid response. Tracking incremental and cumulative costs by task will also be required to facilitate invoice review.

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

5. ADDITIONAL BID PACKAGE REQUIREMENTS

Each submitted bid response must include the following:

- A reasonable demonstration that the bidder: (i) understands the objectives of the project, (ii) offers a reasonable approach for achieving those objectives efficiently, and (iii) has reviewed the existing Site information provided in or attached to this RFB Solicitation Package.
- Provide an answer to the following questions regarding the bidder's qualifications and experience:
  - How many Chapter 245/250 sites has your company closed (i.e., obtained a Release of Liability under Act 2) in Pennsylvania?
  - How many Chapter 245/250 sites has your company or the proposed PA-licensed Professional Geologist (P.G.) and Professional Engineer (P.E.) closed (i.e., obtained a Release of Liability from PADEP) under either the SHS and/or the Site Specific Standard? [*NOTE: The Solicitor requires the work described herein to be completed under the responsible care and directly supervised by a P.G. and P.E. consistent with applicable regulations and licensing standards.*]

- Whether there were or were not circumstances consistent with the cancellation provision of a signed contractual agreement, and has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.

- A complete firm fixed-price cost bid for Tasks 1 through 9, and Contingency Tasks 10 through 13 by completing the standardized bid form provided in Attachment 3 (included among the accompanying electronic files) following the SOW task structure specified herein.
- A description and discussion of all level-of-effort and costing assumptions.
- Indicate whether the bidder accepts the proposed contract / terms and conditions or has provided a list of requested changes to the Fixed-Price Agreement (Attachment 2).
- Provide a statement of applicable / pertinent qualifications, including the qualifications of any proposed subcontractors (relevant project descriptions are encouraged).
- Identify the proposed project team and provide resumes for the key project staff, including the proposed Professional Geologist and Professional Engineer of Record who will be responsible for endorsing work products prepared for PADEP review and approval.
- Provide a task-by-task description of the proposed technical approach. **If this task-by-task description fails to address a specific requirement of this RFB, it will be assumed that the bidder has accepted all the requirements specified herein by task.**
- Identify and sufficiently describe subcontractor involvement by task (if any).
- Provide a detailed schedule complete with specific by-month dates for completing the proposed SOW, inclusive of reasonable assumptions regarding the timing and duration of client, PAUSTIF, and PADEP reviews needed to complete the SOW. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule of activities.
- Describe your approach to working with PADEP from project inception to Site closure. Describe how PADEP would be involved proactively in the resolution of technical issues and how PADEP case team will be kept informed as to project status.
- Describe your approach to working with complying with applicable provisions of the Access Agreement for the off-Site former BMC property (see Attachment 1). Describe how current and former property owners will be kept informed as to project status.
- Describe how the Solicitor and ICFI / PAUSTIF will be kept informed as to project progress and developments and how the Solicitor will be informed of, and

participate in, evaluating potential alternatives / tradeoffs with regard to the SOW addressed by Tasks 1 through 9, and Contingency Tasks 10 through 13.

6. MANDATORY PRE-BID SITE VISIT

On **Thursday, September 29, 2011**, the Technical Contact will conduct a ***mandatory pre-bid Site tour*** for a limited number of participants per firm at this property starting at 10:00 AM. Please inform the Technical Contact at least three (3) business days in advance of this date as to the number of participants attending from your firm. Again, **any firm that does not attend this mandatory pre-bid Site tour will not be eligible to submit a bid response.**

Questions will be entertained as part of the pre-bid Site tour and every attempt will be made to answer questions at that time. However, all questions and the responses provided during the Site visit will also be distributed in writing to the attendees after the tour, as will the answers to any non-proprietary questions submitted in writing after the pre-bid Site tour has been concluded. Consequently, bidders are strongly encouraged to ask clarifying questions sufficient to minimize the number of assumptions, special conditions, and exemptions referenced in the submitted bid response.[18] Questions will be accepted up to 7 days before the bid response due date. Again, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions in a bid response may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

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

ATTACHMENT 1

Historical Project Documents (Available Electronic Files)

Filename: (PDF format)	**Document:**
2008-034 19950816_UR-M-90_Tank Testing & MW Install.pdf	Tank Testing & MW Installation Report
2008-034 19950830_UR-M-90_NOV Letter.pdf	Notice of Violation letter
2008-034 19960901_UR-M-90_Subsurface Invest & EIA.pdf	Subsurface Investigation & Environmental Impact Assessment
2008-034 19961017_UR-M-90_SCR Receipt.pdf	PADEP SCR Receipt letter
2008-034 19961022_UR-M-90_SCR Review.pdf	PADEP SCR Review letter
2008-034 19970701_UR-M-90_Summary SCR.pdf	Summary SCR
2008-034 19970924_UR-M-90_PADEP Meeting Letter.pdf	PADEP Meeting Letter
2008-034 19971001_UR-M-90_PADEP Site Access Letter.pdf	PADEP Site Access Letter
2008-034 20000104_UR-M-90_RAP Amend Approval.pf	PADEP RAP Amendment Approval letter
2008-034 20060223_UR-M-90_NOV Letter.pdf	Notice of Violation letter
2008-034 20060314_UR-M-90_SSCR.pdf	Supplemental SCR
2008-034 20060731 Addendum to Supp SCR.pdf	Addendum to Supplemental SCR
2008-034 20061030 Supp Site Char & RAP Addendum.pdf	Supplemental SCR and RAP Addendum
2008-034 20061031_UR-M-90_Req for Operation of SVE-AS.pdf	Request for operation of SVE-AS system letter
2008-034 20061213 RAP Addendum.pdf	RAP Addendum
2008-034 20070103_UR-M-90_SCR-RAP Approval.pdf	SCR / RAP approval letter

2008-034 20070302_UR-M-90_Review of VI Paths & PENTOXSD.pdf	Review of vapor intrusion pathways and PENTOX-SD model results
2008-034 20080226_UR-M-90_NORR.pdf	Notice of Reportable Release letter
2008-034 20081002_UR-M-90_RAPR & Soil Sampling Results.pdf	RAPR & Soil Sampling Results
2008-034 UR M-90 Soils Data	Additional soils data collected by Austin James
2008-034 20110608_UR-M-90_Additional SCR & RAP Addendum.pdf	June 2011 Additional Site Characterization and Remedial Action Plan Addendum
2008-034 20110711_M90 DEP RAPapproval.pdf	2011 PADEP Approval of Revised RAP
2008-034 M90PADEP MWabandapproval.pdf	PADEP's Approval to Abandon AJA Off-Site Wells
2008-034 M90MWAbandLtr.pdf	Arch Street Management request that URC abandon BMC wells MW-11, 13, 16, 18, 19, 20, 24, 24, 26. Requests 24-hour notice.
2008-034 M-90 Final AccessAgreement.pdf	Arch Street Management – URC Agreement for Access to former BMC property
2008-034 TDA Request.pdf	PADEP's Temporary Discharge Notification Form

ATTACHMENT 2

Fixed-Price Agreement

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

ATTACHMENT 3

Standardized Bid Format
(MS Excel Format)