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May 4, 2020

Leonard R. Lepore, PE, Municipal Engineer
Township of West Orange
Director, Department of Public Works, Engineering Division
25 Lakeside Avenue, West Orange, NJ 07052

Re: Revised Proposal for Professional Services - Groundwater Monitoring and Confirmatory Soil Sampling
Lindsley Avenue Bus Garage; 6 Lindsley Avenue
Township of West Orange, Essex County, New Jersey
NJDEP CASE #88-11-10-1526 – PI#014425

Dear Mr. Lepore:

CME Associates (CME) is pleased to submit this proposal to the Township of West Orange (Client) to continue Professional Environmental and Licensed Site Remediation Professional (LSRP) Services at the Lindsley Avenue Bus Garage at 6 Lindsley Avenue in West Orange.

The proposed scope of work is prepared to satisfy the New Jersey Department of Environmental Protection (NJDEP) requirements stated in the Administrative Requirements for Remediation of Contaminated Sites (ARRCS Rule, N.J.A.C. 26:C) and the Technical Requirements for Site Remediation (Tech Rule, N.J.A.C. 7:26E), in accordance with New Jersey's Site Remediation Reform Act (SRRA).

BACKGROUND

Based on the review of the history of product at the Site, it was indicated that localized free-phase product with an apparent thickness ranging from a visual sheen to less than 0.22 feet, has been detected in MW-4, MW-5, MW-12 and MW-13 between December 1997 and August 1998. Generally, since December 1997, the apparent thickness of the free-phase product pockets has decreased to a visual sheen. Free-phase product recovery program, which consisted of pumping free-phase product from these wells, was subsequently implemented.

Localized free-phase product within the overburden water unit has been observed in monitoring well MW-5. The free -phase product observed within MW-5 may have originated from either of the former 2,000-gallon USTs, and appears to have migrated downgradient along the general

groundwater flow directions within the overburden water-bearing unit. It is postulated that historical product discharges from the former USTs combined with the discontinuation or breach of the natural low permeability barrier (organic clay and silt layer) may have created preferential pathways for the free-phase product and dissolved phase to move downward and impact the overburden water-bearing unit at the Site. The findings of the most recent sampling event (August 11th) at Lindsley Ave., approximately half a foot of free product was identified in MW-5, a proposed remedial action is included to address the free-phase product detected recently at MW-5 at the Site.

SCOPE OF SERVICES

Based on the review of existing remediation documents, CME has prepared the following scope of work to comply with the NJDEP Technical Requirements for Site Remediation at the Site and provide the consultation and project management necessary to continue to advance the project towards a closure.

Task 1: Application of High Vacuum Extraction (HVE) Treatment System

High Vacuum Extraction (HVE) treatment system utilizes a soil venting unit which is powered by an internal combustion engine to produce vacuum to extract groundwater and soil vapors from the extraction point. The removal of contaminated groundwater, as well as subsurface vapors, will reduce contaminant mass; as such, it will aid in overall remediation of dissolved phase groundwater contamination and residual product in soil.

CME proposes to conduct the HVE treatment technology at monitoring well (MW-5) which has the free-phase product at the Site. Total of two (2) HVE treatment applications will be conducted at the Site on a monthly basis using a mobile HVE treatment unit.

Task 2: Monitoring Well Gauging & Sampling (Two Rounds)

A total of two (2) groundwater sampling events will be conducted and samples will be collected from the four (4) existing monitoring wells. Groundwater samples will be obtained using "low flow" procedures in accordance with the NJDEP Field Sampling Procedures Manual (August 2005). Groundwater samples will be analyzed for TCL VO+15, TBA, ABN+20 and lead. A QA/QC plan consisting of field and trip blank

samples will be incorporated into the sampling program. Purged groundwater will be containerized in drums and disposed off-site at an approved disposal facility.

All sampling and monitoring will be performed according to the methodology specified in the most current edition of the Department's Field Sampling Procedures Manual. All samples will be analyzed by a New Jersey Certified Laboratory except those field-determined parameters specified in the monitoring program established pursuant to the oversight document.

Task 3- Off-Site Monitoring Well Installation

In order to comply with NJDEP regulations, CME will retain a NJDEP licensed well driller to install an off-Site monitoring well. The monitoring well will be constructed in accordance with the NJDEP Monitoring Well Requirements for Unconsolidated Aquifers.

The monitoring well will be developed by pumping groundwater into 55-gallon drums until clear and sediment-free water is obtained from the well. The well cuttings will be containerized in 55-gallon drums on Site for future off-Site disposal at an approved disposal facility. A total of 5 drums will be disposed of and the cost is included in this proposal. A New Jersey licensed land surveyor will survey the newly installed monitoring well and the NJDEP required certifications (Form A and B) will be prepared and submitted to the NJDEP in accordance with the NJDEP requirements.

Task 4: Groundwater Remedial Action Permit, Soil Remedial Action Permit, Capping Design and Deed Notice

Natural Attenuation is no action alternative and based on natural processes, especially biodegradation, volatilization and adsorption, to clean up the groundwater. Natural attenuation is cost efficient and have minimum requirements as a CEA and Groundwater Remedial Action Permit required to implement this alternative.

CME will prepare and submit the CEA Fact Sheet Application and prepare a groundwater remedial action permit pursuant to the Administrative Requirements for Remediation of Contaminated Sites (ARRCS Rule, N.J.A.C. 26:C).

The CEA application will be submitted with a Groundwater Remedial Action Permit for natural attenuation as the remedial action for the groundwater impacts related to the UST discharge at the Site, a Groundwater Remedial Action Permit Application will be

prepared and submitted with NJDEP permit application fee of **$990**; this Fee is included in the cost for this proposal.

Capping and filing of a Deed Notice (DN) are proposed as the least invasive, most cost-effective method to address the identified soil impacts remaining at the Site while remaining protective of human health and the environment. The proposed remedial action for the Site will consist of capping the historic fill impacted soils and the benzene impacted soils.

Some areas are capped by asphalt and concrete, which represents an effective engineering control for the contaminants of concern identified at the Site. The areas that require additional remedial investigation are the landscape areas. Based on the analytical results of the soil investigation, a remedial action (capping) in the areas covered with grass should be performed prior to complete a DN for the Site.

CME will assist the Client's legal counsel in the preparation and finalization of DN exhibit documents to allow contaminated soils to be capped on the Site. The DN will be prepared and submitted to the Client for review and approval. The Client is advised to seek legal counsel to assist with the review and filing of the DN document. Legal counsel will have to provide metes and bounds for the Site and conduct required filing of the DN with the County and State.

CME will submit the DN with the Remedial Action Report and prepare a Soil Remedial Action Permit Application form for NJDEP submittal in the RAR. The NJDEP permit application fee of **$1,650.00** is required and this cost is included in this proposal.

Task 5: Reporting and Management

Remedial Action Report (RAR)

CME will prepare a Remedial Action Report (RAR) with Document Submission Form which will detail activities conducted to achieve compliance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E- 6.7) and the Administrative Requirements for the Remediation of Contaminated Sites ("the ARRCS Rule"). A Site plan, Case Inventory Document, updated Receptor Evaluation form and other pertinent

items as specified in the Remedial Action Report submission requirements of the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-6.7) will be included.

CME will prepare a Health and Safety Plan (HSP) and Quality Assurance Project Plan (QAPP) that are required to be submitted with the RAR.

Task 6: Issuance of Response Action Outcome (RAO)

The RAO is a written determination by the LSRP indicating that the contaminated areas of concern were remediated in accordance with applicable regulations and that no further remedial action is required.

Following the successful completion of the remediation in accordance with all applicable regulations, the LSRP will prepare a Response Action Outcome (RAO) for the areas of concern in accordance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C-6). The LSRP will use the standard format RAO form document posted by the NJDEP to ensure content consistency. The LSRP is prohibited from modifying the content of an RAO except as explicitly provided for in the NJDEP guidance.

PROPOSED BUDGET

The budget for completion of the proposed scope of work is **$69,500** as indicated in the following table:

Task	Cost
Task 1- Application of High Vacuum Extraction (HVE) Treatment System	$ 11,750
Task 2- Monitoring Well Gauging & Sampling (Two Rounds)	$ 21,750
Task 3- Off-Site Monitoring Well Installation	$ 9,800
Task 4- Groundwater Remedial Action Permit, Soil Remedial Action Permit, Capping Design and Deed Notice	$ 8,500
Task 5- Reporting and Management	$ 13,700
Task 6- Issuance of Response Action Outcome (RAO)	$ 4,000
Total	**$ 69,500**

The proposed budget includes approximately **$30,000** for subcontractor's fee, including laboratory analysis, equipment cost, etc., and NJDEP fees. The budget contained in this proposal is the firm's best estimate of the effort required to carry out the project as outlined in the scope of work. However, the client will be billed for the actual effort expended to implement the Scope of Services in accordance with the attached billing rates for Environmental Engineering and LSRP services. In no event will the client be billed or work performed in excess of the proposal amount without client's prior approval.

Assumptions and Limitations

The scope of work is limited to the tasks outlined above. Based on the investigation findings, additional remediation activities may be required to comply with N.J.A.C. 7:26E and close the case. A separate cost proposal will be provided for any additional work, if needed.

Special Conditions for LSRP Services

- The enactment of the Site Remediation Reform Act (SRRA; N.J.S.A. 58:10C-1 et seq) on May 7, 2009, and the adoption of the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS; N.J.A.C. 7:26C) on November 4, 2009 require that all new remediation cases follow the provisions of SRRA. A key requirement of these rules is that a Licensed Site Remediation Professional (LSRP) must oversee all new remediation cases.
- The ARRCS requires the person responsible for conducting a remediation to notify the NJDEP of any confirmed discharges of contaminants or condition of Immediate Environmental Concern ("IEC"). Please note that being an LSRP, as a State licensed professional, I will thus have the obligation to report any such conditions to the NJDEP without obtaining any prior approval from the client.
- LSRP will provide the required services in accordance with SRRA and has the obligation to submit, maintain and preserve the relevant documents.
- LSRP is not responsible for client's failure to disclose relevant information, perform SRRA obligations, fund remediation, and follow LSRP's recommended actions. Client's failure to perform these obligations may result in fines/penalties by the NJDEP.

- The issuance of RAO by LSRP is not a guarantee or warranty that the site is free of contamination, or that it will be accepted by the NJDEP.
- NJDEP may audit the RAO within three (3) years after the date the LSRP filed the RAO with the NJDEP. LSRP is not responsible for additional requirements imposed by NJDEP after review/audit, except to the extent they arise out of LSRP's negligence.

We appreciate the opportunity to submit this proposal and assist the Township on this project. Should you have any questions, please do not hesitate to call me at 732-951-2101, extension 103.

Respectfully submitted,

CME Associates

Behram Turan, P.E., LSRP- Principal
Director of Environmental Services

Enclosure

cc: Michael McClelland, P.E., P.P. - Partner / CME Associates