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January 11, 2023

Zayibeth Carballo
Assistant Municipal Engineer
Township of West Orange
Department of Public Works, Engineering Division
25 Lakeside Avenue, West Orange, NJ 07052
zcarballo@westorange.org

**Re: Proposal for Professional Services – Phase 1 - Soil Excavation
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. Gross:

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.

As requested by the Township, the scope of work will be presented in two separate Proposals - Phase 1 and Phase 2.

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). The scope of work included is to address free-phase product (gasoline and fuel oil) detected at MW-5 at the Site, and reduce the impacts of product in soil and groundwater contamination at the Site.

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.



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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 deeper overburden water-bearing unit at the Site.

A remedial action was implemented using High Vacuum Extraction (HVE) treatment system at MW-5. HVE was utilized to remove accumulated product in MW-5 for few years and reduce residual product in soil. During the most recent sampling event at Lindsley Avenue, approximately half a foot of free product was identified in MW-5. Monitoring the recovery of the product in the well and the measurements of product thickness in MW-5 showed that the product is frequently being accumulated after the HVE applications.

In August 2022, a product and impacted soil delineation investigation was completed at the area around MW-5. The conducted investigation included soil borings, soil sampling, temporary wells and groundwater sampling to identify the limits of product impacts in the vicinity of MW-5. The results of the investigation/delineation identified the approximate limits of impacted soil in the vicinity of MW-5 and the source area in the vicinity of former fuel oil/gasoline USTs.

Therefore, CME is proposing the removal of contaminated soil within these areas to eliminate the source of the product at this location and avoid the migration of the contaminated groundwater and product to the adjacent residential property.

SCOPE OF SERVICES – PHASE 1

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: Soil Excavation, Post-excavation Soil Sampling and Well Abandonment and Re-installation



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The most recent sampling results showed that benzene concentrations levels in the vicinity of MW-5 and former USTs source area is indicative of source material remaining at the Site. CME proposes the removal of impacted soil that acts as a source of groundwater contamination at an area located to the south-west of the former location of the UST. The impacted soil area is delineated horizontally and vertically and located between MW-5 and the former USTs locations.

An environmental contractor will abandon MW-5, excavate, remove and dispose of up to approximately **350 tons** of potential contaminated soil located under the existing asphalt surface and included in this proposal. The proposed excavation area is approximately **350 square feet** and up to a maximum depth of approximately 25 feet below ground surface.

The contractor will provide a vacuum truck to control groundwater within the excavation. Assume disposal of approximately **2,000 gallons** of groundwater. The contractor will collect waste classification sample prior to the excavation work to allow direct loading of the contaminated soil.

The excavation will be backfilled with approximately 350 tons of virgin source quarry process stone blend. Surface finish will be graded DGA Or Asphalt depending on the Township decision for including asphalt repair or not.

Please note that the cost estimate presents two scenarios for the surface finish of the excavations, one with repair of asphalt pavement and the other is without asphalt pavement repair.

Load out and transportation/disposal of approximately 350 tons of soil that is assumed to be nonhazardous and will be acceptable for in-state disposal.

Field screening techniques will be performed in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E) to determine the potential presence of impacted materials. The field screening will include evaluating the extracted materials for the potential presence of volatile organic compounds using a photoionization detector (PID). If visual observations and/or field screening measurements indicate the presence of contamination, the contractor will remove the observed contamination from the excavation upon the supervisor's directive.

Well Abandonment and Re-installation

To comply with NJDEP regulations, CME will retain a NJDEP licensed well driller to properly abandon monitoring well MW-5, as the well is located in the vicinity of the excavation area. The



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well will be sealed in accordance with the requirements of N.J.A.C. 7:9D with cement-bentonite grout.

After completing the excavation work, CME will retain a New Jersey licensed driller to install replacement for monitoring well MW-5R. 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 2 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.

Post- Excavation Soil Sampling

Ten (10) soil samples will be collected based on field observation and field screening to document the impacted soil removal. The soil samples will be analyzed for EPA Target Compound List volatile organic compounds (TCL VO+15) with a library search of the fifteen (15) highest Tentatively Identified Compounds (TICs), tertiary butyl alcohol (TBA), and EPH. Analyze 25 percent of samples where EPH is detected over 1,000 mg/kg for 2-Methyl Naphthalene and Naphthalene. All soil samples will be submitted to a NJDEP-certified analytical laboratory for analysis.

All the field work that will be implemented at the Site during the remedial action will be supervised; field screening techniques will be performed in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E) to determine the potential presence of impacted materials.

Proposed Budget

The budget for completion of the proposed scope of work is **\$ 113,750** as indicated in the following table:

Task	Cost
Task 1- Soil Excavation and Post-excavation Soil Sampling (with Asphalt	\$ 113,750



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Repair)	
Task 1- Soil Excavation and Post-excavation Soil Sampling (without Asphalt Repair)	\$ 99,750

The proposed budget includes approximately **\$85,000-\$95,000** for subcontractor's fee, including laboratory analysis, equipment cost, etc. 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.



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- 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

Project Task	Anticipated duration
Collect soil sample for Soil Characterization for Disposal	1 Day
Excavation of Impacted Soil and Disposal, Post-remedial action soil sampling	5 Days