

April 1, 2021

JoAnna P. "Jody" Weaver, P.E.
City Engineer/Community and Economic Development
City of Port Lavaca
202 N. Virginia St.
Port Lavaca, Texas 77979



Subject: Limited Phase II Environmental Site Assessment
Harbor of Refuge
Port Lavaca, Texas

Dear Ms. Weaver;

CRG Texas Environmental Services, Inc. (CRG Texas) is pleased to present this work plan and cost proposal to perform a limited Phase II Environmental Site Assessment (ESA). The limited Phase II will include the installation of several surface soil borings and one temporary groundwater monitoring well (TMWs), collection of soil and groundwater samples for laboratory chemical analysis, and preparation of a Phase II ESA report at the above referenced property (the site). This effort should be sufficient to further evaluate the PCLs exceedances discovered during the Phase I ESA conducted on the property. This proposal summarizes the project understanding, proposed scope of work, schedule, estimated costs, and contractual conditions.

SCOPE OF WORK

Soil Boring Installation

Prior to Mobilization, a 48-hour utility locate notification will be submitted to Lonestar Locators, One Call, or Digg Tess as required by law. A total of four (4) soil borings will be installed using a direct-push drilling rig at locations identified from the Phase I recognized environmental conditions. It is expected that the initial soil borings will be advanced to a depth of no more than 15 feet. The boring selected for the temporary monitoring well may be advanced to a depth of up to 30 feet. A Texas-Licensed Water Well Driller will perform all boring related activities under our direct supervision.

Soil and Groundwater Sampling

Soil samples recovered from each soil boring will be continuously screened for odors and staining, and vapor concentrations will be measured using an organic vapor monitor (OVM). Soil and groundwater (where encountered) samples will be collected from each soil boring for laboratory chemical analyses as follows.

- Soil samples will be collected at an approximate depth of 5 ft below grade, and from the interval representing the apparent capillary fringe just above the soil-groundwater interface.
- All soil and groundwater wastes generated during drilling should be properly stored and characterized prior to onsite reuse or offsite disposal. If any are found to be in exceedance of

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- regulatory thresholds, they should be manifested and taken offsite for proper disposal. The current property owner will be responsible for signing all waste manifests and/or bills of lading.
- Up to two borings will be advanced at least five (5) feet into the saturated zone, if possible, and a temporary monitoring well will be installed from which a groundwater sample will be collected.

The temporary well(s) will be constructed in the boring using one-inch diameter PVC well casing materials and screen. Groundwater will be purged from the well until relatively free of sediment to allow for the collection of a groundwater sample. The boring will be properly plugged following collection of the samples. The samples will be placed into containers provided by the laboratory. Investigation-derived wastes will be returned to each boring of origin.

Laboratory Chemical Analysis

Soil and groundwater samples will be analyzed as indicted below:

- Total petroleum hydrocarbons (TPH) by Texas Method 1005;
- If TPH is detected in the soil or groundwater samples, the soil and/or groundwater sample with the highest TPH concentration will be analyzed for poly-aromatic hydrocarbons (PAHs) by EPA Method 8270C or TPH speciation by Method TX 1006;
- Arsenic, barium and lead by EPA Method 6010/6020/7471 as appropriate for the specific sample locations; and,
- Depending on the initial metals results, the samples may be further analyzed for by Synthetic Precipitation Leaching Procedures to determine the potential for soil-to-groundwater transfer of specific analytes;

Schedule

The 48 hour Lonestar Locators utility locate will be submitted and work will be scheduled upon written notice to proceed, and mobilization will occur to the site as soon as practical. The field work will be completed in one day on-site; barring no unanticipated field conditions are encountered. Laboratory chemical analysis will be performed on a standard 7 day turnaround time. The report will be delivered in approximately 14-21 days from receipt of validated analytical results.

Reporting

Upon receipt of the analytical results, the report will be completed and submitted electronically to the Client. The analytical results will be compared to regulatory standards established by the Texas Commission on Environmental Quality (TCEQ) to include Tier 1 protective concentration levels (PCLs) or calculated Tier 2 or 3 PCLs as may be appropriate for the specific analytes.

A Limited Phase II Report will be provided that summarizes the findings and conclusions of the investigation, and which will include the following information:

- Site Map
- Soil Data and Analytical Summary

- Groundwater Monitoring Well Analytical Summary
- Chain of Custody and Field Reports
- Laboratory Analytical Results
- Tier 2 Metals / TPH PCL Calculations

These results would be reported to the TCEQ in the form of a Request for No Further Action (NFA) in accordance with the requirements detailed in the TCEQ publication entitled "Determining Which Releases are Subject to TRRP (November 19, 2010)" which may be obtained using the following link:

<https://www.tceq.texas.gov/assets/public/remediation/trrp/releasesTRRPrev.pdf>

The proposed submittal to TCEQ would include the NFA request, copies all the assessment reports prepared for the Site, a completed Tier 1 Exclusion Criteria Checklist (30 TAC 350.77(b)), a Core Data Form (TCEQ-10400) and Correspondence Identification Sheet (TCEQ-20428). Be advised, the TCEQ will likely require a clean-up of the surface waste sources before they will entertain a TRRP exclusion request.

If the site is determined to be impacted and a no further action designation is not appropriate at this time, we would provide recommendations for the appropriate next steps. One option to consider if the stakeholders are interested, the Site could be enrolled in the Texas Voluntary Cleanup Program (VCP). The Texas VCP provides administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas. Once completed, in addition to the NFA Letter, the TCEQ would issue a Certificate of Completion under the VCP which is an agreement between the TCEQ, and the Parties listed on the VCP application. Additional information may be obtained using the following link:

<https://www.tceq.texas.gov/remediation/vcp>

Cost and Payment Terms

CRG will perform the Phase II ESA on a **lump sum basis**. Total estimated cost for the project is **\$28,200** and is valid for 60 days from the date of this proposal. If requested, then each GBC hard bound copy of the report would be invoiced at **\$120.00 per copy additionally**.

Limitations

The proposed work is limited to the scope of work listed herein. Unless accurate as built drawings for all underground utilities and fuel system underground piping are provided, then CRG Texas shall be held harmless against damages to any such subsurface utilities at the subject site should they be encountered while drilling. No Phase II ESA can eliminate all uncertainty. Furthermore, any sample, either surface or subsurface, taken for chemical analysis may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process and uncertainty is inevitable. Additional assessment may be able to reduce the uncertainty. Even when Phase II ESA work is executed with an appropriate site-specific standard of care, certain conditions present especially difficult detection problems. Such conditions may include, but are not limited to, complex geological settings, the fate and

transport characteristics of certain hazardous substances and petroleum products, the distribution of previous and existing contamination, physical limitations imposed by the location of utilities and other man-made objects, and the limitations of assessment technologies. Phase II ESAs do not generally require an exhaustive assessment of environmental conditions on a property and are intended as a screening exercise. If hazardous substance or petroleum releases are confirmed on a parcel of property, the extent of further assessment is related to the degree of uncertainty that is acceptable to the user with respect to the real estate transaction budget, schedule, and other factors beyond the control of the environmental consultant. Measurements and sampling data only represent the site conditions at the time of data collection. Therefore, the usability of data collected as part of this LESA may have a finite lifetime (usually up to 180 days from the date of the field work or if site and surrounding property conditions change) depending on the application and use being made of the data. An environmental professional should evaluate whether the generated data are appropriate for any subsequent use beyond the original purpose for which it was collected.

Client Authorization

If you are in agreement with the estimated costs, terms, conditions, and schedule listed above please sign, date, and return this document as acknowledgement of Notice to Proceed with the project. We will coordinate directly with you as needed and begin work as soon as the 48 hour utility locate is completed and the driller is scheduled.

Printed Name: _____

Title: _____

Client Signature: _____

Date: _____

We appreciate the opportunity to provide Environmental Services to you.

Cordially,



Kevin C. Casler
Vice President
CRG Texas Environmental Services, Inc.

Attachments:
Cost Estimate



Cost Worksheet PH II ESA
City of Port Lavaca Landfill

Site Research and TCEQ Coordination / PM				
Project Manager	8	hours	\$152	\$1,216.00
Staff Geoscientist	12	hours	\$125	\$1,500.00
				\$2,716.00
Phase II Soil and Groundwater Sampling				
Driller	1	ls	\$4,235	\$4,235.00
Project Manager	8	hours	\$152	\$1,216.00
Staff Geoscientist	12	hours	\$125	\$1,500.00
Field Technician	12	hours	\$85	\$1,020.00
Field Vehicle with Hand Tools	1	day	\$350	\$350.00
Organic Vapor Meter	1	day	\$100	\$100.00
Oil-Water Interface Probe	1	day	\$35	\$35.00
				\$13,888.00
Laboratory Chemical Analysis				
Surface Soil (6), Subsurface Soil (8)				
VOCs Soil	8	each	\$140	\$1,120.00
TPH Soil	8	each	\$110	\$880.00
SVOCs Soil	8	each	\$160	\$1,280.00
Metals (TX12) Soil	8	each	\$220	\$1,760.00
SPLP Metals Analyses / TX 1006 TPH	2	each	\$350	\$700.00
VOCs Water	2	each	\$140	\$280.00
TPH Water	2	each	\$110	\$220.00
SVOCs Water	2	each	\$160	\$320.00
Metals (TX12) Water	2	each	\$220	\$440.00
				\$6,560.00
Phase II ESA Report / TRRP Exclusion	1	LS	\$5,000	\$5,000.00
Total Phase II ESA				\$28,164.00