



July 9, 2019

Mr. Dave Popp, Solid Waste Manager
 Muscatine Recycling and Transfer Station
 1000 South Houser Street
 Muscatine, Iowa 52761

RE: Proposal: Assessment of Corrective Measures
 Muscatine County Sanitary Landfill
 Permit No. 70-SDP-02-75P
 Proposal No. 153617

Dear Dave:

BARKER LEMAR ENGINEERING CONSULTANTS (BARKER LEMAR) appreciates the opportunity to provide environmental services to the Muscatine County Solid Waste Management Agency (Client) for the Muscatine County Sanitary Landfill (Landfill). The purpose of this scope of services is to prepare an assessment of corrective measures (ACM) report for the Landfill in general accordance with Iowa Administrative Code (IAC) 567-113.10(6)"g", 113.10(7), and 113.10(8), as a result of Appendix II constituents measured at statistically significant levels (SSLs) above the associated groundwater protection standards (GWPSs).

1.0 PROJECT UNDERSTANDING

In accordance with IAC 567-113.10(6)"g"(1)"4", if groundwater sample analysis indicates an Appendix II constituent present at an SSL above a GWPS, as determined by an approved statistical analysis procedure, an ACM report must be prepared. As reported in the 2018 Annual Water Quality Report, a number of constituents have been measured at SSLs above the GWPSs in monitoring wells MW-4, MW-12R, MW-13, MW-20, MW-22, MW-23, MW-38, and MW-39 as shown in Table 1. Table 1 does not include the historical SSL for vinyl chloride measured in monitoring well MW-11; the upper confidence limit of vinyl chloride has continued to be below the GWPS for six consecutive sampling events and therefore has completed the statistical requirements of IAC 567-113.10(9)"e"(2) as of the 1st 2019 semi-annual statistical evaluation. Therefore, vinyl chloride in monitoring well MW-11 is no longer considered an SSL and monitoring well MW-11 will move back into the assessment monitoring program.

**Table 1
 Statistically Significant GWPS Exceedances**

Constituent	MW-4	MW-12R	MW-13	MW-20	MW-22	MW-23	MW-38	MW-39
Arsenic		X					X	
Barium							X	
Cobalt	X	X		X	X	X	X	X
Benzene						X		
Vinyl Chloride			X					

BARKER LEMAR has completed activities in previous years to position the site for the preparation of the ACM. These activities are summarized in the following paragraphs.

One requirement of the ACM is to define the area of groundwater impact. Eighteen monitoring wells have been installed, to the east, south, and southwest of the Landfill in order to define the area of groundwater impact. Data obtained from these monitoring wells show that the extent of groundwater impact is defined to background.

Geochemical sampling was performed to identify whether the likely source of impact was leachate migration, subsurface landfill gas migration, natural variability in groundwater, or a combination of those factors. Sampling was also conducted to evaluate the viability of monitored natural attenuation as a component of a remedy. Analysis and discussion of the sampling results will be included in the ACM report.

Upon approval of the ACM report by the Iowa Department of Natural Resources (DNR), a public meeting will be required to discuss the results of the ACM and a remedy will be selected based on input from the public and the Client. Following the selection of remedy, a corrective action monitoring program (CAMP) will be developed and implemented. The public meeting, selection of remedy, and CAMP development will occur under a separate contract.

2.0 SCOPE OF SERVICES

The proposed scope of services is to prepare an ACM report as required by IAC 567-113.10(6)"g"(1)"4". The ACM shall include an analysis of the effectiveness of a recommended corrective measure to meet the requirements and objectives as described under IAC 567-113.10(8). The potential remedy will be evaluated using the following criteria:

- The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual impact;
- The time required to begin and complete the remedy;
- The costs of remedy implementation; and
- The institutional requirements such as state or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy.

IAC 567-113.10(8) describes the factors to be considered in the assessment of corrective measures in addition to those listed above. Evaluated remedies must:

- Be protective of human health and the environment;
- Attain the GWPSs specified pursuant to paragraph 113.10(6)"h";
- Control the source(s) or releases to reduce or eliminate further releases of Appendix II constituents into the environment; and
- Comply with standards for management of wastes as specified in paragraph 113.10(9)"d".

In selection of a remedy that meets the considerations above, the following evaluation factors must be considered:

- The long-term and short-term effectiveness and protectiveness of the potential remedy;
- The effectiveness of the remedy in controlling the source to reduce further releases;
- The ease or difficulty of implementing a potential remedy;
- Practical capability of the owner and operator, including a consideration of technical and economic capabilities; and
- The degree to which community concerns are addressed by a potential remedy.

The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. The following factors shall be considered in determining the schedule of remedial activities:

- Extent and nature of impact;
- Practical capabilities of remedial technologies in achieving compliance with GWPSs;
- Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
- Desirability of utilizing alternative or experimental technologies;
- Potential risks to human health and the environment from exposure to impact prior to completion of the remedy;
- Resource value of the aquifer;
- Practicable capability of the owner or operator; and
- Other relevant factors.

A written report presenting the results of the ACM will be provided to the Client for review prior to submittal to the DNR and a final report will be submitted to the DNR by December 31, 2019.

If the DNR determines the horizontal and vertical dimensions of the plumes are not properly defined (IAC 567-113.10(6)"g"(1)1), a work plan will be prepared to characterize the nature and extent of the groundwater impact. This may include installing additional groundwater monitoring wells as necessary and would be presented in a separate proposal.

3.0 LIMITATIONS

Services not set forth in Section 2.0, Scope of Services, are excluded from this proposal. BARKER LEMAR has no responsibility to perform such excluded services and has no liability associated with the non-performance of such services.

4.0 SCHEDULE

BARKER LEMAR will begin these services subsequent to receiving the signed confirmation of notice to proceed. The ACM report will be submitted to the Client for review by December 7, 2019. BARKER LEMAR will make revisions based on Client comments prior to submission to the DNR by December 31, 2019.

5.0 COMPENSATION

BARKER LEMAR agrees to perform the above scope of services on a lump sum basis. Total compensation for scope of services proposed: \$13,900. The compensation for the proposed scope of services is valid for 60



days following the date of this proposal. BARKER LEMAR will not exceed this proposed scope of services or compensation amount without prior authorization from Client. Payment terms are to be followed as stated in the attached Terms and Conditions. Should conditions be encountered that require significant changes or an increase in the scope of work, we will contact you and proceed further only with your authorization, followed by a signed Change Order.

6.0 CONDITIONS

If the Client fails to pay invoices within 30 days of the date of the invoice, BARKER LEMAR may, after giving ten days written notice to the Client, suspend services under this proposal and all other existing contracts until the Client has paid in full all fees, including finance charges, due BARKER LEMAR. Payment of all compensation due BARKER LEMAR as part of this agreement shall be a requirement for the Client to use any of the professional services included in this proposal.

CONFIRMATION OF NOTICE TO PROCEED

Proposal No. 153617

The above Proposal and attached Terms and Conditions are understood and accepted.

BARKER LEMAR agrees to perform and complete the following services for the Client at its facilities located near Muscatine, Iowa.

The scope of services is described as preparation of an assessment of corrective measures report, and will include other technical and/or administrative services as outlined in this proposal.

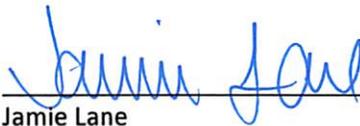
BARKER LEMAR agrees to perform the above scope of services for a total compensation of \$13,900. Client will be invoiced for the percent of project completed at the time of the invoice. The compensation for the proposed scope of services is valid for 60 days following the date of this proposal.

If this proposal meets with your approval, sign two originals of this confirmation of notice to proceed, retain one original for Client files, and return one original or copy via email, fax to 515.256.0572, or U.S. mail to BARKER LEMAR Engineering Consultants, 1801 Industrial Circle, West Des Moines, IA 50265.

If you have questions regarding any of the information above please contact us at 515.256.8814.

BARKER LEMAR ENGINEERING CONSULTANTS

MUSCATINE COUNTY SOLID WASTE MANAGEMENT AGENCY



Jamie Lane
Ecological/Compliance Analyst
7/9/2019
jlane@barkerlemar.com

Dave Popp

Solid Waste Manager

Date:

dpopp@muscatineiowa.gov



Timothy C. Buelow, P.E.
Principal Engineer
7/9/2019
tbuelow@barkerlemar.com

Copies: Addressee (via email)
Electronic File

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TERMS AND CONDITIONS

PAYMENT TERMS

Payment is due upon receipt of our invoice. If payment is not received within 30 days from the invoice date, Client agrees to pay a finance charge on the principal amount of the past due account of 1 ½% per month. If 1 ½% per month exceeds the maximum allowed by law; the charge shall automatically be reduced to the maximum legally allowable. In the event the Client requests termination of the services prior to completion, a termination charge in an amount not to exceed 30% of all charges incurred through the date services are stopped plus any shutdown costs may, at the discretion of Barker, Lemar & Associates, Inc., be made. If during the execution of the services, Barker, Lemar & Associates, Inc., is required to stop operations as a result of changes in the scope of services such as requested by the Client or requirements of third parties, additional charges will be applicable. Client is responsible for all cost of the collection of unpaid accounts, including reasonable attorney fees.

INSURANCE

Barker, Lemar & Associates, Inc. maintains Workers' Compensation and Employers Liability Insurance in conformance with applicable state law. In addition, we maintain Commercial General Liability Insurance with combined Single Bodily Injury and property damage limits of \$1,000,000 and Automobile Liability Insurance with combined Single Bodily Injury and property damage limits of \$1,000,000. A certificate of insurance can be supplied evidencing such coverage, which contains a clause providing that 10 days written notice be given prior to cancellation. Cost of the above coverage is included in our quoted fees. If additional coverage or increased limits of liability are required, Barker, Lemar & Associates, Inc. will endeavor to obtain the requested insurance and charge separately for costs associated with additional coverage or increased limits.

LIMITATION OF LIABILITY

In recognition of the relative risks and benefits of the Project to both the Client and Barker, Lemar & Associates, Inc., the risks have been allocated such that the Client agrees, to the fullest extent permitted by law, to limit the liability of Barker, Lemar & Associates, Inc. and Barker, Lemar & Associates, Inc.'s officers, directors, partners, employees, shareholders, owners and sub consultants for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorney's fees and costs and expert-witness fees and costs, so that the total aggregate liability of Barker, Lemar & Associates, Inc. and Barker, Lemar & Associates, Inc.'s officers, directors, partners, employees, shareholders, owners and sub consultants shall not exceed the applicable insurance coverage available at the time of settlement or judgment. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

Client agrees that Barker, Lemar & Associates, Inc.'s liability for any damage on account of any error, omission, or other professional negligence by Barker, Lemar & Associates, Inc. will be limited to a sum not to exceed \$50,000 or the amount presently due Barker, Lemar & Associates, Inc. for services rendered hereunder, whichever is greater.

Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither the Client nor Barker, Lemar & Associates, Inc., their respective officers, directors, partners, employees, contractor or sub consultants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the Project or to this Agreement. The mutual waiver of consequential damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation and any other consequential damages that either party may have incurred from any cause of action including negligence, strict liability, breach of contract and breach of strict or implied warranty. Both the Client and Barker, Lemar & Associates, Inc. shall require similar waivers of consequential damages protecting all the entities or persons named herein in all contracts and sub contracts with others involved in this project. Barker, Lemar & Associates, Inc. is not liable for consequential damages.

Barker, Lemar & Associates, Inc. shall not be responsible for any acts or omissions of the Contractor, any sub contractor, any entity performing any portions of the Work or any agents or employees of any of them. Barker, Lemar & Associates, Inc. does not guarantee the performance of the Contractor and shall not be responsible for the Contractor's failure to perform its Work in accordance with the Contract Documents or any applicable laws, codes, rules or regulations.

POLLUTION CLAIMS

Client hereby understands and agrees that Barker, Lemar & Associates, Inc. has not created nor contributed to the creation or existence of any or all types of hazardous or toxic wastes, materials, chemical compounds, or substances, or any other type of environmental hazard or pollution, whether latent or patent, at Client's premises, or in connection with or related to this project with respect to which Barker, Lemar & Associates, Inc. has been retained to provide professional engineering services. Barker, Lemar & Associates, Inc.'s total liability to Client resulting from any release or threatened release of any hazardous waste, substance, pollutant or contaminant, whether or not directly or indirectly generated by Barker, Lemar & Associates, Inc.'s performance of the work hereunder (including any injury to persons or property or death resulting therefrom), shall not exceed the amount due Barker, Lemar & Associates, Inc. for services rendered hereunder. This limitation applies to all liabilities, including indemnification liabilities, whether based on contract, tort (including negligence), and strict liability or otherwise. This limitation of liability does not in any way limit or affect Client's obligations to indemnify and hold Barker, Lemar & Associates, Inc., its owners, officers, directors, and employees harmless. This limitation of liability shall not apply to the extent it is held that the loss or damage arose from Barker, Lemar & Associates, Inc.'s gross negligence or intentional misconduct. In addition, Client agrees to limit Barker, Lemar & Associates, Inc.'s liability to the same extent that Client's liability is limited pursuant to its contract with its client (if one exists).

DOCUMENTS

Barker, Lemar & Associates, Inc.'s liability to Owner for any computer programs, software products, or related data furnished hereunder is limited solely to the correction of residual errors, minor maintenance, or update(s) as agreed. Barker, Lemar & Associates, Inc. makes no warranties of any kind, including any implied warranty of merchantability or of fitness for any particular purpose, or against infringement, with respect to computer programs, software products, related data, technical information, or technical assistance provided by Barker, Lemar & Associates, Inc. under this Agreement. In no event shall Barker, Lemar & Associates, Inc., its officers, agents, or employees be liable under or in connection with this Agreement under any theory of tort, contract, strict liability, negligence, or other legal or equitable theory for incidental or consequential damages relating to any computer programs, software products, or related data furnished hereunder.

STANDARD OF CARE

In providing services under this Agreement, Barker, Lemar & Associates, Inc. shall perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances at the same or similar locality. Barker, Lemar & Associates, Inc. makes no warranty, express or implied, as to its professional services rendered under this Agreement.

RIGHT-OF-ENTRY

Unless otherwise agreed, Client will furnish right-of-entry on the property for Barker, Lemar & Associates Inc. to make the planned borings, surveys, tests, and/or explorations. Barker, Lemar & Associates Inc. will take reasonable precautions to limit damage to the property caused by our operations, but we have not included in our fee the cost of restoration of damage that may result. If Client desires Barker, Lemar & Associates Inc. to restore the property to its former condition, we will accomplish this, to the extent reasonably possible, and add the cost to the proposed fee.

SITE VISITS

Barker, Lemar & Associates, Inc. shall visit the site at intervals appropriate to the stage of construction, or as otherwise agreed to in writing by the Client and Barker, Lemar & Associates, Inc., in order to observe the progress and quality of the Work completed by the Contractor. Such visits and observation are not intended to be an exhaustive check or a detailed inspection of Barker, Lemar & Associates, Inc.'s work but rather are to allow the Consultant to become generally familiar with the Work in progress and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Based on this general observation, Barker, Lemar & Associates, Inc. shall keep the Client informed about the progress of the Work and shall advise the Client about observed deficiencies in the Work.

If the Client desires more extensive project observation or full-time project representation, the Client shall request that such services be provided by Barker, Lemar & Associates, Inc. as Additional Services in accordance with the terms of this Agreement.

Barker, Lemar & Associates, Inc. shall not supervise, direct or have control over the Contractor's work nor have any responsibility for the construction means, methods, techniques, sequences or procedures selected neither by the Contractor nor for the Contractor's safety precautions or programs in connection with the Work. These rights and responsibilities are solely those of the Contractor in accordance with the Contract Documents.

SAMPLING OR TESTING OF LOCATION

The fees do not include costs associated with surveying of the site or the accurate horizontal and vertical locations of tests, unless otherwise specifically agreed to by the parties. Field test or boring locations described in Barker, Lemar & Associates, Inc.'s report contemplated by these Terms and Conditions or shown on sketches are based on specific information furnished by others or estimates made in the field by our technicians. Such dimensions, depths, or elevations should be considered as approximations unless otherwise stated in the reports contemplated by these Terms and Conditions.

The Client shall furnish, at the Client's expense, all information, requirements, reports, data, surveys and instructions required by this Agreement. Barker, Lemar & Associates, Inc. may use such information, requirements, reports, data, surveys and instructions in performing its services and is entitled to rely upon the accuracy and completeness thereof. Barker, Lemar & Associates, Inc. shall not be held responsible for any errors or omissions that may arise as a result of erroneous or incomplete information provided by the Client and/or the Client's consultants and contractors.

SAMPLE DISPOSAL AGREEMENT

Unless otherwise requested, test specimens or samples will be disposed of immediately upon completion of tests unless otherwise regulatory required. Upon written request, Barker, Lemar & Associates, Inc. will retain test specimens or drilling samples for mutually acceptable storage charge and period of time.

DAMAGE TO EXISTING MAN-MADE OBJECTS

It shall be the responsibility of the Client or his duly authorized representative to disclose the presence and accurate location of all hidden or obscure man-made objects and underground utilities relative to field tests or boring locations. Barker, Lemar & Associates, Inc.'s field personnel are trained to recognize clearly identifiable stakes or markings in the field and without special written instruction to initiate field testing drilling and/or sampling within a reasonable distance of each designated location. If Barker, Lemar & Associates, Inc. is cautioned, advised, or given data in writing that reveal the presence or potential presence of underground or over ground obstructions, such as utilities, Barker, Lemar & Associates, Inc. will give special instructions to its field personnel. As evidenced by Client's acceptance of this proposal, Client agrees to indemnify and save harmless from all claims, suits, losses, personal injuries, death, and property liability resulting from unusual subsurface conditions or damages to subsurface structures, including utility lines, owned by Client or third parties, occurring in the performance of the proposed services, whose presence and, exact locations were not revealed to Barker, Lemar, & Associates, Inc. in writing, and to reimburse Barker, Lemar & Associates, Inc. for expenses in connection with any such claims or suits, including reasonable attorney fees.

DISPOSAL

Barker, Lemar & Associates, Inc. is not, and has no authority to act as, a handler, generator, operator, treated, storer, transporter or disposer of hazardous waste, substances, pollutants or contaminants found or identified at the site. Barker, Lemar & Associates, Inc. shall have no responsibility for the transportation, storage, treatment or disposition of contaminated or potentially contaminated waste materials of any kind, which are directly or indirectly generated from Barker, Lemar & Associates, Inc.'s performance of the work in accordance with these Terms and Conditions. Client shall be responsible for the disposal of any such waste materials.

SAFETY

Should Barker, Lemar & Associates, Inc. provide periodic observations or monitoring services at the job site during construction, Client agrees that in accordance with generally-accepted construction practices, the contractor will be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work and compliance with OSHA regulations, and that these requirements will apply continuously and not be limited to normal working hours. Any monitoring of the contractor's procedures conducted by Barker, Lemar & Associates, Inc. is not intended to include review of the adequacy of the contractor's safety measures in, on, adjacent to, or near the construction site.

CONSTRUCTION COST OPINIONS

Opinions of probable cost for the facilities considered and designed under this Agreement are prepared by Barker, Lemar & Associates, Inc. through exercise of its experience and judgment in applying presently available cost data, but it is recognized that Barker, Lemar & Associates, Inc. has no control over costs of labor and materials, or over the construction contractor's methods of determining prices, or over competitive bidding procedures, market conditions, and unknown field conditions so that Barker, Lemar & Associates, Inc. cannot and does not guarantee that proposals, bids, or the project construction costs will not vary from Barker, Lemar & Associates, Inc.'s opinion of probable construction costs.

OWNERSHIP OF DOCUMENTS

All documents, including, but not limited to, drawings, specifications, reports, boring logs, field notes, laboratory test data, calculations, and estimates, prepared by Barker, Lemar & Associates, Inc., are instruments of service pursuant to these Terms and Conditions and shall be the sole property of Barker, Lemar & Associates, Inc. Client agrees that all documents of any nature furnished to Client or Client's agents or designees, if not paid for, will be returned to Barker, Lemar & Associates Inc. upon demand and will not be used by Client for any purpose whatsoever. Client further agrees that under no circumstances shall any documents produced by Barker, Lemar & Associates Inc., pursuant to these Terms and Conditions, be used at any location or for any project not expressly provided for in these Terms and Conditions without the written permission of Barker, Lemar & Associates, Inc. At the request and expense of Client, Barker, Lemar & Associates, Inc. will provide Client with copies of documents created in the performance of the work for a period not exceeding five years following submission of the report contemplated by these Terms and Conditions.

SUCCESSORS AND ASSIGNS

All of the terms, conditions, and provisions hereof shall inure to the benefit of and are binding upon the parties hereto and their respective successors and assigns, provided, however, that no assignment of this Agreement shall be made without written consent of the parties of this Agreement.

SEVERABILITY

If any provision of this Agreement is declared invalid, illegal, or incapable of being enforced by any court of competent jurisdiction, all of the remaining provisions of this Agreement shall nevertheless continue in full force and effect, and no provision shall be deemed dependent upon any other provision unless so expressed herein.

WAIVER

Barker, Lemar & Associates, Inc.'s waiver of any term, condition, or breach of any term, condition, covenant, shall not constitute a waiver of any other term, condition, or covenant, or the breach thereof.

GOVERNING LAW

These Terms and Conditions shall be governed in all respects by the laws of the State of Iowa. Any litigation to be filed by either party to the contract shall be filed in Polk County, Iowa District Court or Federal Court for the Southern District of Iowa.

ENTIRE AGREEMENT

This Agreement, and its attachments, contains the entire understanding between Owner and Barker, Lemar & Associates, Inc. relating to professional engineering services. Any prior or contemporaneous agreements, promises, negotiations, or representations not expressly set forth herein are of no effect. Subsequent modifications or amendments to this Agreement shall be in writing and signed by the parties to this Agreement.