

September 10, 2009

Northeast Maryland Waste Disposal Authority
Tower II - Suite 402
100 South Charles Street
Baltimore, MD 21201-2705
Attn: Mr. Andrew Kays

Subject: Environmental Science and Engineering Services for Remediation of Gude Landfill
EA Proposal No. 0720123 – Phase 1 - Revised

Dear Mr. Kays:

EA Engineering, Science, and Technology, Inc. (EA) is pleased to offer this revised proposal to the Northeast Maryland Waste Disposal Authority (the Authority) to provide environmental science and engineering services to Montgomery County, Maryland (the County) in association with the County's plan to assess and remediate the groundwater and surface water impacts from Gude Landfill. EA is well qualified to provide these services, having provided similar services at various municipal solid waste landfills in recent years. The following sections describe the project background, the proposed scope of work, schedule and cost for the effort. This proposal has been prepared in accordance with Contract #08-6 between the Authority and EA.

BACKGROUND

Gude Landfill was used by Montgomery County for municipal solid waste disposal between 1965 and 1982. The facility predated current design standards and does not have either a liner or a cap. Soil was reportedly used as daily cover during filling, and a 2-foot final layer of soil was reportedly placed to support the vegetative cover that now includes grass, shrubs and trees. The 120 acre site is located at 600 East Gude Drive in Rockville, Maryland. It is bordered to the east by industrial operations, to the south by Gude Drive, to the west by the community of Derwood, and to the north by Maryland-National Capital Park and Planning Commission (MNCPPC) land.

Since final closure of the landfill in 1982, the County has conducted voluntary groundwater and surface water monitoring and pollutant analyses. Recently, this public domain water monitoring data was accessed by a local citizens group (Gude Landfill Concerned Citizens – GLCC) opposed to a County plan to park school buses on the landfill. The group contended that the reported analyte concentrations in the groundwater samples exceeded the Maximum Contaminant Levels (MCLs) established by the U.S. Environmental Protection Agency (EPA) as limits for drinking water. As a result of the ensuing activism and petitions to the County Executive and Maryland Department of the Environment, the County has committed to an assessment and eventual remediation of the site to address the potential off-site migration of contaminants.



SCOPE OF WORK

Montgomery County Department of Environmental Protection – Division of Solid Waste Services (DEP/DSWS) is seeking the services of a qualified consultant to support the planned landfill assessment and remediation activities. The first phase of this effort will be a Hydrogeologic and Pollutant Fate and Transport Assessment, to characterize the nature and extent of potential ground and surface water impacts from landfill leachate. EA has previously submitted a firm price proposal for a scope of work identified as Phase 0, including an aerial survey, field surveying, underground utility location, and delineation of the limits of waste. The balance of the scope of work associated with the Nature and Extent Study, identified as Phase 1, is proposed herein and summarized in the following paragraphs.

TASK 1: Data, Drawing, and Field Review and Analysis

Task 1 will consist of review and analysis of the data described further in this section. The results of the review and analysis will be communicated with the County on a regular basis through the project progress meetings described in Task 5. A formal write-up of the results will be included in the Study Report described in Task 4.

Subtask 1a – Groundwater

EA will review available electronic groundwater and surface water data provided by the County, dating back to 2001. Data sets will require evaluation including, but not limited to, standardization of analyte lists and names, sampling frequency, and sampling locations. The existing trend analyses performed by the County will be reviewed. At the County's discretion the existing database in Microsoft EXCEL format will be translated into a Microsoft ACCESS database to facilitate additional analyses and future database queries that may be required. Existing well boring construction log records will also be reviewed.

EA will then evaluate the condition of the existing groundwater monitoring wells to assess whether they are functioning as designed and producing water quality data representative of the aquifer in which they are placed. In order to evaluate the condition of the existing wells, EA will evaluate available documentation relating to the physical condition of the wells. For each groundwater monitoring well, this evaluation will include review of the well construction records, field notes made during sampling events, and a historical review of water quality parameters that are indicative of monitoring well condition. Following the documentation review, EA will perform a field review of the existing groundwater monitoring wells. The wells will be inspected following the documentation review to determine the current physical condition and assess the need for potential maintenance to the concrete pads and well casings (as evaluated from the ground surface and through water level gauging). EA will compare the total depth of the well as installed versus its current depth to determine the depth of silt accumulated in the bottom of the well. This task does not include inspection of the inside of the wells with downhole cameras, nor does it include any redevelopment of the wells. Based on the condition of the existing groundwater monitoring wells, EA will evaluate the current number of groundwater monitoring wells in acceptable



condition and their placement (location and depth) with respect to acquiring pertinent data for background conditions and regulatory compliance.

Deliverables:

- 1) Summary of existing data sets and existing trend analyses
- 2) Updated database file in Microsoft Access format (at the County's discretion)
- 3) Punchlist of needed repairs to existing wells and estimated costs
- 4) Summary of the adequacy of the existing wells for fully characterizing potential groundwater impacts (including photographs) and recommendations for new wells.

Subtask 1b – Surface Water

The existing Well and Stream Sampling Location Plan provided by the County will be reviewed in conjunction with topographic and aerial photography in determining the location of surface water bodies that border the Gude Landfill property boundary. EA will review historical data provided by the County dating back to 2001 and will also perform a field review of the surface water bodies. Data sets will require evaluation including standardization of analyte lists and names, sampling frequency, and sampling locations. Based on the evaluation of existing data and topographic features, additional sampling may be recommended to further evaluate the existing conditions of the surface water bodies. For example, during Subtask 2d activities, Spring No. 1 and Spring No. 2 will be sampled provided there is enough available discharge for the sampling and analyses.

Deliverables:

- 1) Summary of current conditions, including photographs
- 2) Updated database file in Microsoft Access format (at the County's discretion)

Subtask 1c – Leachate Seeps

Documentation of existing leachate seeps and corrective measures will be reviewed. With the assistance of the County, EA will field review and evaluate any known, visible, or suspect areas on the landfill and along the perimeter property boundary for leachate seeps. Leachate seeps will be identified visually by the presence of iron staining and/or flow from unidentified sources. Following the field investigation, recommendation for immediate and long-term corrective measures will be made. This task will not include any sample collection or analysis.

Deliverables:

- 1) Updated site plan indicating all historically and currently observed leachate seeps
- 2) Summary of leachate seep issues, including the potential for flow from seeps to impact ground and surface water, and recommendations for further corrective action

Subtask 1d – Stormwater

The Gude Landfill Post Closure Engineering Design and Management Tasks by SCS Engineers, dated 1992, will be reviewed and an inventory list of existing site stormwater management infrastructure will be created. The stormwater management infrastructure that



will be included in the inventory will include swales and stormwater control structures. Each structure will be visually inspected in the field and compared to the available as-built drawings. The actual design, disparities between design and actual conditions, and recommendations for upgrades or retrofits that should be considered will not be made at this time. No evaluation of feasibility or preparation of engineering designs for upgrades or retrofits is included in this task. This preliminary investigation will be utilized in future phases of this project. No engineering design work will be performed as part of this task.

Deliverables:

- 1) Inventory of existing site stormwater management infrastructure, including notes indicating structures deemed to have functional deficiencies

Subtask 1e – Landfill Gas

EA will review the existing landfill gas monitoring data back to 2005 and the well boring construction logs with respect to regulatory compliance and future placement of new permanent perimeter landfill gas monitoring wells. EA will also provide the surveyed property boundary documentation to the County Landfill Gas Management Contractor for installation of new perimeter landfill gas monitoring wells approved by MDE as part of the gas monitoring plan. EA will review the gas monitoring well locations selected by others and provide comments via e-mail.

Deliverables:

- 1) Recommendations concerning location of new landfill gas monitoring wells
- 2) Updated topographic map from Phase 0 determination of property boundary and limit of waste, showing location of new gas monitoring wells (EA assumes the County will provide as-built coordinates for the new gas wells after they are installed. No surveying is included in this task.)

Subtask 1f – Topography

In conjunction with several of the subtasks described above EA will review various sources of site topographic information, including drawings, surveys, historical aerial views of the landfill, and new topographic data obtained through Phase 0 activities. EA will seek aerial photographs from several third-party sources to provide coverage of the landfill area at several times during the years of operation, in order to have insight on the fill operations.

EA will obtain the AutoCAD files of the topographic survey performed by the County in 2007 to compare to the current survey obtained through Phase 0 activities. EA will compare the topography from the two sources to evaluate the settlement that has occurred between the dates of the two surveys.

Deliverables:

- 1) Summary of topographic conditions at the site, including a discussion of settlement and areas of concern, including Spring #1 and Spring #2, the area lacking vegetation



- (Dead Zone) near Crabbs Branch Stream, and the N.W. Slope that borders the Community
- 2) Summary of historical information regarding fill placement

TASK 2: Nature and Extent Study Planning and Implementation

Subtask 2a – Project Schedule

Immediately after receiving a notice to proceed from the Authority, EA will prepare a detailed schedule of project activities and milestones for the Nature and Extent Study, with expected and maximum anticipated duration of key elements, and a critical path. The schedule will be generated and maintained in Microsoft PROJECT, and will be updated monthly and periodically at the request of the County.

Deliverables:

- 1) Phase 1 project schedule in Microsoft PROJECT, including 10 hardcopies in an easily readable format, and an abbreviated version mounted on 36” by 48”, one-half inch board

Subtask 2b – Study Plan

Based on findings from Task 1, EA will prepare a list of data deficiencies and develop a comprehensive Nature and Extent Study Plan. The Study Plan will include a scope description and schedule summarizing the planned scope of the study. The information obtained and reviewed during Subtasks 1a through 1f will be summarized in the Study Plan and will form the basis for the planned sampling activities. It is anticipated that the installation of additional existing monitoring wells will be recommended. The additional wells would be installed in areas where there is the greatest distance between existing monitoring wells (i.e., perimeter wells), as well as off-site areas where reported concentrations have been highest in samples collected from existing monitoring wells (i.e., off-site wells). Proposed well depths will be designed to evaluate groundwater concentrations at several intervals of potential impact (for example, the wells may be installed in shallow/deep pairs to evaluate conditions in the overburden/saprolite and the bedrock). Proposed sampling of surface water and seeps would also be included in the Study Plan.

A Draft Study Plan will be submitted to the Authority, the County, and the Maryland Department of the Environment for review and concurrence. Comments from the Authority, the County, and MDE will be integrated into the plan, and a Final Nature and Extent Study Plan will be issued prior to executing the Study.

Deliverables:

- 1) Draft Nature and Extent Study Plan
- 2) Final Nature and Extent Study Plan



Subtask 2c – Protected Resource Investigations

EA will conduct a routine wetland delineation (comprehensive delineation may be performed when required) in accordance with methodologies outlined in the U.S. Army, Corps of Engineers Wetland Delineation Manual. Wetlands will be classified in accordance with U.S. Fish and Wildlife Service's (USFWS) *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). Routine wetland delineation forms and on-site photographic documentation will be included during the field exercise. Following completion of the wetland delineation, a wetland delineation report will be prepared and will include a detailed description of the wetland areas delineated, calculations of wetland areas delineated, and figures that depict the wetland areas. Completed data sheets, photographs of the site and any necessary figures (USGS maps, soils surveys, etc.) will also be included in the report. This wetland delineation report shall include all information required by the USACE for Jurisdictional Determination (JD) approval, including the completion of the recently approved "Rapanos JD Forms", utilized by the USACE and EPA to determine significant nexus and jurisdiction. No submittals will be made to agencies for review at this point.

EA will also perform an assessment of the forest stands that either border on or are within the Gude Landfill property, and conduct a forest stand delineation (FSD). The FSD will include the completion of an FSD map and report that will meet the requirements of the MNCPPC. The FSD will be completed to support a Forest Conservation Plan that may be required in the future for remediation activities. No submittals will be made to agencies for review at this point.

Finally, EA will conduct Rare, Threatened, and Endangered (RTE) Species inquiries through USFWS and DNR, as well as an historic site inquiry, as required by the MNCPPC FSD process. EA will document all findings from these agencies and handle future coordination as needed based on their findings.

Deliverables:

- 1) Wetland delineations report and Wetland Delineation Map
- 2) FSD report and associated FSD map
- 3) RTE Species inquiry letters and agencies responses
- 4) Historic resources inquiry letters and agency responses

Subtask 2d – Additional Sampling and Data Gathering

Based on the list of data deficiencies developed in Subtask 2b above, EA will conduct additional field sampling and analysis, to confirm existing conditions in groundwater and surface water, including stormwater management facilities. Following a detailed review of existing soil, groundwater, surface water, and landfill gas data, additional monitoring locations and analytical parameters are expected to be necessary to fully characterize the site. For the purposes of this proposal, it was assumed that 10 new monitoring well pairs, including one shallow and one deep well at each location (for a total of 20 wells) would be installed. Soil and groundwater sampling consisting of a full suite of parameters including



volatile organic compounds (VOCs), metals, semivolatile organic compounds (SVOCs), pesticides and polychlorinated biphenyls (PCB) will be necessary to properly characterize new areas of investigation. In addition, a minimum of two sampling events are required to evaluate data trends; therefore, this proposal includes two sampling events, the second of which will be conducted 3 months after the first event.

Task-specific Assumptions:

- 1) 20 new wells will be installed at 10 locations during one field event. Only one mobilization event and one demobilization event is included in this task.
- 2) Drilling effort assumes 600 feet of drilling in sediment, 700 feet of drilling in rock, 40 drums for containerizing cuttings, 40 hours of initial well development, 20 hours of decontamination of drilling equipment, 1 hour of delay time, 3 days of backhoe support, and 2 days of bulldozer support.
- 3) As approved by the MDE, soil cuttings with and without commingled trash from new wells or related activities will be reburied at the landfill. If offsite disposal is required, costs are not included in this proposal.
- 4) Groundwater from sampling will be containerized and transported by EA to the County's Oaks landfill for disposal in the leachate treatment plant. It is assumed that a limited number (two) of representative samples will be sufficient for acceptance of the water at the treatment plant.
- 5) The County will coordinate property access and obtain permission for all work performed outside the County's property.
- 6) No landfill gas sampling or analysis is required and none is included in this task.
- 7) Sampling of new and existing wells will be performed.
- 8) Includes laboratory analytical costs for 100 liquid samples and 30 solid samples.

Deliverables:

- 1) Field sampling reports
- 2) Analytical laboratory reports
- 3) Updated database file containing new data in Microsoft Access format

TASK 3: Data Analysis and Risk Evaluation

Task 3 will consist of data analysis and risk evaluation as described further in this section. The results of the analysis and evaluation will be communicated with the County on a regular basis through the project progress meetings described in Task 5. A formal write-up of the analysis and evaluation will be included in the Study Report described in Task 4.

Subtask 3a – Groundwater and Surface Water Mapping

Independent maps will be prepared presenting groundwater and surface/stormwater flow on and around the perimeter of the landfill.



Groundwater Contour Map

Groundwater elevation data provides valuable information about an aquifer's response to a changing environment. Groundwater elevation data is primarily collected to determine groundwater flow direction and gradient. Additionally, careful attention to groundwater measurements can indicate such conditions as groundwater pumping zones, ground-surface subsidence, drainage problems, or poor water quality. The location of the existing and new groundwater monitoring wells will be field surveyed and appropriately depicted on the updated Base Map. Groundwater elevation measurements from these monitoring wells and surface water elevation measurements will be used to develop a Contoured Groundwater Elevation Map of the research area. The updated Base Map and Contoured Groundwater Elevation Maps will be completed using computer aided design and drafting (CADD) to provide consistency with existing site maps. The Contoured Groundwater Elevation Map will be used to assess critical hydrogeologic site conditions such as lithology, groundwater flow direction and gradient, and surface infiltration areas.

Drainage Area Map

The updated Topographic Map of the landfill will be used to generate a Drainage Area Map showing surface and stormwater flow directions on and around the perimeter of the landfill. Surface water bodies such as creeks and ponds and contributing runoff areas will be depicted on the map. Active stormwater structures identified during the field survey and utility locating activities will also be depicted on the map.

Deliverables:

- 1) Characterization of groundwater flows and associated map as master topographic map layer
- 2) Characterization of surface water flows and associated map as master topographic map layer
- 3) Characterization of storm water flows and associated map as master topographic map layer

Subtask 3b – Statistical Analysis

Additional statistical analyses and computer-aided modeling will be completed to assess groundwater and surface water contaminant concentration distributions. The groundwater and surface water modeling effort will be very limited, utilizing basic numerical modeling techniques. Potential contaminant transport scenarios will be evaluated on a conceptual basis.

Deliverables:

- 1) Tabular summary and graphical depiction of concentrations over time for limited constituents.
- 2) Contaminant plume map as master topographic map layer for limited constituents. This map layer is optional. The plume model will not be used if field verification data do not support the model.
- 3) Narrative characterization and tabular summary of hazards for limited constituents.

- 4) Summary of field verification measures for the modeling.

Subtask 3c – Conceptual Site Model

A conceptual site model will be generated based upon existing and potential future human and ecological exposure pathways. The model will also take into account the groundwater contour map, drainage area maps, and media-specific sampling results. Additionally, a map depicting likely contaminant migration routes will be constructed to assist with assessing the potential for human exposure and environmental effects, based on media-specific results along the migration routes. For potential human exposure, an initial risk evaluation will be performed based upon the results of the media-specific sampling results and the conceptual site model. A statistical analysis of the media-specific sample results will be completed to evaluate an appropriate concentration for any potential human exposure. Based upon this evaluation, the risk evaluation will compare chemical concentrations to human health risk-based screening criteria. The risk evaluation will assess the magnitude of potential human health concerns and recommend an additional human health risk assessment, if warranted. For potential ecological receptors, a screening-level ecological risk assessment (SLERA) will be performed. The SLERA will screen out chemicals that do not have the potential to adversely affect ecological receptors and identify those chemicals that do have a potential to cause an ecological concern. SLERA output will be calibrated against field data. Based on the exposure pathway evaluation and the conceptual model developed for the site, the assessment compares modeled exposure estimates to known literature-based toxicity values. The assessment will identify whether ecological threats are negligible, or if a baseline risk assessment is necessary.

Deliverables:

- 1) Narrative characterization of contaminant distribution and migration routes based on field data, and associated map as master topographic map layer
- 2) Narrative characterization of potential human exposure pathways, based on field data, and associated map as master topographic map layer
- 3) Summary of the potential for human and ecological exposure along the contaminant migration routes, based on field data
- 4) Recommendations for additional sampling and/or analysis if appropriate to resolve ambiguities or indefinite conclusions arising from analysis

Subtask 3d – Area Prioritization

Following the review of available information, EA will provide a breakdown of the Gude Landfill site into priority areas for remediation. The priority evaluation will be based in general on the physical distribution of contaminants and the presence of specific contaminants of concern at elevated levels, and more specifically on the following factors:

- The presence/absence of human and ecological exposure pathways
- The distribution of human health and ecological risk-based screening criteria exceedences
- Contaminant concentrations



- Depth to contamination
- Geological and hydrogeological conditions (soil type, groundwater flow direction)
- Land use in the vicinity of the contaminated media

The priority evaluation will also consider potential remedial alternatives and timelines to implement proposed remedial measures. This will be a conceptual evaluation only, and will consider technically feasible options for which approximate cost estimates can be based on literature values. Detailed remedial data analysis, design considerations, cost evaluations and equipment specifications must be determined during the remediation feasibility study phase.

Deliverables:

- 1) Summary of remediation priorities – a basis for the later Remediation Feasibility Memorandum

TASK 4 – Reporting of Analyses and Findings

Subtask 4a – Partial Completion Status Update

After completion of approximately fifty percent (50%) of the Nature and Extent Study, EA will prepare and present a status report on the progress of the study to the Authority and the County. This status report will address completion of scope elements with respect to project schedule, preliminary findings and results, issues and concerns, and budget reconciliation.

Deliverables:

- 1) Fifty percent (50%) completion status report

Subtask 4b – Draft Study Report

After completion of approximately ninety percent (90%) of the Nature and Extent Study, EA will prepare and submit a draft study report to the Authority and the County. The Study Report will include summary information, maps, analyses, and narrative discussions developed during the execution of Subtasks 2c, 2d, and 3a through 3d. Appendices to the Study Report will include the raw data collected during those subtasks.

Ten (10) copies of the draft report in 3-D-ring binders will be provided for review by the Authority, the County and others. In addition to the draft report, EA will also provide a status report addressing scope completion with respect to schedule and a budget reconciliation.

Deliverables:

- 1) Draft Nature and Extent Study Report

Subtask 4c – Remediation Feasibility Memorandum

Based on the findings of the Nature and Extent Study, EA will prepare a Remediation Feasibility Memorandum identifying critical items to be considered and incorporated in the



next phase of work, Phase 2 – Remediation Feasibility Study. The memorandum will briefly present potential remediation options, advantages and disadvantages of each remediation alternative, and approximate cost ranges for each alternative. Although some of the memorandum will be site-specific to Gude Landfill and the information gathered during the Nature and Extent Study, this Feasibility Memorandum will provide conceptual information on remediation options. Recognizing the County's need to plan for the remediation phases of the project, the cost ranges for each option will be subdivided into rough cost categories including additional investigation, engineering, site preparation, and construction. Detailed remedial data analysis, design considerations, cost evaluation and equipment specifications must be determined during the remediation feasibility study phase. The Remediation Feasibility Memorandum will supplement the Executive Summary of the Nature and Extent Study Report.

Deliverables:

- 1) Remediation Feasibility Memorandum

Subtask 4d – Draft Final Nature and Extent Study Report

After receiving review comments on the draft study report from the Authority and the County, EA will prepare a Draft Final Nature and Extent Study Report for submission to MDE. The study report will include an Executive Summary of the Nature and Extent Study, discussing major findings and recommendations, environmental impacts, and health and safety concerns. Fifteen (15) copies in 3-D-ring binders will be provided. After receiving comments on the draft final report from MDE, EA will integrate comments and issue a Final Nature and Extent Study Report to the Authority and the County. Written responses to MDE comments will be prepared. Six (6) copies in 3-D-ring binders will be provided.

Deliverables:

- 1) Executive Summary of the Nature and Extent Study Report
- 2) Draft Final Nature and Extent Study Report
- 3) Final Nature and Extent Study Report

TASK 5 – Project Communications Support

The Gude Landfill Remediation will be a complex and publically visible project. As such, effective and frequent communication with the public, with regulatory agencies, and with other stakeholders will be a key project success factor. In support of this requirement EA will provide various communications support services to the County.

Subtask 5a – Agency Communications

During the course of the project, certain notification, permission, approval, and permitting activities will need to be undertaken with various regulatory agencies and other jurisdictional entities, including but not limited to:

- Maryland Department of the Environment (MDE)
- U.S. Army Corps of Engineers (COE)



- Maryland National Capital Parks and Planning Commission (MNCPPC)
- Montgomery County Department of Permitting Services
- Columbia Gas/Transcontinental (pipeline right-of-way issues)

EA will identify the necessary notification, permission, approval, and permitting requirements for the project and the entities with jurisdictional authority over each requirement. EA will contact the appropriate federal, state, and local agencies; as well as adjacent property owners to confirm these requirements, to initiate the appropriate pathways, and to complete the required activities. All such communications will be documented in writing. Level of effort assumptions for providing this support are reflected in the attached detailed cost estimate.

Deliverables:

- 1) Copies of all professional correspondence with agencies and project stakeholders for the duration of Phase 1
- 2) A professional correspondence log, maintained for the duration of Phase 1
- 3) A remediation phase schedule showing all required permits and authorizations

Subtask 5b – Weekly Meetings

Montgomery County staff will hold weekly internal planning and progress meetings for the duration of the project. Representatives from EA's project team will attend these meetings. The specific EA personnel in attendance will be based on the technical requirements of each meeting.

Task-specific Assumptions:

- 1) Project duration will be 8 months, with 35 weekly meetings.
- 2) 50% of the meetings will be at the County's offices and 50% of the meetings will be by teleconference.
- 3) On average, two EA employees will attend the meetings.

Subtask 5c – Monthly Meetings

Montgomery County staff will hold monthly public meetings and presentations to keep interested parties apprised of project progress. Representatives from EA's project team will attend these meetings. The specific EA personnel in attendance will be based on the technical requirements of each meeting. EA will also provide technical support information and materials for these monthly meetings.

Task-specific Assumptions:

- 1) Project duration will be 8 months, with 8 monthly meetings.
- 2) On average, two EA employees will attend the meetings.

Deliverables:

- 1) Minutes of monthly meetings as bullet lists, to be issued within 2 business days
- 2) Presentation materials for public meetings will be prepared as necessary



Subtask 5d – Meeting Coordination and Documentation

During the course of the project, certain notification, approval, and permitting activities will be completed in accordance with various regulatory agencies and other jurisdictional entities, identified above. Representatives of EA's project team will coordinate the scheduling of meetings required for this purpose, and specific EA personnel will attend and lead the meetings as appropriate to ensure that approvals and permits required for the project are obtained in a timely manner. Level of effort assumptions for providing this support are reflected in the attached detailed cost estimate.

Deliverables:

- 1) Minutes of meetings as bullet lists, to be issued within 2 business days

Subtask 5e – Website Content

Montgomery County will develop and maintain an informational website to keep the public, MDE, and other project stakeholders informed about the progress of the project. EA will provide technical content for this website on an as-needed basis. EA IT personnel will work with County IT personnel to ensure compatibility of information. Level of effort assumptions for providing this support are reflected in the attached detailed cost estimate.

Deliverables:

- 1) Compatible web page content addressing major milestones, meeting announcements, summaries, etc. as required

Subtask 5f – Citizen's Resource

In response to the citizen's request for a County-funded Technical Representative for GLCC, the County has committed to make EA personnel available to GLCC to respond to ad hoc requests for information and interpretation of data. EA will provide such data and technical interpretation as requested, after first ensuring that the County has foreknowledge of the data.

Task-specific Assumptions:

- 1) Project duration will be 35 weeks.
- 2) EA will be required to expend 1 hour of effort per week to support this subtask.

SCHEDULE

After receiving a notice to proceed and all basic project information, EA will prepare a detailed schedule of project activities and milestones, with expected and maximum durations for key elements, and a critical path. The overall duration of Phase 1 will be determined after detailed review of the County's existing data during detailed scoping of the project. The approximate duration of the Nature and Extent Study is expected to be approximately eight months, depending on the duration of the public participation phases. The project phase duration may be modified based on the review of existing information or performance of site investigations.



COST

EA proposes to provide the services described above on a time and materials basis, with a not to exceed limit of **\$694,991**. A breakdown of pricing for each major project task is provided below.

Task 1: Data and Drawing Review and Analysis	\$44,718
Task 2: Nature and Extent Study Planning and Implementation	\$305,524
Task 3: Data Analysis and Risk Evaluation	\$81,783
Task 4: Reporting of Analyses and Findings	\$40,237
Task 5: Project Communications Support	\$78,729
Contingency Reserve	\$144,000

Costing details are provided in Attachment A. EA proposes to provide the scope of services under Contract #08-6 between the Authority and EA. The cost to execute future phases of the project will be developed after completion of the Nature and Extent Study.

GENERAL ASSUMPTIONS

The scope of work, schedule, and pricing provided in this proposal are based on the following general assumptions:

- The site specific safety and health plan developed in Phase 0 will continue to be used during Phase 1.
- Laboratory analyses of groundwater, surface water, and solids (soil or waste) will be based on PQLs (practical quantitation limits) in 40 CFR 258 Appendix II and MDE Tables 1 and 2 Monitoring Parameters.
- It is not anticipated that independent data validation will be required for data collected and analyzed in conjunction with this project. However, Level 3 Laboratory Data Deliverables will be required from the selected laboratories to enable independent data validation if required later.
- In its role as a technical resource for GLCC, EA will ensure that data and interpretive information are only provided to the citizens after it has been provided to the County.
- Installation of new landfill gas monitoring wells will be by others.
- It is anticipated that the investigation of RTE and historical/cultural resources will not go beyond agency inquiry letters and responses.
- The cost of application and permit fees charged by state and local agencies is the responsibility of others, and is not included in EA's pricing.

EA appreciates this opportunity to offer our services and we look forward to supporting the Authority and the County on this important project. Please contact us at 410-771-4950 with any questions you have concerning this proposal. If this proposal is acceptable as presented you may authorize EA to proceed by returning a signed copy of the proposal and a Notice to Proceed.



Sincerely,
EA Engineering, Science, and Technology, Inc.

John H. Kumm, P.E., BCEE
Senior Project Manager

Jonathan B. Brownstein, Ph.D.
Vice President

Attachment

ACCEPTANCE: I have reviewed and understand the information contained in this proposal, and by my signature below, provide authorization to proceed with the work defined herein.

Signature

Date

Name and Title (printed or typed)

Client Name (printed or typed)

Phone Number

Fax Number