



Expression of Interest

Engineering Services Required
for City of Wheeling
Landfill Closure Cap
Ohio County, West Virginia
DEP1700000002

GAI Project Number: E161167.00

November 22, 2016



11/22/16 09:35:00
WV Purchasing Division

Prepared by: GAI Consultants, Inc.
Charleston Office
300 Summers Street, Suite 1100
Charleston, West Virginia 25301

Prepared for: West Virginia Department of Environmental Protection
Landfill Closure Assistance Program
601 57th Street, S.E.
Charleston, West Virginia 25304



Charleston Office
300 Summers Street, Suite 1100
Charleston, West Virginia 25301

T 304.926.8100
F 304.926.8180

November 22, 2016

Project E161167.00

Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305

**Expression of Interest
City of Wheeling
Landfill Closure Cap
Ohio County, West Virginia
Solicitation No.: CEOI DEP1700000002**

To Whom It May Concern:

GAI Consultants, Inc. (GAI) welcomes the opportunity to submit our qualifications in response to your Request for Expression of Interest DEP1700000002 to provide professional engineering services. These services will result in the development of a site characterization study, leachate management, and closure cap design with construction quality assurance/quality control for closure of the City of Wheeling Landfill (Project) in Ohio County, West Virginia.

GAI is exceptionally well qualified to provide the State with the above referenced services offered at the most favorable terms from both a technical and value standpoint. The work under this contract will be performed in our Charleston, West Virginia office with support from our Bridgeport, West Virginia, and Pittsburgh, Pennsylvania area offices. The Charleston office has provided the State with quality engineering services for the landfill closure program since 1993. We have served the State on previous West Virginia Department of Environmental Protection – Landfill Closure Assistance Program (WVDEP-LCAP) open-end contracts including a previous project at the City of Wheeling Landfill. As a result of this long-term experience, GAI can provide the required expertise, continuity and conformance to program guidelines established by the WVDEP-LCAP.

GAI welcomes you to visit our facilities and meet our staff located at 300 Summers Street, Suite 1100, Charleston, West Virginia 25301.

GAI has:

- On staff four local and fifteen total West Virginia registered professional civil engineers with a combined experience of over 100 years on projects throughout West Virginia. These professionals are available to sign work contract documents and supervise personnel to provide the daily quality assurance and quality control services;
- Large diverse staff of civil engineers, CADD operators, surveyors, geologists, estimators, designers, and biologists with extensive experience in landfill engineering, hydrology, and geology;
- Substantial experience in providing immediate response to questions from the field and in handling situations as they arise between the contractor and WVDEP-LCAP; and
- Extensive experience in landfills, environmental remediation, ecological principles, and contract administration.

In summary, GAI will provide the most favorable terms as a result of:

- ▣ Exceptional qualifications (23 years of in-state LCAP experience most recently at Berkeley County and City of Wheeling Landfills),
- ▣ Local, Charleston, Bridgeport and Pittsburgh area, presence with excellent access to LCAP offices and the City of Wheeling Landfill, and
- ▣ Efficient and experienced personnel who are familiar with WVDEP-LCAP requirements and staff.

We look forward to continuing our relationship with WVDEP-LCAP. Should you have any questions regarding our Expression of Interest, please feel free to contact Mr. Charles Straley at 681.245.8866 or via email at c.straley@gaiconsultants.com

Sincerely,
GAI Consultants, Inc.



Charles F. Straley, MS, PE, PLS
Senior Engineering Manager

CFS/ptm

Enclosure: Expression of Interest

Expression of Interest
Engineering Services Required
for the
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Ohio County, West Virginia
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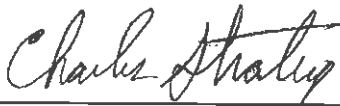
Issuing Office:

West Virginia Department of Environmental Protection
Landfill Closure Assistance Program
601 57th Street, S.E.
Charleston, West Virginia 25304

Submitted By:

GAI Consultants, Inc.
300 Summers Street, Suite 1100
Charleston, West Virginia 25301

Author:



Charles F. Straley, MS, PE, PLS
Engineering Manager



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Introduction

GAI Consultants, Inc., (GAI) proposes to provide engineering services to the West Virginia Department of Environmental Protection, Landfill Closure Assistance Program (WVDEP-LCAP). These services will result in the development of mapping, engineering drawings, contract specifications, and other contract documents for the leachate management and closure cap as may be required for the letting of construction project for the City of Wheeling Landfill.

The highlighted sections following are:

- **Bidders Experience**
 - Geotechnical Engineering and Soil Science
 - Surveying
 - Laboratory Services
 - Site Characterization, Design Engineering and Contract Document Preparation
 - Qualifications of Personnel
- **Corporate Specialized Experience and Demonstrated Experience**
- **Management Plan and Location of Facilities**

GAI's Charleston and Bridgeport, West Virginia and Pittsburgh, Pennsylvania area offices are exceptionally well qualified to provide the State with the above referenced services. GAI's Charleston office has a staff of four Professional Engineers, one Professional Surveyor, and a team of geologists/hydrologists, environmental scientists, biologists, technicians, CADD designers, estimators, landscape architects, secretaries, and field technicians. GAI's Charleston office has served the WVDEP on previous LCAP open-end contracts from 1993 to the present. These projects have included:

- Leachate analysis;
- Ground water investigations;
- Surface water investigations and analyses;
- Site characterizations;
- Gas monitoring plans;
- LCAP-2000 system update;
- Leachate collection, treatment and disposal systems;
- Cap (clay and synthetic) designs;
- Storm water control; and
- Quality assurance and quality control.

GAI provided site characterization, closure design and QA/QC services for the Kanawha Western, Central West Virginia Refuse, Fayette County, Mingo County, Berkeley County, and Wheeling Landfills for the LCAP program.

GAI also provides engineering services to the landfill industry including:

- Siting and Feasibility Studies;
- Environmental Assessments;
- Permit Applications;
- Detailed Facility Design;
- Plans and Specifications;

- Geotechnical, Hydrogeologic, and Water-Quality Investigations;
- Water-Quality Statistical Analyses;
- Ground Water Sampling and Analyses;
- Wetland and Ecological Studies;
- Develop Recycling Programs;
- By-product Marketing Studies;
- Construction Monitoring and Certifications;
- Community Relations; and
- Government Liaison.

As a result of this experience, GAI will provide the required expertise to complete landfill closure projects in a timely, economical, and efficient manner and will only require minimal subconsultants to be utilized on this project. Our direct knowledge of the LCAP program guidelines and personnel will also benefit the State.

GAI will perform the work under this contract in our Charleston, West Virginia office. GAI also has offices in Bridgeport, West Virginia and Pittsburgh, Pennsylvania area which has staff available that can provide services needed at the site.



Bidder Experience

Transforming ideas into reality® since 1958, GAI is an employee-owned engineering, environmental, planning, and economic consulting firm providing local expertise to worldwide clients in the energy, transportation, development, government, and industrial markets. The firm has experienced steady growth in both size and capabilities; and for the past eighteen years has been rated among the top 500 engineering and environmental firms in the nation by Engineering News Record. GAI provides consulting services in geotechnical engineering, civil engineering, environmental engineering, mining-related design engineering, geology, hydrogeology, environmental science, economics, transportation systems and land-use planning, urban and site engineering, structural engineering, engineering mechanics, agronomy, anthropology and archaeology, and various related professional disciplines.

GAI is headquartered in suburban Pittsburgh, Pennsylvania and has a total of 24 offices in 11 states, including Charleston and Bridgeport, West Virginia. GAI and its subsidiaries comprise an organization of over 900 engineers, scientists, and support personnel. With our surveying services and competent staff of professionals, GAI offers a comprehensive approach to engineering problems requiring a wide range of interdisciplinary skills. In the past 58 years, we have designed and monitored the construction of numerous facilities and have conducted thousands of related geotechnical and hydrological investigations, many of which involved siting, design, and closure of landfills. By successfully completing so many reclamation projects, GAI has obtained "expertise" status on an international basis for many types of projects.

GAI's Charleston, West Virginia office opened in 1985. Since opening, our Charleston office has experienced steady growth. Currently, the Charleston office has four registered professional engineers and other experienced disciplines on staff. Clients served by the Charleston office include solid waste authorities; mining and industrial companies; federal, state, and local governmental agencies; engineers and architects; and private developers. GAI has successfully served the WVDEP on previous LCAP contracts from 1993 to the present. We propose to utilize most of the same Charleston and Pittsburgh staff, supported with staff from our Bridgeport office. See Appendix C for GAI's Consultant Qualification Questionnaire (CQQ).

Geotechnical Engineering and Soil Science

GAI is exceptional in helping clients manage the ground materials and geologic processes that affect their facilities, properties, and project sites. Our geotechnical engineers and geologists are highly experienced in the basic principles of engineering geology, soil and rock mechanics, foundation engineering, subsidence, and mine studies. With years of academic training, and extensive research, and field experience, GAI's depth of experience and knowledge represents a viable and valuable solution for unforeseen foundation issues.



Subsurface investigations will be required to obtain information for site characterization (e.g. waste limits, potential borrow areas, etc.) and closure design, installation of monitoring wells, and foundations for a leachate tank, if necessary. We have relationships with several drilling firms to provide an economical and available contractor to complete the project. Borrow area investigations will be conducted by GAI personnel, as has been the case in past projects.

Thorough site explorations detect geologic and environmental hazards that can disrupt site or project development. GAI's geotechnical expertise in site design includes addressing areas subject to expansive materials, sinkholes, and subsidence such as those underlain by karst and underground coal and limestone mines. GAI also has extensive site design experience in areas of potential seismic activity and those with liquefaction potential.

For many projects, soil is a finite and critical resource. GAI moves projects forward by evaluating subsurface and soil conditions, and recommending effective use of available soils. Knowing that projects require large amounts of soil and unconsolidated rock material, we help clients plan excavation sequences, processing needs, and optimum soil placement.

GAI's broad range of services includes feasibility studies that identify contaminated soils. We evaluate chemical, biological, hydrological, and regulatory factors, and recommend acceptable, cost-effective monitoring and remediation solutions that meet regulatory requirements. Our plans to re-establish permanent vegetation cover on disturbed lands and contaminated sites includes customized fertility programs and seeding mixtures, and we specialize in using coal combustion residuals to expand limited soil resources.

Geotechnical Engineering and Soil Science Services

- Subsurface studies and investigations
- Subsidence studies and remediation
- Geologic studies and reconnaissance
- Site characterization and undisturbed soil sampling
- Soil borrow investigations
- Foundation recommendations, design, research
- Geogrid reinforcement
- Geosynthetic materials design
- Slope stability analysis and MSE slope design
- Earth and rock retaining system design
- Soil and rock anchors
- Concrete, rock, grout, cone penetrometer testing
- Pile static and dynamic load testing
- Pile drilling inspection
- Soil bioremediation and landfarming
- Waste water disposal and agricultural utilization
- Soil improvement techniques
- Coal combustion residuals (CCRs) soil utilization
- Geoarchaeology, geomorphology, pedology

Surveying

To provide cost efficient and timely services for this contract, surveying services will be conducted by GAI's in-house surveyors. GAI routinely performs the following types of surveys which are relevant to the work associated with this type of project.

GAI field survey crews, working closely with in-house mapping specialists, have access to an extensive library of computerized mapping software including Terramodel, Arc-Info, GRASS, Microstation and AutoCAD.

Design Surveys - Design surveys are the foundation upon which designs are based. GAI records boundary line locations, topography, physical features, on-site buildings and utilities, encroachments, and easements. Quality foundation design plans are produced from these details.

Topographic Surveys - GAI uses the latest technology in field equipment, recorders, and computer mapping for accurate topographic surveys that incorporate ground run, aerial, tree, utility location, wetland, floodplain and hydrographic surveying and mapping for CADD.



Construction Surveys - Conducted on site during the initial preparation stage of construction, these surveys provide information critical to establishing location and elevation. GAI saves clients and contractors thousands of dollars in potentially damaging lost time and litigation liability by providing this key information accurately and early.

Boundary Surveys - GAI's boundary surveys identify land titles and ownership, and document real estate financing, appraisals and sales, insurance, as-built delineations, encroachment delineation, boundary line disputes, subdivisions, rezoning and variances.

Control Surveys - GAI's control surveys establish a series of grid lines and points that pinpoint physical features. The data is used to establish horizontal and vertical control points and independent triangulation measurements to develop reliable control grids.

Hydrographic Surveys - Supporting storm water management and wetland mitigation, these surveys require trained staff, special equipment, and extensive experience. GAI conducts hydrographic surveys for bridges and on wetlands, lakes, rivers, and shorelines.

GAI uses Global Positioning System (GPS) for horizontal and vertical control surveys. With GPS technology our surveyors can reference global datum, re-create control points. We conduct utility location surveys, document archaeological/historical data, and support eminent domain work. Combining GPS technology with conventional survey saves time and money.

All surveys conducted by GAI will be completed under the supervision of a West Virginia licensed land surveyor. Surveying will also be performed under the general direction of a West Virginia registered professional engineer, the GAI project engineer and project manager. All surveys and mapping are completed to the standards as outlined by the National Map Standards, as well as other applicable quality standards to include LCAP specifications.

Surveying Services

- ▣ ALTA/ACSM Land Title surveys
- ▣ Topographic, boundary, and hydrographic surveys
- ▣ Aerial mapping and geodetic control surveys
- ▣ Floodway and dam surveys
- ▣ Subdivision and land development plans
- ▣ Volume calculations (cut/fill)
- ▣ FEMA flood elevation certificates
- ▣ Boundary and right-of-way (ROW) legal descriptions
- ▣ ROW plats
- ▣ Wetland boundary delineating surveys
- ▣ Embankment failure surveys
- ▣ Construction layout
- ▣ Existing conditions surveys (as-built)
- ▣ Erosion and Sedimentation Control Drawings
- ▣ Post Construction Stormwater Management Plans
- ▣ Borings and Piling Layout
- ▣ Structural Monitoring Surveys
- ▣ Forensic surveys
- ▣ Transportation surveys
- ▣ Industrial plant surveys

Laboratory Services

We utilize local soils laboratories for laboratory testing. The laboratory has the capability to analyze natural materials such as soil and rock, manufactured materials such as concrete and steel, and industrial waste materials. The soils and industrial waste analysis capabilities include classification tests, moisture content, grain size analysis, Atterberg limits, specific gravity, unit weight determinations, and chemical analyses. The characteristic test capabilities include relative density equipment for sample particle sizes to three inches in diameter; apparatus for constant- and falling-head permeability measurements in both horizontal and vertical directions, and for moisture-density relationships for both modified and standard densities. The compressibility of materials can be determined in a 2.5-inch diameter, one-dimensional consolidometer or a 2.5-inch diameter, one-dimensional Anteus consolidometer with back pressure and pore pressure capability. Also, volumetric consolidation can be determined isotropically or anisotropically. The strength parameters of soils and industrial waste materials can be determined by unconfined compression, direct shear, or triaxial shear tests. The rock-testing capabilities include classification by visual inspections and petrographic analysis, unconfined compression, direct shear, and triaxial shear tests. GAI also maintains several nuclear densometer testing gauges and appropriate NRC licensure to monitor field compaction.

Site Characterization, Design Engineering and Contract Document Preparation

GAI has extensive experience in site characterization, design engineering and the preparation of contract documents for landfill closures. GAI prides itself in development of simple, yet innovative, cost-efficient designs that are easily implemented in the field during construction. Our experience gained on various types of West Virginia LCAP projects during the past 23 years will ensure this quality engineering continues.

GAI has prepared construction packages for WVDEP-LCAP since 1993. GAI is completely familiar with WVDEP's guidelines for preparing construction drawings, technical specifications, and supporting documents. We are able to draw on a large collection of typical construction details contained within our computer aided drafting (CAD) library for the above types of LCAP projects. GAI also has various master specifications which we are able to draw from to create project specific specifications.

During the design engineering phase of our projects, GAI develops alternatives for the landfill closures and schedules meetings with WVDEP-LCAP to review options and select a mutually acceptable plan. We feel that this approach results in a more workable plan at an ultimately lower cost. We also perform a constructability review of each construction package by technical staff familiar with proposed methods of construction. This review also expedites the overall reclamation plan.

Qualifications of Personnel

A summary of GAI's lead and advisory staff assigned to this Project are provided below. GAI's staff is intimately familiar with West Virginia regulations and has performed similar services for hundreds of projects in the West Virginia area. We believe that this, combined with our local presence in Charleston, West Virginia, will enable us to realize the successful completion of this Project in an efficient and effective manner.

Charles F. Straley, MS, PE, PLS – Senior Engineering Manager

Mr. Straley will serve as the Project Manager. He has managed and participated in the design and development of landfill design and studies for over 10 projects for the WVDEP - LCAP Program. Mr. Straley has a complete understanding of WVDEP - LCAP guidelines, specifications, and project expectations. He specializes in civil engineering with an emphasis in geotechnical engineering, including all aspects of subsurface exploration, laboratory testing, foundation and embankment design, slope stability, material and construction specifications, and construction administration, management, and monitoring. Mr. Straley served as the project manager on the previous project at the City of Wheeling Landfill.

Kenneth W. Kinder, PE, CFM – Assistant Engineering Manager

Mr. Kinder will serve as a Project Engineer. He will be responsible for preparation of construction drawings, technical specifications, calculations, and cost estimates. He will oversee hydrologic/hydraulic aspects of the project including stormwater management and erosion and sediment control. He has 15 years of engineering experience which has included the design, permitting, and construction monitoring of landfill expansions and the placement of capping systems in West Virginia. Mr. Kinder has participated in the design, permitting, and construction of the closure of Fleming Landfill and Jackson County Landfill. Mr. Kinder also assisted with hydraulic design for a portion of the Elkins Landfill. Additionally, he has prepared closure plans and has assisted with construction monitoring and construction management for various industrial landfills, CCR facilities, and environmental remediation sites.

John R. Klamut, MS, PE, CFM – Engineering Manager

Mr. Klamut will serve as a Project Engineer. He will assist with initial development and design of the landfill closure plan. He is a Professional Engineer who specializes in permitting, design, and construction of landfill facilities. Mr. Klamut has 16 years of experience with landfill design and has served as Project Manager for the design, permitting and/or construction of over ten municipal solid waste and industrial landfills in West Virginia, Virginia, Arizona and California. Mr. Klamut will utilize his experience working on landfill facilities in West Virginia, Virginia, Pennsylvania, Arizona, California and Utah in the solid waste, mining and power generation industries to provide expertise and innovative solutions for this project. Mr. Klamut's landfill experience includes the permitting of new solid waste landfill facilities, the permitting of solid waste landfill expansions, the permitting and design of a solid waste landfill mining project, and the design of new landfill cells and closures. Mr. Klamut's solid waste experience also includes construction oversight of new disposal cells, cell closures, lined leachate collection ponds, stormwater ponds, stormwater conveyance channels, downchutes, and landfill mining projects. Mr. Klamut's landfill closure experience includes the design and construction oversight of low permeability soil caps, evapotranspiration soil caps, and geomembrane caps with soil cover and geosynthetic drainage layers.

Kerry L. Frech, PE – Civil Technical Leader

Mr. Frech will serve as the Civil Engineer/Hydrologist. Mr. Frech will provide expertise in the area of hydrology and hydraulics, including but not limited to stormwater management and modeling of drainage systems. He specializes in applying hydrologic and hydraulic principles to the development of water and land related resources. He has prepared numerous state and federal permit applications in West Virginia, Pennsylvania, Maryland, Virginia, and New Jersey, for public and governmental entities and for private industry. His project experience ranges from planning and feasibility-level studies to design and the preparation of construction documents. His experience with hydrologic and hydraulic modeling includes HEC-RAS, HEC-HMS, HEC 1, HEC 2, DAMBRK, PSRM, SCS TR 20 and TR 55, RIVER2, WSPRO, and the Water Resources Council's Bulletin 17B.

R. Scott Bria – Lead CAD Operator

Mr. Bria will serve as the Lead CAD Operator. He will be responsible for activities that will include development of project drawings, transferring survey data to project plans, and development of project details. Mr. Bria has 15 years of experience with landfill design including the Fleming landfill within the LCAP system. Mr. Bria has extensive knowledge in the use of CAD software for developing grading plans and earthwork quantities. Mr. Bria served as the primary QA/QC construction oversight for closure of the Fleming Landfill.

Terry W. Queen – Lead Construction Technician

Mr. Queen will serve as the primary QA/QC personnel. He will be responsible for collecting field data including but not limited to water samples, soil borrow samples, refuse samples, and verification of mapping. Mr. Queen will provide construction monitoring and administration services. Mr. Queen has provided QA/QC services on five LCAP projects and performed fieldwork on several other LCAP projects. He has a complete understanding of WVDEP-LCAP guidelines, specifications, and project expectations. Additionally, Mr. Queen has an excellent working relationship with LCAP staff.

Jason T. Green – Senior Project Technical Specialist

Mr. Green will serve as the Senior Project Technical Specialist. He will be responsible for activities that will include development of project drawings, transferring survey data to project plans, and development of project plans and details. He will also assist the Project Engineers and Managers in their duties. He specializes in site planning, earthwork detailing, and design/drafting of preliminary and final designs for mine reclamation sites and mining permits. He also provides drafting services for site development projects, and prepares construction drawings for various projects. Mr. Green prepares preliminary and final contract plans that include construction plans, ROW plans, horizontal and vertical geometry design, traffic control, drainage, and erosion control.

Jayne L. Fuller – Environmental Manager

Ms. Fuller will serve as an Environmental Manager. She will be responsible for providing services related to natural resources, including but not limited to wetland delineation, benthic studies, wetland restoration or mitigation, endangered species and stream restoration. Ms. Fuller specializes in managing Clean Water Act (CWA) Section 401/404 permitting, Endangered Species Act compliance, biological and botanical inventories, and wetland delineations for several natural gas operation and maintenance projects. Additionally, she coordinates with state and federal agencies for project in multiple industries including coal, natural gas, aggregate mining, residential and commercial development.

Corporate Specialized Experience and Demonstrated Abilities

GAI has provided a wide variety of services to governmental agencies and industry related to landfill design and closure.

In addition we have performed similar services for other agencies and sections of the WVDEP and other state and federal agencies including:

- Open End and Specific Contracts for design of Abandoned Mine Lands (AML) Reclamation and Acid Mine Drainage (AMD) sites throughout West Virginia;
- Numerous projects for the Office of Surface Mining, and Reclamation and Enforcement (ASMRE) throughout Kentucky and Pennsylvania;
- Numerous projects for Ohio Division of Natural Resources; and
- Multiple landfill sites for electric generation companies for disposal of Coal Combustion Residuals (fly ash, bottom ash, and gypsum). This has included assessment, design and permitting in West Virginia and other states.

Management Plan & Location of Facilities

Management Plan

GAI's proposed project management plan is presented on Figure 1. The work will be performed in GAI's Charleston, West Virginia office which will allow ready access to the project area. Assistance, if and when needed, will be provided by staff located in the Bridgeport, West Virginia and Pittsburgh, Pennsylvania offices of GAI. GAI's Charleston location is also less than six miles from the WVDEP's Charleston Headquarters.

GAI's professional, technical, and support staff have extensive experience on LCAP and related design projects and are extremely well qualified to serve the WVDEP on this contract. GAI stands ready to commit the personnel and resources required to complete the project in a timely, technically sound, and cost efficient manner.

Project Management will be provided by **Charles F. Straley, MS, PE, PLS**, as shown in Figure 1. He will be responsible for the day to day management and performance of the project. He will review the work directive and spreadsheet preparation of the scope of work and cost proposal. A written proposal including a detailed cost estimate (manhours and expenses associated with the project) will then be prepared and submitted to the WVDEP for their review. Upon WVDEP's approval of the proposal, the Project Manager will arrange for the start of the work. Included will be project staffing, arrangement and detailing of the scope of services to be provided by GAI, and review of project budget and schedule. The Project Manager will on a daily basis supervise the work in progress and review work products of others at regular intervals and finally prior to submittal to the WVDEP. They will be responsible for maintaining liaison with the WVDEP Project Manager including project status reports, as required. They will be responsible for adherence to the project schedule and budget.

Day-to-day project activities will be performed under the direction of the Project Manager by one of the project engineers (i.e., **Kenneth W. Kinder, PE, CFM** or **John R. Klamut, MS, PE, CFM**), surveying or environmental staff as shown in Figure 1.

GAI's large experienced staff permits us to respond quickly, provides flexibility, and permits high level input to the project's staff from in house experts. However, our method of staffing projects, as evidenced by our performance on prior projects for WVDEP-LCAP, is to assign a small team with total responsibility for completion of the work to the client's satisfaction and budget. Where necessary the core group can draw on the expertise available within GAI's large and experienced staff.

Quality Assurance/Quality Control

GAI understands the importance of providing our clients with on-time, cost-effective, high-quality professional services. The continued success of our firm is directly related to our ability to continue to meet the cost, quality, and schedule requirements of our projects. We achieve this success through our experienced professional staff and by utilizing our Quality Management System (QMS). GAI's QMS is based upon a continuously improving project delivery strategy that reflects our clients' needs and utilizes current technology. The Project Delivery System provides the quality assurance/quality control functions from project inception through project closeout and encompasses project deliverables received from subcontractors that are managed by GAI. The Project Delivery System incorporates processes and procedures that describe how professional services are planned, executed, checked, verified, and delivered to our clients. The system is flexible so that it allows GAI to meet the needs of individual clients.

All field services will be performed by qualified personnel familiar with construction safety rules and under the direction of a registered Land Surveyor licensed in the State of West Virginia. Interpretation of survey data, in addition to the preparation of the Drawings, will be by a licensed professional Land Surveyor. The Drawings will be signed and sealed by the professional Land Surveyor responsible for the survey.

Summary Level Execution Plan

GAI strives to perform as an extension of our clients' staff with a service-oriented approach to make WVDEP's managers lives easier. Our approach is focused on regular and effective communication to keep WVDEP informed of progress and to address Project challenges as they arise. GAI will provide comprehensive surveying support, guidance, and strategic consultation with WVDEP, and has set forth a number of communication, management, and monitoring systems to handle the Project. GAI's Summary Level Execution Plan will be used to manage and communicate the Project scope, schedule, and budget with WVDEP to promote successful implementation of the Project.

Project Initiation

GAI will meet with WVDEP personnel and appropriate Project stakeholders for a kick-off meeting to review the field safety and property access protocols, schedule, points of contact, and coordination and communication systems. GAI will also attend any additional meetings, as detailed in the Project Status Reports and Meetings, below.

Project Communication

GAI will perform weekly status and progress meetings internally and communicate this to the WVDEP Team. GAI will keep in regular contact with WVDEP through the attendance of routine conference calls, as requested by WVDEP, to facilitate and communicate the Project details and deliverables. Additionally, GAI will have monthly on-site meetings with WVDEP. These meetings and conference calls can be conducted using conference call-in numbers or conferencing systems which will allow sharing of the desktop to display data for discussion.

Scheduling and Resource Allocation

GAI is well aware of demanding schedules in order to meet deadlines and to keep the Project on track for ultimate construction. Our team is highly motivated and takes a great deal of pride in their work. To coordinate, forecast, and manage the Project schedule, GAI proposes to utilize Microsoft Project or Primavera scheduling and resource allocation software to track Project milestones.

Project Controls Group

GAI has established a Project Controls group to assist our Project Managers in monitoring costs and managing reporting. This group utilizes Deltek Vision v7.6, GAI's enterprise management software, to monitor the progress, cost, and schedule of each project.

Project Work Plan Management

To track and manage the Project budgets, GAI proposes to use a Cost Tracking Spreadsheet. GAI will update the Cost Tracking Spreadsheet on a weekly basis, which includes the awarded value for each task, approved change order amounts, current invoice amount, amount invoiced to date, remaining amounts approved, and physical percent complete.

To manage and document the Projects' scope, if activities are determined to be required that are not part of this scope (change orders), GAI will provide work plans to WVDEP to be approved. GAI will incorporate these change orders into the Cost Tracking Spreadsheet as they are approved. GAI's proposed routine conference calls will include a review of the Project budget and change orders, as needed.

Data and Drawing Management

GAI will store digital information on the servers in the Pittsburgh office, including Microsoft Office documents, Geographical Information System (GIS) shape files, and PDFs of mapping. GAI will provide a means to share large files with WVDEP through the use of a password protected FX site or by providing direct links to files on the server through the use of GAI's Newforma or SharePoint System. Hard copies may also be stored in GAI's library for future reference.

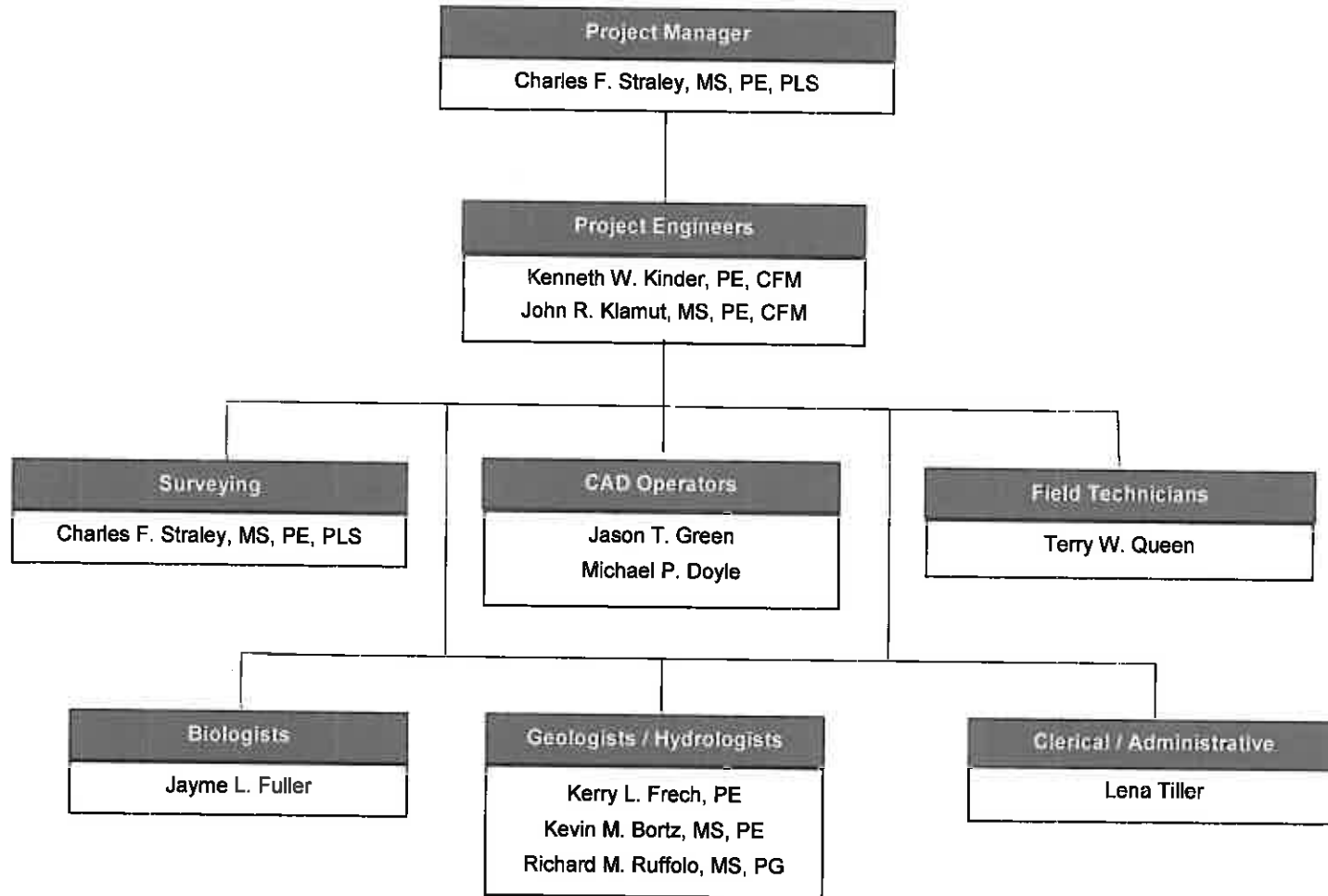
Project Closeout Documentation

As standard protocol for this project, our daily work logs, digital files, as-built drawings, and technical information are collected through daily activities. This information is shared within GAI's library and at the closure of the project can be provided to WVDEP for facilities records.

Location of Facilities

GAI proposes to complete work under this contract in our Charleston, West Virginia office with support from our Bridgeport, West Virginia and Pittsburgh, Pennsylvania area offices. We feel that our close proximity to the WVDEP's Charleston office and the project area will allow the project to be completed in a timely, efficient manner. The location of the Bridgeport and Pittsburgh area offices will provide efficiency for travel to the site for site visits to collect samples, collect survey information, site photos etc.

FIGURE 1



Appendix A – Request for Quotation



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Expression of Interest
 02 – Architect/Engr

Proc Folder: 254208

Doc Description: EOI: City of Wheeling Landfill Closure Cap Design

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2016-10-06	2016-11-15 13:30:00	CEOI 0313 DEP1700000002	1

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:

GAI Consultants, Inc.
 300 Summers Street
 Suite 1100
 Charleston, WV 25301
 (304) 926-8100

FOR INFORMATION CONTACT THE BUYER

Jessica S Chambers
 (304) 558-0246
 jessica.s.chambers@wv.gov

Signature X

FEIN # 25-1260999

DATE November 22, 2016

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

Expression of Interest

The Acquisition and Contract Administration Section of the Purchasing Division is soliciting Expression(s) of Interest for The West Virginia Department of Environmental Protection, from qualified firms to provide architectural/engineering services as defined herein.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF ENVIRONMENTAL REMEDIATION 601 57TH ST SE CHARLESTON WV25304 US	ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
1	City of Wheeling LF		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :

Site Characterization Study, Leachate Management and Closure Cap Design for the City of Wheeling Landfill per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.

DEP1700000002	Document Phase Draft	Document Description EOI: City of Wheeling Landfill Closure Cap Design	Page 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Expression of Interest
 02 – Architect/Engr

Proc Folder: 254208

Doc Description: Addendum 1-EOI: City of Wheeling Landfill Closure Cap

Proc Type: Central Purchase Order

Date issued	Solicitation Closes	Solicitation No	Version
2016-10-07	2016-11-15 13:30:00	CEOI 0313 DEP1700000002	2

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV 25305

US

VENDOR

Vendor Name, Address and Telephone Number:

GAI Consultants, Inc.
 300 Summers Street
 Suite 1100
 Charleston, WV 25301
 (304) 926-8100

FOR INFORMATION CONTACT THE BUYER

Jessica S Chambers
 (304) 558-0246
 jessica.s.chambers@wv.gov

Signature X

FEIN # 25-1260999

DATE November 22, 2016

All offers subject to all terms and conditions contained in this solicitation

Addendum

Addendum No.01 issued to publish and distribute the attached information to the vendor community.

Expression of Interest

The Acquisition and Contract Administration Section of the Purchasing Division is soliciting Expression(s) of Interest for The West Virginia Department of Environmental Protection, from qualified firms to provide architectural/engineering services as defined herein.

TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF ENVIRONMENTAL REMEDIATION 601 57TH ST SE CHARLESTON WV25304 US		ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue
1	City of Wheeling LF		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :

Site Characterization Study, Leachate Management and Closure Cap Design for the City of Wheeling Landfill per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.

DEP1700000002	Document Phase Final	Document Description Addendum 1-EOI: City of Wheeling Landfill Closure Cap	Page 3 of 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Expression of Interest
 02 – Architect/Engr

Proc Folder: 254208

Doc Description: Addendum 2-EOI: City of Wheeling Landfill Closure Cap

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2016-11-04	2016-11-22 13:30:00	CEOi 0313 DEP1700000002	3

BID RECEIVING OFFICE:

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR:

Vendor Name, Address and Telephone Number:

GAI Consultants, Inc.
 300 Summers Street
 Suite 1100
 Charleston, WV 25301
 (304) 926-8100

FOR INFORMATION CONTACT THE BUYER

Jessica S Chambers
 (304) 558-0246
 jessica.s.chambers@wv.gov

Signature X *Charles Stratig*

FEIN # 25-1260999

DATE November 22, 2016

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Addendum

Addendum No.02 issued to publish and distribute the attached information to the vendor community.

Expression of Interest

The Acquisition and Contract Administration Section of the Purchasing Division is soliciting Expression(s) of Interest for The West Virginia Department of Environmental Protection, from qualified firms to provide architectural/engineering services as defined herein.

ENVIRONMENTAL PROTECTION OFFICE OF ENVIRONMENTAL REMEDIATION 601 57TH ST SE CHARLESTON WV25304 US	ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US
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Line	Comm Ln Desc	Qty	Unit issue
1	City of Wheeling LF		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :

Site Characterization Study, Leachate Management and Closure Cap Design for the City of Wheeling Landfill per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.

DEP170000002	Document Phase Final	Document Description Addendum 2-EOI: City of Wheeling Landfill Closure Cap	Page 3 of 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Charles F. Straley, PE, PLS, Senior Engineering Manager

(Name, Title)

(Printed Name and Title)
300 Summers Street, Suite 1100, Charleston, WV 25301

(Address)
(304) 926-8100 / (304) 926-8180

(Phone Number) / (Fax Number)
c.straley@gaiconsultants.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

GAI Consultants, Inc.

(Company)

Charles Straley

(Authorized Signature) (Representative Name, Title)

Charles F. Straley, PE, PLS, Senior Engineering Manager

(Printed Name and Title of Authorized Representative)

November 22, 2016

(Date)

(304) 926-8100 / (304) 926-8180

(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: _____

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

<input checked="" type="checkbox"/> Addendum No. 1	<input type="checkbox"/> Addendum No. 6
<input checked="" type="checkbox"/> Addendum No. 2	<input type="checkbox"/> Addendum No. 7
<input type="checkbox"/> Addendum No. 3	<input type="checkbox"/> Addendum No. 8
<input type="checkbox"/> Addendum No. 4	<input type="checkbox"/> Addendum No. 9
<input type="checkbox"/> Addendum No. 5	<input type="checkbox"/> Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

GAI Consultants, Inc.

Company

Charles Stratley

Authorized Signature

November 22, 2016

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Revised 6/8/2012

Appendix B – Affidavit

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: GAI Consultants, Inc.

Authorized Signature: *Charles Stealy* Date: November 22, 2016

State of West Virginia

County of KANAWHA, to-wit:

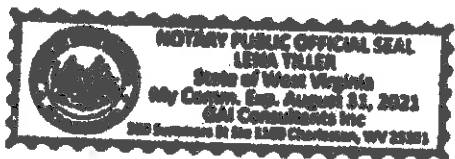
Taken, subscribed, and sworn to before me this 22nd day of November, 2016

My Commission expires August 31, 2021

AFFIX SEAL HERE

NOTARY PUBLIC *Lena Tiller*

Purchasing Affidavit (Revised 08/01/2015)



Appendix C – Consultant Qualification Questionnaire

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CONSULTANT QUALIFICATION QUESTIONNAIRE**

PROJECT NAME City of Wheeling Landfill Closure Cap Design	DATE (DAY, MONTH, YEAR) 22 November, 2016	FEIN 25-1260999
1. FIRM NAME GAI Consultants, Inc.	2. HOME OFFICE BUSINESS ADDRESS 385 East Waterfront Drive Homestead, PA 15120-5005	3. FORMER FIRM NAME General Analytics, Inc.
4. HOME OFFICE TELEPHONE 412-476-2000	5. ESTABLISHED (YEAR) 1958	6. TYPE OWNERSHIP INDIVIDUAL, CORPORATION, PARTNERSHIP, JOINT-VENTURE Corporation
		6A. WV REGISTERED DBE (DISAVANTAGED BUSINESS ENTERPRISE) NO

7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type)
PERSONNEL EACH OFFICE
300 Summers Street, Suite 1100, Charleston, WV 25301 / (304) 926-8100 / Stephen Gould, MBA, MS
20 Charleston, 13 Bridgeport, 13 Pittsburgh
600 Market Place Avenue, Suite 301, Bridgeport, WV 26330 / 304-808-6680

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Stephen Gould, MBA, MS, Vice President/Senior Director	8a. NAME, TITLE, & TELEPHONE NUMBER-OTHER PRINCIPALS Gary M. DeJidas, P.E., President, Anthony Morocco, P.E., Senior Vice President, 412-476-2000
---	--

9. NUMBER OF PERSONNEL BY DISPLINE (**Bold Lettering Indicates Minimum Design Team Members**)
Detailed information On Team To Be Included

100 ADMINISTRATIVE	8 ECOLOGISTS	8 LANDSCAPE ARCHITECTS	19 STRUCTURAL ENGINEERS
<u>0</u> ARCHITECTS	<u>1</u> ECONOMISTS	<u>10</u> MECHANICAL ENGINEERS	<u>7</u> SURVEYORS
26 BIOLOGIST	15 ELECTRICAL ENGINEERS	<u>0</u> MINING ENGINEERS	321 OTHER
65 CADD OPERATORS	83 ENVIRONMENTALISTS	<u>0</u> PHOTOGRAMMETRISTS	
<u>2</u> CHEMICAL ENGINEERS	2 ESTIMATORS	17 PLANNERS: URBAN/REGIONAL	891 TOTAL PERSONNEL
120 CIVIL ENGINEERS	14 GEOLOGIST	<u>0</u> SANITARY ENGINEERS	
38 CONSTRUCTION INSPECTORS	4 HISTORIANS	1 SOILS ENGINEERS	
27 DESIGNERS	2 HYDROLOGISTS	<u>1</u> SPECIFICATION WRITERS	
<u>0</u> DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE:4
*RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.
GAI can field the entire project team from its Charleston office. GAI's Charleston office can field two separate design teams from its location. However, only one team is expected for this project. GAI has completed all of its LCAP projects since 1993 from the Charleston office.

10. If submittal is by joint venture, list participating firms & outline specific areas of responsibility (including administrative, technical, & financial) for each firm. Each participating firm must complete a "Consultant Confidential Qualification Questionnaire". N/A

10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? YES NO N/A

12. A. Is your firm experienced in (Solid Waste Landfill Closure Design)?

YES Description and Number of Projects: *GAI has completed projects for nine landfills and four State Wide projects at all 29 landfills within the WVDEP-LCAP Program. GAI designed the closure for Kanawha Western, Central, Mingo, Fayette County, Berkeley County, and other landfills within the LCAP system. GAI has completed numerous projects for several commercial and industrial landfills. These projects include but are not limited to siting, environmental assessments, designs, geotechnical, hydrogeologic, water quality, ground water, quality assurance/quality control and closures.*

Mr. Charles Straley has been involved in the closure design of the Kanawha Western Landfill, Mingo County Landfill, and Berkeley County Landfill under the LCAP program. Mr. Straley has served as project manager on other projects at the City of Wheeling Landfill. In addition, he has prepared closure plans and designs for several other landfills in West Virginia and has assisted with closure plans for various CCR facilities.

Mr. Kenneth Kinder has been involved in the closure design and QA/QC for the Fleming Landfill and the Jackson County landfill within the LCAP system. Mr. Kinder assisted with hydraulic design associated with a portion of the Elkins Landfill. Mr. Kinder has also prepared closure plans and has assisted with construction monitoring and construction management for various industrial landfills, CCR facilities, and environmental remediation sites.

Mr. R. Scott Bria has been involved with several landfill closure designs, including the Fleming landfill within the LCAP system. Mr. Bria has extensive knowledge in the use of CAD software for developing grading plans and earthwork quantities. Mr. Bria also served as the primary QA/QC construction oversight for closure of the Fleming Landfill.

NO

B. Is your firm experienced in Solid Waste landfill site characterization assessment and evaluation?

YES Description and Number of Projects: *GAI has completed site characterizations for the five WVDEP-LCAP landfills which we completed the closure designs. This included Berkeley County Landfill, Kanawha Western Landfill, Mingo County Landfill, Central West Virginia Refuse and Fayette County Landfill. GAI also performed the preliminary site characterization for the City of Wheeling Landfill. GAI has completed site characterizations for numerous other landfills in the process of siting, expanding or developing closure plans. We have evaluated ground water, surface water and waste types at numerous sites for landfills and other projects.*

Mr. Straley was involved in the site characterization for the Kanawha Western Landfill, Mingo County Landfill, Berkeley County Landfill, and City of Wheeling Landfill under the LCAP program. In addition, he was extensively involved in a multitude of site characterizations where abutment/expansions to existing landfills were being proposed including S&S Landfill and Sycamore Landfill.

NO

C. Is your firm experienced in landfill closure construction inspection?

YES Description and Number of Projects: *GAI has performed construction inspection for the five WVDEP-LCAP closures as described above and for multiple commercial and industrial clients for new landfills, expansions and closure of landfills. We have personnel trained in field testing for landfill closures (e.g. soil tests, concrete tests, synthetic liners, etc.) The proposed project manager and senior engineer have combined work on over 30 solid waste facilities including 8 LCAP projects. Mr. R. Scott Bria served as the primary QA/QC construction oversight for closure of the Fleming Landfill. Mr. Terry Queen has served as primary QA/QC for Mingo, Central, Fayette County and Berkeley County Landfills.*

NO

D. Is your firm experienced in Aerial Photography and the Development of Contour Mapping?

YES Description and Number of Projects: *GAI has produced or evaluated contour mapping on our WVDEP-LCAP projects discussed in the above responses. We have in-house surveying services with exceptional capabilities in development of contours and base map models. We have used our surveying services to locate facilities for many of the miscellaneous LCAP projects. We routinely run control to sites, perform property surveys and generate topographic mapping. We subcontract our aerial photography, if none is available. GAI has not only successfully and promptly performed these services for the LCAP program but has coordinated, surveyed and mapped thousands of acres for the WVDEP Abandoned Mine Land program over the past two decades including recent projects with the Vens Run Landslide, Duck Creek Landslide, and Rt. 60 (Smithers)*

drainage design.

NO

E. Is your firm experienced in evaluating ground water contamination, such as may be associated with landfills?

YES Description and Number of Projects: *GAI has evaluated the ground water at each of the five WVDEP-LCAP landfills which we completed closure designs. GAI evaluated the ground water monitoring wells at all 29 of the WVDEP-LCAP facilities. GAI developed the ground water monitoring plan at Fleming, Big Bear, and Kingwood landfills in the WVDEP-LCAP program. Ground water quality and monitoring plans have been developed and evaluated on multiple private landfills and other projects. We are highly experienced in developing sampling and testing programs to determine contaminants of concern*

Mr. Straley has been responsible for establishing and maintaining multiple ground water monitoring programs for the LCAP program. Groundwater, wells sampling, and analysis have been involved in a majority of the 50+ solid waste facilities he has been involved with. Mr. Straley established the ground water monitoring program for Big Bear and City of Kingwood landfills.

NO

F. Is your firm experienced in Landfill Closure cost estimating?

YES Description and Number of Projects: *GAI has developed construction cost estimates for hundreds of projects including the five WVDEP-LCAP landfills which we complete closure designs. In addition, GAI completed the WVDEP-LCAP Update in 2000 which developed budgetary estimates for closure and post closure for all 29 of the WVDEP-LCAP Landfills.*

Data (including historic unit prices) pricing trends are maintained by GAI to make sure budgets are met. The project manager and project engineers have all been responsible for projecting budgets and establishing construction estimates for landfill closure costs.

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN

NAME & TITLE (Last, first, Middle Int.)	YEARS OR EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE: 28	YEARS OF LCAP EXPERIENCE: 22	YEARS OF QA/QC EXPERIENCE: 28
<i>Straley, Charles, F. Senior Engineering Manager</i>			

Brief Explanation of Responsibilities:
Mr. Straley will be responsible for day-to-day project management activities and design guidance of the GAI staff. His main activities will include development of detailed step-by-step project work plans to ensure the project activities are completed on-budget and on-time; review of the work products on a weekly basis; and at project completion, providing guidance and direction to project staff, as well as engineering and design work. He will review the construction drawings, technical specifications, calculations, estimates and the QA/QC plan. He will also provide day-to-day contact with the WVDEP Project Manager and develop project status reports as required.

Mr. Straley will also provide expertise in the area of the drilling program and environmental assessment program establishment. Having worked on every LCAP project GAI has performed, he is experienced in LCAP protocol and desired format and will be instrumental in developing the overall written assessment reports. Mr. Straley will be the senior engineer responsible for the geotechnical aspects of the project including but not limited to; subsurface exploration, foundation, and embankment design and slope stability.

EDUCATION (DEGREE, YEAR, SPECIALIZATION)
*B.S. 1986 Civil Engineering
M.S. 1988 Geotechnical Engineering*

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:	REGISTRATION (Type, Year, State) <i>1992 Professional Engineer WV, OH, KY, IN 1996 Professional Surveyor, WV OSHA 40 Hour Hazwopper Radiation Safety Officer</i>
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE: 16	YEARS OF LCAP EXPERIENCE: 16	YEARS OF QA/QC EXPERIENCE: 16
<i>Kinder, Kenneth W. Assistant Engineering Manager</i>			

Brief Explanation of Responsibilities:
Mr. Kinder will be responsible for preparation of construction drawings, technical specifications, calculations, and cost estimates. He will oversee hydrologic/hydraulic aspects of the project including stormwater management and erosion and sediment control.

EDUCATION (Degree, Year, Specialization)
B.S. 2003 Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) <i>2007 Professional Engineer WV 2013 Certified Floodplain Manager OSHA 40 Hour Hazwopper</i>
---	--

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN

NAME & TITLE (last, first, middle Int.) <i>Klamut, John R. Engineering Manager</i>	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE: 15	YEARS OF LCAP EXPERIENCE: 0	YEARS OF QA/QC EXPERIENCE: 15

Brief Explanation of Responsibilities:
Mr. Klamut has extensive experience with landfill closure design in Arizona, and Virginia and will assist with preparation of construction drawings and technical specifications. He will assist with initial development and design of the landfill closure plan.

EDUCATION (Degree, Year, Specialization)
*B.S. 1998 Forest Engineering
M.S. 2002 Civil Engineering*

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) <i>Professional Engineer WV, VA, AZ, KY, PA Certified Floodplain Manager</i>
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN

NAME & TITLE (last, first, middle Int.) <i>Frech, Kerry L. Civil Technical Leader</i>	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE: 12	YEARS OF LCAP EXPERIENCE: 0	YEARS OF QA/QC EXPERIENCE: 12

Brief Explanation of Responsibilities
Mr. Frech will provide expertise in the area of hydrology and hydraulics, including but not limited to stormwater management and modeling of drainage systems

EDUCATION (Degree, Year, Specialization)
*B.S. 1977 Civil Engineering
M.Eng. 1978 Environmental Engineering*

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) <i>Professional Engineer, PA (1983), WV (1998)</i>
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13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN

NAME & TITLE (last, first, middle Int.) <i>Bria, R. Scott Lead CAD Operator</i>	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE: 15	YEARS OF LCAP EXPERIENCE: 15	YEARS OF QA/QC EXPERIENCE: 15

Brief Explanation of Responsibilities
Mr. Bria will be responsible for activities that will include development of project drawings, transferring survey data to project plans, and development of project details.

EDUCATION (Degree, Year, Specialization)
A.S. 1997 Computer Aided Drafting and Design

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
--	----------------------------------

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE QA/QC			
NAME & TITLE (last, first, middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE:	YEARS OF LCAP EXPERIENCE:	YEARS OF QA/QC EXPERIENCE:
<i>Queen, Terry W. Lead Construction Technician</i>	20	20	20
Brief Explanation of Responsibilities <i>Mr. Queen will be responsible for collecting field data including but not limited to water samples, soil borrow samples, refuse samples, and verification of mapping. Mr. Queen will provide construction monitoring and administration services.</i>			
EDUCATION (Degree, Year, Specialization) <i>1986 Math and Physical Education Classwork 1992 Drafting and Design</i>			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State) <i>Troxler Nuclear Densometer Certification WVDOH Portland Cement Concrete and Compaction</i>	
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN			
NAME & TITLE (last, first, middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE:	YEARS OF LCAP EXPERIENCE:	YEARS OF QA/QC EXPERIENCE:
<i>Green, Jason T. Senior Project Technical Specialist</i>	16	16	16
Brief Explanation of Responsibilities <i>Mr. Green will be responsible for activities that will include development of project drawings, transferring survey data to project plans, and development of project plans and details. He will also assist the Project Engineers and Managers in their duties.</i>			
EDUCATION (Degree, Year, Specialization) <i>A.S., 2002, Engineering Technology</i>			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS <i>Society of Military Engineers</i>		REGISTRATION (Type, Year, State) <i>NICET Level I & II</i>	
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN			
NAME & TITLE (last, first, middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL CLOSURE DESIGN EXPERIENCE:	YEARS OF LCAP EXPERIENCE:	YEARS OF QA/QC EXPERIENCE:
<i>Fuller, Jayme, L. Environmental Manager</i>	9	0	0
Brief Explanation of Responsibilities <i>Ms. Fuller will be responsible for providing services related to natural resources, including but not limited to wetland delineation, benthic studies, wetland restoration or mitigation, endangered species and stream restoration.</i>			
EDUCATION (Degree, Year, Specialization) <i>B.S. Natural Sciences, Ohio State University</i>			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS <i>Ohio Oil and Gas Association</i>		REGISTRATION (Type, Year, State) <i>Stream Restoration Program Natural Channel Wetland Delineation Training</i>	

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE THE LANDFILL CLOSURE DESIGN.

Equipment: <i>Plotters</i>	Software: <i>AutoCAD / Civil 3D</i>
<i>Troxler Nuclear Density Gauge</i>	<i>MicroStation</i>
<i>Digital Cameras</i>	<i>Microsoft Office Suite</i>
<i>Photocopiers/Printers/Scanners</i>	<i>Sewer CAD</i>
<i>Surveying Stations</i>	<i>Water CAD</i>
<i>GPS Units</i>	<i>Hydrocalc Hydraulics</i>
	<i>TR-55</i>
	<i>Numerous Hydrology/Hydraulic Models</i>
	<i>Maptech (Professional)</i>
	<i>Slope/W (Slope Stability)</i>
	<i>Google Earth</i>
	<i>GeoPack Design</i>
	<i>Hydraulic Evaluation of Landfill Performance (HELP)</i>

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD ASSOCIATED WITH OR RELATING TO LANDFILL CLOSURE OR CONSTRUCTION.

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESOPNSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
<i>Possum Point Ash Impoundment Closure</i>	<i>Dominion Energy 5000 Dominion Blvd Glen Allen, VA 23060</i>	<i>Design of cap system for impoundment closure, construction QA/QC</i>	<i>\$80 Million</i>	<i>Permit/Design 80% Construction 10%</i>
<i>John Amos CCR Landfill</i>	<i>Gary Zych American Electric Power 1 Riverside Plaza Columbus, OH 43215</i>	<i>Design Permitting and Construction Monitoring</i>	<i>\$10 million</i>	<i>Permit 100% Construction 90%</i>
<i>Chesterfield Ash Impoundment Closure</i>	<i>Dominion Energy 5000 Dominion Blvd Glen Allen, VA 23060</i>	<i>Design of cap system for impoundment closure,</i>	<i>\$40 Million</i>	<i>Permit/Design 60% Construction 0%</i>
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS:	
# <u>3</u>			\$ <u>130 Million</u>	

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
<p>Amigo Portals Raleigh County, WV The scope of work involved providing closure of 19 mine portals with bat gates or mine seals, covering exposed refuse, providing stream realignment and streambank protection, and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit and COE 404 Permit.</p>	<p>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</p>	<p>\$46K (Fee)</p>	<p>2014</p>	<p>YES</p>
<p>Greystone Mine Drainage Monongalia County, WV The scope of work involved design for construction of a collection system using underdrains, a conveyance drainage system, and site reclamation.</p>	<p>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</p>	<p>\$45K (Fee)</p>	<p>2011</p>	<p>YES</p>
<p>Earling Refuse Pile Logan County, WV The scope of work involves seal the mine portal(s), bat gates, providing proper drainage control measures and site reclamation.</p>	<p>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</p>	<p>\$61K (Fee)</p>	<p>2011</p>	<p>YES</p>
<p>Reynoldsville Refuse Harrison County, WV The scope of work involved design for construction of mine portal seals, bat gates, regrading and soil covering refuse areas, subsurface drainage collection, providing proper drainage control measures and providing streambank stabilization.</p>	<p>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</p>	<p>\$100K (Fee)</p>	<p>2012</p>	<p>YES</p>
<p>Laurel Point Strip Monongalia County, WV The scope of work involved design for construction of mine portal seals, backfilling the exposed and dangerous highwalls, regrading and soil covering refuse areas providing proper drainage control measures and providing streambank stabilization.</p>	<p>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</p>	<p>\$80K (Fee)</p>	<p>2012</p>	<p>YES</p>
<p>Cherokee Complex McDowell County, WV The scope of work involved design for construction of structure demolition and</p>	<p>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</p>	<p>\$44K (Fee)</p>	<p>2012</p>	<p>YES</p>

<p>disposal, regrading and soil covering a refuse areas, subsurface drainage collection, providing proper drainage control measures, natural stream restoration and providing streambank stabilization.</p>				
<p>Wheatley Branch (Luthy) Portals Logan County, WV The scope of work involved several locations of abandoned trash piles, access road construction, twenty-nine (29) mine seals and providing proper drainage control measures. We also prepared and obtained a Stormwater NPDES Permit, WVDOH MM-109 permits and a non-reporting nationwide COE 404 permit.</p>	<p><i>West Virginia Division of Environmental Protection, Abandoned Mine Lands Program Charleston, West Virginia</i></p>	<p>\$75K (Fee)</p>	<p>2013</p>	<p>YES</p>

18. COMPLETED WORK WITHIN LAST 5 YEARS IN WHICH YOUR FIRM HAS BEEN A SUBCONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK WHICH YOUR FIRM WAS RESPONSIBLE) LIST 5 TO 7.

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
None					

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the WV Department of Environmental Protection.

In summary:

- *GAI's staff stays up-to-date on solid waste technologies and trends. We bring the experience of industrial, government and commercial solid waste projects to this endeavor.*
- *GAI has a large staff of engineers, designers, surveyors, geologists, and scientists that have extensive experience with landfill closure design and LCAP.*
- *GAI has been very involved in keeping up with the recent EPA regulations on Coal Combustion Residual (CCR) facilities. Many aspects of the design and construction of CCR landfill and impoundment closures are similar to municipal solid waste facilities.*
- *GAI's staff for the project is located within 10 minutes of WVDEP's office in Charleston.*
- *GAI's listed staff is available to start on this work immediately.*

20. The foregoing is a statement of facts

Signature: *Charles Straley*
Title: Senior Engineering Manager

Date: November 22, 2016

Printed
Name: Charles F. Straley, PE, PLS