

**Submitted to:**  
Department of Administration  
Purchasing Division, Building 15  
2019 Washington Street East  
Charleston, West Virginia 25305 -  
0130

**Submitted by:**  
GAI Consultants, Inc.  
500 Summers St., 3rd Floor  
Charleston, WV 25301  
304.926.8100  
gaiconsultants.com

Expression of Interest  
**Engineering Services for  
Access Road, Utility Upgrades  
& Rough Site Grading to the  
Charleston Armory Complex**

**Charleston, West Virginia**  
January 25, 2010

RECEIVED

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PURCHASING DIVISION  
STATE OF WV



gai consultants

...transforming ideas into reality

STATE OF WEST VIRGINIA  
Purchasing Division**PURCHASING AFFIDAVIT**

**West Virginia Code §5A-3-10a states:** 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 the debt owned is an amount greater than one thousand dollars in the aggregate

**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.

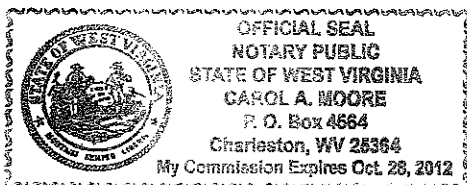
"Debtor" means any individual, corporation, partnership, association, Limited Liability Company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "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 exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this 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.

Under penalty of law for false swearing (*West Virginia Code §61-5-3*), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

**WITNESS THE FOLLOWING SIGNATURE**Vendor's Name: GAI Consultants, Inc.Authorized Signature: *Charles Stratton* Date: January 25, 2011State of West VirginiaCounty of Kanawha, to-wit:Taken, subscribed, and sworn to before me this 25 day of January, 2011.My Commission expires October 28, 2012.**AFFIX SEAL HERE**

NOTARY PUBLIC

*Carol A. Moore*



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
 DEFK11024

PAGE  
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF  
 TARA LYLE  
 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

GAI Consultants, Inc.  
 500 Summers Street, 3rd Floor  
 Charleston, WV 25301

DIV ENGINEERING & FACILITIES  
 ARMORY BOARD SECTION

1707 COONSKIN DRIVE  
 CHARLESTON, WV  
 25311-1099 304-341-6368

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
12/14/2010				
BID OPENING DATE: 01/25/2011		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UCP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-00-00-001		
ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL  EXPRESSION OF INTEREST (EOI)  THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, DIVISION OF ENGINEERING & FACILITIES, WV ARMY NATIONAL GUARD, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ARCHITECTURAL ENGINEERING DESIGN SERVICES FOR AN ACCESS ROAD, UTILITY UPGRADES AND ROUGH SITE GRADING TO THE CHARLESTON ARMORY COMPLEX, PER THE FOLLOWING BID REQUIREMENTS AND THE ATTACHED SPECIFICATIONS.  BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.  CANCELLATION THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.  TECHNICAL QUESTIONS CONCERNING THIS SOLICITATION MUST BE SUBMITTED IN WRITING TO TARA LYLE VIA MAIL AT THE ADDRESS SHOWN IN THE BODY OF THIS EOI, VIA FAX AT 304-558-4115, OR VIA EMAIL AT TARA.L.LYLE@WV.GOV.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Charles Shaly</i>	TELEPHONE 304.926.8100	DATE 304.926.8100
TITLE Land Development Services Manager	FEIN 25-1260999	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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BID OPENING DATE: 01/25/2011		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 1						
1. QUESTIONS AND ANSWERS ARE ATTACHED.						
2. ADDENDUM ACKNOWLEDGEMENT IS ATTACHED. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID.						
EXHIBIT 10						
REQUISITION NO.: DEFK11024						
ADDENDUM ACKNOWLEDGEMENT						
I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.						
ADDENDUM NO.'S:						
NO. 1 ..... X CFS						
NO. 2 .....						
NO. 3 .....						
NO. 4 .....						
NO. 5 .....						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Charles Straley</i>	TELEPHONE 304.926.8100	DATE 304.926.8100
TITLE Land Development Services Manager	FEIN 25-1260999	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



## GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vre/hipaa.htm](http://www.state.wv.us/admin/purchase/vre/hipaa.htm) and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

### INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
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VENDOR MUST CLEARLY 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.

*Charles Straley*  
 SIGNATURE

GAI Consultants, Inc.

COMPANY

January 25, 2011

DATE

NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.

REV. 09/21/2009

END OF ADDENDUM NO. 2

0001

JB

906-00-00-001

1

ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL

SIGNATURE *Charles Straley* TELEPHONE 304.926.8100 DATE 304.926.8100

TITLE Land Development Services Manager FEIN 25-1260999 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

## Addendum No. 2

### DEFK11024

Q. Is there any preliminary study or map of the site available?

A. A preliminary drawing map is available and will be made available through West Virginia State Purchasing Division in hard copy format.

Q. What is the length of the proposed access road?

A. The length of the proposed access road has not been established. It will be the responsibility of the selected firm to select the most appropriate road alignment. However, the length of the access road on the preliminary drawing is approximately 850 feet.

Q. What is the acreage of the proposed grading and utility design?

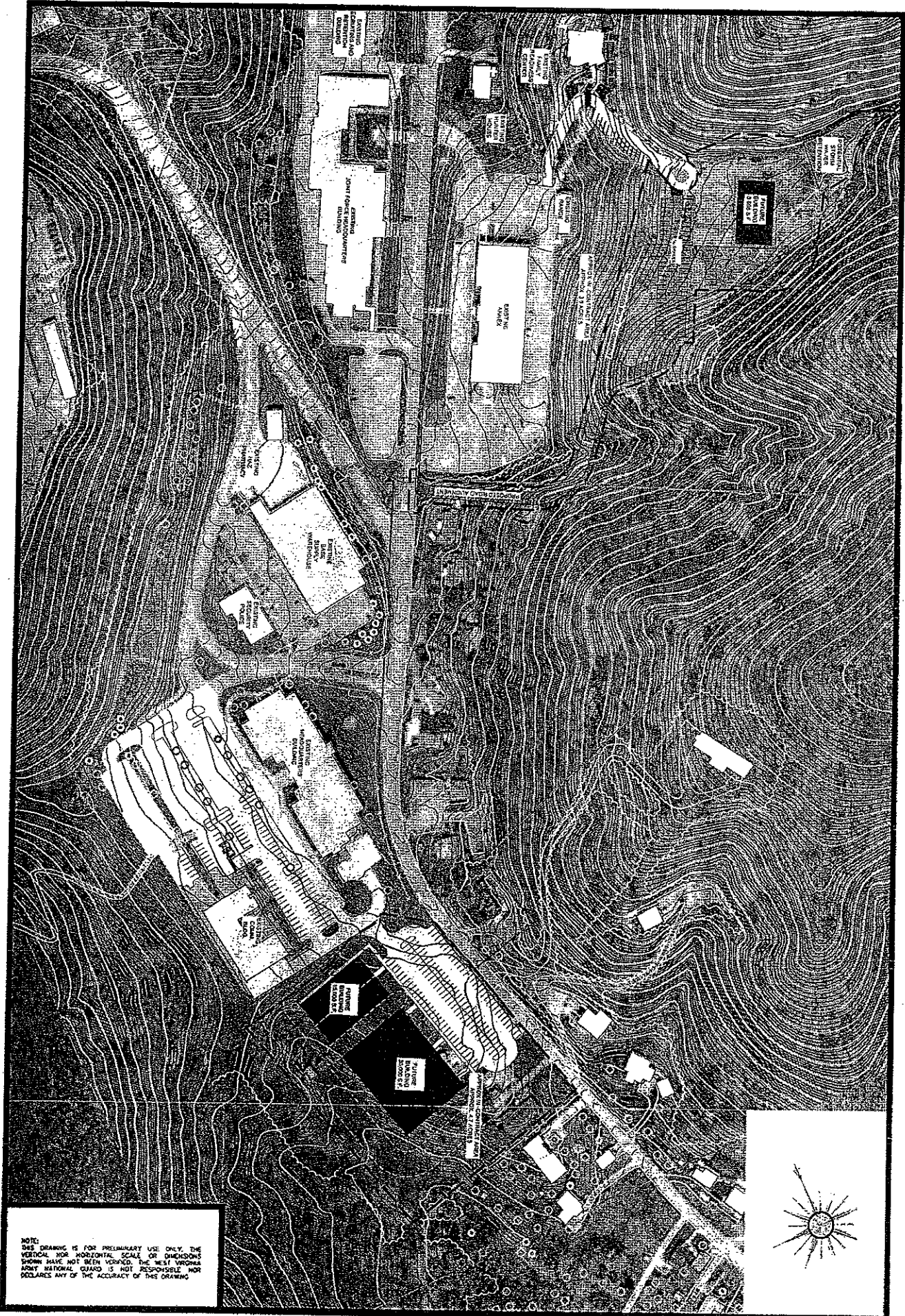
A. The acreage of the proposed grading and utility design has not been established. As mentioned above in question 1.2 the selection of alignment for the access road will be the responsibility of the selected firm. In turn, grading limits cannot be determined until a road alignment has been selected. However, in the preliminary drawing, the limits of construction for this project are approximately 8.6 acres.

Q. Will the future building site be pre-determined? If so, will the project include rough grading for the site so that it may be used as a borrow/waste site for the road?

A. The future building sites for this project have been pre-determined. Rough grading for these building pads will be included in this project. There is potential to borrow/waste on site pending a geotechnical study, finding the soils to be suitable.

Q. Is it possible to view the site in person?

A. Site visits are not being permitted at this time; the provided map should be sufficient for this Expression Of Interest submission.

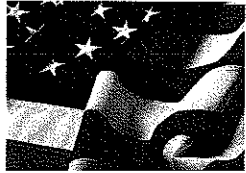


NOTE:  
THIS DRAWING IS FOR PRELIMINARY USE ONLY. THE  
VERTICAL NOR HORIZONTAL SCALE OR DIMENSIONS  
SHOWN HAVE NOT BEEN CHECKED. THE WEST VIRGINIA  
ARMY NATIONAL GUARD IS NOT RESPONSIBLE NOR  
DECLARES ANY OF THE ACCURACY OF THIS DRAWING

# WEST VIRGINIA ARMY NATIONAL GUARD CHARLESTON COMPLEX UPGRADES

SCALE = 1"=80'

10 JAN 11 09 034



January 25, 2011

Department of Administration  
Purchasing Division, Building 15  
2019 Washington Street East  
Charleston, West Virginia 25305 – 0130

Attn: Tara Lyle

**RE: Expression of Interest  
Engineering Services for Access Road, Utility Upgrades &  
Rough Site Grading to the Charleston Armory Complex  
Charleston, West Virginia**

Dear Ms. Lyle:

The architectural/engineering services for the design of an access road, utility upgrades and rough site grading to provide for future building sites for the West Virginia Army National Guard (WVANG) is critical to maintaining and improving the access and infrastructure for the ongoing development of the complex. **More than ever, efficiency and quality are critical for design and construction documents.** To meet these criteria, the WVANG will benefit from teaming with a seasoned consulting design and construction monitoring firm, one that intimately understands the project, and is very familiar with all State, Federal, and Local regulations for transportation and development projects.

GAI Consultants, Inc. (GAI) is pleased to submit this Expression of Interest to provide the consulting services to provide construction drawings prepare bidding and contract documents, participate in the evaluation of bids and to observe the construction activities. Our proposal describes GAI's project approaches, professional qualifications, past performances, and additional information to meet and exceed the WVANG's needs and requirements. **GAI can begin work immediately on the Charleston Complex Access Road and Utility Upgrades in order to meet the WVANGs' needs.**

Although many companies often make claims of superiority, we firmly believe that GAI is uniquely qualified to help the WVANG complete the design and construction of the project.

#### **A Project-Tested Team – Outstanding Qualifications/Intimate Project Knowledge**

GAI is well-established in the transportation, civil engineering and landscape architecture/land development fields, and is very familiar with Federal, State and Local regulations and the unique site conditions the project presents.

GAI feels confident our recent experience with other State, Local, and Private clients in the Transportation and Site Development industries providing small scale to large scale projects from access roads as described above to major four-lane roadway and interchange designs and construction monitoring makes us superior to provide the services as requested.





### A Sensible Project Approach with No Learning Curve

- Efficient and Effective Project Management: GAI is experienced in handling various projects of both large- and small-scale and provides the necessary knowledge into effective communication and submittal requirements demanded by the WVANG.
- Technical and Experienced Staff: Our design staff is experienced in handling various large- and small-scale projects for State, Local and Private clients. GAI is committed to providing the most technical and experienced staff possible to perform the contract responsibilities to provide a high quality product to the Authority. Our multi-disciplined staff allows GAI to provide all the services required by the Authority.

### We're in Your Backyard

GAI is a full-service organization with a large staff of design, environmental and cultural resources professionals. All of our proposed Project Team has experience on similar projects and are quite familiar with the needs and requirements such a project can have and can facilitate the schedule needs for the projects. All work will be managed and produced from our office in **Charleston, West Virginia.**

### We Deliver!

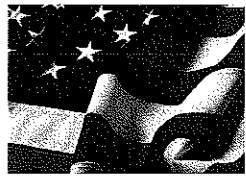
GAI is committed to meeting the West Virginia Army National Guard's needs and goals and enjoys a reputation for meeting client schedules and deadlines, controlling budgets, developing innovative approaches, and meeting regulatory deadlines and standards. We are committed to providing the most highly competent and dedicated professionals to these projects. We look forward to enthusiastically serving the WVANG on this project. We thank you for the opportunity to present our credentials in this submission.

GAI will show in this proposal that we separate ourselves from other consultants because of several

Sincerely,  
GAI Consultants, Inc.

David Gilmore, RLA  
Land Development Services Manager

James A. Hemme, PE, RLS  
Environmental Engineering Manager



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## CONCEPT

### What sets GAI apart?

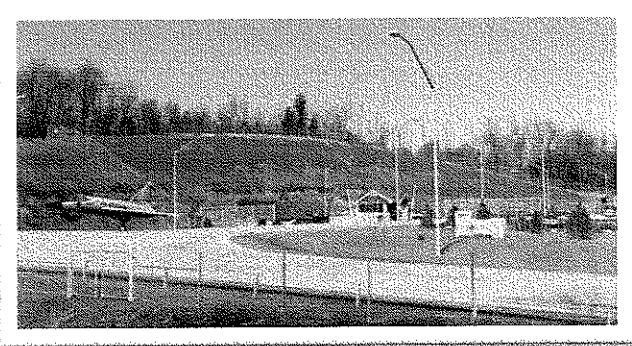
**At GAI Consultants, Inc. (GAI) our goal is to deliver for you** –a project that draws award winning reviews and provides the highest quality experience for our clients and their key stakeholders.

*The key to Successful project development and outcome requires passion, commitment, and innovation. It also requires attention to detail, due diligence, and organization.*

By avoiding costly delays and frustrating glitches, we are better able to assist our clients in the development process and support project buy-in from financial partners, local governments, and involved communities. Whether developing former brownfield sites, urban in-fills, or raw land, our experienced professionals are known for smoothly navigating the compliance and development process. We respect our clients' time, money, and resources as if they were our own. With this philosophy, we increase value in every project we do.

### A Unique Opportunity Realized

In the current real estate market, available land and its associated development costs are now at a premium, the quality and relationship of the spaces where people live and work have taken on an increased role of importance over the last decade. These issues, when coupled with emerging trends such as sustainable design practices make selecting the right consultant team even more important. We feel that the planning team that we have assembled will be unmatched in experience and talent, and will ensure the success of the access road project.



The GAI Planning Team's philosophy that supports the master planning process begins as an exercise in problem definition. Identifying constraints and opportunities evolves from a variety of physical and nonphysical conditions, and most importantly...the needs of the Client. The ability to creatively combine these factors is the key to the project's success. Of utmost importance to the success of your project is the ability to engage the West Virginia Army National Guard and its representatives at every stage of the design process. The GAI planning team will accomplish

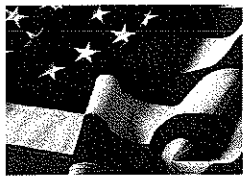
this by establishing an open and transparent dialog from the outset of the project to the drafting of the construction plan. This active dialog ensures that as the design effort progresses, the Client is able to respond to the concepts and ideas presented before the process moves forward.

GAI Consultants Inc. brings an intimate understanding of the complexities of project design and construction management. GAI has worked with a number of towns and municipalities across the United States in many different capacities from master planning and public involvement as illustrated by the Martinsburg Comprehensive Study, to construction documentation and administration that we are currently working on for the access road design for the new Edgewood Elementary School located in Charleston, West Virginia. GAI also has an intimate understanding of permitting issues illustrated by multiple WVDOT projects, and right-of-way issues as part of the Westmoreland Heritage Trail. Our experience also includes parks and recreation design, streetscape engineering and urban revitalization which were an important element of new Haddad Riverfront Park, now a focal point and pedestrian hub for downtown Charleston, West Virginia.

### Experience Matters

When approaching a project of this magnitude, you want a team of professionals that are experienced and can assess the project with a holistic approach. GAI has an extensive master planning, construction documentation and





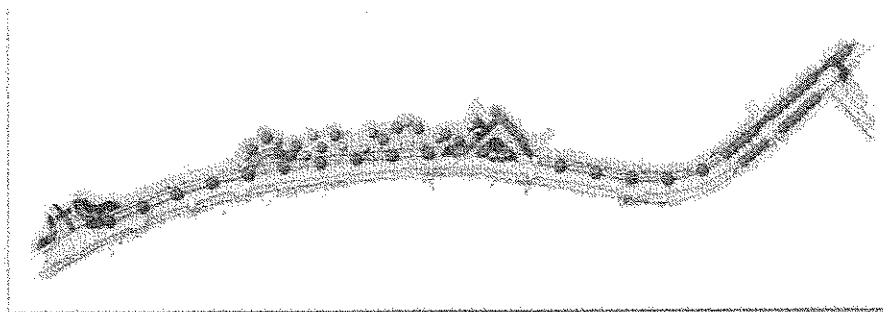
administration background, and looks forward to applying our current knowledge and expertise to the design of the access road for General Services Division. In addition to project design experience, GAI has an extensive knowledge in construction administration that helps create a practical approach to anything we design. We are confident that the design team that we have assembled will be unmatched in experience, talent, and drive to fulfill the State of West Virginia's vision for success.

*We have accomplished many goals most people would not have thought possible. GAI met the challenge.*  
*-Columbia Gas*

The GAI design team's philosophy is that the design process begins as an exercise in problem definition. Identifying constraints and opportunities evolves from a variety of physical and nonphysical conditions, and most importantly...**the needs West Virginia Army National Guard.** The ability to creatively combine these factors is the key to the plan's success. Of utmost importance to the success of the design is the ability to engage the client and its users at **every** stage of the design process. The GAI Planning team will accomplish this by establishing an open and transparent dialog from the outset of the project through construction administration. This active dialog ensures that as the planning effort progresses, the Client is able to respond to the concepts and ideas presented before the process moves forward.

**Components for Success**

One of several things that make GAI the right choice for this assignment is the broad range of service types that our team can offer. To ensure a successful project outcome, we must first identify the constraints and opportunities that are presented by the project. Whether they are physical constraints or related to permitting, our team has the luxury of being able to draw insight from recognized experts in the fields of vehicular and pedestrian circulation, cultural



resources, landscape architecture, biology, ecology, and site utilities. The principal design team members assigned to manage this project have extensive experience with regard to projects of this type, providing an insight, knowledge and design ability that no other team can match.

- **David Gilmore**, RLA, ASLA. Mr. Gilmore will serve as the overall project manager, overseeing scheduling, personnel, design and client communication. The central focus of his practice is on the continued development of the firm's site design and landscape architecture projects throughout the eastern United States, while providing landscape architectural support to all of GAI's offices and clients.
- **James Hemme**, PE, LRS,. Mr. Hemme specializes in site engineering, planning, permitting and stormwater management, with emphasis on parks and recreation areas and infrastructure. He brings a multi-disciplinary background to projects that enables him to see the "big picture" of what will be needed to take a project from start to finish.
- **Elwood Penn**, P.E. Mr. Penn specializes in project management and administration in the areas of highways, land development, and utilities. He is experienced in developing environmental impact statements and assessments in accordance with National Environmental Policy Act (NEPA) regulations. Mr. Penn has been responsible for environmental assessments, site investigations, location studies, and preliminary and final designs for numerous transportation, infrastructure and land development projects in Virginia and West Virginia.

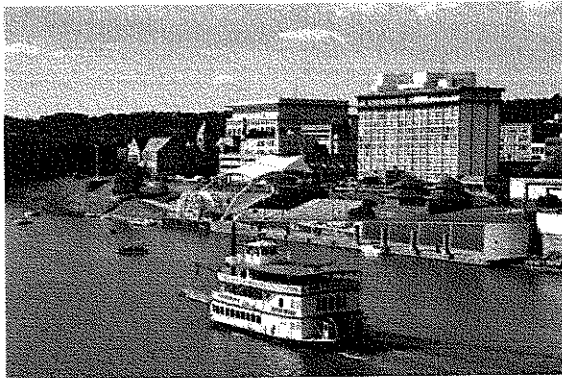


- **Mark Young, P.E.** Mr. Young specializes in preparing preliminary and final contract plans and documents, including right-of-way plans, horizontal and vertical geometry, traffic control, permitting, drainage, erosion control, and specifications and bid documents for highways, bridges, abandoned mine lands, and site development.
- **Charles Straley, P.E.** 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.
- **Joseph Prine, P.E.** Mr. Prine has a wide variety of experience in environmental engineering, civil engineering, site development, streetscape, and planning projects while at GAI. He has worked with private developers, architects, municipalities and governmental agencies. He has also contributed to planning and design in several community improvement and streetscape projects.

Our team's goal is to meet the needs of the WVANG while keeping construction costs low and remaining sensitive to the surrounding environment. In addition to economics and practicality, the projects should create a connection to the surrounding natural environment.

### Full Service Capabilities

**We are a One Stop Shop.** Our multi-disciplined capabilities mean clients can form a single partnership to shepherd



their entire project to completion. GAI is one of the few engineering and environmental consulting firms nationwide with an in-house cultural resources team. This strong background in historic preservation better equips GAI with the tools to address any client concern.

We take a proactive approach to every project, working to identify issues and find solutions before they become costly problems. We also approach our work from the contractor's perspective, finding as many ways to assist them in the building process as possible. As a result, our work is highly constructable, efficient, and cost-effective. Our clients are

highly valued partners – our goal is to make working with us the easiest and smoothest process that you've gone through with an engineering firm.



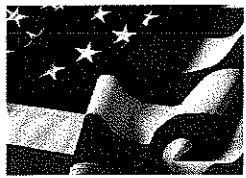


*Expression of Interest #DEFK11024*

*Architectural/Engineering Services – Engineering Design for an Access Road, Utility Upgrades & Rough Site Grading*

## Office Brief





Expression of Interest #DEFK11024  
 Architectural/Engineering Services – Engineering Design for an Access Road, Utility Upgrades & Rough Site Grading



- Engineering Solutions
- Client Care
- Environmental Stewardship
- Community Enhancement
- Safety & Sustainability

## GAI Consultants, Inc. - Corporate Profile

### Transforming Ideas Into Reality

#### Who We Are

GAI Consultants, Inc. is a 700-person engineering and environmental consulting firm with over 50 years of experience delivering innovative engineering solutions. Through engineering expertise and a broad, deep knowledge of regulatory processes, we transform ideas into reality with solutions that make a real difference to our clients... solutions in energy, transportation, real estate, water, municipal, government, industry, healthcare, and institutions.

#### Our People

We carefully listen to our clients' goals and concerns. Our people focus on management and completing projects with a clear, straightforward approach. With a practiced staff of engineers, scientists, and other professionals, GAI approaches every endeavor with enthusiasm and integrity. Throughout each stage of every project, our leaders direct us in maintaining high ethical standards and observing stringent safety measures. And because we carefully match our staff credentials to meet our clients' needs, we build productive and effective relationships.

#### Our Communities

GAI is committed to helping the communities we live in grow and develop. We strongly encourage all employees to become active volunteers in our communities. Some of the organizations we work with on a regular basis include the Department of Transportation's Adopt-a-Highway program, the American Red Cross, the American Heart Association, Homes for Our Troops, and Habitat for Humanity. Many GAI employees serve as volunteers in their local churches, schools, and sport activities, planning commissions, or zoning boards. Many offer their professional engineering and environmental experience to help with community projects.

#### Our Clients

Our clients are highly respected global companies, local firms, and federal and state agencies. They build roads and bridges, transmission lines, power plants, convention centers, distribution centers, and industrial facilities in both major metropolitan districts and rural areas nationwide and abroad. They challenge us with high-profile projects that demand some of the best and brightest technical expertise available.

And getting the job done right takes a sincere respect for our clients. Our project teams take you and your project seriously. Your challenge becomes ours. Your solution is a result of our loyalty.

From environmental regulations to roadway and bridge design to land development, our culture and no-nonsense approach continue to draw our clients faithfully back to us. More than 80% of our clients have built a long-lasting working relationship with us because they trust we will meet and deliver on our promises.

#### Our Commitment

Our Mission is to operate consistently, allowing our clients to benefit their communities' health and safety with the assurance that their projects will endure and withstand the test of time. We have one measure of success: our clients' satisfaction.

Our vision for the future is to build upon over 50 years of success, to grow responsibly as a healthy, profitable engineering consulting firm, to anticipate the needs of our clients by keeping up with changing and improving technologies, and to fully support our staff, so they can deliver on our promises to our clients.





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Engineering Solutions  
Client Care  
Environmental Stewardship  
Community Enhancement  
Safety & Sustainability

## GAI-Charleston Office Brief

### GAI-Charleston

The City of Charleston, located at the confluence of the Elk and Kanawha Rivers, is West Virginia's largest city and state capital. Three major interstates converge in the city's center, placing Charleston within a day's drive of 60 percent of the U.S. population. Downtown and riverfront improvement projects attract visitors to the Capitol Complex, the Kanawha State Forest, and other educational and recreational areas.

Since 1985, GAI-Charleston has provided award-winning consulting services in mine land reclamation and mine drainage engineering. We continue to deliver innovative engineering solutions in transportation, land development, and energy markets, with a particular specialization in landscape architecture and LEED design. GAI-Charleston's premier teams of professionals serve a wide range of clients, including local developers, state government agencies, and large corporations.

### General Services

- + Environmental Engineering, Permitting and Mitigation
- + Transportation and Traffic Engineering, Planning & Design
- + Geotechnical and Structural Engineering
- + Mechanical and Electrical Engineering
- + Water/Wastewater Engineering/Utility Management
- + Land Development, Landscape Architecture and Planning
- + Cultural Resources Management
- + Surveying/Geographic Information Systems (GIS)
- + CEI/CMS/Materials Testing
- + Utility Coordination/Eminent Domain
- + LEED Design and Greenhouse Gas Consulting

### Specialty Services

- + Grant-writing, Asset Management & Valuation Studies
- + Computer Programming & Web Site Development
- + Graphic Design, Video Production, & Public Outreach

Transforming ideas into reality for over 50 years, GAI is a 700-person, employee-owned, multi-discipline engineering and environmental consulting firm, serving our clients worldwide in the energy, transportation, real estate, water, municipal, government, institutional, and industrial markets from offices throughout the Northeast, Midwest, and Southeastern United States.

**GAI Consultants, Inc.**  
500 Summers Street, 3rd Floor  
Charleston, WV 25301  
304.926.8100

For more information on GAI Consultants, Inc.,  
please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).

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## Service Briefs





## Land Development Service Brief

### Overview

Land development involves the integration of a variety of activities that include: Economic Feasibility, Master Planning, Engineering and Environmental Analysis, Legal Issues, Financing, and Marketing.

Without effective guidelines and long-term planning, development becomes haphazard and risky, reactive only to short-term needs. Success is largely dependent upon early planning and engineering studies that provide insight into the best possible use, reuse, or development of properties.

### Project Experience

Since 1958, GAI Consultants, Inc. (GAI) has worked extensively with developers, private industry, and government agencies on planning and developing projects for the commercial, residential, industrial, and recreational markets.

- Regional shopping malls
- Industrial parks
- Commercial office sites
- Recreational parks
- Residential subdivisions
- Recreational and resort communities
- Marinas
- Higher Education
- Healthcare
- Airports

In the present economic climate, our clients are faced with escalating project costs due to rising real estate value, diminishing availability of desirable sites, growing environmental concern and increasing construction cost. All of these factors along with changes in real estate tax laws make obtaining financing for a development project an almost insurmountable task. However, GAI's development professionals are experts who keep abreast of changes in regulations. Also, we can analyze project/site feasibility to provide cost-effective strategies for many kinds of projects, even major projects involving infrastructure that must be completed under time-sensitive schedules.







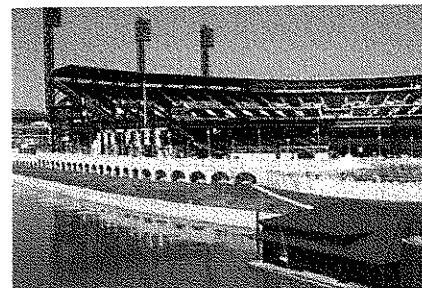
Civil Engineering Planning and Development Services

- Site selection
- Permit acquisition
- Economic feasibility studies
- Facilities planning and design
- Environmental assessments
- Wetland delineation
- Archaeological studies
- On-site and off-site traffic impact assessments
- Roadway design
- Foundation investigations
- Code impact assessments
- Hydrologic and hydraulic studies
- Storm-water management
- Site lighting
- Land use studies
- Landscape architecture
- Erosion and sedimentation control
- Utility assessments and rehabilitation
- Surveying, construction layout, and as-builts
- Materials testing
- Construction documentation
- Construction cost estimates
- Construction monitoring
- Construction management
- Structural and non-structural alternative analyses

We provide engineering services for all project phases—planning, permitting, design, and construction. Our complete services, tailored to the client’s needs, range from site selection and feasibility studies, through developing master plans and preparing detailed design drawings and specifications, to construction management. We provide project planning and coordination to help our clients obtain the necessary construction approvals, and we render construction planning/management and quality assurance services to fulfill project requirements.

GAI’s planning and development services are provided by an experienced staff of land use planners, site engineers, landscape architects, traffic engineers, roadway and drainage engineers, structural and soils engineers, utility designers, and environmental specialists.

Through our many years of experience in site development work, we have developed the expertise to evaluate the cumulative impact of topographic, hydrologic, geologic, environmental, and geographic factors on a site. Of equal importance is our staff’s appreciation of the impact that the non-engineering aspects of site development—social, economic, and legal—can have on a project’s success.



Support Services

The successful, cost-effective outcome of a site planning and development project requires the support of several engineering service groups and the interaction of various engineering disciplines.

- Transportation engineering
- Geotechnical engineering
- Structural engineering
- Environmental engineering
- Environmental sciences

The blending of our academic training with our experience in research and practical engineering provides a unique background for the solution of complex site development problems involving structural analysis, load determination, structural reliability, soil-structure interaction, and storm-water management.

Basic physical principles combined with innovative engineering ideas help our clients preserve aesthetics and enhance the environment as they go about the business of shaping tomorrow’s surroundings.





## Site Development Service Brief

### Overview

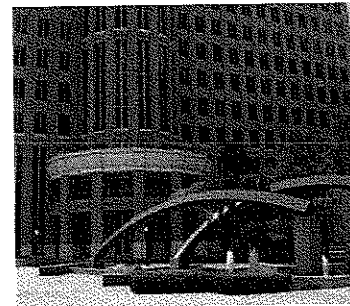
Critical to a project's viability, public resistance, environmental issues, local zoning issues, site topography and regulatory hurdles cause Land Development to be a challenging industry. From environmental impacts and public review to a variety of technical constraints, permitting and plan approval can hinge on any number of preliminary planning and design considerations. Furthermore, failure to anticipate problems can result in substantial and even insurmountable delays in a project's timetable and its economic viability.

GAI Consultants, Inc. (GAI)'s primary focus is producing superior projects on time and on budget. Our experience includes dozens of land development and redevelopment projects on residential, commercial, industrial and mixed-use properties. From conceptual site design through final construction, we not only know the process, we possess the needed experience to help you succeed. Through the interaction of our various engineering disciplines, we are able to provide comprehensive services for every phase of each project. These include:

- Land surveying
- Feasibility studies
- Facilities planning and design
- Land use studies
- Master planning
- Landscape architecture
- Permit acquisition
- Impact fee studies
- Traffic impact assessments
- Site design
- Stormwater management systems
- Streetscape design
- Subdivision design
- Roadway and infrastructure design
- Construction layout surveying
- Utilities assessments, rehabilitation and design
- Water and sewer design
- Construction documentation and monitoring

We base our understanding and appreciation of land development potential on the knowledge of the local development climate and work experience in the area.

To help you achieve your goals, GAI employs professional engineers, environmental scientists, planners, registered land surveyors and field technicians who are all supported by expert technicians and state-of-the-art CADD systems. GAI makes meeting your needs our top priority.





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## Transportation Planning & Engineering Service Brief

### Overview

Today, transportation engineering and planning encompasses a wide range of conveyance systems for people, goods and services. These include not only vehicular transportation facilities such as cars, trucks and buses, but also, bike trails/pedestrian walkways, transit systems, light rail and railroad facilities, airports (both general and commercial), and sea ports and marinas. GAI Consultants, Inc. (GAI) offers a full range of services to meet today's transportation demands and challenges.

### Transportation Planning/Highway Studies

Reliable and accurate planning is the key for successful transportation planning. It requires strict attention to the details of development trends, environmental issues, and economic constraints. GAI staff members are experts in this field with a solid record of performance.

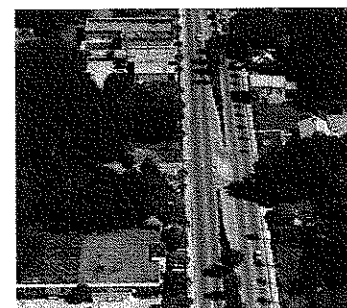
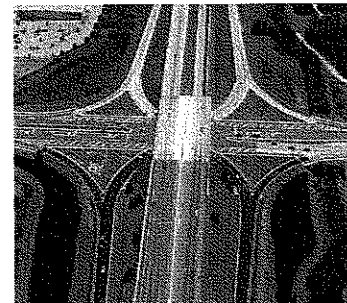
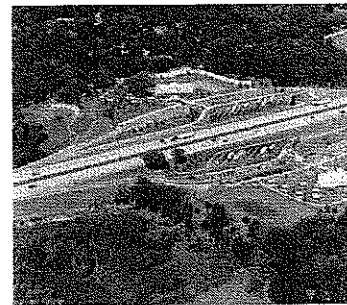
### Transportation Engineering/Highway Design

GAI's transportation engineering and design experience covers a full range of services. From feasibility review through facility dedication, we provide responsive, accurate, prompt and cost-effective engineering services to meet each client's needs. This same expertise is applied to our client's design/build projects.

### Maintenance of Traffic

At GAI, the safety of the traveling public and the construction workers remains our number one priority. Our designs also maintain access to adjacent properties and maintain positive drainage during construction.

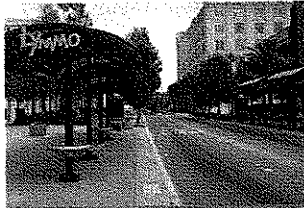
GAI's capabilities cover all phases of transportation systems including study, analysis, design and construction. We stand ready to serve in any capacity, whether it is an initial consultation or site investigation, to a complete design and construction project.



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## Traffic Engineering Studies & Design Service Brief

### Overview

GAI Consultants, Inc. has provided superior traffic engineering services for numerous clients and projects for the last three decades. Our clients include local, state, and federal governmental agencies as well as firms and institutions in the private sector.

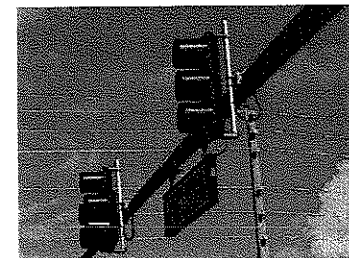
Blending professional training with our experience in research and practical engineering results in a unique background for the successful completion of projects ranging from preparing routine traffic engineering designs to solving complex traffic problems.

### Traffic Engineering Services

- Traffic impact studies
- Parking studies
- Corridor accident & safety studies
- Roundabout justification studies
- Signal warrant analyses
- Signal timing
- Prepare plans and specifications
  - Traffic signalization
  - Signal interconnection
  - Highway signing
  - Highway lighting
  - Traffic control during construction
  - Pavement marking
- Estimates of probable construction cost
- Traffic sign inventory

We have extensive experience in both urban and rural settings, from systems planning through project studies. GAI engineers perform access management level of service studies and site impact analyses.

GAI's engineers keep abreast of the latest developments in transportation engineering through physical and online research. We continually update our technical training through professional societies, technical seminars and informal in-house training.





## Utility Design Coordination - Design Projects Service Brief

### Overview

A massive network of overhead and underground utility systems for electric power, telecommunications, water and sewer, cable television, petroleum and natural gas lines crisscross our environment and occupy a significant amount of space within the Right-of-Way. As a result, each new construction project, whether it is a road, a bridge, a building, or a development, requires meticulous attention to new utility systems, and those already in place and in potential conflict.

GAI Consultants (GAI) assists clients in addressing utility conflicts by providing a unique service which takes the guess-work out of the liability and destructive consequences of cutting or disrupting existing utility services in and around new construction projects.

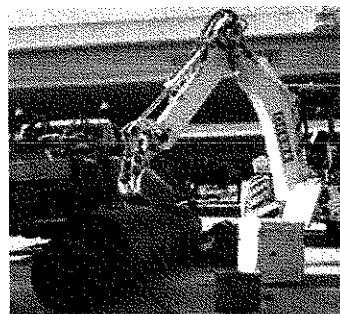
To aid utility owners and design project managers/clients in cost effectively relocating or upgrading their respective systems, our utility coordination team concentrates on effective communication, scheduling and follow-up.

GAI's Utility Coordination team includes professionals whose background, experience and knowledge cover a comprehensive range of engineering disciplines encompassing civil/site, traffic, transportation, structural and utility engineering, land planning, and eminent domain technical services.

Due to our thorough approach, GAI successfully reduces the risk of liability, decreases utility relocation costs, and aids providers in maintaining superior service to their customers.

- **Permitting**  
 Our utility permit preparation process includes existing site or construction plan review, documentation preparation, and follow-up.
- **Certification**  
 GAI thoroughly reviews the proposed utility relocations and adjustments to certify that all design elements have been properly addressed, and all Agreements are in-place. We make sure the Utility Work Schedules are complete and acceptable, and that the utility work is coordinated with the proposed construction schedule.

Research and planning are the keys to avoiding costly utility conflicts. GAI's utility coordination teams know how to bridge the communication gap between utility companies and property owners during the design process. Our utility design coordination keeps projects on schedule.







## Water/Wastewater Engineering & Consulting Service Brief

### Overview

GAI Consultants, Inc. (GAI) provides a unique blend of water and wastewater engineering and consulting services to both public and private clients throughout the United States, with experience ranging from planning, design, project procurement, and construction services. We offer productive solutions to utilities including project procurement strategy, permitting, capacity analysis reports, operation optimization, pilot studies, alternative evaluation, project scheduling review, and capital project planning.

Our team consists of diversified individuals with years of experience in water and wastewater engineering. The team is comprised of professionals with advanced degrees in environmental, civil and structural engineering - including individuals with Masters and Doctorate degrees. Our key team members are licensed Professional Engineers who provide hands-on technical skills, project coordination experience and innovative, intelligent approaches to every client's needs.

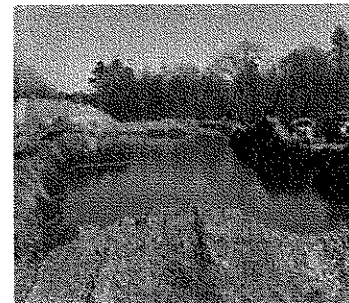
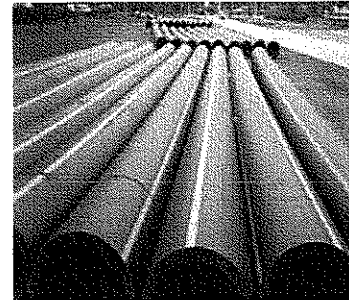
GAI is dedicated to providing the highest quality of knowledge and expertise to meet our clients' needs in water resources and supply, wastewater treatment, water reuse, revenue bond feasibility and capital funding.

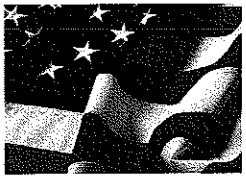
### Water Resources & Supply

GAI helps communities, utilities and developers identify and foster water supplies. We work with utilities to determine optimal sources for water supply, incorporating an array of options including groundwater, surface water and potential purchase from neighboring communities. We provide services in modeling, resource optimization and permit negotiation phase assistance during the consumptive use permitting process, and as part of the facility planning process, GAI uses advanced hydraulic software models to help determine practical, low-cost solutions for water infrastructure planning.

GAI provides traditional yet innovative and creative design services for water infrastructure including:

- Raw water intakes
- Ground wells
- Raw water transmission piping
- Water treatment
- Finished/Product water conveyance and storage





**Wastewater**

To help protect and preserve our environment, GAI performs various services for wastewater infrastructure including collection pipelines, pump stations, force mains, wastewater treatment and disposal/reuse.

GAI provides planning and strategy services to satisfy our client's wastewater needs. As part of the preparation of planning documents, our staff uses advanced hydraulic and process engineering models to optimize and size future facilities. Our team provides project scheduling that meets the needs of our clients.

GAI performs detailed designs that represent enhancements to existing facilities, facility expansions, or in some cases, new facilities. GAI has designed wastewater treatment facilities to produce high quality effluent for reuse and nutrient removal. Our engineers carefully review existing and future scenarios, reviewing data with respect to wastewater flows and characteristics while coordinating with our clients to select the processes that best meet their objectives and resources.

GAI also performs project procurement and construction services. Our in-house staff of construction inspectors have many years of experience in wastewater facilities.

**Reuse Water**

In today's world of diminishing water resources, the reclamation of "used" water is essential for the efficient use of existing water supplies. GAI provides services for the "reuse" of water through the design of advanced wastewater treatment facilities. These facilities promote the most versatile use of reuse water, the storage and transmission of reuse water, and the

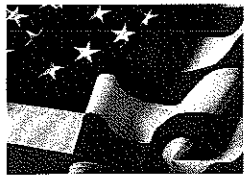
permitting of public, commercial and agricultural application sites.

GAI provides innovative solutions for the storage of reuse water, such as using ponds that are constructed as water aesthetics for land developments, and we also work with utilities and developers to foster agreements for sharing reuse water resources.

**Revenue Bond Feasibility & Capital Funding**

For water and wastewater utility systems with significant capital needs (i.e. capacity expansion projects, acquisition of other utility systems, etc), capital requirements are often funded with the issuance of revenue bonds. The terms under which the bonds are issued are a function of market conditions as well as the financial feasibility of the project. GAI provides services associated with analyzing the financial impact and resulting feasibility of funding capital projects with debt, and preparing written documentation to demonstrate the financial feasibility of the funding. Such services also include providing presentations to applicable rating agencies and bond insurers to promote the proposed funding and assist the client in securing good credit ratings, obtaining low-cost bond insurance, and generally getting the best possible financing terms.





# Construction Engineering and Inspection Service Brief

## Overview

The Construction Engineering and Inspection (CEI) industry is based on client service, construction integrity, and on-time/on-budget project completion. Without reliable CEI services, the client is without protection. GAI Consultants, Inc. (GAI) is dedicated to providing our clients with the reliable and quality services that are required to ensure a successful project.

GAI's construction engineering and inspection team consists of highly skilled construction engineers, resident engineers and construction technicians with experience inspecting large, multi-phased construction projects. Our expertise in large, multiphased construction projects ranges from major bridge replacements to roadway widening projects. For new construction and enhancement projects, GAI's CEI team has the experience to provide client protection throughout the construction process.

Our services are divided into five distinct work areas

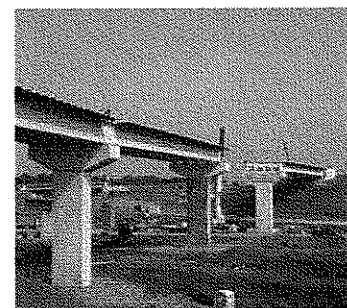
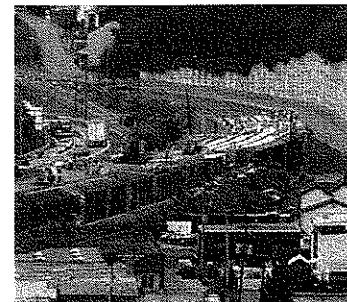
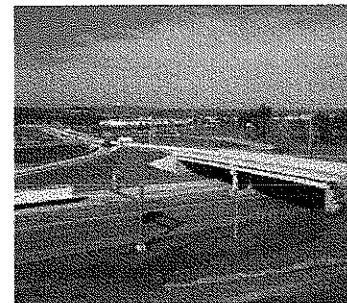
- Pre-construction services
- Pre-construction conference implementation
- Construction engineering and inspection services
- Project management/contract administration
- Post-Construction services

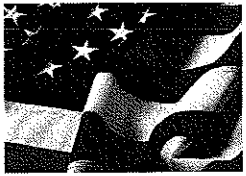
### Pre-Construction Services

Pre-construction services primarily involves mobilizing staff, equipment, and resources. It involves a careful evaluation of the project's specialized needs, and the selection of staff and resources to keep costs at a minimum, yet provide for a high quality product.

### Pre-Construction Conference Implementation

Pre-construction conference implementation involves developing a comprehensive, well orchestrated meeting. This meeting includes: the owner/client, the selected contractor and his subcontractors, local utility companies, governmental units, GAI and, the owner/client representative. This meeting is important to effectively create a team.





The conference sets the tone of cooperation and communication throughout construction. It serves to communicate the project goals and objectives for the entire work effort and gives the team a focus that promotes quality workmanship. At this meeting the team outlines communication methods, establishes processes for change orders and construction pay requests, and sets milestone production completion dates.

GAI has learned that project performance is enhanced by implementing a successful pre-construction conference, construction quality, project communication, and on-time/on-budget.

**Construction Engineering and Inspection Services**

Construction engineering and inspection services encompass the entire production process. It is the daily monitoring of the construction program. It includes inspecting workmanship, testing construction material quality, and monitoring on-site construction safety for workers and the general public. It also involves implementing public information processes to ensure that the public as well as all governmental agencies, contractors, and the owner/client are kept well informed.

**Project Management/Contract Administration**

Project management/contract administration means effectively maintaining progress reports, quantity surveys, supplier/construction material deliveries, shop drawing review and plan interpretation, pay request administration, and resolving claims, disputes and liability issues.

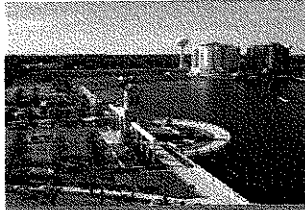
This work element provides the protection the client needs to ensure his project is accomplished in a professional and appropriate manner with minimal or no construction delays, cost overruns, and/or safety violations.

**Post-Construction Services**

Post-construction services deliver thorough, concise reports on the work effort's overall performance. The post construction services include a full inspection of the project in relation to the goals and objectives established at the pre-construction conference.

GAI is proud of its performance in the CEI services industry. Our success is based on repeat business which provided comprehensive CEI services for over \$175 million in construction in five years.





## Landscape Architecture Service Brief

### Overview

GAI Consultants, Inc. (GAI) performs various landscape architecture services for a wide range of project types in order to assist our clients, and provide them with individual design solutions that exceed their expectations.

GAI's team of professional landscape architects work on a wide range of project types to achieve a balance between the constructed and natural environment. Projects range from the site design for a small, urban park to a regional study of native ecosystems. Landscape architects often work as an integral part of a comprehensive GAI design team with other disciplines. This comprehensive approach is used in: land development, highway corridor studies, recreational and resort communities, municipal and comprehensive planning studies, environmental studies and mitigation design, urban design and neighborhood beautification plans.

### Benefits of Landscape Architecture Services

For both public and private sector projects, landscape architecture design provides tangible benefits to the client. These advantages include:

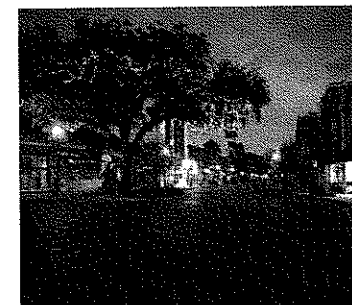
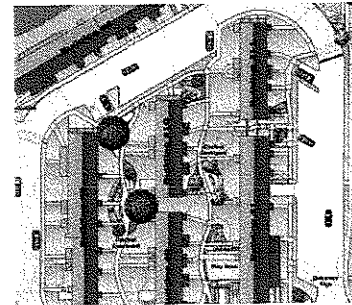
- A more aesthetic project and a greater return on investment through site amenity design features
- Lower site development costs through site analysis and site-sensitive design

GAI creates unique, individual design solutions for the client, which can help a project achieve a higher profile and stand out among the competition. Our team of land planners and landscape architects promote both site-appropriate and sustainable design through the use of innovative techniques such as GIS mapping of natural systems, the use of Traditional Neighborhood Development (TND) concepts, and the use and promotion of native plant materials.

Our Landscape Architecture Designers contrive the themes and the guides for the creation of active and passive landscape spaces. First, we begin by attaining a comprehensive understanding of our client's needs, goals and specific site opportunities. Then, armed with this insight and our internal resources, we achieve the "conceptual intent" of the landscape space. Lastly, we redefine the concept and transform it into Landscape Design.

Communicating and presenting concepts and themes are essential tasks which, as a result, lead to making interaction with our clients and other project related disciplines the most indispensable step towards the final creation of the Landscape Design Construction Documents. Through maintaining contact and understanding the project goals, we stay on task and on budget.

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Landscape Architecture Services

GAI provides both stand-alone landscape architecture services as well as any required support services for a wide array of project types including:

- Site analysis
- Site layout and grading plans
- Landscape design
- Community master plans
- Hardscape design and construction detailing
- Streetscape design
- Wetland mitigation design
- Park and recreation planning
- Urban design studies
- Waterfront design
- Golf course design and resort planning
- ADA design
- Visual impact/viewshed studies
- Historic landscape studies
- Redevelopment planning
- Forest conservation plans
- Land use studies
- Campus planning
- Project signage and thematics
- Irrigation design
- Regional planning studies
- Beautification plans
- Rail-to-trail conversions
- Greenbelt protection plans
- Design guidelines and ordinances
- Master planning
- Conceptual design/design development
- Construction plans/cost estimates
- Presentation graphics
- Public involvement and consensus building
- Bid specification packages
- Bid services
- Construction assistance services
- Maintenance guidelines

For each new opportunity, our mission continues to be creating enriching and extraordinary spaces where communities can live, work, and participate in recreational activities. By considering implementation and maintenance throughout the design, we ensure lasting quality.

We also provide in-house planning and design support to other GAI professionals in the areas of storm-water management facilities, road alignment, environmental studies, and construction cost estimates.

Local, state, and federal regulatory agencies have recently placed an increased emphasis on sustainable design concepts promotion as part of the land development process. These may range from large-scale initiatives such as the 1991 Intermodal Surface Transportation Enhancement Act (ISTEA) which seeks to promote alternative transportation methods, greenways, and highway beautification, to small-scale local initiatives such as tree preservation and hillside protection ordinances. By keeping up with these recent trends, GAI's landscape architects work with review agencies and the public to ensure cost-effective design solutions for the client that also satisfy public-issue concerns.



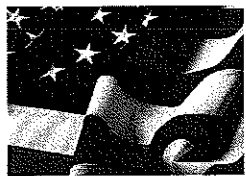
GAI utilizes computer technology programs designed to assist landscape architecture and land use planning studies, including:

- GIS for land use and natural systems mapping
- CADD for landscape and hardscape construction design
- Computerized landscape specification and cost estimating software
- 3-D terrain modeling capability
- Plant materials and landscape product databases

By combining the latest technology with a hands-on, pro-active approach to project design and management, GAI's team of landscape architects promote wise stewardship of natural resources and achieve the client's goals and objectives.







**Comprehensive Planning**

Comprehensive planning includes all phases of information gathering, analysis, and documentation including:

- Database development for land use, economic, facility conditions, housing and demographic, and transportation analyses
- Opportunity/obstacle identification including blight, facility needs, land use suitability, and land development potential analyses
- Evaluation of plan alternatives including resolution of conflicts, consensus building, and impact analysis related to social, political, environmental, economic, and physical issues
- Plan implementation including the organization and development of governmental growth management tools. These include growth management plans, land development regulations, and architectural and engineering guidelines

GAI's comprehensive planning team has been instrumental in helping federal, state, county, and city governments meet the growing needs of their constituencies. Our planning services promote a safe and orderly economic development.

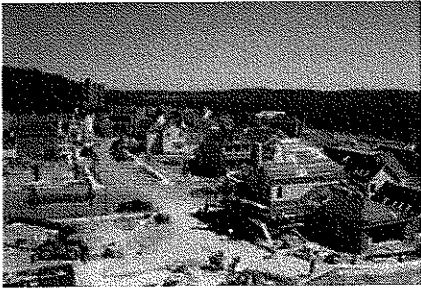
**Urban Planning and Design**

Urban planning and design services focus on the community, neighborhood, and site-specific levels. Streetscaping, area redevelopment, land use and development controls, and special-use developments are all important aspects of our services. These types of planning services include:

- Evaluation and review of development controls
- Preparation of urban streetscape programs
- Preparation of transportation improvements, and utility and infrastructure corridor studies
- Alternatives analyses, project development, and environmental studies
- Preparation of environmental assessments and studies

GAI's team approach is comprehensive and includes expertise in planning, engineering, construction, and surveying. With these capabilities our clients receive responsible, economically feasible solutions. Our team members are also experienced in architectural design, landscape design, and funding grantsmanship. We have solutions to meet site-specific needs and to help solve regional development issues.

These solutions meet criteria including: legal constraints, social sensitivity requirements, economic requirements, and optimization of the development potential of existing and future communities and neighborhoods.



**Site Planning and Design**

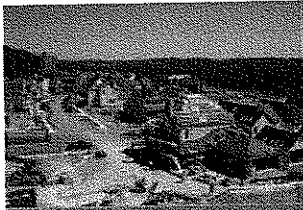
GAI has experience in site planning for individual, public, and private developments. We frequently team with financial consultants for complete site development feasibility analysis. This work usually includes a market analysis, market strategy, and growth strategy. Our comprehensive list of services includes:

- Development of regional impact studies
- Site development feasibility analysis
- Zoning analysis and change consultation
- Site selection studies, engineering and environmental evaluations, and master planning
- Site planning, layout, and design
- Eminent domain technical services for property analysis, cost-to-cure analysis as a result of public condemnation proceedings, and expert witness testimony

Public and private site development demands the full optimization of investment capital and strict attention to detail in permitting, site layout design, circulation, site egress and ingress, and surrounding land use development. GAI's team achieves these goals with reliable planning and design solutions.

Within these three planning service areas, GAI's process provides thorough and economical solutions for land use, growth management, and capital investment challenges faced by federal, state, county, and municipal agencies and private developers.





# Planning and Site Design Service Brief

## Overview

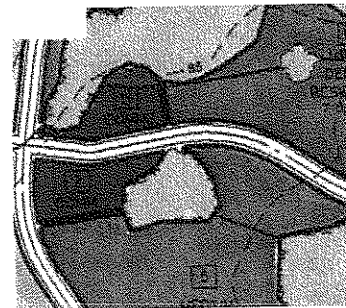
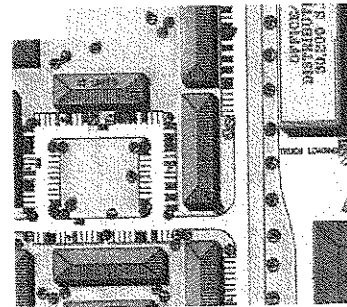
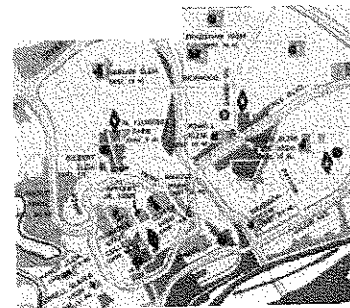
GAI Consultants, Inc. (GAI) provides a full complement of comprehensive urban and site planning and design services. We have a solid core of professional planning personnel with expertise in a wide range of planning and growth management applications, grantsmanship, and plan implementation processes.

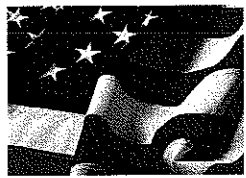
Our corporate culture fosters a stable, talented and service-oriented staff to provide integrated strategies and solutions to meet project-specific needs and to help solve neighborhood, community and regional development issues, and to provide a strong sense of community.

### Our Planning Services Include:

- Comprehensive planning and urban design
- Community planning and redevelopment
- Land use and development regulations
- Due diligence and land use entitlements
- Master plan and site selection studies
- Corridor alternatives analyses
- Developments of regional impact
- Project development and environmental studies
- Historic architecture analysis and community
- Design standards
- Public participation, visioning and consensus building

We provide our clients with a comprehensive understanding and efficient approach to their program with our in-house civil, landscape architecture, transportation, structural, survey, and CEI capabilities.





**Comprehensive Planning**

Comprehensive planning includes all phases of information gathering, analysis, and documentation including:

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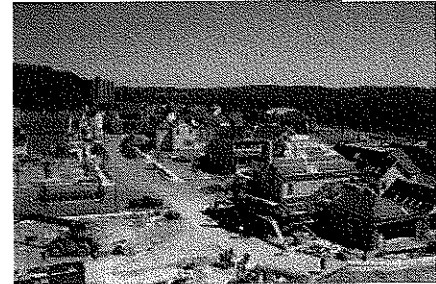
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**Site Planning and Design**

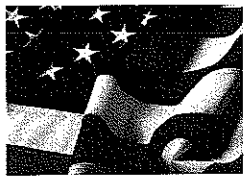
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Within these three planning service areas, GAI's process provides thorough and economical solutions for land use, growth management, and capital investment challenges faced by federal, state, county, and municipal agencies and private developers.





## Cultural Resources Service Brief

### Overview

Since 1974, GAI Consultants, Inc. (GAI) has been a leading provider of cultural resources services. The qualifications of our professional staff exceed the federal standards for cultural resource management studies. Our archaeologists have doctoral and master's degrees in historic archaeology, prehistoric archaeology, urban archaeology, and soil science, and extensive training in historic preservation and federal law. Many are certified by the Society of Professional Archaeologists. Because we maintain a large staff, we can conduct several archaeological investigations simultaneously and respond to our clients' needs quickly. GAI conducts similar studies for historical resources.

GAI's Cultural Resources Group is a full-service division, offering both architectural history and archaeological services.

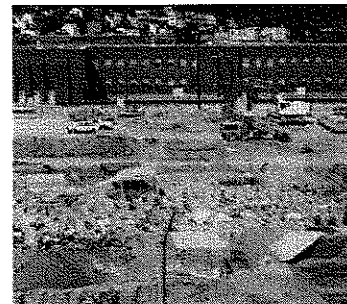
#### Cultural Resources Group capabilities include:

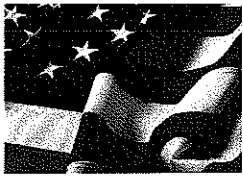
- Phase I archaeology surveys
- Public outreach products/ programs/education
- Quantitative analysis and statistics
- Site formation studies
- Phase II site evaluations
- Historical archival and deed research
- Database design and management/ GIS/GPS
- Phase III data recovery, treatment and mitigation plans
- HABS/HAER
- Prehistoric and historic pottery analysis
- Historic architectural surveys
- Assessment studies
- NEPA, FERC, NHPA/SECTION 106
- Geomorphology/pedology/ petrography

#### Cultural Resource Management Services

The National Historic Preservation Act requires completion of the Section 106 Compliance Review Process for any project that has federal assistance. This process involves locating, evaluating, and mitigating significant archaeological sites and historic resources that may be impacted by a proposed project. Most states also have such regulations for state-funded or licensed projects.

GAI provides a full range of cultural resource services for federal, state, and local government agencies; state departments of transportation; mining companies; electric utilities; gas utilities; private land developers; and to other engineering firms.





Assessment Studies

GAI conducts Phase Ia Assessment Studies to determine the likelihood that archaeological sites may or may not be present in a proposed project area. Usually conducted at the outset of a project, an assessment study can reduce project costs by limiting the need for intensive or unnecessary field work to locate possible cultural resource sites. It may include:

- Predictive modeling using GIS
- Historical background studies
- Geomorphic studies

We use Geographic Information System (GIS) in predictive modeling to correlate large volumes of three-dimensional topographic data to locate potential archaeological areas.

Predictive modeling including statistical methods are used to determine the probability of finding cultural resources within a large geographic area. Assessing the location of previously recorded sites and conducting historical background studies within project boundaries are also critical. Geomorphic studies can provide information about soil disturbances that might have obliterated archaeological sites in a project area.

- NEPA/NHPA Section 106 compliance reviews
- Phase I reconnaissance surveys
- Phase II testing for National Register of Historic Places (NRHP) eligibility
- Phase III mitigative excavations
- Analysis of prehistoric and historic material assessments
- Avoidance/preservation measures
- SHPO consultation

A Phase I reconnaissance survey usually involves shovel testing and a walkover of the project area to see if it contains evidence of cultural resources. If it is impossible to avoid a site that has been located, Phase II testing for NRHP eligibility may be required. It includes additional excavation of a site. If a site is eligible for the National Register, we can begin Phase III mitigative excavations. With each phase, we analyze prehistoric and historic data sets and evaluate project alternatives according to our client’s project needs.

Special Features

GAI offers the following special features:

- Our technical staff specializes in pedology, the identification of soils in relation to the location of archaeological sites. It is useful in an assessment study for determining previous surface disturbances and the potential for the occurrence of archaeological sites. Our geological capabilities also include mineral analysis of rock sections for sourcing studies.
- GAI’s archaeologists provide public information programs to our clients. These programs include popular reports, brochures and pamphlets, educational posters, and visits to local schools.
- GAI received 2002 Pennsylvania Division of FHWA Historic Preservation Excellence Award (Public Outreach) for Coverts Crossing Bridge Replacement Project for PENNDOT District
- 11-0 and Taylor Engineering. Also received WVDOT 2001 Engineering Excellence Award, Planning & Environmental Category for Native American Burial Site Relocation.



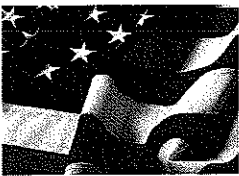
Facilities

Cultural resource support facilities include 2,050-square-foot of office space, a 2,500-square-foot archaeological laboratory where artifacts are processed and analyzed, and a 1,500-square-foot equipment storage/temporary curation area. These areas house standard laboratory and field equipment and incorporate a darkroom, in-house printing, a library, a drafting area, and a computer room.

Client Comments

- “I want to commend again GAI for a well-coordinated field program [Lazarus building], and for meeting our critical project schedule.” Paul Maniago, Pittsburgh URA
- “...these [Documentations for Consultation] are some of the best-written documents I have received since I took this job. Tell GAI they did good work.” Ed Compton, FHWA to Norse Angus, WVDOT.
- “Everyone from GAI...made us very proud. Thank you so very much; we really appreciate all that your team has done to make this emergency project [Cabbage Pond] through two Nor’ easters, a real success...” Kevin Cunningham, DelDOT Archaeologist.





## Environmental Service Brief

### Overview

Since the advent of NEPA, RCRA, CWA, and other environmental laws passed in the 1960s and 1970s, GAI Consultants, Inc. (GAI) has worked closely with its clients to provide practical, cost-effective solutions to environmental challenges.

Our diverse range of engineering, planning, environmental, and construction services include environmental site assessments, transmission line permits, abandoned mine abatement, brownfield site development, environmental compliance, safe disposal of hazardous materials, wetland delineation, assessment of threatened and endangered species, application of computer technology and state-of-the-art environmental analysis and management techniques using GIS.

#### Environmental Studies

- Wetlands determination & delineation
- Wetland mitigation
- Natural stream restoration
- Environmental inspection
- Rare, threatened, & endangered species surveys
- Air & noise studies
- FEMA floodplain map revisions
- Watershed management
- Environmental impact statement
- Environmental assessment

#### Utilities Management

- Gas/electric transmission line permit applications
- Route evaluation/selection
- FERC compliance
- Tower line feasibility study

#### Brownfield Site Development

- Environmental site assessment
- Comprehensive planning
- Site planning/development
- Transportation access evaluation

- Industrial site re-use using voluntary action plan

#### Permitting & Compliance

- Water quality permit
- NPDES permit
- Groundwater and surface water modeling
- Wastewater treatment
- Oil spill modeling/SPCC plans
- Air quality modeling
- Stormwater management plan
- Erosion & sedimentation control
- FERC permit
- 404/401 permitting
- State power siting board certification

#### Environmental Site Assessment

- Phase I & II assessments
- UST/AST investigations
- Soil & groundwater remediation design/oversight
- Hazardous waste management
- Remediation investigation & feasibility study

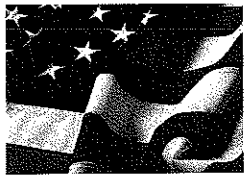


[www.gaiconsultants.com](http://www.gaiconsultants.com)

transforming ideas into reality™







**Abandoned Mine Lands**

- Abandoned mine land stabilization and reclamation
- Mine fire abatement
- Stream reclamation & restoration/ watershed restoration
- Highwall reclamation/coal refuse reclamation

**Environmental Compliance / Management Systems**

- Operation & maintenance plans
- Risk management plans
- Compliance plan preparation
- Regulatory requirement analysis
- ISO 14000 preparation (environmental management)
- Environmental database management of solid / hazardous waste & air emissions
- Waste minimization / pollution prevention

**Environmental Health & Safety**

- OSHA compliance consultation
- Industrial hygiene surveys
- Asbestos assessment services
- Lead assessment services
- Risk assessment
- Indoor air quality assessment
- Health & safety training classes

**Our Analytical Tools**

- Geographical Information System (GIS), a computer -based system used to capture, analyze, manage and display referenced information geographically. This allows for large quantities of data to be synthesized efficiently, resulting in high quality, easy to follow maps and graphs
- Global Positioning System (GPS) is a valuable field survey tool that uses satellites to enable GPS receivers to determine their precise location

**Major Project Accomplishments**

GAI has completed a diverse range of environmental projects, many of which have been recognized by leading industry experts:

**Edwardsport IGCC Plant Gas Line Siting, Edwardsport, IN**

*Environmental evaluation and feasibility of alternate routes to connect an existing natural gas pipeline to an Integrated Gasification Combined Cycle (IGCC) plant*

*Client: Duke Energy; Completion: 2008*

- In addition to providing an important connection to convey fuel to the new IGCC plant, GAI's involvement in the project helped to avoid and minimize potential impacts to water resources, endangered species, land use and cultural resources in the project area.

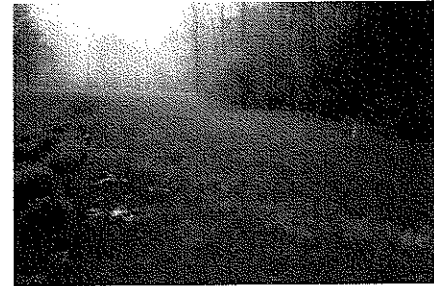
**Summerset at Frick Park, Pittsburgh, PA**

*Brownfield restoration redevelopment site design – 230-acre site developed into 713 housing units*

*Cost: \$269M; Estimated Build-out Completion: 2010*

*Client: Urban Redevelopment Authority*

- 2002 ESWP, Award for Project of the Year in Environmental
- 2003 Governor of Pennsylvania, Award for Environmental Excellence in Land Use
- 2003 ACEC/PA, Diamond Award for Engineering Excellence



**Monongahela South No. 1, Washington County, PA**

*Abandoned mine/highwall reclamation services*

- 2006 Eastern Region Abandoned Mine Reclamation Award, Office of Surface Mining

**Integrity and Experience**

*Our academic training combined with our experience in research and practical engineering provides the foundation for solutions to complex environmental problems.*

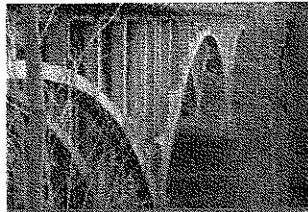
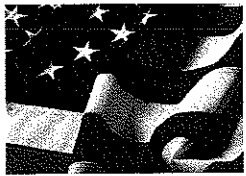
*Our highly qualified and diverse staff of engineers and scientists include:*

- Civil & Environmental Engineers
- Geologists & Hydrogeologists
- Industrial Hygienists
- Soil Scientists
- Chemists & Chemical Engineers
- GIS Specialists
- Environmental Scientists
- Biologists & Ecologists
- Planners & Landscape Architects
- Environmental Technicians

*"The staff from GAI has always been very professional, knowledgeable and has performed exemplary work. Based on my experience with GAI Consultants, Inc., I would recommend that GAI be considered for any consulting services associated with the abatement of health and safety hazards or environmental problems associated with abandoned mining operations located anywhere throughout Appalachia."*

Eric E. Cavazza, Chief, Design Section, Cambria District Office, Bureau of Abandoned Mine Reclamation, PA Department of Environmental Protection





## Geotechnical Service Brief

### Overview

Since 1958, GAI Consultants, Inc. (GAI) has provided geotechnical engineering services. Using the principles of engineering geology, soil and rock mechanics, and foundation engineering enhanced by practical experience, our engineers and geologists assist clients with projects that involve managing the earth's materials and geologic processes.

### Project Capabilities

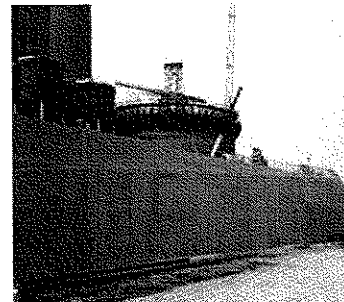
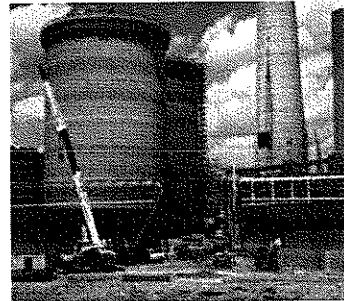
Geotechnical investigations are necessary preludes to the sound, economical planning, and design of:

- Buildings
- Industrial plants
- Community and recreational developments
- Dams
- Highway and bridges
- Tunnels
- Soil and rock slopes
- Retaining structures
- Commercial developments
- Waste disposal areas
- Facility additions
- Transmission lines
- Environmental site remediation

### Geotechnical Engineering Services

GAI's geotechnical engineering services include:

- Geologic studies and reconnaissance
- Subsurface explorations
- Foundation recommendations, design, and research
- Subsidence studies and remediation
- Slope stability analysis and design
- Earthfill and rockfill dam evaluation and design
- Geosynthetic materials design
- Tunnel analysis and design
- Earth and rock retaining structure design
- Mine fire abatement
- Mining engineering
- Instrumentation and monitoring
- Foundation research
- Materials testing





**Subsurface Explorations**

An initial review of a site's geology and a site reconnaissance can reveal poor soil conditions, potential mine subsidence, karst conditions, expansive materials, and slope stability problems. Our staff uses this information to plan and conduct a subsurface investigation so they can develop recommendations for foundation design or site utilization. An investigation includes determining soil, rock, and ground-water conditions beneath a site and identifying design elements needed to minimize a project's impact on the environment.

Support is provided by our in-house materials and chemical laboratories, which are equipped to identify and determine fully the engineering parameters of soil and rock.

**Engineering Analyses**

Once GAI determines a site's geology and subsurface conditions, we correlate field and laboratory test data. Our staff selects engineering parameters to use in analyses that may include:

- Bearing capacity
- Settlement potential
- Slope stability
- Subsidence potential
- Seismic response
- Soil-structure interaction
- Dewatering requirements
- Foundation and structural vibrations
- Excavation support requirements

**Recommendations and Design**

Using the results of the analyses, GAI can provide geotechnical recommendations or complete design services for appropriate foundation types, foundation elements, site preparation and grading, and construction procedures.

Also, we have extensive experience in identifying appropriate borrow sources for materials used in the construction of earthen structures, and clay caps and liners for landfills.

**Construction Monitoring and Testing**

Besides our ability to provide analysis and design services, we are experienced in using detailed quality control procedures to monitor the construction of all types of earthen structures and foundations.

As a matter of routine, GAI performs pile, pier, or plate load-testing, vibration monitoring, and pre-blast or pre-driving surveys of facilities near a project to determine the presence of pre-construction damage.

**Foundation Research**

Over the years, GAI has amassed formidable experience in the full-scale load-testing of foundations, calibrating analytical models to the results of full-scale load tests, and developing computer programs for designing foundations efficiently. We have conducted numerous state-of-the-art studies and prepared design manuals on a variety of geotechnical topics for many clients.



**Clients**

GAI has provided geotechnical engineering services to clients who include:

- Electric utilities
- Metals and mining companies
- Local, state, and federal governments and agencies
- Highway departments
- Manufacturers
- Developers
- Architects





# Stormwater Management/Drainage Engineering Service Brief

## Overview

GAI Consultants (GAI) understands that land development and highway construction must meet the new and changing Phase II stormwater management criteria for construction and post construction activities.

Our team of experienced stormwater management professionals have established a four-step process that will expedite the permitting process and identify the most cost-effective, post-construction stormwater pollution prevention technology.

### Four Steps to Effective Stormwater/Drainage Management

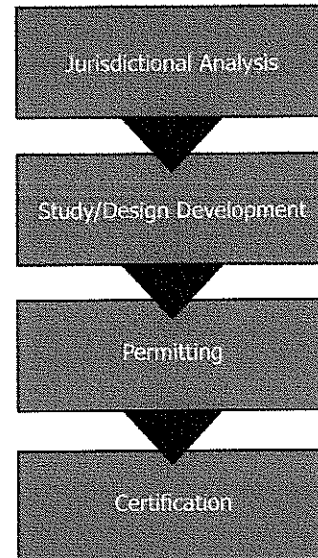
**Jurisdiction Analysis.** Our team researches and identifies applicable codes, regulations, and requirements associated with the jurisdictional agencies.

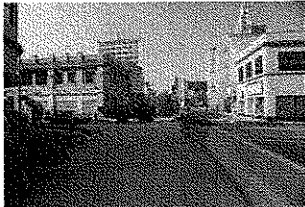
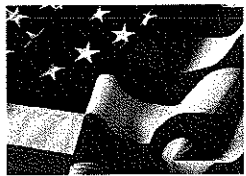
**Study/Design Development.** Our experience includes engineering design of:

- Retention and detention systems
- Collection systems, including curb and gutter, sewer inlets, piping systems and roadway ditches
- Bridge hydraulic design
- Floodway studies including floodplain compensation or no-rise certification
- Cross drain design
- Wetland mitigation
- Best Management Practices (BMP) treatment systems including ponds, wetlands, filtration, and open channels.

**Permitting.** GAI uses proven, standardized application procedures and formats that prevent deficiencies and facilitate quick permit approvals. Our team works with the authorities throughout the process to prevent any permitting delays.

**Certification.** Upon a successful permitting process and construction, GAI thoroughly reviews the project to assure all design elements are completed properly and that the project is officially certified by the appropriate compliance jurisdictions.





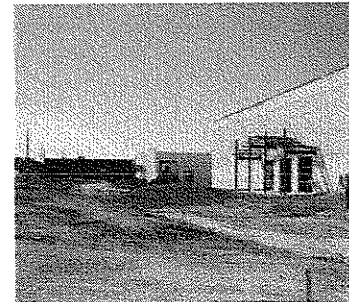
## Surveying Service Brief

### Overview

GAI Consultants, Inc. (GAI) offers a full range of surveying services to meet the land documentation needs of public and private land owners, developers, and government agencies. Our surveying services are comprehensive, covering almost all surveying applications.

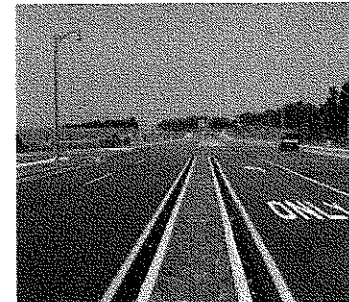
#### Boundary Surveys

Boundary surveys are developed for a wide range of uses. These include: land title/ownership purposes; real estate financing; as-built delineations; insurance purposes; real estate appraisal and sales; encroachment delineation; boundary line dispute resolutions; subdivision plats; condominium plats; and rezoning/ variance purposes.



#### Construction Surveys

Construction surveys can save valuable time and cost in the field. Surveys conducted on site during the initial stages of construction preparation are critical to establish location (horizontal) and elevation (vertical) placement of designed improvements. Our survey teams have saved our construction/contracting clients thousands of dollars in potentially damaging lost time and litigation liability.



#### Control Surveys

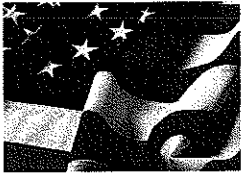
Control surveys employ a series of grid lines and points to accurately pinpoint physical features. The process consists of establishing horizontal and vertical control points to develop a series of independent triangulation measurements. This network is then verified and compared to develop reliable and accurate control grids.



#### Design Surveys

Design surveys provide the foundation upon which all design for manmade improvements must rely on for design development. Boundary lines' location, topography, site physical features (rock outcroppings, trees, etc.), as well as any on-site buildings, utilities, encroachments, and easements are recorded. From this foundation design plans can be effectively produced. The GAI surveying team has developed design surveys for all types of design assignments including bridges, highways, buildings (residential, commercial, industrial, institutional), utilities (electric power, gas, water, sewer, cable TV, phone) and transportation facilities (airports, railroad, truck and bus facilities).





**Hydrographic Surveys**

GAI has the trained staff, equipment, and experience to survey bridge structures, lake and river shore lines, ocean tide lines/elevations, and wetland mitigation areas.

**Topographic Surveys**

Topographic surveys incorporate ground run, aerial, tree, utility location, wetland, floodplain and hydrographic surveying and mapping. GAI uses state-of-the-art field equipment, electronic record recorders and computer mapping technology to produce accurate topographical mapping documents for use in design development, storm-water management, and construction.

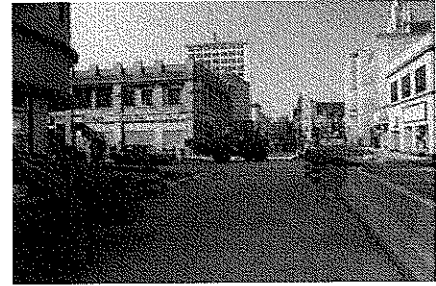
**Wetland Mitigation Surveys**

Wetland mitigation surveys include not only wetland delineation but also surveys for plant identification, planting, construction staking, fill material calculations, and storm-water management. GAI's wetland mitigation surveys support both wetland creation and enhancement projects.

**Specialized Surveys**

GAI's survey teams' specialized surveys include a wide range of applications. These include archaeological, cultural/historical, utility location, legal determination, and eminent domain technical services support.

GAI can assemble an experienced, fully equipped survey team to handle almost any survey project assignment. In addition to our field survey crews, our in-house mapping specialists use an extensive library of computerized mapping software including Terramodel, Arc-Info, GRASS, Microstation and AutoCAD. GAI has the experience, the assembled team, and the organization for quick response. Our company is committed to satisfying each client's individual survey needs.

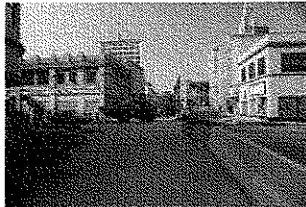
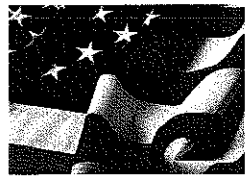


**Global Positioning System (GPS)**

GAI employs state-of-the-art GPS equipment for horizontal and vertical control surveys. GAI operates Trimble 5700 Series Global Positioning System Total Stations that are accurate to within two centimeters on the horizontal axis and three centimeters on the vertical axis. GAI also employs a mobile Real-time Kinematic (RTK) System that permits instant gathering and processing of information from either known or established points. By combining GPS technology with conventional survey methods, GAI saves the client time and money by eliminating the need to double back survey control networks to assure a closed survey. GPS technology also allows the surveyor to reference a global datum to assure control points can always be easily recreated if destroyed.







## Surveying Service Brief

### Overview

GAI Consultants, Inc. (GAI) offers a full range of surveying services to meet the land documentation needs of public and private land owners, developers, and government agencies. Our surveying services are comprehensive, covering almost all surveying applications.

#### Boundary Surveys

Boundary surveys are developed for a wide range of uses. These include: land title/ownership purposes; real estate financing; as-built delineations; insurance purposes; real estate appraisal and sales; encroachment delineation; boundary line dispute resolutions; subdivision plats; condominium plats; and rezoning/variance purposes.

#### Construction Surveys

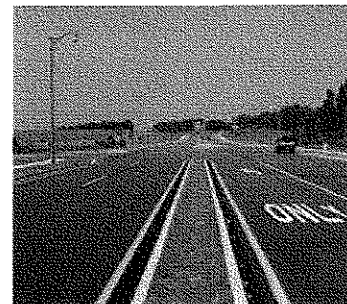
Construction surveys can save valuable time and cost in the field. Surveys conducted on site during the initial stages of construction preparation are critical to establish location (horizontal) and elevation (vertical) placement of designed improvements. Our survey teams have saved our construction/contracting clients thousands of dollars in potentially damaging lost time and litigation liability.

#### Control Surveys

Control surveys employ a series of grid lines and points to accurately pinpoint physical features. The process consists of establishing horizontal and vertical control points to develop a series of independent triangulation measurements. This network is then verified and compared to develop reliable and accurate control grids.

#### Design Surveys

Design surveys provide the foundation upon which all design for manmade improvements must rely on for design development. Boundary lines' location, topography, site physical features (rock outcroppings, trees, etc.), as well as any on-site buildings, utilities, encroachments, and easements are recorded. From this foundation design plans can be effectively produced. The GAI surveying team has developed design surveys for all types of design assignments including bridges, highways, buildings (residential, commercial, industrial, institutional), utilities (electric power, gas, water, sewer, cable TV, phone) and transportation facilities (airports, railroad, truck and bus facilities).





**Hydrographic Surveys**

GAI has the trained staff, equipment, and experience to survey bridge structures, lake and river shore lines, ocean tide lines/elevations, and wetland mitigation areas.

**Topographic Surveys**

Topographic surveys incorporate ground run, aerial, tree, utility location, wetland, floodplain and hydrographic surveying and mapping. GAI uses state-of-the-art field equipment, electronic record recorders and computer mapping technology to produce accurate topographical mapping documents for use in design development, storm-water management, and construction.

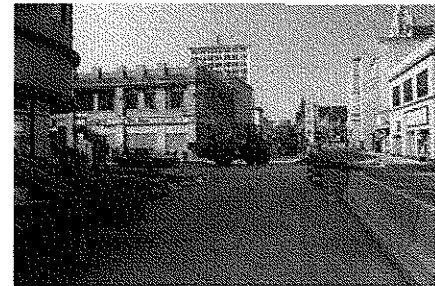
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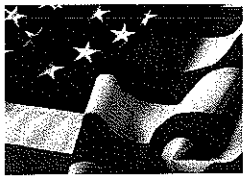
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# GAI's Project Delivery System for Design Projects

## Overview

GAI is structured to demonstrate quality and professionalism in all that we do. Through strategic hiring and by promoting from within, project management positions are assigned to individuals who are knowledgeable technically, and who understand the importance of providing our clients with quality services and delivering project documents on time and within budget. GAI is committed to empowering our Project Managers to "think outside of the box" in their project management efforts and be responsive to our client's needs.

GAI makes a significant investment in management and leadership programs, and offers GAI University courses designed to help promising individuals reach their fullest potential. The Management and Leadership Skills Class coaches potential leaders in developing problem-solving and conflict-resolution techniques. GAI's Project Management Workshop and Advanced Project Management Training programs provide a comprehensive, in-depth study of project management at GAI.

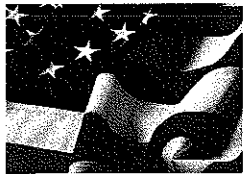
A successful planning process for design projects begins with the most critical decision: Identifying the Team. Assembling a solid design team to support the needs of the project and to meet or exceed the client's expectations is the foundation for quality engineering and timely project delivery. Every GAI team comprises the following professionals:

- **Accomplished Project Manager:** GAI assigns seasoned project managers, who remain with their assignments to completion, and who have the ability to provide substantial technical knowledge to the project. Their contribution to the project also includes a proven reputation for providing effective leadership, motivation, and encouragement to the staff. This is the backbone of a successful project.
- **Competent Task Managers:** The project manager is a project leader and team builder, and understands the need to select the appropriate staff to manage specialty tasks associated with the project. Qualified task managers are appointed by the project manager to guide specialty teams and strengthen the core management structure.
- **Quality Sub-Consultants.** GAI teams with competent and skilled sub-consultants, when appropriate, to fill key project roles and assist GAI's in-house staff. GAI uses firms that meet or exceed GAI and client expectations, and this facilitates development of a strong project team. Many of our sub-consultants have partnered with GAI before, providing a seamless complement to the team.

Immediately upon receiving authorization to proceed, the project team follows GAI procedures for project development, as described below. These activities identify and establish administrative procedures for managing and executing the project.

1. **Project Work Plan:** The Project Manager prepares a work plan that identifies the sequence of major project activities from project inception through completion for design and construction.
2. **Project QA/QC Plan:** The Project Manager selects a QA/QC level for the project that considers the complexity of the project, and any risks or uncertainties identified with the project. GAI's benchmark for ascribing an appropriate level of quality control ranges from project reviews, internally and with the client at specific stages, to preparation of a Project Specific Quality Assurance Plan (PSQAP).
3. **Project Kick-Off Meeting.** The Project Manager holds a project kick-off meeting with the design team and the client. The most critical of all meetings, it is the Project Manager's opportunity to promote confidence in the project team by exhibiting a well-organized plan for project execution and discussing the client's expectations. The project schedule is developed, the work plan and quality control procedures are





communicated, and the roles of all team members are clearly identified. "Rocks in the road" and potential problems are discussed to identify possible contingency solutions. At this meeting, the project contract and budgets are thoroughly reviewed, and communication and correspondence plans are discussed.

4. **Project Records Management:** Adherence to GAI's document, e-mail, and electronic file control and records management procedures is emphasized at the beginning of the project, and throughout.
5. **Accurate Project Data Determination.** The project team builds the project's foundation, consistent with the scope of its services, by obtaining accurate information about the project site, especially survey, right-of-way, utilities, and environmental impacts. These are the four most critical elements to the success of any design project, and are essential to the development of practical and economical designs.
6. **Design Criteria Development.** The project team establishes the project design parameters, investigates right-sizing measures, and gets concurrence from the client, before proceeding with design. This essential process enhances matching client expectations and reduces the potential for unnecessary rework.
7. **Internal Constructability Review.** The Project Manager investigates constructability issues, consulting with seasoned engineers that have construction experience. Detecting constructability issues at the preliminary design stage lessens the chance of pursuing a potentially flawed design concept.
8. **Schedule Maintenance.** The Project Manager develops a project schedule that includes a logical sequence of tasks, task durations, and internal quality assurance, agency, and client review(s). This action is paramount to meeting project goals. In the event of a delay, it is the team's objective to initiate a recovery plan, if needed, to deliver submissions and construction documents on time. GAI's goal is to meet or

beat project milestone dates.

9. **Project Budget Monitoring.** The Project Manager is always aware of the budgetary challenges GAI's clients face. By determining effective procedures for performing the work, the Project Manager is able to keep the project on track. Consequently, GAI is committed to completing scopes of work within agreed upon design budgets.
10. **Quality Assurance/Quality Control.** GAI's entire project team is responsible for every submission, report, specification, and calculation undergoing quality-assurance review(s) in accordance with the quality control measures established for the project. Adherence to providing documentation, maintaining organized files, and following records management procedures provides for seamless retrieval of project documents and keeps the team focused.
11. **Client Responsiveness.** As a contributing partner, GAI takes ownership of every project along with the client and is responsive to their needs. GAI knows that responding promptly and in a professional manner builds and strengthens client relationships, and other members of the GAI project team stand ready to address client needs when the Project Manager is unavailable.
12. **Client Follow-Up.** GAI's managers are encouraged to seek feedback from our clients to gauge what went right or wrong throughout the project delivery process. This information is shared with all GAI project managers in a formal "lessons learned" coaching session.



Transforming ideas into reality for over 50 years, GAI is a 650-person, employee-owned, multidisciplinary engineering and environmental consulting firm, serving our clients worldwide in the energy, transportation, real estate, water, municipal, government, and industrial markets from offices throughout the Northeast, Midwest, and Southeastern United States.

## FIRM QUALIFICATIONS

GAI is an 800-person, employee-owned, multi-discipline engineering and environmental consulting firm, serving our clients worldwide in the energy, transportation, real estate, water, municipal, government, and industrial markets from offices throughout the Northeast, Midwest, and Southeast United States. This section provides further information regarding the firm and presents our overall landscape design capabilities.

### Services Offered:

Environmental Engineering and Studies; Civil Engineering; Land Development; Transportation Engineering and studies; Geotechnical Engineering; Structural Engineering; Cultural Resources; Construction Engineering & Inspection; Surveying; GIS; Landscape Architecture; Electrical Engineering; Mechanical Engineering; Water Resources Management.

### Markets Served:

Energy, Transportation, Real Estate, Water, Municipal, Government, Institutional, and Industrial.

### Founded:

October 1958, Pittsburgh, PA; consolidated in 2003

### Staff:

Over 800 employees corporate-wide

### Revenue:

Over \$70 million annually

### Ownership:

100 percent Employee-owned (ESOP) firm with a 7-member board

### Vision:

The Company of Choice... Transforming Ideas into Reality©

### Mission:

To Continue Growing as an Integrated Consulting Firm, Creating Value for Our Clients and Employees

### Core Values:

- + Honest, Fair, and Ethical Behavior
- + Quality Work Culture
- + Company Loyalty and Support
- + Equal Employee Opportunities
- + Mutual Employee Respect

### Awards ([www.gaiconsultants.com/awards](http://www.gaiconsultants.com/awards)):

- + 56 Engineering Excellence Awards
- + Top 500 Design Firms - Engineering News-Record (ENR) Magazine: 2006, 2007, 2008, and 2009
- + Top 200 Environmental Firms - Engineering News-Record (ENR) Magazine: 2008

Website [www.gaiconsultants.com](http://www.gaiconsultants.com)



**GAI Professional and Staff Resources**

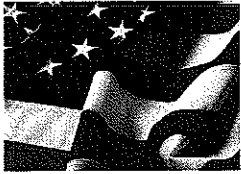
Archaeologist		25
Architectural Historian	✦	9
Biologist		7
CADD Technician	✦	54
Civil Engineer	✦	55
Construction Inspector	✦	41
Construction Manager		22
Electrical Engineer		7
Environmental Engineer	✦	33
Environmental Scientist		32
Foundation/Geotechnical Engineer		14
GIS Specialist		11
Geologist		7
Land Surveyor		23
Landscape Architect	✦	6
Mechanical Engineer		10
Planner: Urban/Regional		3
Structural Engineer		36
Technician / Analyst		157
Transportation Engineer	✦	21
Water Resources Engineer		9
Other Employees		224
<b>Total</b>		<b>806</b>



✦ Staff Resources expected to be used for the Charleston Complex Access Road and Utility Upgrades

GAI Team Member	Project Role
David Gilmore, RLA, ASLA	Overall Project Manager, Lead Landscape Architect
C. Elwood Penn, PE	Assistant Vice President, Transportation/Civil Engineer
James Hemme, PE, LRS	Senior Engineering Manager, Site/Civil Engineer
Mark Young, PE	Engineering Manager, Transportation/Civil Engineer
Jared Tuk, MA	Cultural Resources
Mark Shawl, RLA	Landscape Architect
Shannon Shank	Environmental Specialist
Joe Prine, PE	Engineering
Charles F. Straley, PE	Geotechnical Engineering





## Scope of Services

### Phase I: Project Initiation

The following Scope of Work is based upon our years of experience in working with clients to provide comprehensive design and engineering services.

This scope of services is based on the preparing construction drawings for an access road and utility upgrades to the Charleston Armory Complex. It is understood that after a thorough review of the project scope, adjustments will be made to accommodate the Owner's schedule etc.

Task 01: Pre Planning Meeting / Initial Site Visit / Establish Goals and Objectives

#### Initial Stakeholder Meetings:

GAI CONSULTANTS will facilitate an initial programming meeting to introduce our firm to the core team and project representatives. This meeting will serve to establish regular monthly meeting dates or as required, review the scope of work, review the design objectives, discuss issues in a preliminary fashion to develop a sense of steering committee familiarity with study area, design issues and concepts, and finalize any logistics in the preparation of the design.

Initial core team meetings will be conducted to solicit input. Suggested core team group could include, but not limited to:

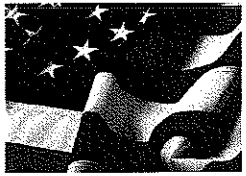
- Representatives of GAI project management team
- Representatives of WVANG
- Representatives of WVDOH and SHPO
- Representatives of the access road and utility upgrade design team

#### Initial Site Visit:

The GAI CONSULTANTS Team will undertake an initial site visit with the WVANG team. The purpose of the visit is to broaden the team's understanding of the project and the issues which are unique to the project site. This initial walk - through will improve the team's understanding of the project site and the issues surrounding the development of the access road and will enable the design team to better communicate with the Core Team and other interested parties.

Following the site visit, the GAI CONSULTANTS Team will conduct a kick-off meeting with the Core Team. The intent of this meeting will be to:

- Gain an in depth understanding of project mission and short and long-term goals for the Access Road and Utility Upgrade
- Define the project schedule, including:
  - Milestone dates
  - Core Team meeting dates
- Begin to assemble and evaluate existing available data for the full range of planning issues and identify any significant lack in key data requirements
- Confirm and identify roles of the team members
- Establish the framework and general strategy regarding methods of presenting the research and other efforts of the GAI CONSULTANTS Team to the WVANG
- Establish the decision making approval process for the project



## Phase II: Due Diligence / Programming

### Task 02: Programming

Prior to beginning in-depth analysis, the GAI CONSULTANTS Team proposes to conduct one (1) Vision Session with Core Team. This facilitated work session is structured to be a highly participative meeting in which various representatives can explore critical aspects of the design.

The purpose of this meeting is to:

- Review goals, objectives, and elements of the WVANG.
- Review all available mapping and pertinent studies from the Owner in digital format.
- Identify unique cultural considerations
- Identify opportunities: constraints and issues
- Build consensus

This phase of work will establish the framework for developing physical planning concepts. We go to great lengths to avoid preconceptions, challenge our own assumptions, and look with a fresh and inquisitive eye at each individual project. **We take nothing for granted**, making each planning effort a search for appropriate guidelines that accurately reflects the current and future trail needs of the facility.

During the first weeks of the study, GAI CONSULTANTS shall review and analyze all available data, including the information gathered during the kickoff meeting. This information will include review of any additional planning objectives identified in the vision session.

The following major program elements will be identified:

- Identification and location of major vehicular circulation patterns and entrance nodes / conflicts.
- Identification and location of major pedestrian circulation patterns and entrance nodes / conflicts.
- Identification and location of major utility conflicts.
- Identification and location of specimen trees and vegetation to remain undisturbed.
- Identification and general location of major facility types, interesting natural features, cultural and historic attributes, and other unique opportunities.
- Identification and view corridors and visual blight

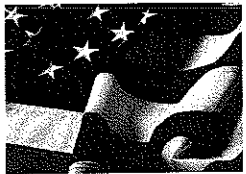
### Task 03: Data Collection and Evaluation

**GAI Consultants** will obtain available mapping (aerial photography, city topography, USGS topographic mapping, etc.) and previous planning studies/documents from WVANG. We will contact various utility companies and authorities in the area to obtain information concerning existing utility infrastructure and general right of way issues as needed. We will analyze obtained data, mapping, and interview relevant utility personnel.

#### Review of Relevant Reports:

The GAI Team will review all relevant previous planning studies that have been conducted by the WVANG including but not limited to:

- Current development proposals
- Zoning Ordinance
- Development Guidelines for the project area



### Phase III: Site Analysis

#### Task 04: Site Analysis

The GAI CONSULTANTS team will perform the necessary analysis of the base map data collected and shall determine the appropriate location for the proposed use areas included in the project scope. Our analysis will include a review of the provided base mapping and a site visit and walkover by team members, including the Project Manager. Additional information provided by the Owner will also be reviewed if applicable for the preparation of the design development drawings.

GAI CONSULTANTS anticipates the following as necessary elements to be researched and analyzed for the subject property:

#### **Physical Attributes:**

- Hydrology
- Floodplain
- Topography & Slope Aspect
- Soils
- Geology

#### **Biological Attributes:**

- Wildlife
- Vegetation
- Wetlands

#### **Cultural Attributes:**

- Adjacent & Intrinsic Land Use
- Land Use Regulation (Federal, State, Local)
- Infrastructure and Utilities
- Perceptual Qualities: Visibility, Views, and Noise
- Historical Quality
- Existing Structures

### Phase IV: Design

#### Task 05: Design Package

#### **Schematic Design Concepts:**

Working with the stakeholders and their representatives, GAI CONSULTANTS will evaluate the desired scope of development for the site to identify specific design requirements that may be required to complete the master plan and presentation drawings. This will require several scope development meetings to identify and refine all the elements in the scope of work.

We anticipate developing several scenarios to address the requirements of the project scope. We will work with your described vision of the site and suggest creative and aesthetic options to enhance the property image while still being functional.

### **Preliminary Design/ Design Development:**

After the provided and collected data has been analyzed in Task 1 and 2 and the appropriate elements for the project have been determined, GAI CONSULTANTS shall develop a working design for the Access Road that shall address the primary goals of the scope of work. This working design shall be presented to you for review and consideration. The working design will incorporate your comments from the initial programming meeting and will be presented to the Owner for review.

### **Final Design:**

After the Owner and various stakeholders have reviewed and commented on the preliminary design, it will be modified accordingly to produce a final site plan. We understand that during the design development stage this will be a fluid process and we have assumed one significant round of comments to the working plan and two minor rounds of comments during this stage of the design.

GAI CONSULTANTS will prepare the final design and presentation drawings which will convey the team's objectives in a clear and imaginative manner. A color rendered final master plan as well as digital files will be presented and become the property of the WVANG.

### **Preliminary Cost Opinion Preparation:**

A preliminary cost opinion in a spread sheet format reflecting quantities and unit rates derived from the final design shall be submitted for review and discussion.

Task 06: Construction Package

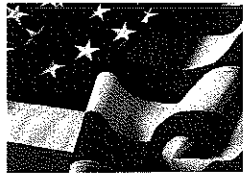
### **Construction Drawings**

GAI CONSULTANTS shall prepare a construction package for the above referenced project. The construction package shall reflect and refine the design elements arrived at design development stage. We anticipate the following drawings to be included in the package:

- Cover Sheet
- Erosion and Sediment Control Plan
- Existing Conditions Plan
- Demolition Plan
  - Corridor Clearing
  - Vegetation Protection Zones
  - Soil Protection Zones
  - Limits of Disturbance
- Proposed Site Grading and Drainage Plan
- Dimension & Layout Plan
- Landscape Plan / Plant Schedule / Planting Details
- Site Related Details
- Ramp Construction Details and Typical Cross Sections
- Special Storm Water Management Details

### **Project Specifications and Maintenance Guidelines:**

GAI CONSULTANTS shall provide the Client with the appropriate technical specifications and maintenance guidelines in Masterspec format and front end documents in AIA format to complete the work.



Task 07: Final Cost Opinion Preparation

A final engineers cost opinion reflecting phasing, quantities and unit rates derived from the construction plans shall be submitted. This can be used for comparison purposes by the Owner in reviewing bids received.

Task 08: Permitting & Environmental Review

GAI CONSULTANTS shall prepare and submit required permit applications to applicable regulatory agencies based upon the research conducted in Task 1 and final design generated in Task 5. For purposes of this proposal we have assumed this will include erosion and sediment control plan and a general NPDES Construction storm water permit submittal to the West Virginia Department of Environmental Protection and Improvements within the ordinary high water mark of the Kanawha River will require nationwide permitting with the Corps of Engineers. We also anticipate a submittal to the City of Charleston for a site work building permit. If additional submittals are determined or if an individual permit application to the Corps is required we will immediately notify the Owner and update this task accordingly. Normal regulatory comments are considered incidental to this task and will be handled under this scope.

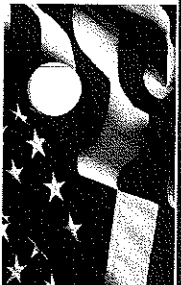
Task 09: Construction Administration

GAI CONSULTANTS can perform construction administrative duties for the project elements with regard to:

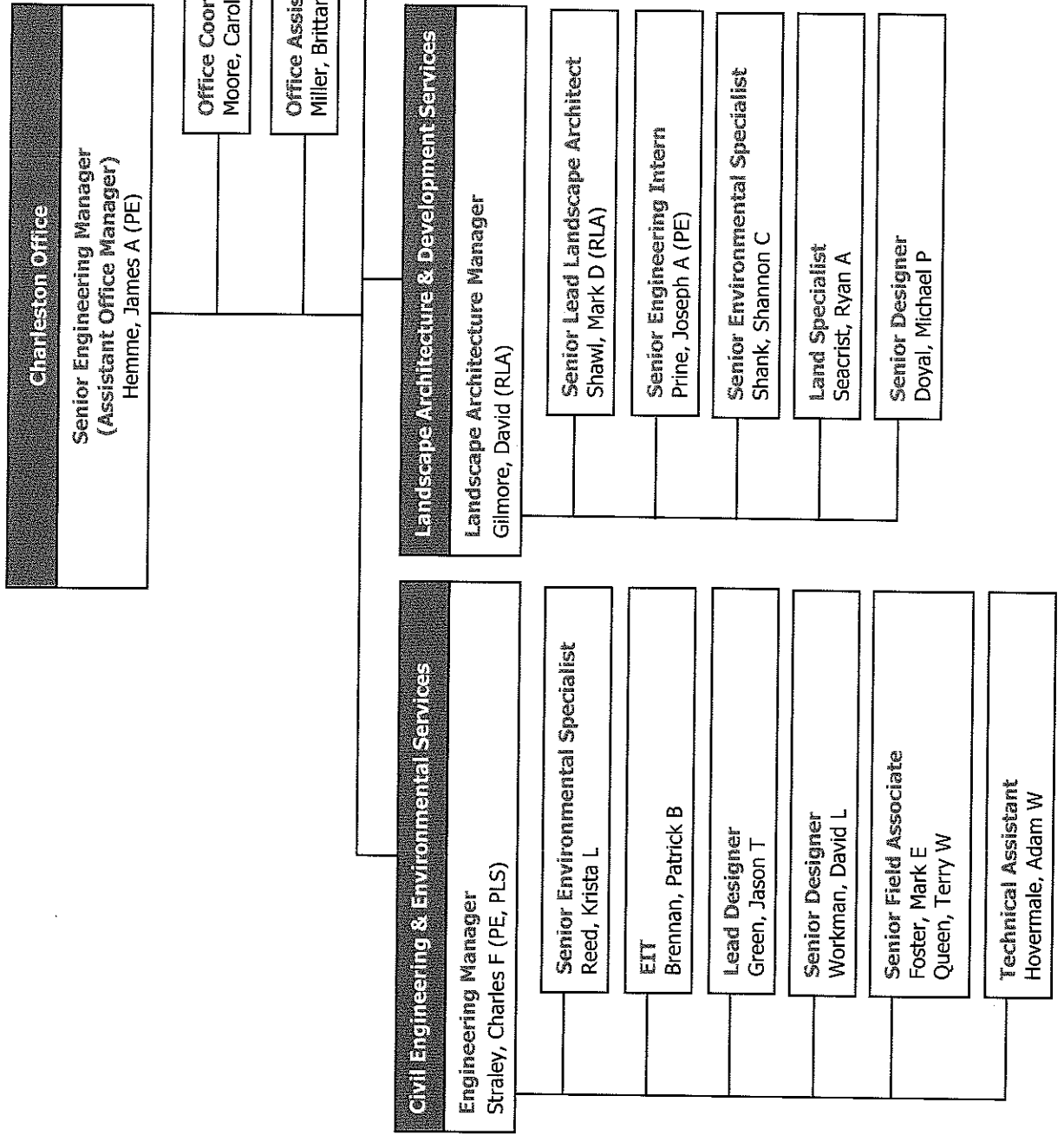
- Performing a pre-construction meeting with the selected contractor.
- Review and approval of shop drawings.
- Perform weekly site visits and bi-weekly progress meetings during construction to confirm progress and compliance with construction documents and specifications.
- Preparation of meeting minutes.
- Pay request review and approval.
- Change order preparation.
- Final site inspection / punch list development.
- Project close-out.

Task 10: Construction Monitoring

GAI CONSULTANTS can provide full or part time construction monitoring services consisting of soil compaction testing, concrete sampling and testing, aggregate sampling and testing and other services on an as requested basis. For purposes of this proposal we have assumed that the contractor will be responsible for hiring their own third party testing agent for daily testing. GAI CONSULTANTS will perform periodic "checks" of the contractor's results should any be in question and for determining consistency.



**PROJECT ORGANIZATION**





## Key Leadership



David Gilmore, RLA, ASLA,

**Corporate Practice Area Leader - Landscape Architecture Services**

Mr. Gilmore joined GAI Consultants in 2005 to manage the firm's land development and landscape architectural services. The central focus of his practice is on the continued development of the firm's site design and landscape architecture projects throughout the eastern United States, while providing landscape architectural support to all of GAI's offices and clients. He will serve as the overall project manager for the project overseeing scheduling, personnel, design and client communication.

Prior to joining GAI Consultants, Mr. Gilmore worked for a multi-disciplinary A&E firm in Charleston, South Carolina, providing architectural, engineering, landscape architectural design services. While working in South Carolina, Mr. Gilmore was involved with campus master designs for many colleges and universities, large downtown streetscapes and subdivision layout and design. Mr. Gilmore later worked with a landscape architectural and design firm in Charlottesville Virginia, where he continued his professional development working on a wide range of projects for both the public and private sector. After returning to West Virginia in 1991, Mr. Gilmore has been in private practice specializing in site design, land planning, streetscapes and parks and recreational design for numerous public and private clients in West Virginia and Eastern United States.

Mr. Gilmore currently serves as the Corporate Practice Area Leader for Landscape Architecture services for GAI Consultants. In this role, he coordinates projects and marketing activities for all of GAI's offices throughout the region. He maintains professional registrations in West Virginia, Pennsylvania, Ohio, Indiana, Maryland, North Carolina, Virginia and Kentucky. In this capacity, Mr. Gilmore brings 22 years of experience on a diverse range of projects covering all aspects of landscape architectural design in both the public and private sector. Mr. Gilmore's experience includes but is not limited to Public outreach and programming, construction document and technical specification preparation, site analysis, schematic design, construction administration, master and land use design (riverfronts, resorts, parks, recreational, residential, industrial, and commercial), streetscape and municipality improvements, landscape and hardscape design, and graphic presentation drawing.



C. Elwood Penn, IV, P.E.

**Assistant Vice President / Regional Transportation Services Manager**

Mr. Penn specializes in project management and administration in the areas of highways, land development, and utilities. Mr. Penn is also experienced in developing environmental impact statements and assessments in accordance with NEPA regulations.

Mr. Penn has over 25 years experience in the consulting engineering business and has managed a wide range of size and types of projects including land development, highway, utilities, mine reclamation, and environmental projects.

Mr. Penn is also very active in the engineering community, having served as the President of the West Virginia Society of Professional Engineers (WVSPE) and the Charleston Branch of the American Society of Civil Engineers (ASCE). He currently serves on the Board of Directors for both the American Council of Engineering Companies of WV (ACEC of WV) and WVSPE.



Mark D. Young, P.E.

*Engineering Manager / Transportation Services Manager*

Mr. Young specializes in project management and design in the areas of highways and land development. Mr. Young is also experienced in planning and developing environmental impact statements and assessments in accordance with NEPA regulations.

Mr. Young has over 13 years experience in the consulting engineering business and has managed a wide range of size and types of projects including land development, highway, and projects similar to the project advertised.

Mr. Young is a registered engineer in West Virginia, Kentucky, Ohio, Pennsylvania, and Indiana and has been involved with extensive training in regards to project management and has successfully applied these principles to multiple projects while with GAI and previous employers.

Mr. Young is also very active in the engineering community, currently serving as the Vice-President of the West Virginia YMF of American Society of Professional Engineers (WVYMF ASCE) and as one of six transportation directors for the American Council of Engineering Companies of West Virginia (ACEC of WV).



James Hemme, P.E., L.R.S.

*Environmental Services Manager*

Mr. Hemme specializes in site engineering, planning, permitting and stormwater management, with emphasis on parks and recreation areas and infrastructure. He brings a multi-disciplinary background to projects that enables him to see the "big picture" of what will be needed to take a project from start to finish. Mr. Hemme is competent in general civil engineering, geotechnical engineering, environmental disciplines including NEPA compliance, and transportation services. He has worked extensively with private developers, architects, municipalities and government agencies.

Mr. Hemme volunteered his time and knowledge to assist with preparation of the Greater Charleston Greenway Initiative by the West Virginia Land Trust Company in Charleston, West Virginia. Mr. Hemme is a current volunteer with the Riverside South Committee promoting riverfront improvements along the south side of the Kanawha River.

Relevant recent experience includes: engineering manager and engineer of record for the Charleston Riverfront Improvements; site engineer for the National Youth Center for Science Education master plan development, a proposed 110 acre sustainable education development endeavor on the banks of the Blackwater River; and project manager for the award winning Kanawha Trestle Rail Trail Master Plan.



Mark D. Shawl, RLA, LEED AP

*Lead Landscape Architect*

Mr. Shawl has 16 years of experience on a diverse range of projects encompassing all aspects of landscape architectural design in both the public and private sector. Experience includes, but is not limited to: project management, construction document and technical specification preparation, site analysis, schematic design, construction administration, master & land-use planning (parks, recreational, residential, institutional, commercial), streetscape and municipality improvements, landscape and hardscape design, graphic presentation drawing. He is also knowledgeable with low-impact development with respect to stormwater and site construction.



Joseph A. Prine, PE  
Senior Engineering Intern

Mr. Prine has a wide variety of experience in environmental engineering, civil engineering, site development, streetscape, and planning projects while at GAI and through previous employments. He has worked with private developers, architects, municipalities and governmental agencies. He has substantial experience in site engineering, and storm water management. He has worked on various construction project sites including landfills, abandoned mines, and industrial and commercial facilities. Some of his environmental engineering projects include; Phase 1 reports, environmental monitoring, permitting, and design. Some of his civil engineering/site design projects include; design of storm water management systems, earth work estimating, water and sewer line extensions, design of both large and small sites ranging in size 1 to 40 plus acres, assisting in the preparation of design/construction plans, reports, and cost estimates for projects, and highway/roadway design. He has also contributed to planning and design in several community improvement and streetscape projects.



Shannon Shank  
GIS Specialist

Mr. Shank has a wide variety of experience in GIS analysis and mapping, environmental permitting, site development, streetscape, and planning projects while at GAI and through previous employments. He has worked with architects, municipalities and governmental agencies. He has worked on various construction project sites including abandoned mines. Some of his site design projects include; digital terrain, cross-sections, vertical profiles, site detailing, earthwork estimating, the preparation of design/construction plans, reports, and cost estimates for projects. He has also contributed to planning and design in community improvement master plans and streetscape projects.

**Preliminary Schedule (based on starting 03.01.11)**

<b>Task 1:</b>	Pre-planning meeting / Initial Site Visit:	03.01.11 – 03.10.11
<b>Task 2:</b>	Programming:	03.10.11 – 03.20.11
<b>Task 3:</b>	Data Collection and Evaluation:	03.20.11 – 03.31.11
<b>Task 4:</b>	Site Analysis:	04.01.11 – 04.30.11
<b>Task 5:</b>	Design Package:	03.16.11 – 04.30.11
<b>Task 6:</b>	Construction Package:	05.01.11 – 05.31.11
<b>Task 7:</b>	Final Cost Opinion Preparation:	05.01.11 – 05.31.11
<b>Task 8:</b>	Permitting and Environmental Review:	05.01.11 – 05.31.11
<b>Task 9:</b>	Construction Administration:	06.01.11 – close of project
<b>Task 10:</b>	Construction Monitoring:	06.01.11 – close of project

## Resumes



## David Gilmore, RLA, ASLA

Land Development Services Manager /Corporate Practice Area Leader for Landscape Architecture

### Education

BSLA, College of Agriculture & Forestry, 1988 West Virginia University

### Professional Affiliations

American Society of Landscape Architects, ASLA  
WV Chapter of American Society of Landscape Architects  
Council of Landscape Architectural Review Board, CLARB

### Professional Development

WVASLA State Licensing Board Member, 2003-2006  
Past President, WVASLA  
Executive Committee Member, WVASLA  
Chairman, WVASLA Licensing and Sunset Review Committee  
Judge, Senior Design Awards, West Virginia University

### Registrations

American Society of Landscape Architects  
Council of Landscape Architectural Registration Board Certified  
West Virginia Professional Landscape Architect No. 247  
Indiana Professional Landscape Architect No. LA 20700137  
Pennsylvania Professional Landscape Architect No. LA 002737  
Ohio Professional Landscape Architect No. LA 0801200  
Kentucky Professional Landscape Architect No. LA 768  
Maryland Professional Landscape Architect No. 3574  
North Carolina Professional Landscape Architect No. 1632

### Awards

- Merit Award (WVASLA): 'Hyper' Employee Plaza, Main Entrance Improvements  
*Client: Dupont Company*
- Merit Award (WVASLA): Florida Street Revitalization Master Plan  
*Client: West Side Neighborhood Association*

### Professional Experience

Mr. Gilmore joined GAI Consultants in 2005 to manage the firm's land development and landscape architectural services. The central focus of his practice is on the continued development of the firm's site design and landscape architecture projects throughout the eastern United States providing landscape architectural support to all of GAI's offices and clients. He will serve as the overall project manager for the project overseeing scheduling, personnel, design and client communication.

Prior to joining GAI Consultants, Mr. Gilmore worked for a multi-disciplinary A&E firm in Charleston, South Carolina, providing architectural, engineering, landscape architectural design services. While working in South Carolina, Mr. Gilmore was involved with campus master designs for many colleges and universities, large downtown streetscapes and subdivision layout and design. Mr. Gilmore later worked with a landscape architectural and design firm in Charlottesville Virginia, where he continued his professional development working on a wide range of projects for both the public and private sector. After returning to West Virginia in 1991, Mr. Gilmore has specialized in site design, land planning, streetscapes and parks and recreational design for numerous public and private clients in West Virginia and Eastern United States.



Mr. Gilmore currently serves as the Corporate Practice Area Leader for Landscape Architectural Services for GAI Consultants. In this capacity, Mr. Gilmore brings twenty two years of experience on a diverse range of projects covering all aspects of landscape architectural design in both the public and private sector. Mr. Gilmore's experience includes but is not limited to construction document and technical specification preparation, site analysis, schematic design, construction administration, master and land use design (resorts, parks, recreational, residential, industrial, and commercial), streetscape and municipality improvements, landscape and hardscape design, and graphic presentation drawing.

Mr. Gilmore is also very active in the Landscape Architecture community, having served as the past president of the West Virginia Chapter of the American Society of Landscape Architects (WVASLA) and a member of the State Licensing Board from 2000-2003. Mr. Gilmore also remains active with the WVU School of Landscape Architecture and has won multiple awards from the West Virginia Chapter of the American Society of Landscape Architects for his work.

### Representative Professional Experience

#### Stormwater Management and Low Impact Design (LID):

- Work on or managed over 100+ stormwater management systems including run-on and run-off control utilizing infiltration best management practices, sediment ditches/traps, storm sewers, culverts, drop structures, ponds, energy dissipaters, etc. Work has included the detailing of special features, creation of technical specifications, development of cross sections, profiles, site grading and hydrologic and hydraulic modeling.
- Site Design for 100+ different projects throughout West Virginia, Ohio, Kentucky and Pennsylvania. NEPA compliance for wetlands, streams, cultural resources, and endangered species.
- Project manager for projects involving detailed Erosion and Sediment (E&S) control plans for 100+ sites throughout West Virginia, including site developments, subdivisions, coal mines, quarries, highways, landfills and brownfield sites.
- Project manager for projects involving National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit Applications for 100+ sites throughout West Virginia, Pennsylvania, Virginia and Ohio.
- In-house landscape architecture consultant for development of the City of Charleston MS4 Stormwater Manual. Manual has been developed to meet the specific needs of construction and stormwater management within City limits taking into account local soils, topography and demographics.
- Project manager of record for site related analysis and master planning for the National Center for Youth Science Education to be located in eastern Tucker County. This facility located on land at the mouth of Canaan Valley has been planned using strict LID principals including limiting clearing, clustering of buildings, promotion of stormwater infiltration and groundwater recharge and preservation of existing special features such as wetlands and well established older groves of trees.
- Project manager of record for Chesapeake Energy Regional Headquarters in Charleston, West Virginia (LEED Project). This project originally slated for construction in North Gate Business Park was designed to minimize required parking, maximize greenspace and promote infiltration of stormwater runoff through the application of specially designed landscape beds and dispersion of stormwater as sheet flow into the adjacent forest. Water quality units designed to remove oils/greases and sediments were designed within the parking areas and stormwater features for detention and general architectural aesthetics were designed into the roof drain system.
- Team member for Chesapeake Energy Field Offices in Jane Lew, West Virginia; Mount Morris, Pennsylvania; Mansfield Pennsylvania and Honey Branch, Kentucky. All of these facilities have included engineering controls to promote infiltration and to reduce the concentration of water and returning it to sheet flow. In Mansfield PA, infiltration trenches were constructed on the downgradient edge of the new storage yard to completely infiltrate rain events of 1" or less in volume.

#### Streetscape / Urban Revitalization:

- Charleston Riverfront Park, Charleston, WV
- Kanawha Boulevard Streetscape, Charleston, WV
- Court Street Overlook, Charleston, WV
- Pennsylvania Street, Carmel, IN



- St. Albans Master Plan, St. Albans, WV.
- St Albans Phase I, St. Albans, WV.
- St. Albans Phase II, St. Albans, WV.
- Pennsylvania Avenue Gateway, Charleston, WV
- Florida Street Revitalization Master Plan, Charleston, WV.
- Williamson Master Plan, Williamson, WV.
- MacCorkle Avenue Greenspace Improvements, Kanawha City, WV.
- Kanawha Valley Rapid Transit Shelter/Plaza Design, Charleston, WV
- **City of Charleston Storm Water Manual, Charleston, West Virginia** – *This project entailed creating a manual for the city's MS4 compliance. A portion of the manual focused on LID (Low Impact Development) and the important aspect it provides to storm water management. Within the LID section was design related to infiltration practices with the use of rain gardens, infiltration islands, etc.*
- **John Adams Middle school Rain Garden Design** – *This project included design of a proposed rain garden for existing parking lot runoff. It included drainage design to link with existing drainage facilities as well as plant selection for storm water infiltration and evapotranspiration.*

#### **Parks & Recreation:**

- Charleston Riverfront Park, Charleston, WV.
- Court Street Overlook, Charleston, WV.
- Shoenbaum Performance Stage, Charleston, WV.
- Stonewall Jackson State Park Master plan, Roanoke, WV.
- Berry Hills Country Club Master Plan, Charleston, WV.
- Twin Falls State Park, Twin Falls, WV.
- Dow Heritage Park, Charleston, WV.
- Charleston Area Medical Center General Division Employee Park, Charleston, WV.
- Dupont 'Hyper' Plaza, Belle, WV.
- Ohio to Erie Trail, Multiple Counties, OH.
- Coonskin Park, Charleston, WV.

#### **Hospitals / Institutional / Campus Planning:**

- **National Youth Science Camp** – *The initial phase of the project included selection of LID practices that could be effective for storm water infiltration design. The project also included assessment and protection of existing vegetation and selection of native material for proposed plantings.*
- Dow South Charleston Plant, WV.
- Beckley Federal Courthouse Security Upgrades, Beckley, WV.
- Charleston Area Medical Center Memorial Park, WV.
- King's Daughters Medical Center, Ashland, KY.
- WVU Gateway Study, Morgantown, WV.
- Morgan County Courthouse, Berkeley Springs, WV.
- Raleigh County Courthouse, Beckley, WV.
- Town of Fayetteville Cemetery Master Plan, Fayetteville, WV.
- Trinity Lutheran Church Columbarium Master Plan, WV.
- First Presbyterian Church Columbarium Master Plan, WV.
- Elkview Baptist Church, Elkview, WV.
- St. Timothy Lutheran Church, Charleston, WV.
- St. John's Baptist Church, Spencer, WV.
- Yeager Airport Master Plan, WV
- The Church of Jesus Christ of Latter-Day Saints, Multiple Projects / Multiple States
- Marshall University Dormitory / Alumni Center
- West Virginia University Dormitory, Evansdale Campus, WV.
- West Virginia University Dormitory, Downtown Campus, WV.
- Potomac State Dormitory
- West Virginia State Student Housing, Institute, WV.

### Development / Site Planning:

- **Moses Residence** – *This project was a green design that included storm water infiltration, capture and reuse. The project also implemented cisterns that supply the home with potable water.*
- **Chesapeake Energy Regional Headquarters, Charleston, West Virginia (LEED Project)** - *This project was a green design that incorporated storm water capture into the drainage plan for use in the proposed irrigation system. The design also incorporated native plant material to limit water usage within the landscape.*
- **Chesapeake Energy Field Office, Mount Morris, Pennsylvania** – *This project included permit coordination for storm water permitting at the county and state level to implement culverting of an existing stream and site storm water detention.*
- Cheat Landing Office Park, Morgantown, WV.
- The Villages at Cheat Landing, Morgantown, WV.
- Morgan County Courthouse, Berkeley Springs, WV.
- Raleigh County Courthouse, Beckley, WV.
- The Pines Country Club, Morgantown, WV.
- Stonegate at Cranberry, Cranberry Township, PA
- Bloomingdale Land-use Study, Hurricane, WV.
- Chesapeake Energy Regional Headquarters, Charleston, WV.(LEED Project)
- Chesapeake Energy Field Office, Jane Lew, WV.
- Chesapeake Energy Field Office, Mount Morris, PA.
- Chesapeake Energy Field Office, Honey Branch, KY.
- Ridge Run @ North Camp, Wisp Ski Resort, Deep Creek, MD.
- Cambridge Place Office Park, Bridgeport, WV.
- Stonewall Jackson State Park Masterplan, Roanoke, WV.
- Land-use Study / Development Alternatives, Aspen Corporation, Lewisburg, WV.
- Commerce Park Mixed-use Development Masterplan, Huntington, WV.
- Fort Boreman Mixed-use Development Masterplan, Parkersburg, WV.
- Wilkerson Dental Office, Charleston, WV.
- Ocean Isle Beach Resort Masterplan, Ocean Isle, SC.
- 5/3 Bank, Cross Lanes, WV.
- Banc One, Teays Valley, WV.

### Residential Planning & Landscape Design:

- < 500 Projects

\* Indicates additional low impact design projects and their description

## C. Elwood Penn, IV, PE

*Assistant Vice President, Regional Transportation Services Manager*

### Education

B.S. Civil Engineering 1985, Virginia Polytechnic Institute and State University

### Registrations/Certifications

Professional Engineer, WV, VA, MD, AR, NC, OH, KY

### Affiliations

National Society of Professional Engineers (NSPE), Member  
American Society of Civil Engineers (ASCE), Member  
West Virginia Qualification Based Selection (QBS) Council, Member  
International Right of Way Association, Member  
American Society of Highway Engineers (ASHE), Member

### Summary

Mr. Penn specializes in project management and administration in the areas of highways, land development, and utilities. He is experienced in developing environmental impact statements and assessments in accordance with National Environmental Policy Act (NEPA) regulations. Mr. Penn has been responsible for environmental assessments, site investigations, location studies, and preliminary and final designs for numerous transportation, infrastructure and land development projects in Virginia and West Virginia.

Mr. Penn has been the responsible Engineer for the review of over 4,000 Spill Prevention, Control and Countermeasure (SPCC) plans for gas well and tank sites in West Virginia, Virginia, and Kentucky for Equitable Gas. He has also provided design services for numerous landfills in Virginia.

### Professional Experience

#### Highway

- U.S. Route 60, Shrewsbury to Cedar Grove, Kanawha County, West Virginia. Project Manager for the preparation of an Environmental Assessment and Design Report, for 3.2 miles of U.S. Route 60 in Kanawha County, West Virginia. The project consisted of studying alternative alignments for upgrade of existing two-lane roadway to four lanes and design speed to a minimum 60 m.p.h. The environmental analysis for the project consisted of the management, coordination, data collection, and technical studies necessary to conform the applicable sections of the Federal Highway Administration Guideline (23 CFR 771) and FHWA Technical Advisory T-6640.8A; FHWA Guidelines on noise (23 CFR 772) and air quality (23 CFR 770); Section 106 of the National Historic Preservation Act; Section 404 of the Clean Water Act; and the policies and procedures of the State of West Virginia, and the Department of Transportation, Division of Highways. The design report studied three alternative alignments. A high cut, railroad, the Kanawha River, and numerous commercial and residential structures close to the existing alignment bound the proposed corridor. The scope of services provided included coordination with local Economic Development organizations, public meetings, drainage design, and access studies to properties. The estimated construction cost of the studied alternatives ranged from \$60-\$90 million.
- Rivesville – I-79 Connector, Marion County, West Virginia. Project Manager for the preparation of an Environmental Assessment and Design Report for 3.5 miles of four-lane partially controlled access highway on new alignment. The project included a major bridge over the Monongalia River, improvements to the existing Fort Pricketts I-79 Interchange, and a bike trail. Other features of the project included an interchange with U.S. 119 in the Rivesville vicinity, the need to give design consideration to the possibility of connecting the roadway to a western bypass of Fairmont, West Virginia in the future, and A "Media Tour", in which television and newspaper reporters were given a tour of the proposed alignment. The environmental analysis for the project consisted of the management, coordination, data collection, and technical studies necessary to conform the applicable sections of the Federal Highway Administration Guideline (23 CFR 771) and FHWA Technical Advisory T-6640.8A; FHWA Guidelines on noise (23 CFR 772) and air quality (23 CFR 770); Section 106 of the National Historic Preservation Act; Section 404 of the Clean Water Act; and the policies and procedures of the State of

West Virginia, and the Department of Transportation(WVDOT), Division of Highways. The Environmental Assessment also included a Phase II Cultural Resource study and a Primary Roosting Tree Study for the Indiana Bat. This project was approximately 90% completed when WVDOT put it on hold.

- Monongahela River Bridge and Approaches, Marion County, West Virginia. Project Manager for the preparation of construction plans and right of way plans for 1.1 miles of four-lane partially controlled access highway on new alignment. The projects included a major river crossing of the Monongahela River and a modified cloverleaf interchange with U.S. Route 19. This project was approximately 60% completed when WVDOT put it on hold.
- Route 219, Monroe and Greenbrier Counties, West Virginia. Project Engineer for the preparation of a Design Report for the upgrade of 45 miles of a two-lane rural roadway from Lewisburg, West Virginia to Peterstown, West Virginia. Responsibilities included development of alternative alignments including improvements to existing alignment (included vertical and horizontal alignment improvements as well as pavement widening), relocations and bypasses around towns and communities, and for the geometric layout of over 135 miles of alternatives alignments using In-Roads software. Also participated in preparation of engineering and environmental inventories, a purpose and needs document, and license plate surveys and traffic forecasts for Lewisburg, Fairlea, Ronceverte, Peterstown and Rich Creek.
- Charles Town Bypass, Jefferson County, West Virginia. Staff Engineer for 7 miles of limited access roadway. Responsibilities included geometric design, interchange design, right-of-way plans, and estimates. Contract called for the construction of two lanes with design made for future widening to four lanes.
- Corridor G, Boone County, West Virginia. Staff Engineer for 2 miles of 4-lane roadway. Responsibilities included geometric design, right-of-way plans, and estimates.
- Loudenville - Cameron E. B. Route 25, Marshall County, West Virginia. Staff Engineer for 0.5 miles of 2-lane roadway. Responsible for complete civil design including geometric calculations, intersection layout, right-of-way plans, maintenance of traffic plans, and estimates.
- Variform Access Road, Berkeley County, West Virginia. Staff Engineer for access road to manufacturing facility. Responsible for complete civil design including geometric calculations, railroad crossings, and estimates.
- East Hardy High School Access Road, Hardy County, West Virginia. Staff Engineer for roadway relocation necessitated by building of new high school responsible for geometric design.
- Route I-64, Raleigh County, West Virginia. Staff Engineer for new interstate project. Responsibilities included joint layout.
- Route I-64, I-70, I-77, numerous counties in West Virginia. Staff Engineer for the design of crack and seat with overlay interstate rehabilitation plans. Responsible for site evaluation and complete contract plans.
- Flood Relief Work, numerous counties in West Virginia. Staff Engineer for the design for rehabilitation projects after flood in winter 1985. Responsible for site evaluation and complete contract plans.

### Utilities

- Rivanna Water Study, Albemarle County, Virginia. Project Engineer for a location study for 7 miles of 30-24 inch water main. Three alternatives were evaluated. All alternatives were evaluated on the basis of cost, right-of-way required, impact to traffic during construction, and impact to existing utilities and wetlands. The pipeline had to meet requirements of five separate agencies. These five agencies were The Rivanna Water and Sewer Authority, who was building the pipeline; Albemarle County, who was to be served by the pipeline; The City of Charlottesville, who governed two parks and several streets that were to be impacted; The University of Virginia, for possible easements across their property; and The Virginia Department of Transportation, for coordination with future roadway projects, required easements, and possible roadway impacts.
- Chesterfield Water Study, Chesterfield County, Virginia. Project Engineer for a location study for 10 miles of 36-16 inch water main. Five alternatives were evaluated for 7 miles of the pipeline. All alternatives were evaluated on the basis of cost, right-of-way required, impact to traffic during construction and impact to existing utilities and wetlands. The pipeline had to meet requirements of Chesterfield County and the Virginia Department of Transportation.
- Hopkins Road Water, Chesterfield County, Virginia. Project Engineer for the design of 3 miles of 24-16 inch water main. Responsible for complete civil design including horizontal and vertical alignment, easement plats, details, and specifications. Also was responsible for preparing monthly progress reports.
- Prince George Water Study, Prince George County, Virginia. Staff Engineer for the study of necessary water improvements. Responsibilities included projecting population growth and water demands.

## Land Development

- Sinclair Broadcast Tower, Putnam County, West Virginia. Project Manager for the site investigation and layout plans for the construction of an approximately 1000' television broadcast tower for WCHS-TV. Responsibilities included managing surveying, geotechnical, and site development efforts, coordination with tower designer, and investigation of potential conflicts with existing utilities. Investigations of the preliminary site chosen by client determined that it would be too costly to provide the necessary access therefore the tower was built at an existing tower site.
- Oak Lake Business Center, Chesterfield County, Virginia. Project Engineer for the design of a 200-acre business development. Responsibilities included design of 1 mile of 4-lane access road, drainage design, and storm water management including pond design. Also responsible for correspondence with Chesterfield County and Virginia Department of Transportation officials.
- Wella Manufacturing Facility, Henrico County, Virginia. Project Engineer for the design of manufacturing facility. Responsible for complete site plans which included a parking lot, drainage structures, and storm water management pond.
- Staunton Knights Inn, Augusta County, Virginia. Project Engineer for design of motel site. Responsible for complete design of site plans which included an access roadway, parking lot, drainage structures, storm water management pond, utilities, and erosion and sediment control devices.
- Lexington Arborgate Inn, Rockbridge County, Virginia. Project Engineer for design of motel site. Responsible for complete design of site plans which included a parking lot, drainage structures, utilities, and erosion and sediment control devices.
- Greystone Apartments, Richmond, Virginia. Project Engineer for the design of apartment development. Responsible for revising plans to comply with H.U.D. regulations. Responsible for revising grading plans, drainage design, and erosion and sediment control devices.
- Hunters Green Subdivision, Chesterfield County, Virginia. Project Engineer for the design of residential subdivision. Responsible for roadway design, drainage design, and erosion and sediment control plans.
- Timbercrest Subdivision, Henrico County, Virginia. Project Engineer for the design of residential subdivision. Responsible for roadway design, drainage design, and erosion and sediment control plans.
- Foxfield Town Houses, Henrico County, Virginia. Project Engineer for the design of residential town house development. Responsible for complete design of site plans which included a roadway, parking lot, drainage structures, and erosion and sediment control devices.
- Waldon Pond, Lynchburg, Virginia. Project Engineer for the design of an apartment development. Responsible for site plans which included a parking lot, drainage structures, utilities, and erosion and sediment control devices.
- E.R. Carpenter, Richmond, Virginia. Project Engineer for the design of an expansion to existing facilities. Responsible for design of site plans which included a roadway, parking lot, drainage structures, and erosion and sediment control devices.
- Beaufont Oaks Apartments, Chesterfield County, Virginia. Staff Engineer for study to determine need and cost for additional storm water management facilities if existing apartment development were to expand.
- Monumental Floral, Henrico County, Virginia. Staff Engineer for design of drainage improvement project was responsible for drainage calculations.
- Millboro, Bath County, Virginia. Staff Engineer for flood plain study for development project. Responsible for determining flood plain after proposed development occurred.
- Hopewell Plaza, Hopewell, Virginia. Project Engineer for preparing a feasibility study and design of park area. Feasibility study responsibilities included determining impact of development on existing utilities. Responsible for design of utility relocation plans.

## Mark D. Young, PE

Transportation Services Manager

### Education

B.S. Civil Engineering 1998, West Virginia University Institute of Technology

### Registrations/Certifications

Professional Engineer, West Virginia, Kentucky, Indiana, Ohio, Pennsylvania

### Relevant Training/Courses

Advanced Project Management Training

National Environmental Protection Act (NEPA) Training

National Highway Institute (NHI) Course No. 130055, Safety Inspection of In-Service Bridges

ASFE Fundamentals of Professional Practice

Right of Way Training

Hydraulics I and II: Hydraulics and Hydrology, Hydraulics III: Computer Applications

Advanced Inroads

Right of Way Plans: Courthouse to Statehouse

### Affiliations

American Council of Engineering Companies (ACEC) West Virginia, Transportation Committee Director

American Society of Civil Engineers (ASCE), West Virginia Younger Members Forum, Vice President

American Society of Highway Engineers

Transportation and Development Institute

Society of American Military Engineers

Mountain Mission Incorporated (Non-Profit), Board Member

### Summary

Mr. Young specializes in preparing preliminary and final contract plans and documents, including right-of-way plans, horizontal and vertical geometry, traffic control, permitting, drainage, erosion control, and specifications and bid documents for highways, bridges, abandoned mine lands, and site development.

### Professional Experience

#### Transportation

- Eramet Bridge Rehabilitation, Manager for project development, temporary traffic control and construction contract documents for Eramet Marietta, Marietta, Ohio.
- King Coal Highway, Lead Engineer/Engineering Manager for highway layout and design, drainage, resource coordination. Joint Public/Private endeavor for development of Area. Mingo County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- Lincoln County Road Relocation, Project Manager for development of roadway relocation plans, right of way exchange plans, and West Virginia Department of Transportation, Division of Highways permit for construction, Columbia Natural Resources, Lincoln County, West Virginia.
- Lincoln County Road Widening, Project Manager for obtaining the appropriate permits from the West Virginia Department of Transportation, Division of Highways to allow road widening of an existing roadway for the purpose of delivering equipment for a compressor station, Columbia Natural Resources, Lincoln County, West Virginia.
- Pennsylvania Street, Lead Engineer, Task Manager for urban multilane roundabout design for two intersections of an urban roadway upgrade project, City of Carmel, Indiana.
- Willowood Bridge Replacement, Lead Engineer for highway layout and design, right-of-way layout and descriptions, drainage, resource coordination, and permits. Summers County, West Virginia for the West Virginia Department of Transportation, Division of Highways



- Romney Bridge Replacement, Lead Engineer for highway layout and design, right-of-way layout and descriptions, drainage, resource coordination, and permits. Hampshire County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- Bellepoint Bridge Replacement, Senior Engineer for roadway design, utility coordination, plan preparation. Summers County, West Virginia for the West Virginia Department of Transportation, Division of Highways
- Veteran's Memorial Bridge at Bellepointe, Senior Engineer for Roadway design, plan preparation and presentation. Summers County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- Martinsburg Bypass/Raleigh Street Connector Design Study, Lead Engineer, alignment layout study, estimate and report preparation, Berkeley County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- West Virginia Route 9, Project Engineer, highway layout and design, R/W layout and descriptions, quantities and cost estimates, drainage, resource coordination, and NPDES application. Berkeley County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- T.A. Shuman Bridge, West Virginia Route 7, Engineer for highway layout and design, bridge design, R/W layout, quantities, cost estimates, drainage, and resource coordination. Wetzel County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- US 35 EIS Wetland and stream delineation for US 35. Public meetings participant for the West Virginia Department of Transportation, Division of Highways.
- Nimmo Parkway, Drainage design for 1.5 miles of urban four-lane roadway for the town of Chesapeake, Chesapeake, Virginia.
- Checked and revised right-of-way plans, cemetery verification for West Virginia Department of Transportation, Division of Highways.

#### Inspection, Bridge / Structural

- Silver Memorial Bridge Inspection, Lead Inspector and Inspection team member for six-year bridge inspection program. Mason County, West Virginia for West Virginia Department of Transportation, Division of Highways.
- Williamstown-Marietta Bridge Inspection, Lead Inspector and Inspection team member for six-year bridge inspection program. Wood County, West Virginia for West Virginia Department of Transportation, Division of Highways.
- Brookfield Power – Hawks Nest Surge Basin, inspected surge basin for settling, Fayette County, West Virginia
- Eramet Bridge, visual and in-depth inspection of Eramet Railroad/Vehicular Bridge crossing four-lane divided Ohio Route 7 for Eramet, Marietta, Ohio.
- Kopperston Coal Conveyor, inspected coal conveyor system over public roads, Boone and Lincoln Counties, West Virginia for Norfolk Southern Corporation.

#### Site Development

- Hampshire County Courthouse, storm water layout and design for annex renovation for Silling Associates, Hampshire County, West Virginia.
- Marion County Visitors Center, site development layout review and revisions including contract documents, Marion County, West Virginia for the West Virginia Department of Transportation, Division of Highways.
- Mountain Mission Incorporated, site layout and storm water management, Charleston, West Virginia.
- Charleston Mountain Mission Church, developed two parking lot designs and provided storm water management control, Charleston, West Virginia.
- Eastover Medical Park, Site development engineering including layout, grading and drainage, erosion and sediment control, and utilities, Charlotte, North Carolina.
- New South East Elementary School. Site development engineering including layout, grading and drainage, erosion and sediment control, stormwater ponding, and utilities, Matthews, North Carolina.
- Celebrate Virginia, Drainage design for 3.5 mile of rural four-lane highway for commercial and Industrial Development, Fredericksburg, Virginia.
- Sam's Service Center, site development engineering, layout and design, Vienna, West Virginia.

- Bridgeway Technology Center, site layout, grading and drainage, erosion and sediment control, sedimentation pond, utility coordination, City approval and permitting, Suffolk, Virginia.
- Wal-Mart Supercenter, stormwater management plan including watershed delineation, preliminary stormwater design, Best Management Practice (BMP) detention pond, and quantity and quality design guides. Site design including lot layout, grading and drainage, and utility layout and coordination, Tabb, Virginia.
- Volvo Business Park, task manager for engineering, erosion and sediment control, grading and drainage, and site layouts, Chesapeake, Virginia.

#### Abandoned Mine Lands (AML)

- Route 60 Drainage, reclamation and control of outflow from abandoned mines including upgrade of storm system to carry flow, Fayette County, West Virginia for the West Virginia Department of Environmental Protection, Abandoned Mine Lands.
- Richard Mine Acid Mine Drainage, report and recommendations, quality control/quality assurance for report and development of alternatives for Monongalia Conservation District and Natural Resources Conservation Service, Monongalia County, West Virginia.
- Heizer Creek, quality control/quality assurance for construction documents and permit applications for work within West Virginia Division of Highways right-of-way for the West Virginia Department of Environmental Protection, Abandoned Mine Lands.
- Wolfpen, quality control/quality assurance for construction documents for the West Virginia Department of Environmental Protection, Abandoned Mine Lands.
- Allen Creek – Slab Fork, limited coal evaluation for West Virginia Division of Highways proposed West Virginia Route 121 project for Trumbull Corporation, Raleigh County, West Virginia.

#### Industrial / Chemical

- Project Coordinator for small projects for The Dow Chemical Company facilities in West Virginia. The work included job starts and closures, resources coordination, engineering estimates, job tracking, client coordination meetings, planning and forecasting for the chemical plants.

## James A. Hemme, PE, LRS

Senior Project Manager

### Education

B.S. Civil Engineering 1989, West Virginia University Institute of Technology  
Marshall University Graduate College, Environmental Engineering Coursework

### Registrations/Certifications

West Virginia Professional Engineer No. 12195  
Kentucky Professional Engineer No. 25437  
Ohio Professional Engineer No. 72851  
Indiana Professional Engineer No. 10809277  
Pennsylvania Professional Engineer No. 75494  
New York Professional Engineer No. 85794  
West Virginia Licensed Remediation Specialist No. 003

### Relevant Training/Courses

OSHA 40 hour Hazwoper Training  
NICET 1 Geosynthetics Installation Inspection (expired)  
Nuclear Density Gage Training, DOT and NRC (expired)  
MSHA Safety Training (expired)

### Summary

Mr. Hemme specializes in site engineering, including planning, permitting and stormwater management, with emphasis on parks and recreation areas and streetscapes. He brings a multi-disciplinary background to projects and this enables him to see the "big picture" of what will be needed to take a project from start to finish. Mr. Hemme is also competent in geotechnical engineering, environmental disciplines including NEPA compliance, and transportation services. He has worked extensively with private developers, architects, municipalities and government agencies.

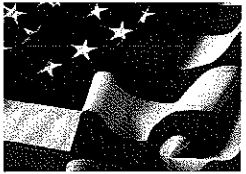
Mr. Hemme has worked on landfills, quarries, mines, industrial, and commercial sites and facilities. He has performed numerous Phase 1 Environmental Site Assessments (ESAs) providing solid waste, industrial waste, and Erosion and Sediment (E&S) control permitting. Mr. Hemme designs storm water management systems, site developments ranging from 1 acre to over 60 acres in size, and wetland mitigation areas. He prepares geotechnical reports, flood plain modeling, highway and roadway designs, right-of-way plans, detailed construction plans, and cost estimates for projects ranging from \$10,000 to over \$2 million in construction cost.

Mr. Hemme volunteered his time and knowledge to assist with preparation of the Greater Charleston Greenway Initiative by the West Virginia Land Trust Company in Charleston, West Virginia. He authored the analysis section of the report and peer-reviewed the entire document. Mr. Hemme is a current volunteer with the Riverside South Committee, which is working with the Charleston Land Trust to beautify and possibly promote pedestrian access on the south side of the Kanawha River. He has developed schematic plans and reviewed narratives for inclusion into several progress updates to the Land Trust.

### Professional Experience

#### Civil Engineering and Permitting

- Site Design for over 100 different projects throughout West Virginia, Ohio, Kentucky and Pennsylvania. NEPA compliance for wetlands, streams, cultural resources, and endangered species. Phase 1 Environmental Site Assessments for a wide range of facilities.
- Designed over 50 stormwater management systems including run-on and run-off control utilizing ditches, berms, sumps, sediment ditches, storm sewers, culverts, drop structures, ponds, energy dissipaters, etc. Work included technical specifications, cross sections, profiles, site grading detail development and hydrologic and hydraulic modeling.



- Prepared over 50 detailed Erosion and Sediment (E&S) Control Plans for various sites throughout West Virginia, including coal mines, quarries, highways, landfills and site developments. Work included technical specifications, re-vegetation plans, temporary control details and sequencing plans.
- Prepared numerous National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit Applications for sites throughout West Virginia and Ohio.
- Prepared a complete set of construction plans and specifications consisting of a detailed grading plan, a storm sewer system consisting of 34 drop inlets and over 3,800 feet of piping, and parking lot layout.
- West Virginia State College. Design of a revised stormwater system around the student union to help alleviate basement flooding issues.
- Town of Buffalo. Phase I storm sewer design and construction administration for over 2,000 ft. of storm sewer with discharge to the Kanawha River, that included permitting work with the Corps of Engineers.
- Analyzed various culvert scenarios consisting of modeling existing culverts and potential new corrugated metal pipe, steel pipe, concrete pipe and concrete box culverts to prevent upstream flooding from fill placement for Marietta Industrial Enterprises, Parkersburg, West Virginia.
- Designed an extensive stormwater management system consisting of several thousand feet of ditch and storm sewers, and two sediment ponds designed to limit inflow to pre-existing conditions for the 2-, 10-, 50-, and 100-year storm events for Hanover County Sanitary Landfill, Virginia.
- Melinda Street Stormwater Improvements. Underground stormwater detention system and storm sewer improvements design for the City of Parkersburg, West Virginia.

#### Site Development and Planning

- Coldwater Creek Distribution Center in Parkersburg, West Virginia. Wetland mitigation for a 7.5-acre area that required a detailed planting plan, pavement design and an engineers' cost estimate.
- Ft. Boreman Development in Parkersburg, West Virginia. Utility master planning, site preparation, roadway design, permitting, and stormwater management for the proposed 170-acre Fort Boreman mixed-use development near Martown Road interchange off U.S. Route 50 in Parkersburg.
- Chesapeake Energy Regional Headquarters in Charleston, West Virginia (LEED Project). Chesapeake Energy Field Offices in Jane Lew, West Virginia; Mount Morris, Pennsylvania; and Honey Branch, Kentucky.
- The Pines Country Club in Morgantown, West Virginia.
- Dow Chemical South Charleston Plant Entrance, Parking and Pedestrian Improvements in West Virginia.
- Tamarack Phase 2 Expansion in Beckley, West Virginia.
- Morgan County Courthouse Replacement in Berkeley Springs, West Virginia. Greenbrier County Courthouse Annex and Expansion in Lewisburg, West Virginia.
- Marshall University Clinical Outreach and Education Center, Huntington, West Virginia.
- Cheat Landing Office Park in Morgantown, West Virginia. The Villages at Cheat Landing in Morgantown, West Virginia
- Almost Heaven Habitat for Humanity, South Fork Crossing Subdivision, Pendleton County, West Virginia.
- Stonegate at Cranberry Development in Cranberry Township, Pennsylvania.

#### Parks and Recreation Areas

- April Dawn Sprayground and Park in Huntington, West Virginia. Lead Engineer for the continued development of the park consisting of an in-ground computer controlled fountain covered by suspended concrete pavers, a unique "Teays Valley Monster" concrete dragon over 8'-tall integrated into the design with slide and cool steam nostrils and a special soft surface design. The project won awards from the West Virginia Sections of the American Society of Landscape Architects and the American Consulting Engineers Council.
- Rotary Park Improvements Project in Huntington, West Virginia. Lead Engineer responsible for new parking areas, unique picnic shelter, utilities, and a new entrance that blended with existing facilities.
- Golf Club House and Lodge Site Development at Stonewall Jackson State Park in West Virginia. Project Manager for infrastructure including site design of the 100+-room lodge, parking, sewage lift station, extensive landscaping, and all aspects of construction administration.
- Cedar Creek State Park Camp Ground Expansion, Glenville, West Virginia. Dow Heritage Park in Charleston, West Virginia. Fort Boreman Historic Park in Parkersburg, West Virginia.

### Streetscape and Trails

- Kanawha Trestle and Rail Trail Master Plan. Project Manager and Lead Engineer responsible for development. The plan covered the existing CSX trestle crossing the Kanawha River in Charleston and approximately 2 miles of Norfolk and Southern rail corridor through the West Side of Charleston.
- Project Manager or Design Engineer on multiple streetscape projects throughout West Virginia including Phase 1 Florida Street Streetscape, and Washington Street East Phase 2 and Pennsylvania Avenue streetscapes in Charleston, West Virginia.
- North Bend Rail Trail. Prepared construction documents to repair flood damage to almost 50 miles of trail.
- Florida Street Master Plan for the City of Charleston, West Side Neighborhood Association.
- City of Richwood, West Virginia Streetscape Master Plan and Phase 1 Construction.
- City of Charleston East End Design Cheret and "Think Tank" Design Cheret.

### Waste Water and Potable Water Design

- National Radio Astronomy Observatory. Designed unique, non-mechanical, award-winning treatment system that uses no electricity and treats the entire campus wastewater load.
- Manufactured Housing Development Waterline Replacement. Designed over 5 miles of water line within an existing 1000+-unit manufactured housing development.
- Huttonsville Correctional Facility. Provided retrofit design for temperature, grease and trash issues.
- Anthony Correctional Center. Designed package water treatment plant for correctional facility.
- St. Mary's Correctional Facility. Retrofit design to address trash and grease issues.
- Pocahontas County Landfill. Modular trickling sand filters with aeration pond and polishing wetland.
- Multiple Landfills. Pre-treatment system design to remove high BOD levels prior to WWTP.
- Storage Tank Design. Multiple bolted or welded steel tanks primarily for leachate storage.

### Abandoned Mine Land (AML) Reclamation and Acid Mine Drainage (AMD) Treatment

- Richard Mine Acid Mine Drainage. Treatment Alternatives Report, Monongalia County, West Virginia.
- Richard Mine Flow Monitoring Study. Design, installation, full time flow monitoring and reporting for a 1 year period on drainage from a substantial AMD discharge.
- East Branch Raccoon Creek Acid Mine Drainage (AMD) Treatment Design for the Ohio Department of Natural Resources.
- Vens Run Landslide Reclamation No. 2 Design and Permitting in Harrison County, West Virginia.
- Whites Run Reclamation Permitting in Randolph County, West Virginia.

### Project Awards

National Radio Astronomy Observatory (NRAO) Wastewater Treatment Plant Design, West Virginia ACEC Gold Award, Project Manager

Florida Street Streetscape Masterplan, West Virginia ASLA Honor Award, Senior Engineer

Dupont Hyper Plaza Design, West Virginia ASLA Honor Award, Senior Engineer

Kanawha Trestle Rail Trail Masterplan, West Virginia ASLA Merit Award and West Virginia ACEC Silver Award, Project Manager

April Dawn Park Sprayground "Teays Valley Monster," West Virginia ASLA Honor Award and West Virginia ACEC Gold Award, Senior Engineer

Coldwater Creek Distribution Center Site Preparation, West Virginia ACEC Gold Award, Project Manager

## Charles F. Straley, P.E., P.L.S.

*Engineering Manager / Geotechnical & CMS Services Manager*

### Education

B.S. Civil Engineering 1986 University of Akron  
M.S. Geotechnical Engineering 1988 University of Akron

### Professional Affiliations

American Society of Civil Engineers  
National Society of Professional Engineers  
Kanawha Valley Mining Institute

### Registrations

Professional Engineer, West Virginia, Ohio, Kentucky, Indiana, Virginia (pending)  
Professional Licensed Surveyor, West Virginia

### Certifications

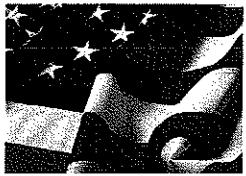
Troxler Certified  
10-Hour OSHA Trained  
40-hour Health and Safety Trained  
8-hour Supervisor Health and Safety Trained

### Professional Experience

#### **Construction Administration/Management**

- Managed construction management and certification for the new landfill cell for FGD disposal at the John Amos Power Plant in Putnam County, West Virginia. Closure activities included grading subgrade, leachate management and transmission, PVC liner and storm water management for a 22 acre cell. Project completed over two construction seasons.
- Performed construction management and certification for the closure of the municipal solid waste Berkeley County Landfill in Berkeley County, West Virginia. Closure activities included regrading waste, leachate management and transmission, gas management and cover consisting of 125,000 square yards of HDPE geomembrane. Project completed over two construction seasons.
- Performed construction management and certification for the closure of the municipal waste landfill Mingo County Landfill in Mingo County, West Virginia. Closure activities included regrading waste, leachate management, gas management, and 41,500 square yards of HDPE geomembrane.
- Professional engineer construction manager and administration for the mine seal and drainage collection for an abandoned mine project in Pomeroy, Ohio. Ohio Department of Natural Resources
- Design, construction monitoring, and construction administration for two lake dredging projects. Activities included subsurface investigation, regulatory approvals, construction drawings, technical specifications, construction troubleshooting, cost estimating, daily reports, and client interaction. West Virginia Division of Natural Resources: Tomlinson Run State Park and Kanawha State Forest
- Project manager for a storm sewer control project in Putnam County. The project included the design of a combination of channels, box culverts, and gabion retaining structures. Provided construction administration services and oversight of construction monitoring services. Putnam County Office of Planning and Infrastructure
- Responsible for design of The Storm Sewer Project, Phase I, in the Town of Gauley Bridge in Fayette County, West Virginia. The purpose of the project was to collect and convey storm water through the





project area to minimize impacts from localized flooding. Performed the construction monitoring and administration for the construction of the project. Town of Gauley Bridge

- Inspected, evaluated and designed repair alternatives for Spruce Island and Sand Run Dams in Tucker County, West Virginia. Design included evaluation and improvement of slope stability for both earthen embankments, improvements to inlet and outlet works, and the geometry of the spillways. Permit applications for both dams were prepared. Performed the construction administration and certification of the completed repairs. Timberline Association

### Construction Monitoring

- Assistance with construction monitoring in Scott Depot, Morgantown and Summersville, WV. K-Mart Corporation; West Virginia Solid Waste Management Board; and Norco Construction
- Construction monitoring for excavation and backfill of contaminated soils under health and safety conditions. Arco Chemical Corporation and ITT
- Construction monitoring of a fly ash disposal area, an emergency exit from a reclaim hopper and an artificial wetlands. Pennsylvania Electric Company
- Construction monitoring, moisture testing and density testing of a 250,000-cu-yd fly ash highway embankment. Installation and monitoring of pneumatic piezometers, horizontal slope inclinometers, and vertical settlement stations. Duquesne Light Company
- Design of and preparation of construction documents for a 600,000 cubic yard failed coal slurry impoundment. Activities included site grading, subsurface investigation, hydraulics and hydrology analysis, road re-design, preparation of drawings and technical specifications, engineering cost estimate and pre-bid meeting presentation. Periodic site visits during construction were provided. West Virginia Department of Environmental Protection, Abandoned Mine Lands

### Landfill Design

- Closure design for an eleven acre municipal solid waste landfill. Grading, slope stability analyses, cap design, leachate collection, leachate treatment, and construction document preparation were major aspects of the project. WVDEP - Office of Waste Management
- Managed and performed the certification for a 2.25 acre expansion to a MSW landfill cell with a composite liner and C&D with a clay liner including leachate collection and detection systems. Conducted weekly site meetings. S&S Grading, Inc.
- Participation in the preliminary and final site planning design for a landfill expansion in Morgantown, WV. West Virginia Solid Waste Management Board

### Dam Design and Inspection

- Performed periodic dam inspection and certification for three earthen dams at Blackwater Falls and Cacapon State Parks in West Virginia. WVDNR - Parks and Recreation
- Project manager for the preparation of construction documents for a earthen dam. Project includes evaluation of existing drainage structures, stormwater routing analysis, design of earth embankment, and design of an principle and emergency spillway. Lake Chaweva Homeowners Association
- Inspected, evaluated and designed repair alternatives for Spruce Island and Sand Run Dams in Tucker County, West Virginia. Design included evaluation and improvement of slope stability for both earthen embankments, improvements to inlet and outlet works, and the geometry of the spillways. Permit applications for both dams were prepared. Timberline Association
- Evaluated, inspected, and designed the rehabilitation for a concrete hydroelectric dam in Luray, Virginia. Dam rehabilitation included the replacement for a fish ladder.
- Evaluation of stability and rehabilitation of an existing water retention structure located adjacent to the Ohio River. Arco Chemical Corporation
- Performed annual dam inspection and certification for a 15-foot high earthen dam in Monroeville, Pennsylvania. Belmont Ridge Development

- Performed inspection of galleys of the concrete Lake Lynn Dam in Lake Lynn, Pennsylvania. Allegheny Power Systems
- Project manager for the preparation of a floodplain permit for a pond constructed within the 100-year floodplain of the Ohio River. Preparation of permit consisted of preparing hydrology/hydraulic calculations to determine if the pond altered the routing of a 100-year storm.
- Project manager for the preparation of construction documents for two lake dredging projects in West Virginia. Design included providing a dredging scheme, disposal site design, a water handling plan to maintain stream flow, and providing a sediment control plan for both the dredging operations and the disposal site. Provided construction administration service and oversight of construction monitoring service. WVDNR - Parks and Recreation Division

### Summary

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.

## Mark D. Shawl, RLA, LEED® AP

Lead Landscape Architect

### Education

B.S. Landscape Architecture 1994, College of Agriculture and Forestry, West Virginia University

### Registrations/Certifications

Professional Landscape Architect, West Virginia No. 316, North Carolina No. 1051, South Carolina No. 812  
Leadership in Energy and Environmental Design (LEED) 2.0 Accredited Professional, U.S. Green Building Council

### Affiliations

American Society of Landscape Architects, ASLA  
WV Chapter of American Society of Landscape Architects

### Summary

Mr. Shawl specializes in all aspects of landscape architectural design with 14 years experience working on a diverse range of projects in both the public and private sectors. His experience includes, but is not limited to, project management, construction document and technical specification preparation, site analysis, schematic design, construction administration, master and land-use planning (parks, recreational, residential, institutional, commercial), streetscape and municipality improvements, landscape and hardscape designs, and graphic presentation drawings. Mr. Shawl has provided residential planning and landscape design services for over 50 projects.

### Professional Experience

#### Streetscape / Urban Revitalization

- Richland County Gateway Revitalization, Columbia, South Carolina
- Tuckaseegee Road Streetscape, Charlotte, North Carolina
- Troutman Pedestrian Corridor Study, Troutman, North Carolina
- Little Sugar Creek Greenway, Charlotte, North Carolina

#### Parks & Recreation

- Burke County Regional Park, Burke County, North Carolina
- Manchester Soccer Complex, Rock Hill, South Carolina
- Cane Creek Park Phase 2, Union County, North Carolina
- Jessie Helms Park, Union County, North Carolina
- Triad Park Phase 5 and 7, Guilford County, North Carolina
- Gayle Community Park, Chester County, South Carolina
- U.S. Fish and Wildlife Service – Waccamaw National Wildlife Refuge, Georgetown, S.C.
- Paramount Parks Master Planning, NC, VA, OH, CA
- Paramount Parks Carowinds, Animation Station, Charlotte, North Carolina
- Paramount Parks Carowinds, Stealth Coaster, Charlotte, North Carolina
- Salisbury Community Park Greenway, Salisbury, North Carolina
- Jack D. Hughes Park Master Plan/Phase 1, Pineville, North Carolina

#### Institutions

##### Hospitals

- Friendship Baptist Church Phase 2, Charlotte, North Carolina
- Bible Center Church Master Plan and Bible Center Church Phase 1, Charleston, West Virginia

- Trinity Lutheran Church Columbarium Master Plan
- First Presbyterian Church Columbarium Master Plan
- The Church of Jesus Christ of Latter-Day Saints, Multiple Projects

*Schools and Universities*

- North Carolina Arboretum Baker Exhibit Center, Asheville, North Carolina
- Western Carolina University Tennis and Softball Center, and Western Carolina University Infrastructure Improvements, Cullowhee, North Carolina
- Winston-Salem State University Central Quad, Winston-Salem, North Carolina
- North Carolina Central University Pearson Cafeteria, Durham, North Carolina
- Duke University Central Water Plant, Site Design, Durham, North Carolina
- Fairmont State University Inner Campus Renovations, Fairmont, West Virginia
- Capitol High School Athletic Facilities Improvements, Charleston, West Virginia
- University High School, Morgantown, West Virginia
- Moorefield Intermediate School, Moorefield, West Virginia
- Mountain State University Health Sciences Center, Beckley, West Virginia
- Marshall University Dormitory / Alumni Center
- West Virginia University Dormitory, Evansdale Campus
- West Virginia University Dormitory, Downtown Campus
- Potomac State Dormitory
- West Virginia State Student Housing, Institute, West Virginia

*Hospitals*

- Tazewell Community Hospital Master Plan, Tazewell, Virginia
- Four Seasons Wellness Center, Tazewell, Virginia
- Cabell County EMS Facility, Huntington, West Virginia

*Development / Site Planning*

- Yeager Airport Master Plan
- Cheat Landing Office Park and The Villages at Cheat Landing in Morgantown, West Virginia
- The Pines Country Club, Morgantown, West Virginia
- Stonegate at Cranberry, Cranberry Township, Pennsylvania
- Chesapeake Energy Regional Headquarters in Charleston, West Virginia and Field Offices in Jane Lew, West Virginia; Mount Morris, Pennsylvania; and Honey Branch, Kentucky
- Shawnee Point Mixed-Use Residential Master Plan, Lake of Egypt, Illinois
- Whitehall Retail Development and Stonecrest Development, Charlotte, North Carolina

## Joseph A. Prine, PE

Senior Engineering Intern

### Education

- A.S. Drafting and Design, 2001 West Virginia University Institute of Technology
- A.S. Civil Engineering Technology, 2001 West Virginia University Institute of Technology
- B.S. Engineering Technology w/ Civil Emphasis, 2001 West Virginia University Institute of Technology
- M.S. Various Courses in Engineering Management, Currently Attending Marshall University

### Registrations

Professional Engineer - WV  
NICET Certified, Engineering Technology, #103538

### Professional Development

OSHA 40 hour Hazwopper Training  
OSHA 10 hour Construction Industry Training Program

### Awards

First Coalition Force Design Team - Commander, Tallil Air Base, Iraq

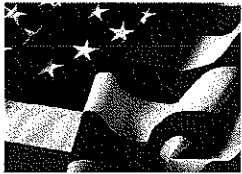
### Professional Experience

Mr. Prine has a wide variety of experience in environmental engineering, civil engineering, site development, streetscape, and planning projects while at GAI and through previous employments. He has worked with private developers, architects, municipalities and governmental agencies. He has substantial experience in site engineering, and stormwater management. He has worked on various construction project sites including landfills, abandoned mines, and industrial and commercial facilities. Some of his environmental engineering projects include; Phase 1 reports, environmental monitoring, permitting, and design. Some of his civil engineering/site design projects include; design of stormwater management systems, earth work estimating, water and sewer line extensions, design of both large and small sites ranging in size 1 to 40 plus acres, assisting in the preparation of design/construction plans, reports, and cost estimates for projects, and highway/roadway design. He has also contributed to planning and design in several community improvement and streetscape projects.

### Representative Project Experience:

#### Environmental Engineering

- WVAML – Wolfpen Landslide, Charleston, WV
- WVAML – Heizer Creek Landslide, Poca, WV
- WVDOC - Anthony Correctional Center – Package Water Treatment Plant, Neola, WV
- WVDOC - Huttonsville Correctional Center – Waste Water Treatment Plant, Huttonsville, WV
- Richard Mine AMD Flow Monitoring Study, Morgantown, WV
- American Electric Power – John Amos FGD Landfill Construction Monitoring, Winfield, WV
- WVDOH – Romney Bridge, Romney, WV
- WVDOH – King Coal Highway (US 52), Logan County, WV
- Spill Prevention Control and Containment (SPCC) Plans, CSX Railroad National Contract
- Facility Response Plans (FRP) Plans, CSX Railroad National Contract
- Rockport Terminal Tampa, FL Storm Water Management Redesign, CSX Railroad
- Oil Discharge Contingency Plans for State of Virginia, CSX Railroad National Contract
- Facilities upgrade design for Homeland Security, CSX Railroad National Contract
- Redesign of CSX Railroad Waster Water Treatment Plant, Clifton Forge, VA
- Environmental Emergency Responder to Train Derailment, Handley, WV
- Site Monitoring and Cap Design for Remediation Site, Huntington, WV
- QA/QC for Installation of New Groundwater Monitoring Wells, Scary Creek, WV



- Brownfield Way Ground Water Monitoring Reports, South Charleston, WV
- Nicholas County Landfill- Design and Permitting New Landfill Cells, and General Site Engineering
- Melinda Street Storm Water Improvements, Parkersburg, WV

#### **Land Development / Site Planning**

- Chesapeake Energy Field Office, Mansfield, Pennsylvania
- Huttonsville Work Release Camp – Site Design & Permitting, Huttonsville, WV
- Chesapeake Energy Regional Headquarters, Charleston, West Virginia (**LEED Project**)
- Chesapeake Energy Field Office, Mount Morris, Pennsylvania
- Chesapeake Energy Field Office, Honey Branch, Kentucky
- Detailed Site Design Aspen Village, Davis, WV
- Ft. Boreman Development–Master Plan Site Preparation and Roadway Design, Parkersburg, WV
- Golf Club House and Lodge Site Development, Stonewall Jackson State Park, WV
- Family Carpet Plaza-Site Design & Permitting, Parkersburg, WV
- Storm Water Detention System – Melinda St., Parkersburg, WV
- Site Design for Schools Hannan, Wahama, New Haven, and Pt. Pleasant, Mason County, WV
- Design of Storm Water Management System, Western Management, Parkersburg, WV
- Preparation of Detailed Erosion and Sediment Control Plans
- Preparation of NPDES Construction Stormwater Permit Applications
- Sugar Grove Site Design, Habitat for Humanity, WV
- Starlite Industrial Park, OH
- Great Lakes Truckland Site Improvements, Cross Lanes, WV

#### **Streetscape and Trails**

- City of Mount Hope Streetscape, WV
- City of Charleston, East End Design Charrette, WV
- Florida Street Master Plan for the City of Charleston, West Side Neighborhood Association, WV
- City of Richwood, West Virginia Streetscape Master Plan and Phase 1 Construction

## Shannon Shank

Land Planner/Environmental and GIS Specialist

### Education

B.S. Landscape Architecture, College of Agriculture & Forestry, Minor in Geography/Geographical Information Systems (GIS), 2005 West Virginia University

A.S. Architectural Drafting 2001, West Virginia State College

### Registrations/Certifications

American Council of Exercise Personal Trainer, 2005

### Relevant Training/Courses

ArcGIS 9 Certified

ArcGIS 9 Spatial Analyst Certified

ArcGIS Schematics Certified

### Summary

Mr. Shank has a wide variety of experience in GIS analysis and mapping, environmental permitting, site development, streetscape, and planning projects while at GAI and through previous employments. He has worked with architects, municipalities and governmental agencies. He has worked on various construction project sites including abandoned mines. Some of his site design projects include; digital terrain, cross-sections, vertical profiles, site detailing, earthwork estimating, the preparation of design/construction plans, reports, and cost estimates for projects. He has also contributed to planning and design in community improvement master plans and streetscape projects.

### Representative Professional Experience

#### Planning & Design

- Moses Residence, Putnam County, West Virginia
  - Researched stormwater reuse including cisterns and rain chains.
  - Site Drafting and Design

#### Parks and Recreation

##### National Center for Youth Science and Recreation

- Created complete site analysis maps using GIS.
- Compiled existing data for a low impact design.
- Included maps:
  - Hydrology
  - Geology Slope Analysis
  - Slope Aspect
  - Soils and Vegetation

#### Campus Planning

##### John Adams Rain Garden

- Volunteer
- Designed concepts of rain garden for stormwater infiltration of existing parking lot
- Plant selection



### **Streetscape / Urban Revitalization**

- Charleston Riverfront Park, Kanawha County, West Virginia
- Charleston Stormwater Manual
  - Created graphical figures and maps, and created new and compiled existing data.

### **Water Studies**

- Water Feasibility Study, Wallace CR4, 20/3, 6, 5/4, 20/11, 21 Feasibility Study (ID#353) for Shortline Public Service District in Harrison and Wetzel Counties, West Virginia. Work included interviewing local residents; collecting surface and private water supply samples; preparation of drawings representing existing and proposed remedial measures; and assisted in the preparation of the feasibility report. Work was completed on a “fast track” schedule.
- Water Feasibility Study, Wallace Rt. 20 Feasibility Study (ID#354) for Shortline Public Service District in Harrison County, West Virginia. Work included interviewing local residents; collecting surface and private water supply samples; preparation of drawings representing existing and proposed remedial measures; and assisted in the preparation of the feasibility report. Work was completed on a “fast track” schedule.

### **GIS Analyst**

- Analytical processing and creation of GIS data.

### **Environmental GIS Mapping**

- Collaborate with the Environmental Health and Safety department to design various maps.

### **Gas Pipeline Integrity GIS Mapping**

- Collaborated with corrosion engineers to design maps which show the integrity of the pipeline for given areas.

### **Special GIS Mapping**

- Collaborated with diversity of customers within my company of employment to creatively design maps that will be used to solve problems or graphically show areas of interest.

### **GIS ArcGIS Knowledge Sharing**

- Educate people to maximize use of tools and extensions in ArcGIS.

### **Abandon Mine Lands**

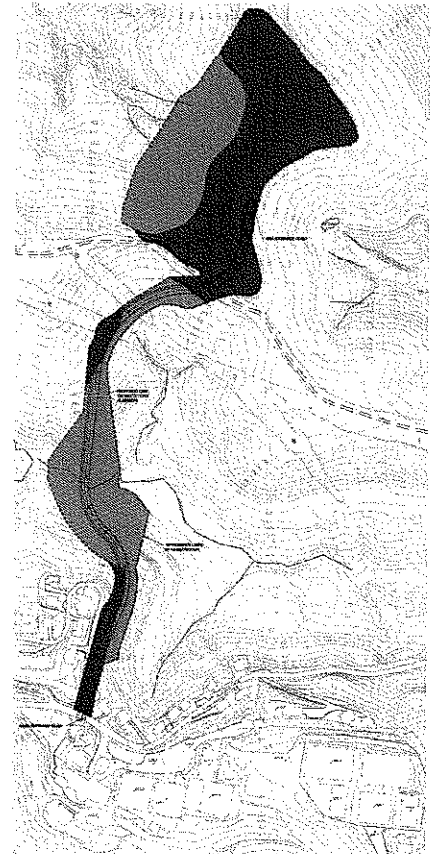
- Duck Creek (Jenkins) Landslide, Harrison County, West Virginia
- Route 60 Drainage, Fayette County, West Virginia
- Lynch Run Highwall #6, Gilmer County, West Virginia

## RELEVANT EXPERIENCE

GAI's record of performance is best reflected in our work for repeat clients that comprise approximately 75% of our workload. Our performance on projects mandates that we provide services which consistently meet schedule and budget constraints while providing a high quality end product.

The proposed project team has experience with a number of past municipal projects with respect to urban renewal, roadway enhancement and streetscape experience. In addition to the design of the projects, GAI has also been involved with construction administration as well as construction monitoring. Our experience includes:

- + **Pennsylvania Air National Guard**, Allegheny County, Pennsylvania
- + **Edgewood Access Road**, Charleston, West Virginia
- + **Charleston Riverfront Park**, Charleston, West Virginia
- + **Morgantown Riverfront Park**, Morgantown, West Virginia
- + **North Shore Riverfront Park**, Allegheny County, Pennsylvania
- + **PNC Park – River Bulkhead Wall Design**, Pittsburgh, Pennsylvania
- + **PNC Park Baseball Stadium**, Pittsburgh, Pennsylvania
- + **Vilano Beach Streetscape**, Vilano Beach, Florida
- + **Lewisburg Streetscape and ADA Upgrades**, Lewisburg, West Virginia
- + **Uptown Altamonte**, Seminole County, Florida
- + **Hills of Lake Mary**, Lake Mary, Florida
- + **Monongahela River Comprehensive Study**, Marion and Monongalia Counties, West Virginia
- + **David L. Lawrence Convention Center**, Pittsburgh, Pennsylvania



Detailed project descriptions for many of these projects are included at the end of this section. GAI Consultants, Inc.'s experiences with these projects have direct correlation to the services requested by the WVANG. The projects show the level of professional expertise that is available to GAI's local office to utilize and draw upon as needed.

## References

*Andrew N. Blackwood, Ed.D, Executive Director*

National Youth Science Foundation

P.O. Box 3387

Charleston, West Virginia 25333

304.552.1171

*David D. Molgaard, Charleston City Manager*

City of Charleston

PO Box 2749

Charleston, West Virginia 25330

304.348.8014

*Chris Knox, Charleston City Engineer*

City of Charleston

105 McFarland Street

Charleston, West Virginia 25301

304.348.8014

*Mary Jean Davis, Charleston City Council*

City of Charleston

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Charleston, West Virginia 25330

304.348.8014

*Tom Potts, Principal*

Silling Associates

405 Capitol Street

Upper Atrium

Charleston, WV 25301

304.346.0565

*Shawn Casey, Vice President, Land*

Triana Energy

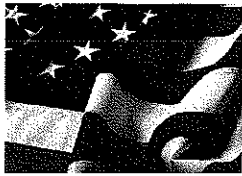
500 Virginia Street East

Charleston, West Virginia 25301

304.380.0133



## **Project Profiles**



Expression of Interest #DEFK11024

Architectural/Engineering Services – Engineering Design for an Access Road, Utility Upgrades & Rough Site Grading

## Land Development Permitting and Design



### Edgewood Elementary Access Road Kanawha, West Virginia



#### Brief Project Description

GAI Consultants, Inc. (GAI) provided design and permitting for a proposed access road that will serve a new elementary school planned by Kanawha County Schools. Based on preliminary road routing, GAI performed a Phase 1 environmental survey to identify all environmentally sensitive areas. GAI mapped existing stream/wetland information and revised the proposed alignment to minimize potential environmental impacts due to road construction. In addition, GAI worked with the architects in order to coordinate relocation of an existing gas transmission line adjacent to the project.

#### Work Tasks/Services

- Civil/site design
- Landscape architecture
- Geotechnical analysis
- Structural analysis
- Permitting
- Phase 1 environmental survey

#### Lasting Benefits

GAI's approach assisted the Kanawha County School Board in taking an environmentally- friendly approach to development of this access road.

GAI Project Manager:  
David A. Gilmore, RLA, ASLA

Project Team:  
GAI Consultants, Inc. (Prime)

Client:  
ZMM Architetcts

Client Contact:  
Mary Jo Cleland  
304.342.0159

Completion Date:  
November 2011

#E101303.00

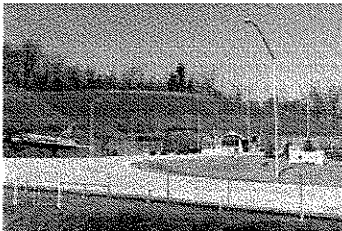
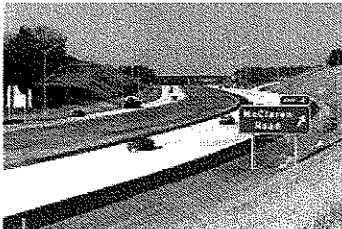
For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).



## Transportation Highway and Bridge Design Services



### **Pennsylvania Air National Guard Airport Parkway - Southern Expressway** Allegheny County, Pennsylvania



#### Brief Project Description

The Pennsylvania Department of Transportation retained GAI Consultants, Inc. (GAI) to provide highway and bridge design and to generate an Erosion and Sedimentation (E&S) Control Plan for a 1.1-mile section of the six-lane, limited-access expressway. Planned construction included an area to support up to eight traffic lanes and a median strip, with an area of disturbance requiring an Earth Disturbance Permit (EDP) from the Pennsylvania Department of Environmental Protection (PaDEP), Bureau of Soil and Water Conservation. The E&S Control Plan included the design of two large sedimentation ponds, six sediment traps, 10 energy dissipaters, 15 temporary channels with lining, four major stream relocations with riprap or concrete channeling, several thousand feet of filter fence, and other control devices. Section 15 of S.R. 6060 was the first of five total sections of the Expressway to receive EDP approval.

As part of Section 15, GAI designed the McClaren Road Interchange, providing access from the expressway to the Pennsylvania Air National Guard (PANG) base adjacent to Pittsburgh International Airport. GAI also developed the Findlay Maintenance Facility, providing a model for future maintenance facilities. The Findlay facility is situated in the three-acre waste fill infield area of the McClaren Road loop ramp interchange, and required 1,000 feet of sanitary sewer lateral and camouflaging fencing.

GAI Project Manager:  
Thomas E. O'Brien, P.E.  
Project Team:  
GAI Consultants, Inc. (Prime)  
Client:  
Pennsylvania Department of  
Transportation, District 11-0  
Client Contact:  
District Executive  
412.429.5000  
Completion Date:  
1991

#CR90313

#### Work Tasks/Services

- Roadway design and PS&E
- Bridge and Interchange design
- Geotechnical investigations and foundation design
- Drainage design
- Utility relocations
- Stormwater management
- Right-of-Way establishment
- E&S Control Plans
- Wetland replacement
- Animal crossover culvert design
- Traffic Control Plans
- Pavement marking
- Signing and lighting including shielded highway lighting
- Landscape architecture
- Value Engineering
- Community Coordination

#### Value Added Innovations

The environmentally-sensitive site designs required for the maintenance facility included camouflaging fencing to blend the facility into the interchange.

#### Major Accomplishments

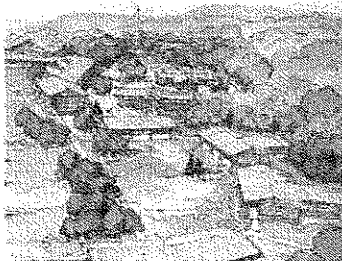
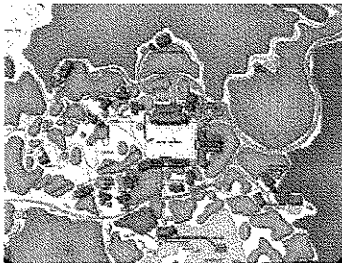
- 1992 Pennsylvania Department of Transportation Excellence in Transportation Design Award

For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).

## Land Development Master Planning



### National Center for Youth Science Education Master Plan Pocahontas County, West Virginia



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#### Brief Project Description

The National Center for Youth Science Education (NCYSE), also known as the "Youth Science Camp", is being relocated from its historic leased property in rural Pocahontas County to a prestigious, environmentally sensitive facility located on its own property adjacent to the Blackwater River in Tucker County, West Virginia. The new facility has plans to eventually operate year round providing a wealth of educational outreach programs, while still maintaining the core focus of the "Camp" during the summer months.

GAI Consultants, Inc. (GAI) provided master planning and schematic design services for the proposed National Center for Youth Sciences Camp property located at Davis, West Virginia. GAI was involved with initial programming and scope development for the project, as well as site analysis for the entire property, which included hydrology, soils, slopes, geology, wetlands, vegetation and wildlife. Additionally, GAI was responsible for combining the site analysis information and creating a preliminary land use plan and concept plan in order to generate a cost opinion.

#### Work Tasks/Services

- Data collection
- Land use planning
- Utility design
- Site analysis/geological review
- Landscape architecture
- Master planning
- Engineering
- Permitting review
- Access road design
- Trail design

#### Lasting Benefits

GAI's services helped the National Youth Science Center make better-informed decisions in site development and land use, as well as during construction.

#### Major Accomplishments

- Pennsylvania AIA Honor Award Winner

GAI Project Manager:  
**David A. Gilmore, RLA, ASLA**

Project Team:  
**GAI Consultants, Inc. (Prime)**

Client:  
**Perfido Weiskopf Wagstaff + Goettel**

Client Contact:  
**Kevin Wagstaff**  
412.391.2884

Completion Date:  
**Ongoing**

Project Cost:  
**\$35 million**

#E090616.00

For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).

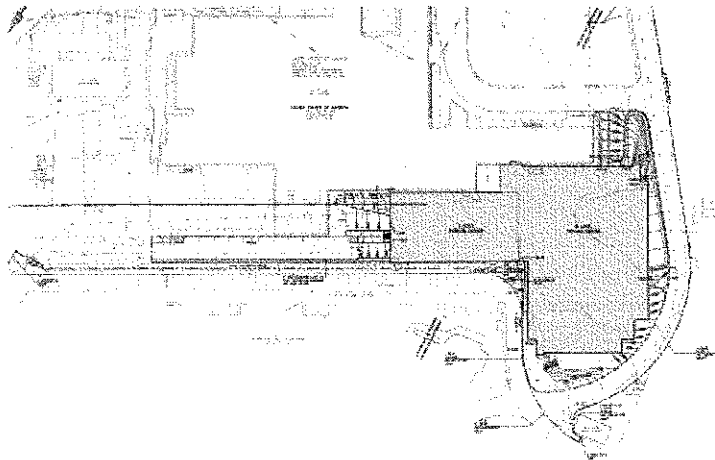




## Land Development Site Development Services



### Veterans Administration Facility Design-Build Allegheny County, Pennsylvania



GAI Project Manager:  
Jeffrey A. Parobek, P.E.

Project Team:  
GAI Consultants, Inc. (Prime)

Client:  
RTKL Associates, Inc.

Client Contact:  
David Spahr  
202.833.4400

Completion Date:  
2006

#C040480

#### Brief Project Description

GAI Consultants, Inc. (GAI) provided engineering and surveying services for a Veterans Administration parking garage project in Pittsburgh. The design-build project involved developing an 11-acre parcel of land at the Veterans Administration Hospital on University Drive to expand parking facilities. GAI developed the schematic site design for a parking garage structure and surface parking for 900 to 1,200 vehicles.

The site design effort included associated access roads and utility infrastructure, and involved preparing bridging documents for the design-build construction project. GAI also provided assistance during construction in the form of shop drawings, design, and change order review.

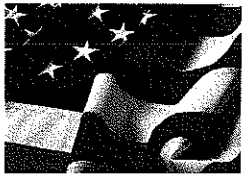
#### Work Tasks/Services

- Topographic survey
- Boundary survey
- Utility investigation and survey
- Preliminary development plans
- Site plan
- Grading and storm drainage plans
- Utility plans
- Specifications
- Stormwater management plan
- Geotechnical investigation

#### Lasting Benefits

This 11-acre garage expansion is the first phase of the largest Veterans Administration (VA) in Pittsburgh in 50 years. The overall five-year, \$200M federally-funded project will condense VA facilities in Oakland and O'Hara Township by one-third, while maintaining all programs and services. Inefficient buildings dating from the 1950s are being replaced to create a more residential, less institutional, healing environment at the facilities.

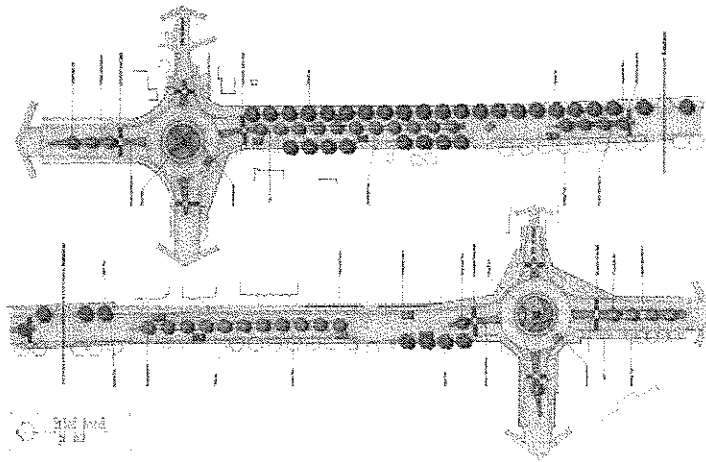
For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).



# Transportation Roadway Design & Streetscape Services



## Pennsylvania Street Hamilton County, Indiana



GAI Project Manager:  
**W. Scott Allen, P.E.**  
Project Team:  
**GAI Consultants, Inc. (Prime)**  
Client:  
**City of Carmel**  
Client Contact:  
**Mayor James Brainard**  
**317.571.2401**  
**Eng. Michael McBride**  
**317.571.2441**  
Completion Date:  
**2006**

#D068497

### Brief Project Description

Due to the success of GAI Consultants, Inc., (GAI) on a past-accelerated project, the City of Carmel again called upon GAI to work on a major project that needed completed on a short time frame. The Pennsylvania Street Reconstruction project involved reconstructing an existing two-lane street into a four-lane, boulevard-style street, with a landscaped median and left-turn lanes. A roundabout at 103rd Street facilitated traffic flow and a second roundabout at 106th Street replaced an existing traffic signal.

To accommodate pedestrians, an 8-foot asphalt trail was included on the west side with a 5-foot concrete sidewalk on the east. Landscaping elements, such as trees, plantings, and architectural-style focal points, provided a new aesthetic feel to the corridor.

The project was designed in a very narrow corridor with minimal right-of-way impacts. Amazingly, all of this work was completed in only 12 weeks to maintain the City's very tight schedule.

### Work Tasks/Services

- One-half mile of boulevard-style roadway reconstruction
- Design of two roundabouts to provide traffic calming and improve safety
- Asphalt trail and concrete sidewalk
- Storm sewer construction
- Water main realignment
- Traffic control plan
- Bids and specifications
- Inclusion of landscape elements such as stamped concrete, dyed asphalt, and landscape plantings to beautify the corridor
- Design performed in Fall 2006

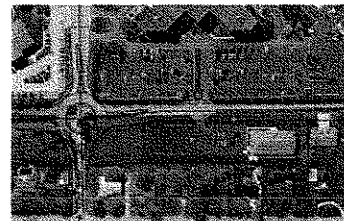
### Value Added Innovations

- Accelerated construction schedule
  - Survey delivery to plan submittal was only 10 weeks
- Design of two roundabouts, special hardscaping, and landscaping to beautify the corridor
- The addition of storm water quality units to improve storm water conditions prior to release of drainage into the receiving waters

allowed the project to meet Rule 5 requirements for sediment control and pollution prevention

### Lasting Benefits

- Attractive street for local residents
- Safety improvements with median and roundabouts
- Pedestrian access



For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).



## Transportation Bridge Design Services



### Willowood Bridge Replacement Summers, West Virginia



GAI Project Manager:  
Gerald J. Pitzer, P.E.

Project Team:  
GAI Consultants, Inc. (Prime)

Client:  
West Virginia Department of  
Transportation, Division of Highways

Client Contact:  
Mr. Gregory L. Bailey, P.E.  
304.558.9722

Completion Date:  
May 2010 (projected)

#E020355

#### Brief Project Description

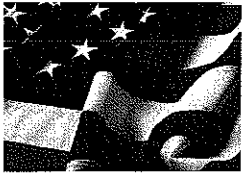
GAI Consultants, Inc. (GAI) studied, designed, and prepared the right-of-way (ROW) and construction contract plans, and related project documents for the replacement of the Willowood Bridge carrying WV 3 over the Greenbrier River. The bridge is located approximately 0.11 miles east of WV 12, in Summers County. The bridge was relocated upstream of its existing location, generally in accordance with Alternative 3 of the Willowood Bridge Replacement Location Study, dated February 2004, prepared by GAI.

The bridge provides a 44-foot wide curb-to-curb deck consisting of two 12-foot wide vehicular lanes, a 12-foot wide center turning lane, and two 4-foot wide shoulders. The total length of the bridge is 395 feet, and it has 935 feet of approach roadways, including a new intersection immediately on the structure's southern side.

#### Work Tasks/Services

- Design study report/alternative analysis
- Span arrangement investigation
- Multi-girder superstructure design
- Geotechnical investigation
- Roadway design
- Utility relocations
- Right-of-way development
- Maintenance of Traffic (MOT)
- Type, size and location study
- Drainage design
- Shop drawing review
- Construction consultation

For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).



Expression of Interest #DEFK11024

Architectural/Engineering Services – Engineering Design for an Access Road, Utility Upgrades & Rough Site Grading

# Transportation Highway Design



## King Coal Highway Mingo County, West Virginia

GAI Project Manager:  
C. E. Penn, IV, P.E.

Project Team  
GAI Consultants, Inc. (Prime)

Client:  
West Virginia Department of  
Transportation, Division of  
Highways

Client Contact:  
Dirar Ahmad, P.E.  
304.558.9271

Completion Date:  
2009

### Brief Project Description

The King Coal Highway – a new four-lane highway with partially controlled access between Williamson and Bluefield – has been designated as "a high priority segment of a high priority corridor in the National Highway System." (United States Intermodal Surface Transportation Efficiency Act - 1991).

The West Virginia Division of Highways (WVDOH) plans to build the highway from a point near Williamson – at the Intersection of WV 65 and US 119 – to Interstate 77 at its US 52 Interchange in the Bluefield area. After evaluating six alternative routes for the highway and considering public comments from a May 1998 public information workshop, WVDOH selected a Preferred Alternative. By the year 2020, engineers estimate the new highway would cut travel time (compared with existing US 52) almost in half.

The Preferred Alternative plan also includes a 4-lane connector, nearly five miles long, to improve access into Williamson. The approximate 4.9-mile Williamson Connector would also provide access to the Mingo County Airport.

GAI provided highway design for 2.2 miles of a four-lane limited-access highway and 4.8 miles of connector roads including the Horsepen Connector. The GAI portion is to be constructed using multi-phasing by contractors for the private sector and contractors for the WVDOH working simultaneously. This section alone will require the excavation and embankment for over 25 million cubic yards of material. The project was part of a joint private/public partnership to save the WVDOH over 100 million in construction cost on GAI's section alone.

### Work Tasks/Services

- Preliminary Design
- Final Design
- Traffic Control Plan
- Drainage Design
- Subsurface Investigations
- Geotechnical Recommendations for Roadway Slopes
- Set Survey and Right-Of-Way Baseline
- Profiles
- Set Core Borings

### Lasting Benefits

King Coal Highway will ultimately cover approximately 90 miles of mountainous southern West Virginia, opening it up to faster, safer transportation.

For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).



## Transportation Highway Design Services



### Mon Fayette Expressway, Section 52J Washington and Allegheny Counties, Pennsylvania



GAI Project Manager:  
Thomas E. O'Brien, P.E.

Project Team:  
GAI Consultants, Inc. (Prime)  
Monah Basin Engineers  
(Subconsultant)  
GeoMechanics (Subconsultant)

Client:  
Pennsylvania Turnpike Commission

Client Contact:  
Chief Engineer  
717.939.9551

Completion Date:  
December 2002

KC920664

#### Brief Project Description

The Mon Fayette Expressway stretches some 70 miles south from Pittsburgh through the Monongahela River Valley and western Fayette County to Interstate 68 near Morgantown, West Virginia. Approximately 35 miles of the Mon Fayette Expressway system are now (2004) operational.

GAI Consultants, Inc. (GAI) designed a 1.7-mile section of the Mon Fayette Expressway that extends north from Stone Church Road in Union Township, Washington County to Gill Hall Road in Jefferson Hills Borough, Allegheny County.

#### Work Tasks/Services

- Highway design
- Drainage design
- Right-of-Way plans
- Erosion and Sedimentation (E&S) control plan
- Storm water management plan
- Geotechnical investigation
- Community coordination
- Survey
- Utility relocation
- Traffic control plans
- Mine stabilization design
- Box culvert design

#### Value Added Innovations

Early in final design GAI proposed eliminating dual bridges over the Snowden Road valley by filling in the valley with embankment, and a frontage road was constructed between the severed Snowden Road and Gill Hall Road to provide local access. This concept saved over \$3M in construction costs for the Section 52J project.

#### Lasting Benefits

The Mon Fayette Expressway will improve access to redevelopment sites in the economically depressed Mon River towns where the steel and coal industries once flourished. It also would provide faster and safer travel options for through traffic, particularly commercial vehicles, that now use existing north-south arteries such as PA Route 51, PA Route 88, PA Route 837, and PA Route 857, as well as U.S. Route 40.

#### Major Accomplishments

- 2003 Pennsylvania Partnership for Highway Quality (PPHQ) Award in the Project Recognition Category
- 2002 American Society of Highway Engineers (ASHE), Pittsburgh Section, Award for Outstanding Highway Engineering
- 2002 Engineers Society of Western Pennsylvania (ESWP) Award of Distinction in the Transportation Category for Project of the Year

For more information on GAI Consultants, Inc., please visit [www.gaiconsultants.com](http://www.gaiconsultants.com).