ZMM

ARCHITECTS & ENGINEERS

September 30, 2010

Ms. Krista Ferrell, Buyer
State of West Virginia Department of Administration
Purchasing Division, Building 15
2019 Washington Street, East
Charleston, West Virginia 25305-0130

Subject: West Virginia Capitol Campus Security Design (GSD 116411)

Dear Ms. Ferrell:

ZMM is pleased to submit the attached information to demonstrate our team's experience and capability to provide crime prevention through environmental design (CPTED), security and anti-terrorism design, as well as professional architectural and engineering design and construction administrative services for the Capitol Campus Security project. We are confident that the combined and specialized expertise of our team makes us uniquely qualified to provide services on this project.

ZMM is one of few full service A/E firms in West Virginia, and is noted for design excellence and client focus. **ZMM's** work on the State of West Virginia Capitol Campus began with the design of State Office Buildings 5, 6, & 7 in the late 1960's and includes current projects such as the Capitol Food Court, renovation of the 10th Floor of State Office Building #5, and updating the main electrical service for the Capitol Campus. **ZMM** also has specialized experience employing security and anti-terrorism standards including Unified Facilities Criteria, DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01) through our work with the West Virginia Army National Guard.

Our team for this project includes TranSystems, a national leader in security consulting for government entities. TranSystems effort will be led by Daniel Keller, a security consultant with more than 25 years of campus law enforcement experience. Over the last 15 years Mr. Keller has shared his experience by conducting both Basic and Advanced CPTED training to over 1,800 law enforcement officers and architects. **ZMM** will also be working with GAI Consultants, a local leader in providing high quality master planning and landscape design services. GAI's recent work includes the Florida Street Revitalization Master Plan, the new Charleston Riverfront Park and Shoenbaum Performance Stage, as well as the Yeager Airport Master Plan.

Thank you for taking the time to review the attached information that details our team's history and philosophy, experience, qualifications, personnel, and references. We look forward to the opportunity to present our ideas for this project, and appreciate the opportunity to be considered for this important assignment.

Respectfully submitted,
ZMM

Adam R. Krason, AIA, NCARB, LEED-AP
Principal

ZMM, Inc.
222 Lee Street West • Charleston, West Virginia 25302
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A&E Services for West Virginia State Capitol Complex
Capitol Campus Security Design
RFQ# GSD 116411

Cover Letter

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Project Approach: Capitol Campus Security Design

Project Team and Management
ZMM will coordinate the effort of the project team throughout all phases of the assessment, design, and construction administrative process. TransSystems, a firm with nationally recognized experts in the field of Crime Prevention Through Environmental Design (CPTED), will lead the effort during the assessment, while **ZMM** and GAI will provide design services for building and landscape design. Our team is uniquely qualified to provide these specialized services to the State of West Virginia, and we offer the following project approach for your review.

ZMM ARCHITECTS & ENGINEERS TranSystems gai consultants transforming ideas into reality

Project Approach
Phase I – Assessment
The assignment would begin with a request for information and documentation such as:

- Any security vulnerability, threat, or risk assessment reports for the campus.
- Site and facility diagrams.
- Operating procedures and drawings of existing protective measures and systems in place.

Following, the consultants would conduct an internal kickoff meeting of the project team members to review project objectives, scheduling, and available documentation. On-site interviews and campus assessment will be scheduled with the State Project Manager. The on-site visit will begin with a Kick-off Meeting with the consultant's project team and stakeholders in the Capitol Campus security program (as determined by the State, but inclusive of General Services Division and Protective Services Division). The objectives of the meeting would be to:

- Confirm the assignment objective
- Confirm scope of the assignment
- Discuss assignment restrictions
- Confirm the proposed/desired deliverables
- Confirm the assignment schedule
- Establish communication protocols
- Facilitate discussion of areas of concern and threats as well as the campus culture in regards to security and protective measures, such as maintaining the "Park Like" atmosphere.
- Determine pending construction projects that could affect campus security.

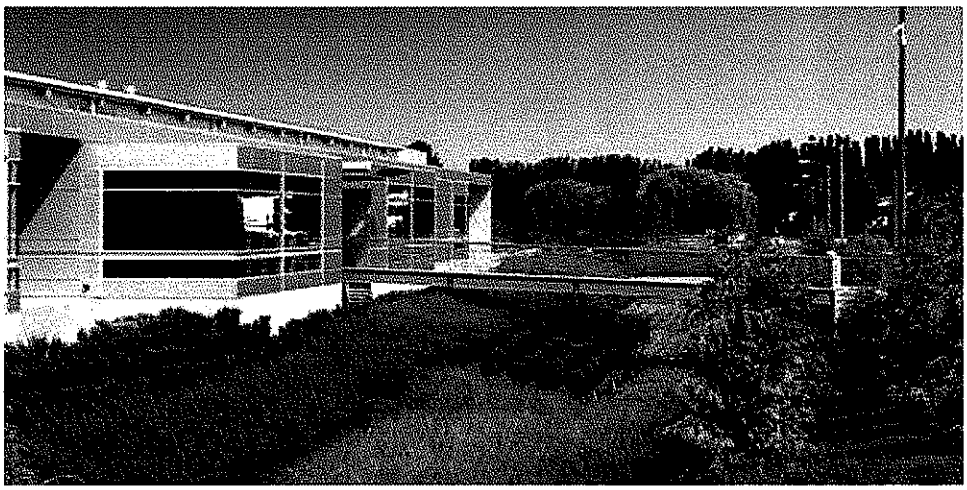
Following the kickoff meeting, members of the project team, which will include the design team (ZMM, GAI, TranSystems) and State personnel, will conduct an in-depth Security Vulnerability Assessment of the campus and one-on-one interviews with key state personnel.

The purpose of the on-site assessment is five-fold:

1) **Conduct a threat assessment for the campus.**
2) **Conduct one-on-one interviews.**
3) **Evaluate the campus for current vehicular access and the future needs for vehicular access.**
4) **Review of security systems technology, infrastructure, and operations.**
5) **Evaluate campus plans, buildings, and landscaping for matching aesthetics.**

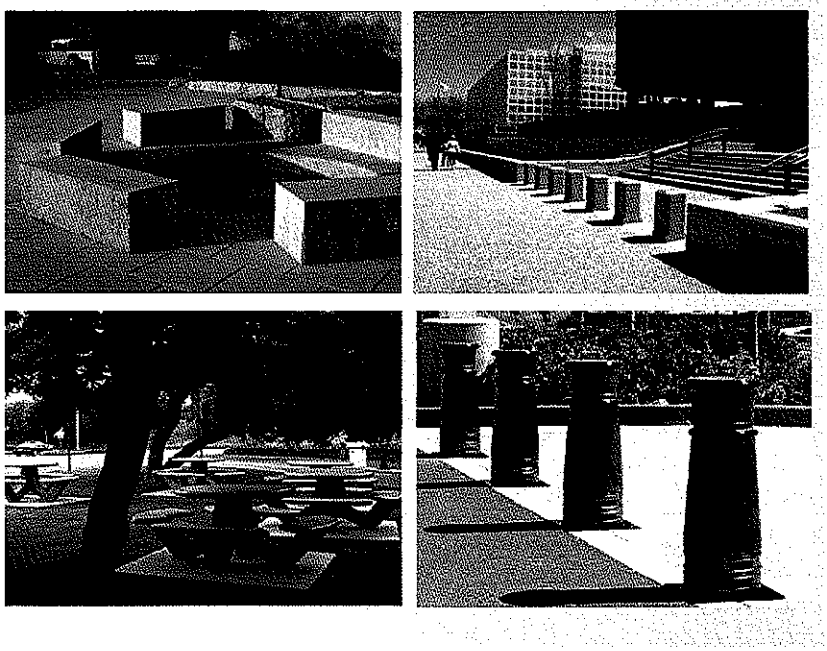
Project Approach: Capitol Campus Security Design

During the assessment the consultants would conduct on-the-spot interviews with staff, employees, security policy makers, and police and security officers. During this time, the consultants would physically survey the campus. The consultants would evaluate all included buildings and areas for their openness, landscaping, lighting, use of security technology, adherence to Crime Prevention Through Environmental Design (CPTED) concepts, and ability to restrict vehicular or pedestrian access where appropriate.



The assessments typically will include a comprehensive examination of all physical security conditions, including positive and negative influence from an environmental security viewpoint, and review of the operations including, but not limited to:

- Barriers
- Vehicle approaches
- Video surveillance systems
- Electronic access systems
- Egress, ingress, and circulation
- Integrated electronic security systems
- Security lighting
- Streetscape and landscape
    - Bollards / planters
    - Curbs
    - Vehicle barriers
    - Signage and ground rules
    - Gates
    - Lightpoles and flags
    - Plazas and fountains
    - Benches, trash receptacles
    - Bike racks
    - Street and parking setbacks
    - Trees, shrubs and groundcover inventory



Project Approach: Capitol Campus Security Design

The assessment would be conducted with consideration of likely threats each facility faces and the risk to the facilities, staff, authorized visitors, and reputation of the Capitol Campus from those threats. Threats can come from Insiders (employees, long-term contractors, etc.), Outsiders, or Insiders in collusion with Outsiders. The threat assessment would include a review of incident reports provided by the Protective Services Division, a review of each area for common crime indicators, interviews with site personnel, and other sources of threat data for government buildings such as the DHS Office of Intelligence Analysis' "Plots and Attacks Targeting Government Facilities in the United States" and the Government Facilities Sector Assessment by the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC).

The assessment and subsequent design would take into account best practices for site and building protection to include vehicular access as contained in various authoritative sources such as:

- FEMA 426, Reference Manual to Mitigate Terrorist Attacks Against Buildings
- FEMA 430, Site and Urban Design for Security - Guidance Against Potential Terrorist Attacks
- US General Services Administration "The Site Security Design Guideline"
- The Interagency Security Committee "Physical Security Criteria for Federal Facilities"
- Unified Facilities Criteria, DOD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01)
- Unified Facilities Criteria, Selection and Application of Vehicle Barriers (UFC 4-022-02)

The consultants would use digital cameras and voice recorders to document the survey. The consultant would conduct the facility site visits during both normal business hours and during off-hours. Surveying during both periods is critical because conditions and the environment change significantly based on activity levels and visibility, and security lighting, a key element of the physical security program, must be reviewed after nightfall for a proper evaluation to be conducted. Depending on the purpose of the assessment, a light meter may be used for the lighting assessment.

A Design Report will be developed after the on-site evaluation is completed. The report will include:

1) Threat Assessment
2) Basis of Design Report - description of the recommended overall protection concept, including recommended physical improvements to both the campus and to individual buildings.
3) Rough Order of Magnitude (ROM) investment costs for implementation.
4) Implementation plan (time phasing) for reaching full build-out
5) Schematic site drawing with proposed site end-state of security improvements as well as schematic documents indicating proposed building improvements.
6) Renderings and/or photos of similar installations.

The Design Report will be submitted to The General Services Division for review and comment. After time for adequate review, we would attend and facilitate a review of the report on site to respond to any questions and to collaborate regarding the report and cost estimates. Following the review, a final report will be completed with changes and comments from General Services incorporated and the design effort will begin.

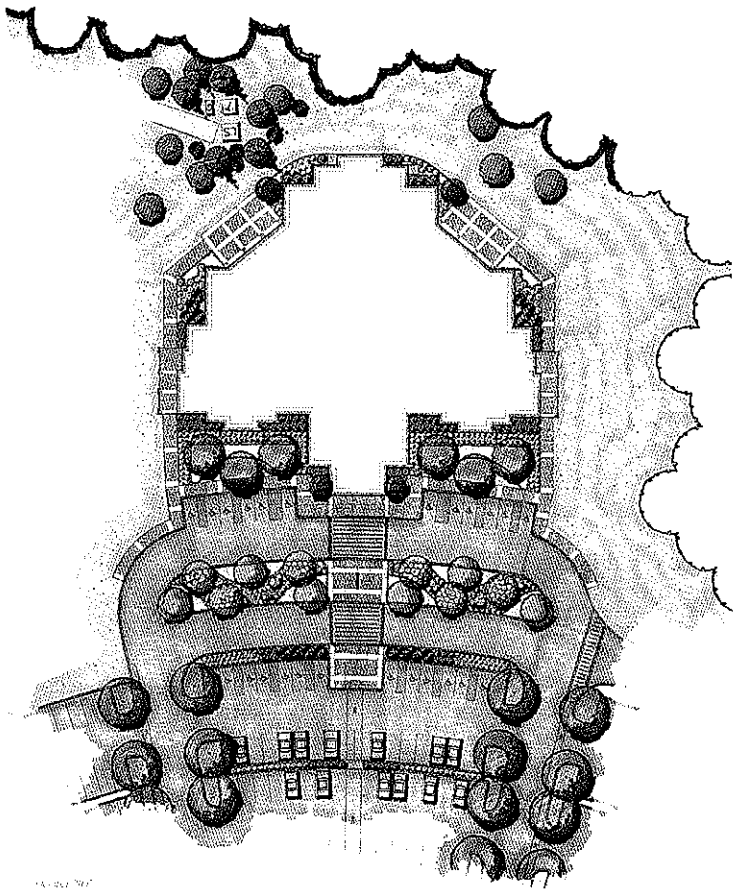
Project Approach: Capitol Campus Security Design

Phase II – Design

The design phase is proposed in two (2) sub-tasks. These critical phases include developing the additional level of complexity required to produce a detailed set of construction documents for the proposed improvements. **ZMM** will coordinate the integrated design effort of the project team throughout this phase of the project. Detailed site and landscaping plans will be developed that illustrate the security (CPTED) improvements, coordinate utilities, and also address any site phasing concerns. Architectural and engineering details and specifications will be developed that will convey all recommended improvements to the buildings on the Capitol Campus. At the end of both phases, the project will again be reviewed with the Owner prior to proceeding to the next phase. Once the construction document phase is complete, plans will be submitted to all regulatory authorities to complete the permitting process.

Details of the two sub-tasks include:

1) Design Development – This task will include:
   a. Drawings with recommended device locations shown.
   b. As-built documentation of existing buildings and documentation of proposed improvements.
   c. Identify space allocations for recommended monitoring and control equipment.
   d. Interconnection plan defining network impacts.
   e. Draft Specification, front-end section, to be developed and submitted to General Services for review prior to the bidding process.
   f. Draft Specification, system performance sections. Product detail will be based on performance requirements.
   g. Preliminary Cost Estimate.
   h. Master Landscape Plan
   i. On-site meeting to review documents with General Services.
   j. Updated cost estimate and schedule.



Master Landscape Plan
Bible Center, Charleston WV

2) 100% Final design – This task will include:
   a. Final device locations.
   b. Final power and load calculations.
   c. Installation details and programming schedule for existing system migration of database and existing (to remain) devices.
   d. Final plans detailing any required site improvements and building related upgrades.
   e. Final performance specifications for the security and electrical requirements.
   f. Final landscape plans, planting schedule and planting details.
   g. Final cost estimate and updated project schedule to include phasing plans developed with the General Services Division.
   h. On-site meeting to review documents with General Services.

Project Approach: Capitol Campus Security Design

Phase III – Bidding

The design team will coordinate the bidding and contractor selection process for the General Services Division. All bidding and contractor selection requirements that are included with the bidding documents will be coordinated with the requirements of the State. This work will include the production of an advertisement for bids, a mandatory pre-bid meeting for interested contractors, the issuance of any required clarification (addenda) throughout the bid process, and the bid opening. Specific tasks will include:

1) Preparation of bidder requirements and bid forms. Coordinate with State of WV Purchasing Department.
2) Support General Services with submittal of the bid packages.
    a. Identify minimum requirements of qualified security integrators.
    b. Attend and facilitate a pre-bid conference and prepare the agenda / sign-in sheet.
    c. Support General Services with the response to bidder questions during bidding.
    d. Release addendums if necessary.
    e. Evaluate and provide written recommendation of bids received.
    f. Conduct General Services / Design Team meeting to review bidder's response and selection of contractor.
    g. Support General Services with contract development.

Phase IV – Installation/Construction Administration

The installation phase needs to be performed on a professional level. Security contractors in the past have been very informal compared to other trades such as electrical or mechanical contractors. The project team will place responsibility and specific milestones on the contractor to reduce the chance the installation phase goes astray from the design and operation intent. The design team will be responsible for ensuring timely reviews of contractor submittals, attend all construction progress meetings, verify that the construction complies with the plans and specifications, and process applications for payment. Specific services during this phase will include:

1) Conduct an on-site contractor kick-off meeting to review the project schedule, milestones and deliverables.
2) Review of shop drawings and product submittals.
3) Review of schedule of values and invoice payments.
4) In-progress reviews with a written report after each inspection.
5) Witness Final Acceptance Testing and produce final punch list.
6) Punch list resolution support.
7) Support training and operation of the system.
8) Coordinate service and maintenance agreement.
9) Review record documentation and sign-off on final acceptance.

The design team's work does not end when the construction is complete. Our staff will remain available to the State of West Virginia General Services Division as needed to ensure that the proposed security (CPTED) improvements operate as intended.

A. Firm Contact: Adam R. Krason, AIA, NCARB, LEED-AP
ZMM, Inc.
222 Lee Street, West
Charleston, WV 25302
304.342.0159
ark@zmm.com

Signature

B. ZMM / TranSystems / GAI Project Team (Please find resumes attached):

Name	Role
Adam R. Krason, AIA	Principal, Project Manager
Ronald D. Heil, CPP.CSC. CHS	Senior Security Consultant/Associate Project Manager
Todd G. Libengood, PSP	Senior Systems Designer
Jim Elder, CSP	Senior Security Consultant
Daniel Paul Keller	CPTED Expert
Bob Doeffinger, PE	Engineer/Project Manager
Mary Jo Cleland, PE	Civil Engineer
James A. Hemme, PE, LRS	Senior Engineering Manager
David Gilmore, RLA, ASLA	Land Development Services Manager
Steve Hedrick, PE	Structural Engineer
Scot Casdorph, PE	Electrical Engineer
Mike Abernethy, IESNA	Electrical and Lighting Design
Bob Groom	Mechanical Designer
Nathan Spencer, AIA	Architect
Rodney Pauley, AIA	Architect
Glenn Savage, CSI-CDT	Construction Administrator

C. The work for this project will be performed by ZMM employees working with TranSystems and GAI as consultants.

D. As a full service architecture and engineering firm, ZMM is uniquely qualified to provide design services on this campus security project. Please note that examples of our experience providing design services on similar projects can be found in Section 4. ZMM, TranSystems, and GAI are capable to handle the design services as well as campus security/landscape design for the State Capitol of West Virginia.

E. ZMM and our consultants understand and agree that any and all work produced as a result of the contract becomes the property of the State of West Virginia General Services Division and can be used or shared as deemed appropriate by the Owner.

F. ZMM has been providing design services in the State of West Virginia for more than fifty years. During this time our work has regularly conformed to all local, State, and Federal regulations. Additionally, we regularly coordinates our work during the design phase with the State of West Virginia Fire Marshal to help ensure compliance with NFPA 101 and Title 87.

G. ZMM is not involved with any litigation or arbitration proceedings with the State of West Virginia General Services Division or any other State Agency related to the firm's delivery of design services.

ZMM is party to a lawsuit in McDowell County brought by residents close to a project designed by ZMM for the local school district. During the course of the construction work, which included the relocation of a WV secondary roadway, the WV Dept of Highways decided to provide a temporary roadway to bypass construction.

This temporary by-pass, not designed or the responsibility of ZMM, allegedly caused dust and other issues for the plaintiffs.

Since ZMM had no design or other responsibility for the roadway that brought rise to the alleged dust and inconvenience, we feel that we will be released by summary judgement. Depositions have been scheduled.

History and Philosophy of ZMM

ZMM

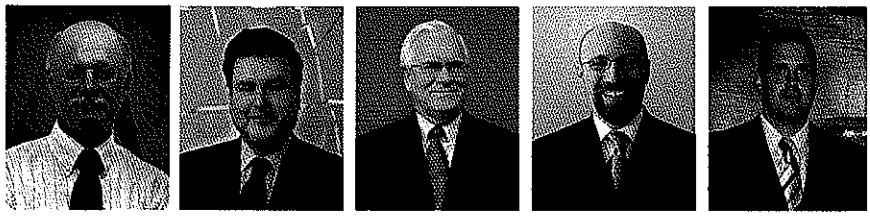
LOCATION:
222 Lee Street, West
Charleston, WV

CONTACT:
Phone 304.342.0159
Fax 304.345.8144
www.zmm.com

ZMM was founded in 1959 in Charleston, West Virginia by Ray Zando, Ken Martin, and Monty Milstead. Since the inception of the firm, ZMM has been dedicated to providing an integrated approach to building design for our clients. ZMM delivers this integrated approach by providing all building related design services, including architecture, engineering (civil, structural, mechanical, and electrical), interior design, and construction administration from our office in Charleston. Our integrated design approach makes ZMM unique among architectural firms in West Virginia, and helps to ensure the quality of our design solutions by providing more thoroughly coordinated construction documents.

ZMM has maintained a diverse portfolio since the founding of the firm. Early commissions included higher education projects for West Virginia University and Concord College, State Office Buildings 5, 6, & 7 on the State of West Virginia Capitol Campus, and armories for the West Virginia Army National Guard. Maintaining a diverse practice for more than fifty years has provided ZMM with extensive experience in a variety of building types, including: educational facilities; governmental facilities (military, justice, correctional); healthcare facilities; commercial office space; light industrial facilities; and multi-unit residential facilities.

The original partners transferred ownership of the firm to Mr. Steve Branner, AIA and Mr. Robert Doeffinger, PE in 1986. Mr. Branner and Mr. Doeffinger helped guide and expand the firm to its present size of thirty-five (35) people. More recently Mr. Rod Watkins, REFP, Mr. David Ferguson, AIA, and Mr. Adam Krason, AIA, LEED-AP joined in ownership of the firm.



Over the last decade, ZMM has become a leader in sustainable or 'green' design in West Virginia. In addition to participating in sustainable design and construction seminars throughout the State (Beckley, Fayette County, Morgantown, Charleston, and Parkersburg), ZMM designed one of the first sustainable educational facilities in West Virginia (Lincoln County High School). ZMM also employs a sustainability coordinator who assists our clients in determining appropriate sustainable design strategies for their projects. ZMM's unique design approach has proven invaluable on projects that employ sustainable design principles, which often require a more integrated approach to building design.

History and Philosophy of ZMM

ZMM

As ZMM enters our second half-century providing professional design services in West Virginia, we remain committed to the ideal of providing high quality, client focused, design solutions that meet budget and schedule requirements. This commitment to quality has been recognized through both State and National design awards, as well as through the long-term client relationships that we have developed.

Community Support

In addition to our design efforts, ZMM is supportive of institutions and organizations that contribute to the cultural and educational landscape in West Virginia.

ZMM offers financial support to several community and state-wide institutions which reflect the superior quality that we strive to achieve on each of our projects. The following organizations also impact the educational environment through their support of local artisans, performances, broadcasts, and community service:

Kanawha County Public Library

WEST VIRGINIA PUBLIC BROADCASTING

ZMM ARCHITECTS & ENGINEERS SERIES

West Virginia Symphony Orchestra

History of TranSystems

LOCATION:
Main Office Headquarters
2400 Pershing Road
Suite 400
Kansas City, MO 64108

CONTACT:
Phone 816.329.8700
Fax 816.329.8701
www.transystems.com

History.

TranSystems Corporation has provided comprehensive security consulting and engineering services for government entities, as well as educational and cultural institutions, corporate headquarters and office complexes, industrial and manufacturing centers and transportation clients, for more than 28 years. In total, TranSystems comprises nearly 1,000 professionals in 38 offices throughout the United States. These professionals are committed to providing high-quality services in architecture, engineering, planning, real estate, management consulting services, security engineering and consulting.

TranSystems' consulting services include: CTPED analysis, assessment of existing programs, design and specification of new or renovated physical and electronic security measures, review of workplace violence prevention programs and other measures that assure the safety and security of our clients.

Security meets engineering.

The implementation of security measures requires specialized engineering expertise. Our full-service security engineering and design department complements our comprehensive risk assessment capabilities with first-class design development, installation specifications, bidding requirements, construction documents and project management services.

Non-proprietary methods from leading experts.

To ensure unbiased, cost- and time-efficient assessments, TranSystems uses non-proprietary consulting and engineering methods, including those developed by the American Society for Industrial Security (ASIS); Sandia National Laboratories (RAM); American Chemical Council (ACC); the U.S. Department of Transportation (DOT); the Federal Transportation Administration (FTA); and the Council for Chemical Process Safety (CCPS).

Total Security Solutions

TranSystems specifies physical security programs and protection systems for new and renovated facilities, including:

- Government and municipal
- Public facilities including cultural centers, historic buildings, libraries, and museums
- Hospitals and healthcare systems
- Warehouse and distribution centers
- Corporate headquarters and office complexes
- Facilities
- Industrial facilities including chemical, manufacturing, and water treatment plants
- Transportation operations including airports, bus, rail, subway, and parking facilities

GAI Consultants History

gai consultants

LOCATION:
Charleston Office
500 Summers Street
Third Floor
Charleston, WV 25301

CONTACT:
Phone 304.926.8100
Fax 304.926.8180
www.gaiconsultants.com

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.

Charleston Office

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 or clients, including local developers, state government agencies, and large corporations.

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.

ADAM R. KRASON

AIA, NCARB, LEED AP

ZMM

Position
Project Manager

Education
Bachelor of Architecture; The Catholic University of America, Washington, D.C.; 1998
B.S., Civil Engineering; The Catholic University of America, Washington, D.C.; 1998

Employment History
2008 - Present, Vice President
2003 - 2008, Project Architect
1998 - 2003, Project Architect, Charleston Area Architectural Firm
1998, Consultant, Anderson Consulting

Professional Credentials
Registered Architect: West Virginia and Ohio
LEED Accredited Professional
Construction Specifications Institute – CDT
Member of American Institute of Architect
NCARB Certification

Civic Affiliations
West Virginia Vision Shared-Sustainable Economic Development Team
West Side Main Street Design Committee, Charleston, West Virginia
West Virginia Qualifications Based Selection Council
Development Council, St. Agnes School, Charleston, West Virginia

Professional Experience
Mr. Krason's experience includes all aspects of the design and production of small and large projects with an emphasis on Military, Public, Government Facilities, Educational Facilities and Industrial Facilities. Mr. Krason also serves on ZMM's Board of Directors.

Specific project responsibilities: building programming, code compliance review, assistance with the preparation of architectural specifications, project budgeting and scheduling, schematic design compliance with project requirements, and the general overview of each project to ensure client expectations.

Project Experience
State Office Building 5, 6, & 7 Analysis, 10th Floor Renovation
West Virginia Army National Guard - CFMO Expansion Project
West Virginia Army National Guard - Logan Readiness Center
West Virginia Army National Guard - Morgantown Readiness Center
Joint Interagency Training and Educational Center (JITEC)
State of West Virginia Division of Juvenile Services
Wood County Justice Center
Nicholas County High School Additions/Renovations
West Virginia University at Parkersburg, Downtown Facade
Parkersburg Catholic Schools
Mountaineer Middle School

Ronald D. Heil, CPP, CSC, CHS
Senior Security Consultant

Ron Heil is an Assistant Vice President and the Team Leader of TranSystems' Security Consulting operations. He has direct responsibility for TranSystems' security consulting program analysis and development, standards, specifications, and project management. Ron has over 27 years of security and emergency planning, assessment, and program management-related experience in the public and private sectors. He is Board Certified in Security Management and has been designated a Certified Protection Professional (CPP) by the American Society for Industrial Security, a Certified Security Consultant (CSC) by the International Association of Professional Security Consultants, and has been Certified in Homeland Security (CHS) by the American College of Forensic Examiners Institute. Previously, he served as an Air Force Officer in the Security Forces managing physical security, vulnerability assessment, asset protection, information/technology protection, law enforcement, antiterrorism, disaster incident response, and force protection programs.

Education
B.A., Administration of Justice, University of Pittsburgh, 1982

M.S., Management, Troy State University, 1987

Certifications
Certified Protection Professional (CPP)
Certified Security Consultant (CSC)
Certified in Homeland Security (CHS)

Affiliations & Memberships
American Society of Industrial Security International

International Association of Professional Security Consultants

American College of Forensic Examiners Institute

Military Officer's Association of America

Years of Experience
28

Years with Firm
7

Ron is a recognized physical security, antiterrorism, and emergency expert. He has conducted threat, risk, and vulnerability assessments and developed security program and physical security improvement plans at hundreds of locations across the country and internationally. He is experienced in a broad range of business and market sectors to include transportation, healthcare, chemical manufacturing and distribution, telecommunications, energy, municipalities, justice and corrections, higher education, DoD, and cultural properties. He is educated in several assessment methodologies to include the Center for Chemical Process Safety (CCPS), the Sandia-Lab developed Risk Assessment Methodology (RAM) processes, the Homeland Security Comprehensive Assessment Methodology (HLS-CAM), CARVER, and has used standards-based' methodologies as well as Crime Prevention Through Environmental Design.

Ron has developed security standards for numerous environments such as for the chemical industry; the transportation industry, municipalities, office properties, waterfront facilities, and for the US Air Force at the installation and headquarters level. Further, he has authored Security, Preparedness, and Disaster Response Plans for municipalities, transportation facilities, and private enterprises that are designed for prevention, as well as guiding response actions for both natural and man-made disasters.

Louisiana State Office building for New Orleans
Ron was engaged as part of the architectural team to design of a new 300,000 to 340,000 square foot State Office Building to be built in New Orleans, Louisiana. The assignment was to initially conduct a security needs assessment for the new building to guide the design efforts. Ron was then engaged to review the

design at various stages for implementation of the recommendations from the needs analysis and assist with the conceptual design of the electronic security systems. Ron's involvement ensured Crime Prevention Through Environmental Design principles were incorporated into the site design as well as the design of the first floor "public" portion of the building.

State of West Virginia
Ron conducted a security needs analysis and developed a schematic design concept for security systems for a renovation of the West Virginia State Office Building #3. A key challenge of the project was to preserve the building's historical significance while converting it into a conference center and providing a proper level of security meeting today's heightened security measures for facilities of a state capitol.

State of Utah; Utah
Ron assessed the perimeter security of State Courthouses located in Utah's four most populous counties. The assignment included: on-site evaluations of the perimeter security systems, locking, and security screening stations at 12 courthouses; review of the training provided to the County Sheriff Officers and Deputies providing perimeter security; determination of training required to provide perimeter security; cost/benefit study to determine if a contracted security force or force of State-employed security officers could provide similar services as the County Sheriffs departments at reduced cost. The results of the assignment were summarized in a written report and a presentation given to the Judicial Review Committee.

State of Utah, Utah
Mr Heil assisted with the design of a new state courthouse for St George County, Utah. He reviewed the courthouse design at each state of completion for compliance with CPTED concepts, best practices for courthouse design and layout, and for compliance with a draft state security design standard for courthouses. The drawing reviews were summarized in comprehensive written reports with instances of non-compliance noted and were accompanied by drawing mark-ups for correction or implementation.

Biltmore Park Town Square
Biltmore Park® Town Square is a vibrant town center in Asheville, NC, designed to be a re-imagining of the Main Streets of the past, made to meet today's standards of smart growth, green living and reduced driving. This mixed-use development includes residential (apartments, condominiums, and nearby single family), retail, and recreational facilities. Mr Heil conducted a 'security needs' analysis that included a crime analysis of the project site and a determination of the cultural and operational demands of the site and its operations including their impact on the projected and recommended security and emergency planning measures. The assignment included a review of security and emergency policies and procedures, as well as, a physical examination of all facilities and plans for those facilities not yet constructed for adherence to Crime Prevention Through Environmental Design principles. The security needs analysis findings and recommendations were incorporated into a comprehensive report for review and approval by Biltmore Farms.

Boulder County, Colorado
Ron conducted an assessment of the effectiveness of the security at county facilities and developed a risk-based prioritized list of recommendations to achieve desired security goals and to guide future decisions regarding the application of security resources. The assessed facilities included the Justice Center, three district courthouses, office buildings, medical facilities, maintenance centers, county fairgrounds, and parks and recreation areas. An additional phase of the assignment included development of security policies and policies for county facilities.

Todd G. Libengood, PSP
Senior Systems Designer / Project Manager
Role: Senior Systems Designer

Todd Libengood is a Senior Security Specialist, IT Network Designer and Implementation Project Manager. He is Board Certified in Physical Security and has been designated a Physical Security Professional (PSP) by the American Society for Industrial Security. For the past 17 years, he has had direct responsibility for security planning, design, specification development, cost estimation, contractor selection, and implementation support of security installations, domestic and international.

In addition to designing facility security measures, he has extensive job knowledge in technology and communications for security systems including LAN and WAN networks, wireless point to point and mesh networks. He has designed cabling and conduit systems for security and access control, intercom, video, fire, and parking control systems. He has designed and produced construction drawings for new and renovated security monitoring, control and command centers. He has directed the development of drawings defining security, fire protection and communication systems for over 250 facilities.

Working with clients, architects and contractors has provided the experience required for Todd to understand the required documentation for construction and methods to reduce costs, installation challenges and applications for field modifications as projects often encounter.

Education
Associate in Specialized Technology Degree
Triangle Technical Institute, 1993

Certifications
Certified Physical Security Professional

Affiliations & Memberships
Member – American Society of Industrial Security (ASIS)

Member – Building Industry Consulting Services International (BICSI)

Member – National Fire Protection Agency (NFPA)

Years of Experience
17

Years with Firm
17

Representative Project Experience

City of Boca Raton, Florida
Mr. Libengood, serving as a security systems engineer, developed the master plan of security systems for a new city-wide video solution including a central command center called a Fusion Center. The project including the assessment of existing systems throughout the city and configuration of a new city-wide OGB network solution along with budget planning for implementation and funding.

National Harbor, District of Columbia
Todd, as a system designer, assisted with the development of the security program for this multi-use, $2 billion, 300-acre, mixed-use development on the Potomac River at Washington D.C. The National Harbor project will ultimately include more than 300 acres of land and 200 acres of water, miles of infrastructure and millions of square feet of commercial, retail and residential space. Todd worked on the design and specification of video surveillance and access control system, contractor selection, and implementation support for the public areas of the site including parking garages, common spaces, and offices and residential buildings. The project ultimately included more than 150 cameras, interfacing building fire alarm systems, and developing the design of a proprietary security monitoring and command center.

County of Erie, New York

Todd served as system designer for design and specification of physical security measures for County facilities, including the 16-story County Office Building, County Courthouse, Family Courts, City of Buffalo Courthouse, Buffalo City Hall, healthcare facilities, maintenance centers, community college campuses and a convention center. The assignment included outlining an implementation plan, estimate of budgetary costs, identification of potential manufacturer partners, characterization and qualification of the manufacturers and their integrator networks and review and selection of the partner network. He also assisted in the development of installation and operational guidelines, installation and equipment standards, programming standards and naming conventions.

Westinghouse New Corporate Headquarters
Todd designed security measures for a new 1,000,000 sqft Westinghouse campus that includes four (4) buildings and large parking lot. The project includes IP Video Systems, Entry revolving doors, optical turnstiles, customized security desks, door hardware coordination, conduit infrastructure and implementation of a dedicated security network. He is currently providing construction administration for the implementation. After the systems are installed he will perform the final acceptance test.
Todd also serves as Westinghouse's preferred security consultant / engineer for all Westinghouse sites. This role includes an expert consolation on security related items from mechanical keying schedules to guidance on new physical security additions or modifications.

Capital One, Virginia
Todd, serving as a security designer, developed the design of security systems for the new multi-building headquarters complex, including a multi-building site security monitoring and command center. He participated in the development of installation specification and construction drawings, and supported the installation of security measures. Security measures included an access control and portal systems, site and building video surveillance and assessment systems, and personnel protection systems.

Kansas City, Missouri
Todd served as the security systems subject matter assessment for an assessment of the security program for the City of Kansas City Missouri. The project includes performing a comprehensive security assessment of City-owned buildings; a review of security procedures; recommendations for the utilization, management, and organization of the security force; and development of a plan to time-phase recommendation implementation. The project also included developing a security plan template suitable to be customized by individual buildings.

Virginia Commonwealth University
Todd served as an System Designer for this assignment which included the assessment of security at urban campus and suburban campus; development of an integrated, two-campus video assessment system featuring wireless and fiber optic video transmission; design of a 200 camera video assessment system utilizing ATM-technology over a fiber-optic network connecting two campuses to a monitoring center, including centralized on-campus security monitoring facility for the video assessment system, combined with a police dispatch center. Additionally, he assisted with the development of construction documents, including bidding requirements, installation specifications, and installation detail drawings and assisted with an audit of security system installations.

City of Toledo Water Treatment Plant, Ohio
Todd, serving as the project manager and systems engineer, performed an assessment of the plant's existing security measures and procedures. Following the cities review of the assessment report and recommendations, Todd and the security engineering staff developed a security design to enhance the security measures along with specifications and bidder requirements and forms. The design included the relocation of the main entrance and increased security control for all traffic entering the plant along with additional access control, video, emergency notification and

evacuation systems throughout the plants buildings and site. Additionally, the city has requested similar security engineering services for a remote Low Service Pump Station that will report alarms and video to the treatment plants main command center.

Village of Skokie, Illinois
Todd served as a system designer and assisted with a security assessment of the Village facilities, preparation of a recommendations report, and preparation of an estimate of probable costs for implementation of the recommendations. He assisted with development of bid documents, selection of contractor and post-installation audit. He designed video and access control security measures for several facilities and designed the connections to the Village WAN for command, control, and monitoring of the security systems at the Village Dispatch Center.

Roanoke City Correction Center and Courthouse, Virginia
Todd conducted an assessment of the electronic security measures in use at the City Correction Center and designed an upgrade and replacement of access control systems, video surveillance systems, door operation systems, and upgraded the two control centers to improve ergonomic function and build in the ability to cross-activate. A follow-on assignment included assessment of the City Courthouse video surveillance system and a design of a full upgrade and replacement. For both projects developed specifications, solicitation of bids, and provided assistance with contractor selection.

Jim Elder, CPP
Assistant Vice President
Role: Senior Security Consultant

Mr. Elder is an Assistant Vice President and Senior Security Consultant with over forty years experience in the security industry. He is Board Certified in Security Management and has been designated a Certified Protection Professional (CPP) by the American Society for Industrial Security.

After initial military experience Mr. Elder became a member of the University of Louisville, Department of Public Safety, where he was involved in the design and construction process as manager of Technical Services, and a member of the University Facilities Design and Construction Technical Advisory Group. Responsibilities included security system design, standards development and ongoing operations of the largest integrated security systems in the State of Kentucky and one of the most innovative systems in the United States at the time. During his tenure, Mr. Elder was the first to install a large-scale campus security video system in the State and the first in the country to deploy long range point-to-point microwave for security video image transmission and control. He was also responsible for the design and implementation of the police radio and Computer Aided Dispatch operation for the Public Safety Department.

Mr Elder was a graduate of the National Crime Prevention Institute, including its first graduating class, and later its basic and advanced CPTED (Crime Prevention Though Environmental Design) courses. Mr. Elder began aggressively pursuing his role in the private security-consulting arena, eventually becoming the Institute's Physical and Electronic Security Specialist. Also during this time, be became a staff security consultant for Campus Crime Prevention Programs, Aegis Protection Group (later forming Aegis Security Design) and assisted in the development of the first statewide crime prevention program training for law enforcement officers in the State of Kentucky. Using Federal grant funds, he developed a program for training of police officers from five police departments in the use and deployment of stake out alarm systems. In the security design field, he became involved in security planning, CPTED and systems design in the early 80's with mentorship from Tim Crow, now known as the "Father of Modern CPTED".

Mr. Elder, along with Dan Keller, began Campus Crime Prevention Programs; an organization specifically formed to provide consulting services and educational programs for colleges and universities. He was-- and still is-- a regular contributor to the American Crime Prevention Institute, a related organization that provides consulting services to corporate and institutions across the US, providing crime prevention training, resource materials, and consulting services to law enforcement agencies. While with this organization, he also received training and certification in CPTED practices.

Education

B.S., Police Science and Administration
University of Louisville

A.A.Management University of Kentucky

Adminstrative Officer's Course, Southern Police Institute, University of Louisville

Certifications

Certified Protection Professional; American Society of Industrial Security (ASIS)

Certified Police Instructor; Kentucky Department of Justice, Bureau of Training

CPTED Certification, American Crime Prevention Institute

Past Certified Level One Technician; National Burglar and Fire Alarm Association

Years of Experience

42 Years, 26 in Campus Crime Prevention Programs:

Years with Firm

11 years

Commonwealth of Kentucky, Capitol Campus Security Project and Related Projects
Mr Elder was commissioned to conduct a detailed study of security conditions involving the State Capitol campus in Frankfort, Kentucky. The study involved a number of large office buildings, including the Governor's Office, and a 1200 vehicle parking structure. The resulting master plan organized recommendations categorized by implementation schedule (short, intermediate and long term). ASD was later commissioned for design services for the new Department of Transportation building, the Kentucky State Police Regional Crime Laboratory and a new State administrative building (later tabled due to lack of funding) during which the long term recommendations (i.e. single enterprise access control solution and CPTED strategies considered at the program design stage) were implemented.

City of Ames, Ames Iowa
The City of Ames Iowa, operating under a Federal grant, retained Mr Elder's services to conduct a vulnerability assessment of facilities including city hall, water treatment, county golf courses, power cogeneration plant, police and four fire department facilities and jail. The resulting report was used to develop a long range plan for security of City-owned facilities.

Time Warner Center, New York City, New York
Mr. Elder served as the lead security consultant and engineer for the Time Warner spaces of the $1.8 billion Time Warner Center in Manhattan. Responsibilities included risk and vulnerability assessment, security program design, security system design, construction and implementation management, and commissioning support. Mr. Elder's expertise led to a unique "building within a building" design, ensuring positive access control onto Time Warner property from all public and private spaces though the application of CPTED design principals reinforced by appropriate physical and electronic security features. Design scope included electronic access control, video surveillance, intrusion/duress, doors and hardware, positive entry control, system infrastructure and a command and control center. His service to Time Warner, Inc. actually began in 1997 with the design and implementation of the Corporate enterprise access control system at 75 Rockefeller Plaza, then Corporate Headquarters to Time Warner. Later affiliated projects included notable Corporate subsidiaries such as Time, Inc, CNN New York, Warner Bros, Time Warner Cable, Time Warner Music, Atlantic Records and Entertainment Weekly. The system designed included over 400 cameras, controls applied to 450 doors and 8 control centers, including a large Security Operations Center in the Time Warner Center intended for central monitoring and control of all security systems.

Lincoln Center for the Performing Arts, New York City, New York
Mr. Elder is the lead security consultant and project manager for the Lincoln Center Development Project, a $750 million renovation of the iconic Lincoln Center for the Performing Arts in New York. Responsibilities have included an All-Hazards risk and vulnerability assessment, CPTED plan review, security master planning and security system design and implementation management. Design scope included physical barriers, electronic access control, digital video surveillance and unique campus infrared lighting plan that permitted greater creative latitude for esthetic lighting, while still allowing adequate illumination for video imaging. The initial plan (later reduced due to funding restrictions then restored with grants to the NYPD) also called for provisioning access to video images, camera control and recording by the New York Police Department for use in crowd management, traffic control and critical incident assessment and management.

Waterview, Rosslyn, Virginia
Mr. Elder was the lead security consultant for Waterview, a 1.1 million square foot development in Rosslyn, VA, just outside Washington, DC. Headquarters of the Corporate Executive Board (CEB). Considerable attention was afforded to the application of CPTED principles in the development of the security plan for the facility utilizing architectural strategies in developing a reasonable transition between the CEB and retail, hotel and residential spaces.

Daniel Paul Keller
Vice President
Role: CPTED Expert

Education
B.S., Business
Southern Illinois University

Years of Experience
35

Mr. Keller has over 35 years of campus law enforcement, military and crime prevention consulting experience. Mr. Keller served as the Director of Public Safety for the University of Louisville for 27 years, retiring from this position in late 1997. Upon his retirement from the University of Louisville, Mr. Keller pursued crime prevention training and consulting on a full-time basis.

While at the University of Louisville, Mr. Keller was administratively responsible for the operations of a law enforcement department with approximately 55 full-time employees and a budget exceeding $2.2 million. His responsibilities included crime prevention and security, law enforcement, parking management and administration, fire safety and emergency planning and procedures. As the Director of Public Safety, Mr. Keller was a principle design participant in two large parking structures which served as model articulation of CPTED (Crime Prevention Through Environmental Design) concepts. He also assisted in the comprehensive CPTED assessments of the Lincoln Center for Performing Arts in New York City and the Goodyear Tire Company corporate campus in Akron, Ohio.

Mr. Keller is a nationally recognized authority in the field of institutional and campus crime prevention and protection. He continues to write extensively in the field of crime prevention and conducts crime prevention training and certification programs for campus and local law enforcement agencies throughout the nation.

Mr. Keller has provided both Basic Certification and Advanced CPTED training to over 1,800 law enforcement officers and architects. He serves as the Executive Director of the American Crime Prevention Institute – a noted crime prevention training organization.

Mr. Keller founded Aegis Security Design which merged with TranSystems in November 2009.

Director of Public Safety
1971 – 1998 University of Louisville

Assistant Director of Security
1966 – 1971 Southern Illinois University

Current Professional Registrations
Lifetime Member, International Association of Chiefs of Police (IACP)
International Association of Campus Law Enforcement Administrators (IACLEA)
Southern Police Institute Alumni Association
FBI National Academy of Associates
National Parking Associates
International Parking Institute
International Society of Crime Prevention Practitioners

Other Qualifications
Co-founder of Kentucky Association of Chiefs of Police (KACP). Served as elected officer for KACP for several years.
Co-founder of Kentucky Association of University Law Enforcement Administrators (KAULEA).
Past Crime Prevention Committee Chairperson for International Association of Campus Law Enforcement Administrators (IACLEA).
Co-author of IACLEA Recommended Crime Prevention and Campus Protection Practices for Colleges and Universities.
Served as Chairperson for IACLEA Parking Committee.
Speaker/lecturer for IACLEA Annual Conference.
Speaker/lecturer for Southern Police Institute and National Crime Prevention Institute.
Speaker/lecturer for National Parking Association.

ROBERT C. DOEFFINGER

PE

ZMM

Position
Principal, Engineering Project Manager
Corporate Management, Project Management and Coordination, Engineering Programming and Design

Education
B.S., Mechanical Engineering; West Virginia University, Morgantown, West Virginia; 1973
M.S., Architectural Engineering; Pennsylvania State University, University Park, Pennsylvania; 1976

Employment History
1982-present, Vice-President, Secretary and Treasurer; ZMM
1977-1982, Director of Engineering; ZMM
1976-1977, Mechanical and Architectural Engineer; ZMM

Professional Credentials
National Council of Examiners for Engineering and Surveying (NCEES)
Registered Engineer (WV, TN, FL, PA, VA, NC, SC, ME, OH, NH, NY, KY)
Member; ASHRAE - Chairman, Technical Committee 4.1 - HVAC Load Calculations

Civic Affiliations
Councilman; City of Point Pleasant, WV
Director; Mason County Development Authority
Director; Point Pleasant River Museum
Member; West Virginia Institute of Technology Electrical Engineers Technical Advisory Committee

Professional Experience
Mr. Doeffinger is Principal-in-Charge of Engineering. It is his responsibility to ensure that the mechanical and electrical engineering components of ZMM's design are coordinated and integrated into the final product.

Mr. Doeffinger is responsible for new design and retrofit of chilled water systems for all building types including large regional shopping malls. He is involved daily with the firm's selection of appropriate systems for all building types and performs life cycle cost and energy studies.

Mr. Doeffinger is a member of the American Society of Heating, Ventilation and Air-Conditioning Engineers. He is the current national Chairman of the Technical Committee on Heating and Air-Conditioning Load Calculation. He is involved in writing the National Standard on the Method of Calculation, which will shape the nature of the future building energy use for the nation.

MARY JO CLELAND

PE

ZMM

Position
Civil Engineer

Education
B.S., Aerospace Engineering, U.S. Naval Academy, Annapolis, MD 1993
B.S., Math and Science Education, WV State College, Institute, WV, 2001

Employment History
2008-Present, Civil Engineer, ZMM
2001-2008, Staff Engineer, Potesta & Associates, Inc.

Professional Credentials
Registered Engineer (WV)

Professional Experience
Ms. Cleland has experience in both civil and environmental engineering. She has extensive knowledge of sanitary sewer collection system design, wastewater treatment plant design, grading plans, site utility design, and associated permit applications preparation.

Her environmental remediation experience includes Phase I Environmental Site Assessments, Phase II Environmental Site Assessments, and participation in Baseline Human Health Risk Assessments. Ms. Cleland consulted on the air pollution permit applications and general permit applications for large and small emission units, such as standby/emergency generators for site development projects.

Project Experience:
Hacker Valley K-8 School
Martha Elementary School
Milton Middle School
Barboursville Middle School
Harts K-8 School
Bradshaw Schools, McDowell County
Parkersburg Catholic Athletic Annex
State of WV Office Buildings 5, 6 & 7
Highland Medical Facility
Goodwill Industries Addition
Cedar Lakes Conference Center Roadwork
Kanawha Valley Senior Services
West Virginia Housing Development Fund

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

Senior Engineering 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

Harvard Leadership Development Training, GAI Consultants, Inc. (In Progress)
Advanced Project Management Training, GAI Consultants, Inc., 2009
Leaders to Watch Program, GAI Consultants, Inc., May 2008
OSHA 40 hour HAZWOPER Training
NICET 1 Geosynthetics Installation Inspection (expired)
Nuclear Density Gage Training, DOT and NRC (expired)
MSHA Safety Training (expired)

Previous Employment

Environmental Design Group (now Floyd Browne Group), 2000-2006
Potesta and Associates, 1997-2000
Terradon Corporation, 1995-1997
Joyce Engineering, 1990-1995
Dewberry and Davis, 1989-1990

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.
- Developed detailed designs for over 100 different ponds at multiple sites throughout West Virginia and other states, including sediment ponds, treatment ponds, leachate storage ponds, and stormwater detention ponds. Work included hydrologic and hydraulic routing calculations, volume estimates, embankment design, treatment efficiency, dewatering calculations, etc.
- 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.
- Reviewed multiple playground components for compliance with the "Handbook for Public Playground Safety" published by the U.S. Consumer Product Safety Commission.
- Assisted with designing ballfields, park facilities, and a large parking lot incorporating Bio-Retention/Treatment swales for treatment of stormwater in Stark County, Ohio.
- 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.
- Dupont 'Hyper' Plaza in Belle, 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.

Solid Waste Management and Engineering

- Design and permitting for 50 different solid waste facilities in West Virginia, Virginia, and Ohio.
- Berkeley County Solid Waste Authority. Siting Study regarding suitability of property.
- North Fork Landfill. 50-acre landfill over previously deep mined area.
- Nicholas County Landfill. Small rural landfill expansion with special steep slope design.
- Disposal Service Landfill. Unique multi-stage expansion of a landfill including steep slope design.
- Boone County Commission. Permitting of various solid waste transfer stations.
- Page County, Virginia comprehensive countywide search for a regional landfill.
- Anker Energy Conceptual Study to determine feasibility of fly ash disposal facility.
- Elkem Metals fly ash landfill utilizing a geosynthetic clay liner and special slope design.

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

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, while providing landscape architectural support to all of GAI's offices and clients.

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.

David Gilmore, RLA, ASLA

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

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.

Mr. Gilmore was recently honored by being 1 of 16 people chosen to be included in the inaugural class of GAI's "*Leader's to Watch*" program. He has also completed the companies Harvard Leadership Training program as well as GAI Universities Advanced Project Manager Training. 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 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
- John Adams Middle school Rain Garden Design

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
- 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
- Chesapeake Energy Regional Headquarters, Charleston, West Virginia (LEED Project)
- Chesapeake Energy Field Office, Mount Morris, Pennsylvania
- 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

STEPHEN E. HEDRICK II

PE

ZMM

Position
Structural Engineer, ZMM

Education
B.A., Civil Engineering, West Virginia University Institute of Technology, Montgomery, WV, 1996-2001
M.A., Civil Engineering - Structural, University of Tennessee Knoxville, TN, 2001-2003

Employment History
2007-Present, ZMM
2003-2007, Principal Engineer, McCall Engineering, LLC, Sarasota, FL
2001-2003, Teaching Assistant and Thesis Research, University of Tennessee, Knoxville, TN

Professional Credentials
Professional Engineer (PE), 2007
Certified Engineer in Training (EIT), 2001

Professional Experience
Responsible for structural engineering design of residential structures, commercial structures, institutional structures and small scale bridges.

Mr. Hedrick has researched and developed design criteria for structural insulated panels, prepared design calculations for earthquake and wind design of FRP tanks. His role has also included supervising the work of design engineers in preparation of construction documents.

Project Experience
West Virginia State Office Buildings #5,6, & 7
West Virginia Cultural Center
Southside Elementary/Huntington Middle School
Highland Medical Facility
New River Elementary - Supplemental Support
Hacker Valley Elementary - Supplemental Support
Barboursville Middle School - Supplemental Support
Glen Jean Armed Forces Center - Joist Reinforcement

SCOT CASDORPH

PE

ZMM

Position
Electrical Engineer

Education
B.S., Electrical Engineering; West Virginia University Institute of Technology, Montgomery, West Virginia; 1995

Employment History
2000 - Present, Electrical Engineer, ZMM, Charleston, WV
1995 - 1999, Electrical/Control Systems Designer, WV Engineering Firm

Professional Credentials
Professional Engineer (WV)

Professional Experience
Mr. Casdorph started his career in 1995 as an electrical/control systems designer. He is responsible for Electrical Design and Engineering on various ZMM projects.

Responsibilities Include:
Lighting Design (Interior & Exterior)
Electrical Power Distribution
Security System Design
Data System Design
Fire Alarm System Design
Sound System Design
Division 16 Specifications
Electrical Drafting & Design CAD

Project Experience
Southside Elementary and Huntington Middle School
Milton Middle School
Wayne Elementary School
Martha Elementary School
Iaeger Elementary School
Lincoln County High School
West Virginia Juvenile Detentions Centers
WV Army National Guard - Logan Readiness Center
WV Army National Guard - Morgantown Readiness Center
CFMO Expansion Project
WV Army National Guard - Glen Jean Armed Forces Center

MICHAEL D. ABERNETHY

LC, IESNA

Position
Electrical and Lighting Designer

Education
A.S. Drafting and Design Engineering Technology, WV Institute of Technology, 1970
IESNA Certificate of Technical Knowledge (TKE) in Lighting Design

Employment History
1992-Present, ZMM, Electrical Designer/Technician
1988-1992, W. Va. Signal & Light, Inc., Construction Estimator/Purchasing Agent & Office Manager
1973-1988, ZMM, Electrical Designer/Technician

Professional Credentials
Lighting Certified by the National Council on Qualifications for the Lighting Professions (NCQLP)
Master Electricians License (West Virginia)

Professional Experience
Mr. Abernethy is responsible for interior and exterior building lighting design, lighting control and energy management system design, building electrical power distribution design, data system design, sound system design, fire alarm system design, security system design, closed circuit TV System design, emergency generator system design, Division 16 specification writing, commercial building electrical cost and budget estimating, electrical design and production time estimating and existing and new facilities inspection and documentation at ZMM.

In addition to Mr. Abernethy's design responsibilities, he also serves on ZMM's AutoCAD production committee.

Mr. Abernethy started his career in 1970 in the field of drafting for the United States Army and FMC Chemicals in Charleston, WV. He began his electrical design experience in 1973 at ZMM. He is a certified Lighting Designer recognized by the National Council on Qualifications for the Lighting Professions and a Licensed Master Electrician in the State of West Virginia.

Project Experience
Southside Elementary/Huntington Middle School
Martha Elementary School
Erma Byrd Higher Education Center
Lincoln County High School
St. Albans High School
Greenbrier East High School
State of WV Office Buildings 5, 6 & 7

Robert F. Groom

ZMM

Position
Mechanical and Plumbing Designer, ZMM

Education
Mechanical and Plumbing Drafting; Center College, Charleston, West Virginia; 1968 - 1969

Employment History
1969-Present, Mechanical and Plumbing Designer; Designer, ZMM

Professional Experience
Mr. Groom's background includes nearly 40 years of mechanical and plumbing design.

This experience has been acquired through working on a variety of projects including: commercial, industrial, office, educational, healthcare, and correctional.

Project Experience
WV State Office Buildings # 5, 6, & 7
WV Regional Jails and Correctional Facilities
WV Air National Guard Training Facility
Pratt & Whitney Aircraft of WV
King of Prussia Mall, PA
Walker Machinery Company
Regional Training Institute at Camp Dawson
St. Albans High School
Multiple Plumbing Projects

NATHAN SPENCER, AIA

ZMM

Position
Architect, ZMM, Inc.

Education
Bachelor of Architecture, University of Tennessee, Knoxville, TN, 2007
Architectural Drafting and Construction Technology, West Virginia State College, Institute, WV

Employment History
2009 - Present, Architect, ZMM, Inc.
2007 - 2008, Designer, ZMM, Inc.
2003 - 2006, Summer Intern, ZMM, Inc.

Professional Credentials
American Institute of Architects (WV)

Professional Experience
Mr. Spencer has been employed by ZMM since 2003 when he started working as an intern. Experience includes the production of architectural drawings throughout all phases of the project.

Mr. Spencer has background developing both 3-D and physical models along with construction document production. Mr. Spencer works closely with the project architect to efficiently produce clear and accurate drawings to ensure that client expectations are met.

Project Experience
Joint Interagency Training Educational Center (JITEC)
WV Army National Guard - Logan Readiness Center
WV Army National Guard - Morgantown Readiness Center
WV Army National Guard - Ripley Readiness Center
WV Army National Guard - CFMO Expansion Project
Judge Black Courthouse Annex
Martha Elementary School
Hacker Valley Pre-K-8 School
Southside Elementary/Huntington Middle School
State of West Virginia Division of Juvenile Services
Highland Medical Facility
The Boulevard at 2412 - Residential Housing Project

RODNEY PAULEY
AIA

ZMM

Position
Project Architect, Project Manager

Education
Bachelor of Architecture; University of Tennessee, Knoxville, TN, 1992

Employment History
2010-Present, Project Manager, ZMM
2008-2010, Project Manager/Architect, Georgia Architectural Firm
2006-2008, Project Manager/Architect, Georgia Architectural Firm

Professional Credentials
Registered Architect: Georgia
Member of American Institute of Architect

Professional Experience
Mr. Pauley has over 17 years experience with all phases of design and project Management

Project Experience
Mid Ohio Valley Technical Institute Renovation
Morgantown Readiness Center
West Liberty - Main Hall & Shaw Hall Renovations

Additional Parking Garage Experience
One Federal Place, Birmingham, AL
12-Story Office Building + 5-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Cast-In-Place Concrete Structure

Douglasville Conference Center, Douglasville, GA
1-Story Conference Center + 3-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Precast Concrete Structure

Printpack, Marietta, GA
6-Story Office Building + 4-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Precast Concrete Structure

Lakepointe II, Tampa, Florida
8-Story Office Building + 4-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Precast Concrete Structure

Forum V, Raleigh, NC
5-Story Office Building + 3-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Precast Concrete Structure

Royal Center III, Alpharetta, GA
3-Story Office Building + 2-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Cast-In-Place Concrete Structure

Rex Medical Office Building. Raleigh, NC
5-Story Medical Office Building + 4-Story Parking Deck
Deck: Architectural Precast Concrete Panels on Precast Concrete Structure

GLENN R. SAVAGE

CSI-CDT,CSI-CCS

ZMM

Position

Construction Administrator, ZMM

Education

B.S., Environmental Science; University of Charleston, Charleston, West Virginia; 1997
A.S., Mathematics; West Virginia State University, Institute, West Virginia; 1992

Employment History

1998-present, Construction Administrator; ZMM
997-1998, Environmental Project Manager; West Virginia Area Engineering Firm
1992-1997, Environmental and Construction Quality Control Manager; West Virginia Area Construction Company
1981-1992, Field and Laboratory Testing Manager; West Virginia Area Environmental Engineering Firm

Professional Credentials

CSI, Certified Construction Specifier (Construction Specification Institute)
CDT, Certified Construction Document Technologist

Professional Experience

Mr. Savage has performed construction administration services on a variety of building types including: Educational Facilities; Correctional Facilities; and Office/Light Industrial Facilities.

Mr. Savage's past experience in the construction testing and environmental fields is a benefit to clients during the site preparation and foundation installation.

Project Experience

Western Regional Jail
Alderson Federal Prison Camp
Jean Dean Safety/Law Enforcement Building
Highland Hospital
Mountaineer Middle School
Nicholas County High School
East Greenbrier High School
Gauley Bridge Elementary
Summersville Hospital Medical Building
Cacapon State Park
Blackwater Falls Sate Park
Ronceverte Elementary School
Mount View High School

SECURITY

Ronald D. Heil, CPP, CSC, CHS
Senior Security Consultant
TranSystems

Todd G. Libengood, PSP
Senior Systems Designer
TranSystems

Jim Elder, CPP
Senior Security Consultant
TranSystems

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CONSTRUCTION ADMINISTRATION

Glenn Savage, CSi-CDT
Construction Administrator
ZMM

ZMM

ZMM has been dedicated to the integrated approach to building design which is unique to architectural firms of our size. Our past successful experience demonstrates that providing multi-disciplined services within one organization results in a fully coordinated project. ZMM has the qualified professionals available to provide services throughout the duration of a project from the initial planning phases through post-occupancy evaluations and beyond.

Advantages of an integrated Design Approach:

- The Owner has a Single Point of Design Responsibility
- Improved Design Schedule
- Improved Coordination of Documents
- Improved Construction Phase Services
- Well Coordinated Documents Lead to Better Bids for the Owner

Additionally, ZMM is constantly working to improve the services we offer by addressing emerging and evolving trends that impact the design and construction market. ZMM has eight LEED accredited Professionals on staff to address the needs of our clients who are interested in designing buildings that meet the US Green Building Council's standards. This continues ZMM's active implementation of sustainable design principles on our projects.

ZMM offers the following professional services:

Pre-Design

Educational Facility Planning
Programming
Space Planning
Feasibility Studies
Existing Building Evaluation
Site Evaluation and Analysis
Master Planning
Construction Cost Estimating

Post Design

Construction Administration
Value Engineering
Life Cycle Cost Analysis
Post-Occupancy Evaluation

Design

Architectural Design
Sustainable Design
Interior Design
Landscape Architecture
Structural Engineering
Mechanical Engineering
Electrical Engineering
Civil Engineering
Lighting Design
Energy Consumption Analysis

GAI Consultants Services

gai consultants

LOCATION:
Charleston Office
500 Summers Street
Third Floor
Charleston, WV 25301

CONTACT:
Phone 304.926.8100
Fax 304.926.8180
www.gaiconsultants.com

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.

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.

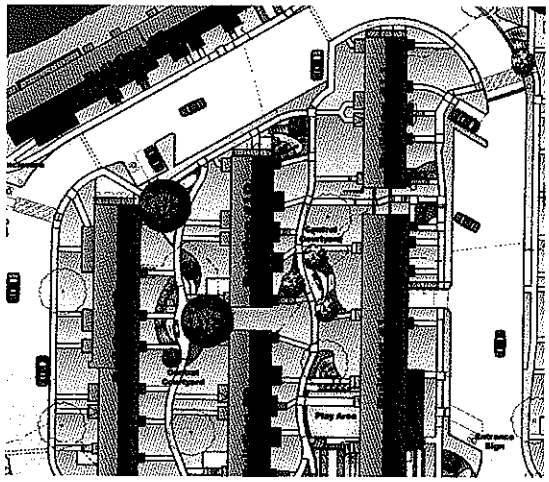
Our vision for the future is to build upon over 50 years of success, to grow responsibly as a healthy, profitable engineering consulting firm, to anticipate the needs of our clients by keeping up with changing and improving technologies, and to fully support our staff, so they can deliver on our promises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

gai consultants

LOCATION:
Charleston Office
500 Summers Street
Third Floor
Charleston, WV 25301

CONTACT:
Phone 304.926.8100
Fax 304.926.8180
www.gaiconsultants.com

Landscape Architecture



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.

State Office Building #5, 10th Floor

Office of Technology

ZMM

LOCATION:
Charleston, WV

SIZE:
22,000SF

COST:
$3.7M

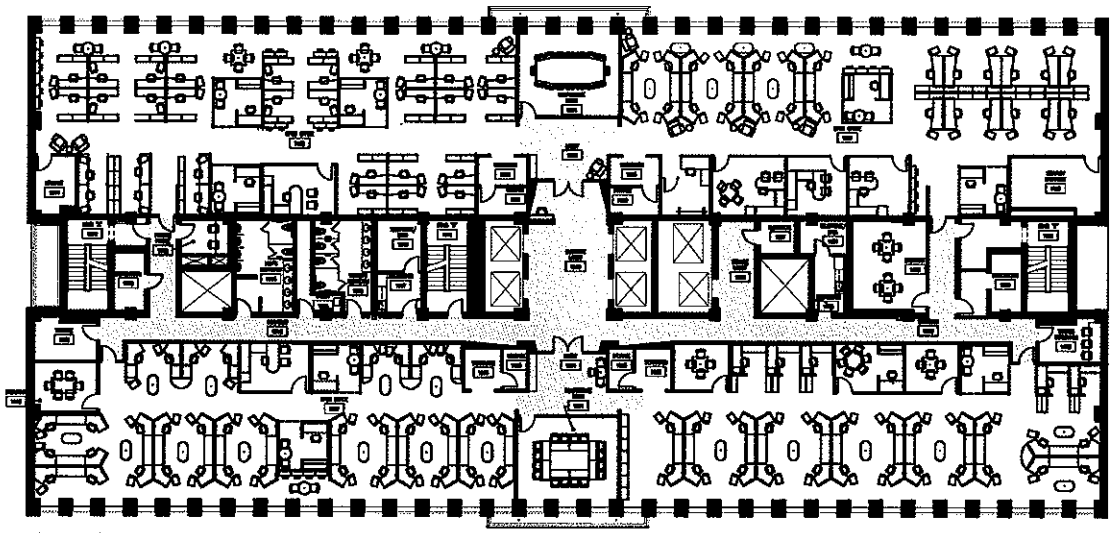
COMPLETION:
2010

CONTACTS:
Mr. David Oliverio
Director
General Services Division
1900 Kanawha Blvd. E
Charleston, WV 25305
304.558.3517

Mr. Chuck Lawrence
Director
Department of Administration
Real Estate Division
1409 Greenbrier Street
Charleston, WV 25311
304.558.4331

The renovation of the tenth floor of State Office Building #5 on the State of West Virginia Capitol Campus was recently completed for the Office of Technology. The renovation was designed to meet the United States Green Building Council's LEED for Commercial Interiors standard. To commence the project, ZMM conducted a detailed investigation of State Office Buildings 5, 6, & 7, which included recommendations for improvement of the facilities. The renovation of the 10th floor of Building #5 was the first major interior renovation project that responded to the recommendations. The renovation was technically intensive, and included demolition of the existing construction back to the building structure, as well as significant hazardous material abatement.

ZMM, working with the State of West Virginia General Services Division, the Real Estate Division, and the Office of Technology developed a strategy to renovate 22,000 SF of space to accommodate 137 employees. The design includes a mix of private and open office space, and responds to current workplace trends. The renovations include a low profile cable management system which maximizes the flexibility of the space. ZMM also developed the interior, furniture, fixture, and equipment design with significant coordination with the Office of Technology.



State Office Building #5, 10th Floor

Office of Technology

ZMM

LOCATION:
Charleston, WV

SIZE:
22,000SF

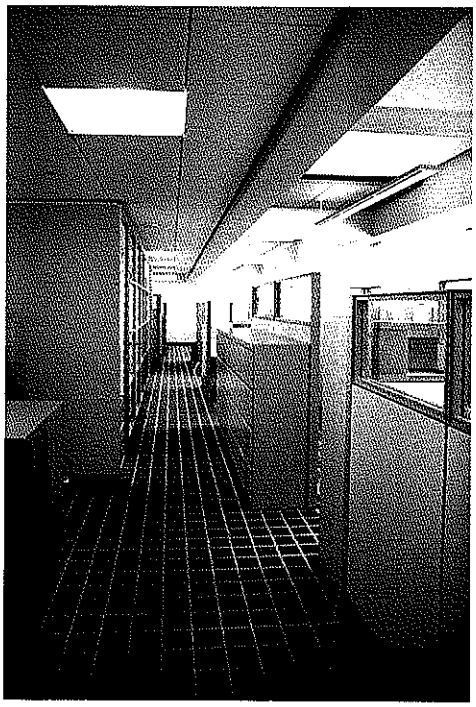
COST:
$3.7M

COMPLETION:
2010

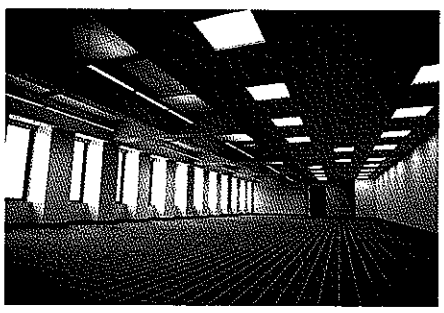
CONTACTS:
Mr. David Oliverio
Director
General Services Division
1900 Kanawha Blvd. E
Charleston, WV 25305
304.558.3517

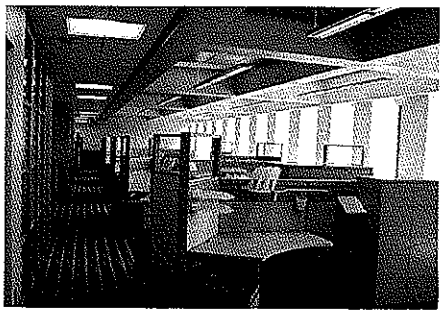
Mr. Chuck Lawrence
Director
Department of Administration
Real Estate Division
1409 Greenbrier Street
Charleston, WV 25311
304.558.4331

To improve the opportunity for daylighting, office spaces have been "pulled-in" to the core of the building. This decision will allow for daylight to be introduced deep into the interior work areas, and will allow access to the daylight and views for all employees. The perimeter structural bays of the open office areas have a "coffered" ceiling. Ductwork for mechanical distribution is terminated at a bulkhead at the interior edge of the perimeter structural bay, allowing for more open volume and a more contemporary aesthetic.



The design of the 10th floor renovation also provided the opportunity to introduce a standard "transverse" core will be developed throughout State Office Buildings 5 & 6. The transverse core includes all of the major entry, meeting, and workroom functions. In addition to the office areas, the elevator lobby has been updated to create a consistent look and level of finish at the entry point to the Office of Technology.





Joint Interagency Training & Education Center

WVARNG

ZMM

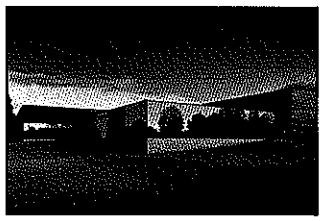
LOCATION:
Kingwood, West Virginia

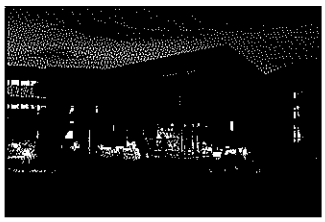
SIZE:
285,000 SF

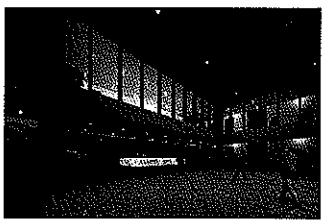
COMPLETION:
Est. 2012

COST:
$110 Million

CONTACT:
Brigadier General Melvin L. Burch
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6450







ZMM, in association with AECOM, is providing architectural and engineering design services for the Joint Interagency Training and Education Center (JITEC), an Army National Guard campus-style facility for training and operational mission support. Sited on 30 acres at the northern end of Camp Dawson between the Cheat River and the foot of Brier Mountain, this 283,000-SF project includes the design of a new operations building; expansion of the billeting facility; renovation of the training facility; creation of a new base entry checkpoint and visitor center; and design for walkway connectors between all the facilities.

The project began with a review of the existing base master plan, followed by a revision of the master plan concept. JITEC is a training and educational facility – the vision behind the site design and updated master plan is that of a college campus atmosphere. The design intent is to create a campus environment that integrates existing buildings with new ones by using compatible, yet distinct building materials.

As the scale of the project includes several miles of roads, parking, and utility upgrades affecting the entire base, the project is being phased over a four-year construction period. Simultaneous construction of all of the new facilities, as well as phased construction in existing buildings, will minimize the disruption to current operations.

The new facilities are designed to meet all anti-terrorism/force protection criteria and are slated for LEED-NC silver certification from the U.S. Green Building Council. The new 82,000-SF operations building is prominently sited as the main focal point upon entering Camp Dawson through the secure access control point and visitor's center, also designed by AECOM. The building's exterior complements its West Virginia setting. The entire building front, composed of glass and pre-cast concrete walls, is open and inviting with glazing that reflects the surrounding trees and hills. Security requirements for the command center influenced the design of the attached, copper-clad "black box" that is an homage to the native rock stratification seen throughout the state.

The building consists of four distinct areas: the Joint Operations Center; a suite of secure training rooms; base headquarters and JITEC administrative offices; and a 6,000-SF server and telecommunications room.

Joint Interagency Training & Education Center

WVARNG

ZMM

LOCATION:
Kingwood, West Virginia

SIZE:
285,000 SF

COMPLETION:
Est. 2012

COST:
$110 Million

CONTACT:
General Melvin L. Burch
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6450

Entry to the Joint Operations Center (JOC) is provided by a secure mantrap adjacent to a dedicated security office. Built to SCIF standards, the JOC contains a state of the art command center housing 48 permanent work stations in a theater -style configuration facing a large video wall, flanked by conference rooms and offices for both officers and support staff. Within the JOC is a secure area consisting of workstations, offices, and two divisible conference rooms with secure video conferencing capabilities. The secure area construction dictates a windowless environment, requiring proper lighting and creative use of materials to create an agreeable work atmosphere.

Adjacent to the JOC are three large training rooms, capable of seating 70 persons each. Lining the front of each room are LCD video walls with large, open areas for workstations, desks, and office equipment, as well as space for private offices. These rooms function primarily as training areas; however, their close proximity to the JOC allows maximum flexibility in securing the entire area from the rest of the building by means of card access-only doors.

The administrative office areas occupy a prominent position at the building's entry and consist of open office areas with workstations, private offices, conference rooms, and storage. The design of this area follows sustainable guidelines for daylighting, promoting a healthy work environment through the use of materials that comply with LEED requirements. The new 6,000-SF network server room, which serves as the base hub, occupies the second floor of the facility along with the building's engineering systems. All electrical, data and communications infrastructure is contained within raised access flooring throughout the building.

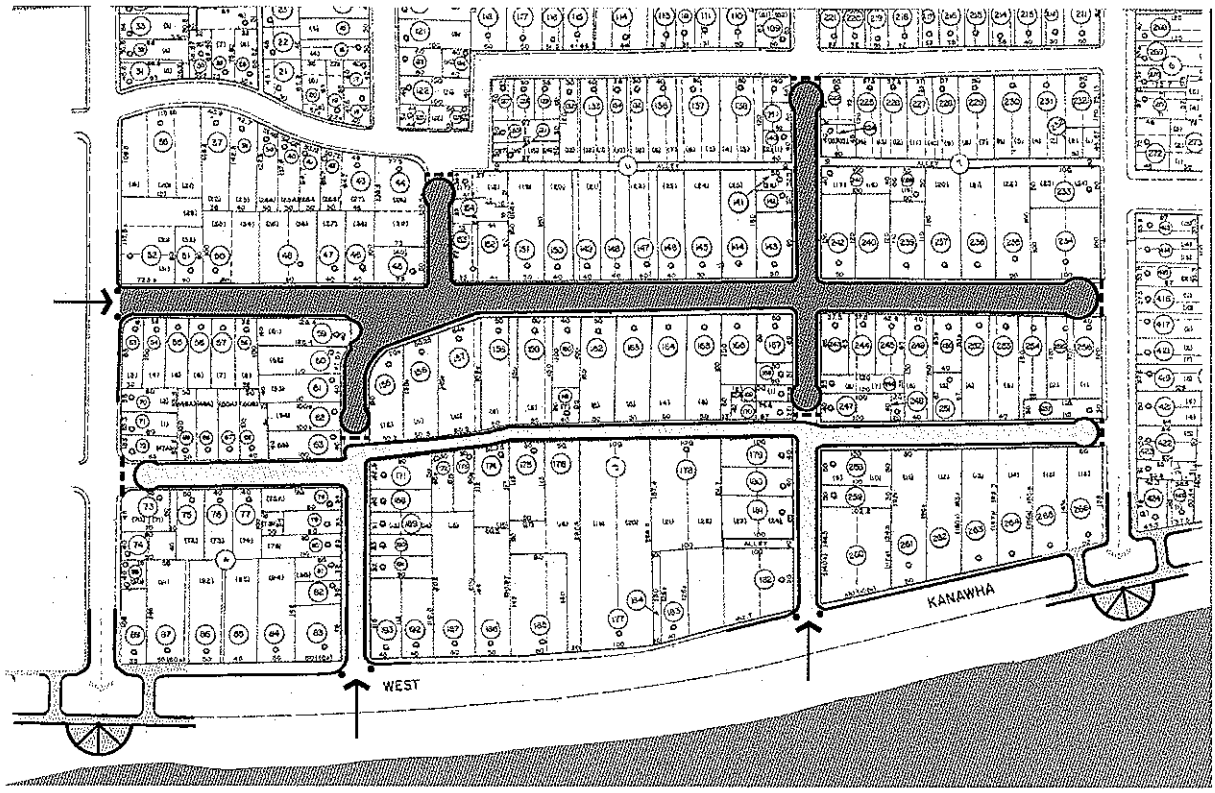
The 180,000-SF billeting (hotel) expansion more than triples the facility size and increases the total capacity from 189 guest rooms to 600 guest rooms and suites. Designed to relate to the existing architecture with similar scale, materials, textures, and massing, the addition also brings in new elements, such as iconic glazed building corner elements, to integrate the design of the new operations building. A new dedicated lobby with terrazzo tile flooring leads to a monumental stair with terrazzo treads, open risers, and a glass/stainless steel railing for access to the open lounge areas on the second and third floors.

The lobby's design provides a hotel atmosphere, underscored by the new Liberty Lounge, an upscale bar and restaurant area, with wood finishes salvaged from the gymnasium floor in the existing headquarters building. The new six "executive suites", are designed to the full amenities of corporate hotels.

Charleston's West Side

Crime Prevention Through Environmental Design (CPTED)

ZMM



West Side Neighborhood Defensible Space Plan

Key

- Neighborhood #1
- Neighborhood #2
- River
- Cul-De-Sac / Gate
- Entry Portal
- Connection to River

ZMM Project Manager Adam Krason undertook a volunteer effort in 2004 to investigate the use of CPTED principals on Charleston's West Side. Although no improvements were undertaken the concepts were reviews with both the West Side Neighborhood Association and the City of Charleston.

Charleston's West Side

Crime Prevention Through Environmental Design (CPTED)

ZMM

Police reports and news articles about crime on the West Side of Charleston are commonplace, and unfortunately, their frequency has made many residents numb to the gravity of the situation at hand. Mayor Jones has continually stated that the West Side is a top priority and frequently promises a greater police presence as the solution. Former Police Chief Jerry Pauley recently stated that, "The idea is to saturate the neighborhood....with visible police officers in the hope it will keep down crime," but is this approach just treating one symptom of a larger problem?

One recent news article suggested that the West Side is "an older neighborhood with many rental properties and a large area with many alleys and hiding places." Clearly, the West Side is demonstrating traits of a failing neighborhood, including a spiraling violent crime rate, an increase in the percentage of homes that are rental properties, as well as a general lack of property maintenance. While an increased police presence may help alleviate the crime problem in the near term, what long term planning is being undertaken to improve the neighborhood of the West Side to help stop this downward cycle?

Charleston's West Side is experiencing an urban problem that has been seen many times throughout this country. In the years following World War II many American cities experienced a move towards the suburbs. The housing that remained in the cities was occupied by working class families. Over time these houses often became rentals, sometimes with larger homes divided into several smaller apartments, and the area eventually suffers overall disinvestment. Boarded up storefronts, run down rental properties, and criminals often begin to overtake these neighborhoods.

Fortunately, this is not an irreversible trend; however, stopping this process often requires the implementation of far reaching urban planning gestures that dramatically affect the way a community operates. Several organizations including the American Planning Association as well as the U.S. Department of Housing and Urban Development have committed considerable resources to assist struggling neighborhoods, and have developed strategies that have been field tested in other urban areas.

In April of 1996 the U.S. Department of Housing and Urban Development released the casebook "Creating Defensible Space" by Oscar Newman, based on his 1972 book of the same name. The main principle of Defensible Space involves restructuring communities so that they begin to fall under the (physical) control of residents. This type of planning is often referred to as "Crime Prevention Through Environmental Design" or CPTED. One particular case study outlined in the book discusses a neighborhood (Five Oaks, in Dayton, Ohio) that bears many similarities to the neighborhoods on the West Side. The Five Oaks area of Dayton has similar housing types, and at the time of the study had also begun to experience disinvestment and general decay of the neighborhood.

To help alleviate the neighborhood's problems, Mr. Newman recommended a series of physical modifications to break Five Oaks down into a series of smaller communities that each had a single point of vehicular access, ending in cul-de-sacs. These changes eliminated most of the "cut-through" traffic, and also helped residents identify with an area as their own, helping to improve the sense of community, and helping to lower crime through familiarity. The interventions Mr. Newman made at Five Oaks produced drastic results with an almost immediate decrease in crime rates, as well as a significant increase in home values.

A similar approach could certainly be considered for Charleston's West Side. The neighborhood as a whole suffers due to the fact that traffic engineers and commuters alike view Washington Street West as a quick link between downtown and the western suburbs. Eliminating this cut-through traffic, with a capital investment to improve the "streetscape" could help re-establish this area as a more pedestrian friendly, neighborhood scaled, retail district. Additionally, a division of the West Side into smaller neighborhoods may help these areas develop a sense of safety and place, encouraging re-investment. This urban planning strategy will also allow the residents to take ownership of the streets (since there would be no through traffic), assisting them in their effort to reclaim the streets from some of the undesirable elements that have overtaken them.

Newman does note that these physical changes do not work in a vacuum, but require strong community support and involvement. Additionally, coordinated police activity, improved code enforcement, and an encouragement for first time home ownership have also played a large roll in the new found success of Red Oak. There is little doubt that a similar coordinated effort would yield the same results in Charleston.

While Crime Prevention Through Environmental Design is often cited as a way to improve existing neighborhoods, principles of New Urbanism are often utilized to plan successful new neighborhoods. Randy Atlas presented the principles of New Urbanism at the 1999 APA National Planning Conference. Mr. Atlas's presentation made it clear, however, that many principles of New Urbanism can be applied to existing neighborhoods.

The first principle of New Urbanism that relates to the design of neighborhoods states that each neighborhood should have a discernable center and edge. While the West Side does have discernable edges, I-64, the Kanawha River, and the West Side hill, it does not have a discernable center. While both Washington Street West and Central Avenue have some commercial development, both serve primarily as vehicular routes through the West Side, but each lacks a destination. Atlas states that the need for the center is the "creation of focus...to define a social identity and sense of community." With the diverse racial, social, and economic groups residing on the West Side, the lack of a central focus is a critical void.

Some of the more detailed neighborhood improvements covered by New Urbanism include small playgrounds near every dwelling (not more than every $1/8^{th}$ of a mile), as well as the placement of shade trees along the road to create pleasant walking paths. These improvements help to keep people involved in the neighborhood, interacting with each other which helps to foster a sense of community. While fostering a sense of community may not seem like the logical way to reduce crime, the Local Government Commission Center for Livable Communities reports that "A recent study published by the Harvard School of Public Health has confirmed earlier research: Community spirit and a willingness to get involved reduces violent crime by as much as 40 percent." The Center goes on to report that race and income are not a factor in reducing crime through community involvement.

Regardless of the path taken to improve the West Side neighborhoods, it is important to realize that serious problems exist, and that one of the manifestations of these larger problems is crime. An increased police presence may prove to be a successful temporary solution, but long term solutions to the problems that plague the West Side neighborhood will require considerably more study, planning, and effort, as well as the involvement of everyone from the residents to city planners and engineers, as well as strong leadership from City Hall. We need to treat the symptoms, the residents of the West Side find the current crime rate unacceptable, but let's also treat the disease, and work to solve the major problems that are preventing the West Side from reclaiming it's place as a safe, thriving, and very livable neighborhood.

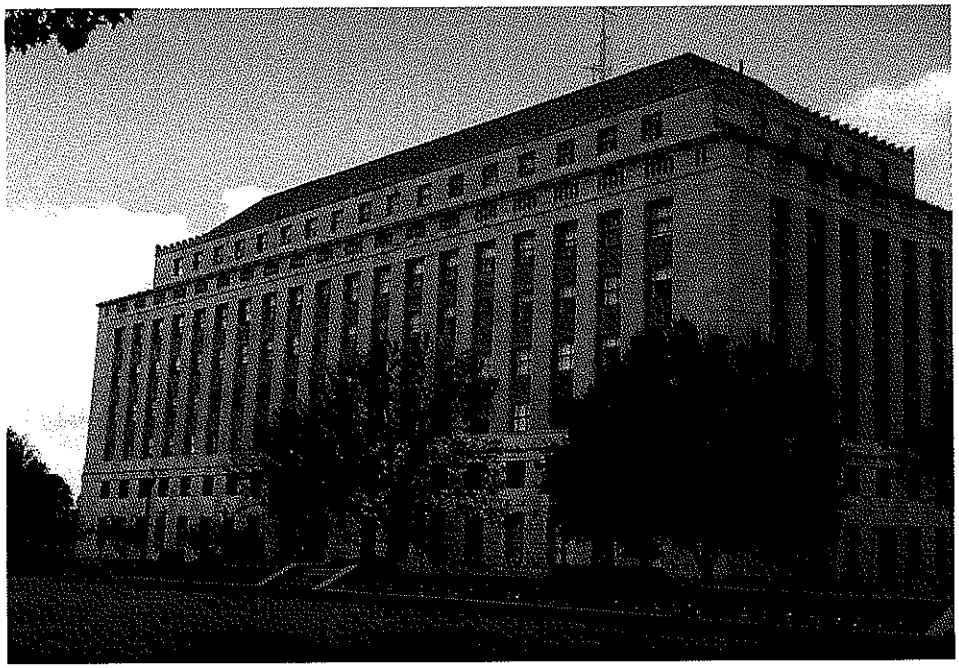
West Virginia Capitol Building

Security Needs Analysis

LOCATION:
Charleston, WV

COMPLETION:
February 2010

CONTACT:
Gregory Clark
Senior Consultant
The Sextant Group
412.323.8580



TranSystems performed a security concept and cost plan for renovation of the Historic West Virginia Capitol Building (Number 3) into a conference center.

The activity for the project included:

- Risk and Threat assessment
- Review and evaluation of Architect's conceptual design
- Kick-off meeting and planning session with the architect and WV State Protective Services in WV
- Development of security needs analysis report with security concept for the building based on best practices for similar facilities to mitigate the risk and sound use of Crime Prevention Through Environmental Design principles. Facility changes needed to take into consideration preserving historic elements and appearance of the building.
- Development of conceptual design narrative with rough draft of estimated security measures cost.

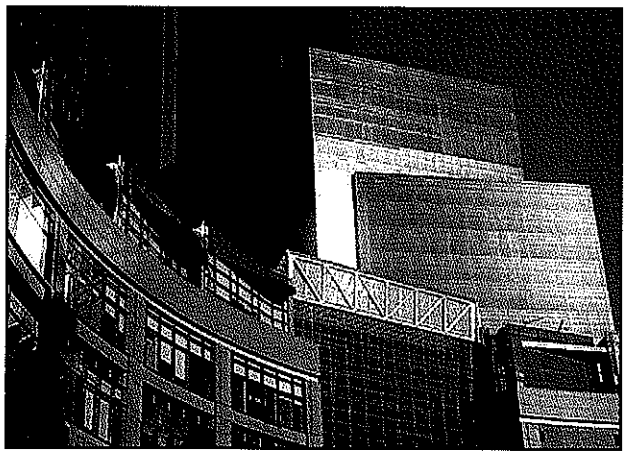
Time Warner Center

Consulting and Security Design

LOCATION:
New York, NY

COMPLETION:
March 2006

CONTACT:
Jim Campion
One Time Warner Center
New York, NY 10019
212.484.7834



In February of 1997, TranSystems (then Aegis Security Design) was engaged as the principle security consultancy for a number of large and small -scale projects involving Time Warner, Inc. facilities. The scope of responsibilities included design enhancement and system design responsibilities for notable Corporate subsidiaries such as Time Inc., CNN New York, Warner Bros., Time Warner Cable, Time Warner Music, Atlantic Records and Entertainment Weekly.

The responsibility culminated in the development of the security program and systems design for the prestigious $1.6 billion (new construction scope), 2.8 million ft 2 mixed-use Time Warner Center at Columbus Circle, located in the heart of Manhattan on the south side of Central Park.

Consulting and security design services involved all phases of planning, design and construction (master planning, programming, schematic, design development, construction documents, contract administration, commissioning), including access control, CCTV and alarm systems, and the development of a "Building within a Building" space design philosophy that made extensive use of CPTED design principals supplemented by physical and electronic security strategies.

National Harbor Security Program

Development & Engineering

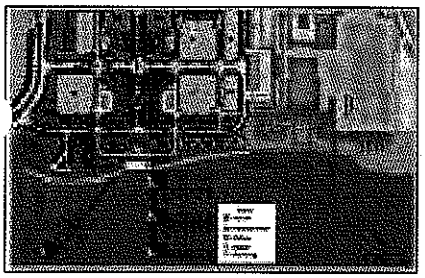
TranSystems

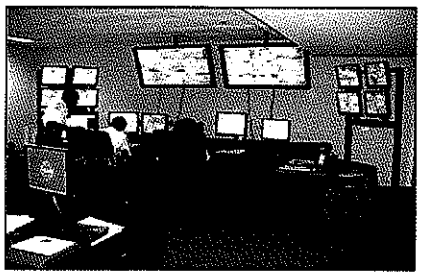
LOCATION:
Washington, D.C.

COST:
$2 Bilion

COMPLETION:
June 2008

CONTACT:
Kent Digby
Vice President
Operations
703.633.2697





The National Harbor Project is a new $2 billion, 300-acre, mixed-use development on the Potomac River at Washington D.C. The National Harbor project will ultimately include more than 300 acres of land and 200 acres of water, miles of infrastructure and millions of square feet of commercial, retail and residential space. The current schedule is for the design and construction to be performed over the next 10 to 20 years.

TranSystems was selected to lead the development of the security program for National Harbor. The scope of the assignment included performing a security risk assessment, security master planning, development of a security guard program, designing a communications and signaling fiber optic infrastructures, based on extensive outside video surveillance security system for the public areas of the site with more than 150 cameras, parking garages, common spaces, and offices and residential buildings, interfacing building fire alarm systems, and developing the design of a proprietary security monitoring and command center.

The use of Crime prevention Through Environmental design principles were used extensively throughout, particularly in the pedestrian mall areas, to discourage crime and encourage legitimate use. Following selection of a contractor, TranSystems has supported the installation of the video camera system with response to RFI requests, reviews of shop drawings and periodic on-site inspections.

Westinghouse Electric Company

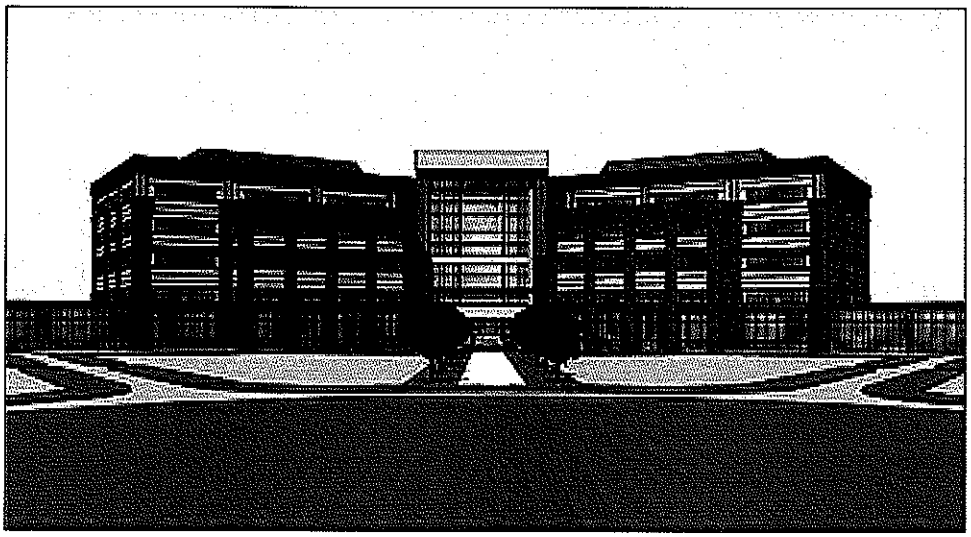
Security Needs Analysis and Security Design

LOCATION:
Pittsburgh,PA

SIZE:
1,000,000 SF

COMPLETION:
On-going

CONTACT:
Russ Cline
Corporate Security
Director
724.454.0409



TranSystems designed security measures for a new 1,000,000 sq ft Westinghouse facility. The project included campus and site layout, IP Video Systems, Entry revolving doors, optical turnstiles, customized security desks, door hardware coordination, conduit infrastructure and implementation of a dedicated security network. We are currently providing construction administration for the implementation. After the systems are installed he will perform the final acceptance test.

TranSystems also serves as Westinghouse's preferred security consultant / engineer for all Westinghouse sites. This role includes an expert consolation on security related items from mechanical keying schedules to guidance on new physical security additions or modifications.

TranSystems provided security design and produced drawings and specifications for the installation of the security system, provided guidance in the bid specification for the security system and selection of a security systems contractor, and provided recommendations for system maintenance, sustainment and testing recommendations.

In total we have performed seven (7) tasks separately as follows:

Task 1 – Review and Provide Input on Conceptual Design
Task 2 – Advised Design Team of Security System Needs
Task 3 – Performed Product Recognizance and Provide Recommendations
Task 4 – Prepared Final Design and Bid Documents
Task 5 – System Maintenance, Sustainment, and Testing Recommendations
Task 6 – Provided Construction Installation Support
Task 7 – Directed Effectiveness Testing

State of Louisiana Office Building

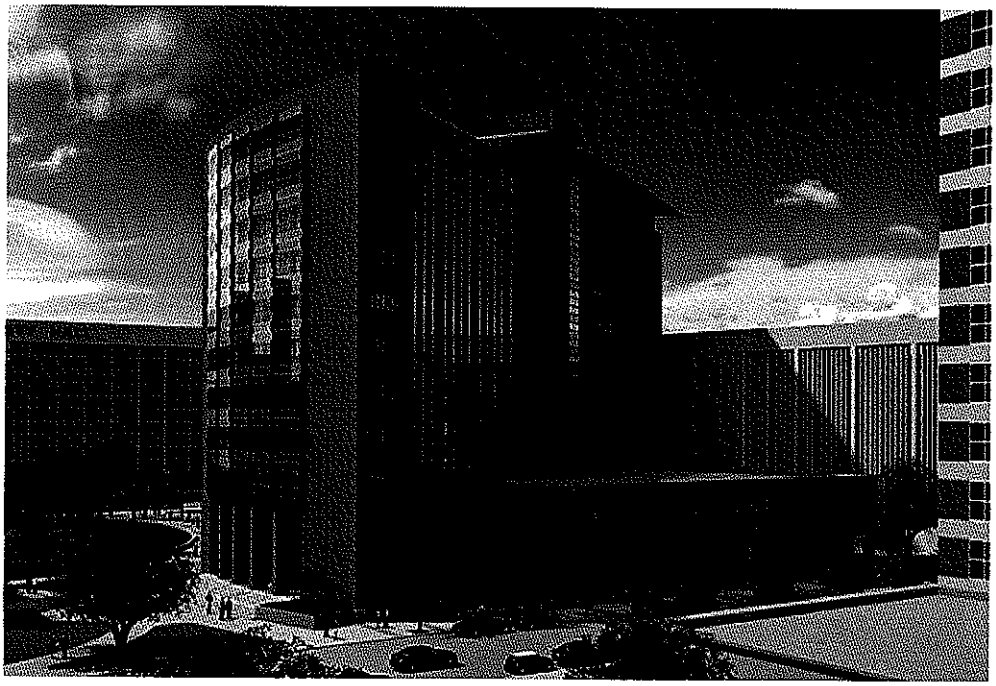
Security Services

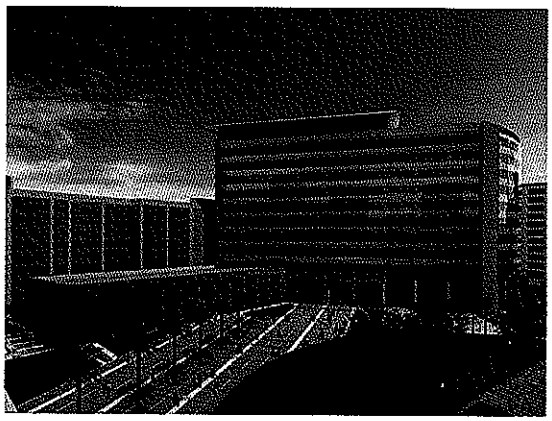
LOCATION:
New Orleans, LA

SIZE:
340,000 SF

COMPLETION:
Build-out of Project
Cancelled by Owner

CONTACT:
Michael F Holly, AIA
Holly & Smith Architects
APAC
208 North Cate Street
Hammond, Louisiana
70401
985.345.5210





Holly & Smith Architect was engaged to design of the new 340,000 square foot State Office Building to be built in New Orleans, Louisiana on the same property as the old State Office Building which was rendered unusable by Hurricane Katrina.

Holly & Smith Architects in turn engaged TranSystems as the security consultant to the design effort. TranSystems conducted a needs analysis for the new facility prior to concept development of the building. The needs analysis included interviews with all project building tenants, review of the security measures in similar State Office Buildings, a crime threat analysis of the downtown New Orleans area, and a terrorism threat assessment.

The needs analysis included use of Crime Prevention Through Environmental Design (CPTED) principles in the design of both the exterior landscape and the design of the lobby/customer service areas. The needs analysis directly impacted the footprint of the new facility, to include overcoming local objections to the projected change to the city's skyline by demonstrating with sound anti-terrorism concepts how the risk to the building would be reduced with the proposed footprint.

Security systems design to include:

- Development of a Schematic Design Review Report
- Development of a Design Development Security layout with industry standard devices
- Development of Door and Camera programming sched ules
- In-progress design reviews

Lincoln Center

Lincoln Center Development Project

LOCATION:
New York, NY

COMPLETION:
September 2010

This first project in a series of independent but related capital initiatives being planned by Lincoln Center, designed by the critically acclaimed architectural firm Diller Scofidio + Renfro in collaboration with FX Fowle Architects, creates a vibrant new cultural corridor that spans West 65th Street from Broadway to Amsterdam Avenue and unites the street with the surrounding cityscape. By extending the threshold of Lincoln Center, the campus is opened up to encourage the interaction of artists, teachers, students, and the public.

The project includes major facility expansion and enhancement, the transformation of the North Plaza, one of the most important public spaces on campus, and the complete redesign of West 65th Street highlighted by a dramatic new street-level identity program for six resident organizations, including The Juilliard School (with an extensive renovation of Alice Tully Hall), The Film Society of Lincoln Center, Lincoln Center Theater, Lincoln Center for the Performing Arts, Inc., The Chamber Music Society of Lincoln Center, and the School of American Ballet.

TranSystems (then Aegis Security Design) was selected to conduct an all-hazards risk / vulnerability and CPTED (Crime Prevention Though Environmental Design) analysis and develop a campus security master plan for the public spaces at the Center. Due to its public nature and the need to the minimize "hard architecture" often associated with security, TranSystems|Aegis Security Design, was challenged to support this effort with esthetically acceptable solutions driven by CPTED principals and unique technical approaches, After developing the Master Plan, TranSystems was again engaged to join the Project design team to aid in the implementation of the Plan, in particular, the design of a large scale campus security system and Security Operations Center.

Lincoln Center

Lincoln Center Development Project

LOCATION:
New York, NY

COMPLETION:
September 2010

Design scope included physical barriers, electronic access control, digital video surveillance and unique campus infrared lighting plan that permitted greater creative latitude for aesthetic lighting, while still allowing adequate illumination for video imaging and custom designed "blended" camera housings.

The design process was facilitated by 3D modeling and animation tools which permitted virtualization of the completed video images as well as the coverages of the illuminators. The integration of the video system in the (a Bosque public space on the North Plaza), Damrosch Park (a public park-like space just south of the Metropolitan Opera), and the Tisch Illumination Lawn (the green roof of Lincoln restaurant located on 65th Street).

The initial plan also called for provisioning access to video images, camera control and recording by the New York Police Department for use in crowd management, traffic control and critical incident assessment and management.

Haddad Riverfront Park

Riverfront Park & Streetscape Design

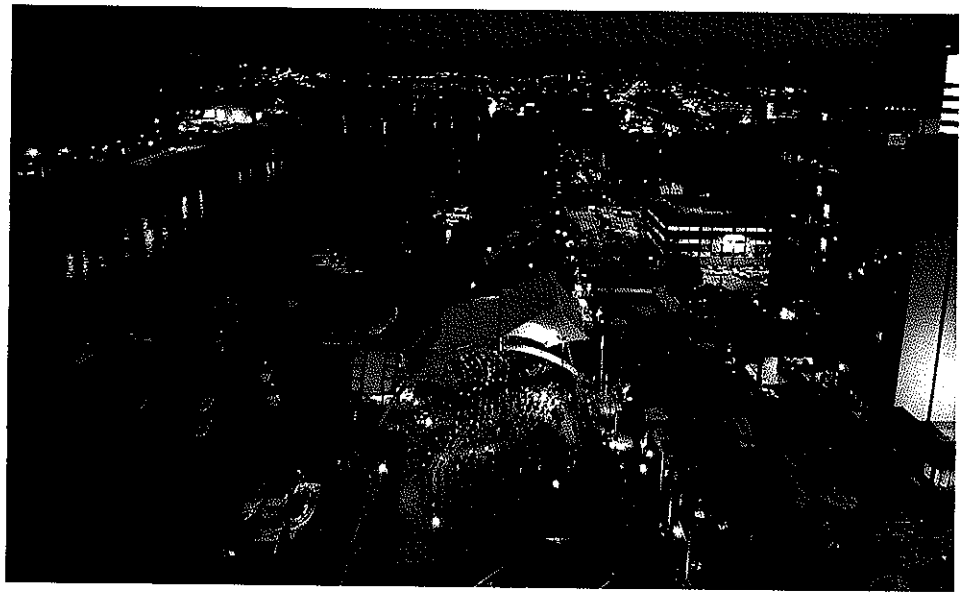
gai consultants

LOCATION:
Charleston, West Virginia

COST:
$3.9M

COMPLETION:
Summer 2010

CONTACT:
David Molgaard
City Manager
304.348.8014

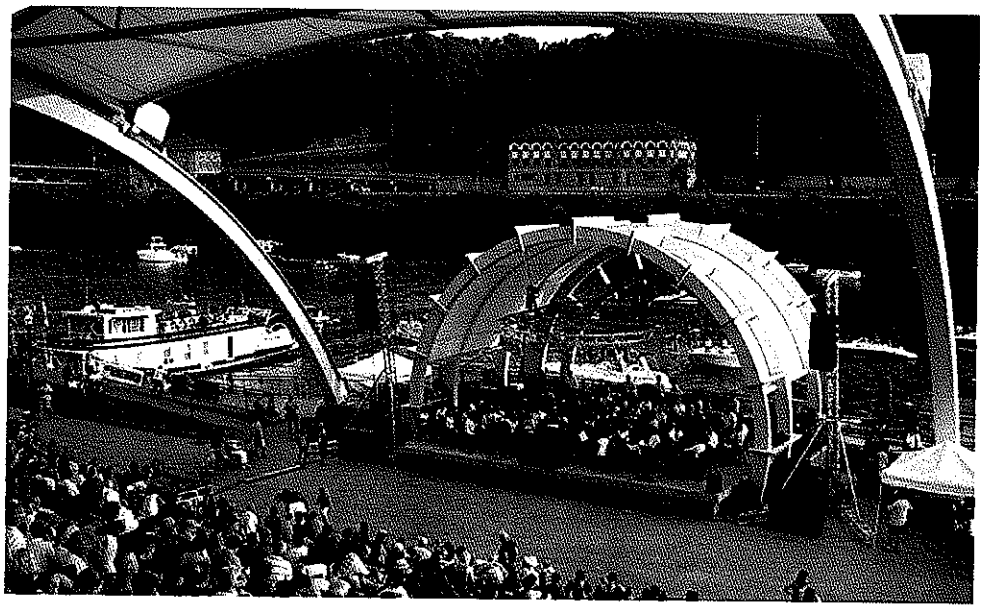


GAI Consultants, Inc. (GAI) was selected to provide master planning, public participation services, design, construction and engineering solutions for the renovation of the Haddad Riverfront Park, which is a popular concert, festival and leisure site in downtown Charleston, West Virginia.

Among the City of Charleston's project requirements were a retractable canopy to provide protection and visual interest, an overlook plaza and pavilion that extends Court Street to the Kanawha River, an extension of the lower wharf area, a new streetscape design along Kanawha Boulevard and an event stage for concerts.

Work Tasks/Services

- Conceptual design and master plans
- Public outreach/ information
- Landscape Architecture
- Geotechnical Engineering
- Structural Engineering
- Construction Administration



Chesapeake Energy Eastern Division Headquarters

Landscape Architecture and Engineering

gai consultants

LOCATION:
Charleston, West Virginia

COST:
$35M

COMPLETION:
2009

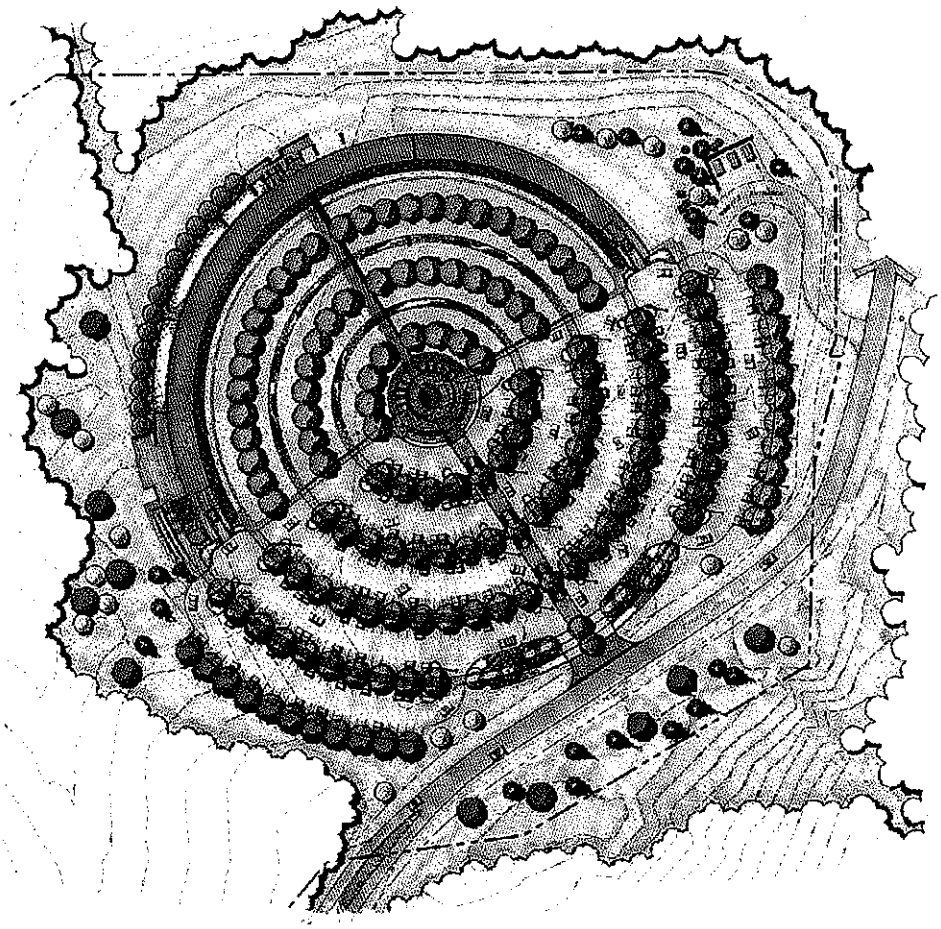
CONTACT:
Bill Yen
405.

GAI Consultants, Inc. (GAI) was contracted by Elliott and Associates Architects to provide site design services for Chesapeake Energy's Regional Headquarters. The project included preliminary site layout, coordination of subsidence investigation, grading, storm water, utilities, landscaping, and signage. Also included in the project tasks was obtaining permitting through West Virginia Department of Environmental Protection and Army Corp of Engineers.

In addition to the permitting, the building and site were designed using the LEED (Leadership in Energy and Environmental Design) rating system to attain a silver or gold designation. The site LEED elements included capturing rainwater for reuse to supplement the site irrigation system, and minimizing site footprint. The site supports a 4-story 121,000-square-foot building that contains 366 offices, an employee cafeteria, and a 6,500-square-foot fitness center.

Work Tasks/Services

- Preliminary site layout
- Coordination of subsidence reports
- Grading
- Storm water design
- Coordination of lighting and irrigation design
- Utility design
- Landscaping/signage design
- Permitting (WVDEP, Corps of Engineers)
- Assist in LEED requirements



Award Winning Design

ZMM

2010

Hacker Valley PK-8 School
Hacker Valley, WV
2010 - Honor Award
"Excellence in Architecture"
AIA West Virginia Chapter

2009

Construction & Facilities
Management Office
Charleston, WV
2009 - Merit Award
"Achievement in Architecture"
AIA West Virginia Chapter

2008

Erma Byrd Center
Beckley, WV
2008 - Honor Award
"Excellence in Architecture"
AIA West Virginia Chapter

2007

Lincoln County High School
Hamlin, WV
2007 - Honor Award
"Excellence in Architecture"
AIA West Virginia Chapter
Education Design Showcase
"Project of Distinction Award"
American School & University
"Outstanding Building Design"

2006

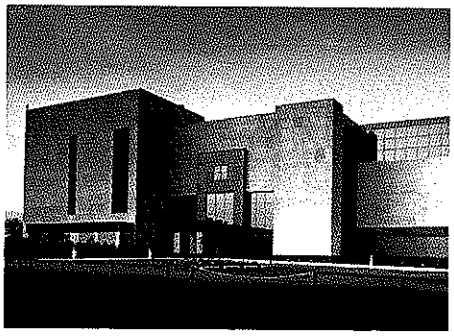
Gene Spadaro
Juvenile Center
Mount Hope, WV
2006 - Merit Award
"Achievement in Architecture"
AIA West Virginia Chapter

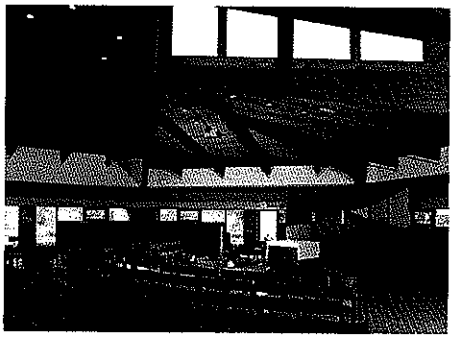
2004

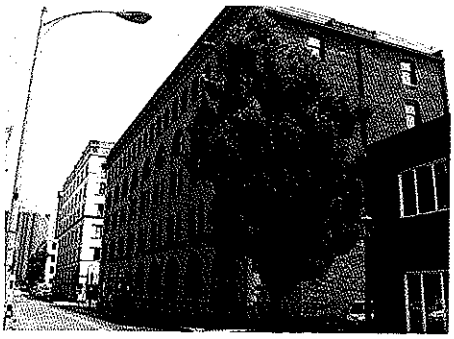
St. Albans High School
St. Albans, WV
2004 - Impact in Learning Award
"Effective Transformation"
Education Design Showcase
"Outstanding Building Design"
American School & University
"Outstanding Building Design"

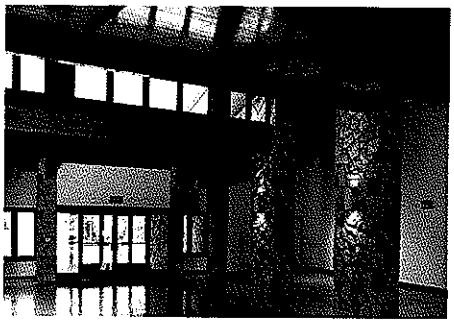
Additional Award Winning Design

ZMM









West Virginia Society of Architects Design Honor Awards

Corporate Headquarters Facility
Blue Cross / Blue Shield of West Virginia
Charleston, West Virginia

John XXIII Pastoral Center
Wheeling-Charleston Diocese
Charleston, West Virginia

Corporate Office Building
Contractors' Association of West Virginia
Charleston, West Virginia

One Bridge Place Office Renovation
Fisher-Bryson Properties
Charleston, West Virginia

United States Navy
Admiral's Commendation
Operations Building Alterations
Naval Security Group
Sugar Grove, West Virginia

Construction Specifications Institute
Honorable Mention
Restoration and Renovation Projects
Cottage Renovations to Federal Prison Camp
Alderson, West Virginia

Stonewall Jackson Lake
Merit Award
Design and Environmental Program
Recreation Area Basic Park
Weston, West Virginia

Client References

- **Chuck Lawrence, Director**
  Department of Administration
  Real Estate Division
  1409 Greenbrier Street
  Charleston, WV 25311
  304.558.4331

- **David D. Molgaard, Charleston City Manager**
  City Of Charleston
  PO Box 2749
  Charleston, WV 25330
  304.348.8014

- **Chris Knox, Charleston City Engineer**
  City of Charleston
  105 McFarland Street
  Charleston, WV 25301
  304.348.8014

- **Brigadier General Melvin L. Burch**
  Construction Facilities Management Office
  WV Army National Guard
  1707 Coonskin Drive
  Charleston, WV 25311
  304.561.6450

- **Andrew N. Blackwood, Ed.D, Executive Director**
  National Youth Science Foundation
  PO Box 3387
  Charleston, WV 25333
  304.552.1171

- **Russ Cline, Corporate Security Director**
  Westinghouse
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  clinerg@westinghouse.com

- **Jo Goldberg, Senior Project Manger**
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  New York, NY 10023
  212.875.5830

TranSystems ZMM ARCHITECTS & ENGINEERS gai consultants transforming ideas into reality

RFQ No. GSP116411

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 owed 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: ZMM, INC.

Authorized Signature: A R K Date: 30 · SEPT · 2010

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 30th day of September, 2010

My Commission expires 10-6, 2018

AFFIX SEAL HERE

NOTARY PUBLIC Lisa E. Bowles

OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Lisa E. Bowles
ZMM, Inc.
222 Lee St., W.
Charleston, WV 25302
My Commission Expires October 6, 2018