



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

State of West Virginia
Centralized Expression of Interest
Architect/Engr


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

09/01/22 13:02:05
WV Purchasing Division

VENDOR		
Vendor Customer Code:		
Vendor Name : ZMM Architects & Engineers		
Address : 222 Lee Street, West		
Street :		
City : Charleston		
State : WV	Country : USA	Zip : 25302
Principal Contact :		
Vendor Contact Phone: 304.342.0159	Extension: 234	

FOR INFORMATION CONTACT THE BUYER
Melissa Pettrey (304) 558-0094 melissa.k.pettrey@wv.gov

Vendor Signature X 	550676608	DATE 9/1/22
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All offers subject to all terms and conditions contained in this solicitation

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

(Name, Title) AK RK
(Printed Name and Title) Adam Krason, Principal
(Address) 222 Lee Street, West. Charleston, WV 25302
(Phone Number) / (Fax Number) 304.342.0159 / 304.345.8144
(email address) ark@zmm.com

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contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise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

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

ZMM Architects and Engineers

(Company) AK RK

(Authorized Signature) (Representative Name, Title)

Adam Krason, Principal

(Printed Name and Title of Authorized Representative) (Date)

304.342.0159 / 304.345.8144

(Phone Number) (Fax Number)

ark@zmm.com

(Email Address)



Statement of Qualifications for:

Campus Lighting Design Project
Charleston, WV

GSD2300000002

September 1, 2022





September 1, 2022

Ms. Melissa Pettrey, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305-0130

**Subject: EOI: Campus Lighting Design
CEOI 0211 GSD230000002**

Dear Ms. Pettrey:

ZMM Architects and Engineers is pleased to submit the attached information to demonstrate our experience and our qualifications to provide professional architecture and engineering services for the Campus Lighting Design. Established in 1959, ZMM is a Charleston based, full-service A/E firm, and is noted for design excellence and client focus. Our integrated design approach makes ZMM unique among design firms of our size, and our ability to provide comprehensive design services has made us a trusted resource for complex planning and design projects throughout West Virginia.

For this engagement our in-house A/E team will be supplemented with the specialized expertise of GAI Consultants, Inc. GAI Consultants is an employee-owned engineering, planning, and environmental consulting firm providing award-winning solutions and local expertise to worldwide clients in the energy, transportation, development, government, and industrial markets. GAI will be responsible for survey, environmental assessment and analysis, geotechnical investigation, as well as site master planning and site civil design. ZMM and GAI have recently collaborated on a variety of local projects including the Charleston Coliseum and Convention Center and the Charleston West Side Community Renewal Plan.

- **Experience.** ZMM and GAI have experience providing design services for projects on the State of West Virginia Capitol Campus. This experience includes Improvements to State Office Buildings 5, 6 & 7 (ZMM), Roof Replacement at the Capitol Building (ZMM), engineering services for the Capitol Food Court (ZMM), an HAVC assessment of the Capitol Building (ZMM), the Gift Shop and Grand Hall Relighting at the Culture Center (ZMM), and a Capitol Campus Security Master Plan (GAI). Many of these projects included both site and building assessments. Additionally, ZMM has recently provided design services for the General Services Division for a similar multi-facility metal building project – the Surplus Property project in Dunbar.

ZMM's additional experience providing design services on multi-facility complexes includes the West Virginia Regional Technology Park in South Charleston, the Charleston Job Corps Center, Campus Master Plans (WVSU, BridgeValley CTC, Southern WV CTC, and New River CTC), as well as the Joint Interagency Training and Education Center at Camp Dawson.

- **Quality.** ZMM has a history of providing high quality design services on projects throughout the Charleston area. Recent experience includes the Renovation of the Charleston Coliseum and Convention Center, Edgewood Elementary School, the 10th Floor of State Office Building #5 for the Office of Technology, the CFMO Expansion for the West Virginia Army National Guard, the renovation of the Education Wing for Christ Church United Methodist, the new Headquarters for both the West Virginia Housing Development Fund and the Girl Scouts of Black Diamond Council, as well as the renovation and additions to St. Albans High School. All eight projects were recognized with statewide or national design and planning awards. *In fact, ZMM's commitment to design quality has been recognized by the American Institute of Architects West Virginia Chapter with eighteen design awards in the last decade – an achievement unrivaled in West Virginia.*
- **Proximity.** The ZMM/GAI team includes over sixty-five Charleston based employees. Many of the design professionals providing services on this project will be located out of our offices on Charleston's historic West Side and Downtown. Our ability to provide integrated design services, as well as our ability to have regular access to the East Campus site and facilities due to our location, will lead to an improved design and construction process for the General Services Division.

Thank you for taking the time to review the attached expression of interest which includes our recommended project approach, as well as information regarding the history, services, personnel, experience, and qualifications of ZMM Architects and Engineers and GAI Consultants. Additionally, please visit our websites at www.zmm.com and www.gaiconsultants.com to see the full range of projects that we have designed, and to learn about working with our team from a client's perspective. We appreciate your consideration for this important assignment.

Respectfully submitted,
ZMM, Inc.



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

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PROJECT UNDERSTANDING AND APPROACH

PROJECT UNDERSTANDING

ZMM Architects and Engineers understands that the West Virginia Capitol – Building 1 is the centerpiece of a multi-building complex of buildings referred to as the Campus. The Campus includes the Governor's Mansion, the historic Holly Grove Mansion, the WV Science and Cultural Center and Buildings 3,5,6, and 7. The Campus contains urban greenspace both lit and unlit and fountains both lit and unlit. Several buildings on the Campus are listed on the National Register of Historic Places (NRHP). The CBC and SHPO have jurisdiction over renovations which affect permanent physical appearance changes, coordination with CBC and SHPO are paramount. Building One and the Campus have had multiple electrical renovations, and most do not meet current NEC or NFPA guidelines. The Campus lighting project stems from the need to modernize and replace the existing 1970's era lighting and return function to the original building design elements,

YOUR TEAM

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 provided 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 with our in-house team. Our integrated design approach makes ZMM unique among architecture/engineering firms 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 over 60 years has provided ZMM with extensive experience in a variety of building types, including educational facilities, governmental facilities (military, justice, correctional), healthcare facilities, recreation facilities, commercial office space, light industrial facilities, and multi-unit residential buildings.

For this engagement our in-house A/E team will be supplemented with the specialized expertise of GAI Consultants, Inc. GAI is an employee-owned engineering, planning, and environmental consulting firm providing award-winning solutions and local expertise to worldwide clients in the

energy, transportation, development, government, and industrial markets. GAI will be responsible for any required survey, environmental assessment and analysis, geotechnical investigation (for light pole foundations), as well as site civil design and landscape architecture. ZMM and GAI have recently collaborated on a variety of local projects including the Charleston Coliseum and Convention Center, the Charleston West Side Community Renewal Plan, a new Sculpture Garden for the Clay Center for the Arts and Sciences, and the Valley Park Community Center. GAI has also provided services on a variety of local civic improvement projects including Brawley Walkway, the Kanawha Boulevard Bikeway, and Haddad Riverfront Park and Boardwalk.



With over sixty-five local employees ZMM provides an integrated design approach by delivering all building related design services including architecture, engineering (structural, mechanical, and electrical), interior design, and construction administration in-house. ZMM's team includes twelve registered architects, eleven professional engineers, interior and lighting designers, and construction administrators. Our electrical engineers are highly qualified and have worked together to deliver projects with similar scope and complexity. Their experience includes designing the exterior lighting on a variety of high-profile Charleston projects including the exterior of the Charleston Coliseum and Convention Center and the recent improvements to Susan Runyan Maier Sculpture Garden at the Clay Center for the Arts and Sciences. Our team has significant experience with historic renovations as well as working with SHPO, If needed we will hire a Historical Preservation expert to join the team.

ZMM's engineering team will be led by Bob Doeffinger, PE. Mr. Doeffinger, ZMM's principal responsible for firm and engineering management, brings more than 40 years of engineering design experience to the project. The engineering team will also include David Gunnoe, PE, Grant White, PE, and Ian Haddox to lead the electrical engineering effort. The team's current workload will allow them to immediately commence the work.



Bob Doeffinger, PE



David Gunnoe, PE



Grant White, PE



Ian Haddox

PROJECT APPROACH

As an integrated architecture and engineering firm, ZMM regularly provides design and construction phase services on projects (located in West Virginia), with a significant number of projects located in the Charleston area. The depth of our local experience has provided us the opportunity to work with

nearly every general contractor and major subcontractor in the region. This experience has led ZMM to become a trusted resource in the local design and construction industry.

ZMM has been designing lighting systems in West Virginia since 1959. Our team includes 2 professional engineers and 3 designers with experience designing exterior lighting systems. This team has implemented the exterior lighting on projects throughout the Charleston area. In addition to the work of our electrical engineers, ZMM also has structural engineers who will be responsible for designing the light pole foundations. GAI will assist with mapping, civil engineering, and any related landscape architecture.

ZMM/GAI team will:

- Conduct Meetings with Owner to Confirm Scope and Vision
- Develop Accurate Mapping of the Construction Site
- Prepare Conceptual Design Documents
- Develop the Schematic Design, Design Development, and Construction Documents for the Proposed Lighting and Controls
- Create Final Plans, Specifications, and Estimate Package
- Prepare Bidding Documents and Specifications
- Identify and Assist with Applying for Required Permits

Bidding Phase

- Assist with Preparing Bidding Documents and Solicitations
- Conduct Pre-Bid Meeting
- Develop Addenda (If required)
- Assist with Bid Opening
- Recommend Bidder
- Issue Notice to Proceed

Construction Phase

- Participation in Pre-Construction Meeting
- Observation of Construction Progress
- Serve as the Liaison Between the Owner and Contractor
- Participate in Regular Site Visits/Construction Progress Meetings
- Participate in Pre-Installation Meetings
- Certify Applications for Payment by the Contractor
- Process RFI's, Submittals and Change Orders
- Conduct Punch-List and Final Inspections
- Issue Certificate of Substantial Completion
- Schedule/Coordinate 11 Month Warranty Inspection

ABOUT ZMM ARCHITECTS & ENGINEERS

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 with our in-house team. Our integrated design approach makes ZMM unique among architecture/engineering firms, 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 over 60 years has provided ZMM with extensive experience in a variety of building types, including educational facilities, governmental facilities (military, justice, correctional), healthcare facilities, recreation facilities, commercial office space, light industrial facilities, and multi-unit residential buildings.

The original partners transferred ownership of the firm to Robert Doeffinger, PE and Steve Branner in 1986. Mr. Doeffinger and Mr. Branner helped guide and expand the firm to its present size of 35 people. Over the past 20 years David Ferguson, AIA, and Adam Krason, AIA, LEED-AP joined in ownership of the firm. In 2020, Randy Jones also joined in ownership of the firm when ZMM acquired Blacksburg-based OWPR Architects & Engineers to create a regional design firm that employs more than 50 highly-skilled professionals.

ZMM has become a leader in sustainable / energy-efficient design, and a trusted resource on complex renovation projects. ZMM's unique renovation project approach and ability to



About ZMM Architects & Engineers (cont.)

provide comprehensive design services has also led the firm to be selected to improve landmark buildings, including the Charleston Coliseum & Convention Center, the Clay Center for the Arts and Sciences, the State of West Virginia Culture Center, and the West Virginia State Capitol Building. Additional significant projects designed by the firm include the Explorer Academy (Cabell County Schools), the Logan-Mingo Readiness Center, the Manassas Park Community Center and Natatorium, the design of the Fourth High School (Frederick County Public Schools), the new Harrington Waddell Elementary School (Lexington City Schools), CAMC Teays Valley ICU, and Ridgeview Elementary School (Raleigh County Schools). ZMM has also provided design services on more than 300 school projects throughout the region.

ZMM's building-related design services include:

Pre-Design

Educational Facility Planning
Existing Building Evaluation
Space Planning
Master Planning

Programming
Feasibility Studies
Site Evaluation and Analysis
Construction Cost Estimating

Design

Architectural Design
Interior Design
Lighting Design

Sustainable Design
Landscape Architecture

Engineering

Civil Engineering
Mechanical Engineering
Energy Consumption Analysis

Structural Engineering
Electrical Engineering
Net Zero Buildings

Post-Design

Construction Administration
Life Cycle Cost Analysis

Value Engineering
Post-Occupancy Evaluation

As ZMM looks to the future, we remain committed to the ideal of providing high-quality, client-focused design solutions that meet budget and schedule requirements. We listen, we respond promptly with innovative and efficient solutions, and we deliver quality projects and develop lasting relationships. You see us in YOUR community every day.



AWARD WINNING DESIGN

2020

AIA West Virginia Chapter: Merit Award

Achievement in Architecture for New Construction

Mountain Valley Elementary School

Bluefield, West Virginia

AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Ridgeview Elementary School

Crab Orchard, West Virginia

2019

AIA West Virginia Chapter: Honor Award

AIA West Virginia Chapter: Citation Award

AIA West Virginia Chapter: People's Choice Award

Charleston Coliseum & Convention Center

Charleston, West Virginia

2018

AIA West Virginia Chapter: Citation Award

Unbuilt Project

Charleston EDGE

Charleston, West Virginia

2017

AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Explorer Academy

Huntington, West Virginia

AIA West Virginia Chapter: Merit Award

Achievement in Sustainability

Logan - Mingo Readiness Center

Holden, West Virginia

2016

AIA West Virginia Chapter: Merit Award

Achievement in Architecture in Interior Design

Christ Church United Methodist

Charleston, West Virginia



AWARD WINNING DESIGN

AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Gauley River Elementary School
Craigsville, West Virginia



2015

AIA West Virginia Chapter: Honor Award

Achievement in Architecture in Sustainable Design

Edgewood Elementary School
Charleston, West Virginia



AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Kenna Pk-5 School
Kenna, West Virginia



2014

AIA West Virginia Chapter: Merit Award

Achievement in Architecture in Sustainable Design

Huntington East Middle School
Huntington, West Virginia



AIA West Virginia Chapter: Merit Award

Achievement in Architecture

Southern West Virginia Community & Technical College
Williamson, West Virginia



AIA West Virginia Chapter: Merit Award

Achievement in Architecture in Interiors/Graphics

Girl Scouts of Black Diamond Council
Charleston, West Virginia

2012

AIA West Virginia Chapter: Honor Award

Excellence in Architecture

West Virginia Housing Development Fund Building
Charleston, West Virginia

2011

AIA West Virginia Chapter: Honor Award

Excellence in Architecture in Historical Preservation

Southside Elementary/Huntington Middle School
Huntington, West Virginia



FIRM OVERVIEW

About GAI

Streamlining Solutions

Transforming ideas into reality® since 1958, GAI is an employee-owned planning, engineering, and environmental consulting firm providing local expertise to worldwide clients in the energy, transportation, development, government, and industrial markets.

With an award-winning and respected professional reputation in landscape architecture, urban design, multiple engineering, environmental, and technical practice areas, GAI distinguishes itself by our solid reputation of providing excellent customer service along with innovative yet practical solutions.

Our work in the following disciplines provides innovative and cost-saving solutions for clients in municipal, as well as energy, transportation, water, government, real estate, and industry.

Adding Value

- Municipal engineering and community development
- Real estate and economic advisory services
- Land development and landscape architecture
- Environmental engineering and studies
- Transportation planning and design
- Cultural resources management
- Geotechnical and structural engineering
- Transmission line engineering
- Surveying/GIS/GPS
- Mechanical and electrical engineering
- Construction management, inspection, and testing
- Water resources and wastewater management
- Utility management consulting
- LEED engineering and planning
- Design-build delivery system

GAI CONSULTANTS, INC.



55+
YRS
SUPERIOR
CLIENT SERVICE

Streamlining Solutions

GAI is a 900+ person engineering and environmental consulting firm with over 55 years of experience delivering innovative engineering solutions. *Transforming ideas into reality* since 1958, we currently serve our clients from 25 office locations throughout the Eastern, Midwestern and Southern United States. Through engineering expertise and broad, deep knowledge of regulatory processes, we offer solutions that make a real difference to our clients.

110
ENR TOP 500
DESIGN FIRMS

100%
EMPLOYEE
OWNED FIRM

With an award-winning and respected professional reputation in multiple engineering, environmental, and technical practice areas, GAI distinguishes itself by our solid reputation of providing excellent customer service along with innovative yet practical solutions.

Our work in the following disciplines provides innovative and cost-saving solutions for clients in municipal, as well as energy, transportation, water, government, real estate, and industry.

Our Clients

Our clients are highly respected global energy and manufacturing firms, transportation agencies, and national developers—as well as local communities and state and federal government. They challenge us with projects that demand skilled technical expertise and sustainable results.

Our Communities

Our numerous offices are organized to mobilize staff and services seamlessly. They foster a unique blend of professional consulting disciplines, dedicated engineering and environmental specialists, and local experts. We work, live, and give charitably to the communities we serve.

Our Services

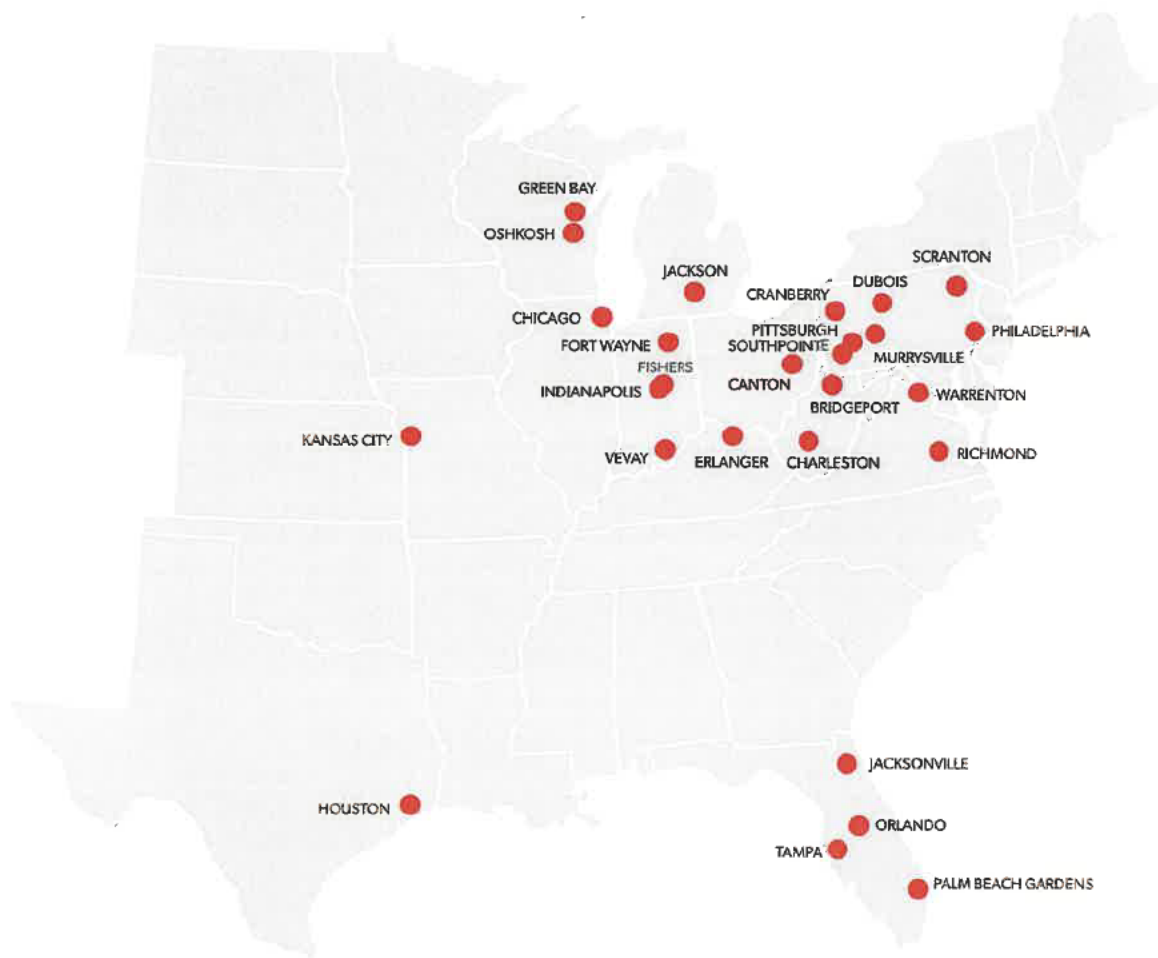
- Airport Planning + Design
- Bridge and Structure Inspection + Design
- Coal Combustion Residuals Management
- Construction Inspection and Management
- Cultural Resources Management
- Economic Analyses and Strategies
- Electric Transmission Design and Siting
- Environmental Engineering
- Environmental and Species Studies + Permitting
- Gas Pipeline Surveying and Mapping
- Geographic Information Systems (GIS)
- Geotechnical Engineering and Geology
- Impoundment and Landfill Permitting + Design
- Land Development Engineering
- Landscape Architecture + Design
- Master Planning and Urban Design
- Mechanical, Electrical, and Structural Engineering
- Natural Gas FERC Certification and Permitting
- Nuclear Energy Engineering Support
- Right of Way and Appraisal Support
- Land Surveying and Mapping
- Transportation Planning + Design
- Utility Management Consulting
- Water, Stormwater, Wastewater Management

VISION | To strategically grow our business, nationally and internationally, in partnership and trust with our clients and staff

MISSION | We meet our clients' challenges by empowering our employee-owners to transform ideas into reality®

CORE VALUES | Integrating integrity, trust, and quality into all that we do • Delivering outstanding client service and communication • Enhancing business through high ethical standards • Acknowledging our employees' achievements • Strengthening our success through safety

OFFICE LOCATIONS



Office Locations

GAI was established in Pittsburgh, Pennsylvania, in 1958, and currently has 27 offices in 12 states. GAI's strategic locations in West Virginia places it within reach of multiple GAI offices that can provide capabilities, expertise, and support throughout the duration of the project.

The GAI office location and point of contact that will directly administer this contract is:

GAI – Charleston, West Virginia

Dave Gilmore, PLA, MBA | Principal-in-Charge
300 Summers Street, Suite 1100 | Charleston, WV 25301
T 681.245.8867 | d.gilmore@gaiconsultants.com

www.gaiconsultants.com/communitysolutions



900+
EMPLOYEES



Our mission is to create livable places of lasting value in an increasingly connected, complex, and competitive world.

GAI'S COMMUNITY SOLUTIONS GROUP: EXPERIENCED PEOPLE, OPEN MINDS, FRESH IDEAS

Organization Structure

COMMUNITY SOLUTIONS GROUP

A GAI Consultants, Inc. Service Group

Planning | Urban Design
Landscape Architecture
Economics | Real Estate

As part of GAI, our specialized Community Solutions Group (CSG) practice combines with the broad knowledge of our 900-person engineering and environmental consulting firm to offer services in Planning, Landscape Architecture, Surveying, and Management Consulting.

The GAI office location and point of contact that will directly administer this contract is:

What We Are

CSG is an idea-driven, strategic consulting practice integrating design, planning, and economics. We are committed to enhancing communities in ways that are practical, sustainable, and authentic to our clients' needs, while being politically aware, financially feasible, and aesthetically compelling. Our mission is to create livable places of lasting value in an increasingly connected, complex, and competitive world.

Who We Are

CSG is a unique team of landscape architects, urban designers, land use planners, public finance and economic development specialists, and public administrators who capture the full dimensions of strategy and solution. Committed to positioning cities for a sustainable future, we are recognized for delivering insightful, thorough, and technically sophisticated solutions. We embrace a philosophy that values the complex interrelation of people, place, and policy while considering a project's ability to positively impact its investors, community, and setting.

What We Do

Our work centers on finding resolution to place-based problems by implementing context-sensitive, sustainable solutions that are economically and fiscally beneficial and implementable. We engage diverse community groups to affect positive outcomes with shared benefits through integrated solutions. Consequently, our clients include governments, agencies, institutions, and developers who share an equal need to address complex and inter-related challenges. We work from planning to policy and concept to construction across the scales of region, city, and campus; neighborhood, street, and site.

As an art, our practice requires an understanding of the nuances of feasibility, political sensitivity, urban form, relationships, and character of place. But as a science, it involves street geometries and hydrologic flows, floor-area ratios, densities, market economics, and financing mechanisms. We are effective because we are sensitive and sophisticated about implementing complex ideas across the platform of inclusive participation, thoughtful design, funding and finance, public policy, and community partnerships for initiatives both large and small.

Master Planning + Urban Design

Landscape Architecture + Design

Economics + Real Estate Consulting

Master Planning + Urban Design

CSG's master planning and urban design practice focuses on crafting plans that create livable places of lasting value for communities that require context-sensitive, sustainable solutions. We prioritize close collaboration with clients through an approach that emphasizes plans that reflect strong neighborhoods, livable transportation networks, interconnected park and open space systems, environmental sensitivity, and economic opportunities. Through work at the scale of city, neighborhood, and street, our plans create the framework for rich, interactive settings that bring people together in environments that facilitate meaningful experiences that enrich lives.

Our team draws upon expertise in multiple disciplines to balance physical, social, and economic needs and create urban places that enhance quality of life. We understand that each building, streetscape, transportation corridor, and park works toward creating an urban place that transcends the value of any individual element. Our planners and engineers work closely with clients to ensure that each piece of this urban fabric is deliberately designed with quality and respect for its role in the public realm.

With an eye toward implementation, we also understand the complex regulatory processes that must be navigated in order to gain approval for these great community plans. We draft clear plans and regulations designed to support community goals, preserve lifestyle choices, and create economic development and redevelopment opportunities, and we forge partnerships between stakeholders and local governments to achieve these positive outcomes.

Landscape Architecture + Design

The Landscape Architecture Studio within CSG integrates an experienced team of professionals that strives to raise the standard of planning and design services to a new level with every project, producing sustainable, context-sensitive solutions that meet our clients' objectives. We listen to their concerns, their desires, and their needs; we gather a deep understanding of place and issues; we then deliver thoughtful and innovative solutions. The studio operates under a fundamental planning and design philosophy seeking to develop solutions that make a positive contribution to the economic and social values of a community or place. Whether the task is community master planning and place-making, streetscape and corridor design, sustainable stormwater strategies (LID), parks and open space design, or corporate and campus planning and design, we are committed to creating rich, diverse and sustainable places for people—beautiful works that allow people to connect to the environment and that respect the community's cultural, historical, and environmental heritage.

Economics + Real Estate Consulting

CSG's economic and real estate consulting services draw from the advising team's experience, education, and a culture that integrates allied disciplines to enhance the appropriate solutions. The firm's approach draws upon its knowledge of growth management techniques in many state settings, local regulatory constraints, infrastructure systems and design, public finance, awareness of the needs in the private marketplace, preferred land use forms, aesthetics, emerging trends in development, and the linkages among infrastructure, economic development as well as the character of the built environment. This knowledge enables our clients to choose critically between alternatives and implement a strategy or master plan that is flexible, cost effective, sustainable, and marketable—attributes sought by both our public and private clientele.



WV STATE OFFICE BUILDINGS 5, 6, & 7

LOCATION | AWARDS
CHARLESTON, WV | 2011 AIA WV MERIT AWARD

Nearly 50 years ago, ZMM (as Zando, Martin & Milstead) designed the original West Virginia State Office Buildings 5, 6, and 7.

Over the past decade, ZMM has been assisting the State of West Virginia General Services Division with various improvements to the buildings. The improvements commenced with an overall building assessment that examined the condition of the buildings, as well as cost and phasing options for implementing various upgrades. Improvements that have been undertaken have ranged from substantial renovations to maintenance and repair projects, and include:

Major Renovations: ZMM Architects & Engineers provided design services for the renovation of the 10th Floor of Building 5 for the Office of Technology - a project that was recognized with a design award from the West Virginia Chapter of the American Institute of Architects. The project focused on demonstrating the potential that exists in State Office Buildings 5 and 6 if the floors are renovated in a more contemporary manner that moves the open office spaces to the perimeter, and pulls the offices adjacent to the building core. The project also involved close coordination with the State Fire Marshal, the introduction of a sprinkler service and fire pump into the building, demolition, hazardous material abatement, and FF&E coordination. The project was delivered considerably under the anticipated project budget.



WV State Office Buildings 5, 6 & 7 (cont.)

The next phase of the renovation involved floors 7, 8, and 9 of Building 5 and floors 7 and 8 of Building 6. All of these floors have been fully renovated, including abatement, demolition, new construction, and updated life safety systems. ZMM has also provided design services for the renovation of the 2nd, 3rd, and 4th Floors of Building 6 for the Department of Education and Division of Personnel.

Roof Replacement: ZMM assisted the General Services Division with a roof replacement for all three buildings, utilizing a white EPDM roofing material, with consideration being given to sustainability. The existing ballast, roof membrane, and rigid insulation were also salvaged as part of the roof replacement project. Several unused mechanical penthouses, antennas, and other abandoned equipment were also removed.

Electrical Courtyard Improvements: ZMM Architects & Engineers assisted the General Services Division with a project to expand the electrical courtyard adjacent to Building 7, and simultaneously improve the electrical service entry to buildings 5, 6, and 7. This project required both historical (matching the existing granite panels), as well as very technical electrical engineering design considerations.

Door and Window Replacement: ZMM has assisted with two separate projects, one to replace the windows in Buildings 5 and 6, and the second to replace the doors at the entries to Buildings 5, 6, and 7. The window replacement included over 1,200 windows, as well as decorative extruded metal screen. These projects included building envelope and security considerations. The projects were designed and staged to minimize disturbance to the buildings' occupants.

Caulk Replacement: ZMM provided design services to remove and replace all of the caulk located between the limestone and precast panels on the exterior of Buildings 5, 6, and 7. The project also included cleaning of the building's exterior along with some repair work. The project was coordinated with the Capitol Building Commission.

Valve Replacement: ZMM assisted with a valve replacement project to isolate mechanical risers in Building 5 and 6. This technically intensive mechanical project gave the General Services Division greater control over the system, and helped to isolate various risers in the event of significant system failures in the future.





WEST VIRGINIA STATE CAPITOL

LOCATION | COMPLETION
CHARLESTON, WV | 2007-2021

ZMM Architects & Engineers has completed a variety of improvement project to the State of West Virginia Capitol Building.

The improvements included a renovation to the lower-level food court, a roofing replacement, toilet renovations, and various HVAC improvements - including a project to increase safety during the Covid-19 pandemic. The food court renovations included a full-service kitchen, self-serve area, and seating for 300 people. ZMM worked with a kitchen consultant and provided demolition drawings, base architectural, mechanical, and electrical drawings. The project also included the design of the first phase of a wet pipe sprinkler system. In addition, ZMM also provided the documents to replace the Capitol medium-voltage transformers. ZMM met a stringent timeline for a critical construction completion date.

ZMM replaced the roof of the Capitol Building, which included the main buildings, connectors, and base of the dome. All roof system components were reviewed for integrity and ability to control moisture collection and removal. The components included in the project were parapet walls, railings, wall conditions, colonnades, roof penetrations, roof drains, roof equipment, and walking surfaces. Additional projects included improvements to the Senate toilets, a report that mapped all of the mechanical equipment in Capitol Building, and various mechanical improvements to make portions of the Capitol more safe for occupants during the pandemic.





CHARLESTON COLISEUM & CONVENTION CENTER

LEED
SILVER

LOCATION CHARLESTON, WV	SIZE 283,000 SF	COMPLETION 2018	COST \$100M	AWARDS 2019 AIA WV HONOR AWARD, CITATION & PEOPLE'S CHOICE AWARD
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The Charleston Coliseum & Convention Center expansion and renovation was a transformational project for both the city of Charleston and West Virginia.

Our team built on the strong authentic character of Charleston to remake the Charleston Convention Center into a more efficient, sustainable, dynamic, and iconic best-in-class destination.

The design of the expansion and renovation of the Charleston Convention Center was inspired by the story of West Virginia. Defined by a rugged landscape, the early history of the state was dominated by extractive industries: salt, coal, timber, and trapping. This set the local character. With a foundation rich in resources, manufacturing added value to the raw materials, with crafts like glass-making and industries like chemicals and energy. This attracted a rich diversity of immigrants and a culture of craftsmanship that set the urban character. The economy is shifting from industry and service to information and technology. Again, the landscape and industry that shaped the region gives Charleston real advantages to exploit. The Creative Class, critical for the information and technology age, can live and work anywhere - what they want is access to the outdoors, real places with real character, and continuous education and entertainment.



Project Profile

#E181070.00

Client:

Clay Center for the Arts and Sciences

Project Team:

GAI Consultants
ZMM Architects

Services:

- Master Planning
- Landscape Architecture
- Civil/Site Engineering
- Construction Administration

Completion Date:

Spring 2021

CLAY CENTER FOR THE ARTS AND SCIENCES SCULPTURE GARDEN

Kanawha County | Charleston, West Virginia

LISTEN, REFLECT, INTERACT

GAI Consultant's Community Solutions Group teamed with ZMM Architects and Engineers to provide master planning and design services for a complete overhaul of the Sculpture Garden at the Clay Center for the Arts and Sciences. The design team focused the plan around the concept of providing three outdoor "rooms" which are meant to enhance the guest experience at the Clay Center. The rooms identified during the planning and design process create the opportunity to do three things: listen, reflect, and interact.

To create a place to listen, the design team developed a small event space covered with an artful tensile fabric canopy which is to be used for small outdoor concerts, weddings, and parties. For an area of reflection, the design team enhanced an existing landscape area with a large reflecting pool and fountain. At the center of the pool is the feature sculpture, which blends into the water below. Finally, for a space of interaction, the team enhanced an existing paved area by accenting it with new seating, lighting, and landscape materials. The new interaction space is envisioned to be used for dining, meetings, and outdoor classroom space.





CLAY CENTER FOR THE ARTS & SCIENCES OF WV

LOCATION | COMPLETION | COST
CHARLESTON, WV | 2020 | \$2.1M

The Clay Center for the Arts and Sciences of WV in Charleston is a 240,000 SF facility that opened in 2003 and is dedicated to promoting performing arts, visual arts, and the sciences.

The Clay Center is housed in a very formal structure with a stone base and portico, brick and glass veneer, and several domed spaces (at the entry and planetarium). The rear of the building, designated as the Susan Runyan Maier Sculpture Garden, contained a brick plaza with minimal landscaping and sculptures around the perimeter. There was little connection to the interior of the space, which occupied the corner of two unadorned large brick walls. The space was uninviting and seldom utilized.

Over the past several years, the Clay Center has been undertaking improvements to add features and update exhibits to enhance the visitor experience. When the *Waterworks* exhibit was developed on the main level, new windows were added to the space to improve the views and provide access to natural light. Once the visual connection was made to the sculpture garden, it was clear that improvements were needed to help activate the space and maximize its potential.

To help implement the project, the design team provided planning and design services for a complete overhaul of the sculpture garden. The design team focused the plan around the concept of providing three





VALLEY PARK COMMUNITY CENTER

LOCATION HURRICANE, WV	SIZE 31,216 SF	COMPLETION 2018	COST \$8M
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The 31,216 SF Community Center building is the centerpiece of a multi-million dollar improvement to the existing Valley Park in Hurricane, WV.

The park's previous community building was torn down to make way for a larger, updated Community Center that includes 7,750 SF of conference space, a commercial kitchen, offices for the Putnam County Parks and Recreation Commission, and offices, locker-rooms, and concessions for the existing wave pool.

The exterior design plays off the existing Commons Building, which incorporates stone accents, wood siding, and multi-sloped roofing around a floor plan that emphasizes the internal components. The Community Center entrance is highlighted by a large, exposed-wood truss bearing on tall, battered stone columns. These wood beams are featured at all entrances and carry into the meeting room prefunction to provide a fully-exposed, open wood structure. The majority of the building perimeter is brick veneer with the taller meeting room and entrance separated by cast-stone banding. The more detailed façades for the prefunction space and office blocks feature punched windows set in horizontal wood siding with a stone veneer wainscot, which gives the building a lodge-like feel. Sloped, standing seam metal roofing highlights the more visible portions of the building, while flat roofs cover the support spaces.



Project Profile

#E080952

Client:

City of Charleston

Services:

- Landscape Architecture + Design
 - Parks, Trails + Public Realm
 - Urban Buildings + Special Places
- Urban Design + Planning
 - Parks System Planning + Bike/Pedestrian Systems
- Construction Engineering + Inspection
- Land Development
 - Civil/Site Engineering

Completion Date:

2010

Construction Cost:

\$ 3.9 million

Awards:

WVAIA Honor Award – 2010

WVASLA Excellence Award – 2012

HADDAD RIVERFRONT PARK AND BOARDWALK

Kanawha County | Charleston, West Virginia

GAI Consultants 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.

GAI was successful in meeting an aggressive 18-month planning, design, and construction schedule. Change orders during construction amounted to less than 0.5% of the total cost. Taking a different approach, GAI presented an initial design that encompassed and connected all four parts of the entire project. The design was highlighted by a grand staircase that would lead to the proposed amphitheater, which serves to open the park to Kanawha Boulevard, making it an integrated part of downtown Charleston.



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Project Profile

#E140777

Client:

City of Charleston

Services:

- Permitting
- Construction Management + Monitoring
- Traffic Studies
- Master Plan Development
- State + Federal Funding Application Assistance

Completion Date:

2015

Construction Cost:

\$3.5 million (Brawley Walkway)

Awards:

WVASLA Honor Award – 2015

BRAWLEY WALKWAY

Kanawha County | Charleston, West Virginia

GAI's Community Solutions Group provided master planning and rehabilitation services for a large urban plaza in downtown Charleston, West Virginia. The existing plaza had become tired and in disrepair over the years and, as a result, went unused by the 9 to 5 office employees in the surrounding downtown area. In an attempt to revitalize the plaza, the design team analyzed the factors contributing to its underuse and responded with a design that would ultimately energize the space and invite new users.

The design team's solution was to provide an expansive multiuse lawn in the core of the plaza to transform the bleak hardscape into a vibrant and active park. The lawn panel is surrounded by a cobblestone walking trail, an outdoor dining space, and a stone seating terrace, all of which are all wrapped

in lush vegetation. Extending beyond the park to the east and west are two linear walkways that connect the downtown core and commercial districts. The walkways are lined with unique lighting displays and artful paving patterns along their entire length.

In addition to serving as a gathering space and critical downtown corridor, the space is also home to a regional transportation hub. The design team analyzed existing bus routes and choreographed a new sequence and circulation for the loading and unloading of passengers along the transit station. The design incorporates a new bus ticketing office and plaza along with the potential for multimodal transportation, such as the addition of bicycling amenities.





WV CULTURE CENTER GREAT HALL LIGHTING & MUSEUM SHOP

LOCATION	SIZE	COMPLETION	COST
CHARLESTON, WV	12,000 SF	2011	\$2M

ZMM provided design services to various improvements including the Great Hall lighting wiring system and the Museum Shop at the WV Culture Center, located at the WV State Capitol Complex.

The existing wiring and conduit system for the Great Hall lighting was approximately 35 years old and in need of drastic improvements. The existing conditions that were observed included the conduit and outlet boxes mounted on the underside of the existing grating above the ceiling, the dimming circuits shared a common neutral, and bad fixture connections and cables. ZMM performed a complete survey and drawings of the existing conduit, wiring, and dimming systems. The circuiting requirements were confirmed and ZMM proposed correction methods with a dimming equipment manufacturer. The project included: dimmer circuits, conduit, wiring, new twist lock receptacles, and cleaning of the fixtures.

In addition to the improvements to the Great Hall lighting, ZMM examined a variety of options to add both a café and Museum Shop to the facility. The West Virginia Division of Culture and History ultimately decided to repurpose an underutilized space adjacent to the Great Hall as a Museum Shop. The shop is currently operated by Tamarack.



Project Profile

#E120597.00

Client:

City of Charleston

Project Team:

GAI Consultants'
Community Solutions Group

Services:

- Landscape Architecture + Design
 - Parks, Trails + Public Realm
- Urban Design + Planning
 - Parks System Planning + Bike/Pedestrian Systems

Completion Date:

2017

KANAWHA BOULEVARD BIKEWAY

Kanawha County | Charleston, West Virginia

GAI Consultants' Community Solutions Group developed the design for the Kanawha Trestle Walk and Bikeway System. The system includes the addition of a two-lane bikeway and green strip along the south side of Kanawha Boulevard that reaches from Pennsylvania Avenue to the Patrick Street Bridge underpass (approximately 1.8 miles).

The bikeway and green strip were constructed between the existing asphalt walking path and the south curb of the roadway. To provide the necessary space for these additions, the existing grass median was removed from the center of Kanawha Boulevard. One automobile lane along the roadway was also removed, reducing the number of automobile lanes from four to three, thereby encouraging safer and slower driving speeds.

Although the existing grass median was removed, the addition of the green strip on the south side of Kanawha Boulevard, a planted median from Pennsylvania Avenue to Delaware Avenue, and the expansion of an existing greenspace at First Avenue resulted in a 4,000-sf net increase of pervious surfaces (i.e., greenspace) within the total project area. Additionally, the green strip was designed to capture and infiltrate a large portion of stormwater from the adjacent roadway and conduct it through a series of bioretention cells and swales.

The City used this project to demonstrate innovative stormwater best management practices (BMP). Further, the City operated a municipal separate storm sewer system (MS4) permit, which requires all new and redeveloped projects to minimize impervious area and promote stormwater infiltration.





JOINT INTERAGENCY TRAINING AND EDUCATION CENTER (JITEC)

LEED
GOLD

LOCATION KINGWOOD, WV	SIZE 283,000 SF	COMPLETION 2013	COST \$100M	AWARDS 2011 AIA WV HONOR AWARD
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ZMM, in association with AECOM, provided architectural and engineering design services for JITEC, an Army National Guard campus-style facility for training and operational mission support.

Sited on 30 acres near Camp Dawson, this project included the design of a new operations building, expansion of the billeting facility, renovation of the training facility, and creation of a new base access control point (ACP) and visitor's center. The vision behind the site design and updated master plan is that of a college campus atmosphere. The facility is designed to meet all anti-terrorism/force protection criteria and has achieved LEED Gold Certification. The operations building is prominently sited as the main focal point upon entering Camp Dawson and consists of four distinct areas: the Joint Operations Center (JOC), a suite of secure training rooms, base headquarters and JITEC administrative offices, and a server and telecommunications room.

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. The billeting (hotel) expansion's lobby design provides a hotel atmosphere, underscored by the Liberty Lounge, an upscale bar and restaurant area, with wood finishes salvaged from the gymnasium floor of the former Preston County Armory.



Project Profile

#E090616

Client:

National Youth Science Foundation

Services:

- Cultural Resources
 - Geoarchaeology, Geomorphology, Pedology
- Environmental Studies
 - Environmental Studies + Permitting
 - Wildlife and Protected/Endangered Species
- Land Development
 - Civil/Site Engineering
- Landscape Architecture + Design
 - Campus + Institutional Environments
 - Parks, Trails + Public Realm
 - Green Infrastructure + Environmental Design
- Water
 - Groundwater Engineering
 - Stormwater Management/Flood Protection
 - Water + Wastewater Engineering

Completion Date:

2009

Awards:

WVAIA Honor Award – 2011
WVASLA Merit Award – 2010

NATIONAL CENTER FOR YOUTH SCIENCE EDUCATION

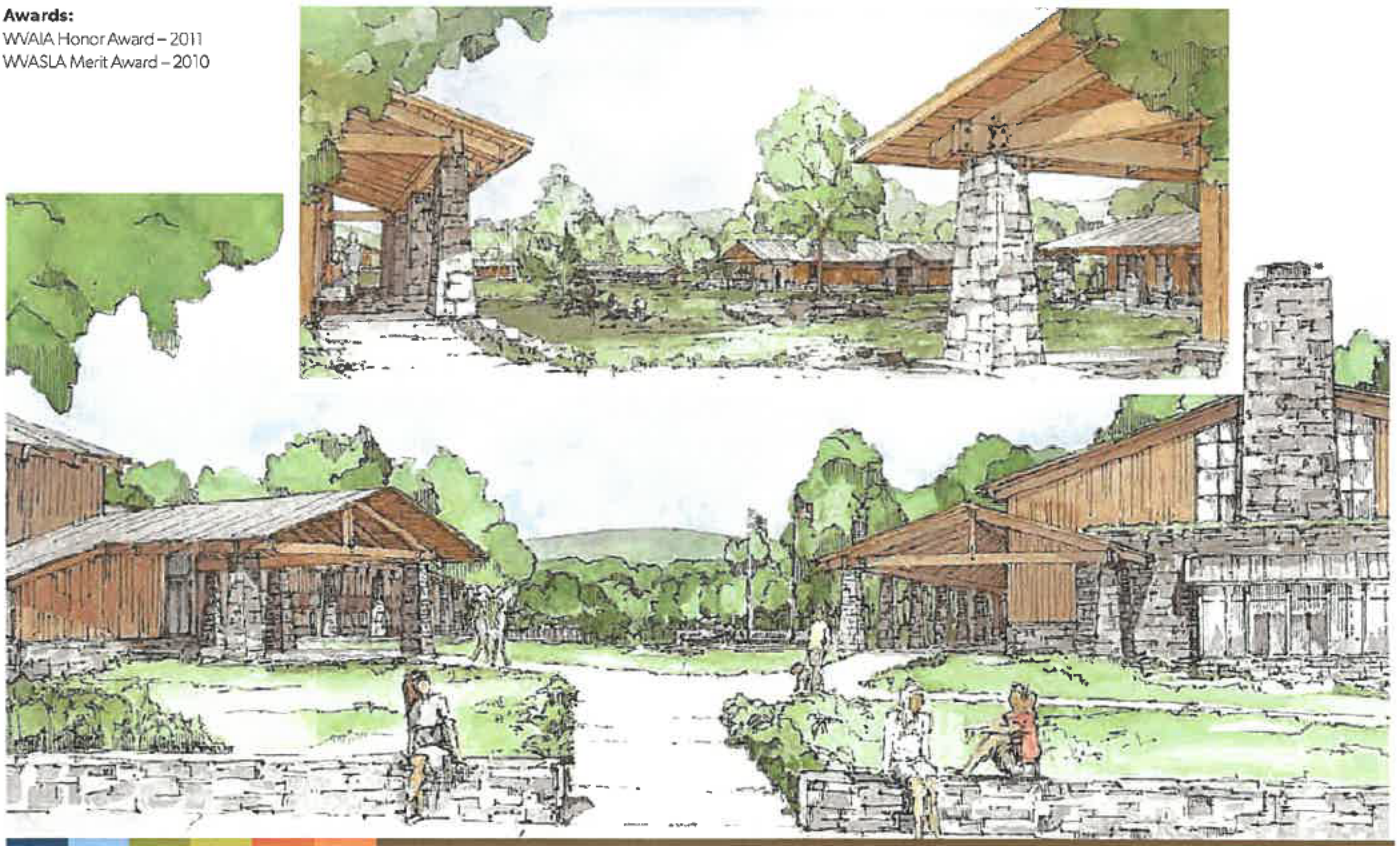
Tucker County | Davis, West Virginia

The National Center for Youth Science Education (NCYSE), also known as the “Youth Science Camp,” is being relocated from its historic leased property in rural Pocahontas County to a prestigious, environmentally sensitive facility located on its own property adjacent to the Blackwater River in Tucker County.

GAI teamed with Pittsburgh-based architecture firm **Perfido, Weiskopf, Wagstaff & Goettel** by providing master planning and schematic design services for the proposed camp property.

GAI Consultants was involved with initial programming and scope development for the project, as well as data collection, site analysis, geological review, and permitting reviews for the entire property, which included hydrology, soils, slopes, geology, wetlands, vegetation, and wildlife.

GAI was responsible for combining the site analysis information and creating a preliminary land use plan and concept plan in order to generate a cost opinion. Additionally, GAI developed designs for utilities, landscape architecture, an access road, and a trail. GAI's services helped the National Youth Science Foundation make better-informed decisions regarding site development and land use.





SOUTHERN WVCTC APPLIED TECHNOLOGY CENTER

LOCATION	SIZE	COMPLETION	COST	AWARDS
WILLIAMSON, WV	22,000 SF	2013	\$5M	2014 AIA WV MERIT AWARD

The Applied Technology Center is located on Southern WV Community & Technical College's Williamson Campus.

The 22,000 SF college houses a virtual welding shop, machine shop, mechatronics shop, a mining support program, administrative and student support spaces, as well as several allied health programs. The space is designed to maximize both flexibility and adaptability, and reflects a modern, "high-tech" aesthetic while also blending into the overall campus.

The large area for lab spaces is enhanced by black brick and surrounded by classrooms and support spaces, highlighted by a curved glass wall with metal panel accents. The entrance is crafted with smooth, metal panels and is adjacent to textured, patterned, black-brick construction to resemble coal. A wood trellis area sits on round concrete columns, shading the glass walls of the administration, and acts as an area for student gatherings. The strong contrast between the metal/glass and the wood trellis works to strengthen the outside space.

The facility is the first step in the progression of a planned campus expansion that will ultimately include expanding the campus into the adjacent property. ZMM worked with the school on a campus master plan, with a focus on creating green space and improving pedestrian and vehicular circulation, which was completed in 2014.



Project Profile

#E190579.00

Client:

Brockway Recreational
Revitalization Group

Project Team:

GAI's Community Solutions
Group

Services:

- Landscape architecture
- Master planning
- Site civil engineering
- Permitting

Completion Date:

2021

TAYLOR MEMORIAL PARK

Brockway, Pennsylvania

GAI is providing professional design services to the Brockway Recreational Revitalization Group (BRRG) for the renovation and expansion of Taylor Memorial Park in Brockway, Pennsylvania. The first phase of this multiphase revitalization project consisted of improvements to the existing playground. Future phases will further benefit the community with the addition of

a new athletic complex with a dek hockey area and three new basketball courts that are also lined for volleyball. A multiuse trail is planned—circumnavigating the park with overlooks facing the nearby Little Toby Creek. Lastly, improved parking, lighting, and pedestrian access will be incorporated to accommodate the anticipated increase in park users.



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BRIDGEVALLEY COMMUNITY & TECHNICAL COLLEGE DAVIS HALL

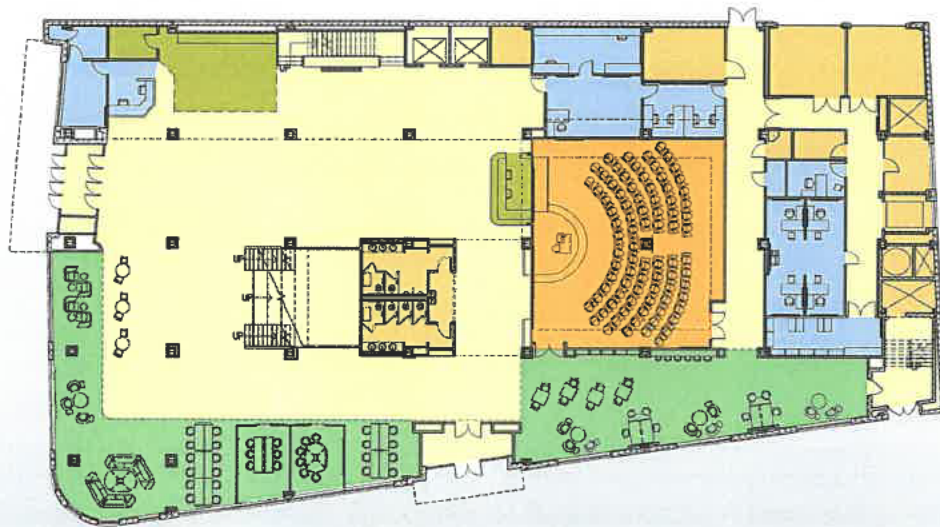
LOCATION MONTGOMERY, WV	SIZE 77,215 SF	COMPLETION 2012	COST \$4M
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ZMM was selected by BridgeValley CTC and the WV Community and Technical College System to provide architectural and engineering design services for the renovation of Davis Hall.

Davis Hall is a classroom and laboratory facility constructed in 1970 for WVU-Tech. The exterior consists of architectural pre-cast concrete panels and a curtain wall system. The interior includes an open, two-story atrium, large auditorium, and five levels of office and classroom space that are constructed of demountable partitions. Prior to commencing the design effort, ZMM completed a thorough assessment of the facility. The assessment revealed significant life-safety concerns that were not previously identified, including the use of non-plenum rated plastic insulated wiring throughout the return air plenums, mechanical units located above ceilings in exit stairs, and a lack of adequate fresh air for building occupants. As part of this initial assessment, ZMM assisted in developing a scope of work for the renovation project, as well as a long-range plan for future improvements.

The scope of the renovation included life-safety upgrades (replacing non-plenum rated wiring and fire alarm system), improvements to the building envelope (replacing curtain wall and roofing), hazardous material abatement, mechanical improvements (replacing boiler, chiller, and outdoor air ventilation system), and interior improvements (replacing ceilings and lighting, upgrading furnishings).





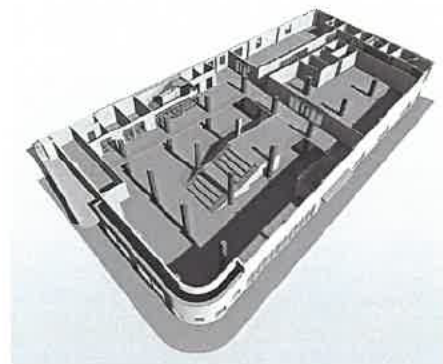
BRIDGEVALLEY CTC STONE & THOMAS

LOCATION CHARLESTON, WV	SIZE 128,021 SF	COMPLETION TBD	COST \$26M
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BridgeValley Community & Technical College plans to renovate the existing Stone & Thomas building in downtown Charleston and relocate their headquarters to this location.

The Stone & Thomas building is five stories with a full basement and mezzanine level. Originally a department store, it consists of an open floor plan and a two-story main floor. ZMM, in association with Michael Gioulis, is assisting in the design and development. The existing building has several elements that will be restored in an effort to obtain historic tax credits. The exterior of the building will be maintained in its current configuration, except for adding windows and mechanical louvers on the alley elevations. The street elevations will be restored, including glass-framed entrances, marble-clad façades, and the iconic building signage. New contemporary elements will complement the historic features.

The renovations include creating a student union and life spaces on the basement level. The street level will contain student life spaces, digital learning commons, 100-person classroom, and lecture stair to access the mezzanine level. The mezzanine will contain student services spaces. The second and third floors will contain classrooms, as well as administrative and faculty offices. The fourth floor is comprised of allied health programs, with a simulated hospital floor for an enhanced education experience. The fifth floor contains multi-function laboratory spaces.



Robert Doeffinger, PE



Role

Engineering Principal

Professional Registrations

Professional Engineer (WV, VA, PA, OH, TN, KY, NY, NH, ME, NC, SC, FL, NJ, GA)

As ZMM's Principal Engineer, Mr. Doeffinger is in charge of the engineering disciplines, 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.

After graduate school in Architectural Engineering, Mr. Doeffinger joined ZMM. He has over 35 years design experience in mechanical and electrical systems for buildings. He has a broad range of engineering experience in education, industrial and manufacturing facilities, large retail, correctional and jails, office buildings, and military facilities.

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 analysis 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.

Project Experience

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Doeffinger was the mechanical project engineer on the expansion and renovation to the Charleston Civic Center project. The \$75M, 283,000 SF design-build project was a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was completed in October 2018. The mechanical design is expected to reduce the energy requirements defined by ASHRAE 90.1-2013 by an estimated 25% and extensive water savings will be shown. The project includes a new chilled and hot water central plant with extensive replacement and upgrades to the facilities existing mechanical systems. Multiple phases of construction will allow the Civic Center to remain operational throughout the construction progress.

Education

Master of Science Architectural Engineering, Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering, West Virginia University, 1973

Employment History

2005 - Present, President, ZMM
1976 - 2005, Vice President and Engineering Principal, ZMM

Civic Affiliations

- ASHRAE – Member of the Technical Committee Load Calculations Data and Procedures for 15 years, serving as chairman. Presently Chairman of the Research Subcommittee
- Advisory Board for the Department of Electrical Engineering Technology, Bridgemont Community and Technical College
- City of Pt. Pleasant, WV – 2nd Ward Councilman for 20 years

State Office Buildings #5, 10th Floor Charleston, WV Mr. Doeffinger was the Project Engineer for this renovation project. 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. The renovations also include a low profile cable management system which maximizes the flexibility of the space. 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.

West Virginia Capitol Complex - Buildings #5, 6, & 7, Charleston, WV Mr. Doeffinger was the Project Engineer for the in-depth analysis of Buildings #5, 6, & 7 at the State Capitol Campus. The study included the preparation of as-built plans, as well as an analysis of all building systems, including: Life Safety; Vertical Transportation; Mechanical; Electrical; Data; Façade; Structure; and Roofing. The analysis also included a study related to potential hazardous materials in the facility.

West Virginia Regional Jails, Mr. Doeffinger was the Project Engineer on ten West Virginia Regional Jails. In 2009 he was responsible for the HVAC renovation on four regional jails, including the replacement of rooftop HVAC units and Building Automation Systems.

West Virginia Army National Guard, Joint Interagency Training & Education Center, Camp Dawson, WV Mr. Doeffinger was responsible for the mechanical engineering design of the 600 room billeting expansion to the Regional Training Institute at Camp Dawson. The project is served by a 4 - pipe hot and chilled water system with an energy recovery ventilation system. This project received LEED Gold Certification.

West Virginia Research, Education, and Technology – Building 704, South Charleston WV Mr. Doeffinger is the engineering principal-in-charge of preparing a life safety analysis of the building as well as design services to improve the exterior façade of Building 704 at the WV Research, Education, and Technology Park. Building 704 had previously been utilized as a campus maintenance facility by Union Carbide and DOW Chemical. Bridgmont began utilizing the facilities for instruction in the Spring of 2011.

West Virginia Regional Technology Park (WVRTP) - Building 740, South Charleston WV Mr. Doeffinger is the engineering principal-in-charge of the new Steam Plant for Building 740. This project involves designing and constructing the Interim Steam Heating System throughout Building 740.

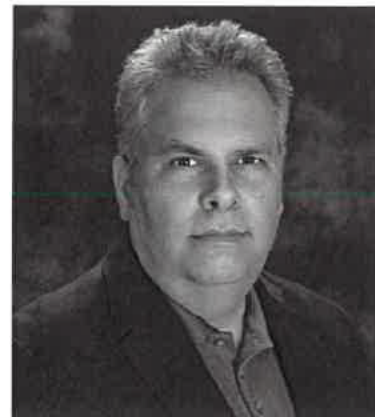
Bridgmont (BridgeValley) Community and Technical College Davis Hall Renovation, Montgomery, WV Mr. Doeffinger led an architectural and engineering investigation into the condition of Davis Hall to help Bridgmont Community and Technical College to develop a scope for the current renovation project, as well as a plan to undertake deferred maintenance at the facility. The project scope included remedying several life safety deficiencies, as well as improvements to the building envelope.

NGK Oxygen Sensor and Spark Plug Plant, Sissonville, WV Mr. Doeffinger was in charge of engineering design of the 250,000 SF NGK facility. The most recent 130,000 SF expansion moved NGK's spark plug production for the west coast to West Virginia. For both the oxygen sensor plant and spark plug plant Mr. Doeffinger designed a cycle water system for the manufacturing equipment.

The Plaza at King of Prussia, Pittsburgh, PA One of the largest retail centers in the east. Mr. Doeffinger has performed engineering services for the past 20 years. The project consists of a 5,000 -ton chilled water plant and 1,500,000 cfm variable volume system for tenants and constant volume air system for common areas and an engineered smoke control system. The most recent project is a 2011, 100,000 square foot expansion of tenant spaces, a renovation of the food court, and a 1,250-ton chiller addition to the central chilled water plant.

JAMES GREENE, PE

Director, Engineering



Jim specializes in civil engineering projects, and has more than 30 years of experience. He has managed retail, residential, commercial, industrial and recreational site development projects. He has completed water and sewer line designs; stormwater management and erosion control design; federal, state and local permitting; conceptual site and utility plans; master plans, construction cost estimates; hydrologic and hydraulic studies; design of water quality infiltration trenches, dry wells and infiltration basins.

EDUCATION

- BS Civil Engineering 1985, Pennsylvania State University

REGISTRATIONS

- Professional Engineer:
 - Pennsylvania, No. [REDACTED]
 - West Virginia, No. [REDACTED]
 - Ohio, No. [REDACTED]

Highlighted Professional Experience

- **Tamarack Lake, Meadville, PA.** Project Manager. Tamarack Lake is a 562 acre flood control lake. There are two high hazard dams associated with this lake. GAI is currently working with the Pennsylvania Department of General Services and the Pennsylvania Fish and Boating Commission to re-design the dams, concrete risers, outfall structures, auxiliary spillways, diversion dam and saddle dike. A significant geotechnical investigation was completed by GAI in 2014 involving a drilling program, lab testing, ground penetrating radar, in-situ testing, stability analyses and settlement calculations. GAI also completed a hydrologic and hydraulic study of the two dams utilizing HEC-RAS and HEC-HMS for a 5 square mile drainage area. Permit applications are on-going include PADEP Dam Safety, NPDES, USACOE and township stormwater management.
- **Clarion University of Pennsylvania Parking Lot Design, Clarion, PA.** Managed the design of a 200-space parking lot for student parking facility, including underground stormwater management facility.
- **The Highlands located in Triadelphia, WV.** Managed and designed master planning, conceptual site plans, earthwork analysis, final construction plans, permitting, utility design, stormwater management design of 14 basins, erosion and sedimentation control design, 3-D renderings, construction cost estimates, roadway design, surveying, bid phase services, and construction phase services for an 1,100-acre Commercial and Industrial Park. Total earthwork moved approximately 15M cubic yards.
- **West Hills Industrial Park Expansion, East Franklin Township, Armstrong County, PA.** The 200-acre project included roadway design, water, sanitary sewer and erosion and sedimentation control design. A stormwater management basin (134-acre drainage area) was also designed for controlling the future runoff of the site.
- **TECH 21 – R&D, Commercial and Residential Development, Marshall Township, PA.** Managed all phases of the 225-acre site development including grading plans, earthwork analysis, wetland investigation, construction cost estimates, and roadway design.

- **Zelienople Airport, Beaver County, PA.** Managed completion of master site plan and construction cost estimates including layout of utilities, roadways, developable pads and stormwater management facilities for 200-acre airport property.
- **Stormwater Detention Basin Design, Pittsburgh International Airport, PA.** Designed stormwater management detention basin for a 1,000-acre drainage area of McClaren's Run.
- **Sheetz, Triadelphia, WV.** Managed design of civil/site features including parking lot, storm drains, erosion and sedimentation controls, NPDES permitting, geotechnical investigation, landscape design, irrigation, and utility design.
- **Sheetz, Follansbee, WV.** Managed design of civil/site features including parking lot, storm drains, erosion and sedimentation controls, underground stormwater management, NPDES permitting, geotechnical investigation, landscape design, and utility design. Provided construction phase services including testing of concrete and soils.
- **Wheeling Shoppes, Ohio County, WV.** Debartolo Property Group, LLC. Managed and designed 85-acre retail center including WAL-MART and Lowe's through conceptual planning stage. Completed numerous grading plans, parking layouts, out-lot designs, utility plans, 3-D CADD renderings and movies. Worked directly with retailers to develop workable site plans.
- **Target Located in Triadelphia, WV, 70,000 s.f.** Managed design of civil/site features including parking lot, storm drains, erosion and sedimentation controls, NPDES permitting, geotechnical investigation, landscape design, irrigation, site lighting, utility design, bid phase services, and construction phase services. Completed detailed Capital Project Request (CPR) meeting binder, attended CPR meeting at Target Headquarters in Minneapolis, Minnesota and helped successfully bring retailer to development
- **Cabela's Retail Store located in Triadelphia, WV.** Managed and designed conceptual plans, 3-D renderings, site grading plans, parking plans, utility design and technical specifications, final construction plans, landscape design, irrigation design, geotechnical investigation, erosion and sedimentation control plans, ALTA survey, construction surveying, and permitting for 175,000 s.f. building on a 60-acre site.
- **Cabela's Distribution Center Building 1, Triadelphia, WV.** Managed and designed conceptual plans, site grading plans, parking plans, utility design and technical specifications, final construction plans, landscape design, irrigation design, geotechnical investigation, erosion and sedimentation control plans, construction surveying and permitting for 572,000 s.f. building on a 44 acre site.
- **Cabela's Distribution Center – Building 2, Triadelphia, WV.** Cabela's Retail Incorporated. Managed and designed conceptual plans, site grading plans, parking plans, utility design and technical specifications, final construction plans, landscape design, irrigation design, geotechnical investigation, erosion and sedimentation control plans, construction surveying and permitting for 560,000 s.f. building on a 35-acre site.
- **Allegheny Power Landfill, Armstrong County, PA.** Managed design, permitting and construction phase services or fly ash landfill and borrow site including two lined impoundments, haul roads, ditches, utilities and stormwater out fall to the Allegheny River.
- **Airport Stormwater Management, Pittsburgh, PA.** Prepared stormwater management programs for Pittsburgh International Airport. Tasks included hydrologic analysis of 12,400-acre drainage area, including location and design of 13 stormwater management detention basins to reduce runoff from future airport expansion.
- **Mulberry Alley (aka Jacob Street) Storm Sewer Project, Kittanning, Armstrong County, PA.** This project included the design of 3,100 feet of 48" diameter HDPE and RCP from behind the Armstrong County Courthouse to the Allegheny River.
- **Drainage Basin Analysis, Broward and Palm Beach Counties, FL.** Analyzed 100-square-mile Hillsboro Canal drainage basin to determine runoff curve numbers, times of concentration, structure data tables, reach data tables, and a sub-basin drainage area map. Developed TR-20 and HEC-2 computer models.
- **Floodplain Mapping Analysis, Pittsburgh International Airport, Allegheny County, PA.** Analyzed McClaren's Run floodplain at the Pittsburgh International Airport. Tasks included preparing existing and proposed 100-year floodplain mapping and design of 630-foot, eight-foot by ten-foot box culvert stream enclosure.
- **Erosion and Sedimentation Control Design, Greene County, PA.** Designed erosion and sedimentation control plans for 18-acre U.S. Steel mine site.

Nathan Spencer, AIA



Role

Project Architect

Professional Registrations

Registered Architect (WV)

Mr. Spencer is responsible for coordinating the efforts of the design team in preparing thorough and clear design documents. He has experience in all phases of design working on a wide range of building types including; military, educational, office, justice, and residential.

He has worked on several projects that are currently pursuing LEED certification. In addition to production, Mr. Spencer, is also experienced in 3d modeling. He has worked on several preliminary concept study models as well as high quality renderings and 3d models later in the design process. Mr. Spencer is also experienced in high quality physical models.

Mr. Spencer began his career in architecture with ZMM in 2003, working as a summer intern. After graduating in 2003, he began working at ZMM full time.

Project Experience

Joint Interagency Education and Training Center (WVARNG), Kingwood, WV

Mr. Spencer participated in the schematic design of the 180,000 SF addition to the Regional Training Institute at Camp Dawson. Mr. Spencer was also responsible for coordinating the production effort for the billeting (hotel) expansion, which increased the total billeting capacity at the JITEC to 600 rooms. This project received LEED Gold Certification.

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Spencer served as project architect on the expansion and renovation to the Charleston Civic Center. The \$75M, 283,000 SF design-build project is being completed as a collaboration with tvsdesign and BBL Carlton. The design commenced in the spring of 2015, and construction was completed in 2018.

Logan-Mingo Readiness Center, Holden, WV

Mr. Spencer was the architect on the new Logan-Mingo Readiness Center. The exterior aesthetic of the facility was driven by the location within an industrial park on a reclaimed surface mined site. The building layout was developed by working closely with the end-users to determine the appropriate configuration of building spaces to maximize the efficiency of the operations, and to respond to the unique missions of the

Education

Bachelor of Architecture, University of Tennessee, 2007

Employment History

2009 - Present, Architect, ZMM

2007 - 2009, Intern Architect, ZMM

2003 - 2007, Summer Intern, ZMM

Civic Affiliations

- American Institute of Architects, Member

150th Armored Reconnaissance Squadron and the 156th Military Police (LNO) Detachment. Clear separation of "public" and "private" areas within the facility, unique office configurations related to training requirements, and the addition of State Funded additional spaces.

Jackson County AFRC, Millwood, WV

Mr. Spencer participated in the schematic design of the 76,000 SF Reserve Center in Jackson County, West Virginia. Mr. Spencer was also responsible for coordinating the production effort for the project. Mr. Spencer also produced several 3D models throughout the design process. The project is aiming for LEED Silver Certification.

Morgantown Readiness Center, Morgantown, WV

Mr. Spencer was a member of the production team for the 58,000 SF project, which housed the Army Band and associated performance spaces. Mr. Spencer also produced several 3d models throughout the design process. He also participated on all production work through all phases. The project is aiming for LEED Silver Certification.

Tucker County Courthouse Annex, Parsons, WV

Mr. Spencer was the project architect for the Courthouse Annex renovation project. The Annex is a 4-story 21,000 Square Foot building that is adjacent to the Tucker County Courthouse. The annex will house spaces for the Circuit Court, Circuit Clerk, Family Court, Magistrate Court, Prosecuting Attorney, County Commission, County Clerk, Community Corrections, and Probation Office.

Judge Black Courthouse Annex, Parkersburg, WV

Mr. Spencer assisted with the design and programming of the adaptive reuse of a former commercial space and movie theaters into a modern courthouse annex. The Judge Black Annex included two independent circulation paths – a secure entry and lobby for access to the Family Court and Prosecuting Attorney, and public access to the Assessor and Sheriff's Tax Department. The facility also houses several large public meeting rooms.

Cabell County Bus Transportation Complex, Huntington, WV Mr. Spencer was the project Architect on the Cabell County Transportation Complex is located on the site of the old Cox Landing Junior High School. Challenges on the project involved retrofitting the old school and site to accommodate the new use. The rear portion of the school was demolished to make room for the new maintenance portion of the building. The remaining front section of the school was renovated to include office space, storage areas, and a new staff development room. The new maintenance area includes a high-bay metal building with 14 back to back work-bays, three of which have hydraulic bus lifts. A hand wash bay and a state of the art automatic wash bay were also included in the project. Extensive sitework was also involved in the retrofit project including a fueling station, bus parking, a sediment pond, and an extensive rework of the existing site utilities.

Highland Hospital, Charleston, WV

Mr. Spencer was the project architect on Highland Psychiatric Hospital. Mr. Spencer was responsible for coordinating the production effort for the 60,000+ SF mental health facility. Mr. Spencer also produced several 3-D models throughout the design process. This project consisted of 87,300 SF, \$26M addition to Highland Hospital in Charleston. The addition included: administrative offices, training spaces, 165 patient beds, nurses stations, an out-patient treatment department, pharmacy, laundry, and building service spaces. A pedestrian bridge will connect the new facility to the existing hospital.

Beech Fork State Park, Lavalette, WV (unbuilt)

Mr. Spencer was the project architect for the new lodge and conference center at Beech Fork State Park. The facility will include guestrooms and other guest-only facilities in one area and public functions such as the restaurant, lounge, gift shop, and conference rooms in another area. All guestrooms offer a lake view, a 2-story atrium opens up at each end of the lobby with curtainwall glazing, and an indoor pool provides a transparent connection to the outdoors. A high-performance envelope was designed to eliminate thermal bridging and the potential for condensation.

John Pruett, PE, LEED AP



Role

Senior Mechanical Engineer

Professional Registrations

Professional Engineer (WV, VA, IN)

LEED Accredited Professional

Mr. Pruett is responsible for overseeing the design of the HVAC systems, ensuring that the HVAC systems not only meet the program requirements, but meet the long-term needs of the owner. He performs heating and cooling load calculations and recommends the type of systems to be incorporated into the building. He coordinates with the other disciplines in order to integrate the HVAC systems into the building. Mr. Pruett has participated on several LEED registered projects; one of his key contributions to these projects is conducting energy analyses and recommending energy use reduction alternatives.

Mr. Pruett began his career in engineering with a manufacturing company in 1994. In 1998, he made a career change and joined an engineering consulting firm as an HVAC design engineer. He has a broad range of experience in HVAC systems design, including K-12 schools, higher education facilities, office buildings, libraries, hotels, restaurants, a convention center and several natatoriums. Having served in the Marines for 14 years, Mr. Pruett also led a design team for a "virtual memorial" for the birthplace of the U.S. Marine Corps.

Project Experience

Huntington East Middle School, Huntington, WV Mr. Pruett was responsible for the HVAC systems design. This school features numerous sustainable features, including an air monitoring system for verifiable indoor air quality, variable refrigerant flow (VRF) systems for portions of the school that will operate year-round, preheating of the domestic hot water with the heating hot water return. Mr. Pruett also conducted an extensive energy analysis of the building and all of its systems to maximize the effect of each component, resulting in a projected reduction in energy consumption of 32% compared to a baseline analysis.

Cabell County Schools

Barboursville Middle School - Additions and Renovations

Huntington East Middle School

Huntington High School - Controls system replacement for

Explorer Academy

Cabell County Bus Garage

Education

Bachelor of Science, Purdue

University, West Lafayette, IN, 1993

Employment History

2021- Present, Board of Directors, ZMM

2010 - Present, Project Engineer, ZMM

2007 - 2009, Sr. Mechanical Engineer, IN

2003 - 2007, Mechanical Engineer, IN

1999-2003, Project Engineer, Fort Lauderdale, FL

Civic Affiliations

- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Member
- United States Marine Corps – 14 Years

Southside Elementary/Huntington Middle School
Huntington High School – Cooling tower replacement
Cabell Midland High School - Cooling tower replacement
Martha Elementary School- Addition
Salt Rock Elementary Renovations
Cabell County Career & Technical Center – HVAC Replacement
Huntington High School Wrestling Room Addition
Milton PK - Additions and Renovations

Fayette County Schools

New River Primary / Oak Hill Middle School
Valley High School - Gym addition
Oak Hill High School – Renovations
Fayetteville PK-8 - Renovations
Midland Trail High School - Renovations
Valley PK-8 - Renovations
Meadow Bridge Elementary - Renovations
Divide Elementary - Additions and Renovations

Putnam County Schools

Hurricane High School - Renovations
Putnam Career & Technical Center – Welding Shop

Wood County Justice Center, Parkersburg, WV Mr. Pruett was responsible for the HVAC systems design for the LEED Silver project comprised of the judicial courts, Sheriff's department and holding cell area. The project utilizes high-efficiency custom air handling units, including an energy recovery unit for the holding cell area, which has helped reduce energy consumption on the project by 18% compared to a baseline analysis.

Tucker County Courthouse Annex, Parsons, WV

Mr. Pruett was the Mechanical Engineer for the Courthouse Annex renovation project and responsible for the HVAC systems. The Annex is a 4-story, 21,000 Square Foot building that is adjacent to the Tucker County Courthouse. The annex will house spaces for the Circuit Court, Circuit Clerk, Family Court, Magistrate Court, Prosecuting Attorney, County Commission, County Clerk, Community Corrections, and Probation Office.

WVARNG Camp Dawson Building
WVARNG Camp Dawson Building 246
WVARNG Camp Dawson Building 301
WVARNG Camp Dawson Mail Facility
WVARNG Marshall County Readiness (Design)
WVARNG Camp Dawson Job Challenge Academy

Project Experience with other firms

Southern Indiana Career and Technical Center (SICTC), Evansville, IN

Mr. Pruett was responsible for the HVAC systems design for the 262,000 square foot facility. The project features a complex air system necessitated by the diversity of the educational programs featured in the facility: welding, auto shop, building trades, electronics, radio/TV communications, culinary arts, etc. The main mechanical room was also designed to be an educational space, utilizing color-coded piping, a corresponding color-coded equipment schematic and an accessible controls workstation to aid the students in learning about building systems.

Ian Haddox



Role

Electrical Designer

Mr. Haddox is an engineering graduate with design experience in Power, Lighting (Site, General and Theatrical), Fire Alarm, Security and Nurse Call systems. He has assisted in the design of several projects that include K-12 Schools, Higher Education Facilities, Hospitals and Civic Complexes. Ian began his career with an electrical contractor, his former experiences include project controlling, scheduling and estimating large industrial and commercial projects. His demonstrated skill sets in construction, construction management, engineering and 3D BIM design have placed Ian in the unique position of having the ability to design projects based on tangible experiences.

Project Experience

Clay Center – Sculpture Garden, Charleston, WV

Mr. Haddox designed the site lighting and power requirements for this project. The lighting design included lighting controls, pathway bollard, water feature, and fabric structure lighting with provisions for lighting future sculpture locations. The lighting controls design gives the owner multiple options in dimming and color changing features during their events. The Clay Center Planetarium also received electrical upgrades.

Stone and Thomas Building – BridgeValley CTC, Charleston, WV

The Bridge Valley CTC – Stone and Thomas project is a full renovation of the existing five story Stone and Thomas Building in downtown Charleston, WV. The building was built in the late 1940's and was utilized as a shopping center for many years. It has been unoccupied since 1997 and the interior has been partially demolished. This project is currently in the design stages and is unique in the fact that there are some historical preservation aspects that need to be considered while still delivering all of today's technologies. Mr. Haddox is tasked with designing the fire alarm, security, A/V and networking systems of this new state of the art higher education facility.

CAMC Memorial - 6th Floor Front Fit-Out, Charleston, WV

Mr. Haddox is the electrical designer on the fit-out of the existing sixth floor of CAMC Memorial Hospital. The nearly 38,000 SF design-build project is in collaboration with BBL Carlton and currently in the construction phase. The project includes adding 48 critical care patient rooms, multiple offices, nurse stations, staff, waiting and storage areas. He is

Education

Bachelor of Science, Electrical Engineering, West Virginia University, 2009

Employment History

2018 - Present, Electrical Designer, ZMM

2018, Engineering Scheduler, Jacobs

2010 - 2018, Project Controller, Enerfab

responsible for the complete design of lighting, power, nurse call, security and fire alarm systems for all spaces.

Oak Hill High School Renovations, Oak Hill, WV

Mr. Haddox was the electrical designer for the Oak Hill High School Renovations, which included an electrical service upgrade, renovations to a few existing classrooms, renovations to the existing auditorium and the addition of a new Life Skills space. The electrical service upgrades included a new 1600A switchboard, back feeding the existing gear and re-routing the service entrance cables from the existing utility transformer. The auditorium saw upgrades to their house lighting, stage light fixtures and controls, a new sound booth with new sound equipment and integration of the existing video projection system. The new Life Skills space is designed to be utilized as a second gymnasium complete with scoreboards, backboard winches and independent sound system.

Putnam County Schools – Security Camera Upgrades, Putnam County, WV

Mr. Haddox assisted in the design of twenty-two Putnam County School facilities security camera upgrades. Design Development included camera placement and selection based on a criterion of Detection, Observation, Recognition or Identification. Each facilities security camera system was to be integrated in a way that with the appropriate credentials, an individual could obtain access to any facility camera system to observe or obtain recorded events from the onsite storage device.

Southern WV CTC Logan and Williamson Campus – Fire Alarm Upgrades

Mr. Haddox was responsible for the Fire Alarm design of two Southern WV CTC buildings. Building 'A' on the Logan campus is two stories with many classrooms and a large auditorium. The Williamson Campus Main Building is a five story building with multiple classrooms, labs and kitchen. To keep the buildings operable and safe during construction, the project was designed in two phases. Phase one is the installation of the new fire alarm system for each building that meets all local and state fire code requirements. Phase two is turning the building over to the new fire alarm system and removal of the existing fire alarm system.

Government

WVARNG – Poca Warehouse Renovations
GSD – Capitol Guard House
Wood County Courthouse

Higher Education

Southern WV CTC – Logan Campus Fire Alarm
Southern WV CTC – Williamson Fire Alarm
Southern WV CTC – Williamson Toilet Renovations
Roane-Jackson Tech Center Renovations
Roane-Jackson Tech Center HVAC Equipment Replacement
Cabell Co. CTE – Cosmetology Lab

Project Experience with other firms

During Mr. Haddox's career he has been a project controller for multiple large scale electrical construction projects that include: a new 500,000 SF Paint Shop building at the Toyota Manufacturing Plant in Georgetown, KY, a Flue Gas Desulfurization project at the Northern Indiana Power Service Company's Michigan City Power Plant in Michigan City, Indiana and a Dry Fly Ash Conversion project at the AEP Mitchell Plant near Moundsville, WV. He was responsible for estimating project costs, developing and maintaining the project schedule, tracking commodity & field performances and forecasting. Ian worked closely with project management and plant engineers to interpret construction documents and coordinate work to field employees. In addition to these projects he was the lead estimator on several Arc Flash Mitigation projects at AEP plants all over the country and on many small TransCanada (formerly Columbia Pipeline Group) compressor station projects around the state of West Virginia.

RICHARD KRAJCOVIC, MBA, PE, PTOE

Director, Engineering



Rich specializes in the analysis, design, and management of transportation engineering and planning projects. His public agency and private experience includes agency coordination, bicycle and pedestrian accommodations, complete streets design, public involvement, highway occupancy permits, temporary traffic control design (maintenance and protection of traffic), traffic signal and interconnected traffic signal system design, transportation impact studies, transit-oriented development planning, signing and pavement marking design, alternatives analysis and development, and data collection and analysis. Mr. Krajcovic has extensive working knowledge of the following traffic-related software: HCS, MicroStation, SignCAD, SimTraffic, SPANWIRE, and Synchro.

EDUCATION

- MBA, Business Administration, Point Park University
- BS, Civil Engineering, University of Pittsburgh

LICENSES/REGISTRATIONS

- Professional Traffic Operations Engineer (PTOE), 2008, [REDACTED]
- Professional Engineer (PE), PA – 2006, [REDACTED] EI – 2008, [REDACTED]
- IN – 2008, [REDACTED] NC – 2010, # [REDACTED]

CERTIFICATIONS AND TRAINING

- Certificate in Transportation, University of Pittsburgh, 2000
- GAI Consultants: Advanced Project Management Training, 2013; ClientFirst, 2011; Leaders to Watch Program, 2008
- ASFE Fundamentals of Professional Practice (FOPP), Class No. 19, 2010
- PennDOT Drainage Manual Review, 2010
- Highway Occupancy Permits Workshop, Penn State Outreach Continuing Education
- PennDOT Open Plan/WelcomHome, 2008
- Americans with Disabilities Act (ADA) Training for Contractor and Consultant Personnel, PennDOT, 2008
- Synchro and SimTraffic Training Course, Trafficware University, 2007
- AutoTAB Training, PennDOT, 2007
- Florida State University Transportation Modeling Systems (FSUTMS), Comprehensive Modeling Workshop, 2005 (FSUTMS), Comprehensive Modeling Workshop, 2005

AFFILIATIONS

- American Society of Highway Engineers – Pittsburgh Section

Highlighted Professional Experience

- **Pedestrian and Bicycle Mobility Study, Carnegie Mellon University, Pittsburgh, PA.** As Lead Engineer, assisted in the generation of detailed accident analyses, intersection capacity analyses, recommendations for intersection and corridor improvements, parking management and development strategies, and identification of pedestrian and bicyclist travel corridors. This Pennsylvania Department of Transportation (PennDOT) Community Transportation Initiative (PCTI) Project is the only such project in Pennsylvania involving enhancing safety for pedestrians and bicyclists on a university campus.
- **Point Park University's Downtown Campus Preliminary Engineering and Final Design Project, Pittsburgh, PA.** Designed two new traffic signals, maintenance and protection of traffic plans, and new identification and directional signage for Point Park facilities and other downtown destinations. This preliminary engineering and final design project for traffic and streetscape improvements to enhance a three-block area of Wood Street supported the University's plan to create an academic village on the campus; as well as supported a transportation initiative by the Commonwealth of Pennsylvania to reduce vehicle use and encourage walking and bicycling.
- **Colfax School, IKM, Inc., City of Pittsburgh, Allegheny County, PA.** Conducted traffic, parking, and pedestrian impact studies for a 33,000-sf expansion project on a 3.07-acre site in the Squirrel Hill section of the City of Pittsburgh, Allegheny County, Pennsylvania. The studies were conducted at Douglas Street, Phillips Avenue, and Beechwood Boulevard to summarize existing and anticipated traffic, parking, and pedestrian activity and operational conditions within the Colfax Elementary School campus and the adjacent area. Determined existing and potential deficiencies, and identified physical and operational changes to address the deficiencies.

JOSEPH FELLO, PE

Assistant Engineering Manager



With 18 years of experience, Joe specializes in civil engineering for residential, commercial, industrial, and institutional land development projects as well as Americans with Disabilities Act (ADA) compliance for new construction and construction alterations. He is proficient in postconstruction stormwater management detention, conveyance, and water quality design. He has significant experience with designing erosion and sediment control facilities, site grading, roadways, and utilities; as well as NPDES, ESCGP-2, stream encroachment, and highway occupancy permitting. His computer skills include Autodesk Civil3D, Hydraflow Storm Sewers, Hydraflow Express Extension, Hydraflow Hydrographs, HydroCAD, Bentley PondPack, Newforma, Deltek, and LitePro.

EDUCATION

- BS, Civil Engineering Technology, University of Pittsburgh, Johnstown

LICENSES/REGISTRATIONS

- Professional Engineer (PE): PA – 2011, # [REDACTED]

SKILLS

- Civil Engineering
- Site Development including Natural Gas Sites

CERTIFICATIONS/TRAINING

- Engineer's Workshop, Westmoreland Conservation District, 2018
- Engineer's Workshop, Allegheny County Conservation District, 2018
- Engineer's Workshop, Westmoreland Conservation District, 2017
- Engineer's Workshop, Westmoreland Conservation District, 2014
- Erosion and Sediment Control General Permit (ESCGP)-2 Permit Training, April 2013
- Engineer's Workshop, Westmoreland Conservation District, 2013
- Engineer's Workshop 2012, Westmoreland Conservation District, 2012
- Annual Oil and Gas Industry Training, PADEP, 2012
- Chapter 102 Update Training for the Regulated Community, PADEP, 2011
- Electronic Permitting System (ePermitting) – Basic, PennDOT, 2011
- Management Plan Seminar, Conservation Districts of Lancaster, Lebanon, Schuylkill, and Berks Counties, 2008
- Geotextile Best Management Practices (BMP) Workshop, ACF Environmental, 2007
- Autodesk Custom Civil 3D Essentials, Synergis, 2007
- Managing Multiple Priorities Seminar, Fred Pryor Seminars, 2007

Highlighted Professional Experience

- **Liberty Green Park, City of Pittsburgh, PA.** Project Engineer responsible for design and permitting of new park project with spray fountain, ground hydrants, and educational stormwater management. Project required preparation of PWSA Tap Plans and water sewer use permitting for storm sewer tie-in to existing storm sewer as well as spray fountain outlet and water tap.
- **Allegheny Center Parking Expansion, City of Pittsburgh, Pennsylvania.** Project Engineer responsible for design and permitting of grading, drainage, utilities, postconstruction stormwater management/NPDES, and E&S. This project involved new parking lot and stormwater management facilities.
- **Charleston Civic Center, City of Charleston, Kanawha County, West Virginia.** Project Engineer responsible for design and permitting of new convention center building. Design tasks included grading, drainage, utilities, NPDES, and E&S.
- **Valley Park, City of Hurricane, Putnam County, West Virginia.** Project Engineer.
- **Summit Station, South Park Township, PA.** Project Engineer responsible for design and permitting of 90-acre residential subdivision with a commercial component and new sanitary sewer and water utility mains in the public roadways. The project required a Utility Highway Occupancy Permit for new water main to be installed in Allegheny County right-of-way (ROW). Design tasks included grading, drainage, public/private utilities, postconstruction stormwater management/NPDES, and E&S.
- **Building 400 for Continental/Chaska, LLC, in cooperation with the Allegheny County Airport Authority (ACAA), PA.** Project Engineer responsible for design and permitting of new office building. Design tasks included grading, drainage, utilities, postconstruction stormwater management/NPDES, and E&S.
- **Ingomar Road Waterline, Town of McCandless, Allegheny County, PA.** Project Engineer responsible for water main design along township road, as well as E&S and NPDES design and permitting.



JACOB BURNS, PLA, ASLA

Senior Landscape Architect



Jacob specializes in landscape architecture, master planning, and graphic visualization. Additionally, Mr. Burns previously worked in the surveying and construction monitoring field, which assists in his ability to bring a concept from drawings to reality. Mr. Burns has been involved in a large variety of projects during his professional career, which has helped him to develop a diverse skillset.

Jacob is proficient with Adobe Creative Suite, AutoCAD, SketchUp, and ArcGIS. He also utilizes hand rendering skills to quickly express design intent. Mr. Burns utilizes his diverse skillset to create quality work and projects.

EDUCATION

- BS Landscape Architecture, West Virginia University

REGISTRATIONS

- Professional Landscape Architect:
 - West Virginia, No. [REDACTED]
 - Indiana, No. [REDACTED]

AFFILIATIONS

- American Society of Landscape Architects (ASLA)
- WV Chapter – American Society of Landscape Architects

Highlighted Professional Experience

- **Brawley Walkway, Charleston, WV.** Served as a Landscape Designer for the renewal of a prominent pedestrian corridor that links two major retail districts within Charleston's downtown core. In addition to developing concepts, master planning, and construction documentation, Mr. Burns was also part of the construction administration team for the project.
- **Court Street Streetscape Improvements, Charleston, WV.** A spin-off project from the Brawley Walkway master plan, Mr. Burns assisted with the conceptualization of the space, construction documentation, and administration throughout the construction of project.
- **Greenbrier Street Corridor Master Plan, Charleston, WV.** Mr. Burns worked as a Landscape Designer on an urban streetscape design project stretching four blocks along a prominent gateway into downtown Charleston and the West Virginia State Capitol campus. The design team analyzed existing pedestrian and vehicular traffic patterns that had been a safety concern within the community and recommended various traffic calming techniques in response.
- **West Virginia State Capitol Campus Security Enhancements, Charleston, WV.** Mr. Burns served as a Landscape Designer for a security enhancements project at the West Virginia Capitol Campus. Mr. Burns worked on developing construction documents as well as assisting with construction administration of the project.
- **Kanawha Boulevard Walk and Bikeway Trail Master Plan, Charleston, WV.** Landscape Designer for a nearly two mile bikeway project along a riverfront boulevard in the West Side neighborhood of Charleston, WV. His responsibilities on the project included providing CAD support, developing landscape plans, creating presentation graphics, and assisting with construction administration.

Grant H. White, PE



Role

Electrical Engineer

Professional Registrations

Professional Engineer (WV)

Mr. White brings more than 14 years' experience and serves as the Electrical Engineer at ZMM. Mr. White provides electrical design services for a vast number of projects consisting of commercial, educational, correctional, institutional, and military facilities.

Mr. White is responsible for many facets of the project pertaining to electrical design such as interior and exterior lighting, power distribution, data system design, security, fire alarm, low voltage control systems, equipment specifications and performs electrical assessments during construction prior to the project's substantial completion date.

Project Experience

Keith Albee Theater - Renovations, Huntington, WV
WV School of Osteopathic Medicine, Lewisburg, WV
Braxton County Cooler Freezer
Jefferson County Schools – Transportation Technology Center
Jefferson County Schools – Ranson Elementary School
Jefferson County Schools – Sheperdstown Elementary School
Jefferson County Schools – Washington High School Aux Gym
Woodrow Wilson High School Renovations/Additions
Braxton County Middle School Renovations
WVDNR Tomblin Wildlife Management
Frederick County Public Schools -Old Aylor Middle School – HVAC Renovations
Frederick County Public Schools Board Office – Corridor and Restroom Renovations

Education

Marshall University Graduate College,
South Charleston, WV – Completed
Project Management and Engineering
Law classes in the Engineering
Management Program, 2007 - 2008

Bachelor of Science in Electrical
Engineering, West Virginia University
Institute of Technology, 2007

Employment History

2021 - Present, Electrical Engineer, ZMM
2018 – 2021, Electrical Engineer, CDI
Engineering
2017 – 2018, Controls Engineering
Specialist, Trane
2014 – 2017, Electrical Engineer, CDI
Engineering

JAMES YOST, PLA, ASLA

Project Landscape Architect



James specializes in landscape architecture, urban planning, and project management. He provides the strong ability to communicate project knowledge to the public and clientele to accomplish a collaborative design approach. Mr. Yost has the strong ability to communicate project knowledge to the public and clientele to accomplish a collaborative design approach. His skills provide extensive knowledge of rendering and graphics tools, such as the Adobe Suite, SketchUp, Lumion, ArcMap, and AutoDesk softwares. By utilizing these programs, he can provide visual assistance in all areas of project development, such as project presentation, project funding, advertisements, proposal and qualification statement documentation, rendered master plans, and site-specific rendering.

James was recognized by the West Virginia American Society of Landscape Architects as one of three Honor Award recipients from his works completed while at West Virginia University in 2011 and continues to stay involved with the organization. He also remains a dedicated community volunteer in the Charleston area through participation with multiple non-profit entities and city-wide initiatives.

EDUCATION

- BS Landscape Architecture, West Virginia University

REGISTRATIONS

- Professional Landscape Architect:
 - West Virginia, No. [REDACTED]
 - Pennsylvania, No. [REDACTED]

AFFILIATIONS

- American Society of Landscape Architects, Member 2009–Current
- West Virginia Chapter – American Society of Landscape Architects
 - Member, 2009–Current
 - Public Relations Chair, 2013–2015
- Charleston Public Arts Commission, Vice Chair 2022 – Current
- Religious Coalition for Community Renewal, Board Member – 2015–2018
- Charleston Main Streets: East End, Board of Advisors Member – Current
- East End Community Associations, Board Member – Current

Highlighted Professional Experience

- **Port Authority of Allegheny County, Allegheny County, Pennsylvania.** As the project Landscape Architect, Mr. Yost helped to develop a series of master plan reports for the Port Authority's public transit stations. Each station presented an array of design opportunities ranging from public greenspace and green infrastructure design, transit-oriented development master planning, streetscape and road diet planning, as well as transit shelter access design, and community wayfinding design.
- **Arlington Park Mobility Study, Huntington, West Virginia.** Worked with KYOVA to develop multimodal improvements in the Arlington Park neighborhood of Huntington. The project includes an assessment of existing infrastructure conditions, public engagement (including an online survey), and proposed strategies. The approaches address the following: reducing cut-through traffic, improving pedestrian accessibility, improving bicycle mobility, addressing congestion, improving streetscapes, improving transit, updating road signs, and improving intersections and roadways.
- **Mountain Health Arena Entry Plaza, Huntington, West Virginia.** Lead Landscape Architect. The goal of this project was to expand the usefulness of a regional arena and meeting space. Working with local architects and the City, the project team developed a concept master plan for the renovation of the entrance plaza to the building. The final design offers multiple amenities meant to enhance the visitor experience at concerts, conventions, and other community events. Conference spaces were expanded to include outdoor space. For concertgoers, the plaza includes a covered stage for entertainment before the main event. Gathering spaces such as a fountain, firepits, and seating areas were also included to accommodate community events.
- **Homewood Green Infrastructure, Pittsburgh, Pennsylvania.** Lead Landscape Architect. Green infrastructure project along the East Busway and Finance Street in the Homewood neighborhood of Pittsburgh. The design includes a nearly 900 lf bioswale, which will be planted with an assortment of water-filtering plant life.



CLIENT REFERENCES

Al Najjar, President
Clay Center for the Arts and Science
1 Clay Square
Charleston, WV 25301
304.561.3570

David Molgaard, Former City Manager
Charleston Coliseum & Convention Center
200 Civic Center Dr.
Charleston, WV 25301
304.389.2011 cell

Melissa Smith, Executive Director
WV Courthouse Facilities Improvement Authority
2003 Quarrier Street
Charleston, WV 25311
304.558.5435

Todd Reynolds, Deputy Branch Director
WWARN
1703 Coonskin Drive
Charleston, WV 25311
304.380.7226 cell

Greg Melton, Director of General Services (Retired)
Capitol Complex Building
1900 Kanawha Blvd. E.
Charleston, WV 25305
304.965.1219 cell