



Expression of Interest:

West Virginia Army National Guard

HVAC Renovation/Upgrade Design for Dunbar and Bluefield Armories

RFQ. ADJ1600000002



ARCHITECTS & ENGINEERS

07/06/16 12:10:05
WV Purchasing Division



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

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

Proc Folder: 221131

Doc Description: HVAC SYSTEM(S) REPLACEMENT EOI DESIGN SERVICES

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2016-06-08	2016-07-06 13:30:00	CEOI 0603 ADJ1600000002	1

BID RECEIVING LOCATION

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

VENDOR

Vendor Name, Address and Telephone Number:

FOR INFORMATION CONTACT THE BUYER

Crystal Rink
 (304) 558-2402
 crystal.g.rink@wv.gov

Signature X

FEIN #


55-0676608

DATE

7/6/16

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.


VICE PRESIDENT

(Name, Title)
DAVID E. FERGUSON, VICE PRESIDENT

(Printed Name and Title)
222 Lee Street, West Charleston, WV 25302


(Address)
(304) 342-0159 (304) 345-8144

(Phone Number) / (Fax Number)
ferguson@zmm.com

(email address)

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contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated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

Zmm, Inc.

(Company)

VICE PRESIDENT

(Authorized Signature) (Representative Name, Title)
DAVID E. FERGUSON, VICE PRESIDENT

(Printed Name and Title of Authorized Representative)
7/16/16

(Date)
(304) 342-0159 (304) 845-8144

(Phone Number) (Fax Number)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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

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

DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Zmm, Inc.

Authorized Signature: [Signature] Date: 7/6/16

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 6 day of July, 2016

My Commission expires April 16, 2023

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature: Jessica Wolfe]
Purchasing Affidavit (Revised 07/01/2012)





July 6, 2016

Ms. Crystal Rink, Buyer
Department of Administration, Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305

Subject: HVAC Renovation/Upgrade Design for Dunbar and Bluefield Armories

Dear Ms. Rink:

ZMM Architects and Engineers is pleased to submit the attached information to demonstrate our experience and our qualifications to provide professional architectural and engineering services for the HVAC renovations and upgrades to the Dunbar and Bluefield Armories. Established in 1959, ZMM is a Charleston based, full service A/E firm, and is noted for design excellence and client focus. As a full service design firm with a longstanding relationship serving the West Virginia Army National Guard, ZMM has the right combination of technical qualifications and HVAC renovation experience required to assist with this projects. We are confident that our team is the most qualified for the following reasons:

- **HVAC Renovation Experience.**
ZMM was founded more than fifty years ago as a full service design firm. One of the specialties that the firm provides is the design of new and renovated HVAC systems. One of our firm Principals, Bob Doeffinger, is a mechanical engineer with experience working on West Virginia Army National Guard facilities – including the Joint Interagency Training and Education Center at Camp Dawson. Mr. Bob Doeffinger will lead a team of professionals including Nathan Spencer (Architect) on the project. Bob and Nathan have collaborated on a variety of WVARNG projects throughout West Virginia. Our approach to this project will involve utilizing a full service team as many HVAC modifications can impact other building systems (ceilings, life safety systems, etc.).
- **WVARNG Experience.**
The members of our proposed team have provided design and construction phase services on multiple West Virginia Army National Guard (WVARNG) projects including the JITEC, the Regional Training Institute at Camp Dawson, the Jackson County AFRC, and Kingwood AFRC, the Glen Jean AFRC, the CFMO Expansion, the Tackett Family Readiness Center, the Morgantown Readiness Center, and the Logan-Mingo Readiness Center. Additionally, our team has recent experience providing services at the Williamstown AASF1 for the WVARNG.
- **ZMM HVAC Renovation Project Approach.**
ZMM will investigate the existing building systems and the original design documents to develop a recommended approach for the project. Our existing knowledge of the facility, as well as the investigation of various options for the renovation, will help expedite this project for the WVARNG.

Thank you for taking the time to review the attached expression of interest that includes ZMM's qualifications and relevant project experience. Additionally, please visit our website at www.zmm.com to see the full range of renovation projects. We appreciate your consideration for this important assignment.

Respectfully submitted,
ZMM, Inc.

A handwritten signature in black ink, appearing to read 'A R K', is written over a horizontal line.

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

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LOCATION:
222 Lee Street, West
Charleston, WV

CONTACT:
Phone 304.342.0159
Fax 304.345.8144
www.zmm.com

History of ZMM



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

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

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



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

Advantages of an integrated Design Approach:

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

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

Services

Pre-Design

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

Design

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

Post Design

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



Award Winning Design



2016

AIA West Virginia Chapter: Merit Award
Achievement in Architecture in Interior Design
Christ Church United Methodist
Charleston, West Virginia

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



AIA West Virginia Chapter: Honor Award

Excellence in Architecture

Joint Interagency Training & Education Center
Kingwood, West Virginia



AIA West Virginia Chapter: Merit Award

Excellence in Architecture in Interiors

WV State Office Building #5, 10th Floor Renovation
Charleston, West Virginia

2010

AIA West Virginia Chapter: Honor Award

Excellence in Architecture

Hacker Valley PK-8 School
Hacker Valley, West Virginia



2009

AIA West Virginia Chapter: Merit Award

Excellence in Architecture

Construction & Facilities Management Office (CFMO)
Charleston, West Virginia



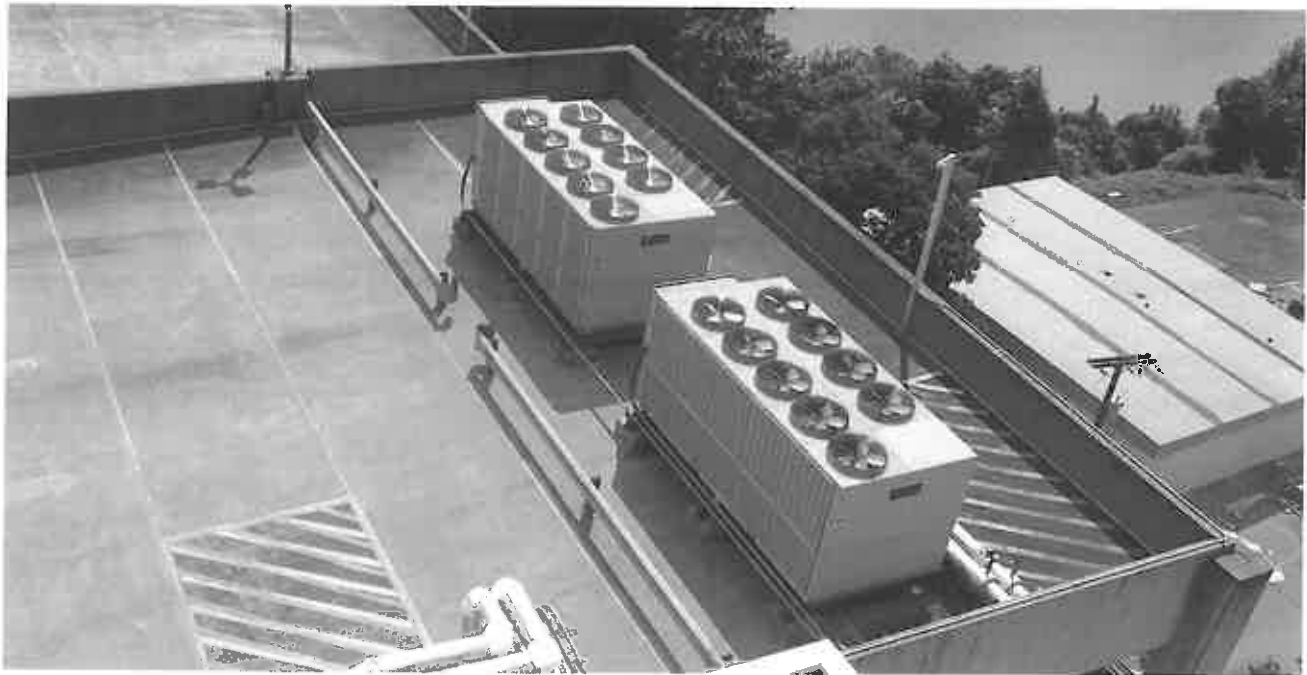
2008

AIA West Virginia Chapter: Honor Award

Excellence in Architecture

Erma Byrd Center
Beaver, West Virginia

HVAC Renovation Experience



Charleston Civic Center (2015) – Replace entire MEP infrastructure three 1,000 ton chillers and cooling towers, three 8,000 mbh gas condensing boilers, approximately ten VAV AHU's, approximately 10 large single zone VAV AHU's.

Charleston Kanawha Health Department (2015) – Replace entire mechanical system to include air cooled chiller, gas fired make-up unit and zone fan coils with electric reheat, approximately 45,000 SF new DDC controls.

United Bank Building – Cooling Tower Replacement (2010) – Two 400 ton centrifugal chillers, rebuild two large VAV AHU's, installed free cooling plate frame heat exchangers (2015).

Kanawha County Public Library (2015) – Replaced two gas-fired boilers with new gas condensing boilers .

Building 5 Capital Complex (2008) – Replaced 10th floor office space air condition, replaced perimeter induction units with new steam chilled water air handling units, distributed VAV terminal units with modification to architectural fit out approximately 22,000 Sf. Installed new sprinkler service entrance for Buildings 5, 6, and 7.

Capitol Complex Building 5, 7th, 8th, & 9th Floors – Rebuild perimeter induction system and interior multi-zone distribution in addition to total architectural fit up, approximately 70,000 SF.

Capitol Complex Building 6, 3rd, 4th, & 5th Floors - Rebuild perimeter induction system and interior multi-zone distribution in addition to total architectural fit up, approximately 70,000 SF.

WV Lottery Headquarters Building (2014 - 2015) – Installed 40,000 SF of new variable refrigerant system, new make-up air system, comprehensive architectural services.

WV State Capitol Cafeteria – Installation of large catering and service kitchen, included steam make-up air system, 3 Class 1 kitchen hoods, Class 2 kitchen hoods, all plumbing system, sprinkler system including sprinkler service entrance for entire Capitol Buildings, comprehensive architectural services.

Old Kanawha Valley Bank Building (2003) - New cooling chiller.
(2015) - New cooling tower.

City Center East (2008) Chiller Replacement.

HVAC Renovation Experience



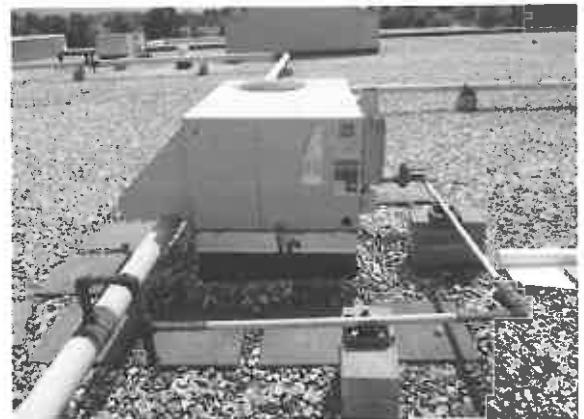
**Old Kanawha Valley Bank Building (2003) - New cooling chiller.
(2015) - New cooling tower.**

City Center East (2008) Chiller Replacement.

Tenant Fit-Up Numerous Office Buildings Charleston – BB&T Building, City Center East, United National Bank Building, Hunting National Bank Building to include VAV distribution, electrical and architectural services.

Additional HVAC Projects:

Huntington Herald Dispatch - HVAC Study
Walker Machinery Main Office Renovation - HVAC
Walker Diamond Office - HVAC
Walker Machinery - HVAC Renovations
State of WV – Governor’s Mansion Corrective HVAC Study
Camp Dawson Regional Training Institute - HVAC
Central Regional Jail – HVAC and Roof Replacement
King of Prussia, PA – HVAC Design (Multiple Projects)
Kanawha Valley Senior Services - HVAC
Tolsia High School - HVAC Renovations
Cabell County Schools – (Multiple HVAC Projects)
Cabell County Career & Technical Center - HVAC Replacement
Cabell County Incubator School - HVAC
Harrisville Elementary School - HVAC
Ritchie County HS/MS - Cooling Tower Replacement
Spring Hill Elementary School - HVAC
Roane-Jackson Career & Technical Center
Salt Rock Elementary School - HVAC Renovation
Wayne County Schools – New HVAC System Projects
Greenbrier County Schools – New HVAC System Projects



Joint Interagency Training & Education Center

WVARNG



LOCATION:
Kingwood, WV

SIZE:
285,000 SF

COMPLETION:
2013

COST:
\$78.4M

OWNER:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446

AWARD:
2011 AIA Honor Award
West Virginia Chapter
Excellence in Architecture



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

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

The new facilities are designed to meet all anti-terrorism/force protection criteria and are slated for LEED-NC Gold Certification from the U.S. Green Building Council. The new 82,000-SF operations building is prominently sited as the main focal point upon entering Camp Dawson through the secure access control point and visitor's center, also designed by AECOM. The building's exterior complements its West Virginia setting. The entire building front, composed of glass and pre-cast concrete walls, is open and inviting with glazing that reflects the surrounding trees and hills.



Joint Interagency Training & Education Center



Security requirements for the command center influenced the design of the attached, copper-clad “black box” that is an homage to the native rock stratification seen throughout the state.

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

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

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

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

Morgantown Readiness Center

WVARNG



LOCATION:
Morgantown, WV

SIZE:
54,000 SF

COMPLETION:
2013

COST:
\$18.5M

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446



The Morgantown Readiness Center is a unique military facility for several reasons. While the Readiness Center supports traditional military functions including the 1-201st Field Artillery, a significant portion of the Morgantown Readiness Center supports the 249th Army Band. To support the band, the Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas.

To efficiently create the stage and performance area the design team utilized a variety of dual function spaces. The stage is actually a large rehearsal space with an adjacent elevated recording area. Two large operable partitions are used – one to separate the rehearsal area from the remainder of the stage and the auditorium – while the other separates the auditorium from the Drill Hall. This configuration allowed the design team to maximize the West Virginia Army National Guard's investment by utilizing federally authorized space to also function as a large performance area. Acoustically, this challenge was met by creating a Drill Hall with an irregular shape that was contained within a rectilinear sloped barrel arch form. The geometry was complimented by acoustically engineered interior surfaces and finishes to create a vibrant and rich auditorium.

The facility is also unique due to its location on an abandoned airport runway at the Morgantown Municipal Airport. The 54,000 SF Readiness Center occupies a 35 acre tract at the airport. Additionally, the Readiness Center is located approximately twenty (20) miles from Camp Dawson, a large State and Federal training campus. As troops will often be travelling to Camp Dawson through the Morgantown Readiness Center, the facility needed to function as a 'gateway.'

Morgantown Readiness Center

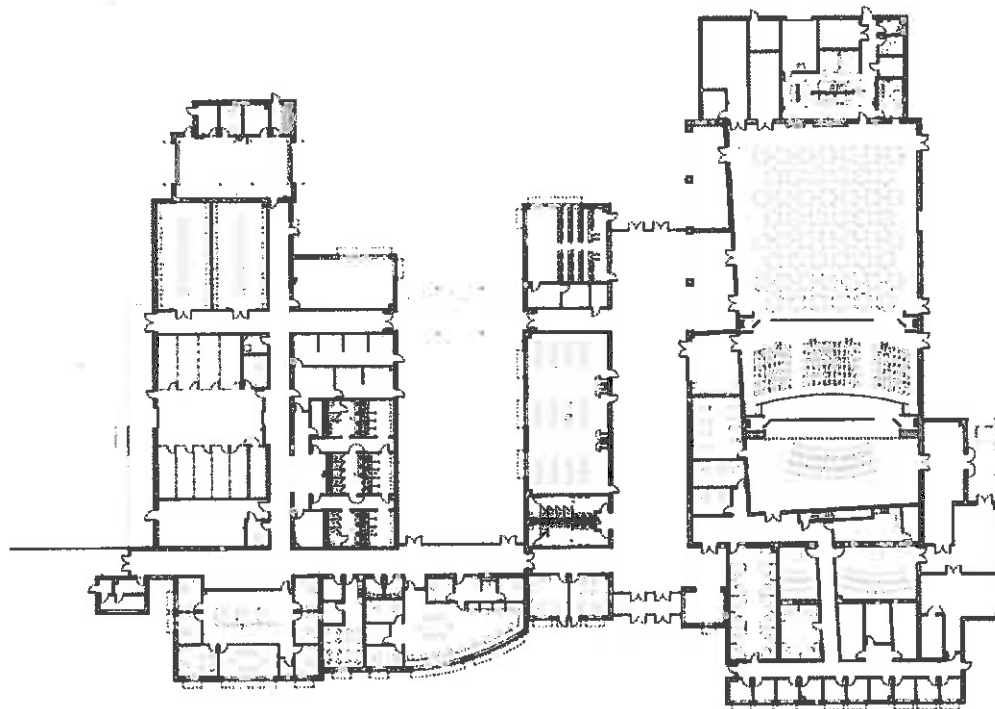
WVARNG



The creation of a 'gateway' facility was accomplished through exterior material choices (compatible with Camp Dawson), as well as the decision to utilize a tower-like feature to mark entry – a very prominent feature of the Regional Training Institute (RTI) at Camp Dawson. Where the RTI utilized a large cylindrical mass, the tower at the Morgantown Readiness Center respects the context of the former runway by reflecting the aesthetic of an airport control tower.

The Morgantown Readiness Center is also a sustainable building, and is in the process of pursuing LEED Certification from the USGBC. The 'U' shaped layout of the facility improves access to daylighting and views, while also limiting public access to the Guard's administrative and storage areas. Additional sustainable features include a reflective roof, the use of regional materials, and efficient lighting and HVAC systems.

While many features are addressed in the design of the Morgantown Readiness Center, the final result is a harmonious composition that reflects both its function and the environment, while deferring to its location on an abandoned runway.



Jackson County Armed Forces Reserve Center

WVARNG



LOCATION:
Millwood, WV

SIZE:
75,000 SF

COST:
\$20M

COMPLETION:
Fall 2011

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446



The new facility houses both the West Virginia Army National Guard (WVARNG) and the United States Army Reserves (USAR). The primary user for the WVARNG will be DET 1 821st Engineering Company, who will be supported by a FSC of the 1092nd. USAR occupants will include PLT AMMO 261 OD and PLT 1 (Postal) and PLT 6 (Postal) of the 44th Personnel Company. The facility also includes an expanded Drill Hall that can serve as a convention and meeting space, which is being funded by the Jackson County Commission, additional federal appropriations, and the State of West Virginia National Guard.

The relationship between the structures became crucial to the site layout. The new facility is centered on the existing house, increasing the exposure of the facility from Route 2 - the major route of vehicular travel that parallels the Ohio River. Once the aesthetic of the building was established, the massing of the new facility was defined by breaking-down the facility into smaller mass elements that more closely reflected the Georgian Style, and that of many Army posts, such as Fort Meyer in Northern Virginia. The larger programmatic elements such as the Drill Hall and the storage areas employ an aesthetic that more closely implies their function.

The layout of the facility includes a main entry with the USAR and WVARNG Recruiting, Family Support, and Administrative areas located on separate sides (USAR to the left, WVARNG to the right). A transverse wing on the left houses all functions that have the potential for public use, such as the Drill Hall and the Educational component, while all primary military spaces developed along a similar perpendicular wing on the right. This allows for separate entries to be developed for public functions, while the remainder of the facility can be secured. The layout also creates a large central courtyard or parade field that would be located at lower grade to define the edge facing the river. This edge is defined by a canopy that connects storage and locker areas to the expanded Drill Hall.



Robert C. Byrd Regional Training Institute

WVARNG



LOCATION:
Kingwood, WV

SIZE:
148,066 SF

COST:
\$21M

COMPLETION:
2002

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6539



The Regional Training Institute at Camp Dawson is a new 148,066 square foot facility that will provide a setting for a variety of training classes, meetings, and conferences serving both military and civilian populations from the region and areas throughout the country. The facility includes classrooms, library, sleeping rooms, dining room, auditorium, swimming pool, Post Exchange and snack bar.

The Training Institute has a 400 Ton primary/secondary variable flow chiller water system, and an 8,800 MBH primary variable flow hot water system. The hot water system serves variable and constant value air handling units, fan coils, the swimming pool conditioner, and make up air units.



Construction & Facilities Management Office

WVARNG



LOCATION:
Charleston, WV

SIZE:
19,935 SF

COST:
\$3.5M

COMPLETION:
2008

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6539

AWARD:
2009 AIA Merit Award,
West Virginia Chapter,
Achievement in Architecture



The Construction and Facilities Management Office (CFMO) Expansion project will bring all of the operations of the CFMO together under one roof. The branches that will occupy this facility include: Director of Engineering, Environmental, Planning and Programming, Facility Operations & Maintenance, Business Management, Resource Management, and Design and Construction. This new facility is located slightly to the front, and adjacent to the existing facility, lending prominence to the new construction, and providing a new aesthetic to the entire complex.



This transitional space was designed to connect the two structures, while maintaining a connection to the outside through use of natural light, direct visual connections to the exterior, large volumes, irregular geometries, and the use of natural materials.

The entry design was coordinated with the Recruiting and Retention building to create an outdoor courtyard, along with new sidewalks, stairs and signage. The entry roof is sloped to provide a greater massing, while a lower canopy provides scale and protection from the elements. Large gathering and work spaces were located on the north elevation to take advantage of large expanses of glazing located to capture indirect light and views of Coonskin Park.



Glen Jean Armed Forces Reserve Center

WVARNG



LOCATION:
Glen Jean, WV

SIZE:
110,000 SF

COST:
\$17M

COMPLETION:
2004

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446



The Glen Jean Armed Forces Center contains three distinct military functions: a facility for routine maintenance of over-the-road and tracked military vehicles, an armory housing four West Virginia National Guard units, and the Southern West Virginia Military Entrance Processing Station, where new recruits officially enter the military system.

The brick exterior walls are highlighted with limestone and metal trim accents. A large assembly hall, plus classroom and training space, enhance the ability of the armory building to provide training for military personnel to provide space for community functions.



Tackett Family Readiness Center

WVARNG



LOCATION:
Charleston, WV

SIZE:
7,400 SF

COMPLETION:
February 2011

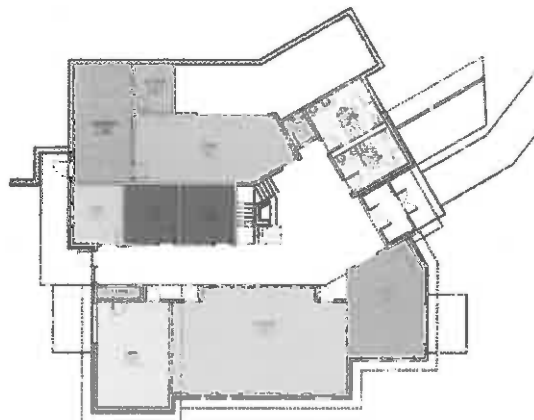
COST:
\$1.57M

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446

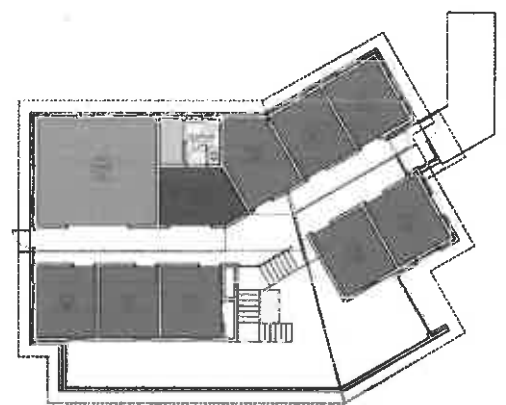


The Family Support Center is a two - story brick building with a sloped roof stepped into the wooded hillside adjacent to the Army National Guard facilities in Charleston. Due to the existing slopes, several analyses to determine the optimal finished floor elevations of the building. The building was set into the hillside to allow for on-grade access to both entrances. The building is designed to provide for a multitude of military family assistance, guidance, education, training, and mentoring programs.

The support center contains 11 office spaces, a chapel, and a variety of classroom and meeting spaces for various programs. The building provides an abundance of natural light and a central fireplace to project a warm, comforting and supportive atmosphere.



Lower Level



Upper Level

Logan-Mingo Readiness Center

WVARNG



LOCATION:
Holden, WV

SIZE:
54,000 SF

COMPLETION:
2015

COST:
\$12M

CONTACT:
MAJ Dan Clevenger
WVARNG
1707 Coonskin Drive
Charleston, WV 25311
304.561.6446



The design of the Logan-Mingo Readiness center was developed by examining both the program and building site, and developing strategies to design a facility that is functional, responds to site, security, and aesthetic parameters, while requiring minimal maintenance.

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 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.

The exterior (and in many cases the interior) aesthetic of the facility was driven by the location of the Readiness Center within an industrial park on a reclaimed surface mined site. The decision led to the use of reinforced cast-in-place retaining walls that became both a functional and visual focus. Similar pre-cast walls are used to anchor the facility at the Distance Learning Center, while a cast-in-place retaining wall serves as a part of the Anti-Terrorism/Force Protection design.



The Plaza at King of Prussia

Multiple HVAC Replacements



COST:
\$30M

COMPLETION:
2006

CONTACT:
Mr. Mickey McLaughlin
Director
Plaza Mall Management
160 North Gulph Road
King of Prussia, PA
19406
610.337.9272



The Plaza at King of Prussia - Philadelphia, Pennsylvania

MP Services – Design Build

- 2,500,000 SF, 4,000-Ton Chilled Water Plant, VAV and CV
- Air Handling System
- Existing and New Spaces

The Court at King of Prussia - Philadelphia, Pennsylvania

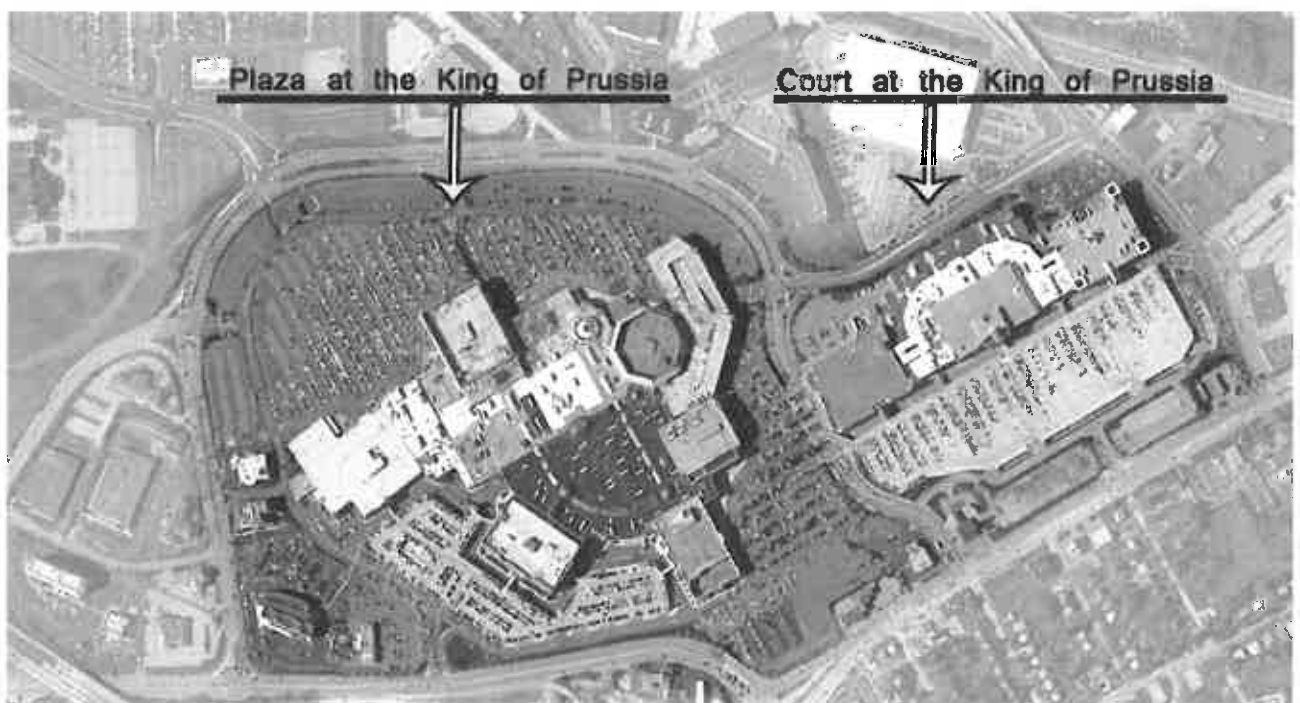
MEP Services

- Addition of a 3,000-Ton Chilled Water Plant Including
- New Structure and Replacement of All Air Handling Units
- Primary and Secondary Variable Chilled Water System

The Plaza at King of Prussia - Philadelphia, Pennsylvania

MEP Services

- Addition of 800-Tons of Chilled Water Air Handlers Units
- Addition - 150,000 SF and New VS 1,250 Ton Chiller
- 5,000 Ton CHW Plant Primary Secondary Pumping



Charleston Civic Center Expansion and Renovation



LOCATION:
Charleston, WV

SIZE:
283,000 SF

COMPLETION:
Est. 2018

COST:
\$75M

CONTACT:
Mr. David Molgaard
City Manager
City of Charleston
501 Virginia Street, E.
Room 101
Charleston, WV 25301
304.348.8014



The Charleston Civic Center Expansion and Renovation is a transformational project for both the city of Charleston and West Virginia. Our team is building on the strong authentic character of Charleston to remake the Charleston Civic Center into a more efficient, more sustainable, more dynamic and a more iconic best-in-class destination.

The design of the expansion and renovation of the Charleston Civic Center is 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, 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.

Our design starts with an organizational concept inspired by this history. The Kanawha River is the social organizing link throughout the region, with settlement zones developing on whatever flatland the river provided –creating nodes of activities among the hills and valleys.



Charleston Civic Center Expansion and Renovation



The renovated Civic Center is a building that emerges from this iconic landscape, with the architecture and topography working together. The Civic Center will also have distinct active nodes to celebrate each activity; arena, convention, and banquet, and these nodes are connected like the hills and cut rock faces that are seen throughout the state as people work to connect to each other through the landscape.

The first critical design objective is to create separate entries and identities for the arena and convention center. This will allow for simultaneous events and clarity of use. For the convention center to thrive, it needs a real ballroom assembly space. Located overlooking the Elk River, the new ballroom pre-function space will be the most dramatic feature of the center. Together, the three glass enclosed nodes --arena lobby, convention lobby, ballroom --define a unique Charleston event campus. As described above, the spaces that connect these nodes are inspired by the hills and cut rock faces that connect the towns along the Kanawha River. With the building emerging from the landscape and expressed as cut rock walls, the connecting areas are designed to be expressive and economical backdrops to the glass boxed nodes.

While the expansion will transform the southeast to the middle of the northern zone of the site, the existing building mass will still dominate a portion of the northern and eastern campus. The dominant expression along these existing facades is the landscaped berms. As we imagined the new building expression emerging from the landscape, a strategy developed to transform these berms to reflect, at the pedestrian level, the overall design theme. Above the level of the berms, the new concourse level windows will open up the facade and provide a much needed break in the massing. The upper part of the arena will be painted in two tones to match the new building, playing off the different faces. The north, south, east and west faces painted a lighter shade; and the northeast, southeast, southwest and northwest faces a darker shade. Dramatic exterior color-changing lighting on the northeast, southeast, southwest and northwest faces will then transform the look and feel of the center into a fun and festive landmark.

West Virginia Lottery Headquarters

Office Building and Parking Garage



LOCATION:
Charleston, WV

CONTACT:
John Myers
Assistant Lottery Director
900 Pennsylvania Ave
Charleston, WV 25302
304.558.0500



The project is an extensive renovation of an existing 13-story office building and 7-story parking garage in downtown Charleston, WV. The building is currently owned and operated by the WV Lottery but also houses many other state government agencies.

Major renovations within the office building consist of the demolition and renovation of three existing tenant floors, the relocation of the existing fitness center and replacement of the existing roof. The West Virginia Division of Insurance is being relocated from their existing, outdated office space to floors 7, 8 & 9. Off the newly renovated elevator lobbies on each floor is a reception area which leads to an interior space primarily constructed of enclosed offices to better suit current department requirements. To provide contiguous floor space for the Division of Insurance an existing tenant space on the 6th floor is being demolished and renovated into the new fitness center located across from the existing Café. Construction on the roof includes the removal and replacement of the existing roof insulation and membrane and the installation of new roof davits and stainless steel guardrail meeting current OSHA requirements.

The existing precast concrete parking deck will be undergoing a widespread renovation including structural repairs and restoration, major electrical upgrades and an addition to the existing storage warehouse. After vast investigative work it was determined that bearing pads need to be replaced under the existing concrete double-tee framing members, concrete structure and topping slabs needed repair and concrete spandrel panels required epoxy injection to repair extensive cracking. Horizontal driving surfaces are receiving new waterproofing, sealant joint replacement and restriping. The circulation connector between the office building and the parking deck is in structural repair also, requiring partial demolition and reconstruction of the existing steel deck and concrete floor slabs. Electrical improvements will consist of new LED lighting throughout and additional pole fixtures on the top level along with power and life-safety upgrades. The one-story storage warehouse located underneath the existing parking deck is being increased by approximately 1,800 sf. The addition will consist of masonry exterior walls clad in EIFS with a sloped steel-framed roof and single-ply membrane system.



State Office Buildings 5,6, & 7



LOCATION:
Charleston, WV

COMPLETION:
On-Going

CONTACT:
Greg Melton
Director of General Services
Capitol Complex Building
Building 1, Room MB-60
1900 Kanawha Blvd., E.
Charleston, WV 25305
304.558.2317



More than forty (40) years ago, ZMM (as Zando, Martin, and Milstead) designed the original State Office Buildings 5, 6, & 7. Over the last several years, ZMM has been assisting the State of West Virginia General Services with various improvements to the buildings. These improvements have ranged from substantial renovations to maintenance and repair type projects, and include:

Roof Replacement

ZMM assisted the General Services Division with a roof replacement for all three buildings. The roof replacement utilized 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 was also removed.

Electrical Courtyard Improvements

ZMM 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, & 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 & 6, and the second to replace the doors at the entries to Buildings 5, 6, & 7. These projects included building envelope and security considerations. The projects were designed and staged to minimize disturbance to the buildings occupants.

State Office Buildings 5,6, & 7

Major Renovations

ZMM 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 & 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 new sprinkler service and fire pump into the building, demolition, construction management, and hazardous material abatement. The project was delivered considerably under the anticipated project budget. ZMM has also assisted on renovations to the 8th Floor of Building 6 for the Department of Education and the 2nd, 3rd & 4th Floors of Building 6 for the Department of Education and Division of Personnel. Work on the 8th Floor of Building 6 is the only additional renovation constructed to date. ZMM has recently been released to provide design services for Floor 7, 8 & 9 of Building 5 and the 7th Floor of Building 6.

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, & 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, although to date, the construction for this improvement has not commenced.

Valve Replacement

ZMM assisted with a valve replacement project to isolate mechanical risers in Building 5 & 6. This technically intensive mechanical project will give the General Services Division greater control over the system, and will help isolate various risers in the event of significant system failures in the future.

Goodwill Prosperity Center

Historic Renovation



LOCATION:
Charleston, WV

SIZE:
10,200 SF

COMPLETION:
2015

COST:
\$960,000

CONTACT:
Cheri Bever, President
Goodwill Industries
215 Virginia Street, W.
Charleston, WV 25302
304.346.0811



Goodwill's newly renovated Prosperity Center is located on Virginia Street (West) in Charleston. This facility will help prepare members of the community for the workforce, and will expand Goodwill's outreach opportunities. Inside the facility is several classrooms, a computer room, and a Career Center that is equipped with all the tools needed to prepare and apply for a job. A spacious and colorful lobby provides a relaxed atmosphere for visitors. Inside the center is a "Suited for Success" room where work-appropriate clothing will be available to those who need it.

The building, which was once the Charleston Transit Authority's bus garage, underwent a major exterior transformation. Layers of stucco were removed to open up the old garage bays, and glass was infilled into these openings to give the center a tremendous amount of natural light. The original brick was exposed, repointed, and painted. The improvements made to the exterior showcase the historic nature of the building while upholding the modern amenities needed for today.



Girl Scouts of Black Diamond Council

Volunteer Resource Center and Girl Zone/Urban Camp



LOCATION:
Charleston, WV

SIZE:
27,928 SF

COST:
\$5M

COMPLETION:
Fall 2013

CONTACT:
Beth Casey, CEO
GSBDC
321 Virginia Street, W.
Charleston, WV 25302
304.345.7722

AWARDS:
2014 AIA Merit Award
West Virginia Chapter
*Achievement in
Architecture
in Interiors/Graphics*



The New Girl Scouts of Black Diamond Council Volunteer Resource Center and Girl Zone/Urban Camp is located on the West Side of Charleston, WV. The 24,650 SF project completely renovates and upgrades the existing buildings at 321 Virginia Street. The buildings were built in the early and mid-1900's, and were used as a car dealership showroom and parts building until 2008. By the time the Girl Scouts took possession of the building, it had fallen into a state of disrepair. The facility required environmental remediation, and the entire roof structure was damaged and had to be removed.

The Girl Scouts of Black Diamond Council purchased the vacant buildings in 2011 with the intent of converting them into a girl-centered facility for members and a volunteer-enrichment center for program resources and training. The program for the facility includes administrative offices, community/meeting gathering spaces, as well as a small hotel (Urban Camp) for Girl Scouts visiting Charleston. The Girl Scouts undertook the effort to transform the facility, creating an architectural style that would appeal to girls and young women, while utilizing colors and materials that would not become dated.

The main building brings all of the operations of the Girl Scouts of Black Diamond Council together under one roof and on one level. This building includes a volunteer meeting room, employee office space, flexible conference spaces, and a retail shop. The Virginia Street façade of the existing facility was removed, and more contemporary elements are utilized to speak to each of the functions. The Girl Zone/Urban Camp reflects a more residential/outdoor tone with the use of a wood veneer, while the retail store has floor to ceiling storefront.



The storefront is etched with images of girl scouts and scouting slogans. The storefront is backlit in the evening, allowing the entire façade to reflect the function of the building. The entry is accentuated with a more vertical element and signage, giving hierarchy to the various elements, while the office areas are recessed from the corner with smaller openings, and a masonry veneer. Each zone has a unique identity.

The adjacent Girl Zone/Urban Camp conveys the feeling of a hotel or hostel and offers a place that Girl Scouts can stay during a visit to Charleston. While the main entry to the building faces Virginia Street, the entry for the Girl Scouts will be at the rear of the building. A small addition was developed to create a "check-in" area similar to a hotel. Adjacent to the "check-in" area is a great room where troops can gather to cook, congregate, and socialize. The "hotel rooms" utilize a dormitory arrangement, while the finishes and furnishings will be more like a youth hostel than a camp. The rear of the Girl's Zone/Urban Camp will reflect a more traditional camp environment, and includes an outdoor dining area and a fire pit.

With the mixed-use functions of retail, office, and residential, this unique project will be a vibrant addition to the emergent West Side community. The modern aesthetic of the facility will appeal to Girl Scouts and reflect the one of the Girl Scout's Journeys – "It's Your World – Change It!"

Bridgemont Community & Technical College

Davis Hall Renovation



LOCATION:
Montgomery, WV

SIZE:
77,215 SF

COMPLETION:
Summer 2012

COST:
\$4M

CONTACT:
Dr. Jo Harris, President
619 2nd Avenue
Montgomery, WV 25136
304.734.6600



ZMM was selected by Bridgemont Community and Technical College and the West Virginia Community and Technical College System to provide professional architectural and engineering design services for the Renovation of Davis Hall in Montgomery. Davis Hall is a 77,215 SF classroom and laboratory facility that was constructed in 1970 for WVU-Tech. The exterior



of the facility consists of architectural pre-cast concrete panels and a curtain wall system. The interior includes an open two story atrium, a large auditorium, and five levels of office and classroom space that is 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 had not been 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 current project, as well as a long range plan for future improvements to Davis Hall.

The scope of the current project includes life safety upgrades (replace non-plenum rated wiring, new fire alarm system), improvements to the building envelope (curtain wall replacement and re-roofing), hazardous material abatement, mechanical improvements (boiler and chiller replacement, outdoor air ventilation system replacement), and interior improvements (replace ceilings and lighting, upgrade furnishings).

Adam R. Krason, AIA, NCARB, LEED AP



Role
Principal

Professional Registrations

Registered Architect (WV, OH, KY, VA)
LEED Accredited Professional
NCARB (55,984)
Construction Specifications Institute (CSI)
Construction Documents Technician (CDT)

Mr. Krason has served in the capacity of Architect and Project Manager for a variety of projects at ZMM. This experience includes Military, Educational (K-12 and Higher Education), Office, Justice (Courthouses, Correctional, Justice Centers), and Multi-Unit Residential projects. Mr. Krason's responsibilities include programming, design, documentation, coordination of the architectural and engineering team, as well as construction administration. Mr. Krason began his career in 1998, working on a variety of educational, commercial office, and correctional projects throughout Ohio, West Virginia, and North Carolina.

Mr. Krason has been an advocate of sustainable design in West Virginia, participating in a variety of sustainable design seminars throughout the State, and serving on the West Virginia School Building Authority Green Schools Sub-Committee. Recently, Mr. Krason helped coordinate the "Making the Business Case for Sustainability" conference at the University of Charleston that included speakers from Armstrong Industries, American Electric Power, CB Richard Ellis, and Interface Raise. Mr. Krason also assisted Habitat for Humanity Kanawha and Putnam County develop a commercial recycling program to fill a void in the sustainable design infrastructure in West Virginia. Mr. Krason has noted that, "I became a LEED Accredited Professional because I believe that good design has value, and the ability to impact our daily lives. Sustainable design showcases the value of design through demonstrated improvements in the performance of the students and employees who occupy our buildings." In addition to his design and project management responsibilities, Mr. Krason serves on the Board of Directors and is responsible for business development at ZMM.

Project Experience

Charleston Civic Center, Charleston, WV

Mr. Krason is serving as Principal-in-Charge of 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. Mr. Krason is

Education

Bachelor of Architecture, The Catholic University of America, 1998

Bachelor of Civil Engineering, The Catholic University of America, 1997

Employment History

2007 - Present, Principal, ZMM
2007 - Present, Board of Directors, ZMM
2003 - Present, Architect, Project Manager, ZMM
1998 - 2003, Architect, Project Manager, Charleston Area Architectural Firm

Civic Affiliations

- American Institute of Architects, Member
- Habitat for Humanity Kanawha & Putnam County, Board of Directors 2011 - 2014
- WV Qualification Based Selections Council, President, 2012/2013
- Leadership WV 2010 - 2012
- Charleston Rotary
- West Side Main Street, Board of Directors 2008 - 2014
- City of Charleston Land Trust 2008 - 2014

responsible for the overall management of the design team, coordination with the client, and also has input critical project management decisions. The design commenced in the spring of 2015, and construction is scheduled for completion in 2018.

Joint Interagency Training & Education Center (WVARNG), Kingwood, WV Mr. Krason was responsible for the preliminary programming, and participated in the schematic design of the 180,000 SF addition to the Regional Training Institute at Camp Dawson. Mr. Krason was also responsible for managing the production effort for the billeting (hotel) expansion, which increased the total billeting capacity at the JITEC to 600 rooms. The project received LEED Gold Certification.

Morgantown Readiness Center (WVARNG), Morgantown, WV

Mr. Krason was the project architect on the new Morgantown Readiness Center. This facility is a unique due to its location on an abandoned airport runway at the Morgantown Municipal Airport. The 54,000 SF Readiness Center occupies a 35 acre tract at the airport. This center supports traditional military functions including the 1-201st Field Artillery. A significant portion of the Morgantown Readiness Center supports the 249th Army Band. The Readiness Center contains a performance hall, pre-function spaces, as well as a variety of training and rehearsal areas.

Construction and Facilities Management Office Expansion (WVARNG), Charleston, WV

Mr. Krason was responsible for the programming, architectural design, and project management of the office expansion. The project included the renovation and addition to an existing pre-engineered metal building. The design, which was honored with a 2009 AIA Merit Award, focused the client's resources on a new entry and corridor that separated the existing office space from the addition.

Wood County Justice Center, Parkersburg, WV

Mr. Krason was the Project Manager for this adaptive reuse project. The existing 32,000 SF building creates a new Magistrate Court and Sheriff's Department. The justice center is LEED Silver Certified.

Tucker County Courthouse Annex, Parsons, WV

Mr. Krason was the Project Architect for the courthouse annex addition in Parsons, WV. 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.

Bridgemont Community and Technical College - Davis Hall Renovation and Master Plan, Montgomery, WV

Mr. Krason led an architectural and engineering investigation into the condition of Davis Hall to help Bridgemont 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.

State Office Building #5, 10th Floor Renovation (Office of Technology), Charleston, WV

Mr. Krason led an architectural and engineering team that completed a detailed assessment of State Office Buildings 5, 6, & 7. Once the assessment was complete, ZMM had the opportunity to implement the proposed improvements on the 10th Floor of State Office Building #5 for the Office of Technology. The renovations, aiming for LEED-CI Certification, re-oriented the layout by drawing all private offices into the building core, providing access to daylight and views for all employees. The design also utilized acoustical ceiling clouds and bulkheads to maximize the acoustical performance, while also increasing the volume of the space.

Participated on the team that won the following awards and acknowledgements:

2016 WV AIA Merit Award *Christ Church United Methodist, Charleston, WV*
2015 WV AIA Honor Award *Edgewood Elementary School, Charleston, WV*
2014 WV AIA Merit Award *Girl Scouts of Black Diamond Council, Charleston, WV*
2011 WV AIA Honor Award *Joint Interagency Training and Education Center (JITEC), Kingwood, WV*
2011 AIA Honor Award *State Office Building #5, 10th Floor Renovation, Charleston, WV*
2009 AIA Merit Award *WVARNG Construction and Facilities Management Office, Charleston, WV*

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

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 aiming for LEED Silver Certification. The project is served by a 4 - pipe hot and chilled water system with an energy recovery ventilation system.

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

Education

Master of Science Architectural Engineering, Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering, West Virginia University, 1973

Employment History

2010 - Present, President, ZMM
1976 - 2010, 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

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.

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. Bridgemont 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.

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.

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.

Bridgemont (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 Bridgemont 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 Boulevard at 2412, Charleston, WV Mr. Doeffinger was on the design team for the proposed Kanawha Boulevard Condominium project. The sixty unit project, located in the East End Historic District, included a design that increased in height as it stepped back from the Kanawha River, providing the opportunity for a series of outdoor living areas, while also respecting the massing of the adjacent residences in the Historic District.

David E. Ferguson, AIA, REFP



Role
Principal

Professional Registrations
Registered Architect (WV, OH)
Recognized Educational Facility Planner (REFP)

Mr. Ferguson has served in the capacity of Architect, Project Manager, and Principal in Charge for a variety of projects at ZMM. This experience includes Educational (PK-12, Vocational and Higher Education), Retail, Corporate Office, Industrial, Military, Medical Office Facilities, General Healthcare Hospital and Psychiatric Hospital Projects. Mr. Ferguson's responsibilities include programming, design, documentation, architectural/engineering coordination and construction administration.

Mr. Ferguson began his career at ZMM in 1984 working on a variety of retail, educational and military projects throughout West Virginia, Pennsylvania, Ohio, Virginia, Maryland, New York, North Carolina, South Carolina, Florida, and Washington DC. In 1996 Mr. Ferguson expanded his expertise into the Healthcare and Industrial and Corporate Office facilities and since then has led the effort at ZMM in Educational Design. Mr. Ferguson is a Recognized Educational Facility Professional (REFP) and has been involved in planning, designing and the construction of over 90 educational facilities in West Virginia. As the architect for the first "green" school building in West Virginia Mr. Ferguson has been an advocate for sustainable design and was involved starting the first US Green Building Chapter in West Virginia.

Mr. Ferguson has also participated in developing West Virginia Department of Education's Policy 6200 *Handbook on Planning School Facilities* and the West Virginia School Building Authority's *Handbook of Quality and Performance Standards*. In addition to Mr. Ferguson's project management responsibilities, as a principal of the firm he has corporate administrative duties and serves on the Board of Directors.

Project Experience
Southern West Virginia Community & Technical College, Williamson, WV Mr. Ferguson is the Principal-in-Charge for this new 22,000 SF Applied Technology Center. The building featured large, flexible teaching areas that can adapt as the curriculum changes for each program. The facility is the first step in the progression of a planned campus expansion that will ultimately include the adjacent Readiness Center. ZMM is also

Education
Bachelor of Science; Industrial
Technology/Architectural Design,
West Virginia State University, 1979

Employment History
2007 - Present, Vice President,
Secretary/Treasurer, ZMM
2002 - 2007, Vice President, ZMM
2001 - Present, Board of Directors, ZMM
1996 - Present, Architect, Project
Manager, ZMM
1984 -1996, Designer, ZMM

Civic Affiliations

- West Virginia Chapter, American Institute of Architects, President
- West Virginia Chapter, American Institute of Architects, Board Director
- American Institute of Architects, Member
- Member, Council of Educational Facility Planners International (CEFPI)
- Recognized Educational Facility Planner (REFP) by the CEFPI
- Professional Member, US Green Building Council
- High School Mentoring/Job Shadowing Program for 6 County School Systems
- WV AIA IDP Program Mentor/Advisor

providing a new campus master plan, with a focus on creating green space and improving pedestrian and vehicular circulation. This project was designed to meet the USGBC LEED Silver standards.

Explorer Academy, Huntington, WV Mr. Ferguson is currently the Project Architect for this new Expeditionary School. He is responsible for the programming, design, and project management for the new 60,000 SF facility. It will be a consolidation of Peyton Elementary and Geneva Kent Elementary in the east end of Huntington. The schools will be combined to form the incubator school, which will be housed in the former Beverly Hills Middle School facility that will be remodeled to fit the mold of the Expeditionary Learning model. This school will open in fall of 2015 and be first of its kind.

Southside Elementary and Huntington Middle School, Huntington, WV Mr. Ferguson led the programming and design effort on this 156,000 SF facility. This project encompasses all phases of construction; demolition, major renovation and new construction. The original historic 26,000 SF three story school building was preserved and the remaining less than adequate facility was strategically removed to accommodate the new addition. The existing facility was completely renovated and brought up to new construction standards to blend with the new addition. The project consisted of two distinct school facilities existing on the same piece of property. The new construction blends seamlessly with the older historic structure.

Huntington East Middle School, Huntington, WV Mr. Ferguson was the Project Architect for this new Middle School. He was responsible for the programming, design, and project management for the new 800 student, 94,000 SF facility. This is projected to be the first LEED Gold Middle School in West Virginia and encompasses the latest in technology and distance learning within the classroom. The building will be used as a teaching tool along with large interactive monitors throughout the building. Students will be able to learn how the building operates through hands on learning and monitoring the building systems.

Lincoln County High School, Hamlin, WV Mr. Ferguson was responsible for the programming and design effort for this one-of-a-kind facility. This 800 student, 217,000 SF school was a ground breaking facility for the county, West Virginia School Building Authority and the WV Department of Education. This facility was the first school in West Virginia to incorporate "green" design principals. The school was the first school east of the Mississippi River to encompass a fully comprehensive High School, Vocational School, Health Clinic (open 12 months a year), and Community College within one building. This facility is also the proud recipient of the 2007 WV AIA Honor Award.

Cabell County Bond Program: Mr. Ferguson assisted Cabell County in developing budgets, project scopes and passing the largest bond program in West Virginia. This encompassed four projects and with additional funding from the West Virginia School Building Authority exceeded \$72 million dollars. As Principal, Mr. Ferguson led the programming and design effort on all four facilities.

Wayne County Bond Program: ZMM assisted Wayne County Schools in passing an \$18,000,000. The passage of the bond will create a New Crum PK-8 School, a New Ceredo-Kenova Elementary School and Additions and Renovations to Wayne High School. The overall process involved community meetings, establishing goals and priorities, creating overall budgets and a project scope that the citizens would support. ZMM assisted Wayne County Schools with distributing information, working with the bond committee and Bond Council to establish the actual Bond Call and assisting with public awareness throughout the county. ZMM worked facilitated meetings with the WV School building Authority and Wayne County Schools to create an overall project Budget of \$42,200,000.

Participated on the team that won the following awards and acknowledgements:

2016 WV AIA Merit Award *Gauley River Elementary School, Craigsville, WV*

2015 WV AIA Merit Award *Southern WV Community & Technical College, Williamson, WV*

2014 WV AIA Merit Award *Huntington Middle School, Cabell County Schools, Huntington, WV*

2010 WV AIA Honor Award *Hacker Valley PK-8 School, Webster County Schools, Hacker Valley, WV*

2007 WV AIA Honor Award *Lincoln County High School, Lincoln County Schools, Hamlin, WV.*

March 2006 Article, *Construction Progress, Lincoln County Comprehensive High School, Lincoln County. West Virginia Construction News Magazine, West Virginia Contractor's Association*

May 2005 Article, *Building Blueprints, Science Classroom. School Planning & Management Magazine*

Samuel Butzer, PE, LEED AP BD+C



Role

Mechanical Engineer

Professional Registrations

Professional Engineer (WV,WI, IL)
LEED Accredited Professional

Mr. Butzer is a registered Professional Engineer with design experience in HVAC, Piping (Mechanical, Industrial, Laboratory, Medical Gas) and Plumbing systems. He has been responsible for an extensive range of projects that include Medical and Dental Office Buildings, Military Installations, Churches, Restaurants, K-12 Schools, Higher Education Facilities, Laboratories, Pharmaceutical Manufacturing, Natatoriums and Historical Renovations.

Mr. Butzer began his career in engineering with a mechanical contractor located in Wisconsin. His engineering experience included projects that were either design-build or plan & spec. His background in design-build engineering and 3D BIM coordination has exposed him to a number of "real world" HVAC and piping constructability issues. That experience has forged him into a leader at the integration of all disciplines into a multitude of building types and space constraints.

Project Experience

Charleston Civic Center, Charleston, WV

Mr. Butzer is the Mechanical Engineer on the expansion and renovation to the Charleston Civic Center project. 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 is scheduled for completion in 2018.

NGK Oxygen Sensor Plant, Sissonville, WV

Mr. Butzer was responsible for expansion and improvements to the existing cycle water piping system used to cool NGK's manufacturing equipment. The design included variable speed, vertical turbine pumps located above a concrete manhole and polypropylene piping was used to connect to the existing system and limit corrosion of the open piping system. Existing heat exchangers were scrutinized and approved for new flow conditions, and the fluid cooler/cooling tower was replaced with an improved, upgraded model. A controls system expansion and integration was needed to incorporate all equipment, valves, and sensors into a single, seamless communication protocol.

Education

Bachelor of Science, Mechanical Engineering, University of Wisconsin at Madison, 2007

Associate of Science, Madison Area Technical College, Madison, WI, 2004

Employment History

2013 - Present, Project Engineer, ZMM
2007 - 2013, Mechanical Engineer, WI
2005 - 2007, Mechanical Engineer Intern, UW-Madison FP&M

Civic Affiliations

- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), President Elect of West Virginia State Chapter
- United States Green Building Council (USGBC), Board Member
- Kanawha City Community Association, Member

Gestamp West Virginia, South Charleston, WV

Mr. Butzer led a design team that was tasked to provide a mechanical system to separate out, or divert hydraulic fluid collected along with chilled water released from immense, automobile component stamping machines. The design included an aboveground oil-water separator, density meters, 3-way valves, storage tanks and a controls system to monitor fluid flow and guarantee separation or storage of non-compliant sanitary discharges.

Nicholas County Courthouse, Summersville, WV

The Nicholas County Courthouse is a Historic building constructed in 1898 with an addition executed by the Works Progress Administration in 1940. The courthouse was added to the U.S. National Register of Historic Places in 1991. Mr. Butzer led a project team responsible for upgrading an existing 2-pipe fan coil system into a 4-pipe system to provide simultaneous heating and cooling and meet the climate and comfort needs of specific occupants. A new 4-pipe system, variable speed pumps and 3-way valves were provided in the basement to achieve integration of the new system into the existing. Construction had to be phased to allow installation of the new heating loop while the existing system remained in cooling operation; the new cooling loop would be installed once the building switched over to the new heating loop. Welding and soldering were not allowed so materials such as PEX, pressure-seal copper and mechanical joint steel piping were specified. A new Building Automation System with most of the communication occurring wirelessly was chosen to minimize disturbances to the historical architecture of the building.

Harrisville Elementary School, Harrisville, WV

Mr. Butzer was responsible for designing the HVAC systems for the renovation and additions to the elementary school. Initial design development consisted of variable refrigerant flow (VRF) systems coupled with dedicated outdoor air (DOAS) systems for the Classrooms and Administration areas. Roof mounted air conditioning and exhaust equipment were provided for the new Cafeteria, Kitchen and existing Gymnasium. Budget and space constraints forced the design to evolve into individual, self-contained, interior air handling units for each Classroom. The units were able to meet ASHRAE 62.1 requirements for ventilation, the Acoustical Society of America's (ASA) requirement for sound, and every other standard such as individual classroom temperature and dehumidification control as set forth by the School Building Authority (SBA).

Project Experience with other firms**Froedtert Health Medical Office Building, Menomonee Falls, WI**

Mr. Butzer was responsible for the tenant build-out of a 5-story, Medical Office Building. Roof mounted air conditioning and heating equipment with a medium pressure duct loop on every floor was previously installed as part of the core-and-shell construction. The design included over 150 different zones served by variable air volume (VAV) and fan powered VAV terminal units with hot water reheat coils, 95% efficient condensing boilers, and variable speed pumps. Specialized, split DX cooling and dehumidification units were provided for priority departments including the Pharmacy, Laboratory, Radiology, and Computed Tomography (CT) Scanner.

Dr. Aust Dental Office, Kenosha, WI

Mr. Butzer was responsible for designing the HVAC, Level 3 Medical Gas, and Plumbing systems for this project. Medical gases included nitrous oxide and oxygen. Compressed air was required for tool operations. The plumbing system had to incorporate an under slab, wet vacuum, suction piping system which is also considered a Level 3 system which must meet NFPA 99C code requirements for alarms, sensors and redundancy.

Nathan Spencer, AIA



Role
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

Jackson County Armed Forces Reserve Center, Ripley, 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.

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

Morgantown Readiness Center (WVARNG), 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.

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

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.

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 will include: 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.

Edgewood Elementary School, Charleston, WV Mr. Spencer is currently participating on a design team that is developing the new Kanawha County Elementary School on Charleston's West Side. The school is being designed as a 21st Century Learning Environment, with a focus on integrating technology into the delivery of the curriculum. Instructional areas will be located off of an open 'exploratorium' that is being designed to function like a children's museum, providing a variety of learning opportunities, and flexible educational spaces. The school will also visibly integrate sustainable design principles to serve as a teaching tool for the students. A dental and health clinic is also on site for all enrolled students in the Kanawha County School District.

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 workbays, 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.

Additional Projects:

Charleston Civic Center, Charleston, WV
Wayne High School, Wayne, WV
Crum PK-8 School, Crum, WV
Logan-Mingo Readiness Center, Logan, WV
Goodwill Industries, Charleston, WV



Role
Structural Engineer

Professional Registrations
Professional Engineer (WV)

Mr. Hedrick is responsible for overseeing the design of the Structural systems, ensuring that the structural systems not only meet the building code requirements, but meet the long-term needs of the owner. He performs the analysis and design of the structural components to resist the loads from lateral and gravity forces. He coordinates with the other disciplines in order to integrate the Structural system into the building, working with the architects to determine the most economical way to construct the components of the building. Mr. Hedrick has participated on several LEED registered projects. Mr. Hedrick also oversees the work of other engineers and coordinates the office structural standards.

Mr. Hedrick began his career in structural engineering by designing large scale residential and light commercial structures for hurricane force winds. He has a broad range of experience in masonry, concrete, steel and timber design. In 2007, Mr. Hedrick moved back to Charleston, WV, to take a structural engineering position with ZMM where he supervises the design and production of the structural engineering projects, as well as serving on the Board of Directors.

Project Experience

Charleston Civic Center, Charleston, WV

Mr. Hedrick is currently the structural engineer on the Charleston Civic Center expansion and renovation project. 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 is scheduled for completion in 2018.

Jackson County Armed Forces Reserve Center, (WVARNG)

Millwood, WV Mr. Hedrick was responsible for the overall structural design of the single story armory type structure. The project included the design of light weight metal trusses and long-span steel joists in the drill hall.

Joint Interagency Training and Education Center

(WVARNG) Kingwood, WV Mr. Hedrick was responsible for the overall structural design of the three story billeting addition. The project met the requirements of the building code along with the additional requirements of the Department of Defense

Education

Master of Science, Civil Engineering,
University of Tennessee, 2003

Bachelor of Civil Engineering,
West Virginia Institute of Technology,
2001

Employment History

2013 - Present, Board of Directors, ZMM
2007 - Present, Structural Engineer,
ZMM
2003 - 2007, Structural Engineer, McCall
Engineering, Inc.

Civic Affiliations

- American Institute of Steel
Construction, Member

for blast and progressive collapse resistance. The project won LEED Gold Certification.

Wood County Justice Center, Parkersburg, WV

Mr. Hedrick was responsible for the structural design for this adaptive reuse project in Parkersburg WV. The existing 32,000 SF building will create a new Magistrate Court and a Sheriff's Department. The project received LEED Silver Certification.

Tucker County Courthouse Annex, Parsons, WV

Mr. Hedrick was responsible for the structural design for the courthouse annex addition in Parsons, WV. 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.

Edgewood Elementary School, Charleston, WV Mr. Hedrick was involved with the structural design on the new Kanawha County Elementary School on Charleston's West Side. The school is being designed as a 21st Century Learning Environment, with a focus on integrating technology into the delivery of the curriculum. Instructional areas will be located off of an open 'exploratorium' that is being designed to function like a children's museum, providing a variety of learning opportunities, and flexible educational spaces. The school will also visibly integrate sustainable design principles to serve as a teaching tool for the students.

Huntington East Middle School, Huntington, WV Mr. Hedrick was responsible for the overall structural design of the single story school building. The design included masonry wall, metal panel walls and storefront glazing in order to allow additional light for the LEED designed project.

Kenna Elementary School, Kenna, WV

Mr. Hedrick was responsible for the structural design for the new Kenna Elementary School. The new school will serve approximately 375 students in grades Pre-Kindergarten through 5th Grade. The new facility replaces the existing school that was falling into disrepair and lacked the essential spaces for a thriving 21st Century learning environment. The site includes a separate bus drop-off area and parent drop-off area. There is also a designated Pre-K drop-off. A fenced Pre-K play area is provided, as well as a play area for the Grades 1-5. Several playing fields will be located on site as well.

West Virginia Housing Development Fund Building, Charleston, WV Mr. Hedrick was responsible for the overall structural design of the two story steel frame and masonry building. The structure consisted of a composite concrete floor slab supported by steel beams and columns supported on a deep pile foundation.

Bridgemont Community and Technical College (Davis Hall, Building 704), Montgomery, WV

Mr. Hedrick was responsible for the structural design for a design team that is currently preparing construction documents for the renovation to an existing 7-story, 77,215 SF educational building. The project scope includes remedying several engineering and life safety deficiencies, as well as architectural improvements to the building envelope.

Southern West Virginia Community and Technical College, Williamson, WV Mr. Hedrick was responsible for the structural design of the new 22,000 SF Applied Technology Center. The building featured large, flexible teaching areas that can adapt as the curriculum changes for each program. The project is targeting LEED Silver Certification.

Other Firm Experience:

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

**Role**

Electrical Engineer

Professional Registrations

Professional Engineer (WV)

Mr. Casdorph serves as an Electrical Engineer with ZMM providing electrical design services for a vast number of projects consisting of commercial, educational, correctional, institutional, and military facilities.

Mr. Casdorph 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. Mr. Casdorph has participated on several LEED registered projects using energy conserving methods and utilizing lighting control systems and other means to meet or exceed ASHRAE 90.1, LEED, and energy code requirements.

Project Experience

Jackson County Armed Forces Reserve Center, (WVARNG), Millwood, WV Mr. Casdorph was responsible for the electrical design of the 76,000 SF single story military reserve center which serves both the West Virginia Army National Guard and the United States Army Reserves (USAR) units. The multi-use facility provides educational spaces for classrooms, distance learning, physical training and a weapons simulation center. The project is targeted for LEED Silver Certification.

Glen Jean Armed Forces Reserve Center, (WVARNG), Glen Jean, WV Mr. Casdorph was responsible for the electrical design of the 102,000 SF military training facility which houses the Armed Forces Reserve Center (AFRC), Military Entrance Processing Station (MEPS), and an Organizational Maintenance Shop (OMS). The AFRC contains the administrative and training space for the 77th Brigade Troop Command, the 1863rd Transportation Company, and the 150th Armored Regiment Company. The MEPS houses their administrative, medical, headquarters, testing and storage functions at the facility. A comprehensive 8,500 SF OMS vehicle maintenance shop provides space for six large service workbays for maintaining the military fleet.

Education

Bachelor of Science, West Virginia Institute of Technology, 1995

Employment History

2000 - Present, Electrical Engineer, ZMM

1995 - 2000 Electrical Controls Systems Manager, WV Engineering Firm

Joint Interagency Education and Training Center (WVARNG), Kingwood, WV Mr. Casdorff was responsible for the electrical design of the 180,000 SF 3-story billeting/hotel expansion for the Army National Guard campus style facility for training and operational mission support. The expansion more than triples the facility size and increases the total capacity from 189 guest rooms to 600 guest rooms and suites. The project won LEED Gold Certification.

J.M. Chick Buckbee Juvenile Center, Romney, WV Mr. Casdorff was responsible for the electrical design of the maximum security juvenile detention center. The single story 26,000 SF facility houses intake, medical care, recreation, food service and offers educational programs to help rehabilitate young individuals.

Gene Spadaro Juvenile Center, Mt. Hope, WV Mr. Casdorff was responsible for the electrical design of the minimum security juvenile detention center which offers a softer approach to rehabilitation relying more on the affection from the caregivers than the restraints of lockdown helping young individuals make better life decisions.

Lakin Correctional Facility for Women, Lakin, WV Mr. Casdorff was responsible for the electrical design of a dormitory style expansion on site of an existing correctional facility built exclusively for women. The new 124 bed, 24,000SF dormitory style housing unit provides ample amenities and a culinary arts program for the inmate population. An additional 9,500 SF Correctional Industries building was located near the dormitory and offers a garment, sewing and embroidery factory and manufactures inmate clothing, linens and office chairs.

Southern WV Community & Technical College, Williamson WV Mr. Casdorff was responsible for the electrical power and lighting distribution design of this 22,000 SF higher education facility. This project is being designed to meet the USGBC LEED Silver.

West Virginia Research, Education, and Technology – Building 704, South Charleston, WV Mr. Casdorff is the electrical engineer for building 704 and responsible for electrical power and lighting distribution. Building 704 had previously been utilized as a campus maintenance facility by Union Carbide and DOW Chemical. Bridgemont began utilizing the facilities for instruction in the Spring of 2011.

West Virginia Housing Development Fund Office, Charleston, WV Mr. Casdorff was responsible for the electrical design of the 37,000 SF office building which provides natural daylighting into its interior spaces coupled with an automatic dimming system and motorized shade controls. This 2-story administrative facility houses approximately 95 to 100 employees with a flexible open office floor plan utilizing modular under-floor wiring to accommodate any future modifications of the workspace with minimal disruption to the employees. The project is targeted for LEED Silver Certification.

Southside Elementary and Huntington Middle School, Huntington, WV Mr. Casdorff was the electrical engineer on this 156,000 SF facility. This project encompasses all phases of construction; demolition, major renovation and new construction. The original historic 26,000 SF three story school building was preserved and the remaining less than adequate facility was strategically removed to accommodate the new addition. The existing facility was completely renovated and brought up to new construction standards to blend with the new addition. The project consisted of two distinct school facilities existing on the same piece of property. The new construction blends seamlessly with the older historic structure.

Gauley River Elementary School, Craigsville, WV Mr. Casdorff was responsible for the electrical design of the new elementary school. The project is consolidating Beaver Elementary School and Craigsville Elementary School into a new 375-student school. The school houses 3 Pre-Kindergartens, 3 Kindergartens, 2 first grade, 12 1st-5th grade classrooms, activity room, cafeteria, kitchen, media center, and administration spaces.

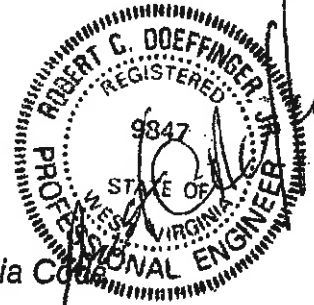
**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**ZMM INC
222 LEE ST W
CHARLESTON, WV 25302-2225**

BUSINESS REGISTRATION ACCOUNT NUMBER: **1040-0001**

This certificate is issued on: **06/21/2011**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code.*



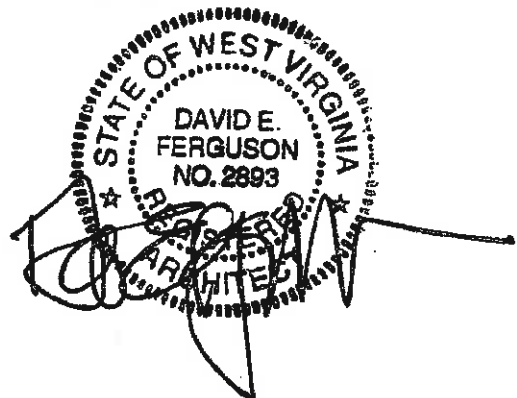
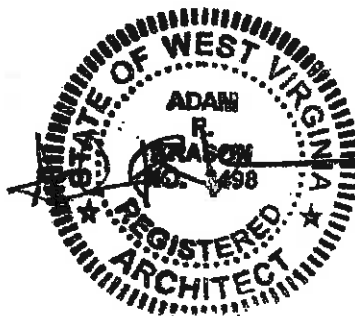
*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

**This certificate is not transferrable and must be displayed at the location for which issued.
This certificate shall be permanent until cessation of the business for which the certificate of registration
was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.**

**Change in name or change of location shall be considered a cessation of the business and a new
certificate shall be required.**

**TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of
this certificate displayed at every job site within West Virginia.**

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CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers
having verified the person in responsible charge is registered in
West Virginia as a professional engineer for the noted firm, hereby certifies*

ZMM, INC.

C00689-00

Engineer in Responsible Charge: ROBERT DOEFFINGER - WV PE 009847

*has complied with section §30-13-17 of the West Virginia Code governing
the issuance of a Certificate of Authorization. The Board hereby notifies you of its
certification with issuance of this Certification of Authorization for the period of:*

July 1, 2012 - June 30, 2013

providing for the practice of engineering services in the State of West Virginia.

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA
UNDER ITS SEAL AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT

The West Virginia Board of Architects

certifies that

ADAM R. KRASON

is registered and authorized to practice
Architecture in the State of West Virginia.

In testimony whereof this certificate has been issued
by the authority of this board.

Certificate Number [REDACTED]

The registration is in good standing until June 30, 2017.



Lepa C. Lewis

Board Administrator

The West Virginia Board of Architects

certifies that

DAVID E. FERGUSON

is registered and authorized to practice
Architecture in the State of West Virginia.

In testimony whereof this certificate has been issued
by the authority of this board.

Certificate Number [REDACTED]

The registration is in good standing until June 30, 2017.



Leya C. Lewis

Board Administrator

The West Virginia Board of Architects

certifies that

NATHANIEL HAROLD SPENCER

is registered and authorized to practice
Architecture in the State of West Virginia.

In testimony whereof this certificate has been issued
by the authority of this board.

Certificate Number [REDACTED]

The registration is in good standing until June 30, 2017.



Leya C. Lewis

Board Administrator

Client References

David Molgaard, City Manager
City of Charleston
304.348.8014

MAJ Dan Clevenger
West Virginia National Guard
304.561.6446

Greg Melton, Director
State of West Virginia General Services Division
304.558.2317

Beth Casey, CEO
Girl Scouts of Black Diamond Council
www.bdgsc.org
304.345.7722

Blaine Hess, Superintendent
Jackson County Schools
304.372.7300