

Expression of Interest:
HVAC Renovations for Building 36

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NU Purchasing Division



November 12, 2015

Ms. Laura Hooper, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street, East
P.O. Box 50130
Charleston, West Virginia 25305-0130

Subject: Expression of Interest – HVAC Renovations for Building 36

Dear Ms. Hooper:

ZMM Architects and Engineers is pleased to submit the attached information to demonstrate our experience and our qualifications to provide professional design and construction phase services for the Building 36 HVAC Renovation project. Established in 1959, ZMM is a Charleston based, full service A/E firm, and is noted for design excellence and client focus. Our integrated design approach makes ZMM unique among design firms in southern West Virginia, and will prove beneficial to the General Services Division as HVAC Renovation projects often require the involvement of a variety of design disciplines including architects, structural engineers, and electrical engineers – an addition to mechanical engineers. Please note the following about our team:

- **Experience.** ZMM was founded more than fifty-five 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. ZMM Principal Bob Doeffinger is a mechanical engineer with experience working on some of the most challenging HVAC renovation projects in the Kanawha Valley. ZMM's recent HVAC renovation experience includes the renovation of the Charleston Civic Center, Davis Hall in Montgomery, Christ Church United Methodist Education Wing Renovation, 405 Capitol Street (the old Daniel Boone Hotel), the Tiskelwah Center (for Kanawha Valley Senior Services), the United Center (Chiller Replacement), the Kanawha Charleston Health Department, as well as multiple projects at the West Virginia Regional Technology Park and the State Capitol Complex. Mr. Doeffinger has examined the existing building, and his design approach is contained in Section 1.
- **Quality.** ZMM has a history of providing high quality design services on Kanawha Valley renovation projects. Recent experience includes the Girl Scouts of Black Diamond Council Volunteer Resource Center, Renovation of the 10th Floor of State Office Building #5 for the State of West Virginia Office of Technology, the CFMO Expansion for the West Virginia Army National Guard, as well as the Renovation and Expansion of St. Albans High School. All four projects were honored with statewide and/or national design awards.
- **Teamwork.** Teamwork is the key to a successful project and ZMM is committed to the success of this project. We look forward to the opportunity to build upon the relationship we have established by working together on improvement to State Office Buildings 5, 6, & 7, as well as our recent work on the Capitol Roof and at Surplus Property. Our goal is to become an extension of your team as we assist in implementing the improvements to the HVAC system at Building 36.

Thank you for taking the time to review the attached expression of interest that has been formatted to address the specific needs of your project. Additionally, please visit our website at www.zmm.com to see the full range of projects that we have designed, and to learn about working with ZMM from a client's perspective. We appreciate your consideration for this important assignment.

Respectfully submitted,

ZMM, Inc.

A handwritten signature in dark ink, appearing to read "A. R. Krason", written over a horizontal line.

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

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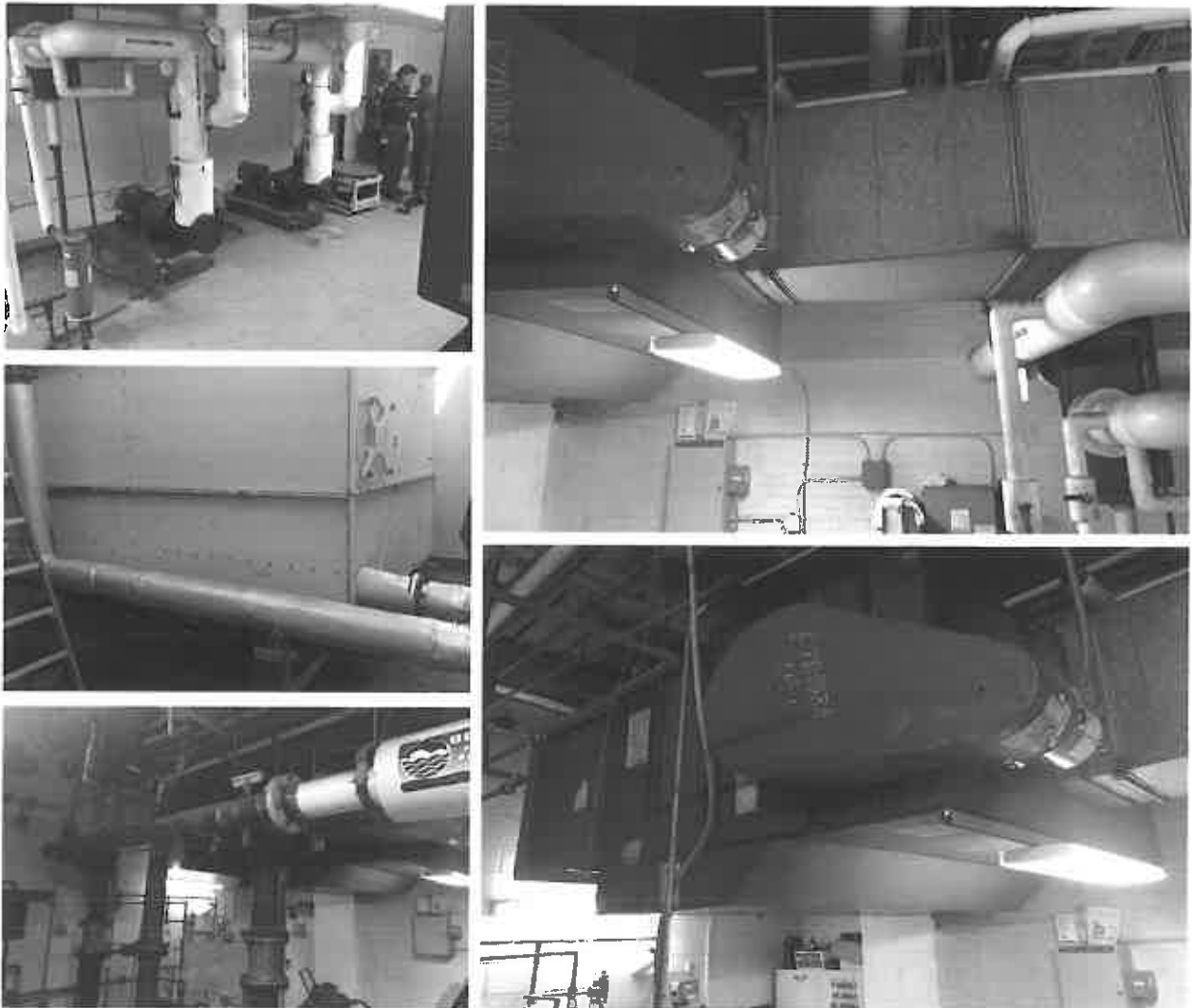
HVAC Renovations of Building 36

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Project Approach & Understanding

HVAC Renovations of Building 36



System Description

The HVAC system consists of aging chilled water plant, consisting of a single gas fired 1,004,000 BTUH HW boiler and a 1986 Trane 250-ton chilled water centrifugal chiller, with a BAC forced draft condenser water cooling tower.

Outdoor air ventilation air is provided by a heating only make-up air unit located in the Mechanical Room is ducted to air handling rooms on each floor. Plenum air and make-up air are mixed in the Mechanical Rooms. The air handling units (AHU) have an open return and draw air from the Mechanical Room.

Hot and chilled water is supplied to VAV (AHU's) on each floor. The AHU's distribute conditioned air to variable volume terminal units with electric reheat to provide temperature control and air distribution to various building zones. There is a split system Liebert Unit providing Computer Room under floor air conditioning to a basement raised floor area. The air cooled condenser is on the roof. The HVAC system is controlled by a Trane Tracer DDC control system.

Approach

ZMM will provide a comprehensive HVAC survey to determine the condition of each building component and provide a report of findings and recommendation for replacement, reconfiguration or rebuilding of all equipment and an estimate of probable cost.

There appears to be the foundation of an existing adequate DDC control system. The VAV terminal units with electric reheat have been converted to DDC controls as have most control components in the building. There are still some pneumatic operators but they are controlled by the DDC system.

The chiller is approaching 30 years and needs replaced. Consideration when replacing the chiller and boiler is providing redundancy. In the case of the chiller use two ½ load screw chiller machines. The screw machines are very efficient particularly at part load. Likewise the boiler could be replaced with two ½ load high efficiency condensing boilers. In observing the fresh air make-up system, we doubt it is providing adequate conditioned ventilation air during all seasons since it is heating only. Consideration should be given to a self-contained heating and cooling make-up air unit. The air handling units need a thorough inspection and can be rebuilt or replaced with the current inlet vane control replaced with variable speed motor control. Depending on condition of the cooling tower it can be rebuilt or replaced.

The building does not have air economizer requiring the chiller to run during cool ambient conditions. It may be difficult to fit the air handling units with 100% outside air. Consideration should be given to installing water side economizer using the cooling tower during winter months in conjunction with a plate frame heat exchanger thus eliminating mechanical refrigeration during winter months. Large energy reductions can be realized with an economizer cycle.

A thorough building survey will provide the proper course of action.



History of ZMM

LOCATION:
222 Lee Street, West
Charleston, WV

CONTACT:
Phone 304.342.0159
Fax 304.345.8144
www.zmm.com



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

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



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



Additional Award Winning Design



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

2007

AIA West Virginia Chapter: Honor Award

Excellence in Architecture

Lincoln County High School
Hamlin, West Virginia

2006

AIA West Virginia Chapter: Merit Award

Excellence in Architecture

Gene Spadaro Juvenile Center
Mt. Hope, West Virginia



Adam R. Krason, AIA, NCARB, LEED AP



Role

Architect, 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.

Kanawha County Public Library, Charleston, WV

Mr. Krason is the Project Manager for design and managing the project team for the new 118,000 SF main branch in downtown Charleston. Once completed, the new library will nearly triple the size of the existing facility allowing for collection expansion and other growth opportunities. The project features a day-lit atrium that will serve as a greeting, gathering and display space that provides access to all areas of the library. Other features include meeting space, a café and a roof-top reading garden.

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.

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.

Girl Scouts of Black Diamond Council, Charleston, WV Mr. Krason is the Project Manager on the new Volunteer Resource Center and Girl Zone/Urban Camp in Charleston, WV. The 18,000 SF project will completely renovate an old car dealership into administrative offices, a community gathering space, and a small hotel (Urban Camp) for Girl Scouts visiting the Charleston area. This new main building will bring all the operations of the Girl Scouts of the Black Diamond Council under one roof.

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.

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.

Bridgemont Community and Technical College - Davis Hall Renovation, 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.

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

2015 WV AIA Merit 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, Project Manager

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 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

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.

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, Bridgmont Community and Technical College
- City of Pt Pleasant, WV – 2nd Ward Councilman for 20 years

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.

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.

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

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.



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.



Role

Mechanical Engineer

Professional Registrations

Professional Engineer (WV, IN)

LEED Accredited Professional

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

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

Project Experience

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

Tucker County Courthouse Annex, Parsons, WV

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

Education

Bachelor of Science, Purdue University, West Lafayette, IN, 1993

Employment History

2010 - Present, Project Engineer, ZMM

2007 - 2009, Sr. Mechanical Engineer, IN

2003 - 2007, Mechanical Engineer, IN

1999-2003, Project Engineer, Fort Lauderdale, FL

Civic Affiliations

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

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

Edgewood Elementary School, Charleston, WV Mr. Pruett is the mechanical engineer on the new Kanawha County Elementary School on Charleston's West Side and responsible for the HVAC systems design. 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.

Current Education Experience

Explorer Academy
John Adam Middle School
Salt Rock Elementary School

Project Experience with other firms

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

Stephen Hedrick, PE



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

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.

Joint Interagency Training and Education Center

(WVARN) 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

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

with the additional requirements of the Department of Defense for blast and progressive collapse resistance. The project won LEED Gold Certification.

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/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.

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.

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.

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.

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, OH *pending*)

Mr. Casdorff 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. Casdorff 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. Casdorff 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**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.

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

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

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.

Jackson County Armed Forces Reserve Center, (WVARNG), Millwood, WV Mr. Casdorff 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. Casdorff 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.

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.

Craigsville 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.

Lincoln County High School, Hamlin, WV Mr. Casdorff was responsible for the electrical power distribution throughout the 216,000 SF facility containing high school classes, vocational education, technical community college classes and a community health clinic. The project was a 2007 AIA Honor Award Winner.

Milton Middle School, Milton, WV Mr. Casdorff was responsible for the electrical design of the new 96,000 SF facility housing 700 middle school students grades 6 through 8.

Fort Gay PK-8 School, Fort Gay, WV

Mr. Casdorff was the electrical engineer and was responsible for the electrical power distribution and design. The New Fort Gay PK-8 School replaces the existing facility that has been in disrepair and lacking the spaces and technology delivery system required for 21st century learning skills. The total enrollment for the school is 603 Students. The new grade configuration separates the Elementary students from the Middle School students, but still allows use of the common spaces within the building. They share the Dining Room, Gymnasium, Media Center and a Stage.

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.

Oak Hill Elementary, Fayetteville, WV
Valley High School, Smithers, WV
Divide Elementary School, Lookout, WV

Glenn Savage, CSI-CDT



Role

Construction Contract Administrator

Mr. Savage is responsible for overseeing the construction of ZMM projects. He is the liason between the Owner and Contractor. Responsible for biweekly site visits, attend progress meetings, certify applications for payment, change order processes, Request for information.

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

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

Project Experience

- WV State Office Building #5, 10th Floor, Charleston, WV
- Jean Dean Safety Building, Huntington, WV
- Southern West Virginia Community & Technical College, Williamson, WV
- CAMC Teays Valley ICU, Teays Valley, WV
- Highland Hospital, Charleston, WV
- Beech Fork Lodge, Wayne, WV
- The Retreat at Glade Springs, Daniels, WV
- WV State Police Office, South Charleston, WV
- Wood County Justice Center, Parkersburg, WV
- Cacapon State Park, Berkeley Springs, WV
- Blackwater Falls State Park, Davis, WV
- West Virginia State Police Office, So. Charleston, WV
- Edgewood Elementary School, Charleston, WV
- Divide Elementary School, Charleston, WV
- Craigsville Elementary School, Craigsville, WV
- Oak Hill Elementary, Oak Hill, WV
- BridgeValley Community & Technical College – Davis Hall Renovations
- Mountaineer Middle School, Clarksburg, WV
- Nicholas County High School, Summersville, WV
- East Greenbrier High School, Lewisburg, WV
- West Virginia Western Regional Jails
- Alderson Federal Prison Camp, Alderson, WV
- Summersville Hospital Medical Building, Summersville, WV

Education

Bachelor of Science, University of Charleston, 1997

Associate of Science, West Virginia State University, 1992

Employment History

1998 - Present, Construction Contract Administrator, ZMM

1997-1998, Geotech

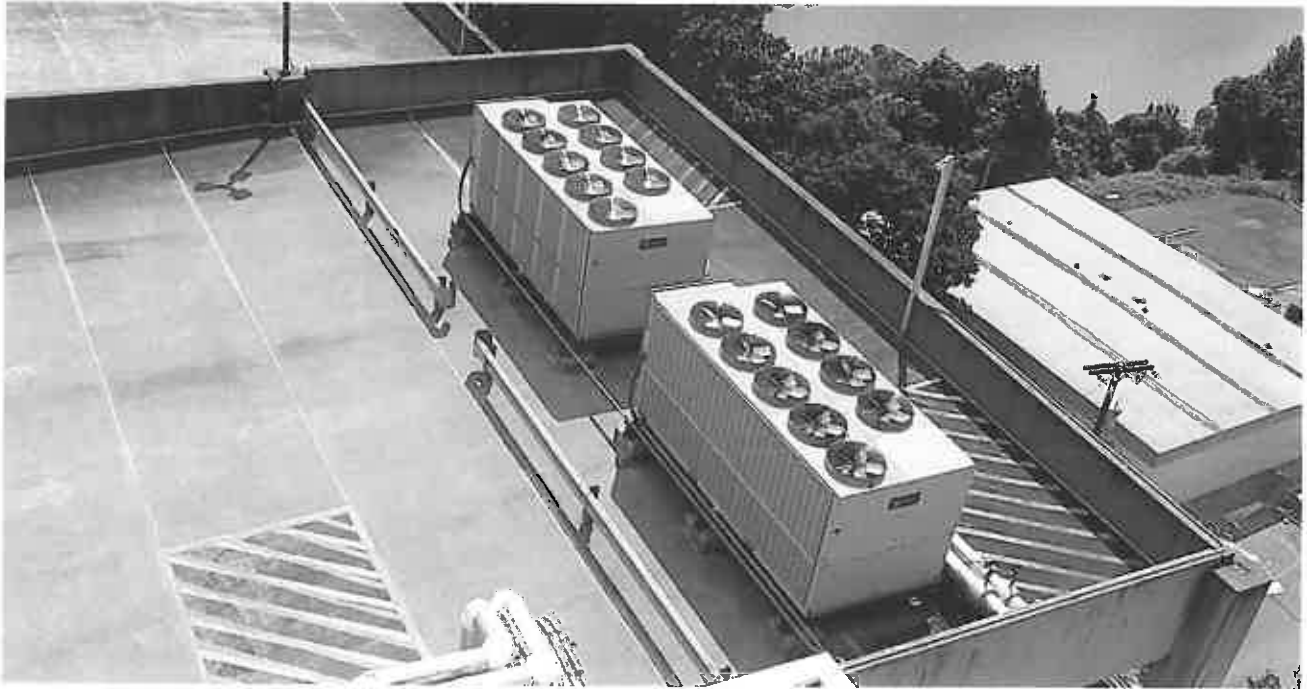
1992 -1997, Battle Ridge Construction

1981-1992, H. C. Nutting Geotechnical Testing Engineers

Civic Affiliations

- Member CSI
- Kanawha Valley Leadership Course Graduate
- Maintained all certifications for WVDOT testing materials

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.

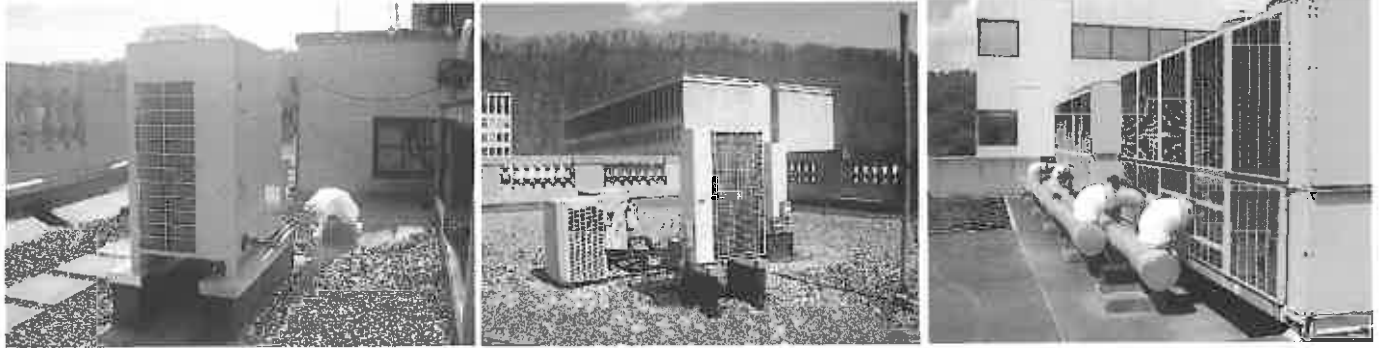
Capitol Complex Building 5, 7th, 8th, & 9th Floors – Rebuild perimeter induction system and interior multi-zone distribution in addition to total architectural fit up, approximately 70,000 SF.

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.

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



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

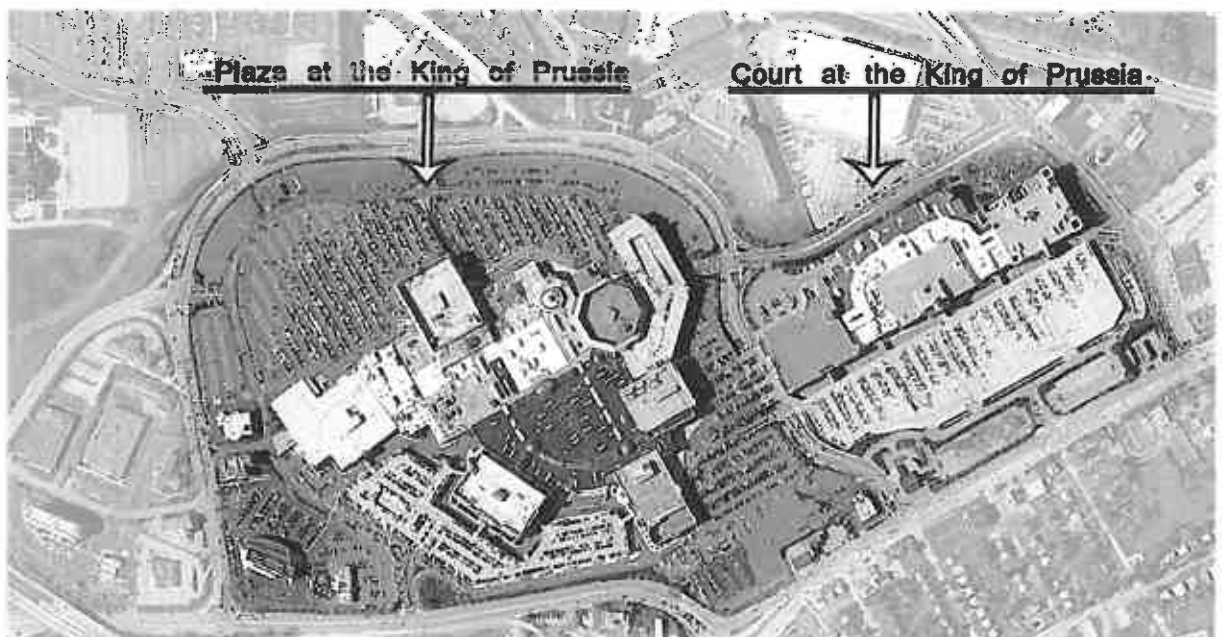
- 2,500,000 SF, 4,000-Ton Chilled Water Plant, VAV and CV
- Air Handling System
- Existing and New Spaces

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



West Virginia Regional Technology Park



Building 740 Steam Plant, South Charleston, WV

When the Campus Steam Physical Plant for West Virginia Regional Technology Park was scheduled for closure in 2012, individual Steam Boiler systems were required for each building. Building 740 was built in 1960 as a research facility for Union Carbide. It is still predominantly a laboratory building, with a 24/7 100% Outside Air HVAC System of approximately 175,000 cfm capacity.



ZMM is working with West Virginia Heating and Plumbing to develop a steam plant for Building 740. The steam plant will include new steam (convertible to hot water) boilers for the facility. The project also includes a new four bay block building to house the steam plant. The system designed by ZMM meets the current needs, and also plans for future improvements to the facility.



The project consisted of a new 1500 square foot masonry building adjacent to 740, with two 8,000,000 btuh 150 psi steam boilers, a feedwater system, condensate return system from the existing building, and water treatment. The boilers will be converted to hot water when Building 740 is renovated.

Additional Projects Include

West Virginia Research, Education, and Technology – Building 704, South Charleston WV

ZMM is 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.

West Virginia Regional Technology Park (WVRTP) - Building 740, South Charleston WV

This project involves designing and constructing the Interim Steam Heating System throughout Building 740.

Building 770 Evaluation, South Charleston, WV

ZMM's services included an investigation, assessment of the building condition including the building envelope, life safety issues, and engineering systems, as well as the development of conceptual plans for the lab areas. ZMM's assessment also included a detailed review of the building's current and future energy use. The energy consumption information helped to validate the payback of the proposed improvements.

WVRTP Steam Plant Analysis, South Charleston, WV

ZMM worked collaboratively with WVRTP staff and various consultants to develop an analysis of the efficiency of the Tech Park steam plant. Based upon the results of the analysis, the WVRTP decided to shutter the plant, resulting in a significant yearly savings.

West Virginia Regional Technology Park

Building 770 Renovation



Background

ZMM Architects and Engineers has a history of working on facilities at the previous DOW and Union Carbide Technology Park. Through the late 1970's and early 1980's more than half of the firm's commissions were for work at the Tech Park. During this time ZMM worked on virtually every facility on the campus. More recently, ZMM has again become involved with several of the facilities at the West Virginia Education, Research, and Technology Park (WVERTP). This recent work includes an assessment of Buildings 702, 704, and 710 for Bridgemont CTC, as well as renovations to Building 704 to correct life safety deficiencies. Mr. Bob Doeffinger, PE, a Principal of the firm, also participated in an evaluation of the existing campus wide steam plant to determine whether it should be salvaged or abandoned. The experience most relevant to the current project, however, is an assessment of Building 770 that ZMM completed in October 2010 for MATRIC.



Mr. Bob Doeffinger, PE, a Principal of the firm, also participated in an evaluation of the existing campus wide steam plant to determine whether it should be salvaged or abandoned. The experience most relevant to the current project, however, is an assessment of Building 770 that ZMM completed in October 2010 for MATRIC.

Building 770

The 4-story building is a single use laboratory building with executive offices. The 122,180 SF laboratory building constructed in 1959, consists of 44,880 SF of laboratories, 22,800 SF of laboratory office space, 8,200 SF of executive office space, and 46,300 SF of service and utility space. A 2,500 SF laboratory annex with 2-story walk-in fume hoods was constructed in 1995. The building has a steel frame structure with a brick and curtain wall veneer with one fume hood in each lab. A typical laboratory suite consists of labs and offices on a double loaded corridor. There are approximately 100 individual labs. The wall between the corridor and the laboratory is a non-rated Hauserman (demountable) partition. Each lab is served by a chase that contains the following utilities: CW, HW, steam, air, vacuum, and nitrogen.

The building is served by two 500 ton centrifugal chillers and campus steam. The laboratory's exhaust system consists of individual exhaust utility sets per hood. The utility sets are located in the mechanical penthouse. The conditioned air delivery system to the laboratory consists of large 100% outdoor air chilled water, steam AHU's. Only the executive office area is served by a unit with return air. Electrical service is provided by a 2.4 KV line-up of double ended switchgear, transformed to 480 volts, the chillers are fed directly from the 2.4 KV switchgear, and metered separately.

Aside from minor renovations to enclose the monumental stairway in the lobby, the executive office suite improvements can be limited to ceilings, lighting, finishes, and improved data access. It may be desirable to replace that HVAC system although the existing system is serviceable. Major building improvements are required in the laboratory areas. Through our analysis of the life safety code and conversation with the state fire marshal, a two-hour fire rated wall is required to separate the laboratory from the exit corridor. The duct and pipe chases adjacent to the laboratories must also be reconstructed as two-hour fire rated shafts. Additionally, the labs must be reconfigured so that an occupant of the lab does not exit adjacent to the fume hood. This can be accomplished by either relocating or eliminating some of the fume hoods. To accomplish the required improvements to the labs, the Hauserman partitions including the chases, corridor, office ceiling and lighting as well as all existing ductwork will be demolished. Essentially, the lab wings will need to be reconstructed.

West Virginia Regional Technology Park

Building 770 Renovation

Typical modern laboratories maintain humidity control which means humidification during the heating season. As the building exists, condensation will occur on the interior face of the window and curtain wall system. If humidity control is desired, replacement of the curtain wall is necessary.

As presently configured, the laboratory constant volume exhaust and make-up air systems operate 24 hours a day. Maintaining the systems in their current condition will result in large energy consumption estimated at \$13.25 per building SF annually. The steam and electric are metered at the building. The campus energy losses for each utility are added pro rata to the metered quantities. The annual energy charge based on 3 year data is between \$1,300,000 and \$1,600,000. It is very difficult to alter the existing air handling equipment to provide a system equivalent to a modern efficient laboratory system. The most effective way to improve energy efficiency in a large lab facility is to use a variable volume exhaust and make-up air system. The expense of treating the outdoor make-up air is reduced by providing exhaust and make-up air only for in-use fume hoods. To accomplish these improvements, a separate 100% outdoor air variable volume air handling system would be provided for the lab spaces and a separate variable volume system with supply and return air would be provided for the offices.

St. Albans High School

Kanawha County Schools



LOCATION:
St. Albans, WV

SIZE:
172,596 SF

COMPLETION:
2003

COST:
\$24 Million

CONTACT:
Dr. Ron Duerring
Superintendent
200 Elizabeth Street
Charleston, WV 25523
304.348.7732

AWARDS:
Impact on Learning Award
Effective Transformation

Education Design Showcase
Outstanding Building Design

American School & University
Outstanding Building Design



Instructional spaces have been designed to be flexible, adaptable and accommodating for the more active, student oriented instructional programs and methods of the district. Classroom and other spaces are bright and welcoming for students and staff and appropriate space and equipment are provided to allow for the efficient and effective delivery of program objectives.

Responding to concerns from students, staff and the community, and due to the condition of existing science facilities, science wing was completely replaced with modern, functional and flexible space and equipment.

The renovation and additions include the razing of about 40% of the existing structure and the construction of the 124,000 SF of new facility. The scope of this extensive renovation included the replacement of the existing HVAC system, to include a new heating plant, a 500 ton chilled water plant, rooftop units and installation of one retrofitted high speed elevator.

Provisions for new and emerging technologies were greatly enhanced throughout the building. The new media center is the central hub for technology and with the inclusion of an appropriate infrastructure, providing flexibility needed for the technology of the future.

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 silver certification from the U.S. Green Building Council. The new 82,000-SF operations building is prominently sited as the main focal point upon entering Camp Dawson through the secure access control point and visitor's center, also designed by AECOM. The building's exterior complements its West Virginia setting. The entire building front, composed of glass and pre-cast concrete walls, is open and inviting with glazing that reflects the surrounding trees and hills.



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.

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.





Greenbrier East High School

HVAC Replacement

COST:
\$11.8M

COMPLETION:
2005

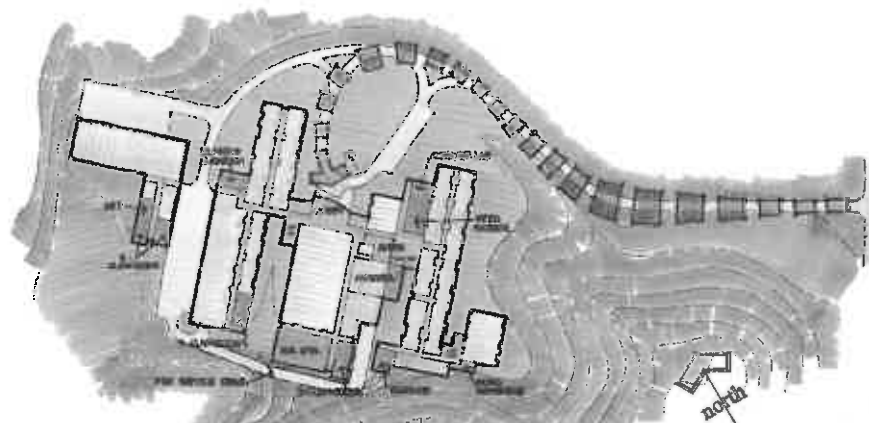
SIZE:
Existing 173,538 SF
Additions 41,683 SF

CONTACT:
Sallie E. Dalton
Superintendent
202 Chestnut Street
Lewisburg, WV 24901
304.647.6470



Greenbrier East High School was a campus style plan with six individual disconnected buildings. The county desired to construct a seventh disconnected structure to house 300 ninth grade students which would be moved to this facility to achieve a true middle school configuration in the county.

Included in this extensive renovation was replacement of the 35 year old HVAC system, to include a new unit ventilator system with hot and chilled water plants.



Greenbrier East High School

Additional HVAC Replacement Projects



The following projects were fully occupied during the HVAC replacement:

SIZE:
14,100 SF

COMPLETION:
2001

NEW CONSTRUCTION:
14,100 SF

RENOVATIONS:
2,500 SF

CONTACT:
Dr. Ron Duerring
Superintendent
200 Elizabeth Street
Charleston, WV 25311
304.348.7732

Dunbar Primary School - Dunbar, West Virginia



The school received additions and renovations along with extensive renovation of replacing of the existing HVAC system, to include a new unit ventilator system with hot and chilled water plants. The school was fully occupied during the HVAC project.

EXISTING:
59,240 SF

ADDITIONS:
616 SF

CONTACT:
Mr. William Smith
Superintendent
2850 5ht Avenue
Huntington, WV 25702
304.528.5030

Spring Hill Elementary School - Huntington, West Virginia



HVAC renovation included new hot and chilled water systems and VAV rooftop air handling units with heat pipe heat recovery and critical reset ventilation controls in accordance with ASHRAE 62.

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 the 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.

West Virginia Lottery Headquarters

Renovations



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.

Bridgemont (now BridgeValley) 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).

State of West Virginia

Capitol Food Court



LOCATION:
Charleston, WV

SIZE:
14,000 SF

COST:
\$3.7M

COMPLETION:
2007

CONTACT:
Chuck Lawrence
Executive Director
900 Pennsylvania Ave
Charleston, WV 25302
304.558.3062



This project involved renovating an existing food service area in the WV Capitol Building. The new renovations include a full service kitchen, self serve area and seating for 300 people. ZMM worked with a kitchen consultant and provided demolition drawings, base architectural, mechanical and electrical drawings.

The project included design of the first phase of a wet pipe sprinkler system that will serve the entire Capitol. ZMM also provided the documents to replace the Capitol medium voltage transformers located in the basement vault. ZMM met stringent timeline for a critical construction completion date.



Construction & Facilities Management Office

Renovation



LOCATION:
Charleston, WV

SIZE:
19,935 SF

COST:
\$3.5M

COMPLETION:
2008

CONTACT:
COL Joseph Stephens
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.



Wood County Justice Center



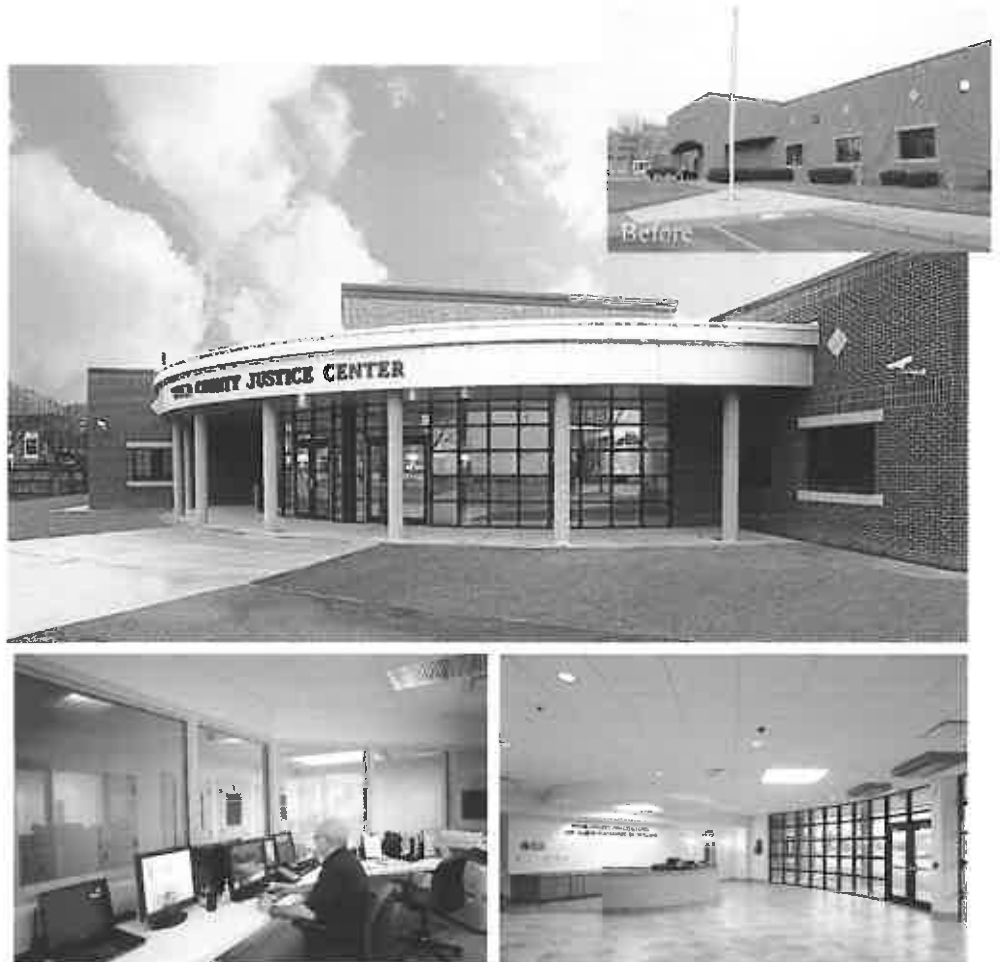
LOCATION:
Parkersburg, WV

SIZE:
32,000 SF

COMPLETION:
2011

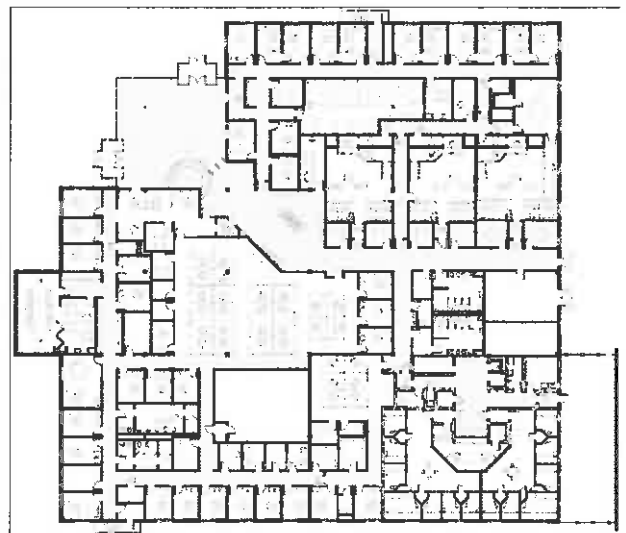
PROJECT COST:
\$5M

CONTACT:
Mr. Blair Couch
Commissioner
No. 1 Court Square
Suite 205
Parkersburg WV 26101
304.424.1978



This project was an extensive renovation of a 15 year old, 32,000 square foot, single story office building located in downtown Parkersburg, West Virginia. The building was purchased by the Wood County commission with the purpose of bringing together 3 government functions that had outgrown the 3 separate buildings that they occupied.

The renovated building consists of offices and 3 Courtrooms for the County's Magistrate Court system, public service windows for document pick-up and payment of fines, offices for the Sheriff's Department and Home Confinement and a 12-hour Inmate Holding Center.



Due to the building's new use, the interior was completely demolished leaving only the shell. The building's main entrance was relocated and redesigned to provide a new, more prominent identity to the building and to align with the new parking area created by the demolition of the adjacent existing magistrate court building. The old HVAC system was removed and replaced with a more energy efficient system and new, energy efficient lighting was installed. The project was designed around the U.S. Green Building Council's New Construction and Major Renovation Guidelines and is LEED Silver Certified.

Walker Machinery Projects

Industrial Projects



Walker



Cecil I. Walker Machinery Company Belle, WV

Utility Building - 38,000SF

A new facility for the repair and maintenance of earth moving and materials handling equipment, this building was designed with a steel structural frame, masonry walls, and a standing seam metal roof. Interior spaces include repair bays, welding areas, storage for parts and tools, and administrative offices. Heating and ventilating systems provide environmental control in the shop and office areas are air conditioned. 20-ton bridge cranes, also designed by ZMM, are used in the shop for equipment hoisting and material handling.

Cecil I. Walker Machinery Company Belle, WV

Diesel Engine Re-Build Shop - 14,000SF

The existing repair shop was renovated to provide a staged/assembly line system to clean disassemble, inspect, repair, rebuild, and test diesel engines. New air conditioning, heating and ventilation systems were included and the roof structure was reinforced for the installation of new jib and overhead cranes, added to provide for efficient handling of materials and equipment.



Cecil I. Walker Machinery Company Belle, WV

Training Center - 8,000SF

The existing warehouse building was renovated to include five classrooms and support space for employee training classes. The new interior finishes, partitioning, mechanical, electrical, and technology support equipment were designed to provide a functional teaching environment.



Client References

HVAC Renovations of Building 36

Alan Engelbert, Director
Kanawha County Public Library
304.343.4646 x1241

Greg Melton, Director
WV General Services Division
304.558.1808

John Myers, Assistant Lottery Director
WV Lottery Headquarters
304.558.0500

William Smith, Superintendent
Cabell County Schools
304.824.3033

Pat McGivern, Landlord Representative
Real Estate Resources
304.345.9348



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

**State of West Virginia
 Centralized Expression of Interest**

Proc Folder: 141136

Doc Description: EOI A/E Services for HVAC Renovations of Building 36

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-09-16	2015-10-20 13:30:00	CEOI 0211 GSD1600000005	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:

ZMM, Inc.
 222 Lee Street, West
 Charleston, WV 25302
 304-342-0159

FOR INFORMATION CONTACT THE BUYER

Laura E Hooper
 (304) 558-0468
 laura.e.hooper@wv.gov

Signature X- *ARK*

FEIN # 55-0676608

DATE 12-NOV-15

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



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

**State of West Virginia
 Centralized Expression of Interest**

Proc Folder: 141136

Doc Description: Addendum 1 EOI A/E Services for HVAC Renovations of Bldg 36

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-10-08	2015-11-12 13:30:00	CEOI 0211 GSD1600000005	2

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:

ZMM, Inc.
 222 Lee Street, West
 Charleston, WV 25302
 304-342-0159

FOR INFORMATION CONTACT THE BUYER

Laura E Hooper
 (304) 558-0468
 laura.e.hooper@wv.gov

Signature X

FEIN # 55.0676608

DATE 12-NOV-15

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



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

State of West Virginia
 Centralized Expression of Interest

Proc Folder: 141136

Doc Description: Addendum 2 EOI A/E Services for HVAC Renovations of Bldg 36

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-10-28	2015-11-12 13:30:00	CEOI 0211 GSD1600000005	3

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:

ZMM, Inc.
 222 Lee Street, West
 Charleston, WV 25302
 304-342-0159

FOR INFORMATION CONTACT THE BUYER

Laura E Hooper
 (304) 558-0468
 laura.e.hooper@wv.gov

Signature X

AE RK

FEIN# 55-0676608

DATE 12·NOV·15

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

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: GSD1600000005

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

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

Addendum Numbers Received:

(Check the box next to each addendum received)

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

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

ZMM, Inc.
Company

Ad R K
Authorized Signature

12. NOV. 2015
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.
Revised 6/8/2012

CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained 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)

A.R.K. ADAM R. KRASON, PRINCIPAL
(Authorized Signature) (Representative Name, Title)

304.342.0159 ; 304.345.8194 ; 12.NOV.2015
(Phone Number) (Fax Number) (Date)

RFQ No. GSD1600000005

STATE OF WEST VIRGINIA
Purchasing Division
PURCHASING AFFIDAVIT

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

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

DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: ZMM, Inc.

Authorized Signature: [Signature] Date: 12. Nov. 2015

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 12 day of November, 2015.

My Commission expires April 16, 2023

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]
Purchasing Affidavit (Revised 07/01/2012)

