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

State of West Virginia
Centralized Expression of Interest
Architect/Engr

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West Virginia Purchasing Division

VENDOR

Vendor Customer Code:

Vendor Name : ZMM Architects & Engineers

Address :

Street : 222 Lee Street, West

City : Charleston

State : West Virginia

Country : USA

Zip : 25302

Principal Contact : David Ferguson

Vendor Contact Phone: 304.342.0159

Extension: 239

FOR INFORMATION CONTACT THE BUYER

Tara Lyle

(304) 558-2544

tara.l.lyle@wv.gov


Vendor
Signature X

FEIN# 550676608

DATE June 20, 2022


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

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

(Name, Title) 
(Printed Name and Title) David Ferguson, Principal
(Address) 222 Lee Street, West
(Phone Number) / (Fax Number) (304) 342.0159 / (304) 345.8144
(email address) ferguson@zmm.com

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contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise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

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

ZMM Architects & Engineers
(Company) 
(Authorized Signature) (Representative Name, Title)
David Ferguson, Principal
(Printed Name and Title of Authorized Representative) (Date)
(304) 342.0159 / (304) 345.8144
(Phone Number) (Fax Number)
ferguson@zmm.com
(Email Address)



Statement of Qualifications

Architectural and Engineering Services for:
Beckley Veterans Nursing Facility
 Beckley, WV

CEOI VET2200000001
 June 21, 2022





June 20, 2022

Tara Lyle, Buyer
Department of Administration
Purchasing Division
2019 Washington St. East
Charleston, WV, 25305

**Subject: Expression of Interest Beckley Veterans Nursing Facility Architectural/Engineering.
CEOI: VET2200000001**

Dear Ms. Lyle:

ZMM Architects and Engineers is pleased to submit the attached information to demonstrate our experience and our qualifications to provide professional providing Architectural/Engineering design services for the new Beckley Veterans Nursing Facility. Our firm has extensive experience with health care facilities in West Virginia.

We are extremely proud of our medical and health care experience resume, and we hope that you are too. We are confident that the ZMM team is the most qualified firm to provide professional design services for the Beckley Veterans Nursing Facility project for the following reasons:

▪ **Experience.**

If selected for this project our fully integrated design team will be led by myself and Mr. Mike Phillips, an architect with extensive experience in medical and health care projects. Together, we have more than four decades of experience developing, planning, and designing medical and healthcare facilities. Civil & Environmental Consultants, Inc. (CEC) will be joining the team and has 1,000+ team members in offices nationwide. Headquartered in Pittsburgh, Pennsylvania, they are consistently ranked on Engineering News-Record's annual lists of the Top Design Firms and Top Environmental Firms in the nation. CEC will play a role in the survey, geotechnical, and environmental responsibilities. In This leadership team brings extensive medical and healthcare design experience to your project. ZMM's portfolio of recent medical and healthcare projects include:

- Charleston Area Medical Center (Multiple Projects)
- Appalachian Regional Healthcare (Multiple Projects)
- CAMC Teays Valley Hospital – ICU Addition
- CAMC Memorial Hospital – Critical Care Unit
- CAMC Urology Clinic
- Highland Hospital
- Valley Health Systems
- Health Right
- River Health Clinic

▪ **Quality and Innovation.**

Due to the depth of our experience, and the qualifications of our key team members, ZMM has become a respected and valued resource in medical and healthcare planning in West Virginia. ZMM's commitment to quality design has been recognized with statewide and national design and planning awards. *In fact, ZMM's commitment to design quality has been recognized by the American Institute of Architects West Virginia Chapter with twenty-four design awards since 2005 – an achievement that is unrivaled in West Virginia.*

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Martinsburg, West Virginia 25405
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- **Talent.**

With over sixty employees ZMM provides an integrated design approach by delivering all building related design services including architecture, engineering (civil, structural, mechanical, and electrical), interior design, and construction administration in-house. ZMM's team includes twelve registered architects, eleven professional engineers, interior and lighting designers, and construction administrators. Our architects and engineers are highly qualified and have worked together to deliver projects with similar scope and complexity.

Thank you for taking the time to review the attached expression of interest that has been formatted per your request, and includes information regarding the history, services, personnel, experience, and qualifications of ZMM Architects and Engineers. Additionally, please visit our website at zmm.com to see the full range of projects that we have designed, and to learn about working with our team from a client's perspective. We appreciate your consideration for this important endeavor, and look forward to the opportunity to assist the Beckley Veterans Nursing Facility.

Respectfully submitted,

ZMM Architects and Engineers

A handwritten signature in blue ink, appearing to read 'David Ferguson', with a long horizontal line extending to the right.

David Ferguson, AIA
Principal

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PROJECT APPROACH

ZMM has extensive medical and healthcare design experience throughout West Virginia. The size and technical nature of this project demonstrates the need for a full-service design team with experience working on medical facilities. ZMM has all of the technical professionals - including architects, engineers (civil, structural, mechanical, and electrical), and interior designers – needed to address every aspect of this new Veterans Nursing Facility. If selected for this project, ZMM will staff the project with the architects and engineers that have experience with medical and healthcare facilities.

ZMM has an extensive medical and healthcare portfolio. Our recent projects include the addition of a two floor (48 bed) Critical Care Unit at CAMC Memorial Hospital, an ICU Addition at CAMC Teays Valley Hospital, the design of new clinics for CAMC, New River Health, and Valley Health Systems, the design of a new office for South Charleston Pediatrics, and the design of the new Highland Hospital. Additional medical and healthcare design experience includes several school based and rural health clinics, as well as multiple improvement projects for CAMC and Appalachian Regional Healthcare (ARH).



MODERN HEALTHCARE FACILITY DESIGN

ZMM would recommend implementing the following best practices to consider when designing a modern healthcare facility, which include:

- Patient Centered, Variety of Spaces in the Common Areas
- Noise and Acoustic Control, Patient Privacy
- Lighting, Access to Daylight and Views
- Air Quality, Introduction of Outdoor (Fresh) Air, Use of Low Emitting Materials
- Surface Finishes, Flooring
- Technology in the Patient Room Spaces
- Consider Staff Impacts

If the best practices are considered during the planning and design process, positive results can include reduced stress, reduced falls, reduced medical errors, reduced infections, as well as general improvements to the wellbeing of both patients and staff. There are many resources available that outline best practices in healthcare design, and we look forward to investigating them in more detail with the Beckley Veterans Nursing Facility medical team.

CREATING INTERIOR ENVIRONMENTS THAT PROMOTE RECOVERY

In keeping with ZMM's commitment to sustainable architecture, we understand the direct connection the interior environment has on patient health. We design interiors that are focused on high quality lighting, increased indoor air quality (through the use of efficient mechanical systems and non-toxic materials), an

abundance of daylight and views, and appropriate color selections. Current evidence-based design research shows the following:

"Even briefly viewing nature settings can produce substantial and rapid psychological and physiological restoration from stress. Restorative or stress-reducing effects of looking at nature are manifested as a constellation of beneficial changes that include reduced levels of negatively toned emotions (fear, anger), elevated positive emotions (pleasantness), and changes in physiological systems...." [from Biophilic Design] ZMM interior designers work closely with our architects and engineers to provide healthy interior spaces with views to the natural world outside. In urban environments, this can be achieved through site landscaping, and even through the use of nature-oriented artwork.

"Findings from several rigorous studies indicate that exposure to light – daylight or bright artificial light – is effective in reducing depression and improving mood, even for patients hospitalized with severe depression." [from Biophilic Design] ZMM incorporates daylighting strategies on the vast majority of our projects, and our clients have noticed the benefits.

"There are no direct linkages between particular colors and health outcomes of people [and] no evidence for a direct connection between environmental colors and emotional states." [Color in Healthcare Environments] ZMM's approach to interior color palettes is always client- and project- focused.



BECKLEY VETERANS NURSING FACILITY: PROJECT MANAGEMENT PLAN

ZMM Architects and Engineers proposes to provide services on the project with a team of design professionals that have worked together on a variety health care facilities throughout the state. The team will be led by David Ferguson (Principal) and Michael Phillips (Project Manager and Architect). Mr. Ferguson and Mr. Phillips have led ZMM's effort on many of our recent health care projects. Other key team members will include:

Adam Krason, AIA
Carly Chapman
Dave Gunnoe, PE
Ronnie Burdette, PE
Bob Doeffinger PE
James Lowry, PE
Mark Epling, AIA
Joe Doeffinger
Amy Rhodes

QA/QC
Interior Designer
Electrical Engineer
Structural Engineer
Engineering Principal
Mechanical Engineer
Specifications Writer
Construction Administrator
Construction Administrative Assistant

ZMM's team has successfully collaborated on multiple health care projects, and each team member is familiar with the standards, requirements, and processes that are utilized for new health care facilities.

ZMM QUALITY CONTROL PLAN

Quality control during the design phase begins with the selection of team members with experience working on projects that are similar to the current effort. ZMM Architects and Engineers staff possesses the health care facility design experience to ensure the success of the project. Quality control during the design phase will occur through regular, documented, project meetings between the design team and the Client. In addition to the regular design phase meetings more formal QA/QC will occur at the end of each design phase. A more detailed description of the design phase quality control plan is noted below:

1. Selecting the Project Team

ZMM's diverse staff ensures that each project team is made up of highly qualified members, each dedicated to the project's success. Project team members are selected based upon relevant experience, and ability to help achieve the client's vision.



2. Identifying Project Requirements

Project team members are fully integrated in each phase of the design process, ensuring a quality project from the commencement. The project requirements are included in a 'Basis of Design' that each member of the project team can access. The 'Basis of Design' helps guide important project decisions.

3. Identifying Client Expectations

Knowing and understanding our clients' expectations is our goal. This knowledge gives ZMM a baseline for exceeding expectations. We will commence the design effort with a planning session to help identify your vision for the project.

4. Ongoing Project Reviews

As part of the ongoing project reviews, we conduct quality assurance evaluations during each stage of the project:

Schematic Design Phase (35%)

Design Development Phase (65%)

Construction Documents Phase (95%)

Construction Administration Phase

ZMM has developed a series of QA/QC review documents that are completed during each phase, and include a programmatic review, technical review, and review of the project schedule and budget.

5. Post Project Review

At the completion of every project, ZMM staff members participate in a learning session to gain insight useful for future projects.

6. Staff Training, Assessment and Enhancement

Ongoing staff development and training is very important to ZMM and providing increased opportunities for learning and advancement leads to improved employee performance and more successful projects for our clients.



ZMM COST CONTROL PLAN

As part of our effort to ensure our ability to meet the Clients budget, ZMM will rely on both historic bidding data as well as independent estimates to verify the project budget. For this project ZMM would utilize Win Strock to provide the independent estimate. ZMM and Mr. Strock have successfully collaborated on a number of projects, including:

- Camp Dawson Building 246 Improvements
- Camp Dawson Building 301 Improvements
- Camp Dawson Building 202 Improvements
- Marshall County Readiness Center

- Logan-Mingo Readiness Center
- Parkersburg Readiness Center
- Building 5, 6, & 7 Improvements
- Beech Fork Lodge
- West Virginia State Police Information Services Center
- West Virginia State Lottery Headquarters Renovation

ZMM has a history of working to successfully design projects under challenging budget and schedule constraints. We commit to working with you to meet the budget and schedule for Beckley Veterans Nursing Facility.

ABOUT ZMM ARCHITECTS & ENGINEERS

ZMM was founded in 1959 in Charleston, West Virginia by Ray Zando, Ken Martin, and Monty Milstead. Since the inception of the firm, ZMM has been dedicated to providing an integrated approach to building design for our clients.

ZMM delivers this integrated approach by providing all building related design services, including architecture, engineering (civil, structural, mechanical, and electrical), interior design, and construction administration with our in-house team. Our integrated design approach makes ZMM unique among architecture/engineering firms, and helps to ensure the quality of our design solutions by providing more thoroughly coordinated construction documents.



ZMM has maintained a diverse portfolio since the founding of the firm. Early commissions included higher education projects for West Virginia University and Concord College, State Office Buildings 5, 6, & 7 on the State of West Virginia Capitol Campus, and armories for the West Virginia Army National Guard.

Maintaining a diverse practice for over 60 years has provided ZMM with extensive experience in a variety of building types, including educational facilities, governmental facilities (military, justice, correctional), healthcare facilities, recreation facilities, commercial office space, light industrial facilities, and multi-unit residential buildings.

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

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



About ZMM Architects & Engineers (cont.)

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

ZMM's building-related design services include:

Pre-Design

Educational Facility Planning
Existing Building Evaluation
Space Planning
Master Planning

Programming
Feasibility Studies
Site Evaluation and Analysis
Construction Cost Estimating

Design

Architectural Design
Interior Design
Lighting Design

Sustainable Design
Landscape Architecture

Engineering

Civil Engineering
Mechanical Engineering
Energy Consumption Analysis

Structural Engineering
Electrical Engineering
Net Zero Buildings

Post-Design

Construction Administration
Life Cycle Cost Analysis

Value Engineering
Post-Occupancy Evaluation

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



ABOUT CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC)

In 1989, four engineers and scientists came together with a singular vision: to be a people-first company, one that promotes a culture where clients and employees enjoy working together, and that is responsive to client needs with integrated services and high-quality work for projects both complex and routine.

More than 30 years later, Civil & Environmental Consultants, Inc. (CEC) has 1,000+ team members in offices nationwide. Headquartered in Pittsburgh, Pennsylvania, we are consistently ranked on Engineering News-Record's annual lists of the Top Design Firms and Top Environmental Firms in the nation.

A culture of accountability. We own it. At CEC, every member of our team has a personal stake in ensuring the success of our clients. Because their success is our success. As employee-owners of the firm, we are all personally accountable for building lasting relationships and delivering outstanding results. Because we don't just work at CEC. We own it.

Being easy to work with. We own it. At other firms, you may find one person you work well with. Here, our clients tell us they work well with all of us. It's because all of us are invested in your success. We're accessible, responsive, and operate with integrity.

Putting people first. We own it. At CEC, people come first. Always. Whether that's our clients, our employees, or our community. It's why we listen more and work harder to understand the unique needs of our clients. And it's why we prioritize the career development of every individual on our team. People are why we do this, and why we love what we do.

Teamwork. We own it. We are at our best when we work together. That means bringing together a diverse team of talented, passionate, multidisciplinary experts to work closely alongside clients to craft comprehensive solutions to complex problems. We believe that by working together, no problem is insurmountable.

Safety excellence. We own it. We believe all accidents are preventable and are committed to creating an accident- and incident-free workplace for employees and subcontractors through training, safe workplace practices, and processes for assessing project hazards. CEC strives for safety excellence throughout our entire organization and holds all individuals accountable for the safe performance of their work.

CEC is an expanding, multi-disciplined company that is home to:

Civil Engineers	Agronomists/Soil Scientists
Geotechnical Engineers	Emissions Testing Professionals
Transportation Engineers	Meteorologists
Structural Engineers	Chemists
Environmental Scientists	Archaeologists
Environmental Engineers	Construction Managers and Inspectors
Chemical Engineers	Environmental Technicians
Geologists	Treatment Plant Operators
Hydrogeologists	Land Surveyors
Hydrologists	Landscape Architects
Ecologists	GIS Analysts and Programmers
Biologists	
Wetland Scientists	
Threatened & Endangered Species Experts	



Civil & Environmental
Consultants, Inc.



Civil & Environmental Consultants, Inc.

ALLEGHENY HEALTH NETWORK NEIGHBORHOOD HOSPITALS AND MEDICAL OFFICES

OWNER

Allegheny Health Network

CLIENT

Trammell Crow Company

LOCATIONS

Allegheny and Westmoreland Counties, PA

CEC SERVICES

ADA Accessibility Analysis

Erosion & Sedimentation Control Design
and Inspection/NPDES Permitting

Geotechnical Engineering

Landscape Architecture/Land Planning

Predevelopment Site Investigations

Roadway Design

OWNER OBJECTIVE

Trammell Crow Company's Houston office focuses on healthcare facility development and construction. In order to advance this healthcare approach across selected U.S. markets, Trammell Crow teams with Emerus, a national healthcare firm specializing in development and operation of neighborhood hospitals (micro-hospitals) combined with medical office buildings (MOBs). Trammell Crow and Emerus teamed with the Allegheny Health Network (AHN) to develop and construct four neighborhood hospitals/MOBs in suburban locations around Pittsburgh: Hempfield, Brentwood, McCandless, and Harmar. All four of the Pittsburgh-area neighborhood hospitals/MOBs were to be developed and constructed simultaneously on very aggressive, fast-tracked completion schedules.

Trammell Crow was attracted to CEC because of:

- CEC's reputation in the marketplace;
- CEC's multi-disciplined (one-stop shop) capabilities;
- CEC's capacity to handle multiple projects simultaneously;
- CEC's commitment of senior-level staff to manage and provide strategic direction on the completion of the developments; and
- CEC's demonstrated ability to solve the types of problems presented by these project sites: significant topography, grading and earthwork quantities, off-site road improvements, conditional use zoning approvals, retaining walls (one as high as 46 feet) and rock bolting/slope stabilization, grouting of an abandoned deep mine in the Pittsburgh Coal seam, off-site utility extensions, and a myriad of municipal regulatory complexities.

CEC APPROACH

CEC staffed these projects with two dedicated, multi-disciplined teams working under the direction of Gregory P. Quatchak, P.E., a founding principal of CEC, who brought almost 40 years of real estate development experience to the Trammell Crow/AHN team. CEC integrated the geotechnical investigations and evaluations of the difficult site constraints with CEC's initial site grading studies to assist the development/construction team with budgeting and definition of completion schedules. All four projects advanced simultaneously and CEC's expertise and multi-disciplined capabilities enabled the project team to overcome numerous problems, changed site conditions, regulatory requirements, and other challenges, which arose during all four projects. CEC was also selected to provide construction quality assurance and Special Building Inspections for all four sites.

CEC completed the entitlement processes in all four municipalities (including a zoning text amendment and conditional use approval), and designed and permitted off-site roadway improvements.



ALLEGHENY HEALTH NETWORK NEIGHBORHOOD HOSPITALS AND MEDICAL OFFICES

CEC's creative and cost-effective solutions to the geotechnical challenges included ground improvements: controlled modulus columns, retaining walls, rock bolting and slope stabilization, and deep mine grouting. In addition, CEC's construction field services enabled Trammell Crow/Emerus/AHN to successfully comply with Pennsylvania's Uniform Construction Code requirements.

Construction quality assurance special inspections included inspections and testing during mass earthwork and grading; mechanically stabilized earth wall construction and soil nail wall construction; inspections for building foundations, reinforced concrete, structural steel connections and framing spray-applied fireproofing; penetration fire-stopping; and life/safety elements inspections for PA Department of Health acceptance and approval.



Hempfield



Brentwood



McCandless



Harmar (currently under construction)



CAMC TEAYS VALLEY HOSPITAL ICU

LOCATION HURRICANE, WV	SIZE 8,215 SF	COMPLETION 2013	COST \$3.5M
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ZMM provided design services for the state-of-the-art Intensive Care Unit (ICU) addition to the existing CAMC Teays Valley Hospital.

The facility consists of 8,215 SF and houses ten private patient rooms and marks the latest addition to the hospital's expansion effort. The addition has a host of features that the staff and administration had desired during the planning effort. These features include direct access to the helipad, a nutrition services station for meal preparation, a true isolation room, and two more specially-equipped rooms for dialysis patients.

The patient rooms line the outside walls along two long, central nurses stations. The ICU has a 2-to-1 nurse to patient ratio at all times. The patient rooms have a full-glass front with sliding doors for ease of access to the rooms, which also allows the nursing staff a view of every patient all of the time. The private patient rooms allow for the families to stay with the patient 24/7 and is also much quieter, which helps with the healing process and allows the patient the rest they need. The design of the facility also allows the ICU to keep all of their beds open. The design of the single private rooms greatly decreases risk of spreading infection to other patients.

The facility hosts all required support spaces, such as a visitor waiting room, storage rooms, restrooms, doctor dictation areas, areas for equipment and supplies, staff lounge, and locker area for the nurses.



Appalachian Regional Healthcare (ARH) Projects (cont.)

Design/Review/Consultation Projects:

- Central Sterile Storage Upgrades
- Pharmacy USP 797/800 Upgrades
- Operating Room AHU Selection
- Boiler Deaerator Tank Replacement
- Clinical Building Allocation Assessment
- ER Psychiatric Emergency Room Life Safety Evaluation
- Beckley Medical Mall Clinic Remodel

ARH Whitesburg

Construction/Production Projects:

- Laboratory AHU and HVAC Upgrades
- Endoscopy Suite Upgrades
- MRI

Design/Review/Consultation Projects:

- Central Sterile Storage Upgrades
- ER/OR Tab Review and Report
- MRI Water Damage Inspection

ARH Summers County

Construction/Production Projects:

- Electrical One Line Drawings

Design/Review/Consultation Projects:

- Mechanical Systems Assessment and Report
- Chiller Replacement

ARH Tug Valley

Design/Review/Consultation Projects:

- Chiller Replacement, Chilled Water Plant Upgrades
- CT Scan Room Relocation

ZMM has also been assisting senior leadership at ARH with developing strategies to improve energy efficiency as well as long-term planning for maintaining the quality of their facilities and infrastructure.





HIGHLAND HOSPITAL

LOCATION	SIZE	COMPLETION	COST
CHARLESTON, WV	87,300 SF	2012	\$26M

ZMM provided design services for a five-level, 87,300 SF, \$26 million addition to Highland Hospital in Charleston.

The addition includes administrative offices, training spaces, 165 patient beds, nurses stations, an out-patient treatment department, pharmacy, laundry, and building service spaces. A pedestrian bridge connects the facility to the existing hospital.

The design complements the existing Highland Hospital, and was coordinated with a variety of community organizations, as well as the City of Charleston Planning Department. Site design features include a "pocket-park" that utilizes a permeable pavement system for the walkways, reducing the need for storm water detention.

The floor plan for the mental/behavioral health facility was designed to give direct visual control of the entire facility from the nurses station. In addition, security and safety are monitored through the use of state-of-the-art security systems. The patient floors are designed to allow flexible segregation of patient types based on current patient classifications. Patient toilet room entrances are visible from the nurses stations. Additional security features include secure drywall ceilings in patient rooms, tamper-proof sprinkler heads, security suspended ceilings in the corridors, and bolt-down furniture in the group meeting or "dayroom" area.





CAMC HURRICANE UROLOGY CLINIC

LOCATION	SIZE	COMPLETION	COST
HURRICANE, WV	5,350 SF	2021	\$2.1M

This 5,350 SF stand-alone facility opened in 2021 and was designed to accommodate two practitioners and includes a minor procedure room with a clean, sterile processing facility.

There are phlebotomy lab and testing facilities immediately off the waiting room. The design incorporated CAMC's corporate vision and branding as translated onto a smaller scale, with a prominent high-bayed, glass-walled waiting area, drive-under canopy and premium exterior and interior finishes.





NEW RIVER HEALTH CLINIC

LOCATION FAYETTEVILLE, WV	SIZE 95,440 SF	COMPLETION EST. 2022	COST \$14M
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This project involves renovation of a former retail store into a multi-use community health and outreach facility.

A new main entrance and drop-off canopy punctuates the exterior renovations for a clean, new look for NRHA. The renovations include new HVAC, plumbing, electrical, sprinklers, and a new roof with upgraded insulation. As a former retail facility, there is ample parking, as well as on-grade access. The project includes an urgent care, multi-discipline clinic, medical imaging, rehabilitation gym, physical and chiropractic therapy, full-retail pharmacy with drive-through, dietary/healthy lifestyle training facility, retail lab, a community event and conference center, retail café, a large daycare facility, and space for a retail gym. It will also house the new main corporate administrative offices and boardroom for NRHA.

The multi-discipline clinic includes general practitioners, as well as audiology, optometry, podiatry, behavioral health/MAT, dentistry, visiting clinicians, and possible tele-med. The convention center has a large gathering space that can be subdivided. The grand entrance is created by renovating the former retail vestibule and canopy, behind which is a lobby hall. The daycare facility, with brightly daylit rooms, will utilize windows and doors directly off their playground, which was the former fenced garden center. The proximity of this daycare will be a major convenience for parents who need medical treatment, but also need short-term childcare.





WV HEALTH RIGHT

LOCATION	SIZE	COMPLETION	COST
CHARLESTON, WV	31,200 SF	TBD	TBD

ZMM is currently in design to renovate and expand the existing WV Health Right medical facility in Charleston, West Virginia.

The renovation of the existing two-story, 14,400 SF facility will include work on both floors and a full roof replacement. On the first floor, the existing pharmacy and behavioral health services will be increased and a new laboratory will be constructed. On the second floor, several existing departments will be expanded, including the dental clinic, eye clinic, patient education, and information technology, along with new fitness and activity rooms. The expansion will consist of a three-story, 16,800 SF, steel-framed addition with deep foundations and a new elevator. The first floor will include a large entrance lobby and waiting area, along with several medical exam rooms, triage stations, support offices, and a private employee entrance. The second floor will be constructed as an expansion space, with the third floor dedicated to executive offices and a large 60-person board room.

The exterior of the addition will embrace the brick veneer, EIFS banding, and window patterning from the existing facility, to provide a cohesive exterior design. A new porte cochère will be built outside the new entrance lobby, highlighting the main entrance with new branding signage. Along with work on the building, site work will include an increase in parking spaces, underground stormwater detention, and new utility upgrades, including a full-building generator.



David E. Ferguson, AIA, REFP



Role

Principal-in-Charge

Professional Registrations

Registered Architect (WV, OH)

Recognized Educational Facility Planner (REFP)

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

Mr. Ferguson is a Recognized Educational Facility Professional (REFP) and has been involved in planning, designing and the construction of over 200 educational facilities in West Virginia. As the architect for the first "green" school building in West Virginia Mr. Ferguson has been an advocate for sustainable design and was involved starting the first US Green Building Chapter in West Virginia.

Mr. Ferguson has also participated in developing West Virginia Department of Education's Policy 6200 *Handbook on Planning School Facilities* and the West Virginia School Building Authority's *Handbook of Quality and Performance Standards*.

Project Experience Highlights

Highland Hospital, Charleston, WV

Mr. Ferguson was the Project Architect on Highland Psychiatric Hospital. This project consisted of 87,300 SF, \$26M addition to Highland Hospital in Charleston. The addition includes: administrative offices, training spaces, 165 patient beds, nurses stations, an out-patient treatment department, pharmacy, laundry, and building service spaces. The floor plan was designed to give direct visual control of the entire facility from the nurses station. In addition to the direct visual control, security, and safety are monitored through the use of state of the art security systems. A pedestrian bridge will connect the new facility to the existing hospital.

CAMC Teays Valley ICU Addition, Teays Valley, WV

Mr. Ferguson was the Project Manager for the new Intensive Care Unit (ICU) Addition to the existing hospital. The new facility

Education

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

Employment History

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

Civic Affiliations

- A4LE Southeast Region Board of Directors – WV State Governor
- West Virginia Chapter, American Institute of Architects, Past President
- West Virginia Chapter, American Institute of Architects, Board Director
- American Institute of Architects, Member
- Member, Association for Learning Environments(A4LE)
- Recognized Educational Facility Planner (REFP) by the A4LE
- Professional Member, US Green Building Council

consists of 8,215 SF and houses ten large private patient rooms and marks the latest addition to the hospital's expansion effort. The new features include: direct access to the heli-pad, a nutrition services station for meal preparation, a true Isolation Room and two more specially equipped rooms for dialysis patients. The new Facility also hosts all required support spaces such as a Visitor Waiting Room, Storage Rooms, Rest Rooms, Doctor Dictation Areas, areas for equipment and supplies along with a Staff Lounge and Locker Area for the nurses. CAMC is very proud of their new facility and hopes that this is a start of expanding their services and health care at this hospital.

Bluefield Primary School, Bluefield, WV

Mr. Ferguson was the principal-in-charge for the new Bluefield Primary. The new school is the result of a consolidation of two local schools in the Bluefield area. The county wanted to bring in architectural elements from both of the former schools. This was accomplished by oval vaulted ceilings and circular windows throughout the building. The school will house Pre-k-2nd grade students. Keeping the Bluefield Beavers in mind, the school colors are found throughout the design with the addition of complimentary colors to create a colorful learning environment for the students. A large dry erase mural spans the length of the media center allowing students to express their imaginations.

Mountain Valley Elementary School, Green Valley, WV

Mountain Valley opened its doors in the fall of 2019. The concept for the school was simple – fundamentals. Primary colors and geometric shapes create a fun and easy way to keep the students engaged and ready to learn, while sticking to the basics. A large wall in the media center allows for quiet areas to study or play with built-in casework depicting the word "READ" allowing for shelving and seating within the oversized letters. The scheme continues throughout the school seen in the polished concrete floor pattern and 3D shapes protruding above the main entrance for a guaranteed jaw-dropping design.

Nicholas County Schools

Mr. Ferguson is currently leading the recovery effort for the \$160 million dollar school system. On June 23, 2016 a flood destroyed three schools. These facilities were left unsafe and uninhabitable. ZMM has worked with the County Board of Education, FEMA, and the State of WV to design and program temporary schools and develop a long-range plan to rebuild. ZMM is working on the programming and design for the two new facilities. A community school which will include spaces for the community to access, and a comprehensive High School/Middle School which will include a Career Technical Center. Mr. Ferguson has conducted community meetings, established goals and priorities, created overall budgets and a project scope all stakeholders will support.

Explorer Academy, Huntington, WV Mr. Ferguson was the project manager/architect on this new Expeditionary Learning Incubator School. The new Academy is the consolidation of Peyton Elementary and Geneva Kent Elementary in the east end of Huntington. The schools were combined and housed in the former Beverly Hills Middle School facility that will be remodeled to fit the mold of the Expeditionary Learning model. The curriculum for the program is very hands-on, and is a real-world way of learning. Students will be working a lot with community partners, people who are experts in their fields.

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

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

Michael M. Phillips, AIA, LEED AP



Role

Project Manager

Professional Registrations

Registered Architect (WV)
LEED AP Accredited Professional
NCARB Certified

Mr. Phillips has served in the capacity of Architect, Project Manager and Senior Project Architect on a variety of project types throughout his career. This experience includes Healthcare, Educational (PK-12), Higher Educational), Corporate Office, Retail, Military, Hospitality and Correctional. Mr. Phillips responsibilities include Programming, Design, Documentation, and Construction Administration.

Mr. Phillips began his career in West Virginia and continued to work throughout his career on a broad range of project in Pennsylvania, Virginia, Florida, and Tennessee.

Relevant Project Experience

Appalachian Regional Healthcare

Beckley, WV multiple projects – Primary Pharmacy renovation and expansion to meet new USP 797 and 800 requirements, new Chemotherapy Infusion suite, ICU nurse station modernization and replacement, HVAC replacement, psychiatric emergency room bays for the existing hospital, psychiatric emergency room addition and the preliminary design of the medical mall doctors suite.

Summers County, Hinton, WV - Pharmacy Design Options
Whitesburg, KY multiple projects - Central Sterile renovation, MRI replacement coordination, and a laboratory HVAC modernization.

Mountain State Oral Surgeons, Charleston, WV

New 2-Story 9,000 SF Oral Surgery Center
Renovation of a 5,000 SF Medical Office

- CAMC Teays Valley Hospital, Teays Valley, WV
- CAMC Primary Medical Clinic, Hurricane, WV
- Jackson General Hospital, Ripley, WV
- Rainelle Medical Center, Rainelle, WV

Previous Work Experience

Boone Memorial Hospital, Boone, WV

Education

Bachelor of Architecture, University of
Tennessee School of Architecture

Employment History

2016 - Present, Project Architect, ZMM
2011 - 2016, Senior Architect,
Charleston Architect Firm
2001 - 2011, Senior Architect,
Charleston Architect Firm

Civic Affiliations

- West Virginia Chapter, American
Institute of Architects, Member

75,000 SF Critical Access Hospital with 25 private rooms, Emergency Room, E.D., 2 Operating Rooms, MRI, CT, Xray, Imaging, Pharmacy, Physical Therapy, Cardiac Rehab.

St. Mary's Medical Center New Entrances Canopies, Hybrid O.R.'s, School of Physical Therapy, New Central Boiler Plant Building, Endoscopy Expansion, Outpatient Therapy

Kings Daughter's Medical Center

New Cath Center, Pharmacy Upgrades and a new Remote Kiosk, Elevator Addition, Ambulance Access Renovations, Cystology Renovations, Laboratory Facilities Upgrades.

St. Agnes School, Charleston, WV

Exterior building envelope modernization upgrade. Project cost \$1.1M

Sacred Heart Early Learning Center, Charleston, WV

Child Care and Multi-School Gymnasium facility Project cost \$1.8M

Yeager Airport, Charleston, WV

Gate evaluation and optimization for new flights. Additional renovations included: the terminal, new pedestrian bridge, elevator, as well as the lobby that connected the garage to the terminals. The project cost was \$2.25M.

Buckhannon Readiness Center, Buckhannon, WV

Design Charrette and a comprehensive feasibility study for 4 buildings and the campus. The project cost was \$53M est.

Lewis County Courthouse, Weston, WV

Performed a feasibility and space planning study for the Judicial Annex Addition. Project Cost was \$7M est.

Adam R. Krason, AIA, LEED AP, ALEP



Role
QA/QC

Professional Registrations

Registered Architect (WV, OH, KY, VA, MD, NJ)
LEED Accredited Professional
Accredited Learning Environment Professional
NCARB [REDACTED]
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

Highland Hospital, Charleston, WV

Mr. Krason was the project architect on Highland Psychiatric Hospital. This project consisted of 87,300 SF with \$26M dollar addition to Highland Hospital in Charleston. The addition

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

- WV American Institute of Architects, President
- 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

included: administrative offices, training spaces, 165 patient beds, nurses stations, an out-patient treatment department, pharmacy, laundry, and building service spaces. A pedestrian bridge connects the new facility to the existing hospital.

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Krason served 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 was 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 was complete in 2018.

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. This project received LEED Gold Certification.

Morgantown Readiness Center (WVARNG), Morgantown, WV

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

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

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

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

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

Edgewood Elementary School, Charleston, WV

Mr. Krason was the project manager 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. Mr. Krason worked with students from Watts and Robbins Elementary Schools in Kanawha County, assisting them in an effort to actively participate in the design process.

Participated on the team that won the following awards and acknowledgements:
2019 WV AIA Honor Award Charleston Coliseum & Convention Center, Charleston, WV

Carly Chapman



Role

Interior Designer

Mrs. Chapman serves as the Interior Designer at ZMM. Mrs. Chapman takes pride in her work's originality and always strives to help the client's vision and intent come alive in the design process. Her experience at ZMM includes Education, Municipal, Residential, Healthcare, and Hospitality projects. In her past position she focused on both Corporate and Healthcare design. Mrs. Chapman's responsibilities include conducting design proposals and presentations, as well as producing design documents and specifications relating to all aspects of interior design.

Mrs. Chapman has served as the interior designer for a variety of projects. Projects range from renovations to new construction and is comprised of every industry. Her responsibilities include design concept, presentation, documentation, specification writing, and architectural drafting.

Relevant Project Experience

CAMC General Division (C Suite), Charleston, WV
CAMC Memorial Hospital (6th Floor Critical Care Unit), Charleston, WV
CAMC Hurricane Urology Clinic, Hurricane, WV
Rainelle Medical Center, Rainelle, WV
Valley Health, Wayne, WV
Valley Health, Milton, WV
Mountain State Oral Surgeons, Charleston, WV

Appalachian Regional Hospital, Beckley, WV

This project was a renovation of a hospital wing redesigned for optimal health and wellness for patients undergoing chemotherapy treatment. Both aesthetics and general sanitary design requirements were crucial to making this project successful.

CAMC Post Op, Teays Valley, WV

This project was a renovation of a hospital wing to be redesigned for recovery of Post Operation patients. This project included patient rooms, nurse's stations, and designing the space for optimal health and wellbeing.

* Clarksburg, Richmond, Huntington, Salem VA Hospitals

During previous employment, Mrs. Chapman was heavily involved with renovations to various VA hospitals. Renovations included redesign implementing DIRT wall systems,

Education

Bachelor of Interior Design, University of Charleston, 2012

Employment History

2016 - Present, Interior Designer, ZMM
2012 - 2016, Project Manager/Interior Designer, Contemporary Galleries, Inc.
2010 - 2012, Interior Design Intern, ZMM

renovations to nurse, admiral and patient areas, as well as common's areas.

Pipestem Resort State Park Lodge, Pipestem, WV

Mrs. Chapman is currently the interior designer on the renovations to 88 guestrooms on first floor, bathroom expansions on the 7th floor, renovations to the dining area with a bar addition, renovations to all conference rooms, finish selections and renovations in the lobby. ZMM will be replacing the ceilings and lightings in all public spaces and guestroom corridors in the main McKeever lodge building. Mountain creek lodge that sits below McKeever Lodge will receive a new roofing on the guestroom buildings and restroom will be renovated in the main tram building. The newly renovated lodge is set to open this summer 2021.

Charleston Coliseum & Convention Center, Charleston, WV

Mrs. Chapman assisted in the construction administration and interiors 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. Construction was complete in October 2018.

Valley Park Community Center, Hurricane, WV

The new community center replaced an existing structure that was recently demolished earlier this year. The new building houses a commercial kitchen, administration wing, ballroom, and a locker room complex with administration quarters for the attached Wave Pool.

Bluefield Primary School, Bluefield, WV

The new school is the result of a consolidation of two local schools in the Bluefield area. The county wanted to bring in architectural elements from both of the former schools. This was accomplished by oval vaulted ceilings and circular windows throughout the building. The school will house Pre-k-2nd grade students. Keeping the Bluefield Beavers in mind, the school colors are found throughout the design with the addition of complimentary colors to create a colorful learning environment for the students. No school can be designed without a little fun in mind... A large dry erase mural spans the length of the media center allowing students to express their imaginations.

Ravenswood Middle School, Ravenswood, WV

Ravenswood Middle School is an addition to Ravenswood Highschool. The project allows for both schools to share one cafeteria and improve the exterior of the existing high school with the new entrance of the middle school. The interiors were clean and pattern filled using the school colors, insuring an easy transition from one school to the other.

New River Primary/Oak Hill Middle School, Oak Hill, WV

These schools were designed as separate schools sharing the same site and are connected by a mechanical wing. This building called for a challenging design concept. The schools each had their own unique design theme, but were delicately connected in small aspects of color or architectural techniques, allowing the interiors to flow seamlessly. The PK-2 is community driven in the design. House facades and custom glass adorn the halls drawing the eye to the exposed structure above. The ceilings reflect the sky and are divided by clouds. Collins Middle also was design with the environment in mind. Using biophilic design, wood planked feature walls are found in the entrance corridor and expand to the open structure above.

Williamstown Elementary School, Williamstown, WV

When designing a new school built on tradition, the initial thought of school colors and clean lines comes to mind. This was not the case with the new Williamstown Elementary School. Using the school colors as our basis of design, the county was open to adding complimentary colors to entice the students for a bright and exciting learning environment. Colorful floor pattern adorns the corridors, using the tile for wayfinding and structure for students. In the media center you will find a custom designed tree, dripping in lights mimicking fireflies and a perfect campfire setting for storytelling. The tradition is kept alive with the pops of Maroon and Gold throughout the cafeteria and gym.

* Previous Employer

Robert Doeffinger, PE



Role

Engineering Principal

Professional Registrations

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

As ZMM's Principal Engineer, Mr. Doeffinger is in charge of the engineering disciplines, it is his responsibility to ensure that the mechanical and electrical engineering components of ZMM's design are coordinated and integrated into the final product.

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

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

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

Project Experience

Appalachian Regional Hospital, Beckley, WV

Mr. Doeffinger is the mechanical project engineer currently working with the hospital on multiple renovations. The ICU and OR departments will undergo Mechanical and Architectural upgrades in a multiphase project while the hospital remains operational. The existing kitchen will receive a new make-up air unit, and fan coil units to improve pressure and air balance relationships within the hospital. A dedicated HVAC unit was provided for the endoscopy suite to improve thermal comfort and provide code-required ventilation, air-changes and humidity.

Education

Master of Science Architectural Engineering, Pennsylvania State University, 1976

Bachelor of Science Mechanical Engineering, West Virginia University, 1973

Employment History

2005 - Present, President, ZMM

1976 - 2005, Vice President and Engineering Principal, ZMM

Civic Affiliations

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

USP 797 / 800 Pharmacy, Beckley ARH Hospital, Beckley, WV

Mr. Doeffinger was the lead mechanical project engineer for the new USP 797 / 800 Pharmacy at the Beckley ARH Hospital in Beckley, WV. The United States Pharmacopeia (USP) issued new 797 and 800 Guidelines for production, compounding and packaging of hazardous drugs, primarily related to chemotherapy. The guidelines set forth strict requirements for air change rates, temperature, humidity, and differential pressure control. The three new primary rooms had to be created from existing spaces within the hospital and included an ANTE room, Non-Hazardous Buffer Room, and the Hazardous Drug Buffer Room. The mechanical design included a variable air volume (VAV) air handling unit (AHU) with electric pre-heat, steam humidifier, split-DX cooling, hot water reheat, MERV-13 filters, variable speed plenum fan, and UV-C lights which was installed atop a structural steel platform above the existing roof. VAV Terminal Units with hot water reheat coils, and stainless steel, ceiling mounted HEPA supply diffusers were provided for each space. These ISO Class 7 buffer areas (clean rooms) required a minimum of 30 air changes per hour, a temperature range of 66-68°F, and a relative humidity range of 35-60%. Recirculating, HEPA filtered, Laminar Air Flow Workbench (LAFW) hoods were provided in Non-HD, while Compounding Aseptic Containment Isolator (CACI) hoods requiring 100% exhaust were provided in the HD room. The plumbing design included a stainless steel, hand's free sink with an integral emergency eyewash. ZMM collaborated with SonicU, the Owner's preferred vendor, on the design and installation of all temperature, humidity, and differential pressure sensors required for monitoring, trending, and reporting of space conditions for Pharmacy Board documentation.

Charleston Coliseum & Convention Center, Charleston, WV

Mr. Doeffinger was the lead mechanical project engineer on the expansion and renovation to the Charleston Coliseum and Convention Center. The \$100M, 530,000 SF project included 154,000 SF of new meeting room, kitchen, and support spaces. The project achieved LEED Silver with 22 out of 50 credit points related to energy and water conservation. Over \$143,000 in electric utility rebates were achieved for the Owner. The mechanical design reduced the total electrical usage by 26% when compared to an ASHRAE 90.1-2007 baseline building and reduced it by over 45% when compared to pre-construction demand; natural gas bills were reduced by over 35%. The heart of the new mechanical system was the main central plant which included (3) 1000-ton chillers (N+1), and (3) 8,000 Mbh condensing boilers (N+1), (2) 1250-ton stainless steel cooling towers, and a 130-ton heat recovery chiller. Additional energy conservation measure included increased wall/roof insulation, fret spandrel glass with low U-value and SHGC, variable speed air distribution, 16°F ΔT coil design, economizer cooling, kitchen hoods with variable speed exhaust and makeup air, all LED lighting, daylighting, and EPA WaterSense low-flow plumbing fixtures which reduced water consumption by 45% when compared to an ASHRAE 90.1-2007 baseline building. Over 90%+ of all mechanical systems were replaced or upgraded for the project. Construction had to be performed in phases to allow the facility to remain operational. The design-build project commenced in the spring of 2015 and was completed in October 2018. This project is an excellent example of how ZMM effectively collaborates with companies that share our commitment to quality, such as tvsdesign, BBL Carlton and Nitro Construction Services.

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

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

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

James W. Lowry, PE



Role

Mechanical Engineer

Professional Registrations

Professional Engineer (WV, PA, OH, MD)

Mr. Lowry is a registered Professional Engineer with design experience in:

- **Industrial**

Bayer Material Science, West Virginia Higher Education Policy Commission, Kuraray America, Armstrong Flooring, Covestro Laboratories.

- **Educational**

Renovations, evaluations and additions at Marshall University, West Virginia University Institute of Technology, Mercer County Schools and various other Schools and Universities statewide.

- **Commercial**

West Virginia Capitol Complex, West Virginia Parkways Authority

- **Health Care**

Renovations, evaluations and additions at Cabell Huntington Hospital, Charleston Area Medical Center, Charleston Surgical Center, West Virginia Department of Health & Human Resources, Huntington VA Hospital and other various healthcare facilities statewide.

HVAC Replacement Projects

Marshall University - Replacement Multizone HVAC
Marshall University - Prichard Chiller Replace 190
WVARNG - MCA South Renovations
Nitro Construction - DOW Modular Lab BLD
WVARNG - Kenova SCIF
Clay Center - Founders Lounge Dehumidify
WVHEPC - New River CTC Various Projects
WVARNG Building 202 Renovation
Goodwill Industries. - Expansion/Renovation (Teays Valley)
New River CTC - Welding Shop
Pipestem State Park Lodge - Renovations
Walker Machinery - Belle CRC Renovations
CAMC General Hospital - Replace Chillers
GSD - Capitol Guard House

Education

BS, Mechanical Engineering, West Virginia University Institute of Technology, Montgomery, WV, 2004

Employment History

April 2018 - Present, Mechanical Engineer, ZMM

2015 - 2018, Mechanical Engineer, Pickering Associates

Civic Affiliations

- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), President of West Virginia State Chapter

Calhoun County BOE – Pleasant Hill Elementary School - Roof and HVAC
Calhoun County BOE - Pleasant Hill Elementary School - HVAC
WV Higher Education Policy Commission - Southern CTC Various Projects

Additional Project Experience

Wood County Technical Center, Parkersburg, WV

Mr. Lowry was the Mechanical Project Engineer for this project. This project consists of renovations to 80% of the existing facility and an addition of 8 classrooms, one welding shop, multipurpose room and administration areas. The renovations included conversion of admin space to classroom space, conversion of classroom space to pro-start kitchen space, conversions of existing welding shop to new broadcasting shop. Renovations to collision repair, auto mechanics and construction shops to bring them up to current codes and standards. Design of new HVAC system for all renovated areas, including specialized exhaust for the welding, painting, construction, and pro-start kitchen areas. Design of new HVAC systems for the addition classrooms, multipurpose area and admin areas.

WV Army National Guard, Kenova Secured Area, Kingwood, WV

Mr. Lowry was the Mechanical Project Engineer on the renovations of existing facility for the inclusion of a new sand alone secured area with the existing facility. Project conformed to all additional federal/military requirements for secured areas.

WV Army National Guard, Camp Dawson Secured Area, Kingwood, WV

Mr. Lowry was the Mechanical Project Engineer on the renovations of existing facility for the inclusion of a new sand alone secured area with the existing facility. Project conformed to all secured area with the existing facility.

Mountain State Oral Surgeons, Charleston, WV

Mr. Lowry was the Mechanical Project Engineer currently working with the developing contractor BBL Carlton renovations to the existing facility. The existing Office space will be converted to new patent care areas. We evaluated the applicable mechanical and plumbing codes and developed the plumbing construction drawings in conjunction with the Owner and BBL.

Project Experience with other Firms

Cabell-Huntington Hospital, Huntington, WV

Mr. Lowry was responsible for the evaluation and design of the existing facility chilled water distributions systems, design of a new 4600-ton chilled water plant, Development of phased construction plan to construct the new plant and distributions piping for tie-into the existing systems to minimize down time on the existing chilled water systems.

Armstrong Flooring, Beverly, WV

Mr. Lowry was responsible for the evaluation and design of the existing and the connection to existing mechanical systems to serve a new addition to the manufacturing facility. The new addition will consist of storing flooring product, loading docks, and admin area. The new area was designed to be heated via the existing steam systems and provided with humidification to protect the product. The work was designed in a manner to allow for phase of the construction without interruption to the facilities operations.

Jacquelyn D. Kester

Principal



16 YEARS OF EXPERIENCE

EDUCATION

B.S., Environmental Sciences, West Virginia University, 2005

EXPERTISE

Section 404/401 Clean Water Act Permitting

Section 7 Consultation under the Endangered Species Act

Section 106 Consultation under the National Historic Preservation Act

Aquatic Resource Delineations

Ms. Kester is the Ecological Services Lead for CEC's Bridgeport, West Virginia Office. She has extensive experience in attaining baseline data for reporting and permitting projects. She is knowledgeable of permitting at the local, state, and federal levels for aquatic resource impacts associated with transportation, energy infrastructure, and site development projects. She regularly provides technical advice and assistance in the interpretation and application of federal and state laws, regulations, and Executive Orders. Ms. Kester has led efforts and supported teams working on larger road improvement projects and structure replacements. She manages Clean Water Act (CWA), National Environmental Policy Act (NEPA), and Endangered Species Act (ESA) aspects of projects, including developing scope and budget; building a team of technical resources; coordinating with the owner to develop strategies to meet the project's goals; managing budget/schedule; and delivering high-quality services.

PROJECT EXPERIENCE

Pope Properties, LLC, West Virginia

Role: Ecological Task Manager

Coordinated field efforts for completion of stream and wetland delineations and stream functional assessments for a real estate development. Performed quality reviews of data collection and report preparation. Performed on-site agency meetings with the West Virginia Division of Natural Resources (WVDNR). Performed quality reviews of data collection and report preparation.

Genesis Partners, LP, West Virginia

Role: Ecological Task Manager

Coordinated the field efforts for completion of stream and wetland delineations, stream assessments, and mitigation monitoring in association with real estate projects. Performed quality reviews of reports and data collection. Attended on-site agency meetings with the EPA, U.S. Army Corps of Engineers (USACE), West Virginia Department of Environmental Protection (WVDEP), and WVDNR.

Ecosystem Investment Partners, West Virginia

Role: Ecological Task Manager

Coordinated the field effort for completion of stream and wetland delineations and stream assessments. Performed reviews of data collection and report preparation for the development of large scale mitigation banking projects. Proposal preparation and budget control for Indiana bat habitat assessments and conservation plans. Coordinated with and managed sub-consultants for cultural resource studies. Attended on-site agency meetings with the EPA, USACE, WVDEP, and WVDNR.

Hancock County Board of Education, West Virginia*

Role: Ecological Task Lead

Performed stream and wetland delineations for the development of a new elementary school located in West Virginia. Assisted in sampling benthic macroinvertebrates and biological monitoring. Prepared a Nationwide Permit 39 Pre-construction Notification with a joint 401 Water Quality Certification. Completed a jurisdictional determination site visit with the USACE. Developed an onsite, out-of-kind permittee responsible mitigation plan to compensate for permanent impacts; the plan was designed to incorporate the mitigation project into the school's science curriculum.

Ronald Lane, Inc., West Virginia

Role: Ecological Project Manager



Civil & Environmental Consultants, Inc.

Jacquelyn D. Kester

Principal

Coordinated the field effort for completion of stream and wetland delineations and stream assessments. Performed reviews of data collection and report preparation for the development of large commercial site development. Attended client meetings to provide guidance on permitting requirements.

Town of Marlinton, West Virginia

Role: Ecological Project Manager

Coordinated the field effort for completion of stream and wetland delineations. Performed quality review of data collection and report preparation.

Jewel City Church, West Virginia

Role: Ecological Task Manager

Coordinated the field effort for completion of stream and wetland delineations. Performed quality review of data collection and report preparation.

Town of Harman, West Virginia

Role: Ecological Task Manager

Coordinated the field effort for completion of stream and wetland delineations associated with an emergency repair of a waterline and sewer line following flooding. Oversaw the preparation and submission of nationwide permit packages for impacts to streams and wetlands. Agency coordination for Section 7 consultation under the ESA and Section 106 consultation under the NHPA. Preparation of stream activity applications through the OLS.

Friends of Black Water, West Virginia

Role: Ecological Project Manager

Prepared an Environmental Assessment (EA) for a trail improvement project at Blackwater Falls State Park. Improvements included trail widening and relocation, pedestrian bridge improvements, and installation of the new suspension bridges and scenic overlooks. The EA was prepared to meet the Office of Surface Mining's National Environmental Policy Act (NEPA) requirements while also addressing the U.S. Forest Service's NEPA requirements for actions located in their decision space. The proposed actions and development of the EA also had to maintain consistency with the 2006 Monongahela National Forest Land and Resource Management Plan.

Water and Land Solutions, Maryland

Role: Ecological Project Manager

Prepared a Prospectus for a proposed mitigation bank in Cumberland, Maryland that sought to obtain stream credits through the removal of a low-head dam on the North Branch Potomac River. The Prospectus was prepared to address obstacles identified by past stakeholders who had assessed removing the dam including: ownership of the dam; removal of contaminated sediment within the impounded zone behind the dam; potential nutrient impacts from sediments released following dam removal; and flood conditions regulated by Section 408 of the U.S. Army Corp of Engineers, Baltimore District.

Arsenal Resources, West Virginia

Role: Principal

Coordinated the field effort for completion of stream and wetland delineations associated with multiple road improvement and structure replacement projects in Taylor County, West Virginia. Oversaw the preparation and submission of nationwide permit packages for impacts to streams and wetlands. Agency coordination for Section 7 consultation under the ESA. Managed subconsultants for Section 106 coordination and development of a Memorandum of Agreement due to one project having a structure listed under the NHPA. Preparation of stream activity applications through the OLS.

, City of Clarksburg, West Virginia

Coordinated the field effort for completion of stream and wetland delineations associated with the Haymond Highway over Elk Creek Bridge Replacement. Oversaw the preparation and submission of a nationwide permit package for impacts to Elk Creek associated with a deep foundation system. Agency coordination for Section 7 consultation under the ESA. Managing subconsultant for Section 106 coordination and development of a Memorandum of Agreement due to the bridge be listed under the NHPA. Preparation of stream activity applications through the OLS.

** Work performed prior to joining CEC*

Jason H. Littler, P.S.

Principal



26 YEARS OF EXPERIENCE

EDUCATION

A.S., Civil Engineering Technology, West Virginia Institute of Technology, 1995

B.S., Engineering Technology - (Survey Emphasis), West Virginia Institute of Technology, 1996

REGISTRATIONS

Professional Surveyor

- WV [REDACTED]

Mr. Littler has over 24 years of experience with proven leadership skills, including managing, supervising, and motivating staff to achieve company objectives. Responsibilities have included positions as Roadway Designer and Survey Project Manager. He has performed roadway design, site civil design, drainage computations, construction layout, earthwork volumes, topographical surveys, aerial mapping control surveys, boundary surveys, WVDOH right of way plan development, courthouse research, deed work maps, survey plats, survey descriptions, earthwork volume computations, hydrology computations, WVDOH waste permits, plan preparation, subdivision plats, cell tower surveys, oil and gas landowner exhibits, pipeline as-builts, pipeline alignment sheets, pipeline routing, fine grade computations, and survey field crew management and oversight. He has been in direct charge with as many as 12 survey crews, which all reported to him and were supervised by him for direction and client satisfaction. He has been in professional charge of several boundary surveys ranging in size from small lot and partition surveys to large multi-tract 1000 acre surveys. He has performed numerous ALTA/ASCM land title surveys all throughout West Virginia for various banks, title insurance companies and development companies.

PROJECT EXPERIENCE

Education

Meadows Elementary School, Proposed New School, ZMM Architects & Engineers, Huntington, WV

Role: Survey Manager/Surveyor-in-Charge

The project involved boundary survey verification and GPS/conventional survey of the 48-acre property located south of Huntington, West Virginia in Cabell County. CEC provided a topographic map and georeferenced ortho mosaic photo with planimetrics of the project site using Small Unmanned Aerial System (sUAS) aerial LiDAR mapping. The survey information collected was compiled into a base map to be utilized by the project architect, ZMM Architects & Engineers.

Woodrow Wilson High School, Proposed Additions, ZMM Architects & Engineers, Beckley, WV

Role: Survey Manager/Surveyor-in-Charge

The project involved boundary survey verification and GPS/conventional survey of the 30-acre property located in the town of Beckley, Raleigh County, West Virginia. CEC provided a topographic map and georeferenced ortho mosaic photo with planimetrics of the project site using Small Unmanned Aerial System (sUAS) aerial LiDAR mapping. The survey information collected was compiled into a base map to be utilized by the project architect, ZMM Architects & Engineers.

Milton Elementary School, Proposed Additions, ZMM Architects & Engineers, Milton, WV

Role: Survey Manager/Surveyor-in-Charge

The project involved boundary survey verification and GPS/conventional survey of the 17-acre property located in the town of Milton, Cabell County, West Virginia. CEC provided a topographic map and georeferenced ortho mosaic photo with planimetrics of the project site using Small Unmanned Aerial System (sUAS) aerial LiDAR mapping. The survey information collected was compiled into a base map able to be utilized by the project architect, ZMM Architects & Engineers.



Civil & Environmental Consultants, Inc.

Jason H. Littler, P.S.

Principal

West Virginia Wesleyan College Performing Arts Center, Highpoint Construction Group, Buckhannon, WV*

Survey Project Manager responsible in charge for construction layout and oversight on this new performing arts center. Performed curbing and grading layout. Project consisted of a new building associated parking lot and entrances.

West Virginia Wesleyan College, David E. Reemsnyder Science Center, Buckhannon, WV*

Survey Project Manager responsible in charge for base mapping, utility identification, survey layout, sewer and storm layout.

Talcott Elementary School, Raleigh County, WV*

Survey Project Manager responsible for oversight of all surveying for base mapping and construction layout. Project consisted of a expanded parking lot and entrance layout

Land Development

Sun Mountain Resort, Mount Hope, WV*

This project consisted of the development of approximately 1,000 acres of land located on the west side of US Route 19, north of the exit to Mount Hope in Fayette County, WV. Preliminary plans for the Sun Mountain Resort included an amphitheater, hotel, Gary Player golf course, and a conference facility. Mr. Littler was responsible for all storm drainage and some of the civil design associated with the construction of the complex. The construction of this project was not completed.

Northeast Quad Development, Bridgeport, WV*

Mr. Littler was involved in performing all site design for the development of this proposed commercial site, such as producing a detailed set of plans showing all site grading and drainage structures and performing all runoff calculations and sediment pond sizing. He also submitted a National Pollution Discharge Elimination System (NPDES) permit for approval.

Fairskies Development, Buckhannon, WV*

Mr. Littler performed a complete site design to produce the most available land use for this development. He also calculated pre and post runoff curve numbers with discharges, designed all structures accordingly, and provided mapping and placement of a relocated gas line. He also completed and submitted an NPDES permit.

** Work performed prior to joining CEC*

PROFESSIONAL AFFILIATIONS

West Virginia Society of Professional Surveyors

Ohio Oil & Gas Association

Kow O. Eshun, P.E.

Vice President



17 YEARS OF EXPERIENCE

EDUCATION

B.S., Civil Engineering, Kwame Nkrumah
University of Science and Technology, 2005

M.S., Geotechnical Engineering, The University
of Akron, 2013

Mr. Eshun has over 17 years of experience and serves as the Geotechnical Lead of the Bridgeport, WV office. He is responsible for overseeing daily operations, project reviews, promoting a safe working environment, staff development, project management and client development. Over the past 7 years Mr. Eshun has served as the Geotechnical principal and pavement engineer on over 80 roadway improvement projects including roadway widening, roadway slip repair projects, and bridge replacement projects across West Virginia. Mr. Eshun has worked on both private and public sectors and has noteworthy experience in the policies and procedures within WVDOT.

PROJECT EXPERIENCE

Site Development

Charles Point Crossing, Genesis Partners, Limited Partnership, Bridgeport, West Virginia

Role: Geotechnical Design of Record

Kow was the geotechnical design manager and engineer of record for Charles Pointe Crossing which involved moving 3.5 million cubic yards of earth and rock to create 100+ acres of development sites along I-79. His responsibilities included planning, managing the geotechnical investigations and design for the project.

Bridgeport Indoor Sports & Recreation Complex, City of Bridgeport, Bridgeport, West Virginia

Role: Geotechnical Engineer on Record

This project involved the design for a 125 acre indoor/outdoor sports and recreation complex. Mr. Eshun was responsible for managing this project from geotechnical engineering and construction management/administration. His responsibilities included planning, managing the geotechnical investigations and design for the project.

Federal Projects

RGV08 & RGV 09 Border Fence Project, Southern Border Constructors, Rio Grande Valley, TX

Role: Geotechnical Design Manager

Lead a team of geotechnical engineers to manage, coordinate and perform geotechnical engineering for approximately 40 miles of border fence and associated access roads. Kow oversaw 4 design teams consisting of 5 members each responsible for approximately 8 miles of border wall and associated roadway for the US/Mexico Border infrastructure in Texas. Project involved the planning and scheduling of geotechnical investigations, slope stability analysis, design of pavement, finite element analyses of fence structure, design of deep caissons for towers, light poles and gate systems. The design of the project was performed in strict adherence with the standards and specifications set forth from AASHTO, the Texas Department of Transportation, USACE, and CBP. This design-build project started construction in Summer of 2020 and was involved with providing quality assurance during the construction.

REGISTRATIONS

Professional Engineer

- TX
- KY
- MD
- WV
- PA
- VA
- OH
- TN

CERTIFICATIONS

Project Management Professional
(PMP), Project Management Institute

10-Hour OSHA Construction Safety
(Occupational Safety & Health
Administration), OSHA

Construction Quality Management for
Contractors, United States Army Corps
of Engineers



Civil & Environmental Consultants, Inc.

Kow O. Eshun, P.E.

Vice President

Healthcare

CAMC General Family Practice Building, Charleston Kanawha, WV*

Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses. Prepared geotechnical recommendations for earthwork, foundation design (deep foundations) and construction for the proposed building extension

East Building Addition, United Hospital Center, Bridgeport, West Virginia

Role: Geotechnical Engineer on Record

The project consists of the planned addition to a building currently located on Medical Park Dr. in Bridgeport, West Virginia. The addition of 4 floor horizontal expansion with an option of additional 2 or 3 floors later. Lead and managed the geotechnical team to perform geotechnical investigations, laboratory testing, analyses and provided recommendations for foundations. Also coordination with Architects during plan preparation and review foundation testing reports for conformations for geotechnical reports.

Electrical Upgrade Phase II, Louis A. Johnson VA Medical Center, Clarksburg Harrison, WV

The project involved the construction of an addition to an existing building at the hospital. Managed the geotechnical investigations at the site of the proposed upgrade. Prepared geotechnical engineering report providing deep foundation recommendations for the proposed addition. Also provided recommendations for site earthwork.

Rite Aid, Belle Kanawha, WV*

Managed and coordinated the subsurface exploration, laboratory testing and geotechnical analyses. Prepared both preliminary and final recommendations for earthwork, ground improvement option and foundation design for the brownfield project

Tiered Parking Lot, United Hospital Center, Bridgeport, West Virginia

Role: Geotechnical Engineer on Record

CEC has been retained as the geotechnical engineer on record to perform a geotechnical investigations for a proposed parking lot and provide recommendations for pavements and retaining walls. Currently working on planning and coordinating the field investigation program

UHC East Addition Caisson Installation, Landau Building Company, Bridgeport, West Virginia

Role: Project Manager

Managed and provided caisson drilling and installation observations for the building addition at the hospital. Observations was performed with a professional engineer to ensure that caissons were drilled at the right location and with the required embedment in competent bedrock. This was an extension of our services as the geotechnical engineer on record for the project

Real Estate

Reserve at Rosebud, Miller-Valentine Group, Clarksburg Harrison, WV

Managed Construction Quality Assurance (CQA) aspect of the project which consisted of construction of a residential block of flats. Services provided to contractor included testing of concrete, earthwork monitoring and testing, and general construction observations.

Taco Bell Site 310603, Huntington Cabell, WV*

Managed and coordinated the subsurface exploration, laboratory testing, geotechnical analyses and environmental screening. Prepared both preliminary and final recommendations for earthwork, ground improvement options and foundation design recommendations for the construction of the new Taco Bell

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Project Management Institute

Deep Foundations Institute

CLIENT REFERENCES

David Childers, Corp. Director of Construction Services

Charleston Area Medical Center (CAMC)
3101 MacCorkle Avenue, SE
Charleston, WV 25304
304.388.4930

Randy Hodges, President and CEO

CAMC Teays Valley ICU
1400 Hospital Drive
Hurricane, WV 25526
304.757.1796

Dr. Angie Settle, CEO, Executive Director

WV Health Right Medical Facility
1520 Washington Street, E.
Charleston, WV 25311
304.414.5931

Mary-Beth Brubeck, VP of Finance, CFO

Valley Health Systems
3375 US Rt. 60
Huntington, WV 25705
304.525.3334