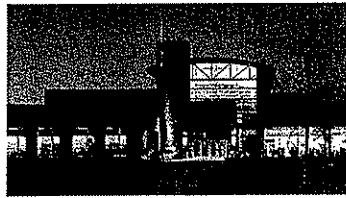


## AWARD WINNING DESIGN



2008

### **Erma Byrd Center**

Beckley, West Virginia

**AIA HONOR AWARD West Virginia Chapter**  
Excellence in Architecture

**AMERICAN SCHOOL & UNIVERSITY**  
Outstanding Building Design



2007

### **Lincoln County High School**

Hamlin, West Virginia

**AIA HONOR AWARD West Virginia Chapter**  
Excellence in Architecture

**EDUCATION DESIGN SHOWCASE**  
Project of Distinction award

**AMERICAN SCHOOL & UNIVERSITY**  
Outstanding Building Design



2006

### **Gene Spadaro Juvenile Center**

Mount Hope, West Virginia

**AIA MERIT AWARD West Virginia Chapter**  
Achievement in Architecture



2004

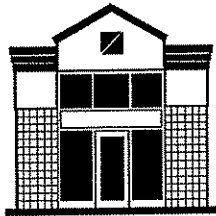
### **St. Albans High School**

St. Albans, West Virginia

**IMPACT ON LEARNING AWARD**  
Effective Transformation

**EDUCATION DESIGN SHOWCASE**  
Outstanding Building Design

**AMERICAN SCHOOL & UNIVERSITY**  
Outstanding Building Design



## **ADDITIONAL AWARD WINNING DESIGN**

### **WEST VIRGINIA SOCIETY OF ARCHITECTS Design Honor Awards**



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



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



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



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

### **UNITED STATES NAVY**

#### **Admiral's Commendation**

##### **Operations Building Alterations**

Naval Security Group  
Sugar Grove, West Virginia

### **CONSTRUCTION SPECIFICATIONS INSTITUTE**

#### **Honorable Mention**

##### **Restoration and Renovation Projects**

Cottage Renovations to Federal Prison Camp  
Alderson, West Virginia

### **STONEWALL JACKSON LAKE**

#### **Merit Award**

##### **Design and Environmental Program**

Recreation Area Basic Park  
Weston, West Virginia





ARCHITECTS & ENGINEERS

December 5, 2008

Mr. Frank Whittaker, Senior Buyer  
Purchasing Division  
2019 Washington Street, East  
PO Box 50130  
Charleston, WV 25305-0130

RECEIVED  
08 DEC -9 AM 8:56  
PURCHASING DIVISION  
STATE OF WV

POSTMASTER: This P...

**Subject: Expression of Interest – Lodge Expansion and Park Improvements at Cacapon Resort State Park - WDNR209057**

Dear Mr. Whittaker:

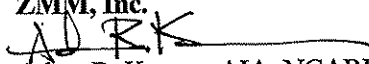
ZMM is pleased to submit the attached information to demonstrate both our experience and our capability to provide professional architectural, engineering, interior design, and construction administrative services for the Lodge Expansion, Golf Course Improvements, Water System Improvements, and Wastewater System Improvements at Cacapon Resort State Park in Berkeley Springs. ZMM is partnering on this project with Triad Engineering. Triad's depth of experience designing water systems and wastewater treatment facilities will complement ZMM's recreation and hospitality design experience – which includes the design of the existing conference center at Cacapon Resort. Additionally, Triad will service the project from their office in Winchester, which is in close proximity to the Park.

In addition to our previous experience at Cacapon Resort State Park, ZMM has had the opportunity to participate on a wide range of recreational, lodging, and dining facilities throughout West Virginia, including: a 183 room hotel at the Regional Training Institute at Camp Dawson that includes fitness facilities and a swimming pool; the State of West Virginia Capitol Cafeteria; and the Conference Center and Spa Addition at Blackwater Falls, which includes a swimming pool, spa, and fitness center.

Triad complements this experience with the design of infrastructure projects, including: water line extensions; water distribution system improvements; wastewater collection systems; and wastewater treatment plant improvements. This diverse experience, as well as our shared commitment to providing innovative, sustainable, and award winning design services, will make ZMM and Triad great partners for Cacapon Resort State Park.

Thank you for taking the time to review the attached proposal that outlines detailed information regarding the history, services, personnel, experience, and qualifications of both ZMM and Triad. We look forward to meeting with you in the near future to review our qualifications, and to discuss your project in greater detail.

Respectfully submitted,

ZMM, Inc.  
  
Adam R. Krason, AIA, NCARB, LEED-AP  
Project Manager

ZMM, Inc.  
222 Lee Street West • Charleston, West Virginia 25302  
304.342.0159 voice • 304.345.8144 fax  
zmm.com

STATE OF WEST VIRGINIA  
Purchasing Division

# PURCHASING AFFIDAVIT

**VENDOR OWING A DEBT TO THE STATE:**

*West Virginia Code* §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:**

*West Virginia Code* §21-1D-5 provides that: Any solicitation for a public improvement construction contract shall require each vendor that submits a bid for the work to submit at the same time an affidavit that the vendor has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the West Virginia Code. A public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the West Virginia Code and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the West Virginia Code may take place before their work on the public improvement is begun.

**ANTITRUST:**

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

**LICENSING:**

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

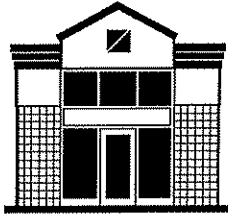
**CONFIDENTIALITY:**

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit [www.state.wv.us/admin/purchase/privacy](http://www.state.wv.us/admin/purchase/privacy) for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and is in compliance with the requirements as stated.

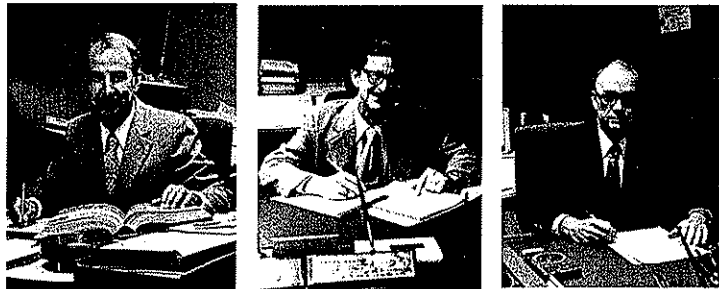
Vendor's Name: ZMM, Inc.

Authorized Signature: *Rodney Utter* Date: 12/8/2008



## History & Philosophy of ZMM

Ray Zando, Ken Martin and Monty Milstead established the **Charleston, West Virginia** based Architectural and Engineering firm of Zando, Martin and Milstead in 1959 with a staff of five people. The firm obtained an early foothold in the professional services sector in the state and grew in both size and stature. Mr. Steven Branner, a recent graduate of the University of Cincinnati, joined the firm in 1967 as a project architect. Mr. Robert Doeffinger obtained a B. S. degree in Mechanical Engineering from West Virginia University and an M. S. degree in Architectural Engineering from The Pennsylvania State University before joining the firm in 1976.

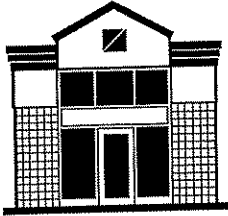


Mr. Zando, Mr. Martin and Mr. Milstead, reaching retirement age, transferred the ownership of the firm to Mr. Branner and Mr. Doeffinger in 1986 and they guided and expanded the firm to its present size of approximately 35 people. Recently, Dave Ferguson and Rod Watkins have joined in ownership of the firm.



The philosophy of ZMM was established early on by the original partners and continues today due to careful selection of contemporaries. At ZMM we are proud of our heritage of fine architecture, engineering and client service. This pride shows in everything we do, from the way we interface with clients to the way we delineate our designs.

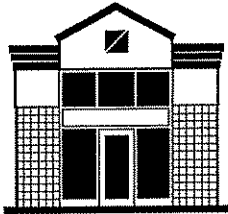




## History & Philosophy of ZMM

Since the beginning, ZMM has been dedicated to the integrated approach to building design. The inclusion of engineering services (civil, mechanical, electrical and structural) as well as interior design makes ZMM unique among architectural firms and fulfills the needs of clients for single point responsibility. More importantly, an integrated approach provides better coordinated, accurate, and concise documents. ZMM's commitment to clients is to provide the highest quality professional services available. In order to maintain this high level of quality, we strictly conform to the Quality Assurance Program, a unique feature of ZMM.

We work hard at staying generalists, while, by virtue of maintaining a practice for over forty years, having extensive experience in different building types. We approach each project as a unique opportunity and execute each design accordingly. Nothing is done without our full, professional attention. ZMM has a demonstrated record of success in the specialization of architecture and engineering.



## History & Philosophy of ZMM

### COMMUNITY SUPPORT

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

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



West Virginia Symphony Orchestra





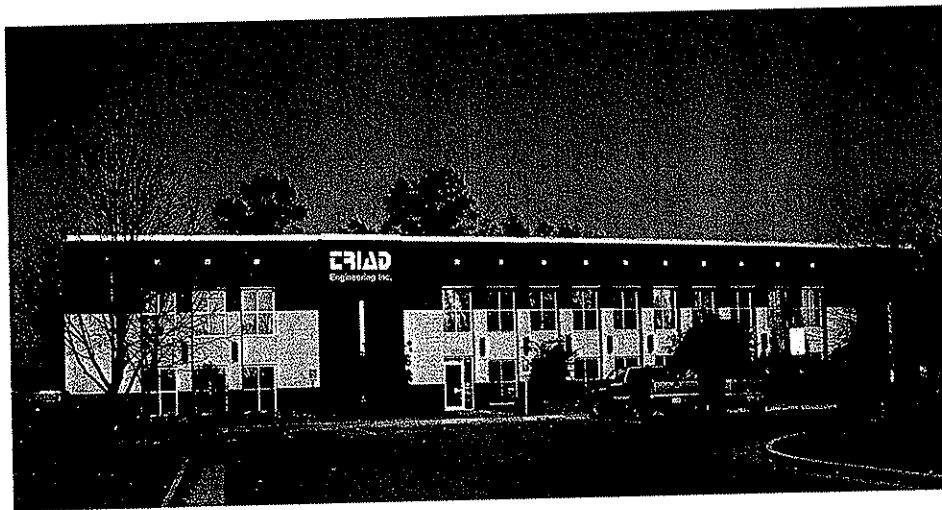
## FIRM OVERVIEW

Triad Engineering, Inc. (TRIAD) is a full-service engineering consultant firm specializing in the areas of geotechnical engineering, environmental services, construction inspection and testing, drilling, laboratory testing, civil design, land surveying, and other earth-science related disciplines.

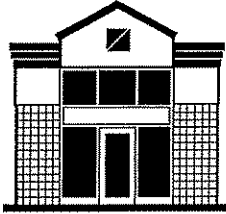
TRIAD was formed in 1975 and has steadily grown to become one of the largest engineering firms in the country. TRIAD is 100% employee-owned. At TRIAD, we pride ourselves on our ability to perform top-quality work for our clients, which is both on schedule and within budget. Our company is small enough to be responsive to the needs of our clients, and large enough to remain at the forefront of the engineering practice.

The firm has provided services on thousands of projects of varying size and complexity since beginning operations. Projects have included design engineering, topographic and boundary surveys, subsurface explorations, construction monitoring, inspection and testing, environmental assessments and remediation, and preparation of contract documents. Our clients and projects include many of the companies, agencies, and facilities in our geographic area of operation.

TRIAD currently maintains offices in Winchester and Purcellville, Virginia; Morgantown and St. Albans, West Virginia; Hagerstown, Maryland; and Greensburg, Pennsylvania. More than 250 employee-owners company wide, with 60 located in the Winchester office.







# Professional Services

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

Additionally, ZMM is constantly working to improve the services we offer by addressing emerging and evolving trends that impact the design and construction market. Recently, several of our professionals have attained LEED Accreditation so that ZMM is fully capable of addressing the needs of our clients who are interested in designing buildings that meet the US Green Building Council's standards. This continues ZMM's active implementation of sustainable design principles on education projects, most recently featured at the Lincoln County Comprehensive High School.

**ZMM offers all of the following professional services within our organization:**

## PRE-DESIGN

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



Executive Summary	Index (Pages)																								
<table border="1"> <thead> <tr> <th colspan="2">National Guard Bureau</th> <th>Area (sqft)</th> </tr> </thead> <tbody> <tr> <td>Operations</td> <td></td> <td>31,073</td> </tr> <tr> <td>Sub-Total (GSP)</td> <td></td> <td>31,073</td> </tr> <tr> <td><b>Total (GSP)</b></td> <td></td> <td><b>31,073</b></td> </tr> </tbody> </table>	National Guard Bureau		Area (sqft)	Operations		31,073	Sub-Total (GSP)		31,073	<b>Total (GSP)</b>		<b>31,073</b>													
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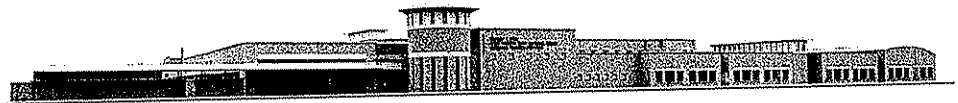


## Professional Services

### DESIGN

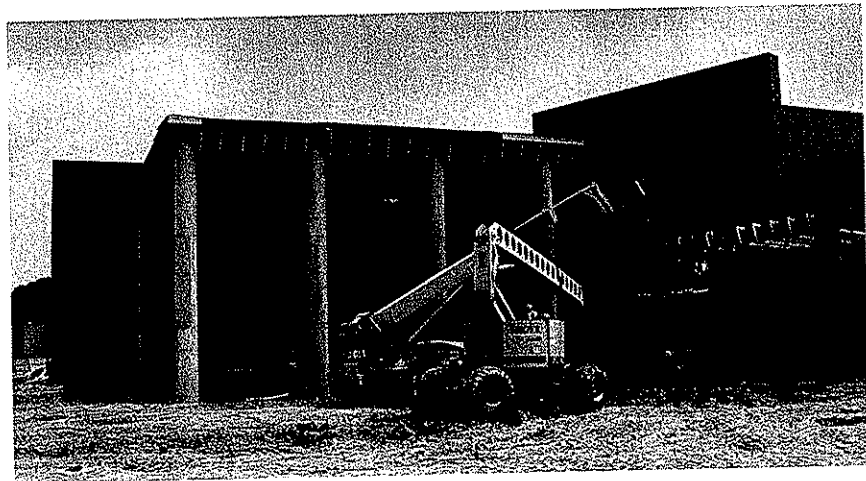
Architectural Design  
Sustainable Design  
Interior Design  
Landscape Architecture  
Structural Engineering  
Mechanical Engineering

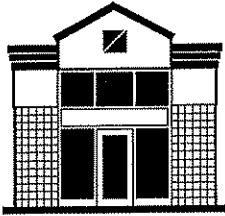
Electrical Engineering  
Civil Engineering  
Data System Design  
Lighting Design  
Energy Consumption Analysis



### POST DESIGN

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





**Repeat Clients:**



# Quality Assurance

The best way to determine our capabilities is by speaking to clients we have assisted on previous projects. Please review the recommendations letters contained in this brochure, or contact any of our previous clients. ZMM's quality assurance program will help ensure the success of your project.

We work hard at ZMM to be the best we can be. Quality professional services require a Quality Assurance Program and at ZMM this program assures our clients of designs which fully meet their expectations. Our program includes the following six major components:

### Goals of Quality Control Program

- Identifying Client Expectations & Project Requirements
- Selecting Project Team
- On-Going Project Appraisal
- Post Project Review
- Staff Training, Assessment and Enhancement

Knowing and understanding our clients expectations is our goal. Clients do not care what we know until they know that we care.

As part of our ongoing project appraisal we conduct quality assurance reviews at the following stages of every project:

- Schematic Design Phase
- Design Development Phase
- Working Drawing Phase
- Construction Phase

We encourage our clients to participate in the quality assurance review process as much as possible. In most cases, the owner's participation is required to insure a quality project. The quality of our work is the key to our continued success and repeat client base.



## CIVIL DESIGN, SURVEYING, PLANNING, AND LANDSCAPE ARCHITECTURE SERVICES

Our civil engineering and survey division are capable of providing the services required under this contract. Our civil engineering design projects include ones of various types and sizes ranging from half-acre site plans to 100+ acre industrial facilities and other types of development. Our engineers are experienced in evaluation, analysis and design of stormwater management systems, pump and lift stations, storm and sanitary sewer systems, water distribution systems and residential, commercial and industrial site developments. We provide site planning, re-zoning and landscape architecture design services as part of the civil engineering division. All designs are completed in-house with construction plans and details developed on CAD systems.

Our surveying division provides a full range of surveying services from boundary and topographic surveys to construction layout services. We currently have three (3) full-time survey crews, and often a fourth intermittent crew, in response to the demand for quality surveying services. Survey personnel are using state of the art field equipment, including a GPS system, data collectors and in-house software for data reduction and planimetric and topographic map preparation.



## **GEOTECHNICAL ENGINEERING SERVICES**

Geotechnical engineering consulting has been our mainstay since TRIAD was formed in 1975. Our experienced geotechnical department comprised of engineers and geologists can provide a wide variety of geotechnical services including the following:

- Site Suitability Studies and Surveys
- Geologic Literature Studies
- Planning, Supervision, and Inspection of Subsurface Investigations
- Electrical Resistivity Testing for Karst Terrain Evaluations
- Sinkhole Investigations
- Foundation Recommendations
- Settlement Analyses and Monitoring
- Bearing Capacity Determination
- Lateral Earth Pressure Estimates
- Development of Plans and Technical Specifications
- Slope Stability Analyses
- Hydrologic Investigation and Analyses
- Hydraulic Analyses of Pipes, Channels, Ditches, etc.
- Groundwater Seepage Analysis
- In-situ Permeability Testing and Evaluation (Pumping Tests)
- Dam Inspection and Design
- Subsidence Studies and Abatement
- Landslide Analyses and Abatement
- Subgrade and Slope Reinforcement
- Evaluation and Design of Retaining Structures
- Pavement Evaluation and Design
- Forensic Consulting Services



## **QA/QC TESTING AND CONSTRUCTION MONITORING SERVICES**

Our QA/QC division provides construction monitoring and testing services for virtually all phases of construction including soil, concrete, aggregate, asphalt, steel, welding, paint, roofing, and limited water testing. All equipment is serviced and calibrated at regular time intervals to maintain critical standards. Inspection and testing services performed on a routine basis by our technicians include:

- Field Compaction Testing of Soil, Aggregate, and Asphalt
- Soil and Aggregate Sampling for Laboratory Testing
- Field Compaction Testing using DOH Methods
- Inspection of Pile Foundations Including Driven Piling, Caissons, and Auger Cast Piles
- Footing Inspection and Bearing Capacity Evaluation
- Field Concrete Testing and Sampling Including Coring, Windsor Probe, and Rebound Hammer Testing
- Batch Plant Inspection
- Structural Steel Inspection Including Bolt Torque
- Visual Weld Inspection, and Dye Penetrant Testing
- Paint Thickness, Including Wet and Dry Film Thickness
- Roof Installation and Fire Proofing Inspection
- Bleacher Inspections



## **DRILLING SERVICES**

TRIAD in Winchester currently owns and operates four (4) truck and all-terrain drill rigs. Primarily these rigs provide support for in-house geotechnical and environmental division work. However, we routinely provide contract drilling services for many clients including other engineering companies, industrial/commercial, federal, state and municipal entities. TRIAD has had an open ended drilling contract with the Virginia Department of Transportation since 1995. Typical services provided by TRIAD include:

- Auger Borings
- Test Borings with Standard Penetration Testing & Sampling
- Undisturbed Shelby Tube Sampling
- Rock Coring
- Rotary Percussion (DHH) Drilling
- Borehole Pressure Testing and Grouting
- Piezometer and Slope Inclinator Installation
- Slope Inclinator Installation
- Monitoring Well Installation and Development
- Sludge Pond and Hazardous Waste Sampling



## **LAB TESTING SERVICES**

Our Winchester office is equipped to perform a full range of soil testing services for both physical properties and engineering properties. Additional laboratory capabilities include testing of concrete cylinders and beams, mortar, masonry prisms, grout, and aggregates. All tests are conducted by experienced engineers or technicians in conformance with appropriate ASTM, AASHTO and/or Corps of Engineers Standards. TRIAD is currently inspected and approved by independent agencies including CCRL for concrete testing and AMRL for soil and rock testing. We are also accredited by WACEL for both soils and concrete testing. We are fully equipped in house to perform the testing anticipated for the geotechnical and inspection services of this contract without the need for subcontracting. Typical laboratory testing services include:

- Visual Classification of Soil/Rock Samples
- Laboratory Classification (Atterberg Limits, Moisture Content, and Grain Size Distribution)
- Standard and Modified Proctor Compaction
- Permeability (Flexible and Rigid Wall)
- Maximum and Minimum Relative Density (Granular Soils)
- California Bearing Ratio (CBR)
- Soil pH
- Soil Resistivity
- Soil Unconfined Compression
- Rock Core Unconfined Compression
- Swell Pressure Testing
- Consolidation
- Organic Matter Content
- Natural Density and Moisture
- Triaxial Shear
- Specific Gravity
- Los Angeles Abrasion
- Sodium Sulfate Soundness
- Asphalt Testing, Including Absorption & Density, Extraction, Gradation, and Marshall Stability and Flow
- Concrete Cylinder Compression
- Concrete Beam Testing
- Mortar or Grout Cube Compression Testing





## **ENVIRONMENTAL EVALUATION SERVICES**

OUR Winchester environmental division can address the environmental issues associated with the ever-increasing environmental laws and regulations such as CERCLA (Superfund), RCRA, SARA, TSCA, CAA, AHERA, CWA, SDWA, legislation for underground and above-ground storage tanks, and wetlands. TRIAD currently provides environmental services as listed below:

### **PHASE I ENVIRONMENTAL SITE ASSESSMENTS AND TRANSACTION SCREENS**

All ESAs and Transaction Screens are conducted in accordance with ASTM Standard Practice E 1527 and E 1528, respectively.

### **PHASE II ENVIRONMENTAL SITE ASSESSMENTS**

The Phase II ESA contains all the elements of the Phase I ESA, but also may include:

- § Detailed pesticide, PCB, Petroleum and Related Chemical Sampling
- § Analytical Testing
- § Soil Gas Surveys for Volatile Organic Compounds
- § Asbestos Inspections and Sampling
- § Groundwater Monitoring, Sampling, and Testing
- § Required Exploration and Technical Report Services

### **WETLAND DELINEATION STUDIES**

- § Preliminary Wetland Identification Studies
- § Off-site Wetland Determinations
- § Routine On-site Determinations
- § Intermediate and Comprehensive On-site Determinations
- § Surveying Upland - Wetland Delineation Boundaries

### **UNDERGROUND STORAGE TANKS (USTs)**

- § UST Basin Closure
- § Site Characterization Assessments
- § Corrective Action Plans
- § Soil Vapor Studies
- § Soil Sampling and Testing
- § Remediation of Petroleum Contaminated Groundwater and Soils
- § Installing Groundwater and Vapor Monitoring Wells



## **LAND APPLICATION FEASIBILITY STUDIES**

- \$ Evaluation of Site Soils, Geology, and Hydrogeology
- \$ In Situ Permeability Testing and Groundwater Modeling

## **GROUNDWATER CONTAMINATION STUDIES**

- \$ Groundwater Modeling
- \$ U.S.G.S. MODFLOW
- \$ Fate and Transport Evaluations
- \$ Contaminant Transport Models

## **PERMITTING**

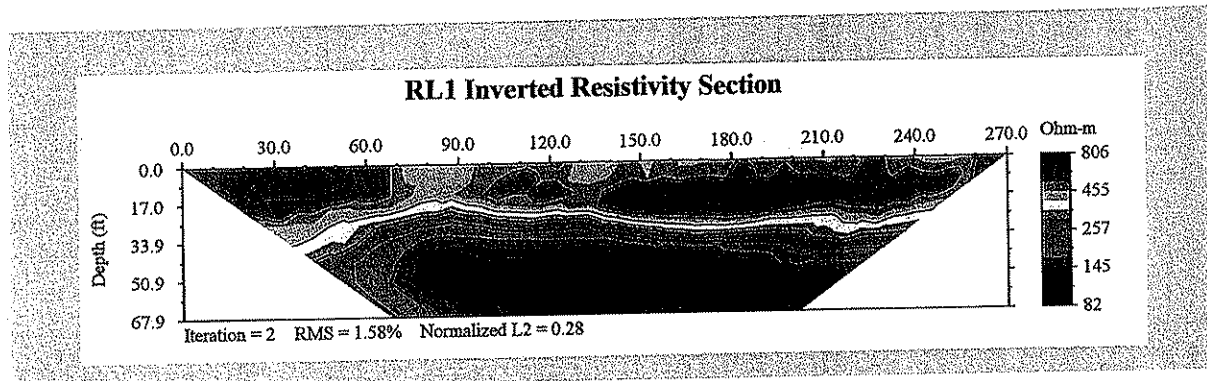
- \$ Wastewater Discharge
- \$ Virginia Pollution Abatement (VPA)
- \$ WVPDES Permits
- \$ VPDES Permits
- \$ Air Emissions
- \$ UIC

## **SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLANS**

- \$ SPCC Plans
- \$ ODC Plans
- \$ Above Ground Storage Tank Containment Designs
- \$ Early Leak Detection Plans and Monitoring for ASTs

Software we currently maintain and use includes MODFLOW, MULTIMEDIA, AQTESLOV, MWCAP, RESSQC, and HVORSLEV.

## Mt. Jackson Industrial Park Access Road Shenandoah County, Virginia

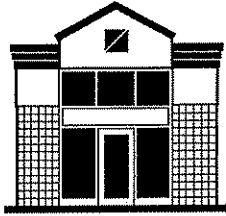


### Sample Inverted Resistivity Section

TRIAD completed an electrical resistivity survey along the planned alignment of the Mt. Jackson Industrial Park Access Road. The project site is adjacent to the property of Shenandoah Caverns, located approximately 1,500 feet southeast of the site. The items of concern specifically addressed include the potential for existing karst features, future karst feature development and the proximity to the existing caverns. The project site is underlain by carbonate sedimentary bedrock which results in karst terrain.

The subsurface conditions were evaluated by electrical resistivity imaging conducted along the proposed roadway alignment. Two electrical resistivity lines were performed to evaluate the subsurface conditions. In summary, the results of the electrical resistivity imaging survey indicated a relatively shallow and slightly varied top-of-rock profile with large, deep weathered soil/water filled seams or pockets and/or high ground water conditions identified in various portions of the test areas. However, there was no visual nor resistivity evidence of significant surficial connection to the deeper anomalous areas identified in the study which would suggest an elevated risk of sinkhole development or the presence of incipient features. Thus, we did not recommend that any additional work be performed in the areas explored for subsequent roadway construction purposes at this time.

Client  
Ms. Susie Hill, Director  
Shenandoah County Economic Development  
600 North Main Street, Suite 101  
Woodstock, Virginia 22664  
(540) 459-6227  
[econdev@co.shenandoah.va.us](mailto:econdev@co.shenandoah.va.us)



## Personnel

### Architects

Steven Branner, AIA	Architect, President, Principal
David E. Ferguson, AIA	Project Architect, REFP, Principal
C. Henry Walker, AIA	Architect, LEED AP
Mark Epling, AIA	Architect, Specifications
Adam Krason, AIA	Architect, NCARB, LEED AP
Brian Estep, AIA	Architect

### Engineers

Robert Doeffinger, PE	Engineer, VP, Principal
Steve Cook, PE	Mechanical/Electrical Engineer
Scot Casdorff, PE	Electrical Engineer
Steve Hedrick, PE	Structural Engineer
Erin Kinder, PE	Structural Engineer
Mary Jo Cleland, PE	Civil Engineer

### Designers & Technicians

Mike Abernethy	Electrical Design, LC, IESNA
Bob Groom	Mechanical Design Technician
Mike Flowers	Mechanical Design Technician
James Merritt	Intern
Matt Engle, AAIA	Designer
Lauren Smith, AAIA	Designer
Nate Spencer, AAIA	Designer
Jessica Olcott	Graphic Designer

### Interior Designers

Jill Watkins, IIDA	Interior Designer, Sustainability Coordinator, LEED AP
Alana Pulay, IIDA	Interior Designer, LEED AP

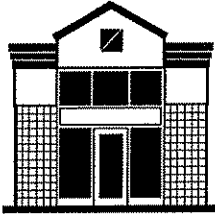
### Construction Administration

Glenn Savage, AAIA	Construction Administrator
David Unrue, AAIA	Construction Administrator
Theresa Dorsey	Administrative Assistant

### Administration and Support Services

Rod Watkins, AAIA, REFP	Marketing, Educational Planning, Vice President, Principal
Joe Blizzard	Information Systems Manager
Steve Ledahawsky	Business Manager
Lisa Bowles	Executive Secretary
Delores Fisher	Receptionist
Robert Estep	Production Assistant





## Steven Branner, AIA, NCARB

### Position

Principal, ZMM, Inc.  
Corporate Management  
Architectural Programming  
Architectural Design and Production

### Education

B.S., Architecture; *University of Cincinnati, Cincinnati, Ohio; 1967*

### Employment History

1967-1973, Project Architect; ZMM Inc.  
1973-1982, Director of Architecture; ZMM, Inc.  
1982-present, President; ZMM, Inc.

### Professional Credentials

Registered Architect (WV, VA, OH, KY, FL, NY, CA)  
NCARB Certification  
Professional Member; American Institute of Architects (WV)  
President, 1977 & 1978

### Civic Affiliations

Member; South Charleston Rotary Club  
Past member and Chairman, WV Archives & History Commission

### Professional Experience

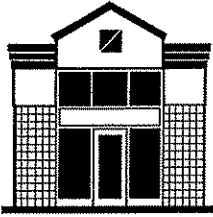
Mr. Branner has been employed with ZMM since 1967. His experience includes all aspects of the management, design, and production of small projects to those exceeding \$100M with an emphasis on Military / Public / Governmental Facilities, Correctional Facilities, and Industrial Facilities.

Mr. Branner also maintains an active role in each project in which he is the principal-in-Charge from it's inception through construction completion. Specific project responsibilities include contract negotiation, building programming, project budgeting, and scheduling, schematic design compliance with project requirements, cost estimating, quality control, and the general overview of each project to insure that client expectations are met.

### Major clients overseen by Steve include:

West Virginia Regional Jail & Correctional Facility Authority  
Dow Chemical Company  
NGK Spark Plug Company  
Cecil I. Walker Machinery Company  
West Virginia Army National Guard  
West Virginia General Services Division  
Kanawha County Public Library  
Charleston Area Medical Center (CAMC)  
Highland Hospital





## Robert C. Doeffinger, P.E.

### Position

Principal, ZMM, Inc.  
Corporate Management, Project Management and Coordination,  
Engineering Programming and Design

### Education

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

### Employment History

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

### Professional Credentials

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

### Civic Affiliations

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

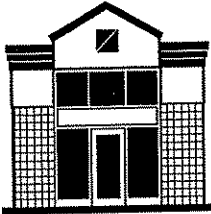
### Professional Experience

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

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

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





## C. Henry Walker, AIA, LEED AP

### Position

Project Architect, ZMM, Inc.

### Education

B.S., Architecture; *University of Cincinnati, Cincinnati, Ohio; 1973*

### Employment History

1973-1976, Designer/Community Planner; Peace Corps, Iran  
1977-1980, Architectural Draftsman and Designer; ZMM Inc.  
1980-Present, Project Architect; ZMM, Inc.

### Professional Credentials

Registered Architect (WV)

### Civic and Professional Affiliations

Professional Member; American Institute of Architects  
Professional Member; West Virginia Society of Architects  
Executive Board Member; Salvation Army Advisory Board

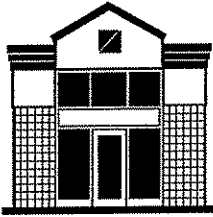
### Professional Experience

Mr. Walker began his career in Architecture with ZMM, Inc. in 1977. He is responsible for the overall work process relating to design, documentation and bidding. In addition to his project management responsibilities.

He is also responsible for generating construction details as necessary to ensure compliance with design intent, performing building code/ordinance analysis, coordinating structural,

### Project Experience

Stonewall Jackson Lake State Park  
Brookview Elementary School  
Braxton County Memorial Hospital  
Alderson Federal Prison Camp for Women  
Greystone On The Cheat  
Sissonville Library  
WV State Office Buildings 5,6 & 7  
Beverly Hills Middle School



## Adam R. Krason, AIA, NCARB, LEED AP

### Position

Sustainability Coordinator, ZMM, Inc.

### Education

Bachelor of Architecture; *The Catholic University of America, Washington, D.C.; 1998*

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

### Employment History

2003 - *Present*, Project Architect, ZMM, Inc.

1998 - 2003, Project Architect, Charleston Area Architectural Firm

1998, Consultant, Anderson Consulting

### Professional Credentials

Registered Architect: West Virginia and Ohio

LEED Accredited Professional

Construction Specifications Institute – CDT

Member of American Institute of Architect

NCARB Certification

### Civic Affiliations

West Virginia Vision Shared-Sustainable Economic Development Team

West Side Main Street Design Committee, Charleston, West Virginia

West Virginia Qualifications Based Selection Council

Development Council, St. Agnes School, Charleston, West Virginia

### Professional Experience

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

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

### Project Experience

West Virginia Army National Guard - Logan Readiness Center

West Virginia Army National Guard - CFMO Expansion Project

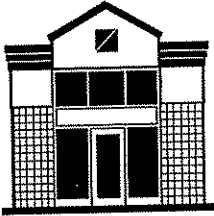
Judge Donald F. Black Courthouse Annex

Division of Juvenile Services

The Boulevard at 2412 - Residential Development







## Stephen E. Hedrick II, PE

### Position

Structural Engineer, ZMM, Inc.

### Education

B.A., Civil Engineering, West Virginia University Institute of Technology, Montgomery, WV, 1996-2001

M.A., Civil Engineering - Structural, University of Tennessee Knoxville, TN, 2001-2003

### Employment History

2007-Present, ZMM, Inc.

2003-2007, Principal Engineer, McCall Engineering, LLC, Sarasota, FL

2001-2003, Teaching Assistant and Thesis Research, University of Tennessee, Knoxville, TN

### Professional Credentials

Professional Engineer (PE), 2007

Certified Engineer in Training (EIT), 2001

### Professional Experience

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

Researched and developed design criteria for structural insulated panels.

Prepared design calculations for earthquake and wind design of FRP tanks.

Supervised work of design engineers in preparation of construction documents.

### Project Experience

Glen Jean Armed Forces Center - Joist Reinforcement

West Virginia Cultural Center

Highland Hospital

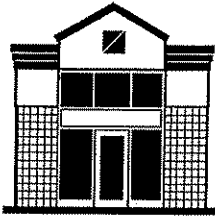
Hacker Valley Elementary - Supplemental Support

Barboursville Middle School - Supplemental Support

Southside Elementary/Huntington Middle School

New River Elementary - Supplemental Support





## Steven L. Cook, P.E.

### Position

Senior Mechanical and Electrical Engineer, ZMM, Inc.

### Education

B.A., English, West Virginia University, 1972  
2 Years toward B. S., Mechanical Engineering, WVIT, 1974-1975  
M.A., Humanities, Marshall University Graduate College, 2004

### Employment History

1989-Present, ZMM, Inc., Senior Mechanical Engineer  
1976-1989, Charleston Area Engineering Firm, Project Manager  
1972-1976, Charleston Area Engineering Firm, Designer

### Professional Credentials

Registered Engineer (WV)  
Member of ZMM's Board of Directors  
Member of ASHRE

### Professional Experience

Mr. Cook started his career in 1972 as a designer for an engineering firm in Charleston, WV. He is a Professional Engineer registered in West Virginia. He has designed and engineered many projects throughout the state of West Virginia.

#### Responsibilities Include:

Mechanical Design and Engineering.  
Serves as liaison between clients and utility companies.  
Design of sanitary and gas site utilities, site utility specifications.  
In-house review of plumbing, sprinkler system, fire pump, and domestic water booster pump designs.  
Review of plumbing, fire protection specifications, and temperature control design.  
Equipment selection - air handling units, pumps, and boilers, site visits, observation reports and punch lists.

### Project Experience

State of West Virginia Regional Jails  
State of West Virginia Juvenile Detention Centers  
Glen Jean Armed Forces Center  
Logan Readiness Center  
CFMO Expansion  
Highland Hospital  
Saint Albans High School  
Lincoln County High school





## R. Scot Casdorff, PE

### Position

Electrical Engineer, ZMM, Inc.

### Education

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

### Employment History

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

### Professional Credentials

Professional Engineer (WV)

### Professional Experience

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

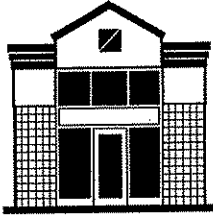
#### Responsibilities Include:

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

### Project Experience

- West Virginia Juvenile Detentions Centers
- Logan Readiness Center
- Morgantown Readiness Center
- CFMO Expansion
- Glen Jean Armed Forces Center
- Lincoln County High School
- Southside Elementary and Huntington Middle School
- Milton Middle School
- Wayne Elementary School
- Martha Elementary School
- Jaeger Elementary School





## **Alana Pulay, IIDA, LEED-AP**

### **Position**

Interior Designer, ZMM, Inc.

### **Education**

B.S., Interior Design; *The Ohio State University, Columbus, Ohio;*  
2003

### **Employment History**

2003 - Present, Interior Designer, ZMM, Inc.

2002 - 2003, Interior Design Intern, The Ohio State University Office  
of Student Affairs

### **Professional Credentials**

LEED-Accredited Professional (Commercial Interiors), 2008

Registered Interior Designer (WV)

NCIDQ Certificate, 2005

Professional Member IIDA

### **Professional Experience**

Ms. Pulay has experience detailing and specifying interior elements and furnishings to successfully create design solutions that satisfy the clients within budget limitations. She has worked on many educational, correctional, corporate, industrial and retail projects.

Ms. Pulay is also actively involved in the programming and space planning efforts at ZMM. This involvement helps ensure that the interior environment matches the architectural design in quality, level of detail, and budget. Her involvement continues through the selection and installation of furnishings.

### **Project Experience**

Lincoln County High School

Erma Byrd Higher Education Center

Wayne Elementary School

Martha Elementary School

Valley Dale Elementary School

Salem/Gore Middle School

Kellogg

War K-8

Jaeger- Big Creek High School

CFMO Expansion

Glen Jean Armed Forces Center

Western Regional Jail

Robert L. Shell - Juvenile Center





## Glenn R. Savage, CSI-CDT, CSI-CCS

### Position

Construction Administrator, ZMM, Inc.

### Education

B.S., Environmental Science; *University of Charleston, Charleston, West Virginia; 1997*

A.S., Mathematics; *West Virginia State University, Institute, West Virginia; 1992*

### Employment History

1998-present, Construction Administrator; ZMM, Inc.

997-1998, Environmental Project Manager; West Virginia Area Engineering Firm

1992-1997, Environmental and Construction Quality Control Manager; West Virginia Area Construction Company

1981-1992, Field and Laboratory Testing Manager; West Virginia Area Environmental Engineering Firm

### Professional Credentials

CSI, Certified Construction Specifier (Construction Specification Institute)

CDT, Certified Construction Document Technologist

### Professional Experience

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

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

### Project Experience

Highland Hospital

Mountaineer Middle School

Nicholas County High School

East Greenbrier High School

Western Regional Jail

Alderson Federal Prison Camp

Gauley Bridge Elementary

Summersville Hospital Medical Building

Cacapon State Park

Blackwater Falls State Park

Ronceverte Elementary School

Mount View High School

Jean Dean Safety/Law Enforcement Building





## Mark T. Epling, AIA, NCARB

### Position

Specifications Writer, ZMM, Inc.

### Education

B.A., Architecture; Virginia Polytechnic Institute and State University, Blacksburg, Virginia; 1977

### Employment History

1998 - Present, Project Architect/Specification Writer, ZMM, Inc.

1997 - 1998, Project Architect, Ohio Architectural Firm

1982 - 1997, Self-Employed Architect

1978 - 1982, Intern Architect, Ohio Architectural Firm

### Professional Credentials

Registered Architect (OH and WV)

NCARB Certification

CSI Technologist

Construction Document Technologist

### Civic Affiliations

Professional Member, American Institute of Architects

### Professional Experience

Mr. Epling has been employed with ZMM since 1998. Prior to working for ZMM, Inc., Mr. Epling worked for several architectural firms in Columbus, Ohio and later started and maintained his own private practice for 14 years in Gallipolis, Ohio. His experience includes the design and production of projects with an emphasis on Commercial, Educational, Correctional, Ecclesiastic, and Industrial Facilities.

Specific project responsibilities include development of Construction Drawings and Specifications.

### Project Experience

Bradshaw Elementary School

Oak Hill Elementary

Hacker Valley Pre K-8 School

Milton Middle School

Barboursville Middle School

Southside Elementary/Huntington Middle School

Jaeger - Big Creek High School

Saint Albans High School

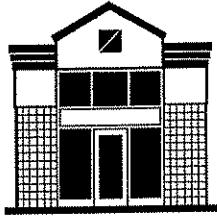
Beckley Higher Education Center

Dow Plant Headquarters

CFMO Expansion

Glen Jean Armed Forces Center





## Robert M. Sykes, C.P.G.

### Position

Senior Environmental Geologist, Triad Engineering, Inc.

### Education

BS, Geology, Virginia Polytechnic Institute & State University,  
Blacksburg, VA 1978

### Employment History

1980 - Present, Senior Environmental Geologist, Triad Engineering,  
Inc. VA

1978 - 1980, Senior Geology, Thompson & Litten, VA

### Professional Certifications

Certified Professional Geologist (VA)

Authorized Onsite Soil Evaluator (AOSE) (VA)

Licensed Asbestos Inspector (MD, VA, WV)

Licensed Asbestos Management Planner (MD, VA, WV)

40-Hour Hazardous Materials Site Worker (OSHA 29 CFR Part  
1910.120)

### Professional Organizations

Association of Environmental & Engineering Geologists, Member  
National Ground Water Association, Member

### Professional Experience

Mr. Sykes is currently a Senior Environmental Geologist for the Winchester, Virginia office of Triad Engineering, Inc. In this capacity, Mr. Sykes is responsible for technical and field management aspects of specific environmental projects in the region. This work includes landfill groundwater and gas monitoring design and implementation; preparation and submission of landfill monitoring reports; asbestos inspections and management plans; the planning and execution of subsurface and hydrogeologic investigations, including fracture trace analysis and pump tests; drain field evaluations; and petroleum tank release characterizations, risk assessments, remedial design, and reimbursement of costs through the Virginia Petroleum Storage Tank fund (VPSTF).

### Project Experience

War Memorial Hospital, Berkeley Springs, WV

State Route 9, Berkley & Jefferson Counties, WV

Shull's Plumbing & Heating, Dayton, VA

Fredrick County Sanitary Landfill, Winchester, VA

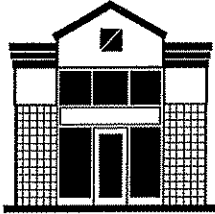
Page County Sanitary Landfill, Stanley, VA

Frank DePreiter Property, New Market, VA

Town of Hillsboro, Hillsboro, VA

Former Woolen Mill, Winchester, VA

Fahnestock Rental Property, Winchester, VA



## Jack E. Ramsey, P.E.

### Position

Utilities Group Manager, Triad Engineering, Inc.

### Education

B.S. Civil Engineering West Virginia Institute of Technology, 1994

### Employment History

2006- Present, Utilities Group Manager, Triad Engineering, Inc.

2003-2006, Senior Project Manger, QK4, WV

1999-2003, Project Manager, S&S Engineers, Inc., WV

1995-1999, Project Manager, Dunn Engineers, Inc., WV

### Professional Credentials

Registered Professional Engineer (WV)

Registered Professional Engineer (OH)

### Professional Experience

Mr. Ramsey brings 13 years of design and project management experience to Triad Engineering. He has been involved in all aspects of water and wastewater engineering as well as general civil engineering. Mr. Ramsey came to Triad in 2006 to provide technical assistance on complex and sensitive wastewater and potable water projects and project management assistance on various wastewater and potable water projects and general civil engineering projects.

In his current capacity Mr. Ramsey works on the planning, coordination, design, and construction of civil engineering projects to meet the expectations and needs of the client. Mr. Ramsey has experience in environmental engineering, civil engineering, wastewater collection, storm water conveyance, and water distribution systems, as well as wastewater and water treatment plants and storm water pollution control.

Specific project responsibilities include development of Construction Drawings and Specifications.

### Project Experience

City of Glenville

Town of Winfield

South Putnum PSD

Town of Eleanor

Town of Camden on Gauley

Town of Cairo

Alcon Laboratories

Nitro Regional Wastewater Utility

City of Huntington

Craigsville PSD

Buffalo Creel PSD





## Amanda M. Sutphin

### Position

Staff Engineer, Triad Engineering, Inc.

### Education

**Bachelor of Science Degree in Civil Engineering, 2004**  
West Virginia Institute of Technology Montgomery, WV

### Employment History

2004- Present, Staff Engineer, Triad Engineering, Inc.  
2001-2003, Inspector, WV Dept. of Highways, Charleston, WV

### Professional Credentials

Engineering Intern Registration, 2004  
**Water Distribution Design and Modeling with WaterCad,  
February 9, 2006**  
Certificate of Accomplishment, The Bentley Institute

### Professional Experience

Ms. Sutphin is currently a Staff Engineer for the Civil/Design Group in the St. Albans office of TRIAD. In this capacity, Ms. Sutphin works directly under the supervision of a Registered Professional Engineer in performing all facets of civil design. Mrs. Sutphin has assisted in the completion of a wide variety of projects including site development design on difficult sites including both surface and subsurface constraints, development and evaluation of multiple SPCC plans and water/wastewater design calculations and computer modeling on various sites throughout West Virginia, Ohio, Virginia, and Kentucky.

Ms. Sutphin assists in parking lot layouts, building sites, infrastructure routing, and grading and drainage design, and drainage studies. She assists project management on various civil, geotechnical, and quality control projects. Ms. Sutphin performs engineering calculations, studies, plans, reports, and data analysis, all under the supervision of a licensed engineer. Ms. Sutphin assists in the coordinating of construction projects and in conducting interim and final inspections of construction projects to determine compliance with applicable laws, regulations, and specifications.

### Project Experience

Yeager Airport, Charleston WV  
Town of Mason, Mason County WV  
WV Dept. of Environmental Protection  
Union Carbide Corporation (Dow Chemical), WV  
Branchland-Midkiff Public Service District, Lincoln County, WV  
Lakeview Manor, Wayne County, WV  
Cabell Huntington Hospital, WV  
Gatling Coal Company, Mason County, WV





## Larry L. McCoy, P.E.

### Position

Senior Engineer, Triad Engineering, Inc.

### Education

B.S. Civil Engineering West Virginia Institute of Technology, 1969  
M.S. Engineering Management West Virginia University 1992

### Employment History

2006- Present, Senior Engineer, Triad Engineering, Inc.  
2002-2004, Director of Engineering, Pittsburgh Water & Sewer, PA  
1990-2002, Chief, Civil Design Section, U.S. Army Corps of Engineers, Huntington, WV

### Professional Credentials

Registered Professional Engineer (WV)  
Registered Professional Engineer (PA)

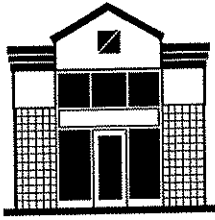
### Professional Experience

Mr. McCoy brings over 35 years of design and project management experience to Triad Engineering. He has been involved in numerous aspects of civil site design, as well as water and wastewater engineering. Mr. McCoy joined Triad in 2006 to provide technical assistance regarding quality control/quality assurance as well as management of civil design projects. Before coming to Triad, Mr. McCoy served as the Director of Engineering and Construction for Pittsburgh Water and Sewer Authority. In this role he was responsible for the engineering, design, and construction of water and sewer work performed by and for the Authority and City Agencies.

During his tenure with the U. S. Corps of Engineers, he planned the work and organized and directed teams in the preparation of reports, construction contract drawings and specifications and review of shop drawings for the civil engineering features of new and rehabilitation of existing water resources projects.

### Project Experience

Pittsburgh Water and Sewer Authority  
US Army Corps of Engineers - Project Engineer for  
RC Byrd (\$250M) and Winfield (\$150M) lock replacement projects



## **Dennie D. Dunlap III, P.E.**

### **Position**

Civil Engineering Services Manager Triad Engineering, Inc.

### **Education**

B.S. Civil Engineering Virginia Polytechnic Institute & State University, VA 1996

### **Employment History**

2002- Present, Senior Engineer, Triad Engineering, Inc. VA  
2001-2002, Senior Engineer, Triad Engineering, Inc., VA  
1999-2001, Project Engineer, Triad Engineering, Inc., VA

### **Professional Credentials**

Professional Engineer (VA, WV, MD)

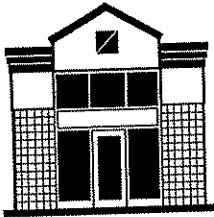
### **Professional Experience**

Mr. Dunlap is currently a Senior Engineer in the Winchester, Virginia office of TRIAD. In this capacity, Mr. Dunlap is responsible for technical quality and management of various civil design and land development projects.

Specific technical activities pertaining to land development include conceptual site planning, sewage collection system design, water distribution design, site grading, erosion and sediment control, storm-water management, and highway design. His duties also include client consultation, preparation of civil design proposals, billing and invoice review, and construction management.

### **Project Experience**

General Motors SPO, Martinsburg, WV  
West Virginia University Waterfront Complex, Morgantown, WV  
Meadow Point, Harrisonburg, VA  
Windstone Townhouses, Winchester, VA  
Associated Asphalt Facility, Martinsburg, WV  
Strasburg Green, Strasburg, VA  
Lincoln Mortgage Office Building, Winchester, VA  
Old Hickory Heights, Mount Jackson, VA  
Barber & Ross Manufacturing Facility, Winchester, VA  
Belleville Farm Subdivision, Winchester, VA  
CIE Warehouse, Berryville, VA



## David O. Hibbs

### Position

Staff Engineer, Triad Engineering, Inc.

### Education

B.S. Civil Engineering, West Virginia University, Morgantown, WV  
2004

### Employment History

2005 - Present, Staff Engineer, Triad Engineering, Inc. VA  
2004 - 2005, Staff Engineer, Painter and Lewis, Inc., VA

### Professional Credentials

Associate Member ASCE  
HEC-RAS ASCE – October 2006  
Advanced Water Distribution Design & Modeling with Water CAD  
February 2006

### Professional Experience

Mr. Hibbs has over 3 years experience in Civil Engineering Design. He has provided design calculations and reports relating to grading, storm water management, storm water conveyance, potable water distribution analysis and design, sanitary sewer design, on-lot sanitary treatment, facultative lagoon design, erosion and sediment control, horizontal and vertical road alignment, retaining wall design and analyses, Earthen Dams and Impoundments design, modifications, evaluations, on-site inspections, monitoring and emergency action plans.

Mr. Hibbs is also familiar with the permitting processes including Highway Entrance Permits, Natural Pollutants Discharge Elimination System (NPDES) permits, Groundwater Protection Plans (GPP's) and Storm Water Pollution Prevention Plans (SWPPP).

### Project Experience

Lake Forrest Estates, WV - Dam Project  
Holiday Inn Complex, Martinsburg, WV  
Cardinal Ridge Estates, Hampshire County, WV  
Shenandoah Valley Water - Site Plan  
Town of Elkton, WV  
Davenport Insulation  
Windstone Townhouses, Winchester, VA  
Park Ridge Elementary School - Grading & Drainage Plan  
Computations  
Long John Silvers - Retaining Wall Design  
Hopewell Commons - Townhouse Development



## **Jeffrey H. Mitchell, V.P., C.P.G., L.R.S.**

### **Position**

Director of Environment Services, Triad Engineering, Inc.

### **Education**

BS, Geology, West Virginia University, Morgantown, WV 1985  
Post-Graduate Studies, Geology, West Virginia University,  
Morgantown, WV

### **Employment History**

2000 - Present, Director of Environmental Services, Triad  
Engineering, Inc. VA  
1998 - 2000, Senior Environmental Geology, Triad Engineering Inc.,  
VA

### **Professional Certifications**

Certified Professional Geologist (VA)  
Licensed Remediation Specialist (WV)  
Registered Professional Geologist (NC, PA, TN)  
Licensed Asbestos Inspector (MD, VA, WV)  
40-Hour Hazardous Materials Site Worker (OSHA 29 CFR Part  
1910.120)  
Environmental Site Assessments for ASTM International  
Commercial Real Estate

### **Professional Organizations**

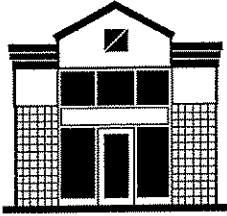
Air & Waste Management Association, Member  
American Institute of Professional Geologists, Member  
Association of Environmental & Engineering Geologists, Member  
National Ground Water Association, Member

### **Professional Experience**

Mr. Mitchell is currently the Director of Environmental Services for the Eastern Operations Region of Triad Engineering, Inc. based in Winchester, Virginia and is a corporate Vice President. In this capacity, Mr. Mitchell is responsible for the management, technical quality, and report review aspects for environmental services in the Eastern Operations Region.

### **Project Experience**

Veterans Administrative Medical Center, Martinsburg, WV  
Former Shepherdstown Dump, Shepherdstown, WV  
Cookman Realty Group Property, Petersburg, WV  
Old Standard Quarry, Jefferson County, WV  
Bryarly Manor Orchard, Berkeley County, WV  
Jefferson Cold Storage Facility, Charles Town, WV  
Jefferson Orchards, Inc., Jefferson County, WV  
Hartman's Service Station, Franklin, WV  
Browning Equipment Company, Inc., Purcellville, VA



## Recreational Projects

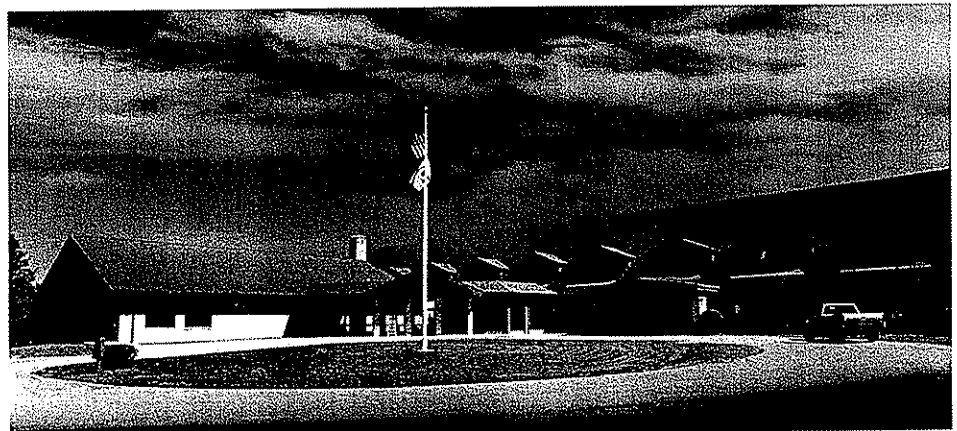
### Cacapon Resort State Park

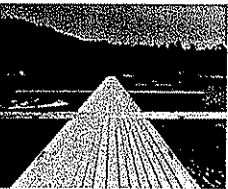
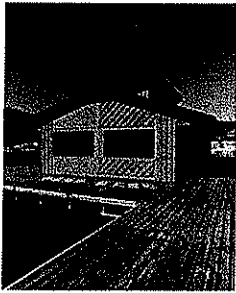
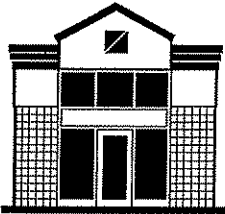
Berkeley Springs, WV

In 1998 ZMM, Inc. completed an addition and renovation project to the Cacapon State Park Lodge Building. This project included a new 7,600 square foot Conference Center along with a new interior elevator. Renovations were also completed on the kitchen area, the reception and office areas, the multipurpose and meeting areas, electrical and fire alarm systems and fuel storage systems.

Bid documents were prepared for a 2500 square foot health Spa addition to the Lodge Building but this portion of the project was not constructed. Other ZMM, Inc. projects completed at Cacapon State park include renovations to the Old Inn Building and an ADA accessible cabin.

**Size:** 7,600 SF  
**Completed:** 1998





## Recreational Projects

### Roanoke Bay Recreation Area

Stonewall Jackson State Park

U.S. Army Corps of Engineers

An outstanding recreational area in the state of West Virginia this project includes the following facilities and features designed by ZMM, Inc.:

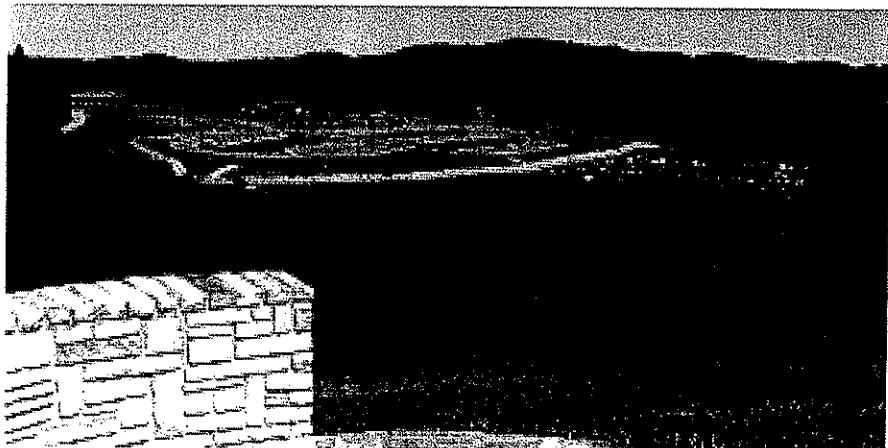
- Site development of approximately 200 acres of land adjacent to Stonewall Jackson Lake in Lewis County, West Virginia. ZMM, Inc. provided all of the site development design including the roadway system, parking, electrical power distribution to all facilities, sewage treatment plant and sewage lines serving all facilities, and a water treatment plant and water distribution system to the various buildings on the site.

- An 8,000 SF Visitors Center which includes an auditorium, display museum area and administrative space.

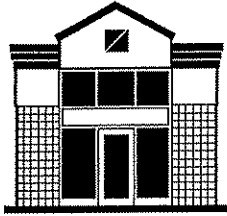
- An 11,000 Sq. Ft. Multi-Purpose Building which includes seminar and meeting rooms, and space for various indoor gatherings, recreational and sporting activities.

- A bath house that serves the campground area, rest rooms that serve the general park population, camp sites and a picnic shelter.

All structures at the park are single story buildings, constructed of stone and wood exterior facing materials. Laminated wood timber framing is featured for the structural systems, and zoned heating and cooling systems provide for environmental control.



 ZMM



## Recreational Projects

### Lodge Convention Center

Beech Fork State Park

West Virginia Department of Natural Resources

200,000 SF

A central atrium is the focal point of this design for an eight-story hotel/convention center containing 150 guest rooms, convention center seating 450 people, dining areas and food service facilities, indoor swimming pool, and indoor recreational areas. The atrium was designed as a passive solar heat collector. Exterior materials include stone and wood

designed to reflect the natural environment of the site. Each guest room was designed to sleep four and contains toilet and bath facilities for its occupants. Funding



reductions postponed the construction of this facility.

### State Park Lodge

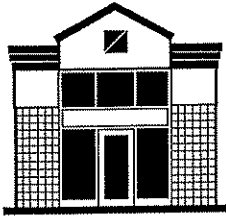
Canaan Valley State Park

West Virginia Department of Natural Resources

80,000 SF

The original design for a four-story lodge and convention facility containing 60 guest rooms, dining and kitchen facilities, a conference facility seating 300, an indoor swimming pool and support space, was not constructed. Funding restraints required the construction of a lodge of reduced scope. The original design concept utilized masonry bearing walls and a precast concrete floor system with exterior materials of stone and wood to reflect the natural environment and concept of the Park. Each guest room was designed to contain two double beds, bath and toilet facilities.



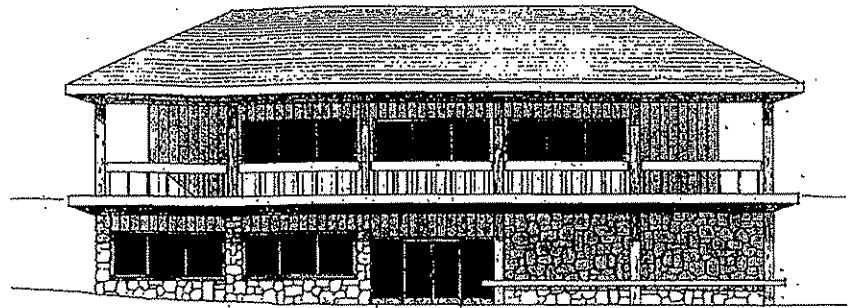


## Recreational Projects

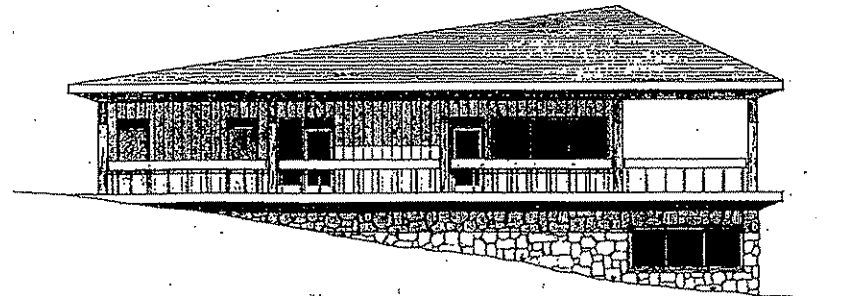
### Miscellaneous Services

Pipestem State Park and Twin Falls State Park  
West Virginia Department of Natural Resources

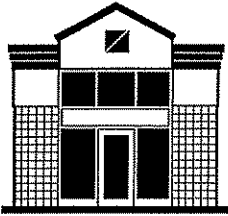
ZMM, Inc. provided interior design and specifications for furnishings of the public and private areas for Pipestem and Twin Falls State Parks. We also provided full time on site construction administration services for both main lodges, the river lodge, cabins, and visitor's center at Pipestem, and other support and maintenance facility buildings at both facilities.



SOUTH ELEVATION scale 1/8" = 1'-0"



WEST ELEVATION scale 1/8" = 1'-0"



## Hospitality Projects

### John XXIII Pastoral Center

The Wheeling/Charleston Catholic Diocese

This 53,000 SF Pastoral Center will provide Forty double occupancy guest rooms, dormitory space to serve 60 persons, a meeting/dining room that seats 300, food service facilities, meeting/seminar rooms and a chapel are contained in this two story pastoral center. The exterior is brick and wood and is constructed of wall bearing construction and pre-cast concrete floor system supporting the second level. Individual heating and cooling units serve each guest room and central zoned heating and air conditioning systems serve all major public and seminar spaces within the facility. This project won a Design Honor Award from the West Virginia Society of Architects.

### Cabins

Canaan Valley State Park

West Virginia Department of Natural Resources

Located remote from the lodge, the guest cabin area at Canaan Valley State Park is within a wooded area and spaced to provide the desired seclusion and ambience of the outdoor experience. Of twenty three cabins eleven are 2 bedroom units, eight are 3 bedroom units and four are 4 bedroom units. Each cabin also contains a comfortable living area, dining area, kitchen and bath. The cabins feature natural stone and wood siding on the exterior, and wood frame construction.

### Golf Club House

Canaan Valley State Park,

West Virginia Department of Natural Resources

Designed to take advantage of the sloping terrain, this two-story 8,000 SF facility contains a pro-shop, snack bar, and locker/shower rooms on the upper entrance level, and a golf cart storage and maintenance area on the lower level. Canopy covered exterior deck space provides sheltered dining and viewing of the golf course. Native stone and wood exterior materials enhance the natural setting of the club house and exhibits the overall design concept of the park.





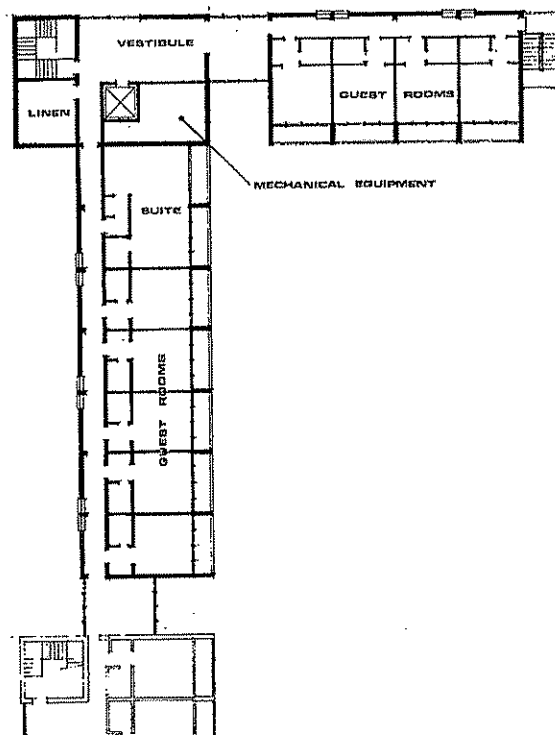
## Hospitality Projects

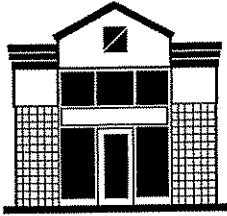
### Lodge and Convention Facility Expansion Master Plan

Twin Falls State Park  
WV Dept. of Natural Resources  
25,000 SF

ZMM, Inc. was retained to design an addition to the existing lodge which did not have adequate facilities. A four phased construction plan was prepared that included increasing the guest room capacity from 20 to 50 rooms, increasing the dining, kitchen and convention space to allow for meetings of up to 200 people, and to provide space for indoor recreation.

Upgrading of the existing heating and cooling plant was also part of this phased development as well as providing for increased parking capacity at the lodge. The additions and alterations to the four level facility were designed to match the character of the original design. Phase One work on this project has been completed which includes the renovation required in the existing kitchen, additional food preparation space, additional convention and meeting room areas and increased water service to the facility.



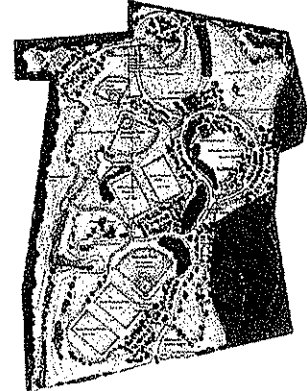


## Recreational Projects

### Old National, Urbana, Utica District Parks & Ballenger Creek Trail

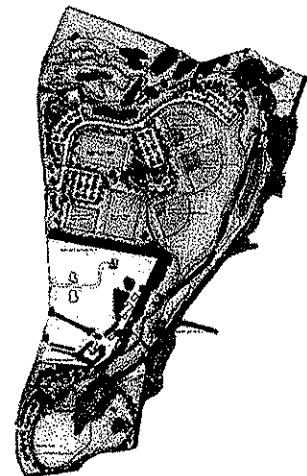
Frederick County, MD

Old National, Urbana and Utica District Parks have recently been designed and constructed in Frederick County, Maryland. The parks include new access drives, parking, maintenance facilities, soccer, football/lacrosse, little league and baseball fields, picnic shelters, playgrounds, trails, restrooms, water and electric utilities and other amenities.

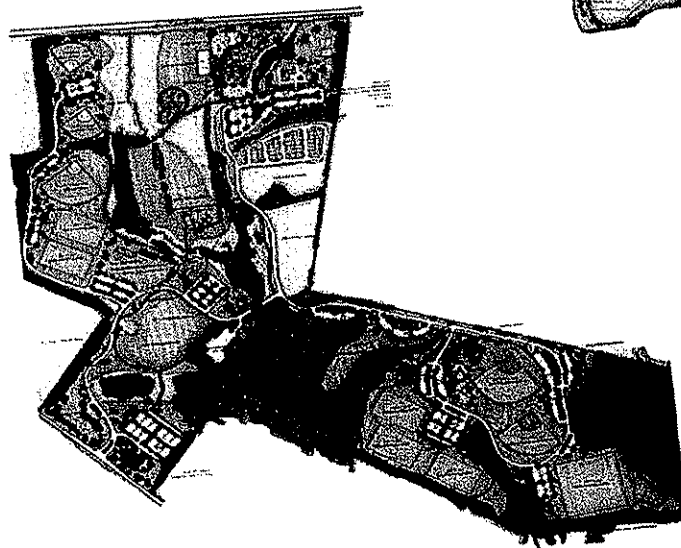


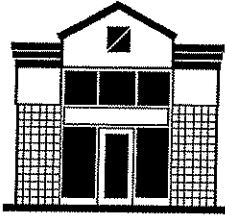
The Ballenger Creek Trail is an approximate four-mile trail which connects Ballenger Creek Park to nearby residential business areas.

TRIAD has performed Geotechnical Engineering services on all projects. During the construction of the district parks, TRIAD personnel also performed the necessary construction testing and inspection services.



**Completed:** 2005 -2006





## Relevant Projects

### **Vicki V. Douglas Regional Juvenile Center** Berkeley County, WV

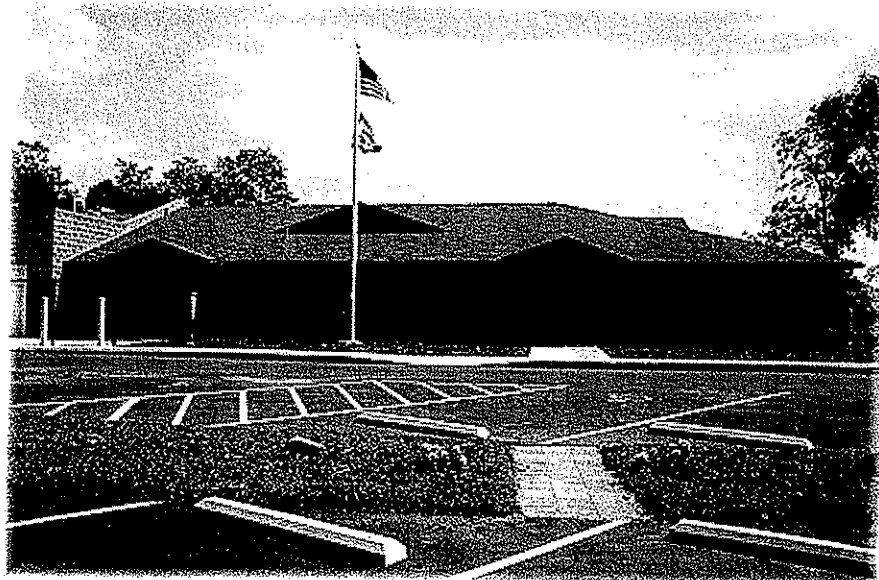
TRIAD provided the Civil Engineering and Survey services for the proposed expansion of the Juvenile Detention Center at the existing facility. The project consisted of a 25,000 SF addition to the existing building.

Project included site re-grading, new storm inlets and storm pipes, design of sanitary grinder pump station and force main, new sidewalk design, new chain link fencing, relocation of dumpster and transformer pads, new parking lot and expansion/reconfiguration of existing parking lot.

In addition, a demolition /relocation plan of existing features was generated which included building structures, fencing, pavement, etc. This project was completed on time and within budget.

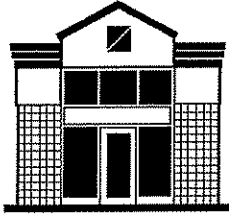
### **Project Highlights**

- New storm inlet and storm pipes
- Sanitary Grinder Pump Station and Force Main  
Performed grading, drainage and erosion and sedimentation control design



**TRIAD**  
TRIAD ENGINEERING, INC.

**ZMM**



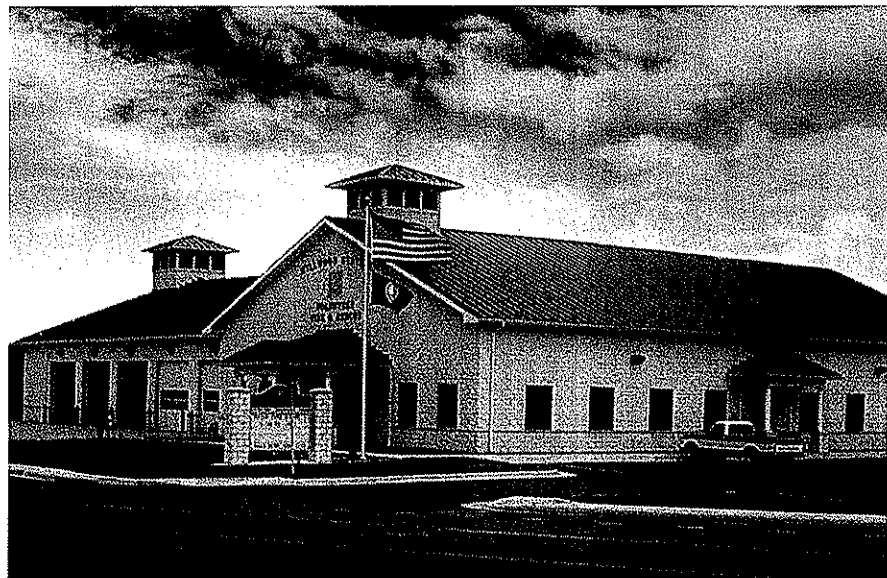
## Relevant Projects

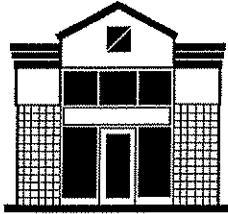
### Millwood Fire Station Frederick Co., VA

The Millwood Fire Station is located on Costello Drive in Winchester, Virginia. The facility consists of two buildings: a 17,000 SF fire station complete with garage and crew quarters, and a 15,000 SF banquet hall. The site design maintained the existing topography wherever possible to minimize earthwork and provide aesthetic views of the surrounding area. Multiple stormwater management basins were utilized to control stormwater runoff in order to efficiently develop the property.

A retaining wall was incorporated into the design to provide buffering between the fire station and banquet hall and to accommodate the variance in elevations between the buildings. Computer software was implemented to ensure fire trucks accessing the fire station will maneuver safely within the confinement of the paved areas.

**Size:** 32,000 SF  
**Completed:** 2003





## Relevant Projects

### General Motors SPO Facility Martinsburg, WV

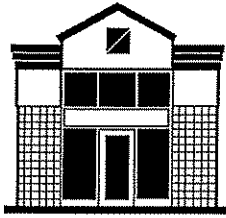
TRIAD was responsible for site design of a 400,000 SF warehouse distribution facility for General Motors. Tasks included design of a 900' railway spur to provide shipping access to interior of new warehouse, pavement and road design to accommodate heavy truck traffic, fire line design to accommodate fire suppression system, and design of onsite storm sewer and storm-water management basin to control and release storm-water runoff.

TRIAD coordinated civil design with architectural and structural drawings to eliminate potential construction conflicts. Thanks to an expedited design process, the facility was finished in accordance with the Owner's projected schedule.

### Project Highlights

- Design of rail siding to CSX specifications
- Geotechnical analysis was performed to supplement rail siding design
- Performed extensive grading, drainage and erosion and sedimentation control design  
Entire design in-house

**Completed:** 2000



## Corrected Water/Sewer Projects

TRIAD has been providing Water/Sewer design services for over a decade under the direction of licensed Professional Engineers. We have provided designs for state and local governments as well as for private companies and individuals.

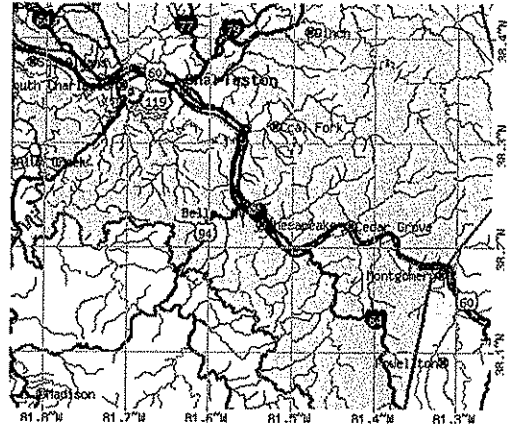
The following is an abbreviated list of relevant projects which have been prepared by TRIAD:

### Town of Belle

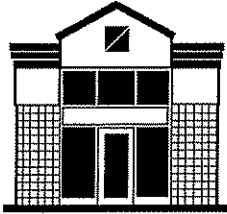
1100 E. Dupont Avenue  
Belle, WV

TRIAD recently completed an I/I project for the town of Belle. The services provided included the following items: performed aboveground inspections of manholes within each sewer-shed, located and inspected each manhole to determine physical condition and possible sources of infiltration, performed Closed Circuit Television Inspection

(CCTV), data compilation for manhole and CCTV Inspections, evaluated the Wastewater Treatment Plant and offered recommendations for improving its efficiency, prepared a report that identified the findings of the evaluation, smoke testing to detect specific inflow points, accurate mapping of the area, and installed flow meters to establish baseline flows.







## Corrected Water/Sewer Projects

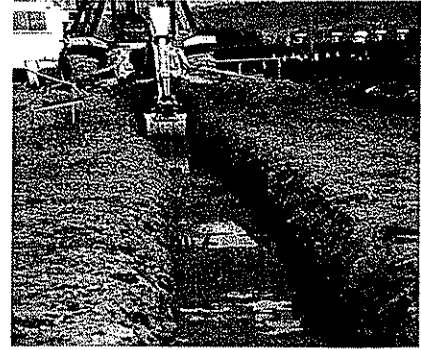
### Branchland-Midkiff Public Service District

Route 2

Branchland, WV

#### Four Mile Waterline Extension

Project consisted of approximately 70,000 feet of 8" to 2" PVC C-900 water pipe, upgrade of the existing pump station, a new booster pump station, a 250,000 gallon water storage tank, fire protection and other appurtenances. This project was the Pilot Water Project for the West Virginia Infrastructure and



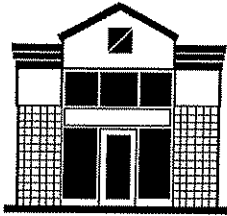
Jobs Development Council. Project received a 50% Grant and a 50% Loan for 0% for 40 years. This project was also the first project in the State to receive 100% funding from the council.

#### Fourteen Mile Waterline Extension

Project consisted of approximately 21,500 feet of 8" and 147,000 feet of 6" PVC C-900 water pipe, an upgrade to an existing pump station, a new booster pump station, a new 200,000 gallon water storage tank, a new hydropneumatic pump station with bladder tank, an upgrade to the master meter, fire protection and other appurtenances. The project is currently in the final design phase.

#### Distribution System Improvements

The project consisted of approximately 20,000 feet of 8" and 31,000 feet of 6" PVC C-900 water pipe, a new business office, a Ranger pump station upgrade and master meter upgrade at connection to the West Hamlin system.



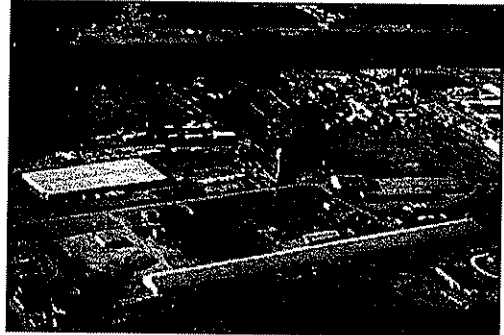
## Corrected Water/Sewer Projects

### South Putnam Public Service District

Scot Depot, WV

Performed a preliminary engineering study for the Vintroux Road wastewater collection system extension and designed the Vintroux Road/ U.S. Route 35 wastewater collection system that served 67 residential and commercial customers.

Project included three (3) submersible pump stations and seven individual grinder pump stations. This project was developed within its budget and on time. Total estimated project cost \$1,750,000.

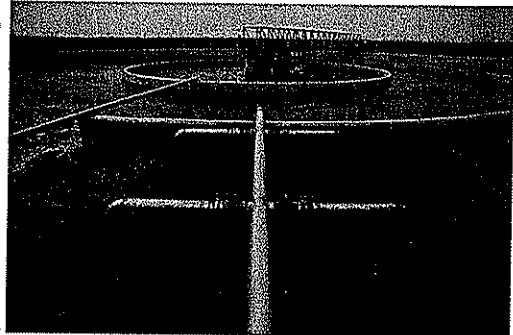


### Logan County Service District

Putnam, WV

This project was a \$14,000,000 wastewater system serving West Logan to Mitchell Heights along Route 10. Project consisted of several miles of 6" to 12" PVC sewer collection lines, several thousand feet of 2" to 18" PVC force mains, hundreds of manholes, seven duplex pump stations, and a new SBR wastewater treatment

plant. This project was funded by almost every funding agency in the state. These funding sources were necessary due to the high cost of the project and to minimize the rates as much as possible. This project was developed within its budget and on time. TRIAD's fee was \$210,000.



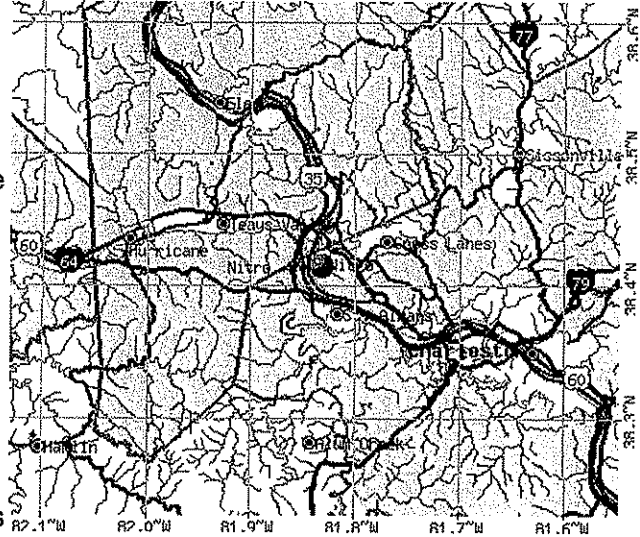


## Corrected Water/Sewer Projects

### Poca River Road Wastewater Collection System Expansion

Nitro, WV

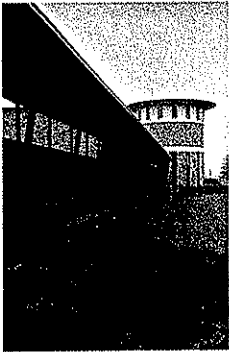
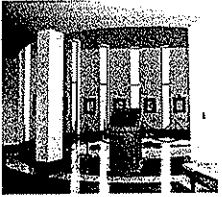
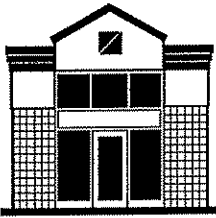
TRIAD was responsible for the design and construction management of the Poca River Road wastewater collection system extension that served 350 customers and included five (5) pump stations. This project was developed within its budget and on time.



### Wastewater Treatment Plant Upgrade

Nitro, WV

TRIAD was also responsible for the design and construction management of a wastewater treatment plant upgrade. The project consisted of a 0.65 MGD packaged treatment unit, a 1.2 meter belt filter press with building, a 150,000 gallon aerobic digester, and headworks upgrade. This project was developed within its budget and on time.



## Education - Student Housing Projects

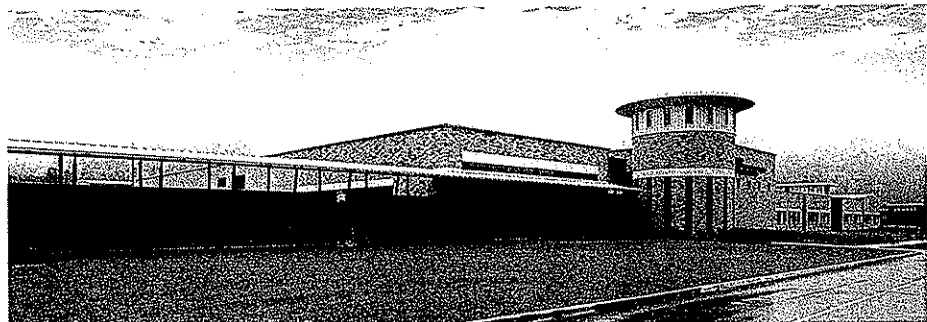
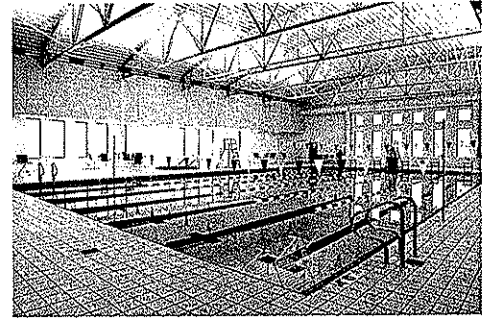
### Robert C. Byrd Regional Training Institute Camp Dawson, WV

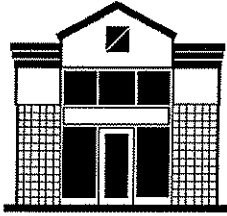
The Robert C. Byrd Regional Training Institute at Camp Dawson is a new 148,000 SF facility designed to provide training, dormitory, dining, and recreational facilities for the West Virginia Army National Guard. The facility, which includes 183 private dormitory rooms in addition to a wide range of training spaces is designed to accommodate a variety of both military and civilian training functions.

In addition to the housing and educational components, the facility also includes dining and recreational functions, including: a full-service dining hall; a snack-bar; a fitness center; a natatorium; as well as multiple group "break-out" or study rooms.

The design employs a large cylindrical mass that marks the main entry where guests can coordinate both their housing and educational needs. The housing wing is joined to the recreational and educational components with a large gathering/transitional space that often serves as an informal meeting area. Due to the success of the project, and growing use of the facilities, ZMM is currently assisting the West Virginia Army National Guard as they explore potential training and dormitory expansions.

**Total Project Cost:** \$21M  
**Size:** 148,000 SF  
**Completion Date:** 2002

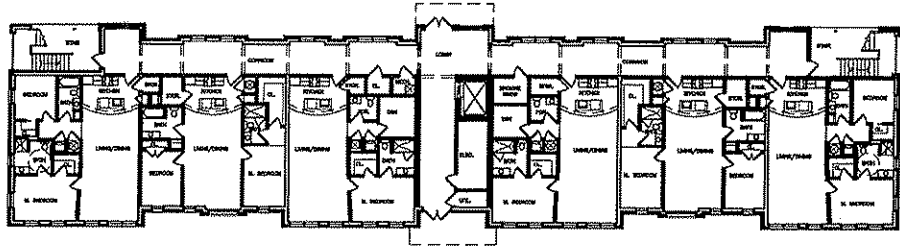




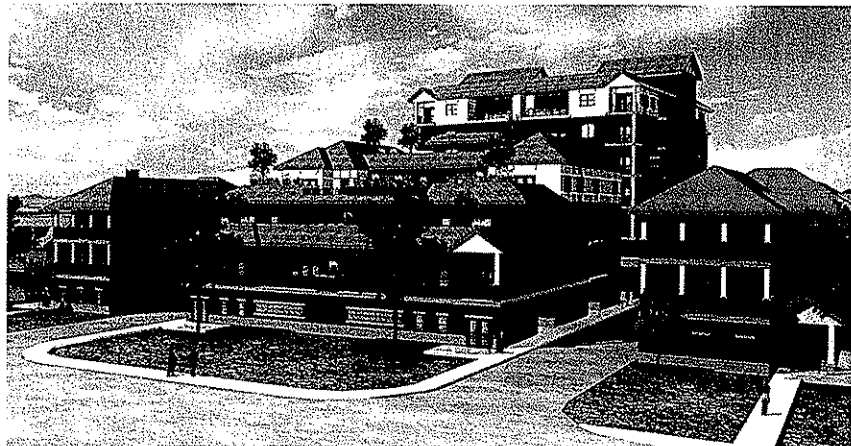
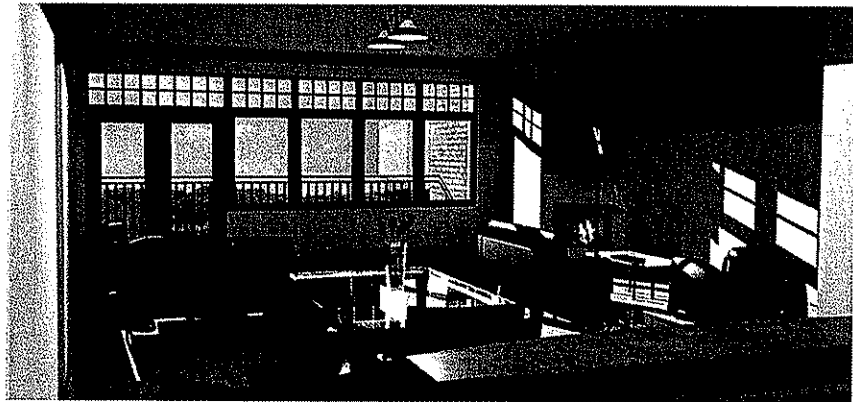
## Multi-Unit Housing

### The Boulevard at 2412 Charleston, WV

The Boulevard at 2412 includes an 18 unit apartment/condominium facility designed to meet the needs of the student housing market. Each unit includes approximately 1,000 SF of space. Students would maintain private bedrooms and share open living area.



The project will include seven buildings that will create a new residential community, setting the standard for high quality living in Charleston. The Boulevard at 2412 will be in close proximity to the State Capitol, Premier Medical Centers, Kanawha City Restaurants and Shops, and Downtown Charleston.





## Renovation Projects

### State of West Virginia Capitol Cafeteria Renovation Charleston, WV

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

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

**Size:** 14,000 SF  
**Cost:** \$3.7M  
**Completed:** 2007

