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Header 1

List View

- General Information**
- Contact
- Default Values
- Discount
- Document Information
- Clarification Request

Procurement Folder: 1344876

Procurement Type: Central Purchase Order

Vendor ID: 000000229419

Legal Name: MILLER ENGINEERING INC

Alias/DBA:

Total Bid: \$0.00

Response Date: 01/08/2024

Response Time: 11:53

Responded By User ID: MillerEngineer1

First Name: Travis

Last Name: Taylor

Email: ttaylor@millereng.net

Phone: 304-291-2234

SO Doc Code: CEOI

SO Dept: 0310

SO Doc ID: DNR2400000005

Published Date: 12/20/23

Close Date: 1/10/24

Close Time: 13:30

Status: Closed

Solicitation Description: A&E - North Bend and Watoga Pool Facilities

Total of Header Attachments: 1

Total of All Attachments: 1



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

**State of West Virginia  
 Solicitation Response**

**Proc Folder:** 1344876  
**Solicitation Description:** A&E - North Bend and Watoga Pool Facilities  
**Proc Type:** Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2024-01-10 13:30	SR 0310 ESR01082400000003262	1

**VENDOR**  
 000000229419  
 MILLER ENGINEERING INC

**Solicitation Number:** CEOI 0310 DNR2400000005  
**Total Bid:** 0  
**Response Date:** 2024-01-08  
**Response Time:** 11:53:17  
**Comments:**

**FOR INFORMATION CONTACT THE BUYER**

Joseph E Hager III  
 (304) 558-2306  
 joseph.e.hageriii@wv.gov

**Vendor Signature X** **FEIN#** **DATE**

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Professional engineering services				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

**Commodity Line Comments:**

**Extended Description:**

Design and contract administration services of new pool and splash park facilities at North Bend and Watoga State Parks.



**Expression of Interest**  
**West Virginia – Division of Natural Resources**  
**A&E - North Bend and Watoga State Park Pool**  
**Renovation and Splash Pad**  
**CEOI 0310 DNR2400000005**  
**8Jan2024**



**Division of Natural Resources**  
**Property and Procurement Office**  
**324 4th Avenue**  
**South Charleston, WV 25303**

# Table of Contents

## A Letter from Our Owner

TAB 1:	Firm Profiles Miller Engineering Montum Architecture Team List Organization Chart
TAB 2:	Goals Discussion Budget Considerations Construction Period Considerations (Schedule) Experience Considerations Communications Procedure
TAB 3:	Resumes - Qualifications Craig Miller, PE Travis Taylor, PE Jack Jamison Tyler Trump Tom Pritts, AIA Jordyn Henigin Mike Howell, PE Licenses & Certifications - Miller Engineering, Inc.
TAB 4:	Project Data Sheets – Experience and Past Performance Pipestem Sprayground Chief Logan Pool & Sprayground Tomlinson Run Pool Greenbrier Pool Bluestone Pool Blackwater Falls Spa Cacapon Lodge Addition & Renovation Chief Logan & Tomlinson Run Pool Slides Chief Logan Pool & Sprayground GrandVue Pool Evaluation Hawks Nest Lodge Pool WVANG Bridgeport FWAATS Discovery World on Market Arrow Park & Recreation Experience Budget & Timeline History



TAB 5:      Signature Page  
                 Requested EOI Documentation

## The Miller Engineering Difference



We are very pleased to submit our response for the WV Division of Natural Resources North Bend and Watoga State Park Pool Renovation and Splash Pad Project. Miller Engineering has performed many public swimming pool renovations, modifications, and new construction throughout the state; including several for the WV DNR. Most recently, MEI designed the MEP for the new Twin Falls SP splashpad and the replacement of the Hawks Nest Lodge Pool. We have performed pool repairs at Blackwater Falls, Bluestone, Chief Logan, Greenbrier, and Tomlinson Run State Parks to name a few. We have also designed the new swimming pool for the Cacapon State Park Lodge Addition. Additionally, MEI has completed many swimming pool projects for local municipalities throughout the state.

As the project includes architectural evaluation and renovation, we have teamed with Montum Architecture. Montum has performed services for DNR for several years as both prime and sub-consultant. MEI and Montum have a common project history which allows our staffs to work seamlessly together. We have also teamed with Arrow Engineering for any structural related services. Mike and his staff have a solid reputation throughout the state.

We're not your typical MEP firm; we ensure our designs meet very specific, time-tested criteria, including but not limited to being constructible, operable and maintainable. We want to set up our clients to be self-sufficient, but we work to be available every step of the way.

Our hands-on staff takes great pride in their construction and operations backgrounds, which help us visualize the project as it would be built instead of just lines on paper. We don't sit clients down and lecture to them about what they're going to get; we listen to them so we can strive to deliver exactly what they want and need. It costs too much time and money (for both our clients and us) to not deliver exceptional service every single time, and we work tirelessly to keep projects on time and on budget. We're proud to say that our change order percentage over the last 8 years is less than 0.1%, and that's not just a statistic; it's a proclamation of our commitment and determination to make sure things are done right the first time, every time.

In addition to swimming pools, MEI has completed many successful projects for the Division of Natural Resources. The projects range from the electrical repairs at the WV Wildlife Center to the Addition and Renovation of the Cacapon Lodge to boiler replacements at Blackwater Falls Lodge and Pipestem State Park to name a few. We have experience with the requirements and processes of state procurement, and can deliver a successful project from



design through close-out and warranty. I would like to personally thank you for affording Miller Engineering the opportunity to propose on the North Bend and Watoga State Park Pool Renovation and Splash Pad Project

Best regards,

A handwritten signature in blue ink, appearing to read "Craig Miller", with a long horizontal flourish extending to the right.

Craig Miller  
President/Owner  
Miller Engineering, Inc.

Tab 1

## Miller Engineering, Inc. Firm Profile

MILLER ENGINEERING is a solely held (S) corporation owned by Craig Miller PE, President. The corporation maintains a Certificate of Authority with the WV State PE Board and has carried professional liability insurance since its inception. Neither the firm nor its professional engineers have ever faced disciplinary action in any form from the states in which they are registered.

Our engineered solutions involve a detailed assessment process: investigation, observation, communication with stakeholders, system analysis, building modeling and engagement from our entire team. We approach each and every project with this process and the guiding principle that buildings are designed to be livable and function in their intended purpose.

Over the past 20 years Miller Engineering, Inc. (MEI) has engineered solutions in MEP system upgrades, repairs and renovations for projects of all scopes and sizes, with clients ranging from private owners to local and state governments. With a strict attention to detail and commitment to delivering a job done well and done right the first time, every time, **MEI has accumulated a change order percentage of less than 0.1% over the past 17 years.**

Our team has unique skill-sets regarding engineered renovation solutions. Each member of the team has hands-on mechanical system experience including installation, construction, design and maintenance.

Miller Engineering takes pride in being **different by design** and that difference shines through in all phases of our work and continued relationships with our clients.

### Additional Benefits

- Experienced and Licensed Professional Engineers
- Quality, Value-Engineered Project Delivery
- Qualified Construction Representative on Staff
- LEED-AP Certified
- Below Industry Change Order Status
- Building Information Modeling
- Interactive Solutions Provider
- Emergency Facility Response

## Engineering Design and Consultation

- Mechanical
- Electrical
- Plumbing
- HVAC Design
- Renovation
- New Construction

### Aquatic Facility Design

- Public Pools & Areas
- ADA Compliance
- Indoor & Outdoor (air flow)
- Chlorination/Filtration

### Construction Administration

- Maintenance/Facility Improvement Plans
- Contract Administration
- Code Observation

### Communication System

- Intercom & Public Address
- Voice/Data/CATV
- Urgent Response

### Energy

- Power Supply (main & backup)
- Green & Renewable Consulting
- Systems Utilization & Upgrades
- Sustainable Solutions

### Facility Utilization

- Systems Assessment & Solutions
- Adaptive Re-use
- Planning/Life-Cycle Control
- Engineered Replacement

### Life Safety Inspection/Design

- Fire Protection & Alarm Systems
- Access Control
- Fire & Electrical Investigation

### Industry Experience

- Education
- Local & State Government
- Commercial Development
- Healthcare
- Public Pools (indoor & outdoor)
- Department of Parks & Recreation



## **Montum Architecture**

Montum Architecture, LLC was founded in 2017 to provide architectural design services to clients in West Virginia and western Maryland. Staff includes one licensed architect performing all tasks and duties. This ensures the utmost coordination of building plans and specifications with minimal potential for miscommunication.

### Legal Organization

Montum Architecture is a Limited Liability Corporation initially filed in the State of West Virginia. The company is also registered in the State of Maryland as a foreign LCC.

### Communication

Tom Pritts will be the primary point of contact for Montum's architectural services. Montum will manage communications with sub-consultants on this project.

### Project Budget

Previous work experience has shown a consistent +/-2% bid-to-budget ratio.

### Project Schedule

Montum will monitor and adjust the design tasks in order to complete the design work on the established timetables. They will also work diligently during project construction to maintain the contractual constraints placed as part of the contractor's bid.

### Design Software

Montum utilizes Autodesk Revit for all design projects incorporating three-dimensional modeling and parametric reporting.

### **MILLER ENGINEERING**

<u>Craig Miller, PE</u>	President, Principal in Charge
<u>Travis Taylor, PE</u>	Lead MEP Engineer
<u>Tyler Trump</u>	MEP Designer
<u>Jack Jamison</u>	Master Code Official

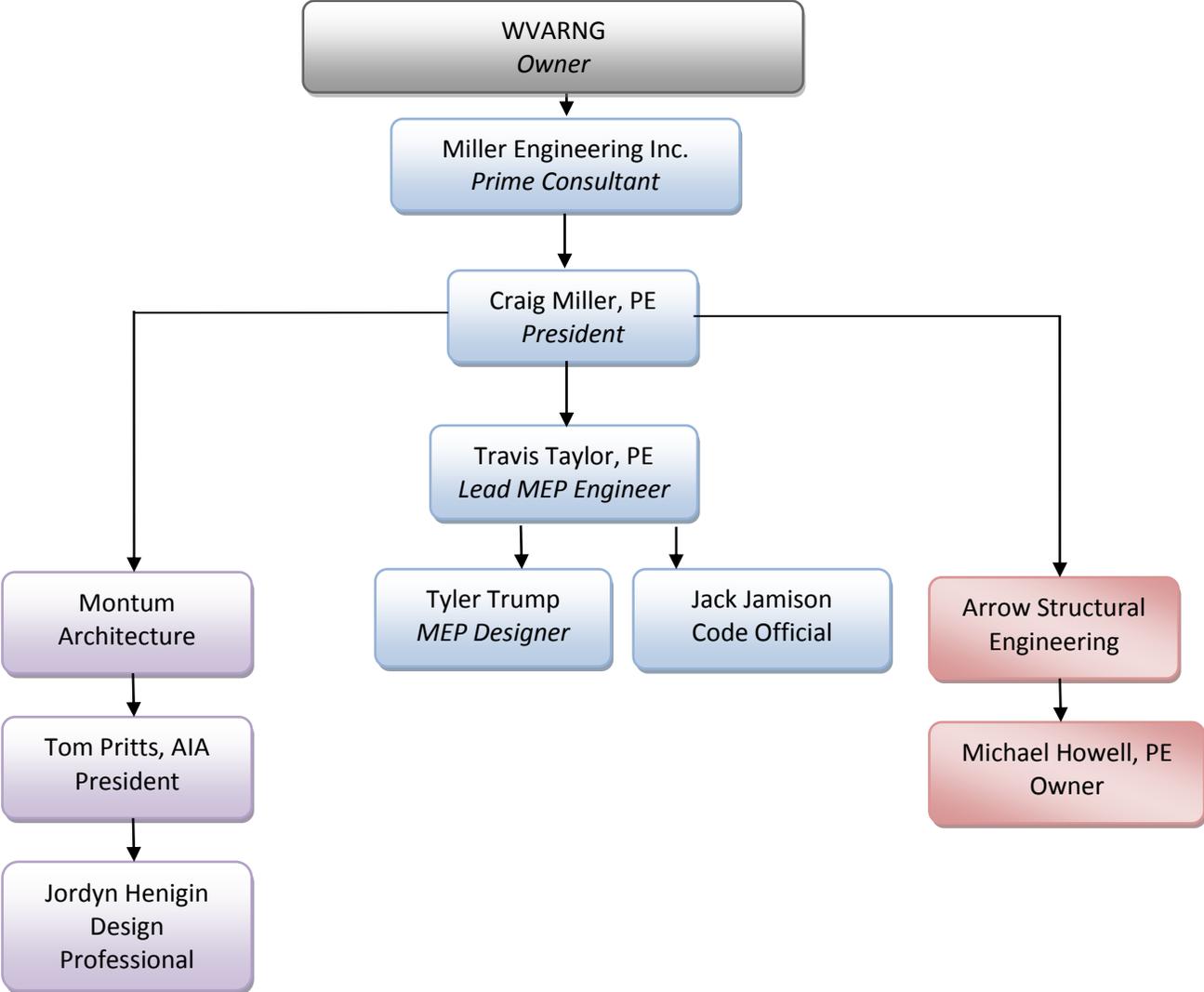
### **MONTUM ARCHITECTURE**

<u>Tom Pritts, AIA</u>	Architect, Owner
<u>Jordyn Henigin</u>	Design Professional

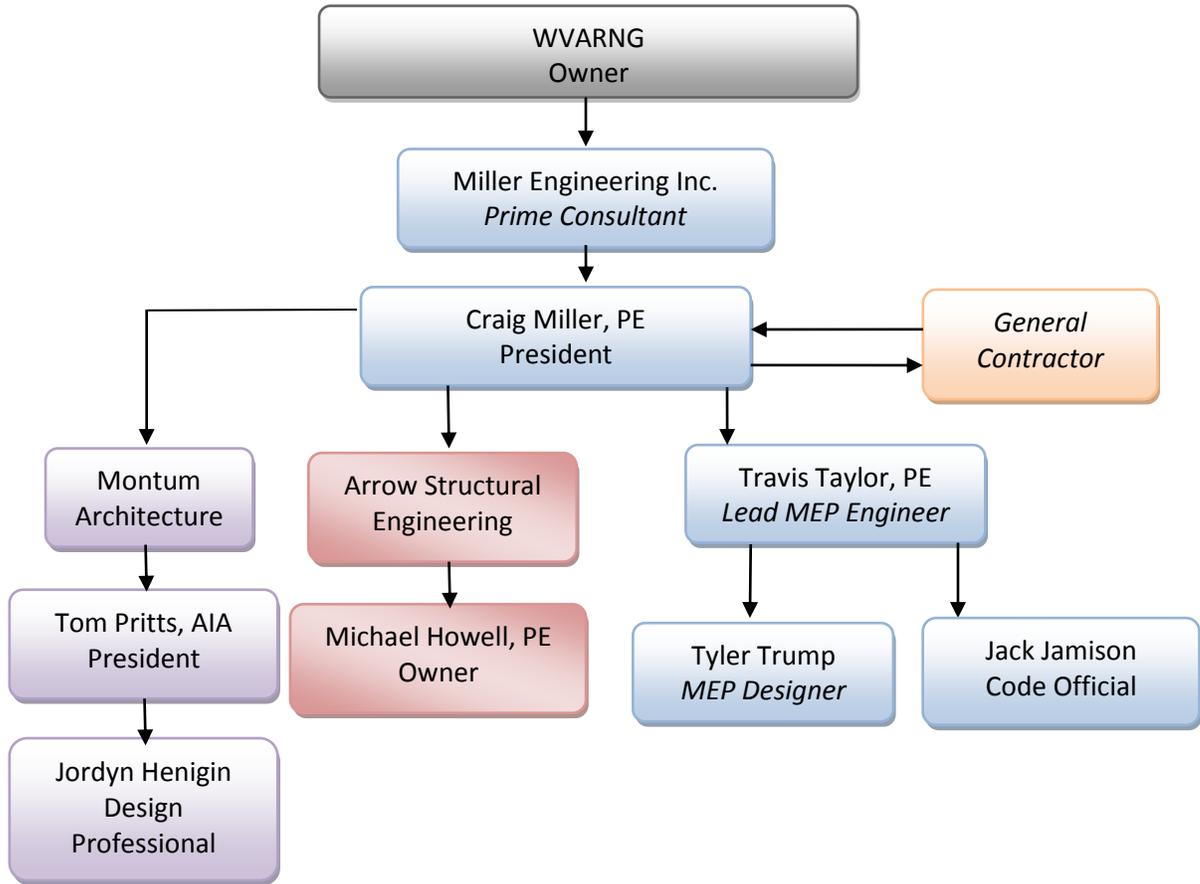
### **ARROW STRUCTURAL ENGINEERING**

<u>Michael Howell, PE</u>	Owner
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# Organization Chart -Design



# Organization Chart – Construction



Tab 2

# WNDNR – North Bend and Watoga State Park Pool Renovation and Splash Pad

## **PROJECT GOALS**

Miller Engineering has reviewed the project description under Section Three of the Expression of Interest and offers the following outline of project approach concepts, methodologies, core-values, and prior pertinent experience. Note that the project data sheets in TAB four (4) further describe many of the projects referenced in this section.

## **GOAL ONE – Review Existing Plans, Conditions, & Evaluate Operations and Determine Effective Plan**

### EVALUATION

Miller Engineering will evaluate the existing facilities through document review and on-site evaluation of the pool as a facility. Craig possesses over 30 years of design, operations, and maintenance experience related to swimming pools, hot tubs, spray parks, and waterslides. He also has park operations experience from his time with BOPARC of Morgantown. This experience, supported by the design team, affords MEI with the ability to review the facility in a holistic fashion and to best determine the needs and operational constraints of the project. MEI will review the facility with both the maintenance and operations staff, along with the Park management, while performing a detailed site evaluation of the pool site, basin, mechanicals, and supporting infrastructure. Montum will review the site and bathhouse facilities in regards to codes, ADA, convenience, and people flow.

MEI will prepare a written summary of findings, in a matrix format and assign the finding priorities based on codes, operations, maintenance, guest draw and accommodation, and budget. The matrix will include identification of existing problems and the operational needs of the pools. This becomes the basis of schematic design.

MEI will combine our experience with the available information and the Owner's input to determine the scope of the improvements or replacement. These items will be discussed with the owner to create a "plan of attack" to complete the project and determine scheduling and phasing. As the renovations will require the pools to be out of service, a construction approach with the goal of off season construction will be used to minimize the disruption and loss of revenue. Giving the owner's staff this information early on will allow them to properly schedule and plan for future park activities and alert guests of the construction. To design and construct the project starting in fall 2024, an aggressive evaluation and design project will be needed, particularly in light of lead times, contractor availability, and bid interval.

Watoga presents a unique challenge as it has historical factors. In particular are the stone posts and fencing, bathhouse exterior, and the sidewalks. Both MEI and Montum have a positive working relationship with the State Historical Preservation Office (SHPO). Our most recent SHPO related project was the high visibility Main Capital

Building Elevator Project, for which Montum has received high praise for the result. It is during the early phase of the project that we evaluate with WV DEP the need for any discharge permits related to filter backwash, and begin that process. We may opt to utilize an unnamed sub-consultant to help expedite the application process.

Miller Engineering has completed many successful projects using the above approach. This methodology was used at Bluestone, Chief Logan, Greenbrier, and Tomlinson Run pools with great success. In each case, though the pools were of similar age and construction, a unique approach was developed for all three. Offseason construction allowed the park to have the pools back in operation as appropriate to the work scopes.

## **GOAL TWO – Design Services**

MEI is highly versed in the design, regulatory approval, and bidding of projects of this nature. In our world, the design process begins in the evaluation phase, particularly in regards to Owner's wants, needs, and budget, and continues through bidding to construction and warranty. During schematic design, we work to balance the concept with the budget and improve the concept to be implemented. As the design is developed, we review concerns which have come up with the Owner and develop acceptable solutions in scheduled formal and informal design review meetings. Note are prepared for such meetings and distributed to all attendees to ensure accuracy of assumptions.

The pool will be designed to the current standards and a large discussion is area size relative to depth. This is a function of the use and bather types using the pool as well as pool standards and ADA. The results of the bathhouse evaluation will be implemented in discussion with the Owner, areas such as locker/shower rooms, family restroom, office, cashier, concession, support, and storage must be considered and accommodated in accordance with the planned facility use. Architectural and mechanical, electrical, plumbing design is performed to set forth the changes required to become code compliant and their impact on the facility, such as wall or underfloor plumbing relocations. Our design processes utilize multiple internal peer reviews to ensure the design is code compliant and constructible.

MEI will implement the pool and spray ground design to meet our understanding of currently adopted codes National Spa and Pool Institute ANSI/NSPI-1 2003 Standard for Public Swimming Pools, ANSI/NSPI-2 1999 Standard for Public Spas, ANSI/IAF-9 2005 Standard for Public Water Parks and ANSI/APSP-7 2006 National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spa, Hot Tubs, and Catch Basins. The remainder of the facility will be designed to meet our understanding of current relative codes and standards such as: the International Building Codes, ADA, National Electric Code, Plumbing Code, and Mechanical Code.

Our code review and evaluation is an ongoing process through design and we communicate with the Owner and the Park personnel as needed and as requested, including during design reviews. MEI will prepare a preliminary budget using actual

material takeoffs and vendor quotes. Simple square foot estimates are not particularly accurate for WVDNR projects due to the nature of the site and remote locations of many state parks. Project needs will be prioritized based upon the site review and discussion of owner needs. The estimate will be regularly updated and the owner will be informed of the implications of each owner request in relation to budget and construction schedule. We have bid many projects through WV Purchasing and our recent projects for several agencies keep us current on their requirements and procedures.

During the construction document phase, MEI will prepare detailed plans and specifications to delineate alterations to the existing systems and new work to make the design intent clear. These documents become the basis of a legal contract and we treat their importance accordingly. We implement our design strategies such that our efforts through the schematic, development, and bid documents phases of design remain focused on constructible bidding documents.

We performed evaluation, design services, and bid a renovation project of Watoga Pool three years ago, which was cancelled. We will use this information, along with a revised assessment of the pool, as a “jumping off point” to determine the current wants and needs. The evaluation will include the bathhouse and site, which were not part of the previous project.

### **GOAL THREE – Construction Administration**

Miller Engineering is a full service MEP firm supported by hand chosen architectural and structural team members. We believe in being highly involved during construction with a “boots on the ground” approach. In the construction phase, our primary task is to enforce the contract, for quality, time, and cost. We see ourselves as the Owner’s advocate and the first point of contact for the contractor, which includes all documentation, field questions, and supporting contract paperwork. One concern that has arisen from Covid is completion of work. We have experienced projects in recent times which have used several excuses to delay projects an inordinate time. We plan to work with the Owner during design to put as many “teeth” in the contract requirements as we can to address these problems, making the Owners schedule intent and seriousness abundantly clear. An important part of this is enforcing the construction schedule aggressively from day 1, documenting failure to perform, and not hesitating to implement the contract provisions early.

MEI's staff use their prior construction and operations experience to help keep the project on schedule and meet the requirements of the design. In the case of this project, Craig's operations and construction experience allows MEI to monitor both the quality and the operational impact of the work. Travis worked for years in construction and brings that expertise to construction administration. Frequent site visits, both formal and "drop-in", will occur to ensure the project is on track. It is company policy to return submittals and RFIs in a timely manner (usually one day) as it is understood that delays in responses can lead to delays in construction and additional costs. MEI will keep the owner's staff informed at regular progress meetings as well as phone calls and emails

when timely. It is also a company requirement that MEI's staff will witness equipment start up to ensure the systems are operating as designed. MEI also makes itself available to the owner through the warranty period and beyond. Please refer to Tab 4 for a list of projects which met both the construction timeline and budget.

When the pool projects at Bluestone, Greenbrier, and Tomlinson Run were implemented, the general contractor was rather inexperienced with pool type construction. We enhanced our construction administration to ensure that quality projects were delivered in a timely manner.

### **BUDGET CONSIDERATIONS:**

As can be seen from the information in Tab 4, MEI has a long track record of meeting budgets. We achieve this by constantly factoring budget impact into each decision made on the project in a running estimate. This process starts with the first meeting and continues throughout design, construction documents, and into construction. We perform contractor-level take-off estimating throughout our process utilizing actual material quotes as the basis instead of square footage costs from estimating guides. We factor these against our history and experience to estimate as accurately as we can in the current market.

Recent history has shown that costs have escalated in construction generally and pools specifically leading to the need for a realistic assessment of funding and budget. We believe in having frank discussions of budget starting at the beginning and throughout the project. A major way to control budget is to avoid after bidding change orders as much as possible. We work to achieve this multiple peer reviews of both the project drawings and specifications. Our process has resulted in a change order rate of significantly less than 0.1 percent over the last 18 years on all projects.

### **CONSTRUCTION PERIOD CONSIDERATIONS (SCHEDULE):**

Again referring to Tab 4, it can be seen that most of our project have come in within the designated construction period. As mentioned above, we believe we are the advocate for the Owner, especially in this regard. Controlling delivery starts with ensuring that milestone events are clearly set forth in the specifications. By designating time intervals for delivery of items such as the project schedule, submittals, and contract basis paperwork, the team has the ability to enforce quickly on failure to perform by the contractor. In the case of the pools, it should be possible to develop from previous years a per day lost revenue cost which can be enforced as liquidated damages.

Our process, often referred to as "boots on the ground" involves many site visits to monitor the construction. We then compare the work to date to the published schedule and document any deficiencies. When the failure to perform violates the contract, we act rapidly to notify the contractor of their contractual obligations and work to get them back on track. At the same time, we will review the construction practices and work to

provide guidance (not instruction) to help them get back on track. If this fails, we work with the Owner to escalate the concern to higher state government levels for such steps as calling the bonds. Ultimately, our goal is to keep the contractor on pace so that the more aggressive steps are not needed. Recently, this has proven difficult on some projects as we have been sub-consultants. As prime consultant, we believe our time tested processes will keep the project on track. For these specific projects, we see the opportunity for expedited design allowing for bidding in time to start work in the fall of 2024 and complete by summer 2025, minimizing impact to the parks.

**EXPERIENCE CONSIDERATIONS:**

We believe our significant experience with pools, found throughout this response, makes us uniquely qualified for the project. Our long history in construction, maintenance and operation of public pools, and our history with DNR, lets us hit the ground running for both evaluation and design. Teaming with Montum and Arrow ensures we can deliver all components of the project in a professional, cost effective, code compliant, and timely manner.

## Communications Procedure

Miller Engineering utilizes a communications procedure designed to minimize downtime while ensuring neither the Owner, design team, nor contractor is left out of the loop. Each phase of the project is detailed in the procedure.

### Design

Craig Miller

- Main point of contact with Owner's Project Manager.
- Travis Taylor & Tyler Trump will be copied on all correspondences.

Travis Taylor

- Serves as backup contact with Owner's Project Manager.
- Communicates between MEI and sub-consultants, vendors, & local utilities.

Tyler Trump

- Secondary communication with sub-consultants & vendors.

### Estimating

Craig

- Main point of contact with Owner's Project Manager.
- Travis will be copied on all correspondences.

Travis

- Serves as backup contact with Owner's Project Manager.
- Coordinate estimating between MEI and sub-consultants and vendors.

Tyler

- Correspondence with vendors and suppliers for material take-offs.

### Bidding

Craig

- Main point of contact between Miller Engineering and the Owner's Project Manager.
- Travis will be copied on all correspondences related to bidding.

### Construction

Craig

- Main point of contact with Owner's Project Manager, vendors, and contractors.
- Travis will be copied on all correspondences.

Travis

- Will serve as backup point of contact between Miller Engineering with vendors, sub-consultants, and contractors.

Tyler

- Backup contact with vendors, and contractors.

### Warranty

Craig

- Main point of contact with Owner for warranty period.



## Communications Procedure

### Methodology for Communication

The preferred method of communication is written, but Miller Engineering's staff will use verbal communication if necessary for continuing project flow. Any verbal discussions or directions will be documented in meeting minutes, memo, or email, and distributed to all members of the project team possibly affected by the conversation. All correspondences deemed to be critical will be saved both in hard copy and digitally.

Tab 3



**B. Craig Miller, PE**

Craig founded Miller Engineering in 2003, and serves as President and Principal Engineer. He has more than 30 years’ experience in design, specification, operations and project management. During his employment with WVU, Craig was directly involved with approximately \$130 million in new capital construction. His experience with a wide range of projects including HVAC, electrical, plumbing, infrastructure upgrades, building automation, energy efficiency and maintenance/renovation, among others, allows him to serve in multiple capacities within a given project. Craig will serve as the main

communication interface between the Owner, the design team, contractors and end users.

**Project Role: Relationship Manager – Primary Point of Contact**

- *Engineer in Responsible Charge*
- *Design and Project Management of Mechanical, Electrical, Plumbing Projects*
- *Concept and Construction Design*
- *Business Operations and Financial Management Oversight*
- *Quality Assurance and Control*

**Professional Project Highlights**

- Watoga Pool
- Twin Fall Recreation Facilities
- Cacapon Lodge & Pool
- Hawks Nest Lodge & Pool
- Advanced Surgical Hospital
- Pipestem State Park (Boiler, Fire Alarm, Piping, Plaza & Locker Rooms)
- WV State Building 36 HVAC Upgrades
- Cheat Lake Elementary & Middle School Renovations

**Professional History**

2003- Present	Miller Engineering, Inc.	President, Relationship Manager
2002-2003	Casto Technical Services	Existing Building Services Staff Engineer
2001-2002	Uniontown Hospital	Supervisor of Engineering
1995-2001	West Virginia University	Staff Engineer
1990-1995	BOPARC	Caretaker – Krepps Park
1983-1988	University of Charleston	Electrician/HVAC Mechanic

**Education**

1995	West Virginia University	BS- Mechanical Engineering
1988	University of Charleston	BA- Mass Communications

**Licenses and Certifications**

- Professional Engineer (West Virginia)
- Licensed Master Plumber
- LEED-AP Certified



## **Travis Taylor, PE**

Experience in project management facilitates Travis’s ability to create and design constructible projects. Prior to joining the Miller Engineering team he was directly responsible for managing \$10 million in electrical construction budgets. His experiences encompass both new construction and renovation. Travis maintains professional competencies by attending seminars and continuing education classes. As lead engineer he provides HVAC, mechanical, plumbing and electrical design solutions and services for our clients. In addition, he is part of our team’s complete assessment process in both

planning and MEP design through construction administration.

### **Project Role: Lead MEP Engineer**

- *Design of Mechanical, Electrical, and Plumbing Systems*
- *Building Information Modeling - Revit*
- *Constructible Materials Evaluation*
- *Site Evaluation and Mechanical System Review*
- *Submittal and RFP Review*
- *RFI Coordination, Review, and Response*
- *Construction Observation*

### **Professional Project Highlights**

- Hawks Nest Lodge Pool
- Watoga Pool
- Twin Falls Recreation Facilities
- WVANG Bridgeport FWAATS Restroom Renovations
- Cass & Lost River Campground Bathhouses
- Blackwater Falls Lodge Interior Renovations and Boiler Replacement
- Holly River State Park Primary Electric Service Replacements Phase I & II
- Pipestem Lodge McKeever Lodge HVAC Piping Replacement

### **Professional History**

2011-Present	Miller Engineering, Inc.	Staff Engineer
2006-2011	Tri-County Electric, Co.	Project Manager
2006-2006	Schlumberger	Field Engineer Trainee - MWD

### **Education**

2006 West Virginia University, BS – Mechanical Engineering

### **Licenses and Certifications**

- Professional Engineer – West Virginia, Maryland
- OSHA 10-hour Course: Construction Safety & Health

# Staff – Qualifications and Experience



**Jack Jamison**

Jack brings 20 years as an electrical/building inspector and over 25 years of experience in the commercial electrical construction industry. His knowledge and experience are valuable resources to Miller’s complete assessment process.

**Project Role: Master Code Official**

- Facility Review, Code Research, Field Observations, Issue Resolutions, and Project Evaluation

**Professional History**

2010- Present	Miller Engineering, Inc.	Code and Construction Specialist
1999-2010	Megco Inspections	Chief Inspector
1972-1998	Jamison Electrical Construction	Master Electrician

**Education**

1971 Fairmont State College, BS-Engineering Technology-Electronics

**Licenses and Certifications**

- Master Code Professional, IAEL Master Electrical Inspector, Class C Electrical Inspector – WV, PA, MD, & OH
- ICC Commercial Building, Building Plans, Commercial Plumbing, Residential Energy, and Accessibility Inspector/Examiner
- WV Master Electricians License
- NCPCCI-2B, 2C, 4B, 4C: Electrical & Mechanical General/Plan Review
- OSHA 30 Hour Course: General Industry
- NFPA Code Making Panel – Multiple selections over the last 4 code cycles



## **Tyler Trump**

Tyler joined Miller Engineering in August 2022. A recent graduate of West Virginia University, he has been eager to learn the means and methods of MEP consulting. Tyler assists the MEP design team with design calculations and is rapidly learning design software such as Autodesk REVIT and Hourly Analysis Program by Carrier. He is also learning construction administrations along with building, electrical, and plumbing codes and standards. Tyler is currently preparing to take the Fundamentals of Engineering Exam.

### **Project Role: Junior Engineer**

- *Design Calculations*
- *Drafting of MEP Systems*
- *Assist with Construction Administration*

### **Professional Project Highlights**

- Cass Scenic Railroad State Park Campground
- Lost River Campground
- Mountain Line Transit Authority Office Renovation
- WV Building 25 Lighting Upgrades
- Ronald McDonald House Morgantown Addition & Renovations
- Pipestem McKeever Lodge Boiler Replacement

### **Professional History**

2022- Present                      Miller Engineering, Inc.      MEP Designer

### **Education**

2022      West Virginia University, BS - Mechanical Engineering



### **Thomas Pritts, AIA, LEED-AP, CSI-CCS**

Tom founded Montum Architecture in 2017. He has more than 15 years experience in design, specification, and project management. During his former employment, Tom has designed and managed dozens of built projects. His experience encompasses a wide range of projects including K-12 and higher education facilities, financial Institutions, emergency services buildings, and automotive dealerships. A native of Mineral County, Tom is member of the West Virginia Chapter of American Institute of Architects and was involved in the establishment of the US Green Building Council's West Virginia chapter. He is highly skilled in the design of complex building systems, technical construction detailing and specifying, and construction contract administration. These skills were critical in the development and maintaining of many multi-year, multi-project relationships with Clients in his previous employment.

#### **Project Role: Relationship Manager – Primary Point of Contact**

- Principal in Charge
- Design and Project Management
- Concept and Construction Design
- Quality Assurance and Control

#### **Professional History**

2017- Present	Montum Architecture	Architect
2004-2017	Alpha Associates	Associate and Architect
2003	Marshall Craft Associates	Architectural Intern

#### **Education**

2004	Virginia Tech	Bachelors of Architecture
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#### **Licenses and Certifications**

- Licensed Architect (West Virginia, Maryland)
- NCARB Certificate
- Construction Specifier Institute – Certified Construction Specifier
- LEED-AP Certified
- Part 107 Remote Pilot
- 30-hour OSHA Card

#### **Associations and Memberships**

- American Institute of Architects
- Mineral County Chamber of Commerce – 1<sup>st</sup> Vice President

#### **Professional Project Highlights**

- Potomac State College – Bachelor of Nursing Renovation
- Wyoming East High School HVAC Renovation – Wyoming County Schools, WV
- Mountainview and MTEC HVAC Renovation – Monongalia County Schools, WV
- Berkeley Springs State Park – Pool Bathhouse Roof Replacement
- Berkeley Springs State Park – Old Roman Bath Renovation
- Blackwater Falls State Park – Boiler Room Renovation
- Our Lady of the Mountains Parish – Bathroom Renovation
- Mountain View Assembly of God – Rec Hall Ceiling Design



### **Professional Project Highlights (former employment built projects)**

- Potomac State College – ADA Connector Building, Church-McKee Plaza, Shipper Library Façade
- WVU Engineering Sciences Building – East Wing Addition, 10<sup>th</sup> Floor Fit-Out, Basement Renovation
- WVU Engineering Research Building – G07 & G08 Renovation
- WVU Equine Education Center
- WVU College of Physical Activities and Sports Sciences/ Student Health Center
- WVU Center for Alternative Fuel Engines and Emissions
- WVU Colson Hall Water Infiltration Repairs
- WVU Mountainlair Water Infiltration Repairs
- WVU Chemistry Research Laboratories Fit-Out
- WVU Creative Arts Center Wheelchair Lift
- Alderson Broaddus University – Pyles Arena Deck Replacement
- Glenville State College – Morris Stadium Skybox
- Washington High School, Jefferson County Schools, WV
- Pineville Elementary School, Wyoming County Schools, WV
- Huff Consolidated School, Wyoming County Schools, WV
- Aurora School Addition, Preston County Schools, WV
- Riverview High Field House Design-Build, McDowell County Schools, WV
- Safe School Entries, Monongalia County Schools, WV
- Morgantown High Elevator, Monongalia County Schools, WV
- 2010 Comprehensive Education Facilities Plan- Monongalia County Schools, Wyoming County Schools
- Clear Mountain Bank Branches, Oakland, MD - Reedsville, WV - Kroger-Sabraton, WV
- Grant County Bank, Petersburg, WV
- Fairmont Federal Credit Union, Bridgeport, WV
- Freedom Ford, Kia, and Volkswagen Automotive Dealerships, Morgantown and Clarksburg, WV
- Jenkins Subaru Addition, Bridgeport, WV
- Elkins Fordland Renovation - Elkins Chrysler Dealership, Elkins, WV
- Harry Green Nissan Design-Build, Clarksburg, WV
- Cool Green Automotive Addition and Renovation, Shepherdstown, WV
- Veteran’s Affairs – OI&T Office Fit-Out, Shepherdstown, WV
- OPM, Eastern Management Development Center Addition, Shepherdstown, WV
- National Energy Technology Laboratory – Building B-8 Roof Replacement, Morgantown, WV
- US Coast Guard – Conference Room Renovation, Martinsburg, WV
- Eastern Panhandle Transit Authority Addition, Martinsburg, WV
- Cacapon State Park – Old Inn HVAC and Interior Renovation
- WV National Guard - Armory Office Fit-out, Parkersburg, WV
- South Berkeley Fire Station, Inwood, WV
- Jefferson County Emergency Services Agency – New Headquarters
- Berkeley County Ambulance Authority – South Station Renovation and Addition
- Poolhouse Renovation, McMechen, WV
- Community Center, Ridgeley, WV
- Wastewater Treatment Plant Renovations, Martinsburg, WV
- Public Works Building, Fairmont, WV
- Oatesdale Park Little League Fields, Martinsburg, WV
- St. Luke Canopy Replacement, Morgantown, WV
- Freshwater Institute – Aquaculture Building, Shepherdstown, WV
- Clarion Hotel Renovation, Shepherdstown, WV
- Shenandoah Village Apartments – Façade and Deck Replacement, Martinsburg, WV
- Regional Eye Associates/ Surgical Eye Center, Morgantown, WV
- Bavarian Inn – Infinity Pool/ Pool Bar, Shepherdstown, WV



## **Jordyn Henigin, M.Arch**

Jordyn joined Montum Architecture in May 2020. A recent graduate of Fairmont State University, She has been eager to enhance her skills in the business field and develop a stronger knowledge of architectural design principals and methods. Jordyn is in the process of perusing her goal to becomea licensed Architect.

### **Project Role: Design Professional**

- Concept and Construction Design
- Building Information Modeling – Revit
- Architectural Rendering - Lumion

### **Professional History**

2020- Present	Montum Architecture	Design Professional
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### **Education**

2020	Fairmont State University	Bachelors of Architecture
2022	Fairmont State University	Masters of Architecture

### **Licenses and Certifications**

- LEED-Green Associate
- 30-hour OSHA Card

### **Associations and Memberships**

- Assoc. AIA

### **Professional Project Highlight**

- Watters Smith State Park, Lost Creek WV
- Mon Co Schools Transportation Addition, Morgantown WV
- Jackson Co ARFC Wash Bay, Millwood WV
- BUMFS Staggers Recovery, Burlington WV
- BUMFS Knobley Rehab, Burlington WV
- Aging & Family Services of Mineral County - Keyser Senior Center, Keyser WV
- Mineral County Detention Center, Courthouse, and Annex addition and renovations, Keyser WV
- New Covenant UMC, Cumberland MD
- Larenim Park Amphitheater, Burlington WV
- Building 25 HVAC, Parkersburg WV
- WVGSD Elevator Modernizations
- Westside HVAC and Roof, Clear fork WV
- Ed Kelley Memorial, Keyser WV
- Cass Campground, Cass WV
- Waxler Warehouse, Keyser WV
- Greenbrier SF Headquarters, White Sulphur Springs WV
- FWAATS, Bridgeport WV



## Michael Howell PE, SE

With more than 20 years of experience, Michael is the force behind Arrow. Originally from Pittsburgh, Pennsylvania, he founded this company in a town that he grew to love as a child, Morgantown West Virginia.

From holding a hammer in his hand and going in crawl spaces, to attaining his PE and SE and working with many different project types and scales throughout the years, he has a background in both construction and engineering.

Michael's experience includes residential, commercial, and industrial projects of all sizes throughout the United States and across the world. He brings a straightforward and practical approach to projects that saves clients time and money while ensuring the Arrow team produces the highest quality materials and goes the extra mile to give people what they need.

### EDUCATION

#### UNIVERSITY OF PITTSBURGH

BACHELOR'S OF SCIENCE  
CIVIL ENGINEERING

#### WEST VIRGINIA UNIVERSITY

MASTER'S OF ARTS  
BUSINESS ADMINISTRATION

### PROFESSIONAL LICENSURE

WV, VA, PA, IN, LA, CA, TN,  
MD, KY, TN, NJ, OH

### CURRENT AFFILIATIONS

Spark! Imagination and Science Center  
Bartlett House  
Pace Enterprises, Inc  
BNI International  
Habitat for Humanity  
American Society of Civil Engineers

### FORMER PROFESSIONAL EXPERIENCE

American Bridge Company- Corapolis, PA  
McKinney and Company-Ashland, VA  
Brockenbrough and Associations-  
Richmond, VA  
Allegheny Design Services-Morgantown, WV

### RECENT PROJECT EXPERIENCE

#### Blaney House Renovations

Morgantown, WV

#### Grow West Expansion Phase II

Cumberland, MD

#### Parkersburg Children's Museum

Parkersburg, WV

#### Sweet Springs Resort Bathhouse Restoration

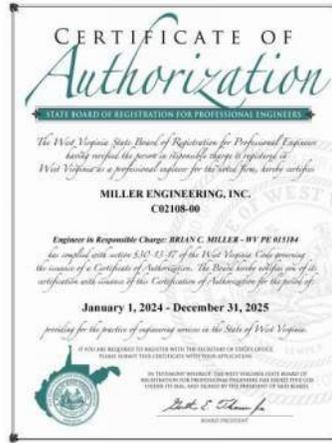
Sweet Springs, W.V.

#### Mon General Community Hospital

Fairmont, WV



# Staff – Licenses & Certifications



Tab 4

## Pipestem State Park – Sprayground and Existing Pool Demo

### Pipestem State Park

Pipestem, WV

#### Services Provided:

- Aquatic Design
- Plumbing
- Electrical
- Mechanical
- Demolition MEP

**Cost: \$2.49M**

**Owner: West Virginia  
Division of Natural  
Resources**

**Status: Completed**



The pool at Pipestem had ongoing concerns for a number of years. Age, condition, piping, and the original design had led to continuous operational problems. The pool was originally constructed as part of a larger, integral, recreation facility that presented problems for both maintenance and repairs. The use of the deck as a roof for spaces below resulted in ongoing issues for both. As part of a larger team effort, MEI evaluated the facility and recommended partial demolition and replacing the pool. Based on the local population, the capacity of the park facilities, and the budget; the recommendation was to replace the pool with an interactive sprayground. This facility is more strategically located close to the lodge and includes a pedestrian bridge and restroom/ bathhouse for park guests. The water treatment utilizes the latest in disinfection technology to protect users.

Project Contact:  
*Bradley S. Leslie, PE, Chief Engineer  
State Parks Section  
(304) 558-2764 ext. 51826*

## Project Experience: Renovation

### Chief Logan Pool Projects

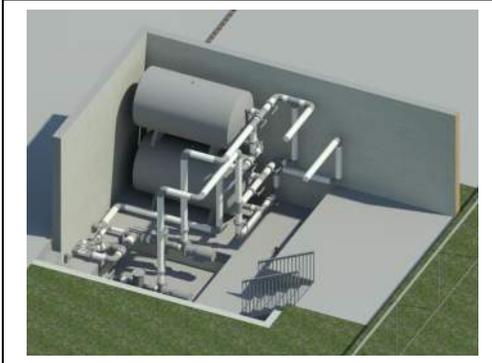
#### Services Provided:

- MEP Design
- Aquatic Design
- Estimating

**Budget: \$294K**

**Facility Area: 35,000 ft<sup>2</sup>**

**Owner: West Virginia Division of  
Natural Resources**



Miller Engineering has completed two projects related to the Chief Logan Pool and Sprayground. The first project was to renovate the pool filter and equipment room. The pool and sprayground received a new filter and pumps. The piping in the equipment room was replaced. Also in the project was an upgraded electrical service including distribution panels. The following year, MEI was brought in to evaluate the sprayground mushroom feature, which had piping failure from water freezing in the lines. MEI designed a piping repair and the installation of a valve pit which allows the sprayground to be isolated and properly winterized. Both projects have been completed successfully.

Project Contact:  
*Roger Wolfe, WVDNR*  
*(304) 885-6100*

## Descriptions of Past Projects Completed – Pool Repair

### Tomlinson Run State Park

New Manchester, WV

#### Services Provided:

- Mechanical
- Plumbing
- Pool Systems

**Estimated Budget: \$850k**

**Facility Area: 15,000 ft<sup>2</sup>**

**Owner: West Virginia Division  
of Natural Resources**



The existing pool was constructed in approximately 1980 by a local pool contractor. The owner indicated they were experiencing significant leaking and could not determine the precise cause. Additionally, the pool was experiencing significant cracking at the tops of the pool walls. The water slide was reportedly difficult to keep in operation due to various maintenance issues. The pool also had a rather unique CMU (concrete block) and tension rod wall configuration which was evaluated for the potential to perform an extensive repair. As part of the repair, the owner wished to significantly alter the depth profile of the pool and make the pool ADA accessible. The repair also included the installation of a new filtration system, gutter system, PVC liner and addressed several longer term maintenance concerns.

Project Contact:  
Brad Leslie, PE  
WVDNR Parks and Recreation  
(304) 558-2764 ext. 51826

## Descriptions of Past Projects Completed – Pool Replacement

### Greenbrier State Park

Eastern, WV

#### Services Provided:

- Aquatic Design
- Plumbing
- Electrical

**Estimated Budget: \$760K**

**Facility Area: 5,500 ft<sup>2</sup>**

**Owner: West Virginia Division of Natural Resources**



A field study and assessment determined that several plumbing and mechanical systems were inadequate and needed more efficient, code-compliant replacement. The goal of the project was to efficiently use existing piping tunnels that were in good condition and place a new basin within the existing one in order to meet budget demands. The innovative isolation method saved on excavation cost and construction time. New filtration and heating systems were designed for the wading pool and an attractive aquatic design element was also added to increase water movement. The filtration and heating systems were sized and configured not just for the existing pool but also to accommodate a larger pool renovation that was planned during our design process and implemented the following year.

High-rate fiberglass sand filters provide circulation and filtration of the pool water.

Project Contact:

*Bradley S. Leslie, PE, Assistant Chief  
State Parks Section*

*(304) 558-2764 ext. 51826*

## Descriptions of Past Projects Completed – Pool Replacement

### Bluestone State Park

Hinton, WV

#### Services Provided:

- Aquatic Design
- Plumbing
- Electrical

**Estimated Budget: \$1M**

**Facility Area: 56,000 ft<sup>2</sup>**

**Owner: West Virginia  
Division of Natural  
Resources**



The pool at Bluestone resides within the flood plain of Bluestone Lake and special consideration was required to actually allow the pool basin, if empty at the time, to flood to prevent it from “floating” should the lake level reach the pool.

To our knowledge, the approach selected has never been utilized in the area before and was of our own design. The pool had experienced total basin failure and could not be filled completely during its last few weeks of operation in 2011.

The project replaced the entire basin, wading pool and all equipment but the main pool filters.

The beach area, which had been described as “prison like” due to concrete retaining walls, was reconfigured to increase sunbathing area. The wading pool incorporated a mountain fountain that was outside the pool with arched spray bars. An addition to the existing bathhouse gave a place for the wading pool equipment to reside.

Project Contact:

*Bradley S. Leslie, PE, Assistant Chief  
State Parks Section  
(304) 558-2764 ext. 51826*

## Project Experience: Renovation

### Blackwater Falls Spa

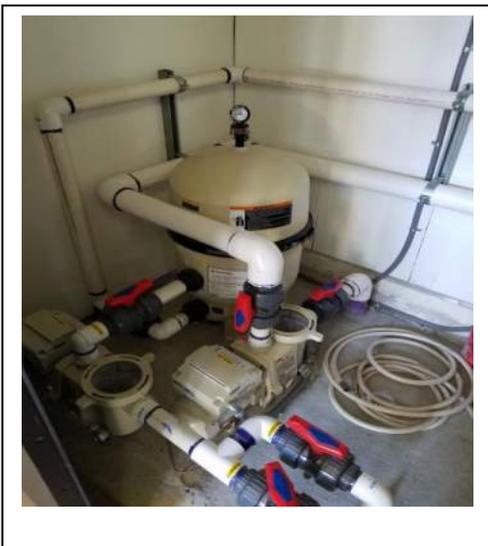
#### Services Provided:

- MEP Design
- Aquatic Design
- Estimating

**Budget: \$200K**

**Facility Area: 1200 ft<sup>2</sup>**

**Owner: West Virginia Division of  
Natural Resources**



Project Contact:  
*Bradley S. Leslie, PE, Assistant Chief*  
State Parks Section  
(304) 389-7663

Miller Engineering was contracted to design and replace the Spa at Blackwater Falls following Superstorm Sandy. The storm left the lodge at Blackwater Falls State Park without power for a number of weeks. During that time, the sub-grade plumbing in the spa froze and busted, leaving the spa unusable. In an attempt to repair the spa, the owner found that during its original installation, the plumbing was encapsulated in concrete, leaving it inaccessible without destroying the existing fiberglass basin. A new basin was designed and installed in place of the existing spa.

As part of the project, a secondary filter room, new filter, and automated chemical control computer were added.

## Project Experience: MEP

### Cacapon Lodge Addition & Renovation

#### Services Provided:

- Electrical
- Plumbing
- HVAC
- Fire Alarm
- Fire Protection
- Pool

**Estimated Budget: \$26M**

**Facility Area: 113,000 sq ft**

**Owner: WV Department of Natural Resources**



#### Project Contact:

*Bradley S. Leslie, PE, Assistant Chief  
WVDNR State Parks Section  
(304) 558-2764 ext. 51826*

Miller Engineering & Paradigm Architecture teamed up to design the additions and renovations to the lodge at Cacapon Resort State Park. The addition consisted of the construction of approximately 80 guest rooms, conference rooms, kitchen dining, spa, and indoor pool. A new stainless steel gutter pool was installed in addition to a hot tub. The pool was designed with a chair lift to meet ADA. The HVAC for the indoor pool was designed with dehumidification in mind, using duct sock along the exterior to “wash” the glass to reduce condensation, and used exhaust near the deck level to reduce chloramines which settle to just above the pool water line. Both in-pool wall and ceiling lighting designed to adequately illuminate the pool and deck surface and minimize glare at the water surface. MEI and Paradigm carefully coordinated construction around the pool to keep a tight vapor barrier around the indoor pool space to reduce moisture transfer into adjacent spaces.

## Project Experience: Renovation

### Chief Logan and Tomlinson Run Slide Replacement Projects

#### Services Provided:

- MEP Design
- Aquatic Design
- Deck Revisions
- Estimating

**Budget: \$850K**

**Facility Area: 85,000 ft<sup>2</sup>**

**Owner: West Virginia Division of  
Natural Resources**



Miller Engineering is working with WVDNR to replace two of the oldest waterslides in the state. The slides had been remediated but the effect of 30 years of weathering had taken their toll on both the supporting structure and flume riding surface. A “replacement in kind” approach was taken but the slides were tweaked for rideability related to speed and aggressiveness of the ride, using dynamic fluid computational models. The launch platforms were tweaked for better access and durability, deck drainage was revised, and the slide pumps were reconfigured to make them self-priming, which has been an ongoing concern over the life of the slides. Construction is on track to be completed by Memorial Day 2021.

Project Contact:  
*Roger Wolfe, WVDNR*  
*(304) 550-8137*  
*Carolyn Mansberger*  
*304-549-9168*

## Project Experience: Renovation

### Chief Logan Pool Projects

#### Services Provided:

- MEP Design
- Aquatic Design
- Estimating

**Budget: \$294K**

**Facility Area: 35,000 ft<sup>2</sup>**

**Owner: West Virginia Division of  
Natural Resources**



Miller Engineering has completed two projects related to the Chief Logan Pool and Sprayground. The first project was to renovate the pool filter and equipment room. The pool and sprayground received a new filter and pumps. The piping in the equipment room was replaced. Also in the project was an upgraded electrical service including distribution panels. The following year, MEI was brought in to evaluate the sprayground mushroom feature, which had piping failure from water freezing in the lines. MEI designed a piping repair and the installation of a valve pit which allows the sprayground to be isolated and properly winterized. Both projects have been completed successfully.

Project Contact:  
*Roger Wolfe, WVDNR*  
*(304) 885-6100*

## Project Experience: Evaluation

### Grandvue Pool Evaluation Project

#### Services Provided:

- MEP Evaluation
- Aquatic Evaluation
- Recommendations

**Budget: Unknow**

**Facility Area: 45,000 ft<sup>2</sup>**

**Owner: Grandvue Park**



Miller Engineering was retained to evaluate the 10 year old Grandvue Park Pool in Moundsville, WV. The pool consists of two basins with separate systems. Both have experienced leaking for several seasons, along with filtration and water quality management problems. MEI evaluated the pool and made recommendations based on age, construction type (panelized wall systems), and condition. The owner has determined that the pool is to be replaced due to overall condition and programmatic concerns.

Project Contact:  
*Craig White*  
304-845-9810

## Descriptions of Past Projects Completed – Pool

### Hawks Nest Lodge

#### Services Provided:

- Electrical
- Plumbing
- Pool

**Construction Cost: \$275K**

**Facility Area: 26,000 ft<sup>2</sup>**

**Owner: West Virginia Division  
of Natural Resources**



MEI worked with WYK Associates to design renovations to Hawks Nest Lodge which included a complete renovation of the outdoor pool. The pool had a number of finish concerns, as well as filtration and piping problems. Confined to a unique small area, the Owner wished to maximize its function to be smaller child friendly. The existing pool was demolished and a new pool and small splash pad were installed with all new piping. The pool mechanical equipment was replaced with new filtration, pumps, controls, and chemical controls. Backwash storage/ dechlorination was added to minimize the impact on the local sewer plant and existing sewer piping.

Project Contact:  
*Debbie Demyan, Project Manager*  
WVDNR  
Phone: (304) 550-4892

## Budget and Timeline History

Project Name	Project Type	Budget	Cost	Notes
Bluestone State Park	Pool Replacement	\$1,000,000	\$935,600	On budget
West Virginia State	HVAC Piping Renovation	\$650,000	\$533,400	On budget
Canaan Valley Resort	Emergency Electrical Repairs	\$225,000	\$129,829	On budget
Holly Grove Manor	Renovation	\$885,000	N/A	On hold
Mapletown Jr/Sr High School	HVAC Renovation	\$1,050,000	\$1,105,900	5.19% over budget
Pipestem – McKeever Lodge	HVAC Piping Replacement	\$1,600,000	\$1,776,000	10.43% over budget
Tygart Lake State Park	Beach and Bathhouse	\$750,000	\$695,000	On budget



**= Delivered on budget/on time**

## Budget and Timeline History

Project Name	Project Type	Contract Length	Contract Delivery	Notes
Blackwater Falls State Park	Boiler Replacement	120 days	180 days*	*Extended 60 days due to equipment delivery issues
Bluestone State Park	Pool Replacement	180 days	180 days	Delivered on time
Canaan Valley Resort	Construction Administration	3.5 years	3.5 years	Long-term project with varying facets – no direct schedule
Twin Falls/Hawks Nest Lodge	HVAC Renovation	90 days	90 days*	*Expedited delivery
Mapletown Jr/Sr High School	Boiler/ HVAC Renovation	180 days	180 days	Delivered on time
Pipestem – McKeever Lodge	HVAC Piping Replacement	365 days	365 days	Delivered on time
Tygart Lake State Park	Beach and Bathhouse	270 days	270 days	Delivered on time



## Berkeley Springs State Park

### Old Roman Bathhouse renovations

#### Description of Project:

West Virginia Division of Natural Resources contracted Montum Architecture to design repairs and improvements to the Old Roman Bathhouse at Berkeley Springs State Park. The structure was built in 1815 with various changes and updates since then. Work includes repairs to the tub structure and plumbing, replacement of the boiler, floor tile replacement, and other updates to fit and finish.

#### **Construction Cost**

\$782,800

#### **Project Size**

2,500 SF Renovated

#### **Project Location**

Berkeley Springs, WV

#### **Construction Completion**

Spring 2020

#### **Contact**

Carolyn Mansberger  
DNR Project Manager  
304-558-2764



## WVANG Bridgeport FWAATS Restroom Renovations

### Description of Project:

In Partnership with Miller Engineering, Montum Architecture helped prepare renovated floor plans for two locker / shower rooms and two restrooms. The goal was to renovate the spaces to meet ADA guidelines and improve efficiency and utilization of the areas. As well as, choose appropriate finishes that bring these spaces into the modern era. The flooring on the first floor was also replaced under this project. MEI designed renovations to the plumbing, lighting, fire alarm, fire protection, electrical, and VAC systems to accommodate the changes to the floor plans. The existing boiler was replaced with two, high efficient, modulating boilers. The owner was pleased with the chosen finishes and plans to use these as a standard going forward.

**Construction Cost**  
\$1M

**Project Size**  
1,400SF Renovated

**Project Location**  
Bridgeport, WV

**Construction Completion**  
May 2023

**Contact**  
Jim Skaggs  
WV ANG  
(304) 561-6550



## “Discovery World on Market”

### PROJECT TYPE: ADAPTIVE REUSE

### PROJECT SUMMARY

This former masonic lodge temple in Parkersburg, WV is an iconic historic building that has fallen out of use in recent years.



That is until a private developer with a vision for adaptive reuse and a passion for serving children of his community came up with the idea to reuse the shell of the building to house "Discovery World On Market", a new and innovative learning center for children.

Arrow's team had to navigate the complexities of a nearly century old building to house this new facility. This required careful attention to detail and study of the existing facility drawings as well as the use of non-destructive testing to confirm the building was structurally adequate for the needs of the new facility.

### PROJECT HIGHLIGHTS

Integration with architectural and exhibit design teams

Careful study of existing drawings and historical structural design

Hands on coordination with construction team throughout construction



## Recreational & Athletic Project List

**Residential | Commercial | Industrial**

Arrow Engineering or its Principals have experience as the design engineer, Engineer of Record, or project manager for the following recreational projects:

<b>Krepps Park</b> New Playground Installation	<i>Morgantown, WV</i>	<b>Parkersburg Children's Museum</b> Masonic Lodge Bldg. Renovation	<i>Parkersburg, WV</i>
<b>Mary Lou Retton Park</b> Multi-use building upgrades	<i>Fairmont, WV</i>	<b>Dorsey's Knob</b> BOPARC Lodge Renovation and Deck Replacement	<i>Morgantown, WV</i>
<b>Whitmore Park</b> Pedestrian Trail Bridge Replacement	<i>Morgantown, WV</i>	<b>Marilla Park</b> Concession Building and Dugout Upgrades	<i>Morgantown, WV</i>
<b>Ruby Amphitheater</b> Lighting and Equipment Design	<i>Morgantown, WV</i>	<b>Davis &amp; Elkins College</b> Outdoor Amphitheatre Steel Design	<i>Elkins, WV</i>
<b>5th St Dance</b> Structural Renovation Assessment	<i>Fairmont, WV</i>	<b>Ariel Opera House</b> Structural Renovation and HVAC Upgrades	<i>Gallipolis, OH</i>
<b>High Bridge State Park</b> Rail to Trail Bridge Conversion	<i>Farmville, VA</i>	<b>New River State Park</b> Pedestrian Bridge Rail to Trail	<i>Blacksburg, VA</i>
<b>Marion County Wave Pool</b> Locker Room Renovation	<i>Fairmont, WV</i>	<b>Kingwood Civil Center</b> Soundproofing Upgrades	<i>Kingwood, WV</i>
<b>The Island Amusement Park</b> Light Netting Upgrades	<i>Fairmont, WV</i>	<b>Sustainable Living Market</b> Structural Design of Building and Stage	<i>Lewisburg, WV</i>

Tab 5



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

State of West Virginia  
 Centralized Expression of Interest  
 Architect/Engr

<b>Proc Folder:</b> 1344876			<b>Reason for Modification:</b>
<b>Doc Description:</b> A&E - North Bend and Watoga Pool Facilities			
<b>Proc Type:</b> Central Purchase Order			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2023-12-20	2024-01-10 13:30	CEOI 0310 DNR2400000005	1

**BID RECEIVING LOCATION**

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

**VENDOR**

**Vendor Customer Code:**

**Vendor Name :**

**Address :**

**Street :**

**City :**

**State :** **Country :** **Zip :**

**Principal Contact :**

**Vendor Contact Phone:** **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Joseph E Hager III  
 (304) 558-2306  
 joseph.e.hageriii@wv.gov

**Vendor Signature X**  **FEIN#** -1386 **DATE** 8 Jan 2024

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.

(Printed Name and Title) Craig Miller, PE - President  
(Address) 54 West Run Rd. Morgantown, WV 26508  
(Phone Number) / (Fax Number) (304) 291-2234  
(email address) cmiller@millereng.net

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through WV OASIS, 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 this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

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

Miller Engineering, Inc.

(Company)

(Signature of Authorized Representative)  
  
Craig Miller, PE - President

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

(304) 291-2234

(Phone Number) (Fax Number)

cmiller@millereng.net

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM  
SOLICITATION NO.:

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

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

Addendum Numbers Received:  
(Check the box next to each addendum received)

*No Addenda*

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

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

Miller Engineering, Inc.

Company

Authorized Signature

8 Jan 2024

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.