15 June 2010

Mr. Chuck Bowman
State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street, East
Charleston, West Virginia 25305-0130

Re: DEFK10019
Buckhannon Readiness Center

Dear Mr Bowman:

AMEC Earth & Environmental, Inc (AMEC), Buchart Horn, and Moment Engineers, Inc. are pleased to submit this Expression of Interest (EOI) in providing professional engineering and design services for the West Virginia Army National Guard (WVARNG) Buckhannon Readiness Center in Upshur County, West Virginia. The AMEC team has a long, successful history providing A/E services to the Army and Air National Guards (ARNG and ANG), including WVARNG; as well as a variety of other Department of Defense agencies (Air Force, Navy, Army Reserves, Army Corps of Engineers). The State of West Virginia and WVARNG can have a high level of confidence in engaging the AMEC team for this contract

- The ARNG is one of our top 5 clients. AMEC has provided value-added, professional consulting services to the National Guard Bureau (NGB), including both the ARNG and ANG, since 1994 Throughout this 17-year service history, we have successfully completed more than 750 Delivery Orders totaling well over $225M for the NGB, of which the majority has been for the ARNG.
- Since 1994, AMEC has worked in all 54 of the states and territories the ARNG serves AMEC currently is working in 38 ARNG states, including West Virginia, and an additional 10 ANG states, providing on-going consulting services.
- The professional project team has the appropriate relevant experience with not only designing readiness centers but all design aspects the WVARNG may encounter on this project. Our team has a proven track record with the WVARNG, has more than adequate capacity to perform the services requested, and can initiate work immediately AMEC's team members recently completed the design charrette and associated report for the Buckhannon Readiness Center, which included the USPFO and Warehouse as part of the site layout.
- The AMEC team has offices in Charleston, WV, as well as several additional offices in close proximity to the project site. This local presence, backed by a significant regional and national support network assures the WVARNG the AMEC team will deliver a highly successful project.

Our EOI is organized as follows:

- **Team Introduction** provides a brief introduction to the AMEC Team and our knowledge of Buckhannon and WVARNG
- **Key Project Personnel** presents our proposed project organization, and introduces the key personnel who will be assigned to the project
- **Similar Projects** consists of selected project examples that demonstrate our expertise
- **Design Considerations** describes our impressions of the project challenges and our approach to developing a solution
- **Bid Forms** includes the required RFQ forms, Purchasing Affidavit, and Vendor Preference Certificate

We look forward to the opportunity to put our expertise to work for the State of West Virginia and the WVARNG. Should you have any questions concerning our EOI, or if you would like to schedule a personal interview, please do not hesitate to contact us. We will make ourselves available at your convenience

Respectfully,

Stevin A Paznokas
AMEC Earth & Environmental
Vice President, National Army Program Manager

Glen R. DeWillie, PE
Buchart Horn
Army National Guard Program Manager

Enclosures: 2 Originals + 1 CD (single pdf) of proposal

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Louisville, KY 40299
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Fax: 1+ (502) 267-5900
www.amec.com

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia

2. The State may accept or reject in part, or in whole, any bid.

3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee.

4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.

5. Payment may only be made after the delivery and acceptance of goods or services.

6. Interest may be paid for late payment in accordance with the ***West Virginia Code***.

7. Vendor preference will be granted upon written request in accordance with the ***West Virginia Code***

8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.

10. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern the purchasing process.

11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.

12. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.

13. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at **www.state.wv.us/admin/purchase/vrc/hipaa.htm** and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

14. 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. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf.

15. 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, and the West Virginia Insurance Commission. 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.

16. 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 material, 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.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.

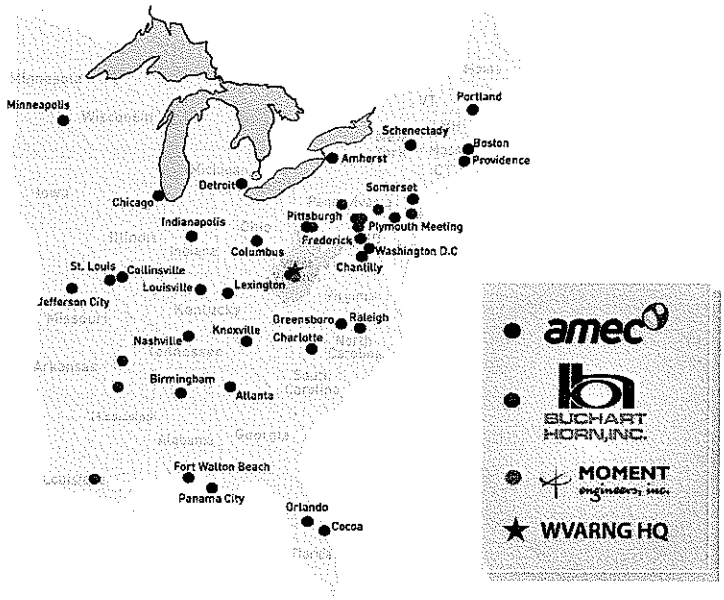
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.

3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).

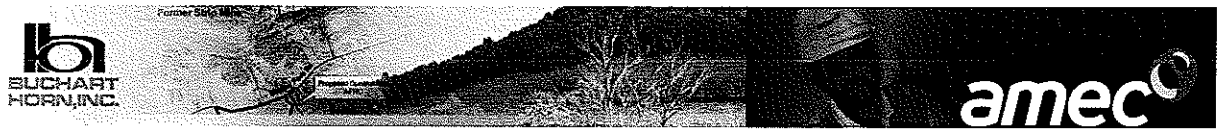
Team Introduction



AMEC Earth & Environmental, Inc. (AMEC); Buchart Horn, Inc. (BH); and Moment Engineers, Inc. (Moment) have assembled a first-class team to provide professional consulting services to the West Virginia Army National Guard (WVARNG) for the proposed Buckhannon Readiness Center. Our team has recent experience designing training and readiness centers for the Army National Guard, and recently teamed on a successful planning charrette to refine the 1391 programming and conceptually design the Readiness Center, USPFO Office, and warehouse facilities at Buckhannon, WV. In addition, we have current relevant experience working together on design of a rappelling tower and leadership reaction course at Camp Dawson for the WVARNG. Moment, based in Charleston, WV, has provided structural design support for six WVARNG facilities, including the Robert C. Byrd Regional Training Institute (RTI), Camp Dawson; Armed Forces Reserve Center, Camp Dawson; Armed Forces Reserve Center, Glen Jean; Construction & Facilities Management Office, Charleston; Mountaineer Challenge Academy, Camp Dawson; and Armed Forces Reserve Center, Elkins. As detailed in this EOI, the AMEC team has substantial experience in all aspects of facility design, a vast pool of skilled professionals, and a local presence to ensure efficient and effective design execution and delivery. As you can see from the adjacent map, the AMEC team has offices in Charleston, WV, to provide extremely responsive service to the WVARNG, as well as several other offices conveniently located to support the project with additional resources, as needed. As the prime, AMEC will have responsibility for the success of the project and will provide overall project management as well as technical lead for the civil, structural, geotechnical and environmental engineering; permitting; and will support the architectural, mechanical, electrical, and plumbing engineering. AMEC can also provide construction management services if the WVARNG desires.

BH will provide the technical lead for architectural; interior design; mechanical, electrical, and plumbing engineering; landscape architecture; and cost estimating services for the project

Moment will provide support for structural engineering, including peer review QA/QC for structural design services.



AMEC has a corporate focus and commitment to sustainable development, and we have a growing Leadership in Energy and Environmental Design (LEED®) practice We intertwine the technological vision with a firm understanding of environmental and engineering principles. The governmental, commercial, and industrial worlds are in a constant state of growth, impacting the energy, water, and carbon "footprint" on our environment. A "Green Building" or LEED® certified building can help keep those impacts within an acceptable level. The decisions we make today about the way our buildings are designed, operated, and maintained will not only impact the present, but the future as well. AMEC has a distinct capability of being able to coordinate and synergize the disciplines (heating and cooling, interior design, environmental, electrical engineering, process design, and health and safety) that impact building design to bring ideas and experience together to create a building the client can be proud of, without straining the budget.

Buchart Horn, Inc.

Buchart Horn Inc., a full-service architecture and engineering firm, has managed and successfully completed multi-disciplinary design projects throughout the eastern United States and Europe for 65 years. The firm has 15 operating offices, including Charleston, West Virginia and Pittsburgh, Pennsylvania.

BUCHART HORN, INC.
Engineers. Architects and Planners

The firm's tradition of delivering cost-effective, high quality projects has led to its current ENR ranking among the nation's Top 500 Design Firms and Top 200 Environmental Firms. In addition, BH was recently included in ENR's first-ever ranking of Top 100 Green Design Firms. BH has planned and designed projects worth more than $2 billion and been responsible for numerous award-winning projects.

As a veteran-owned large business, BH understands National Guard work, and takes great pride in providing value-added services to its Department of Defense clients, who represent more than 15 percent of the firm's business. In the past year, BH has completed several high profile American Recovery and Reinvestment Act projects for the National Guard in Pennsylvania, demonstrating reliable and responsive performance while operating within consent order environments and exceeding design requirements.

Buchart Horn has nearly 300 personnel, including more than 125 registered engineers, architects, landscape architects, planners, and surveyors.

Buchart Horn's experienced staff is prepared to provide the following services to our team:

- Architectural design
- Interior design
- Electrical studies and analyses
- Interior and exterior lighting
- Power distribution
- Fire detection and security systems
- Telecommunications and networking
- Automatic temperature controls
- Energy protection systems
- Fire suppression systems
- HVAC systems
- Plumbing and drainage systems
- Value engineering and life cycle analysis
- Ventilation heat recovery
- Landscape architecture
- Economic feasibility
- Utilities design
- Constructability analysis

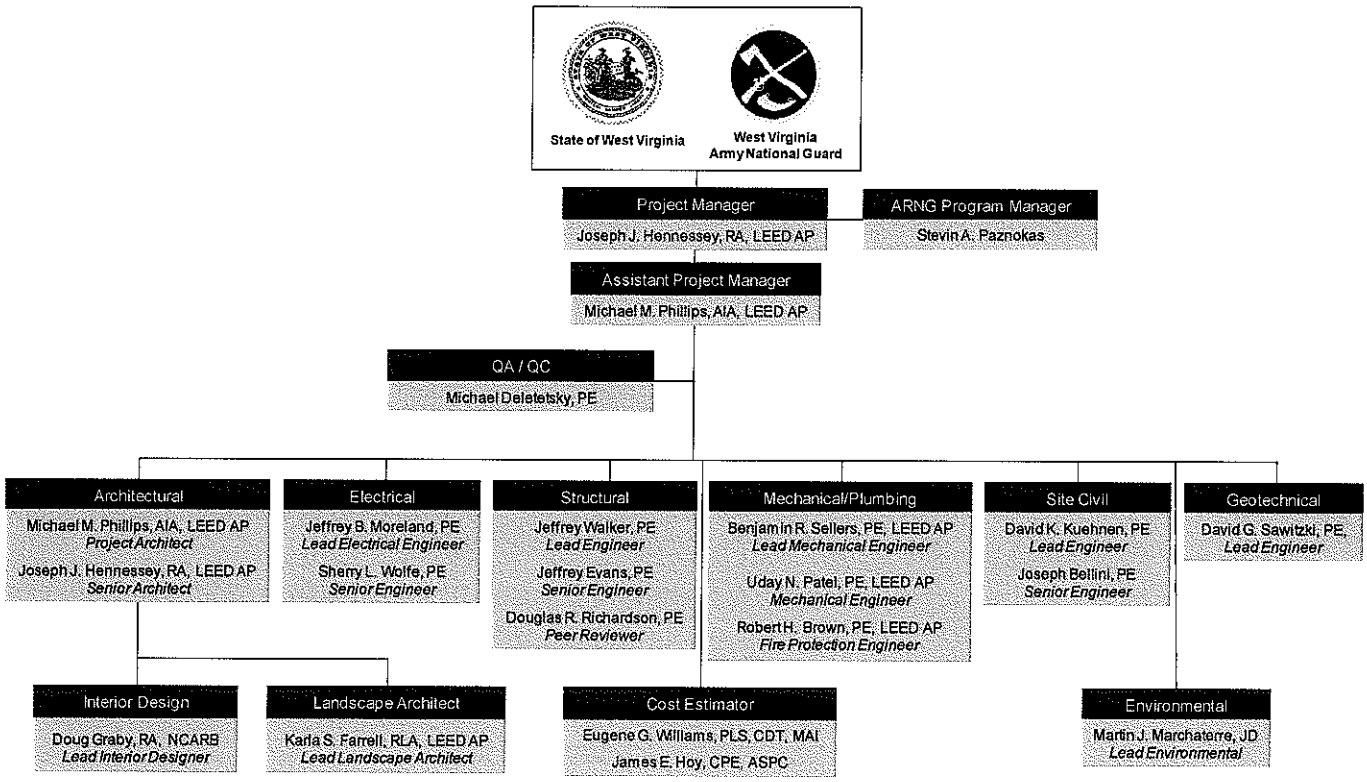
As mentioned above, Moment has significant experience working on projects for the WVARNG, including an RTI at Camp Dawson, Reserve Centers at Camp Dawson, Glen Jean and Elkins, and Construction & Facilities Management Office at Charleston.

Why Choose the AMEC / BH / Moment Team?

The AMEC team offers unsurpassed architectural, civil, mechanical, electrical, plumbing, interior and landscape design, and construction cost estimating services to the WVARNG. Our team has significant experience with designing facilities for the Army National Guard, as well as for federal, state, and private clients. Our team's vast experience and deep bench of engineering talent will be brought to bear to support this very important project. AMEC will ensure the Buckhannon Readiness Center design project is successful through clear understanding of the WVARNG's needs and expectations, in-depth knowledge of the site and local conditions, careful planning, technically accurate and efficient data collection and assessment, consistent communication, development and adherence to a design schedule and budget, careful documentation, and accurate cost estimation. We have the experience, knowledge and desire to provide the WVARNG with a facility that not only meets all expectations, but exceeds them, by providing an architecturally compatible, fully functional, sustainable, and highly efficient design alternative.

Key Project Personnel

We have carefully selected our project team to provide the West Virginia Army National Guard (WVARNG) with the highest quality, most experienced staff available. Each staff member has extensive experience in their designated areas of technical specialty as well as working for the ARNG. Following is our proposed project organization.



Key Personnel

Here is a brief introduction to the key members of our proposed project team. Resumes delineating their experience, qualifications, and education follow.

Program Manager, Stevin A. Paznokas, MBA has been a part of AMEC's National Guard Bureau (NGB) program for more than 8 years and has served as AMEC's Army National Guard (ARNG) Program Manager since 2004. As AMEC's ARNG Program Manager, his main responsibilities include program management, resource allocation, and client growth and satisfaction. He routinely interfaces with numerous states to understand project needs, allocate technical resources, develop cost estimates, and negotiate work assignments. In this role, he has worked with all of the staff we've proposed to make available on this contract. Steve will work closely with our proposed Project Manager, Joseph Hennessey to ensure seamless project delivery.

Project Manager/Senior Architect, Joseph Hennessey, AIA, LEED® AP will be responsible for project success, including schedule, budget, and quality of deliverables. He will be involved with project development, quality control, and administrative presentation of public participation programs, as necessary. Mr. Hennessey has a keen awareness of the public's need for information / involvement, and is extremely sensitive to overall administration and public scrutiny projects. Projects

systems; design of underground and aboveground fuel storage and distribution systems with inventory control and monitoring system; and design of industrial ventilation systems.

Fire Protection Engineer, Robert Brown, PE is responsible for fire protection and general building protection systems design. His experiences include offices and warehousing projects Duties often include writing performance specifications, contract documents and construction administrative duties for projects of varying sizes. His experience with systems includes not only general building protection but also providing protection for high storage and in rack protection for high and no hazard materials.

Lead Structural Engineer, Jeffrey Walker, PE has 10 years of structural design experience. Project types include residential, low-rise commercial buildings, parking structures, municipal and governmental facilities, educational buildings, industrial design of light manufacturing, ship building, and electrical generation. Work also includes heavy construction support and design-build engineering.

Senior Structural Engineer, Jeffrey Evans, PE has 13 years of structural design experience in projects including residential, commercial, educational, governmental and industrial.

Structural Engineering Peer Reviewer, Douglas R. Richardson, PE will provide peer review for the structural engineering portion of the project. Mr. Richardson has more than 20 years of experience providing structural engineering for the built environment in West Virginia, including six facilities for the WVARNG totaling over 422,000 square feet of built space,

Architect Douglas W Graby, RA, LEED® AP has more than 16 years of experience as a project manager and project architect for clients as diverse as the Department of Defense, correctional facilities, school districts, the US Postal Service, and private industry, among others. His experience includes planning and design for new and renovation/rehabilitation/restoration projects, serving as client liaison, coordinating in-house personnel, coordinating and reviewing consultants' documents, and providing construction services.

Civil Design Engineer, David K. Kuehnen, PE has 14 years of experience in civil and environmental engineering, completing projects for public and private clients. His work for the Federal government includes completing projects for the National Guard (including the WVARNG at Camp Dawson), Army Corps of Engineers (USACE) and other agencies. Mr. Kuehnen's areas of expertise are in civil site design and site master planning. Additionally, he has 14 years of experience in Computer Aided Design and Drafting (CADD), as well as 13 years of experience with Inroads and Siteworks land development software.

Senior Civil Engineer, Joseph Bellini, PE, PH has more than 19 years of experience specializing in hydrologic, hydraulic, and sediment transport analyses; flood hazard studies; flood control planning and design; stormwater management planning and design; urban drainage modeling and design; highway drainage and stormwater systems; erosion and sediment control design; wetland mitigation design; and site/infrastructure engineering. He is skilled with several computer software packages including HEC-1, HEC-2, HEC-6, HEC-RAS, HEC-HMS, HydroCAD, SWMM, FESWMS/SMS, WSPRO, HY8, TR-20, TR-55, FAN, PSUHM, PSRM, POND 2, KYPIPE, CYBERNET, Storm CAD, and. He has extensively used the SpecsIntact software to develop construction specifications based on Army, Navy, and Unified Master specifications.

Lead Geotechnical Engineer, David G. Sawitzki, PE has more than 19 years of multi-disciplinary engineering experience on numerous projects including slope stability analyses, retaining wall design, and shallow and deep foundation analyses. He has developed many subsurface exploration plans to define subsurface conditions and laboratory testing programs to evaluate soil properties for various

Following are resumes delineating our project team's experience, qualifications, and education.

MICHAEL DELETETSKY, PE

amec

Quality Assurance / Quality Control Manager

Professional qualifications

Professional Engineer, ME; NH; VT; MA

Education

BS, Civil Engineering, University of Maine, 1979

Selected project experience

Southworth-Milton, Inc., Sales & Service Facility, Clifton Park, NY - Performed final QC/QA review for a 75,000-square-foot facility that services Caterpillar equipment needing repair and/or maintenance. The facility houses a warehouse, administrative area, and truck and equipment repair bays. Painting, welding, and wash bays are installed in this facility.

Warehouse and Distribution Center, Milton-Cat, Milford, MA - Provided general project design management and construction assistance to Milton Cat additions and alterations to an 85,000-square-foot Avery-Dennison manufacturing and warehouse facility, including extensive site work and connector road to adjoining Milton Cat corporate headquarters.

Maine Army National Guard - Regional Training Institute (RTI), Bangor, ME - Provided QA/QC for the first phase of the $32 million RTI. The RTI was designed in a campus style with three 2-story dormitories; dining facility; educational facility and administrative building. AMEC-OEST also provided all site work, including environmental assessment, roadway design, site leveling, landscape architecture, and underground utilities design for this 25-acre site situated on a 162-acre parcel. The site had to be designed to the military's Anti Terrorism and Force Protection (ATFP) Standards.

Maine Army National Guard - Operations and Maintenance Facility, Bangor, ME - Provided QA/QC for design of a 6,700 SF addition to the Army National Guard's Operations and Maintenance facility. The new facility will have a 7.5-ton overhead crane, radiant floor heating, vehicle warm-up spaces, vehicle exhaust extraction systems, and an upgraded electrical service.

Maine Army National Guard - Vehicle Maintenance Facility, Bangor, ME - Provided QA/QC for design of a 3,000 SF addition to house support spaces such as administrative offices, restrooms, storage and a lunchroom. An EIFAS study, permitting, and AT/FP regulations were also incorporated into the design.

New Research Support Facility and Storage Yard, Canaan Valley Institute, Davis, WV - Project Manager for design of a 3,750-square-foot, 1-story research support building and an adjacent 1.5-acre fenced storage yard. The sustainably-designed low-impact facility has features including a microturbine for generating electricity, waterless and high efficiency plumbing fixtures and sanitary systems, and radiant heating systems. Responsible for space programming and architectural design, design team coordination, and client liaison.

Elkins Maintenance Facility, West Virginia Division of Highways (WVDOH), Randolph County, WV - Project manager for study, design, and preparation of contract plans and related documents for construction of the Division of Highways' District 8 equipment shop building. Responsible for architectural design, design team coordination, and client liaison

New Research Support Facility and Storage Yard, Canaan Valley Institute, Davis, WV - Senior electrical engineer for design of a 3,750-square-foot, 1-story research support building and an adjacent 1.5-acre fenced storage yard. The sustainably-designed low-impact facility has features including a microturbine for generating electricity, waterless and high efficiency plumbing fixtures and sanitary systems, and radiant heating systems. Responsible for design of lighting and power systems.

Elkins Maintenance Facility, WVDOH, Randolph County, WV - Senior electrical engineer for study, design, and preparation of contract plans and related documents for the construction of the Division of Highways' District 8 equipment shop building Responsible for design of lighting and power systems.

BENJAMIN R. SELLERS, PE, LEED® AP

Lead Mechanical Engineer

Professional qualifications

Professional Engineer, PA, MD, MS, TN, FL, SC
LEED 2.0® Accredited Professional
NCEES Record

Education

BS, Mechanical Engineering, York College of Pennsylvania, 2000

Selected project experience

Squadron Operations Building 107 Repair, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA - Mechanical engineer for field investigation and design for replacement of HVAC systems, installation of a wet pipe sprinkler system, replacement of the domestic hot water heater, repair of select exterior features (including roof replacement), renovation of select interior spaces, and modification of the electrical system for emergency power operations. Responsible for design of mechanical systems.

Combined Army National Guard Readiness Center, Pennsylvania DGS/PA Army National Guard, Waynesburg, PA - Mechanical engineer for design, bidding, and administration and review of construction services for construction of a combined 38,000-square-foot Readiness Center for the PAARNG. Responsible for design of mechanical systems.

New Research Support Facility and Storage Yard, Canaan Valley Institute, Davis, WV - Mechanical engineer of design of a 3,750-square-foot, 1-story research support building and an adjacent 1.5-acre fenced storage yard. The sustainably-designed low-impact facility has features including a microturbine for generating electricity, waterless and high efficiency plumbing fixtures and sanitary systems, and radiant heating systems. Responsible for design of mechanical systems.

Gasoline Laboratory Renovations, HVAC Replacement, Fire Sprinkler Modifications, Building 85, Defense Distribution Depot Susquehanna, New Cumberland, PA - Mechanical engineer for design and preparation of construction documents to renovate the Army Petroleum Center Gasoline Laboratory C; replace the Army Petroleum Center HVAC system; and evaluate the fire suppression system serving the Army Petroleum Center in Building 85 annex and the offices within Building 85, Bay 3 Responsible for design of mechanical systems.

Natural Gas Transition Plan, USPFO for PA, Ft. Indiantown Gap, Annville, PA - Mechanical engineer for load analysis of all water heating, HVAC, and kitchen equipment in 730 buildings to size and layout a distribution system for all natural gas and for conversion from four separate fuel sources Responsible for analysis of mechanical systems.

Main Lobby and Wing C Renovation, Command Headquarters Building 11, Tobyhanna Army Depot/US Army Corps of Engineers, Tobyhanna, PA - Mechanical engineer for professional architectural and engineering services for repairs and renovations for the main entrance lobby and the second floor of Wing C in the Command Headquarters

UDAY N. PATEL, PE LEED® AP

Senior Mechanical Engineer

Professional qualifications

Professional Engineer, WV, VA, MD, PA, LA, LA, DC, AL, IN
LEED 2.0® Accredited Professional
NCEES Record

Education

Post Graduate Diploma/Data Processing & Computer Management/Bhartiya Vidhya Bhavan, Gujarat, India, 1988
BS, Mechanical Engineering, S.P. University, Gujarat, India, 1986

Selected project experience

Cafeteria and Command Headquarters Renovation (Building 11), Tobyhanna Army Depot, PA - Senior mechanical engineer for design services for alterations, improvements, and kitchen equipment at the existing first floor cafeteria area located in Wing A of the Command Headquarters Facility (Building 11).

Command Headquarters/Mission Operations Facility Renovation (Buildings 11/1A), Tobyhanna Army Depot, PA - Senior mechanical engineer for site and building renovation design for Tobyhanna Army Depot's Command Headquarters facility including mechanical and electrical design services for several wings of building and tunnel; upgrade of HVAC systems for 6 different areas.

Main Lobby and Wing C Renovation, Command Headquarters Building 11, Tobyhanna Army Depot/US Army Corps of Engineers, Tobyhanna, PA - Senior mechanical engineer for professional architectural and engineering services for repairs and renovations for the main entrance lobby and the second floor of Wing C in the Command Headquarters facility at the Tobyhanna Army Depot.

Building 1A Corridor Renovation Study, Tobyhanna Army Depot, PA - Senior mechanical engineer for design study for development of a new aesthetics for exhibit and main corridors in Building 1A, the Depot's Mission Operations facility.

Building 4341 Design/Build Renovations and Addition, Odyssey International/Letterkenny Army Depot, PA - Senior mechanical engineer for architectural, electrical, mechanical, and structural services to renovate office space and add a 1,000 square foot extension to an existing 3,900 square foot CMU office building.

Economic Analysis Preparation and Design for Two Building 1 Projects, Tobyhanna Army Depot, Tobyhanna, PA - Mechanical engineer for design and preparation of DD 1391 forms for two renovation/upgrade projects in Building 1: construction of a new chiller plant and associated distribution system, and full interior renovation of a two-level portion of Building 1, including upgrade of existing air-handling units in Buildings 1B, 1C, and 4.

Central Chilled Water Plant Replacement, Building 1, Tobyhanna Army Depot, PA - Lead mechanical engineer for design of a 21-ton chilled water package plant and a complete distribution system and controls to provide chilled water delivery to eight separate locations. Assistant project manager responsible for the development of design-build criteria and RFP package.

JEFFREY WALKER, PE

Lead Structural Engineer

Professional qualifications

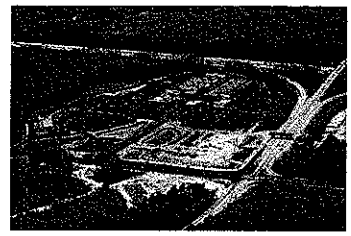
Professional Engineer, ME

Education

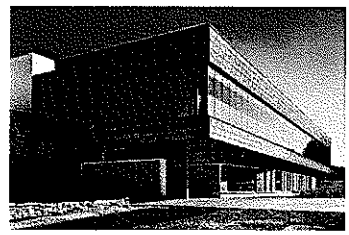
MS, Civil Engineering, University of Maine, 2001
BS, Civil Engineering, University of Maine, 1996

Selected project experience

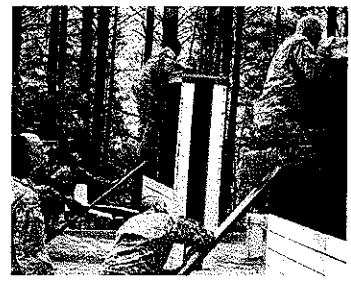
Sales and Service Facility, Southworth-Milton, Clifton Park, NY - Provided structural engineering for a new 65,000-square-foot sales and maintenance facility in the Saratoga area of New York State. There was an additional 10,500-square-foot utility building adjacent to the main structure.



Gateway at Scarborough, New England Expedition LLC, Scarborough, ME - Provided structural design for the Gateway at Scarborough, a mixed-use development located on 75 acres of land on Payne Road. The cornerstone of the project is a 138,000-square-foot Cabela's retail store; however, the development will also include space for smaller retail facilities, restaurants, office space and a hotel.



Student Recreation Center, University of Maine, Orono, ME - Structural engineer for design of a new 85,000-square-foot student recreation and fitness center. This new recreation facility houses a recreational pool, jogging track, multi-use courts, weight training and fitness areas, locker rooms, lounges, support areas, and administrative offices.



Maine Army National Guard - Regional Training Institute (RTI), Bangor, ME - Structural engineer for the first phase of the $32 million RTI. The RTI was designed in a campus style with three 2-story dormitories, dining facility, educational facility, and administrative building. AMEC also provided site work, including environmental assessment, roadway design, site leveling, landscape architecture, and underground utilities design for this 25-acre site situated on a 162-acre parcel. The site had to be designed to the military's ATFP Standards.

Maine Army National Guard - Operations and Maintenance Facility, Bangor, ME - Structural engineer for design of a 6,700-square-foot addition to the Army National Guard's Operations and Maintenance facility. The new facility will have a 7 5-ton overhead crane, radiant floor heating, vehicle warm-up spaces, vehicle exhaust extraction systems, and an upgraded electrical service.

Main Entrance, Brunswick Naval Air Station, Brunswick, ME - Structural engineer responsible for canopy design and guard house for this project entailing reconfiguration of the main entrance traffic. The project required active and passive barriers, islands, paving, lighting, signage, and markings in conjunction with a new guard house with canopy located along Fitch Avenue, the existing main entry access road, and relocation of the existing vehicle inspection facility.

DOUGLAS R. RICHARDSON, PE

MOMENT Engineers, Inc.

Structural Engineer Peer Reviewer

Professional qualifications

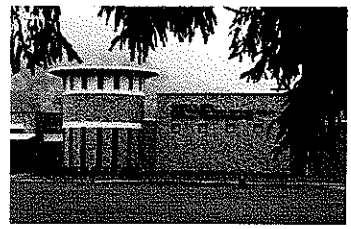
Professional Engineer, WV, MS

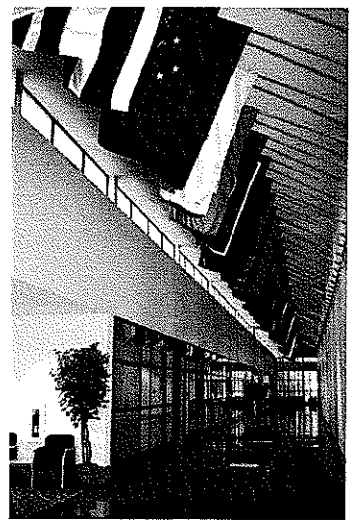
Education

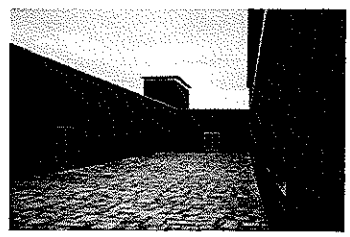
BS, Civil Engineering, West Virginia University, 1987
MS, Civil Engineering - major in structures and minor in construction, North Carolina State University, 1989

Selected project experience

- **Robert C. Byrd Regional Training Institute, Camp Dawson, WV** – 143,000-square-foot facility that includes classrooms, library, three-story hotel style sleeping wing, auditorium, and swimming pool. The structural systems include steel frames, reinforced concrete and masonry, load bearing cold-formed steel studs, and long span steel joists.
- **Armed Forces Reserve Center (AFRC) - Camp Dawson, WV** – A 56,200-square-foot AFRC that serves 5 National Guard and Army Reserve units. It includes shared community space, education areas, kitchen and dining room, and fitness areas. The primary structural system is a steel frame, also using reinforced masonry.
- **AFRC - Glen Jean, WV** – A 2-story, 107,100-square-foot AFRC that includes work bays, an assembly area, classrooms, storage areas, and office space. The primary structural system is a steel frame, also using reinforced masonry.
- **Construction & Facilities Management Office, Charleston, WV** – A 12,300-square-foot expansion to an existing facility. The addition includes a 1,730-square-foot manufactured metal building used for workbays, and a 2-story office facility constructed using open webbed bar joists, exposed structural steel, structural wood decking, and reinforced masonry.
- **Mountaineer Challenge Academy - Camp Dawson, WV** – A 45,800-square-foot facility used for training and mentoring at-risk youth in a quasi-military environment. The facility includes a gymnasium, classrooms, offices, and dining hall. The structural systems include precast concrete, long span joists, reinforced masonry, and structural steel.
- **AFRC - Elkins, WV** – 60,600-square-foot AFRC to be used by the National Guard and Army Reserve, as well as serving as a community center. The facility was designed to LEED Silver standards, with an assembly hall, open office space, unit storage areas, and a grand entrance lobby. The structural systems include reinforced masonry, structural steel, and structural wood deck.
- **Multi-Purpose Building – Camp Dawson, WV** – A 2-story, 35,800-square-foot facility to provide recreation and fitness opportunities to Camp Dawson personnel. The facility includes an elevated exterior running track, double court gymnasium, and a grand lobby with a 65-foot open arch entrance. The primary structural system is a steel frame. The facility also uses structural precast concrete, reinforced concrete, and long span steel joists.







design team management and architectural and interior space planning and design, including finish and furnishing selections.

Municipal Building Space Planning Study and Site Assessment, Borough of Middletown, PA - Project manager for a four-step planning process to consider the long-term needs of the community that involved project orientation and data collection, space utilization analysis, space needs forecast, and planning criteria and identification of opportunities including emergency response capability, safety, security and technology upgrades Led the study and design team.

New Warehouse Complex, PA DGS, Muncy State Correctional Institute, Lycoming County, PA - Project manager for design, bid, and construction of a new warehouse complex to include maintenance bay and emergency electrical substation with two new generators and appropriate switchgear. Responsible for space planning and interior finishes including panel board selection.

American Automobile Association (AAA) Office Expansion and Renovation, State College, PA - Project architect for design of a 4,600-square-foot addition and alterations to a 2,000-square-foot building, including contract document preparation, assistance in acquiring land development and building permits, bidding, construction administration, and site visits during construction. Responsible for architectural planning and design, along with space planning and interior finish and furnishings selection.

JOSEPH BELLINI, PE, PH

Senior Civil Engineer

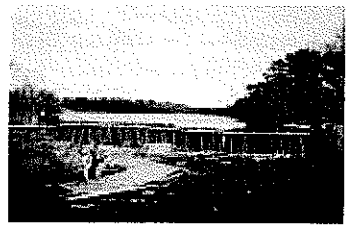
Professional qualifications

Professional Engineer, WV, PA, VA, MD, ME, NY
Professional Hydrologist, American Institute of Hydrology

Education

MS, Civil Engineering (Hydraulics/Hydrology), University of Pittsburgh, 1993
BS, Civil Engineering, Pennsylvania State University, 1989

Selected project experience



US Army - Hanover Lake Dam Rehabilitation, Ft. Dix NJ –Quality control review for engineering design plans, specifications, and construction cost estimates. Rehabilitation was directed toward improving seepage controls through earthen embankment adjacent to the spillway.

US Army - Range 59A & 59D Stormwater Design, Ft. Dix NJ – Designed three stormwater management systems, including infiltration and flood storage basin and pre-treatments bays, for improvements to two range sites in accordance with New Jersey Department of Environmental Protection, Pindlands Commission requirements. Design included requirements for erosion and sediment control during construction.

NedPower LLC – Mt. Storm Wind Energy Project Stormwater / Site Design, Grant County, WV - Horizontal and vertical geometric and grading design for approximately five miles of access roads, substation pad, and related disposal areas. The roads provide access to a proposed substation and 14 wind turbines. Developed drainage, stormwater management, and erosion and sediment control designs for 80-acre site, including 37 culverts, 111 channel segments, 6 stormwater ponds / dams, and 10 sediment traps. Acid mine drainage mitigation measures were incorporated into the design developed in accordance with West Virginia Department of Environmental Protection standards and WV National Pollutant Discharge Elimination System General Permit.

5J Energy Corporation - Charles Pointe Development Project Preliminary Site Design, Bridgeport WV - Preliminary design for 1,800-acre multi-use development, including residential, commercial / office, hotels, golf course, town center, civic center, hospital, school, conference center, and amphitheatre. Included roadways, waterlines, sewer lines, sanitary sewer lift stations, grading, drainage systems, stormwater management ponds, erosion and sediment control, and a pedestrian tunnel. Developed plan approval documents for the Harrison County site plan approval. This project also consisted of a preliminary engineering evaluation of the existing water and sanitary sewer systems in the City of Bridgeport and its ability to accommodate the new development.

West Virginia Department of Environmental Protection, Waterline Design, Fayette and Upshur Counties WV - Developed and calibrated hydraulic models for the existing and extended water distribution systems using KYPIPE at two sites. Performed flow tests and designed three stand-pipe storage tanks and two booster-pumping stations. Developed final construction documents for both water systems.

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MARTIN J. MARCHATERRE, JD

Environmental Planning / Permitting

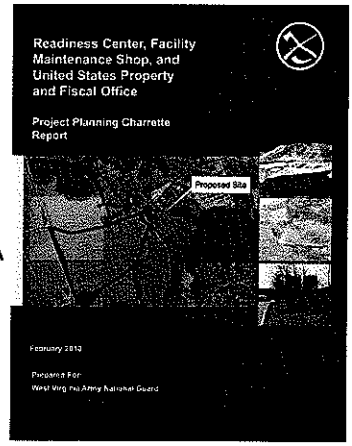
Professional qualifications

Virginia Bar Association - Environmental Law Section, Military Law Section
District of Columbia Bar Association - Environmental, Energy and Natural Resources Section

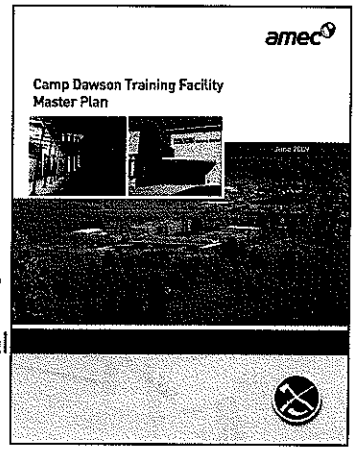
Education

JD, Marshall-Wythe School of Law, College of William and Mary, Williamsburg, Virginia, 1988
BA, Williams College, Williamstown, Massachusetts, History and Political Science, 1985

Selected project experience



West Virginia Army National Guard - Armed Forces Reserve Center (AFRC), Buckhannon, WV – Supported development of the planning charrette for the Buckhannon Readiness Center, Facility Maintenance Shop, and United States Property and Fiscal Office. Discussed project details with key installation stakeholders, reviewed 1391 construction cost estimates, and prepared conceptual designs. Overseeing the EBS and environmental assessment (EA) preparation for the site. Developed a pdEA that evaluates environmental impacts and constraints, such as 100-year floodplains along Brushy Fork Creek, and potential mitigation options.



West Virginia Army National Guard - Training Facility Master Plan, Camp Dawson, WV - Managed development of conceptual master plan and training facility master plan (TFMP) for Camp Dawson. The conceptual master plan assisted in setting strategic goals for the base mission and vision, and was the starting point for the more detailed TFMP. The TFMP will provide a foundation for future Camp Dawson development. AMEC helped identify current conditions, facility and site constraints, and opportunities for enhanced training opportunities.

West Virginia Army National Guard - Design, Mitigation, and Geotechnical Services for Modified Record Firing Range (MRFR), Camp Dawson, WV - Managed development of some MRFR design components. Provided technical review of EA. Helped evaluate alternatives to minimize stream and wetlands impacts. Managed erosion and sedimentation controls development and coordination with state and federal agencies on mitigation/permitting issues. Oversaw target elevations optimization to minimize earthwork and geotechnical evaluations of the access road/range control facilities.

West Virginia Army National Guard - Ripley Joint Armed Forces Center (JAFRC) Planning Charrette, Ripley, WV - Managed a three-day planning charrette for the proposed Ripley JAFRC. The charrette's purpose was to conduct a fact-finding mission, discuss project details with key installation stake holders, and review the 1391 construction cost estimate. The planning report outlined findings and outlined next steps.

EUGENE G. WILLIAMS, PLS, CDT, MAI

Cost Estimating

Professional qualifications

Professional Land Surveyor, PA

Education

Coursework, Civil Engineering Technology, Pennsylvania State University, 1966

Selected project experience

Stryker Battalion Training Complex, USPFO for PA, Ft. Indiantown Gap, Annville, PA - Senior cost estimator for preliminary design of a $21 million training complex including billeting, storage, maintenance, and administrative facilities. The complex was designed to meet USACE SPiRiT sustainable goals. Responsible for specifications and construction cost estimates.

Battalion Storage Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA - Senior cost estimator for design of 20,000-square-foot battalion storage area to provide secure storage space for sets, kits, outfits, and other equipment for units of the 28th Division SBCT. Responsible for specifications and construction cost estimates.

Command Headquarters/Mission Operations Facility Renovation (Buildings 11/1A), Tobyhanna Army Depot, PA - Senior cost estimator for site and building renovation design for Tobyhanna Army Depot's Command Headquarters facility including mechanical and electrical design services for several wings of building and tunnel; upgrade of HVAC systems for six different areas. Responsible for specifications and construction cost estimates.

Entry Control Gates and Cantonment Fence, USPFO for PA/193rd Special Operations Wing, Middletown, PA - Senior cost estimator for development and design of entry control gates and a cantonment fence along a portion of the 193rd Special Operations Wing's mission aircraft parking ramp to provide complete perimeter security Responsible for specifications and construction cost estimates.

Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for PA/ Fort Indiantown Gap, Annville, PA - Senior cost estimator for design of 50' x 700' runway and supporting 5,600-square-foot training and maintenance facility to conduct Unmanned Aerial Vehicle (UAV) flight and training operations. Responsible for specifications and construction cost estimates.

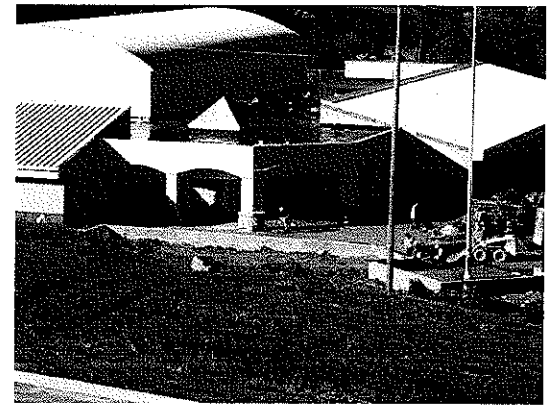
Combined Army National Guard Readiness Center, Pennsylvania DGS/PAARNG, Waynesburg, PA - Senior cost estimator for design, bidding, and administration and review of construction services for construction of a combined 38,000-square-foot Readiness Center for the PAARNG Responsible for specifications and construction cost estimates.

Similar Projects

Combined Readiness Center
Pennsylvania Army National Guard
Waynesburg, PA

Relevance to Services Required	
✓	38,000-square-foot Combined Readiness Center supporting Reserve training
✓	$7.7 million state priority project
✓	Sustainable Design employs LEED® criteria for site and building envelope (Silver level)
✓	AT/FP compliance for building and site
✓	Complete land development and utility design for 18.2-acre parcel
✓	Emergency power generation and backup system
✓	Weapons storage and cleaning areas

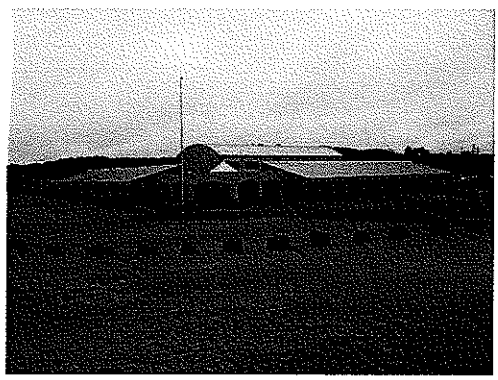
Buchart Horn (BH) designed a $7.7 million, 122-person Readiness Center in Waynesburg, Greene County, Pennsylvania. The 38,000-square-foot center serves the peacetime missions of the assigned unit, permitting personnel to perform tasks necessary to improve the unit's readiness posture. The facility serves as a model Readiness Center for the Reserves in the Commonwealth, and leverages Buchart Horn's sustainable design engineering experience. BH provided architectural, mechanical, electrical, plumbing, physical security, fire protection, telecommunications, structural, and site designs.



Space programming for the facility includes:

- **Assembly hall:** 6,200-square-foot meeting and assembly area with sound system and energy efficient lighting
- **Training device simulation area:** Advanced simulations training space to support the Bradley Full Crew Interactive Skills Trainer (B-FIST)
- **Unit storage and vault area:** Secure storage space for unit equipment and sensitive/high value items
- **After Action Review (AAR) and classroom areas:** Multipurpose training spaces with advanced audiovisual circuitry and capability to perform individual or collective training
- **Individual mechanical/electrical and communication rooms**
- **Kitchen, scullery, and food service area:** Provides food service capability for up to 150 soldiers
- **Workout center, latrines, showers and locker room areas:** Provides training space and personal hygiene areas for soldiers participating in physical fitness training

The Readiness Center is designed in accordance with current Army National Guard design standards (Design Guide 415 series) and is employing a LEED® certification process for sustainable design. The building consists of a simple split faced block cavity wall system, low maintenance aluminum window and doorframes, innovative site design, and high efficiency/DDC-controlled HVAC systems. The building also incorporates locally-produced materials, and emphasizes reused and recycled material throughout the facility.



The project was coordinated with the installation physical security plan. Required physical security measures and anti-terrorism/force protection measures are included. Sustainable principles were integrated into the design, development, and construction of the project in accordance with Executive Order 13123, 13423, and other applicable laws and Executive Orders.

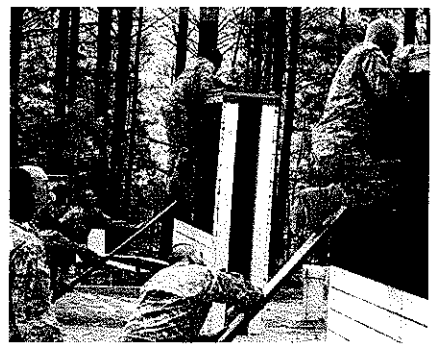
Regional Training Institute (RTI) amec
Maine Army National Guard (MEARNG)
Bangor, Maine

The safety of our military personnel is based on the equipment they have and the education they are prepared with. This tremendous amount of education and equipment training takes place at Regional Training Institutes (RTI). The Maine Army National Guard (ARNG) selected AMEC-OEST and Burns&McDonnell for the first phase of the $35 million dollar RTI. The RTI is being designed in a campus style with three 2-story dormitories, dining facility, educational facility, and an administrative building.

Relevance to Services Required	
✓	ARNG Training Center
✓	Design charrette
✓	LEED design
✓	Architecture
✓	Mechanical, electrical, and plumbing engineering
✓	Structural engineering
✓	Survey
✓	AT/FP design
✓	Landscape architecture
✓	Site / civil engineering
✓	Environmental assessment

Like AMEC-OEST, the ARNG uses a team approach to their designs. Before the first lines were drawn on paper, the entire design team and the end users gathered for a three-day design charrette. User needs were carefully logged and preferences for the buildings were listed.

The average life of a military facility is 67 years, and the military is very interested in producing a facility that will stand the test of time and be sustainable. In fact, the military now requires all of their new structures and major renovations to meet the Leadership in Energy and Environmental Design (LEED) silver rating. With LEED certified professionals on staff, AMEC-OEST is well-equipped to meet the military's goals.



AMEC-OEST is providing architecture; mechanical, electrical, plumbing, fire protection, civil, and structural engineering; survey; AT/FP design; landscape architecture and environmental assessment services. AMEC-OEST is also providing all of the site work, including environmental assessment, roadway design, site leveling, landscape architecture, and underground utilities design for this 25-acre site situated on a 162-acre parcel. The site also had to be designed to the military's Anti Terrorism and Force Protection (ATFP) Standards.

LEED principles were applied to the design for Billet Buildings (Dormitories) for the RTI. Use of recycled materials was specified to recover them and the energy spent in their original manufacture. The building envelopes were designed with additional wall insulation to outperform energy codes by 25 percent annually. Waterless urinals were specified to save an annual 20 percent of the domestic water use projected. The building and landscaping was designed and specified to reduce the projected heat gain to atmosphere.

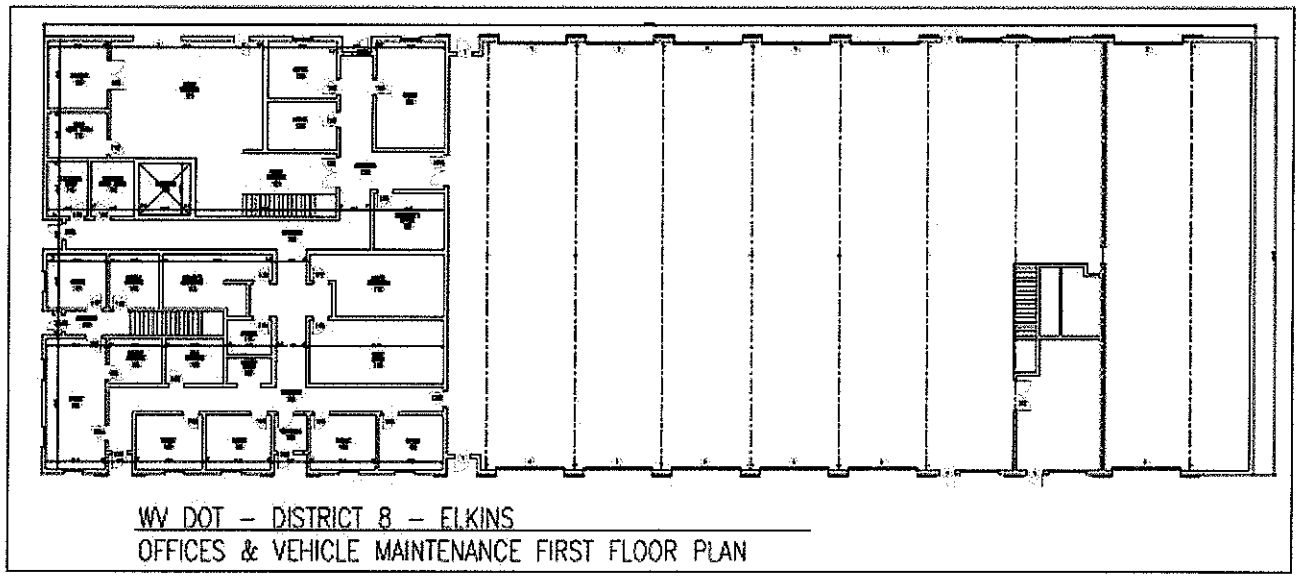
Elkins Maintenance Facility
West Virginia Department of Transportation
Elkins, WV

BH provided architectural, civil, structural, mechanical, and general engineering services for a 30,800-square-foot equipment shop building for the West Virginia Department of Transportation (WVDOT). The facility includes five heavy equipment service bays with two 5-ton rolling cranes and five light equipment service bays with lifts. Site design elements included utility connections. Parking (including drive-bay aprons) and pedestrian access / egress and safety design were included. The machine shop, tire shop, tool shop, and welding shop incorporate hazardous / flammable materials storage.

Relevance to Services Required	
✓	Architectural planning and design
✓	Project planning (engineering and environmental coordination)
✓	Engineering analysis
✓	Pre-engineered steel structure
✓	Space planning and programming
✓	Specifications and cost estimates
✓	Sustainable building design

The design also includes office suites and staff crew rooms and lockers along with an all-new campus phone system, energy-efficient radiant heating, oil separator equipment, compressor systems, and other amenities. The second floor will accommodate parts storage, with a freight elevator for access.

Construction and bid documents have been completed; WVDOT is currently awaiting funding allocation so the project can proceed to construction. WVDOT intends to use the design as a prototype for all of its future maintenance facilities.



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Modified Record Fire Range (MRFR)
West Virginia Army National Guard (WVARNG)
Camp Dawson, WV

AMEC is working on the final design, specifications and a cost estimate, as well as providing comprehensive, integrated environmental support, for a 16-lane, MRFR.

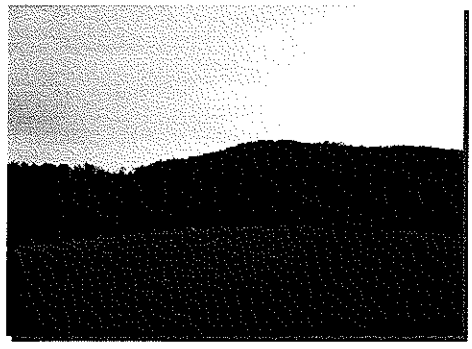
Relevance to Services Required	
✓	Site civil plans
✓	Geotechnical investigations
✓	Project planning (engineering and environmental
✓	Engineering analysis
✓	Surveying
✓	Construction plans
✓	Specifications and cost estimates
✓	Value engineering studies

Scope of Work. AMEC completed environmental investigations, National Environmental Policy Act (NEPA) analysis, site planning and selection, public involvement, design charrette, geotechnical investigations, and final design. We used Microstation and in-house, non-proprietary Line of Sight (LOS) software to complete final design.

Challenges and Solutions. A typical MRFR does not require significant earthwork. However, this project presented significant civil engineering challenges due to extremely mountainous terrain and property limits that would not contain the standard surface danger zone (SDZ).There were also major concerns with the earthwork, since the location is difficult to access and fill material is not readily available. Both factors significantly impact construction cost and it was imperative to minimize and optimize earthwork and ensure balanced cut and fill.

AMEC engineers developed design alternatives that reduced earthwork and used existing terrain as a backstop while ensuring line of sight from each firing point to target. We developed 3D digital terrain models (DTM) for the existing and proposed terrain, and compared them to determine estimated earthwork volumes. AMEC developed two alternatives WVARNG submitted to the Armament Research Development and Engineering Center (ARDEC) for further SDZ analysis. Both alternative designs significantly reduced earthwork, and the line of sight analysis indicated the existing terrain would allow for a truncated SDZ.

AMEC's environmental scientists worked closely with our design engineers throughout the design process, from planning, site screening, and selection, through several design iterations, through the final design.



AMEC's environmental scientists worked closely with our engineers to ensure each design change was appropriately assessed within the NEPA analysis, and environmental resources such as wetlands, streams, and potentially significant cultural resources sites discovered during AMEC's Phase I on-site cultural resources survey, were avoided to the maximum extent possible. Through our institutionalized practice of closely integrating environmental and engineering design services, AMEC was able to expedite the design, including the range and support facility footprints, utility connections, and access roads, while ensuring environmental impacts were minimized and fully addressed and mitigated within the NEPA document in accordance with applicable Federal laws.

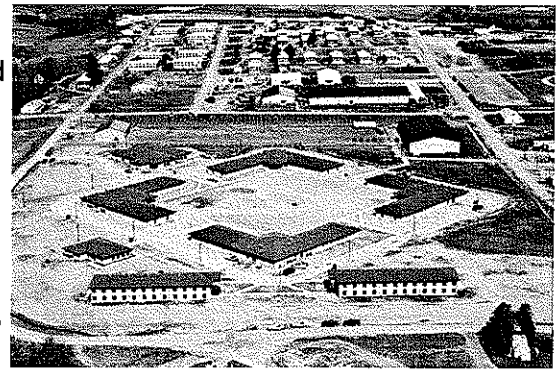
Extension of Design. At the 65% review meeting, it was determined a large borrow pit would be required to serve as a large fully functional pond after construction. The design included hydrologic and hydraulic calculations for safe conveyance of the 100-year storm event, an emergency spillway sized for the 100-year storm event, and a stable dam embankment keyed into the existing ground as necessary. AMEC's environmental scientists and engineers fully coordinated this element to provide on-site wetland/surface water mitigation for unavoidable impacts to an on-site stream. AMEC integrated this extension of design within the environmental analysis and mitigation (NEPA process) in consultation with the West Virginia Department of Natural Resources (WVDNR) and USACE (Pittsburgh District). Both time and money were saved through fully and successfully integrating the environmental and engineering requirements of this proposal.

Stryker Battalion Training Complex Conceptual Design
USPFO PA/Fort Indiantown Gap
Annville, PA

Background. The PAARNG is fielding one of the Army's unique Stryker Brigades and the primary training location is at Ft. Indiantown Gap, PA. The 28th Division SBCT required a bed-down and administrative support area for its soldiers during training exercises at Ft. Indiantown Gap. BH provided architectural, mechanical, electrical, structural, and site designs for the battalion-sized complex to the 15% conceptual level for design-bid-build contracting.

Relevance to Services Required	
✓	$21 million Battalion Complex for the National Guard's only Stryker Brigade
✓	Planning and design charrette
✓	Unique AT/FP standoff and site configuration
✓	Environmental clearances, permitting, and geotechnical investigations
✓	1391 program evaluation and cost estimating
✓	Sustainable design; SPiRiT rating "Silver"
✓	Permanent masonry construction and standing seam metal roofing systems

Project Description. This centralized administrative and bed-down complex houses a full battalion of soldiers and their associated personal equipment. BH led the SBCT through a two-day charrette to plan and program each portion of the complex. Upon conclusion of the charrette, the unit was given a full program of individual buildings, planned spaces, approximate sizes, and level of quality for building finishes and interiors. Cost estimates were compiled to compare with the client's 1391 budgets. Mechanical plant comparisons and energy analyses were conducted to allow the client to select the best alternatives for heating and cooling and increase the sustainable design elements of the project. The site was designed with a high level of force protection in mind, including suitable standoff distances and innovative building approaches masked by terrain and landscaping. Building faces were designed at oblique angles to roadways, minimizing potential blast effects.



While the Battalion Complex is designed with future adaptive reuse potential in mind, it is optimized for today's administrative and bed-down needs. The complex includes:

- **Barracks facilities:** Four company-sized facilities at 15,900 square feet each consisting of two-story barracks buildings (bay style), company HQ, and storage areas
- **Senior quarters:** Two double-story facilities for housing 20 senior personnel in individual rooms. Each set of quarters is 13,000 square feet
- **Dining facility:** Battalion-sized facility at 12,400 square feet to feed up to 800 personnel
- **Battalion HQ:** Two-story facility for battalion commander and staff workspace at 3,800 square feet
- **Battalion classroom:** Single-story classroom area to accommodate company-sized training at 6,000 square feet
- **Maintenance building:** Single-story support facility with three adjacent 20' X 60' "pull thru" bays of 4,800 square feet.

The facilities were designed in accordance with the latest Army and National Guard sustainable design standards and International Building Code (IBC) 2003. Our team employed innovative structural design concepts to maximize open bay space and minimize construction costs. In addition, the building was designed for the "Silver" level of USACE Sustainable Project Rating Tool (SPiRiT) certification, leveraging an EnergyStar-compliant standing seam metal roof system, permanent masonry construction, innovative site design, and high energy efficiency using Johnson DDC controls for its HVAC systems.

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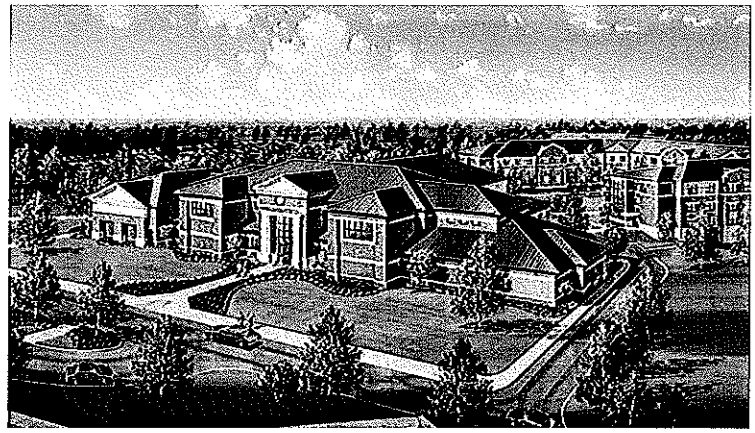
Strategic Planning and Development Facility (SPDF), Silver LEED Building, Andrews Air Force Base, Maryland, Air Force Center for Engineering and the Environment

Project Overview. AMEC was selected to provide design-build services for the 50,000-square-foot Strategic Planning and Development Facility (SPDF) at Andrews Air Force Base, Maryland. The purpose of the SPDF is to bring together service and civilian personnel for high-level meetings, conferences, briefings, and related functions. The facility includes one 50-person and two 30-person executive conference rooms, one 600-person multifunction room dividable into 6 sections, a 265-person auditorium with stadium style seating, 150-person sensitive compartmented information (SCI) conference room with command, control and communication capability, audio visual equipment rooms, storage, reception and administration area, kitchen, and 500 parking spaces. In addition to the base features, the building was designed to Silver LEED standards.

Relevance to Services Required	
✓	50,000-ft² office and conference center
✓	Full planning and design services
✓	AT/FP compliant facility and site
✓	Designed to exceed LEED Silver
✓	Full site design, including grading, stormwater, pavement, pedestrian and vehicular traffic routing, parking and security features
✓	Standing seam metal roofing system
✓	High efficiency HVAC equipment
✓	Water conservation through automated fixtures and no-irrigation landscaping
✓	Backup up power generation

Project Highlights.

- **This key project is one of the most important military construction (MILCON) projects the Air Force Center for Engineering and the Environment (AFCEE) is currently performing, as it is expected the Air Force Chief of Staff and possibly the President will attend conferences at this facility, which has provisions for satellite links and media connections for CNN distribution of important Department of Defense (DoD) reports**



- Will provide the largest DoD conference room and conferencing facility in the Washington DC area.
- AMEC has met all design and construction deliverables, and is on track to complete the project within 720 days - 180 days fewer than the 900-day contract requirement.
- The project has had zero lost-time accidents due to development and strict implementation of a site-specific safety and health plan and program that requires construction staff to attend a training session and orientation including a one-hour construction safety review course.
- The SPDF is designed to well exceed the LEED Silver (33 to 38 Points) certifiable facility criteria, and is capable of achieving LEED Gold (39 Points) Certification.
- The SPDF project is currently under evaluation for the 2010 United States Air Force Design Awards.

Timely Performance. AMEC encountered numerous project timeline hindrances, including changes to the Maryland Department of the Environment (MDE) permitting code, late pre-project demolition completion, and asbestos discovery and abatement addition to the schedule Despite all this, AMEC has met all design and construction deliverables and is on track to complete the project within 720 days - 180 days fewer than the 900-day contract requirement.

Compliance with Security Standards.

- Due to the SPDF having SCIFs and secure rooms and secure communications, NIPRNET and SIPRNET, the facility meets AT/FP and Director of Central Intelligence Directive (DCID) 69 standards.
- The project further complies with all Uniform Facilities Criteria (UFC), National Fire Protection Association (NFPA) 101 Life Safety Code, Uniform Federal Accessibility Standards (UFAS), Americans with Disabilities Act (ADA), and Energy Policy Act of 2005

Implementation of Sustainable Practices.

- The new SPDF has been designed for energy and resource efficiency, and healthful indoor air quality.
- The facility will achieve reductions in life cycle costs through using natural day-lighting (primarily on the first floor), automated motion sensor lighting control systems, reducing light pollution by using efficient exterior lighting, and selecting appropriate mechanical systems to optimize energy performance.
- Water conservation will be achieved with automated efficient fixtures and no irrigation landscaping.
- This building exceeds green building requirements for water conservation, with 1.28-gallons-per-flush water closets, 1-pint-per-flush urinals, and .5-gallons-per-minute aerators for the lavatories.
- The projected water savings per year exceeds 50,000 gallons of water.
- Through using high efficiency mechanical equipment and the energy recovery systems, the building's overall energy usage is designed to be 38 percent more energy efficient than the Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2004 requirements, complying with EPAct 2005 and LEED Energy and Atmosphere Credit 1.
- **The SPDF is designed to well exceed the LEED Silver (33 to 38 Points) certifiable facility requirements, and is capable of achieving LEED Gold (39 Points) Certification.**

Proof of Performance and Success.

- Project Website System providing real-time data access to all stakeholders
- Project tracking to be completed 180 days sooner than the 900-day requirement, despite noted challenges
- LEED Gold certification
- AMEC has been recommended and is awaiting award of the 2010 United States Air Force Design Award

Design Considerations and Overview

The AMEC team appreciates the opportunity to work with the State of West Virginia, Division of Engineering and Facilities, and the West Virginia Army National Guard (WVARNG) to provide design services for the Buckhannon Readiness Center We are uniquely qualified to provide the WVARNG with a successful design that meets or exceeds expectations. The AMEC team has experience in designing military facilities, with specific experience designing office and warehouse facilities, in accordance with DG-415-2, and 415-5, Design Guides for Logistics Facilities and General Facilities Information. Our team has significant Army National Guard design experience in several states, including West Virginia (Modified Record Fire Range, Camp Dawson; Rappel Tower and Associated Facilities, Camp Dawson, **USPFO Office and Warehouse Facility and Readiness Center Charrette, Buckhannon**; Robert C. Byrd Regional Training Institute, Camp Dawson; Armed Forces Reserve Center, Camp Dawson; Armed Forces Reserve Center, Glen Jean; Construction & Facilities Management Office, Charleston; Mountaineer Challenge Academy, Camp Dawson; and Armed Forces Reserve Center, Elkins) Pennsylvania (38,000 SF Combined Readiness Center, Waynesburg; Battalion Training Complex, Mission Support Training Facility, Unit Storage Site and UAV Training Facility, Ft. Indiantown Gap), and Maine (47,500 SF Regional Training Institute, Bangor; Munitions Storage Complex, Bangor). The AMEC team has also successfully designed many other facilities for various government entities, including West Virginia Department of Transportation (22,500-square-foot Elkins Maintenance Facility, Elkins), Naval Facilities Engineering Command (Marine Special Operations Command Facilities including barracks, administration, educational, dining, range, and storage facilities, Camp Lejuene, NC) and National Park Service (Concept Design and Cost Estimating for Schoodic Education and Research Center, Acadia National Park, ME). Finally, the AMEC team has significant facility design experience for commercial / industrial / institutional clients, including warehouse / distribution centers (three sales / distribution facilities for Milton CAT), retail stores (Scarborough Retail Store on 75-acre site, Scarborough, ME), University of Maine (90,000 SF Student Recreational Center, Orono, ME), and Caterpillar (15,500 SF Sales and Service Facility, Clifton Park, NY) to name a few.

As demonstrated by these projects, and many others not listed here, the AMEC team has significant experience designing nearly any type of facility or associated structure, including offices and warehouse / distribution centers, and offers this knowledge and expertise on this project. Whether the design elements include conference rooms, office spaces, vaults and secure storage, hazardous waste handling areas, IT/communications rooms, computer training areas, emergency power, or any other building element, the AMEC team has design professionals capable of providing such services to the WVARNG.

Project Overview

The project mission is to provide architectural and engineering design services for a specially designed, approximately 57,000-square-foot Readiness Center to be located in Upshur County, WV The facility will house elements of the 601st Horizontal Engineer Company, 1935th Contigency Contracting Team, and a design and survey team. It will provide classroom, administrative, drill space, storage, and supply areas needed to recruit, train, and mobilize to maintain readiness levels and meet mission requirements Per the information contained in the Request for Proposal, design and engineering services will include a specially-designed Readiness Center of permanent masonry

The town architecture is predominantly Federal and Greek Revival, then Victorian, with some Craftsman and bungalows. The existing armory has flat, unadorned concrete walls, horizontal louvers (both metal and concrete), and vertical concrete entrance. The armory style is unique to the city of Buckhannon, and differs from most armories within West Virginia and the country.

Appreciating the significance of the existing architecture of the armory and surrounding area, AMEC will explore the possibility of incorporating design elements from the old armory into the readiness center. AMEC will also look at possibly including elements of the Glen Jean and Summersville area styles. AMEC has done this on other projects with a great deal of success and client satisfaction.

Sustainable Design

As a member of the US Green Building Council, AMEC and its design partners remain dedicated to creating environmentally-conscious design. The AMEC team has 30 LEED-Accredited (LEED AP) Professionals in all disciplines of design, including architecture; mechanical, electrical, structural, and civil engineering; and interior design, who work toward implementing sustainable design features into all of our projects. Our LEED APs have demonstrated expertise in employing the LEED process from the outset of the project through completion to ensure all criteria are achieved. Our philosophy regarding sustainable building design is to approach the entire project as a system rather than simply trying to meet LEED through product specification. We use various strategies to analyze and coordinate activities to provide our clients with a project that creatively affords improved life cycle costs while meeting client needs and available budget. Items our design team considers for any new building design include:

- **Energy:** Building insulation, energy efficient windows, and building heating systems are the most important design features of a sustainable building project.
- **Materials Selection:** Proper selection of building materials will have a very positive effect on indoor air quality. The AMEC team is well-versed in selecting finishes and furniture with low volatile organic compounds (VOCs) such as paints and carpets. In certain cases, we have organized modular furniture or interior furnishing "showdowns" that allow vendors to display their products in an open house forum to rate and rank the sustainability and functional characteristics and better qualify the quality of interior furnishings.
- **Natural Light:** The AMEC architectural team reviews client needs and makes every attempt to maximize natural light, which has numerous benefits for employees.

The AMEC team also continues to work with alternative energy sources such as combined heat and power; geothermal, solar arrays; photovoltaic panels; and hydrogen. Our experience with these types of energy sources allows us to make realistic recommendations about whether alternative energy sources are the right choice for your project.

Project Design-to-Cost Control

The AMEC team understands the importance of designing this project so it can be constructed for less than the Construction Cost Limit (CCL) This process begins in the initial design phases, typically at the design charrette AMEC team cost engineers develop parametric Preliminary Cost Estimates (PCE) for the various options being considered by the design team, so design objective trade-offs can be made early. The PCE is developed by discipline using unit costs for components. Standard pricing sources (i.e., R.S. Means) are combined with recent construction project data and local economy data to develop accurate costs. During each successive design submittal, the PCE is refined, updated, and shared with the client and the design team Significant design review comments are

Design Quality Requirements & Reviews

AMEC requires that quality be designed into projects from the start of work, with design leaders critiquing their disciplines' work for:

- Compliance with scope of services, special client needs, and other items identified at the charrette and subsequent design review meetings
- Compliance with codes, regulations, client criteria
- Consideration of potential alternatives and selection of cost-effective solutions
- Design constructability and coordination
- Compliance with construction cost limitations

Internal reviews will be made for each design phase with an interdisciplinary review when a design phase is approximately 75% complete and before each design submission (15%, 65%, 95% Draft Final, and 100% Final). Revisions will be made as necessary, and corrected documents prepared. Design documents are provided to the quality control manager for review about 7-10 days prior to the end of each phase, including a constructability review and independent check of cost estimates. Concerns will be identified and corrected before each submission is delivered to the WVARNG. Final documents will be properly reviewed by discipline leads to ensure concerns have been properly addressed and final documents are technically accurate prior to distribution to the WVARNG.

At a higher level, designs undergo AMEC's formal Project Review process. Project review is a risk management measure to ensure both WVARNG and AMEC standards are achieved. Prior to submittal, deliverables (including correspondence, studies, progress reports, design packages, construction specifications / drawings, schedules, and cost estimates) undergo a formal peer review overseen by the project QA/QC manager. This multi-disciplinary review checks for compliance with the statement of work, design basis, and any previous client comments; and evaluates the overall quality of the deliverable as well as verifying the applicable discipline checks have been completed.

Key Success Factors

The AMEC team will ensure the following key success factors are part of the readiness center design:

- **Scope of Deliverables:** Every team member will be provided a written scope of deliverables. The scope of deliverables will match the scheduled submission dates.
- **Design Schedule:** The design schedule will be reviewed at each weekly meeting and updates will be provided to the WVARNG, as appropriate
- **Budget:** Every technical discipline will be provided a copy of their discipline's estimated budget for the project. This allows staffing requirements estimates and progress monitoring by each technical discipline lead to ensure the established budget is maintained.
- **Project Documentation:** Documenting project decisions is one of the most important tasks for a design project manager. This process includes reviewing and initialing drawing and calculation worksheets, taking accurate meeting minutes, and maintaining accurate phone conversation notes.
- **Understanding the End Product:** Every line and word on an engineering drawing affects the construction project scope, schedule, and budget. AMEC understands the importance of accurate and efficient design and bid documents in assuring accurate cost estimates and, ultimately, accurate and cost effective construction bids.

barn, a model aircraft field, a standing wooden barn, and two clay brick silos located in the northeastern portion of the proposed site Dominant soil in the area appears to be Tygart silt loam, which is generally characterized as somewhat poorly-drained with a shallow typical depth to water of 1 to 3 feet

Based on our initial research of the National Wetlands Inventory maps, no known wetlands or bodies of water exist within the boundaries or the footprint of the proposed site, with the exception of Brushy Fork Creek. Brushy Fork Creek serves as the southern boundary for the proposed site, and an existing drainage ditch runs through the eastern portion of the property. One important consideration identified through our research is that the southern quarter of the site along the Brushy Fork Creek appears to be located in a 100-year flood zone. Additionally, there are several utility providers currently with services on or near the site, including natural gas (Mountaineer Gas), electric (Allegheny Power), potable water (City of Buckhannon) and sanitary (City of Buckhannon). AMEC will confirm this information as part of our design data collection and incorporate it into our preliminary design as appropriate.

After gathering and reviewing available boundary, topographic, and utility information, AMEC will supplement this data, as required, with a field survey. The survey will confirm existing conditions, including topography, site features, utilities, roads, etc. and will provide the base map for the site plan. This task will be performed by a surveyor licensed in the State of West Virginia under AMEC's direction.

AMEC will gather readily-available subsurface information for the site selected for development as well as structural and other design information critical to the building construction. Once this information is obtained, a field program will be developed that will generally include soil borings, rock coring, groundwater documentation (including piezometers if necessary), soil sampling, surveying, inspection / inquiry of other existing buildings for foundation types and performance, and geophysical techniques as the project may require. Subsequently, a thorough laboratory analysis of the soil and rock samples will be completed and the data combined with the field information to characterize the site subsurface conditions. Finally, engineering analyses and assessments will be used to determine the most appropriate foundation types, capacities, and provide other geotechnical related recommendations

Task 3 – Conceptual Design

AMEC will develop a more detailed conceptual design (15% design) based on the BOD and preliminary layout(s) developed during the charrette, supplemented with the site survey and geotechnical investigation results. The conceptual design will take the preliminary site layout and advance it to the conceptual design phase, including conceptual design plans, 15% BOD document, outline of the proposed specifications, and a list of applicable permits. Following WVARNG review and comment, the AMEC team will attend a conceptual design review meeting to address any comments and / or questions the Guard may have.

Task 4 –Detailed Design

Following the conceptual design review meeting, AMEC will incorporate comments, as appropriate, and advance the design through the various phases of detailed design, including 65%, 95% Draft Final, and 100% Final design. Each phase will incorporate revisions based on the WVARNG's review of the previous phase, and will include additional levels of detail commensurate with each design phase. The 65%, 95% Draft Final, and 100% Final submittals will include the design plans, BOD document, specifications, and construction cost estimate based on the latest design. The AMEC team has significant experience preparing project technical specifications in both CSI and UFGS formats, and can support either format based on the WVARNG's needs / preference

Bid Forms

Following are the required Request for Quotation form, and Purchasing Affidavit.

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

Request for Quotation

RFQ NUMBER	PAGE
DEFK10019	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
BUYER 32
304-558-2544

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE
AMEC Earth & Environmental, Inc.
11003 Bluegrass Parkway, Ste 690
Louisville, KY 40299

SHIP TO
DIV ENGINEERING & FACILITIES
ARMORY BOARD SECTION

1707 COONSKIN DRIVE
CHARLESTON, WV
25311-1099 304-341-6368

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
05/21/2010				

BID OPENING DATE: 06/16/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		

BUCKHANNON READINESS CENTER

THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA ARMY NATIONAL GUARD, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ARCHITECTURAL ENGINEERING DESIGN SERVICES FOR THE BUCKHANNON READINESS CENTER IN UPSHUR CO., WEST VIRGINIA, PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.

BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.

****** THIS IS THE END OF RFQ DEFK10019 ****** TOTAL:

RECEIVED
2010 JUN 16 AM 10: 32
WV PURCHASING DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
[signature]	502-267-0700	14 June 2010

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Senior Vice President	91-1641772	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

RFQ No DEFK10019

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: 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 owned is an amount greater than one thousand dollars in the aggregate

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

"Debtor" means any individual, corporation, partnership, association, Limited Liability Company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount

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

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

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: AMEC Earth & Environmental, Inc.

Authorized Signature: _____ Date: 14 June 2010

State of Kentucky

County of Jefferson, to-wit:

Taken, subscribed, and sworn to before me this 14 day of ~~December~~ June, 2010.

My Commission expires 9/26, 2012.

AFFIX SEAL HERE

NOTORY PUBLIC _____