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
DEFK10020	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: 06/17/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
001	1	JB		906-29		

BUCKHANNON FIELD MAINTENANCE SHOP

THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA ARMY NATIONAL GUARD, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ARCHITECTURAL ENGINEERING SERVICES FOR THE BUCKHANNON FIELD MAINTENANCE SHOP 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 DEFK10020 ****** TOTAL:

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. DEFK10020

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 _____

amec

BUCHART HORN, INC.

Vest Virginia Army National Guard
uckhannon Field Maintenance Shop

equisition #DEFK10020

16 June 2010

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

Re: DEFK10020
Buckhannon Field Maintenance Shop

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 Field Maintenance Shop 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 office and warehouse buildings 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 and Purchasing Affidavit.

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,

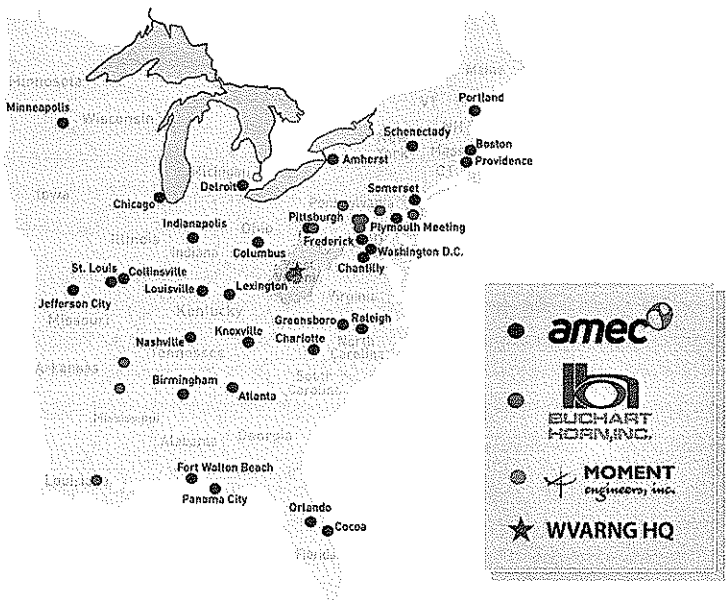
Stevin A. Paznokas
AMEC Earth & Environmental
Vice President, National Army Program Manager

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

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

AMEC Earth & Environmental, Inc.
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, KY 40299
Tel: 1+ (502) 267-0700
Fax: 1+ (502) 267-5900
www.amec.com

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 Field Maintenance Shop. Our team has recent experience designing numerous facilities for the Army National Guard, and recently teamed on a successful planning charrette to refine the 1391 programming and conceptually design the Readiness Center, Field Maintenance Shop, 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 Earth & Environmental, Inc. (AMEC)

AMEC's **breadth of services, technical expertise, and resources** will ensure successful delivery on this contract. AMEC is a **recognized world leader** in technical services and provides cost-effective architecture and engineering (A/E) services. According to rankings by *Engineering News Record (ENR)*, we are **one of the largest international engineering services organizations in the world.** AMEC truly provides "**World Skills at your Doorstep**" through "**Local Service, Global Reach**."

With more than **4,200 employees throughout North America** and over **2,300 professionals in the U.S.**, AMEC has the qualified resources necessary to provide A/E services to the West Virginia Army National Guard (WVARNG). For the past **15+ years**, AMEC has been **providing nationwide engineering and environmental planning services to both the Army and Air National Guard**.

In particular, AMEC and its predecessors can demonstrate a **long, successful history with the WVARNG.** Over the years, AMEC has supported the WVARNG at **Buckhannon, Camp Dawson** and a number of other locations across the state on a series of instrumental projects. **The individuals assigned to this contract have first-hand knowledge of the topography, soil conditions, and site constraints that must be considered in designing the new facilities. This is the same set of resources that has performed geotechnical and civil engineering services on several WVARNG projects at Camp Dawson including the Modified Record Fire Range (MRFR). Our expertise on civil site layout saved millions in development costs.**

AMEC provides complete building design services from concept through final design and construction as well as post-design consultation. AMEC provides the necessary services for your project in-house, including:

- Feasibility studies
- Surveying
- Planning and programming
- Geotechnical engineering
- National Environmental Policy Act (NEPA) documentation
- Life cycle cost analysis
- Code research and analysis
- Permitting
- Architectural design
- Historic preservation
- Structural design / engineering
- Mechanical and plumbing design / engineering
- Electrical and lighting design / engineering
- Fire protection design / engineering
- Civil engineering
- Interior design
- Value engineering
- Bid document preparation, coordination, and evaluation
- Construction administration and monitoring
- Construction materials testing
- Construction management
- Design / Build project delivery
- Maintenance and operational planning
- Warranty review

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

BH has the knowledge and experience to maximize a building's energy efficiency during its planning, design, construction, and operation. BH's "Green Design team" includes 11 LEED® accredited professionals currently working on the following sustainable projects:

1. Downingtown Area School District New Middle School – Designed for LEED® Silver Certification
2. Trexler Environmental Center in Lehigh County – DD submitted and awaiting client response. Will be LEED® Certified.
3. Canaan Valley Institute Research Support Facility (WV) LEED® application submission – Project is LEED® registered, pending certification.
4. Pennsylvania Army National Guard Readiness Center Waynesburg – Multiple sustainable design elements; designed to Solver LEED® standards
5. West Chester University geothermal heat pump – When complete, this geothermal system will be among largest in the world
6. Columbia River Park Green Project – Day lighting, geothermal heat pump, no AC, recycled materials, and will be designed with green concepts.

For the Pennsylvania Army National Guard, BH completed four Sustainable Project Rating Tool (SPiRiT)-Certified projects at Fort Indiantown Gap. (The SPiRiT energy efficiency design process was the USACE equivalent of LEED®; in 2006, the Corps began to transition to LEED®.)

1. Stryker Battalion Training Complex
2. Mission Support Training Facility
3. Unmanned Aerial Vehicle Runway and Maintenance/Training Facility
4. Battalion Storage Facility

In addition, their team uses integrated planning and design within the area of anti-terrorism/force protection to ensure form and function are blended with the natural aesthetics of the site and facility. Their familiarity with the necessary Unified Facilities Criteria and National Guard Bureau design standards and regulations ensures each facility they design will comply with the necessary codes and requirements for its occupants, accounting for building codes, standoff distances, and other important life safety considerations.

Moment Engineers, Inc.

Moment Engineers, Inc. is a professional consulting firm specializing in structural engineering and serving the architectural and construction communities throughout the Appalachian region.

MOMENT engineers, inc.

Based in Charleston, WV, Moment was founded by Douglas Richardson, who is personally involved with every project.

Over the last decade, Mr. Richardson has had sole responsibility for structural engineering design of more than 5 million square feet of built space, with estimated construction costs exceeding a half billion dollars. Moment's experience, which ranges from small to very large multi-phase projects, is invaluable in providing the technical expertise and creative flexibility to deliver results in a prompt and reliable manner.

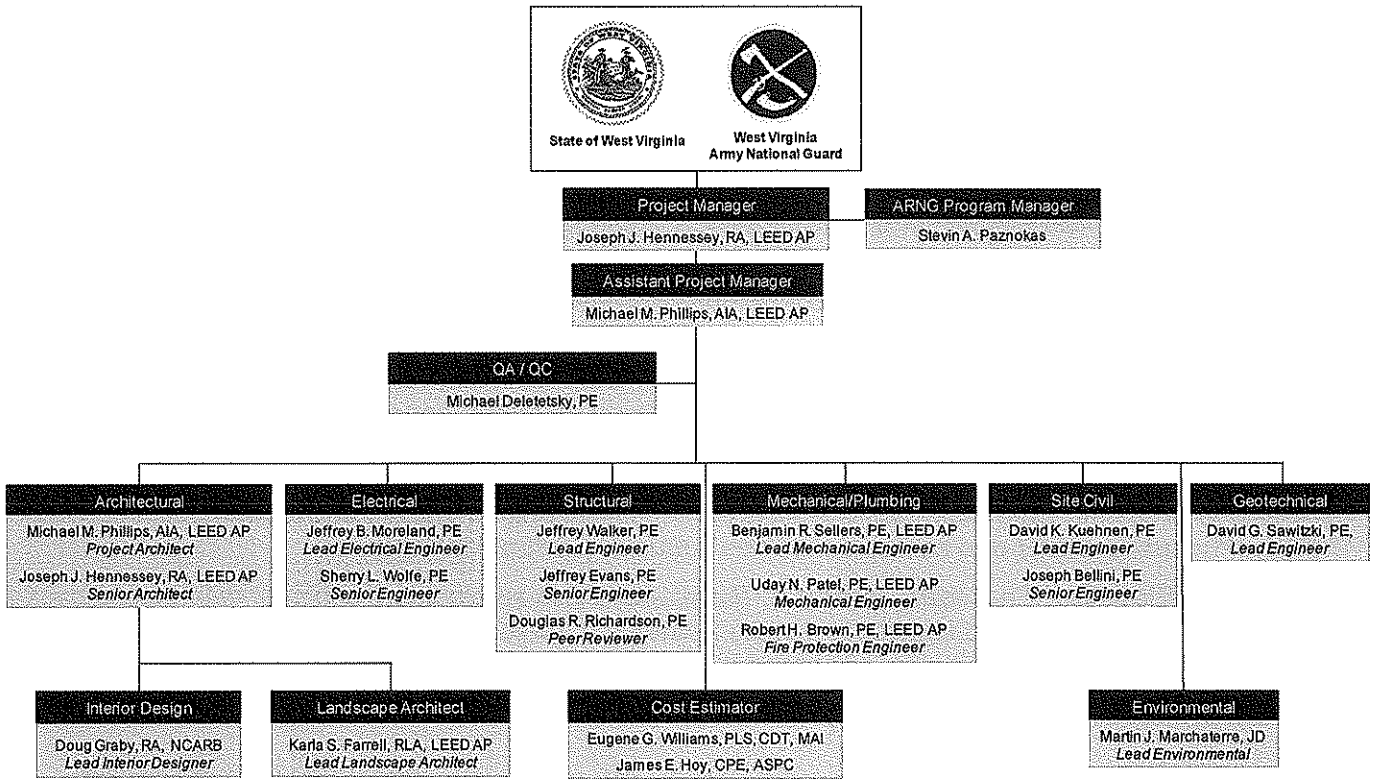
As mentioned above, Moment has significant experience working on projects for the WVARNG, including an RTI at Camp Dawson, Reserve Centers at Camp Dawson, Glen Jean and Elkins, and Construction & Facilities Management Office at Charleston.

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 Field Maintenance Shop 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

on which he has worked include planning and design of buildings and associated systems, environmental studies, and comprehensive planning programs. Mr. Hennessey has 40+ years of experience from client contact to final inspections and commissioning, and will function as senior architect for this project. He has instinctive creative abilities in forming new ideas, and sensitivity to renovations and historic values. Strengths include large and small office buildings, warehousing, commercial facilities, industrial facilities, maintenance facilities, research and pharmaceutical renovations, hospital renovations, airport facilities, parking garages, municipal facilities, public and private schools

Lead Architect Michael M. Phillips, AIA, LEED® AP is responsible for integrating the disciplines within the project team to deliver a successful project while maintaining schedule, budget, and quality standards. He has more than 23 years of architectural design experience. He has recent Department of Defense/Federal and National Guard experience on a new facility design and creative renovations. Mr. Phillips has a diverse background in project scale, type, and style, and a strong record of successfully working within and integrating existing facilities into new designs and programs. He has a strong background and practice in historic preservation and renovation with keen insight into dealing with adaptive re-use and recycling existing built elements.

Quality Assurance / Quality Control Manager, Michael Deletetsky, PE has more than 23 years of experience in construction, engineering design, drainage, roadway design, and permitting. He has worked as a civil project engineer, civil engineering designer, and as a field engineer. Typical projects have included design and construction supervision of roadways, utilities, and site development projects for municipal, industrial, private, commercial and utility clients and permitting at the state and local level. Mr. Deletetsky has the skills and qualifications necessary to evaluate building design and structural systems and serves as the firm's Quality Control Manager.

Lead Electrical Engineer, Jeffrey B. Moreland, PE is an electrical engineer with a solid background in process control and signal processing including a 25-year record of achievement in applying new and innovative technologies. His broad business experience ranges from applied research and development, software design, IT, and operations management to a variety of electrical design and project management functions.

Senior Electrical Engineer, Sherry L. Wolfe, PE, as director of Buchart Horn's Electrical Engineering Group, provides administrative control of multi-discipline projects and coordinates architectural / engineering activities. Her 25 years of experience in industrial and facilities electrical engineering include lighting, electrical service, power distribution, emergency generator, instrumentation, process control, special systems design, project management, field commissioning, and management of personnel.

Lead Mechanical Engineer, Benjamin R. Sellers, PE, LEED® AP has more than 11 years of experience in mechanical engineering design, including energy conservation and green building design, cost estimating, load designs, and building surveys.

Senior Mechanical Engineer Uday N. Patel, PE, LEED® AP is responsible for developing high quality conceptual and construction documents and specifications for mechanical engineering projects for commercial, institutional, government and educational facilities. His experience includes heating, ventilating, air conditioning, plumbing, fire protection and industrial ventilation system selection and design. Other duties have included field survey, in-house review and project coordination; load calculations, system selection, computer load modeling, life cycle costing analysis, energy conservation, value engineering; specification developing, editing and composition; cost estimating; feasibility studies; energy management systems and automatic temperature control

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

types of projects. He has been involved in or directed the design of thousands of square feet of retaining walls and soil embankment applications. Mr. Sawitzki has performed slope stability analyses using programs UTEXAS2 and UTEXAS3, seepage analyses using 2D and 3D finite element programs including SEEP2D and FEFLOW, and also has experience conducting settlement, bearing capacity and other types of geotechnical analyses related to the use of geosynthetic materials. Over 10 years working with AMEC, Mr. Sawitzki has worked closely with the proposed design team on multiple projects. He also has derived first-hand experience with local geotechnical soil conditions from several Camp Dawson projects, including the recent Modified Record Fire Range (MRFR) and South Gate Road Slip projects.

Environmental Planning and Permitting Manager, Martin J. Marchaterre, JD has over 19 years of environmental, regulatory, policy, and permitting experience working as a consultant to federal agencies, states, local governments, and private industry. He has managed projects concerning permitting, environmental assessments, transportation, storm water management, underground injection wells, biological assessments, land use, and pollution prevention. He has managed consulting service projects for the Army National Guard, U.S. Environmental Protection Agency, USACE, United States Navy, Occupational Safety and Health Administration, Nuclear Regulatory Commission, Department of Housing and Urban Development, Kentucky Transportation Cabinet (KYTC), municipalities, and private corporations and utilities.

Lead Landscape Architect, Karla S. Farrell, RLA, LEED® AP has more than 25 years of diverse experience in the field of landscape architecture. She is responsible for managing projects as well as coordinating design teams. Her abilities encompass all phases of landscape architecture from conceptual design and master planning through production of construction documents. Ms. Farrell's experience includes Federal, industrial, and commercial facilities site planning and design, natural resources management, and Best Management Practices.

Cost Estimator, Eugene G. Williams, PLS, CSI, CDT, ASPE is experienced in preparing technical and non-technical project specifications and cost estimates from preliminary through final design phases. Mr. Williams has developed architectural and engineering cost estimates for numerous projects to ensure projects remain within budget using contemporary construction market and materials knowledge in focused geographical areas.

Cost Estimator, James Hoy, CPE, ASPC has 12 years of cost estimating experience and 14 years of field experience on projects including their planning and execution. He has spent his career working with general contractors executing pre-construction services, construction management, and hard bid cost estimates for projects ranging $1M - $50M. He has serviced industrial, healthcare, institutional, commercial, and retail sectors.

Construction Manager, Carter B. (Bert) Zimmerman has 12 years of increasing responsibilities in the construction profession. He is serving as a site superintendent responsible for the daily oversight of construction activities on projects throughout the United States. He served 12 years in the United States Air Force in Civil Engineering career fields and retired at the rank of Master Sergeant (E-7). He was very successful in senior leadership roles, construction and workforce management.

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

Project Team Resumes

JOSEPH J. HENNESSEY, RA, LEED® AP

amec

Project Manager/Senior Architect

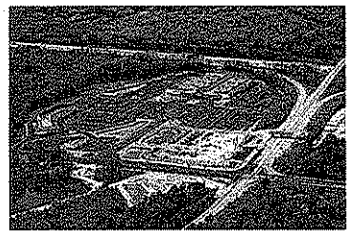
Professional qualifications

Registered Architect, ME, NH, VT, MA, NY, MD, DE, VA, PA, CT, RI, NCARB

Education

BS, Architecture, Pennsylvania Institute of Technology, 1964

Selected project experience

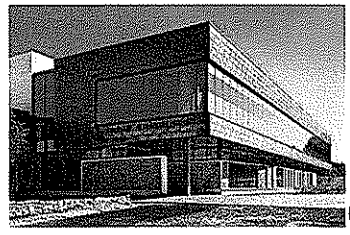


Gateway at Scarborough, New England Expedition LLC, Scarborough, ME – Director of architecture for the 48,000-square-foot Gateway Shoppes in the Gateway at Scarborough, a mixed-use development located on 75 acres of land on Payne Road. The project cornerstone is a 138,000-square-foot Cabela's retail store; however, the development will also include space for smaller retail facilities, restaurants, office space, and a hotel.

Warehouse and Distribution Center, Milton-Cat, Milford, MA - Director of architecture for converting an 85,000-square-foot light manufacturing distribution center to a heavy parts distribution center. The scope of work included designing two intuitive public entrances, developing new receiving and loading docks, segregating large and small parts storage, upgrading offices spaces, reinforcing concrete slabs, coordinating and supervising installation of material handling conveyors, etc.

Caterpillar Power Systems Building, Milton-Cat, Milford, MA - As project architect, provided design services for converting an 87,000-square-foot office / warehouse structure into a truck engines and generator maintenance and repair shop for Caterpillar supported equipment. The work included major modifications of the existing warehouse, cutting openings for large equipment, as well as a completely independent structural system to support overhead cranes. A mezzanine was reinforced to support anticipated warehouse load. The concrete floor was removed and replaced with a system to support the heavy equipment loads.

Caterpillar Sales & Service Facility, Southworth Milton, Inc., Clifton Park, NY – As project architect provided complete design and construction services for a new sales and maintenance facility in the Saratoga area of New York State. The new facility is a campus plan design, with initial planning and design for two buildings. The main building is a metal building of approximately 65,000 square feet, and houses a sales and administrative support area, warehousing, truck maintenance and support space, and large equipment maintenance space.



Student Recreation Center, University of Maine, Orono –Director of architecture for architectural services, engineering and design services, and construction administration and inspection for a new 90,000-gross-square-foot LEED Silver certified Student Recreation Center. Architecturally, AMEC designed the administration offices, welcome areas, locker rooms and rest rooms, roofing systems, and vertical building transportation including elevator design and construction

MICHAEL DELETETSKY, PE

Quality Assurance / Quality Control Manager

Professional qualifications

Professional Engineer, ME; NH; VT; MA

Education

BS, Civil Engineering, University of Maine, 1979

Selected project experience

Maine Army National Guard - Field Maintenance Shop (FMS) #3, Bangor, ME - Responsible for design quality control for this 2,300-square-foot renovation project. Design included modifications to existing support spaces such as a tool storage room, battery storage room, facility maintenance room, and male/female restrooms with radiant heating.

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.

MICHAEL M. PHILLIPS, AIA, LEED® AP

Assistant Project Manager/Lead Architect

Professional qualifications

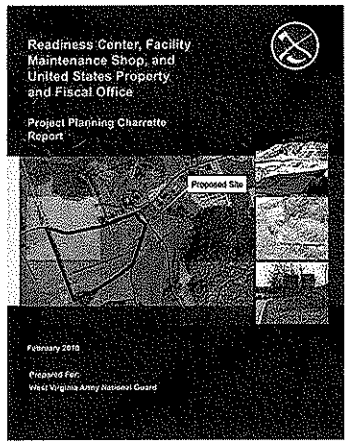
Registered Architect, WV, PA, VA, FL, TN
NCARB
LEED 2.0® Accredited Professional

Education

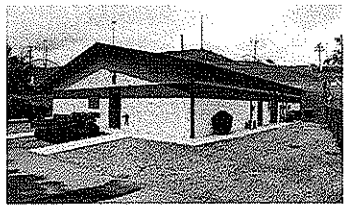
Bachelor of Architecture, Architecture, University of Tennessee, 1988

Selected project experience

Rappel Tower and Leadership Reaction Course, WVARNG / USACE, Camp Dawson, WV – Project manager for design and construction administration for a rappel tower, field leadership reaction course, and associated facilities, including an AAR shelter, storage building, control / medical pavilion, latrine, utilities, parking, and demolition of existing facilities. Responsible for space programming and architectural design, design team coordination, and served as the client liaison.



Design Charrette, Buckhannon Readiness Center, USACE, WV – Project manager for design and consulting services including meeting facilitation and preparation of supporting documents used during a design charrette to plan a proposed Readiness Center, USPFO facility, and warehouse. Responsible for facilitating discussions on space allocation, end-user needs, and functional requirements, along with reviewing existing DD 1391 documentation and site/building integration.



Combat Arms Training Simulator (CATS) and Combat Arms Training and Maintenance (CATM) Facility Design, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA - Senior architect for conceptual through 100% design for a 2,800-square-foot CATS and CATM facility including administrative offices, classrooms, and maintenance and storage areas. Responsible for space programming and architectural design.

Fuel System Maintenance Dock Repair, Building 304, USPFO PA/171st Air Refueling Wing, Coraopolis, PA - Senior Architect for repairs and renovations to Building 304, a dual-use aircraft systems maintenance hangar, including extensive interior and exterior repairs, new office and tire shop, electrical and lighting upgrades, floor drains, ventilation and air breathing systems, and heating system modifications. Responsible for space programming and architectural design.

Squadron Operations Building 107 Repair, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA - Senior architect 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 space programming and architectural 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.

JEFFREY B. MORELAND, PE

Lead Electrical Engineer

Professional qualifications

Professional Engineer, WV, PA, TN, LA, MS, FL, GA
NCEES Record

Education

MS, Electrical Engineering, University of Pittsburgh, 1991
BS, Electrical Engineering, Carnegie-Mellon University, 1985

Selected project experience

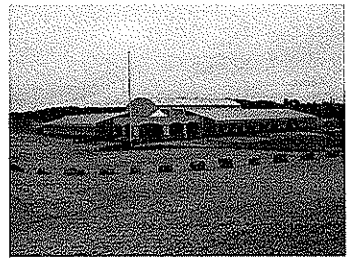
Rappel Tower and Leadership Reaction Course, WVARNG/USACE, Camp Dawson, WV - Senior electrical engineer for design and construction administration for a rappel tower, field leadership reaction course, and associated facilities, including an AAR shelter, storage building, control/medical pavilion, latrine, utilities, parking, and demolition of existing facilities. Responsible for design of lighting and power systems.

Squadron Operations Building 107 Repair, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA - Senior electrical engineer for field investigation and design for replacement of HVAC systems, installation of a wet pipe sprinkler system in the facility, 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 lighting, power, emergency and standby generation, telecommunications, fire alarm, CATV, and intrusion detection systems.

CATS and CATM Facility Design, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA - Senior electrical engineer for conceptual through 100% design for a 2,800-square-foot CATS and CATM facility including administrative offices, classrooms, and maintenance and storage areas. Responsible for design of lighting, power, emergency and standby generation, telecommunications, fire alarm, CATV, and intrusion detection systems.

Electrical and Communications Infrastructure Repairs, USPFO PA/171st Air Refueling Wing, Coraopolis, PA - Project manager for design of corrections to deficiencies in the base overhead electrical distribution system and communications distribution duct bank system at the 171st Air Refueling Wing. Responsible for analysis of existing systems and design for corrective actions.

Combined Army National Guard Readiness Center, Pennsylvania DGS/PA Army National Guard, Waynesburg, PA - Senior electrical 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 lighting, power, emergency and standby generation, telecommunications, fire alarm, CATV, and intrusion detection systems.



CVI **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.

SHERRY L. WOLFE, PE

Senior Electrical Engineer

Professional qualifications

Professional Engineer, WV, PA, MD, NJ, VA, DC, GA
NCEES Record

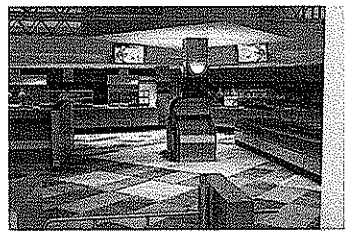
Education

BS, Electrical Engineering Technology, Pennsylvania State University, 1987

Selected project experience

Entry Control Gates and Cantonment Fence, USPFO for PA/193rd Special Operations Wing, Middletown, PA - Senior electrical engineer 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 checking and quality control review.

Energy Management Control System Design, Defense Distribution Depot, Susquehanna, New Cumberland, PA - Senior electrical engineer for design and preparation of contract documents to expand the existing energy management control system into a Depot-wide system for water, wastewater, electric, and natural gas. A previously-prepared BH SCADA network and utility metering study was the impetus for the project. Responsible for checking and quality control review.



Cafeteria and Command Headquarters Renovation (Building 11), Tobyhanna Army Depot, PA - Senior Electrical Engineer for design services for alterations, improvements, and kitchen equipment at the existing cafeteria area in Wing A of the Command Headquarters Facility (Building 11). Responsible for checking and quality control review.

Repairs and Alterations and Small Standard Building Design/Medium Standard Building Design, Baltimore and Capital Districts, USPS, Eastern Facilities Service Office, Greensboro, NC - Senior electrical engineer for indefinite quantity contract for repairs, alterations, and small and medium standard building design services, including adaptation of facilities to standard designs, which may comprise site/civil design; arranging standard building modules to fit the site; and architectural, structural, electrical, mechanical, plumbing, and HVAC design. Responsible for checking and quality control review on several projects.

German Embassy Restorations and Modifications, Washington, DC - Senior electrical engineer for project control/project management oversight for a $35 million renovation of three buildings in the historic German Embassy Complex in Washington, DC. Ms. Wolfe was responsible for onsite electrical reconnaissance, checking and quality control review of the 20% design documents.

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

facility at the Tobyhanna Army Depot. Responsible for design of mechanical systems.

- **Mechanical/Electrical Upgrades, Suburban Processing and Distribution Center, United States Postal Service, Gaithersburg, MD -** Mechanical engineer for preparation of design/build documents for mechanical/electrical upgrades to the United States Postal Service Suburban P&DC in Gaithersburg, MD. Responsible for design of mechanical systems.

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 development of design-build criteria and RFP package.

ROBERT BROWN, PE

Fire Protection Engineer

Professional qualifications

Professional Engineer, ME, NH, NY, FL

Education

BS, Mechanical Engineering, University of Maine, 1977

Selected project experience

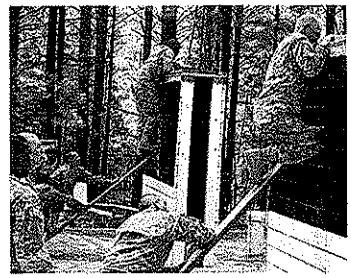
Maine Army National Guard - Field Maintenance Shop (FMS) #3, Bangor, ME - Designed heating, ventilating, mechanical, cooling and plumbing systems for shower facilities. Mr. Brown also designed a radiant floor heating system.

Milton Cat Facility, Hopkinton, NH - Reviewed an existing heating and ventilating system for an office space. Designed new ventilating systems to bring in outdoor air to comply with ventilation codes.

Milton Cat Sales and Service Facility, Batavia, NY - Performed mechanical engineering services for the approximately 100,000-square-foot building that includes wash bays capable of housing D9 bulldozers; sales area for Caterpillar equipment; administrative offices; and a service center.

Schoodic Education and Research Center, National Parks Service, Acadia National Park, ME - Designed heating, ventilating, air conditioning and plumbing systems for a new meeting room and dining room within a building formerly occupied by a Naval Commissary. The design included connection to existing fire protection, domestic water supply, and sanitary drainage piping. Developed performance specifications for a new sprinkler system compliant with NFPA 13 for an assembly / conference facility in a renovated cafeteria. Also reviewed sprinkler drawings, equipment submittals and hydraulic calculations for installed work.

Pre-Outfit 2 Building Expansion, Bath Iron Works, Bath, ME - Developed performance specifications and entrance locations and details for a new sprinkler system compliant with NFPA 13 for a multi-story office / storage / lunchroom facility. Reviewed sprinkler drawings, equipment submittals, and hydraulic calculations for installed work. Also visited the site and reviewed the installed work.



Regional Training Institute, Maine Army National Guard, Bangor, ME - One of the mechanical engineers for the Regional Training Institute (RTI). Calculated the flow and pressure requirements for a fire protection booster pump for new administration, dining and billet buildings. The RTI was designed in a campus style with three 2-story dormitories, dining facility, educational facility, and an administrative building.

Naval Satellite Operations Center (NAVSOC) Detachment Alpha, US Navy, Prospect Harbor, ME - Designed a clean agent fire suppression system safe for occupancy for a Navy satellite communications facility. Developed construction specifications and plans for system installation compliant with National Fire Protection Association and Unified Facilities Criteria requirements.

JEFFREY WALKER, PE

Lead Structural Engineer

Professional qualifications

Professional Engineer, ME

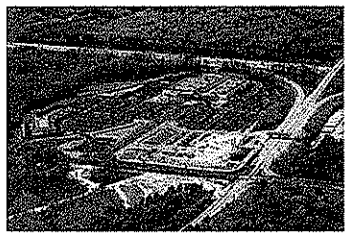
Education

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

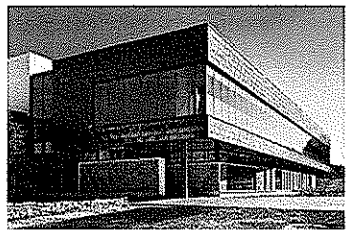
Selected project experience

Maine Army National Guard - Field Maintenance Shop (FMS) #3, Bangor, ME - Primary structural engineer for this 2,300-square-foot renovation project. Included modifications to existing support spaces, such as a tool storage room, battery storage room, facility maintenance room, and male/female restrooms with radiant heating.

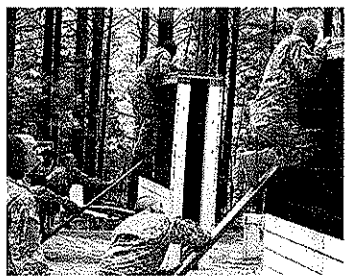
Sales and Service Facility, Southworth-Milton, Clifton Park, NY - Provided structural engineering for a new 65,000-square-foot sales and maintenance facility in the Saratoga area of New York State. There was an additional 10,500-square-foot utility building adjacent to the main structure.



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.

JEFFREY D. EVANS, PE

Senior Structural Engineer

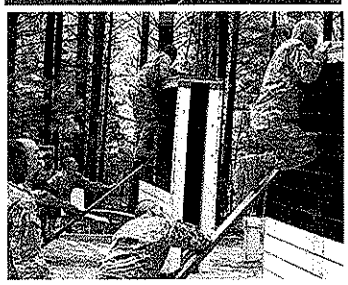
Professional qualifications

Professional Engineer, ME, PA, MA, DE, KY

Education

BS, Architectural Engineering, Drexel University, 1995
BS, Civil Engineering, Drexel University, 1995

Selected project experience



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

Maine Army National Guard - Regional Training Institute (RTI), Bangor, ME - Project architect 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.

Building #18, Bath Iron Works, Bath, ME – Lead structural engineer for existing 16,000 SF industrial building retrofitted for a new process that required design of a new 2-story high bay for an upgraded 30-ton crane and supporting structure. Existing structure needed to be analyzed and upgraded to accommodate the load effects from the vertical building addition and had to meet the latest code requirements.

Tuscarora Inn and Conference Center, Mt. Bethel, PA - The project consisted of an 18,000 SF multi-story conference center with cantilevered balcony. Mr. Evans performed gravity and lateral analysis; designed structural steel bents and framing members; analyzed existing structure for new loads; and designed concrete footings and flush masonry walls.

Portland International Jetport Terminal Expansion, City of Portland, ME - Lead structural engineer for the $75 million terminal expansion. This project consists of renovating the existing terminal and a 190,000 SF expansion. Seven new passenger gates, new security screening checkpoint, inline EDS outbound baggage handling system, revised inbound/outbound passenger circulation, bridged connection to the parking garage, food court, various retail spaces, and renovation of the existing terminal are all project components. LEED certification will be pursued for this project. Substantial completion is expected in November 2010.

DOUGLAS R. RICHARDSON, PE

MOMENT engineers, inc.

Structural Engineer Peer Reviewer

Professional qualifications

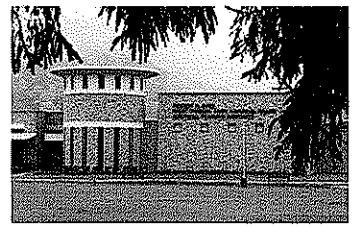
Professional Engineer, WV, MS

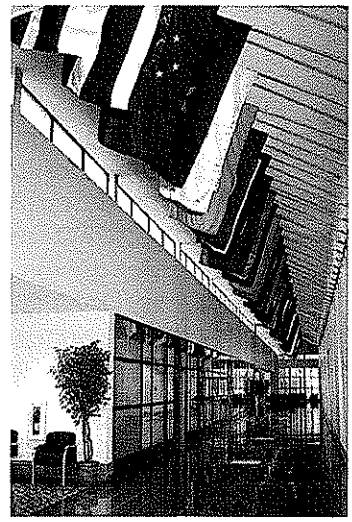
Education

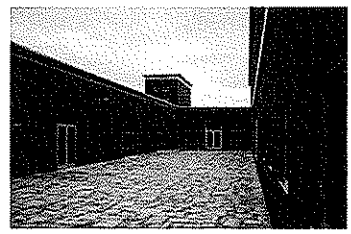
BS, Civil Engineering, West Virginia University, 1987
MS, Civil Engineering - major in structures and minor in construction, North Carolina State University, 1989

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.







DOUGLAS W GRABY, RA, LEED® AP

Lead Interior Designer

Professional qualifications

Registered Architect/PA/2000
LEED 2.0® Accredited Professional
NCARB

Education

BArch, Architecture, University of Tennessee, 1992

Selected project experience

Combined Army National Guard Readiness Center, Pennsylvania DGS/Pennsylvania Army National Guard (PAARNG), Waynesburg, PA - Project Architect 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 architectural design, space planning, furnishings, and interior finish selection.

Stryker Battalion Training Complex, USPFO for PA, Ft. Indiantown Gap, Annville, PA - Project architect 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 architectural design.

Mission Support Training Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA - Project Architect for complete A/E design for a $4 million, 24,000-square-foot C4I training facility for the National Guard's only Stryker Brigade. The facility, certified for the "Gold" level of USACE SPiRiT certification, serves as the command and control training facility centerpiece for the 28th Division's SBCT. Responsible for architectural design, materials selection to improve sustainable design of interiors, and interior space planning.

Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for PA/ Fort Indiantown Gap, Annville, PA - Project architect 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. Provided architectural design assistance and materials selection to enhance sustainable designs for individual office spaces and an open-space conference and training room area.

Battalion Storage Warehouse Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA - Project architect 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 interior space planning and panel board selection.

Architectural Services for Hardin County Schools, Savannah, TN - Project manager for physical facilities and site assessments of district facilities and design for two new elementary schools and renovations to five other facilities. The project included extensions, additions, and improvements to existing streets for two of the sites, requiring stormwater pollution plans and a water resources alteration permit. Responsible for

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.

DAVID K. KUEHNEN, PE

Civil Design Engineer

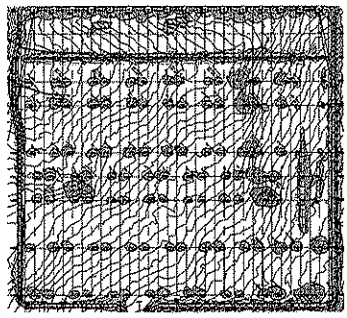
Professional qualifications

Professional Engineer, TN

Education

BS, Civil Engineering, University of Memphis, 1992

Selected project experience



- **West Virginia Army National Guard - Modified Record Fire Range, Camp Dawson, WV:** Civil engineer for design and plan production for a 16-lane firing-range located at the Briery Mountain training site. Due to the rugged terrain, a detailed line of sight analysis was completed to ensure each target could be seen from each firing point, minimize the earthwork to construct the range, and keep the project under budget.
- **Design Charrette, Buckhannon Readiness Center, USACE, WV** – Civil engineer facilitating discussions on site layout, utilities, grading, and other aspects of site development during a design charrette to plan a proposed Readiness Center, USPFO facility, and warehouse.
- **West Virginia Army National Guard – Planning Charrette for a Joint Armed Forces Reserve Center, Ripley, WV** - Civil engineer for planning charrette and initial site layout for a new Joint Armed Forces Reserve Center. The project includes an approximately 50,000-square-foot, single-story building to house a drill hall, military postal training facility, maintenance shop, motor pool for military vehicles, and parking for civilian vehicles. The 10,000-square-foot maintenance shop and motor pool can either be attached or separate from the Reserve Center.

- **West Virginia Army National Guard – Camp Dawson Boundary Fence** - Civil engineer for design and plan production for a perimeter fence for the Camp Dawson cantonment. The project consisted of grading and drainage design for approximately 8,850 linear feet of security fence along the southeastern portion of the Camp Dawson cantonment area. Included in the design was preparation of the Stormwater Pollution Prevention Plan (SWPPP) and obtaining the land disturbance permit.

- **West Virginia Army National Guard – Camp Dawson's Pringle Training Area, Motor Pool Site** - Civil engineer for design and plan production for a proposed motor pool on the Pringle Mountain tract for Camp Dawson. The project consisted of grading and drainage design for a 4.6-acre enclosed motor pool to support training activities on the Pringle Mountain training site. Included in the design was preparation of the SWPPP and obtaining the land disturbance permit.
- **West Virginia Army National Guard – Camp Dawson Multi-Purpose Building** - Civil engineer for design and plan production for a proposed 32,000-square-foot multi-purpose building at Camp Dawson. The design will include pad preparation, utilities, and required site improvements including parking and site drainage.

JOSEPH BELLINI, PE, PH

amec

Senior Civil Engineer

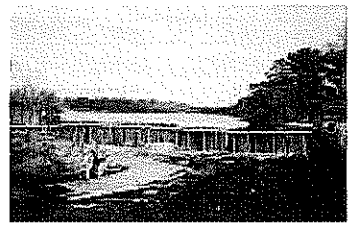
Professional qualifications

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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DAVID SAWITZKI, M.A.SC., PE

Lead Geotechnical Engineer

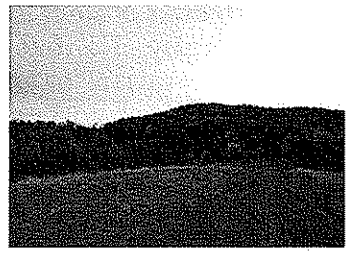
Professional qualifications

Professional Engineer, FL, KY

Education

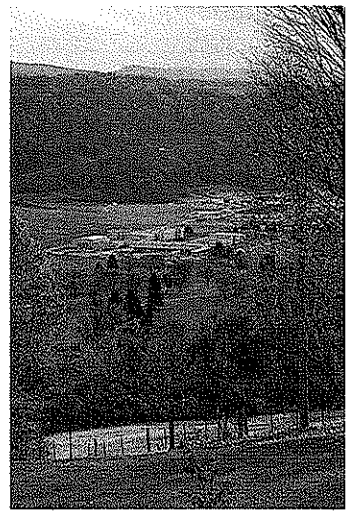
M.A.Sc., Civil Engineering, Geotechnical Engineering Program, University of Waterloo, 1989
B.S.E, Civil Engineering, Geological Engineering Program, Princeton University, 1988

Selected project experience



West Virginia Army National Guard – Modified Record Fire Range (MRFR) Geotechnical Study, Camp Dawson, WV - Geotechnical study project manager for a new MRFR. Included site assessment and site preparation, pavement, and foundation recommendations for a 30+ acre range, supporting buildings and an access road on rough, hilly terrain. Provided layout support, geotechnical borings, laboratory testing, and geotechnical engineering recommendations for civil and structural design. Work completed to optimize rock and soil bearing foundations.

West Virginia Army National Guard - South Gate Road Slip, Camp Dawson, WV - Geotechnical principal-in-charge for a slope repair to prevent South Gate Road from sliding into the Cheat River. Included advancing 10 borings to top of bedrock and into bedrock within a 300-foot failed slope area, surveying failed road and slope, thorough laboratory testing program, and developing a typical cross section describing the failing slope conditions. A series of slope repair design concepts were evaluated geotechnically and structurally and presented to the Owner for selection. Complete civil and structural plans and specifications were prepared for the selected repair option and prepared for contractor bidding.



West Virginia Army National Guard - Camp Dawson Hydrogeologic Groundwater Assessment - Geotechnical principal-in-charge to study surficial / groundwater interaction within the 410-acre Camp Dawson cantonment area. Six borings and six monitor wells were installed to investigate subsurface conditions and measure alluvial soils subsurface transmissivity as well as bedrock beneath the site. Developed a computer model of the area using three-dimensional MODFLOW to evaluate several potential solutions to control high groundwater levels. A French drain system proved the most effective.

West Virginia Army National Guard – Joint Interagency Education and Training Center (JIETC) Geotechnical Study - Geotechnical principal-in-charge for a planned 3- to 4-story, 150,000-square-foot JIETC. Structural loads of 300 Kips and 4.0 KLF for column and wall loads were considered. To develop recommendations for a foundation system to support this building on the relatively soft alluvial soils of the Cheat River Floodplain, 12 borings were advanced to bedrock and 6 were advanced up to 10 feet into bedrock, while an additional 6 borings were completed in parking areas. A deep foundation system consisting of auger cast-in-place piles was recommended to support the structure within the dense sands and gravels beneath the site.

MARTIN J. MARCHATERRE, JD

Environmental Planning / Permitting

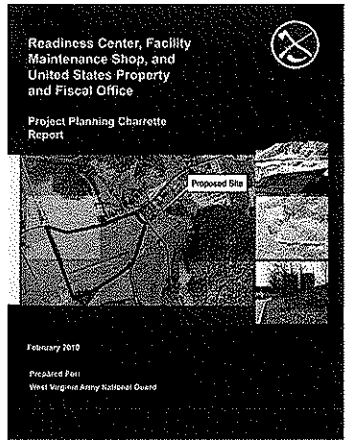
Professional qualifications

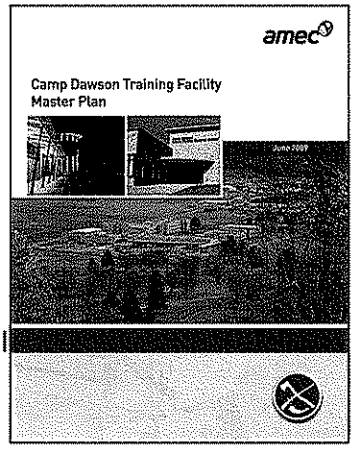
Virginia Bar Association - Environmental Law Section, Military Law Section
District of Columbia Bar Association - Environmental, Energy and Natural Resources Section

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.

KARLA S. FARRELL, RLA, LEED® AP

Landscape Architect

Professional qualifications

Registered Landscape Architect, PA, MD, VA
CLARB
LEED 2.0® Accredited Professional

Education

BS, Landscape Architecture, Pennsylvania State University, 1984

Selected project experience

Carlisle Barracks Site Plan, US Army Corps of Engineers, Carlisle, PA - Senior landscape architect for site evaluation, road and infrastructure layout options, building floor plans, and utility layout for multi-family dwelling units constructed as replacements for 175 undersized and outdated units in an existing residential area. Responsible for development of five conceptual site plans for multi-family dwelling units.

Post Office Renovation and Addition, US Postal Service, Ellicott City, MD - Senior landscape architect for complete architectural/engineering services for renovation and addition to Ellicott City Post Office, including a new retail area, box lobby, administrative offices, men's and women's locker rooms, break room, a portion of the workroom, building and grounds, and mechanical/electrical rooms. Responsible for developing conceptual layout and grading plan.

Trexler Nature Preserve "Green" Environmental Center, Lehigh County, Allentown, PA - Senior landscape architect for architectural and engineering services for design, specification, and construction of a 3000-square-foot sustainably-designed environmental center. Responsible for development of conceptual layout and grading plan.

Civil Engineering for Hershey Center for Applied Research Building 2, Wexford Science and Technology LLC, Derry Township, PA - Senior landscape architect for preparation of land development plans and construction documents associated with site improvements for Building 2, including Englewood House and Barn proposed to be used respectively as a restaurant and an educational laboratory. Site improvements included additional grading, parking, and stormwater management controls. Responsible for developing conceptual layout and grading plan.

Civil Engineering Services for the Hershey Center for Applied Research, Hershey Trust Company, Derry Township, PA - Senior landscape architect for civil engineering services for a planned 165-acre research campus, including preparation of land development plans and approvals, erosion and sediment control design and permitting, DEP, NPDES permitting, construction documents, cost estimates, value engineering, bidding, and construction administration and inspection related services. Responsible for coordination of all site design, adjacent road improvements, and landscape plan.

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.

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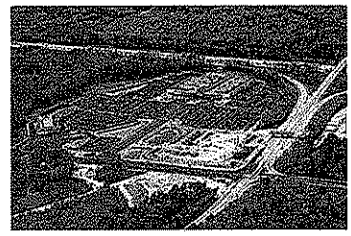
JAMES E. HOY, CPE, ASPC

Cost Estimator

Education

BS, Management Advisory Services, Southern New Hampshire University, 1980

Selected project experience



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

New Fitness Facility, Naval Station (NAVSTA) Newport FACD, Newport, RI - Performed conceptual and detailed cost estimating to keep design / cost to construct ratio in balance. This project is for development of a design/build request for proposal to construct a new fitness facility, provide new lighting, construct a new parking area, and for construction of a new softball field and new tennis courts adjacent to the fitness center building. Also included in the scope of work is demolition of buildings. The program for the fitness facility includes the design of a medium size facility and is to include a two-court gymnasium with a three-lane track over a fitness area with space for exercise equipment, a separate parent / child fitness area, a natatorium, two racquetball courts, two group exercise rooms, storage, and support spaces. Administrative space for offices and training rooms are required. Locker rooms sufficient to support the pool, gymnasium, and the fitness area are program spaces within the facility.

Reserve Naval Mobile Construction Battalion 27 FACD, Chicopee, MA - Conceptual and detailed cost estimating to keep design / cost to construct ratio in balance. This project is to support closure and transfer of Reserve Naval Mobile Construction Battalion 27 to Westover Air Reserve Base located in Chicopee, Massachusetts. This facility houses maintenance shop, supply / logistics, material storage, woodworking shop, classrooms, medical, operations office, quarterdeck, administrative offices, training office, material logistics office, and an armory for storing small arms and ammunition. The project will provide integrated sustainable design strategies and features to minimize the energy consumption of the facilities; conserve resources; minimize adverse effects to the environment; and improve occupant productivity, health, and comfort. Site features will be designed and constructed to meet a minimum of "Certified" in the US Green Building Councils (USGBC) LEED Rating System version 2.1". The facility will be a single-story steel frame structure with reinforced masonry walls and brick veneer construction. The simulator facility will be a single-story facility constructed of split face CMU. The facility foundations will be shallow spread footings with concrete floor systems.

Similar Projects

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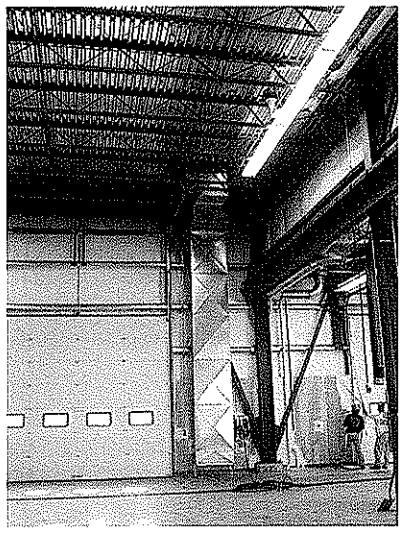
Field Maintenance Shop (FMS) #3
Building Addition Phase 1 & 2 and Renovation (12,000 SF Total)
Maine Army National Guard
Bangor, ME

Addition - Phase I

AMEC designed a 6,700-square-foot addition to the Army National Guard's existing Operations and Maintenance facility located in Bangor, Maine in 2005. The facility services vehicles and construction equipment in support of the Army National Guard's mission.

Relevance to Services Required	
✓	9,700 square feet of FMS space
✓	Support spaces
✓	AT/FP design
✓	A/E design
✓	Civil engineering



The new facility has an overhead crane, radiant floor heating, vehicle warm-up spaces, vehicle exhaust extraction systems, and an upgraded electrical service.

AMEC's services included full design, bidding, and construction administration services.

Addition - Phase II

The Army National Guard asked AMEC to complete the second phase of this project for the newly renamed, Facility Maintenance Shop (formerly the Operation and Maintenance Shop).

AMEC designed a 3,000-square-foot addition to house support spaces such as administrative offices, restrooms, storage, and a lunchroom as well as an EIFAS study, and permitting. Antiterrorism / force protection (AT/FP) regulations were also incorporated into the design.

Renovation

Following Addition - Phase II, AMEC was requested to provide design services to demolish and renovate approximately 2,300 square feet of interior space, including male/female restrooms with radiant floor heating, facilities maintenance, tool storage, and battery storage.

AMEC also provided civil design services, including stormwater, grading, paving and utilities.

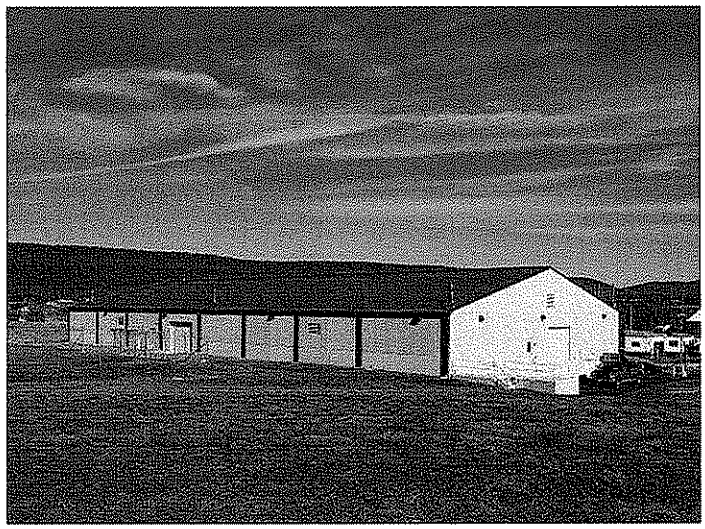
Battalion Unit Site Storage Warehouse Design
USPFO PA/Fort Indiantown Gap
Annville, PA

Background. BH provided conceptual through 100% design services for the Stryker Brigade's 20,000-square-foot battalion storage area, which gives rotating units secure space for equipment storage while training at Fort Indiantown Gap, Pennsylvania. The facility features centralized storage compartment access (a wide central bay area is provided to allow easy forklift access throughout the facility); secure cage areas (individual company-sized storage areas are provided to allow easy vertical stacking of palletized loads); and a secure storage area (a secure vault provided to handle temporary storage of sensitive equipment).

Relevance to Services Required	
✓	20,000-square-foot warehouse, storage space/vehicle loading, and delivery areas
✓	EnergyStar standing seam roof and DDC controls
✓	Centralized access and secure storage vault
✓	AT/FP compliant
✓	Pre-cast concrete sandwich panels to decrease construction time and reduce overall costs
✓	Thickened floor slabs for future adaptive reuse potential
✓	Site design including erosion and sediment control, stormwater management, all utility connections
✓	Sustainable design: SPiRiT level "Silver"

Project Description. The facilities were designed in accordance with Army and National Guard sustainable design standards and IBC 2003. The facility is rated "Silver" using the USACE SPiRiT rating system. Construction materials include a pre-engineered steel frame structure with pre-cast concrete walls, an EnergyStar-compliant standing seam metal roof system, and high-energy efficiency/DDC mechanical systems. Physical security and AT/FP features are designed into the site and facility itself including advanced electronic surveillance and security systems. We ensured early coordination of all site permitting including PNDI searches and the necessary National Pollutant Discharge Elimination system (NPDES) permitting and stormwater control.

This storage area has become a model design for follow-on post needs and sets the design standard for facilities of this size at Fort Indiantown Gap. Floor slabs were thickened to allow adaptive reuse in the future to include possible maintenance operations, and the cage areas are easily removed to allow individual offices to be built in the future out of concrete masonry unit (CMU) block. Careful consideration was given to building approach angles to facilitate easy deliveries while minimizing the exposure offered by perpendicular alignment of driveways toward the building. A loading ramp provides easy materiel transfer in and out of the facility.



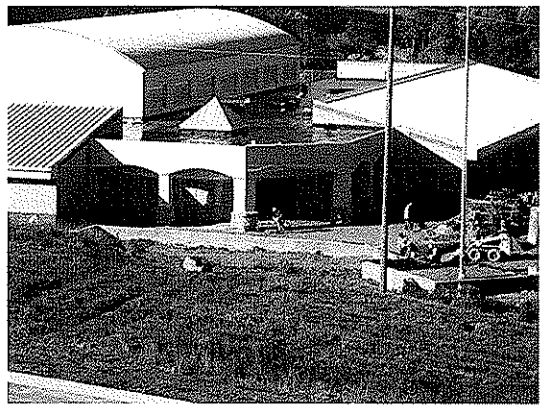
Combined Readiness Center
Pennsylvania Army National Guard
Waynesburg, PA

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.

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

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.

Major Type A and Type B planning and design tasks for the Readiness Center include:

- Conducting site utilities layouts, topographic surveying, and geotechnical investigations
- Developing site and environmental plans to address erosion and sediment control, stormwater management, and impacts on existing base air/water environmental permits
- POV and military vehicle parking areas and landscaping; AT/FP controls and standoff management
- Conducting interdisciplinary design charrette to develop preferred floor plan and layout
- Incorporating LEED-based sustainable design features to enhance building envelope and energy related systems
- Energy saving standing-seam metal roof system with cavity wall and split faced block construction
- Developing backup power generation system to include switchgear, and UPS/power conditioning systems
- Providing energy efficient HVAC system equipped with Direct Digital Controls
- Providing adequate safety features for maintenance training and the storage of hazardous materials
- Providing future options for communications installation and network development within the building and connected to base system.

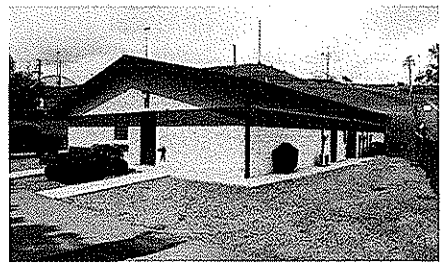
Combat Arms Training & Maintenance / Combat Arms Training Simulator USPFO PA/171st Air Refueling Wing Coraopolis, PA

Relevance to Services Required	
✓	Indoor small arms simulation and maintenance training facility
✓	2,800-square-foot combined training and maintenance spaces including weapons maintenance area
✓	Site, utilities, and vehicle/ pedestrian circulation design; geotechnical investigation
✓	Physical security, AT/FP compliance
✓	Interior HAZMAT storage and fire protection
✓	HVAC system provides enhanced ventilation for interior spaces during weapons training

BH provided conceptual through 100% designs for a 2,800-square-foot small arms simulator training and maintenance facility to conduct individual and collective marksmanship training at the Air Reserve Center supporting the 171st Air Refueling Wing. This project becomes the primary qualification training facility for small arms on the installation, preventing pollution by minimizing the use of lead rounds in the environment.

Space programming for the facility includes:

- **Simulation Room:** Allows CO_2 system firing of small arms weapons with laser and projector-based simulator
- **Weapons Maintenance Area:** Dedicated cleaning and maintenance area capable of handling hazardous materials and providing appropriate safety controls (fire safety and ventilation)
- **Instructor Area:** Dedicated area for administrative record keeping and trainer preparation
- **Administrative Storage:** Storage room for training support materials
- **AAR and Classroom Areas:** Flexible swing space designed to allow AARs or be used for formal classroom training
- **Individual Mechanical/Electrical and Communication Rooms**
- **Latrines**



The Simulator Training and Maintenance Facility is designed in accordance with current Air National Guard sustainable design standards. The building consists of a simple split-faced block cavity wall system, low maintenance aluminum window and door frames, 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.

Major design tasks for the CATM/CATS included:

- Conducting site utilities layouts, topographic surveying, and geotechnical investigations
- Developing site and environmental plans to address erosion and sediment control, stormwater management, and impacts on existing base air/water environmental permits
- Conducting design charrette to develop preferred floor plan and layout
- Incorporating sustainable design features to enhance building envelope and energy-related systems
- Providing centralized fire protection
- Providing energy efficient HVAC system equipped with Direct Digital Controls
- Providing adequate safety features for operation and maintenance of small arms weapons and hazardous materials
- Providing future options for communications installation and network development within the building and connected to base system.

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Caterpillar Sales and Service Facility
Batavia, NY

	Relevance to Services Required
✓	115,000-square-foot sales and service space
✓	Life safety analysis
✓	Mechanical and electrical equipment
✓	Building site planning
✓	Energy conservation features

AMEC provided design and construction services for a new 115,000-square-foot regional sales and service facility in Batavia, New York. The facility includes wash bays capable of housing D9 bulldozers; sales area for Caterpillar equipment; administrative offices; and a service center. It encompasses multiple functions under a single roof. A utility structure contains wash bays able to accommodate D9 bulldozers as well as a weld shop, and a dynometer bay for diagnostic testing of equipment. The main facility contains two shops that can accommodate Milton CAT's largest pieces of equipment for any manner of repair. An engine repair clean room allows technicians to diagnose and repair any of Caterpillar's various engine types using state-of-the-art instruments. An extensive parts warehouse incorporates high bay storage shelving, which allows technicians ample resources to provide customers a high level of service. Office space accommodating facilities personnel as well a full sales staff rounds out this project as a truly full service facility.

The building's structural system utilizes conventional structural steel and provided the client with an open floor plan by strategically locating the lateral force resisting system. The building was clad with a combination of insulated metal panels combined with concrete masonry walls. The masonry walls were provided around the perimeter of the structure to ensure a durable wearing surface required of a large-scale vehicle maintenance facility.

The facility design required an extensive life safety analysis for fire protection and means of egress due to the mixed uses contained in the building including office space and vehicle maintenance areas. The heating systems design was analyzed for viability in relationship to life cycle costs as well as comfort for the technicians. The site, a former farm field and adjacent to a named 100-acre swamp, was studied to determine wetland issues as well as soil capacities and makeup. Special issues that required extensive design analysis for the numerous bridge cranes, varying lighting levels for different uses, and site design for a facility that requires a fairly slight slope, created an extensive analysis to remove water and meet the state and federal environmental agencies requirements. Studies were conducted for special vehicle movements, exhausting maintenance bays, potable water supply, and recycling vehicle wash bay water.

In addition to providing the design services for this facility, AMEC provided on-site construction management services using the AIA Construction Manager/Advisor structure. AMEC was responsible for the preparation, solicitation, evaluation and award of Trade Contract bid packages and negotiation and preparation of Change Orders. Onsite, full-time construction managers were responsible for scheduling, managing, and inspecting the work. AMEC's A/E staff was responsible for review and approval of shop drawings and submittals. Since the construction manager was involved with the project from the conceptual design phase, AMEC was able to provide a seamless transition between design and construction for the client. AMEC has worked with Milton CAT for the past 20 years performing a variety of Design-Build projects including new construction and renovation throughout New England.

Caterpillar Power Systems Building
Milford, MA

AMEC provided design, permit, and construction management services for conversion of an 87,000-square-foot office / warehouse structure into a truck engines and generator maintenance and repair shop for Caterpillar supported equipment. The work included major modifications of the existing warehouse, cutting openings for large equipment, as well as a completely independent structural system to support overhead cranes. A mezzanine was reinforced to support anticipated warehouse load. The concrete floor was removed and replaced with a system to support the heavy equipment loads.

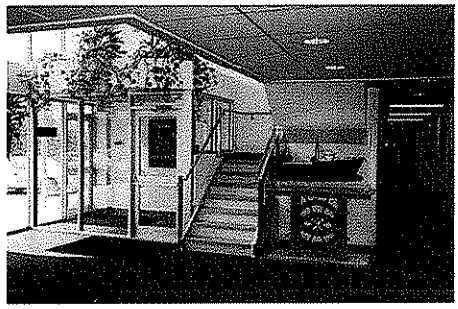
The two-story office spaces were completely renovated to meet the needs of the new tenant. Improvements included a monumental stair at the main entrance, several stair towers for access to the shop area as well as emergency egress.

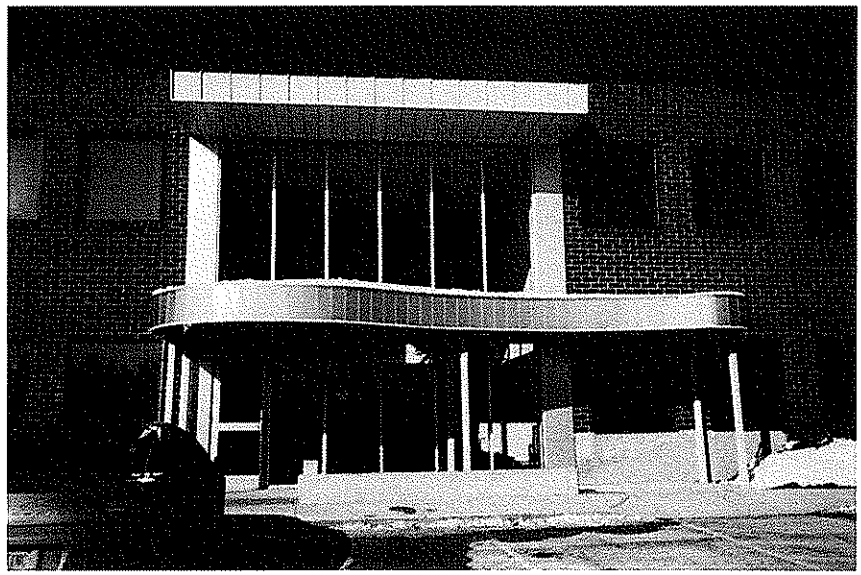
Relevance to Services Required	
✓	87,000-square-foot office and warehouse space
✓	Permanent masonry construction
✓	Concrete floors
✓	Mechanical and electrical equipment
✓	Emergency power generation
✓	Flammable materials storage
✓	Access road
✓	Sidewalks
✓	Utilities
✓	Building site planning
✓	Energy conservation features

Staff support items included a separate employee entrance, locker and toilet facilities, lunch / break space, a high tech computer room, training rooms, and easily-accessible supervisor spaces. The dramatic entrance lobby and storm vestibule helps relay to clients that this building, although economical in design, is a world class service facility worthy of their service commitment.

In addition to providing the design services for this facility, AMEC's staff provided full time on-site Construction Management (CM) services. Having the CM staff involved with the design team from the beginning enabled the client to understand the process, evaluate budget decisions, and provide a smooth transition from concept to turning keys over to the users.

This project is just one of the successful projects AMEC has designed and managed for Milton CAT throughout the Northeast.





Milton CAT Distribution Center
Milford, MA

AMEC was responsible for converting an existing 85,000-square-foot light manufacturing distribution center to a heavy parts distribution center for Milton CAT in Milford Massachusetts. Milton CAT is a long time client of AMEC's South Portland office.

The scope of work included designing two intuitive public entrances, developing new receiving and loading docks, segregating large and small parts storage, upgrading offices spaces, reinforcing concrete slabs, coordinating and supervising installation of material handling conveyors, etc.

The main visitor's entrances includes touch screen inter-active displays that allow the incoming public to contact a behind the scenes receptionist who can interact through audio and visual equipment to determine needs and "buzz" them in if appropriate.

Relevance to Services Required	
✓	85,000-square-foot warehouse
✓	Concrete floors
✓	Mechanical and electrical equipment
✓	Emergency power generation
✓	Flammable materials storage
✓	Controlled waste handling
✓	Access road
✓	Sidewalks
✓	Utilities
✓	Building site planning
✓	Energy conservation features

The clients' entrance is also an intuitive public space where an incoming parts person can use a touch screen to order the parts needed and then proceed to the pickup area, or if appropriate interact with Milton CAT staff to complete their transaction.

If parts were ordered through a purchase order process and a service technician or delivery person is just picking up the parts, there is an interactive screen that tells them where to pick up the parts at a specific bin without interacting with Milton CAT staff. This allows 24-hour pickup service for contractors who may want to repair their equipment during non-working hours.

Working with a specialized material designer, the team worked closely with the users to give the client a state-of-the art facility that will also allow modification as technology improves efficiency.

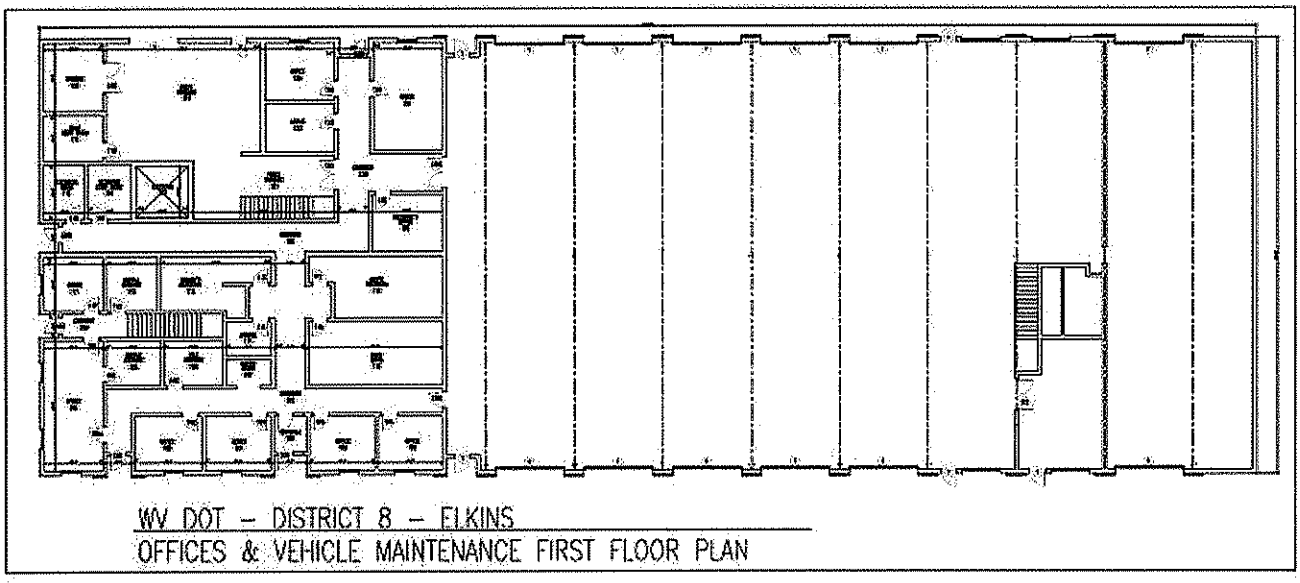
Elkins Maintenance Facility
West Virginia Department of Transportation
Elkins, WV

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.



Mission Support Training Facility Design
U.S. Property & Fiscal Office (USPFO) PA
Fort Indiantown Gap, Annville, PA

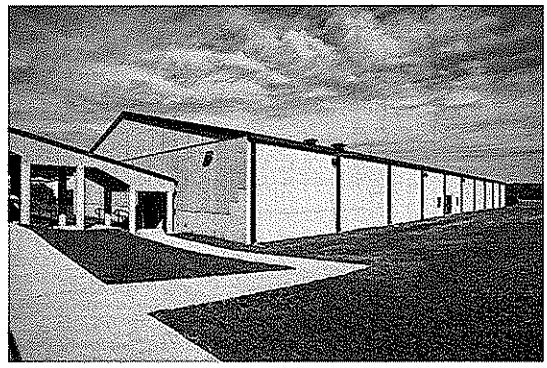
Background. Pennsylvania is fielding the Army's only National Guard Stryker Brigade, and the primary training location for this brigade is at Ft. Indiantown Gap, PA. The facilities requirements are driven by the highly specialized nature of Stryker Brigade Combat Team (SBCT), necessitating the latest technologies in information management and telecommunications. BH provided architectural, mechanical, electrical, plumbing, telecommunications, fire protection, security, and site designs for a 24,000-square-foot Mission Support Training Facility (MSTF).

Project Description. This facility serves as the command and control training centerpiece for the 28th Division's SBCT. Units may conduct individual automation training and up to brigade-sized, classified command and control training exercises. This facility is able to handle all of the Stryker Brigade's advanced and extremely sophisticated telecommunications and simulation training needs.

The MSTF is designed with a future adaptive reuse potential in mind, yet optimized for today's information management training needs. The MSTF includes:

- **Secure room** capable of processing and storing classified information and incorporating Secret Internet Protocol Router Network (SIPRNET) communication connectivity
- **Force Battle Command Brigade and Below (FBCB2) Simulation Area** (reconfigurable open space with overhead cable trays to allow flexible C4I equipment and work station configuration)
- **Higher Control (HICON) Area** (Data and information management, configuring, testing, and administering simulation exercises)
- **Administrative Area**, an open space area outfitted with modular furniture for contracted support staff
- **After Action Review (AAR) Areas** provide flexible swing space for conducting AARs or for use in supporting simulation and collective C4I training exercises
- **Individual office areas, a break/kitchenette area, conference room, and latrines** are also provided within the facility. The existing utilities of neighboring facilities required deliberate planning and routing to ensure disruptions and encroachments were minimized while providing full service to the MSTF.

Relevance to Services Required	
✓	24,000-ft² Information Management Training Facility
✓	Planning and design charrettes
✓	Classified training areas with high security telecommunications and data centric networks
✓	AT/FP Compliant facility and site
✓	Sustainable Design; SPiRiT rating "Gold" design
✓	Stormwater, Erosion, and Sediment control permitting; geotechnical investigations
✓	Full site design including grading, utilities, pedestrian and vehicular routing, parking and physical security features
✓	Adaptive reuse design concept with thickened concrete floor slabs
✓	Emergency power generation and backup system



The facilities were all 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 to the "Gold" level of U.S. Army Corps of Engineers (USACE) Sustainable Project Rating Tool (SPiRiT) certification, leveraging an Energy Star-compliant standing seam metal roof system, unique building envelope with enhanced R-value and blast protection sandwich construction pre-cast concrete wall panels, Kalwall ambient lighting systems in the endwalls, innovative site design, and high energy efficiency using Direct Digital Controlled energy management systems. In addition to designing a robust power, security, and communications spine, a backup power generation system was designed that included switchgear, and UPS/power conditioning systems. The site design included unique landscaping berming (blast deflection designs) that blended AT/FP considerations with a constrained site condition to offset limited standoff distance challenges. The team designed utility routing, stormwater features, parking lots, and vehicle staging areas, and conducted the appropriate geotechnical investigations to ensure appropriate foundation designs to support for Stryker vehicles and tracked weapons systems.

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

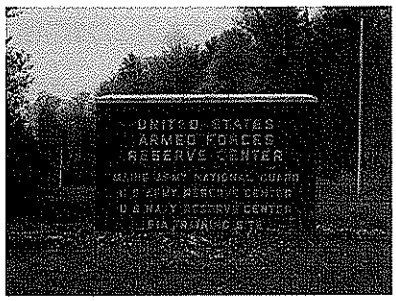
Project Description. This centralized administrative and bed-down complex houses a full battalion of soldiers and their associated personal equipment. BH led the SBCT through a two-day charrette to plan and program each portion of the complex. Upon conclusion of the charrette, the unit was given a full 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.

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

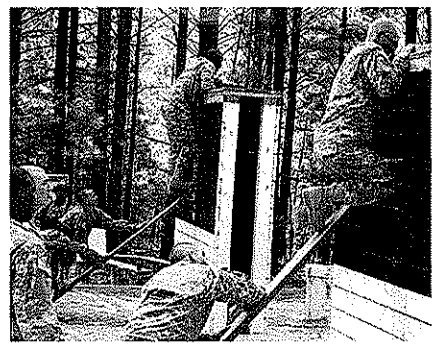


The safety of our military personnel is based on the equipment they have and the education they are prepared with. This tremendous amount of education and equipment training takes place at Regional Training Institutes (RTI). The Maine Army National Guard (ARNG) selected AMEC-OEST and Burns&McDonnell 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.

Design Charrette, Buckhannon Readiness Center West Virginia Army National Guard Buckhannon, WV

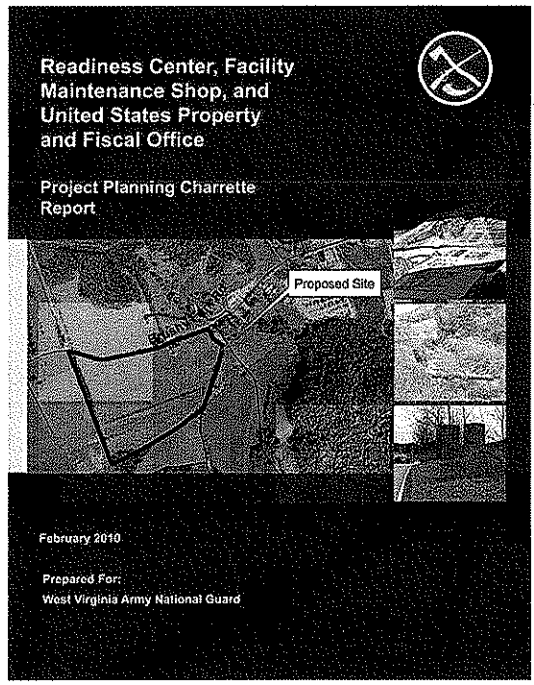
Relevance to Services Required	
✓	Design charrette
✓	WVARNG facility
✓	DD 1391 review
✓	Programming revision
✓	Cost estimating

The BH/AMEC team led a planning charrette with the West Virginia Army National Guard (WVARNG) and key stakeholders to lay out user needs, validate programming requirements, and better understand operational building and site constraints for the proposed Readiness Center, USPFO administrative facility, USPFO warehouse, and FMS to be co-located on a large site in Buckhannon, West Virginia. Combined, these four facilities provide significant upgrades to existing state facilities that lack the appropriate space, code compliance, and functional alignment to conduct the required training for the state's Guard forces and accommodate the necessary workflows to enhance administrative and contracting support along with improved logistical functions.

This project included a three-day on-site planning charrette workshop and site visits prior to the charrette. BH and AMEC held discussions on the project details with key installation stakeholders and reviewed the existing 1391 programming documents and cost estimates. The team provided representatives for the following technical disciplines:

1. Charrette Facilitator/Team Leader
2. Civil/Site Engineer
3. Architect

During the charrette, detailed discussions with the stakeholders were split between building and site considerations. Building discussions focused on space allocation and adjacencies, inter-functional use / design, layout, building orientations, and special requirements such as generators or hazardous waste handling considerations. Site discussions encompassed standoff distances and AT/FP considerations, physical security, utilities, drainage, access, traffic, parking, and lighting designs and needs. Special focus and attention was given to geotechnical and environmental considerations of the proposed site based on readily available data only. Environmental discussions included stream and wetland mitigation issues. Deliverables for the project included updated cost estimates, revised programming and layout presentation options for the buildings and site, and a compilation of significant findings including opportunities and constraints for the given site and envisioned land uses.



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 Field Maintenance Shop (FMS). 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 (6,700 SF FMS Addition, Bangor; 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, warehouse / distribution centers, and maintenance facilities, and offers this knowledge and expertise on this project. Whether the design elements include maintenance shops, fueling facilities, 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 an approximately 20,000-square foot-field maintenance facility located in Upshur County WV. Per the information contained in the Request for Proposal, design and engineering services will include a specially-designed FMS of permanent masonry type construction, brick and concrete block units with concrete floors, and a metal or single membrane roof. A single-story structure with mechanical and electrical equipment. Outside supporting facilities will include military and privately-owned vehicle parking,

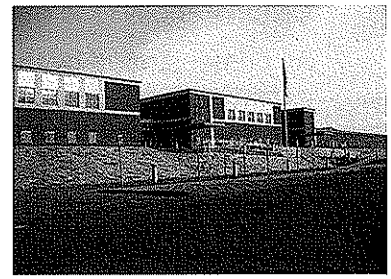
fencing, sidewalks, exterior fire protection, outside lighting, access roads, detached facility sign, wash platforms, loading ramp, fuel storage and dispensing systems, and flagpoles. Physical security measures will be incorporated into design including maximum feasible standoff distance from roads, parking areas, and vehicle unloading areas; berms; heavy landscaping; and bollards to prevent access when standoff distance cannot be maintained. Cost effective energy conserving features will be incorporated into design, including energy management control systems and high efficiency motors, lighting, and HVAC systems.

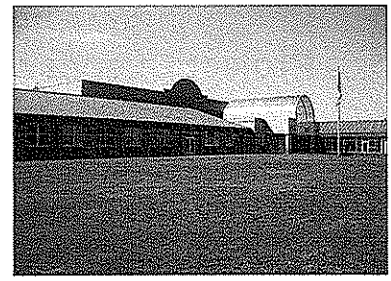
As described by the Army National Guard Design Guide for Logistics Facilities (DG 415-2), an FMS is used for performing field-level maintenance on automotive, engineering, artillery, communications, electronics, small arms, and other federal equipment. Personnel at the FMS schedule and perform preventive maintenance, repair equipment requisition, and account for repair parts; inspect military equipment; and keep pertinent records of supported units to ensure unit maintenance responsibilities are fulfilled. Personnel also conduct maintenance training for various unit personnel on a regular basis. In the office area of the FMS, use of systems furniture is encouraged to save floor space and provide individuals with adequate and efficient space.

Architectural Compatibility

The AMEC team appreciates the importance and need for the proposed FMS center to be compatible with the architectural plan for Buckhannon and the surrounding area. We also understand the need to incorporate Anti-Terrorism and Force Protection (AT/FP) requirements into the site and building layout. AMEC will pay special attention to the entry, creating a clearly visible, welcoming, weather shielded transition to the interior spaces. AMEC will work closely with the WVARNG to ensure the architectural components of the new facility are aesthetically pleasing while also remaining fully functional and in compliance with all AT/FP requirements.

The AMEC team of architects and interior designers are experienced in clearly identifying client needs and program requirements at the project start and developing responsive design solutions from that knowledge. Through the design charrette, design reviews, and client interaction, as well as the extensive knowledge base within the AMEC team's multiple disciplines, our architects, interior designers, and landscape architects excel in working together to deliver an effectively functional, aesthetically pleasing, and AT/FP-compliant building design.





The existing Buckhannon Army National Guard Armory, located on a 16.9-acre parcel approximately 2.5 miles southeast of the new site, is a bi-level building constructed by the WVARNG in 1950. Other buildings on this parcel include the existing USPFO and the FMS. There is a small amount of open land directly surrounding the armory, and mixed residential and commercial lands outside of this area. The Buckhannon Country Club is located just southeast of the armory. Buckhannon sits among the western foothills of the Appalachian Mountains surrounded by gently rolling land with numerous hills and valleys. The town itself is characterized by its small-town, historic feel. The armory is located in an area of more urban development surrounding the historic downtown area.

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 FMS. 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

quickly reviewed for potential impact on the construction cost. If a significant impact is noted, the AMEC team develops options for reducing the impact (i.e., material changes, design changes, etc).

As an example, during the design of a Military Working Dog Kennel for Oscan Air Base, Korea, the original project requirements from the base called for an HVAC system that would provide 15 air turns per hour. When the estimated cost of the project came in over the CCL, AMEC developed an alternate HVAC strategy of 10 air turns per hour that significantly lowered the anticipated project cost. AMEC reviewed the potential impacts on temperature, odor, energy usage, and capital cost with the Base veterinarian, Base HVAC manager, and Base civil engineering staff, then incorporated the alternate HVAC system into the overall design.

Geotechnical

Site subsurface conditions can cause significant construction problems, potentially more than any other factor. While no geotechnical study can reveal all that is hidden, the more comprehensive a subsurface study, the more information it provides. A well planned subsurface exploration program, interpreted by experienced geotechnical professionals, helps reduce the risk of unanticipated conditions during construction while also decreasing unnecessarily conservative recommendations. AMEC will carefully develop a detailed geotechnical investigation program necessary to provide quality and value for the project, incorporating our in-depth understanding of the subsurface conditions at this site.

Design Quality Control

The AMEC team has an established Design Quality Management Plan (DQMP) that results in quality project documents. This plan includes specific guidelines for defining responsibility, writing / reviewing documents, performing / checking design calculations and other analytical tasks, preparing plans, maintaining files, and other activities to ensure a quality finished product.

Plan Objective

The object of the DQMP is to achieve an optimum level of quality in all aspects of planning, analysis, and design. Specific quality program requirements must be implemented at all levels of the work effort from the project manager to the support staff. A "total team" approach will be used. The foundation of a total quality approach is that each team member is responsible for the quality of his or her work and for performing work in accordance with project guidelines and other governing documents of the WVARNG.

Communication

The project manager will be the primary point of contact for correspondence between AMEC and the WVARNG. The WVARNG will be continually briefed on the project by the AMEC project manager via regular verbal and e-mail communication.

Meetings & Schedule

The design will begin with a review of the design charrette report, principally to verify the previous charrette results remain valid and to finalize any outstanding program issues. AMEC will establish a design time line at the beginning of the project, and it will be reviewed weekly for compliance. AMEC team members will meet weekly to review project status, discuss outstanding issues, and resolve any concerns. AMEC will provide updates to the WVARNG regarding the project's progress.

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 FMS 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.

- **Construction Cost Estimating:** AMEC understands that, at the end of the day, the project must provide a design meeting WVARNG's needs while also satisfying the CCL budget. AMEC will update the construction cost estimate at each of the detailed design phases. This will ensure the final design supports a construction project that can be implemented within the established CCL budget and the construction phase can move forward without the budgetary delays commonly experienced in design/bid/build projects.
- **Design Submission Due Dates:** All too often, design teams focus on the submission date to the client as the due date for deliverables. The AMEC design team establishes dates based on when the documents need to be submitted to the quality control reviewer to provide appropriate time for a proper quality review before submittal to the WVARNG.

Project Approach

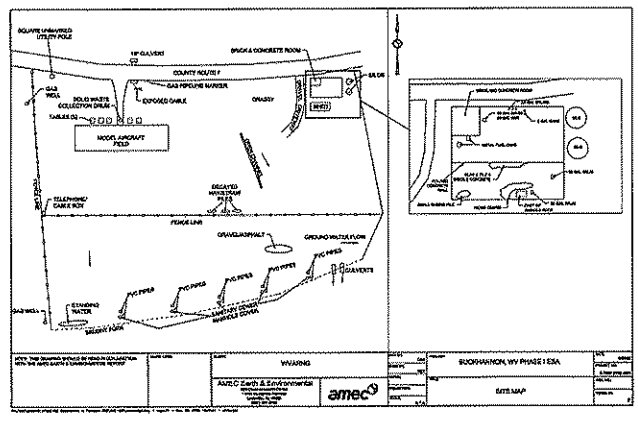
AMEC's project approach was developed to provide the WVARNG with the most efficient and cost effective design, while meeting design requirements and end-user needs. Based on our experience at this site, the AMEC team has a unique understanding of site conditions that will greatly enhance our ability to provide the WVARNG with an efficient and effective design. AMEC understands the architectural aspects and nuances of the surrounding area, and will incorporate this knowledge into the design to ensure architectural compatibility. AMEC's in-depth understanding of the architectural, geotechnical, and environmental issues unique to this area will allow our team to provide the most cost cost-effective and integrated functional design alternative.

The following provides AMEC's proposed sequence of major tasks that will be used as the basis for developing the FMS design. AMEC will work with the WVARNG to refine these, as appropriate, based on the WVARNG's input and preferences.

Task 1 – Design Charrette Review

AMEC understands the need to ensure client expectations are clearly understood. The purpose of the design charrette review will be to verify the previous charrette results remain valid. This review will also identify any outstanding program issues and identify an approach to resolve them as part of the design. AMEC will use the charrette results and any additional information obtained / developed during the charrette review to prepare the initial basis of design (BOD) for the project. This will provide the foundation for advancing the design.

Following the charrette review, AMEC will provide an initial BOD document and preliminary design layout / plan to the WVARNG for review and comment to obtain consensus prior to beginning the detailed design phase. As indicated above, this information will form the foundation for advancing the design and will ensure the design is consistent with the end-user's needs and expectations from the very beginning of the project.



Task 2 – Environmental, Survey, and Geotechnical Assessments

Based on our initial research and experience at this site, AMEC understands the site was formerly used for an airport runway safety area from 1940 to 1997. Prior to 1940, the proposed site was used as a potato farm with cattle and hay in the 1800s. The approximate 49-acre site is currently vacant and consists of undeveloped farmland with the exception of the remains of a demolished

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.

AMEC will hold periodic design review meetings and "over the shoulder" reviews as deemed appropriate to support the design schedule. Through this process, AMEC will ensure the WVARNG remains fully informed and engaged as the project design develops. AMEC highly values clear and consistent communication with the client, and believes a formalized system significantly contributes to project success.

Task 5 – Bid-Phase Services

AMEC will provide bid-phase services to support the WVARNG in obtaining construction bids for the project. AMEC will respond to Requests for Information (RFIs) from contractors, attend site visits and bid meetings, and support the WVARNG in bid-phase activities. The AMEC team will also assist in reviewing construction bids and determining the best value contractor.

Task 6 – Construction Oversight and QA/QC Testing

Once a contractor is under contract to complete the work, AMEC will provide construction oversight and QA/QC testing services to ensure construction methods and materials meet the design intent and specifications, and components are properly installed. The AMEC team has energetic, fully trained construction managers, field engineers, and technicians capable of oversight for a project of this magnitude. In essence, AMEC functions as an extension of the owner's staff to manage and oversee the construction work to protect the owner's interest.

Bid Forms

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