



▶▶ Expression of Interest for:

WV Army National Guard

Readiness Center and Field Maintenance Shop

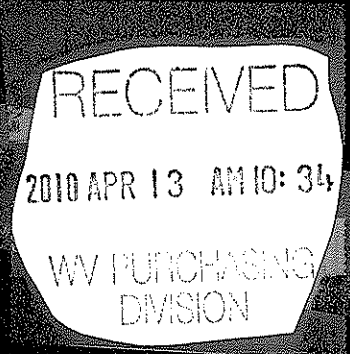
Parkersburg, Wood County - DEFK10013



▶▶ Submitted to:

**State of West Virginia
Purchasing Division**

April 13, 2010



in association with:



April 13, 2010

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

**Reference: Design and Engineering Services for a National Guard Readiness Center
and Field Maintenance Shop, Parkersburg, WV
DEFK10013**

Dear Mr. Price:

The Buchart Horn/AMEC Earth & Environmental/Moment Engineering/Food Service Systems Design team is committed to offering quality, cost-effective, and timely engineering services. To serve you, we have assembled a knowledgeable and experienced team from our combined resource base to provide outstanding architectural and engineering services to the West Virginia Army National Guard. Our team brings strong facilities and infrastructure experience to the table and has a long, successful history of providing A/E services to the Army and Air National Guards, including WVARNG; as well as a variety of other Department of Defense agencies (Air Force, Navy, Army Reserves, Army Corps of Engineers, and others).

We look forward to applying our experience, our knowledge, and our imaginations to continuing to serve you. We are confident that we can and will meet your expectations. Please feel free to contact me at 717 852-1445 and thank you for considering the Buchart Horn team.

Very truly yours,
BUCHART HORN, INC.

AMEC EARTH & ENVIRONMENTAL



Glen R DeWillie, PE
Executive Vice President/
National Guard Program Manager



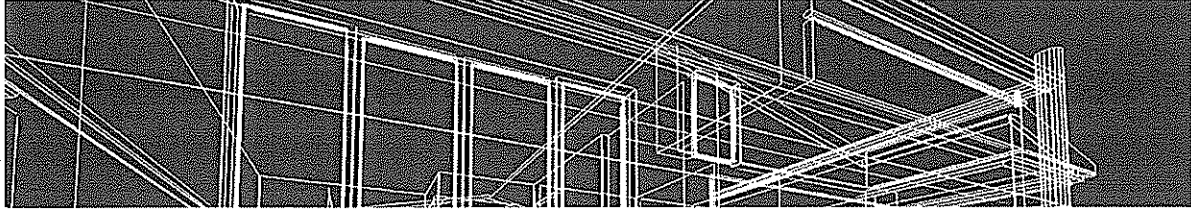
Stevin A. Paznokas
Vice President/
National Army Program Manager

GRD/kl

Enc: 2 bound proposal copies, 1 CD



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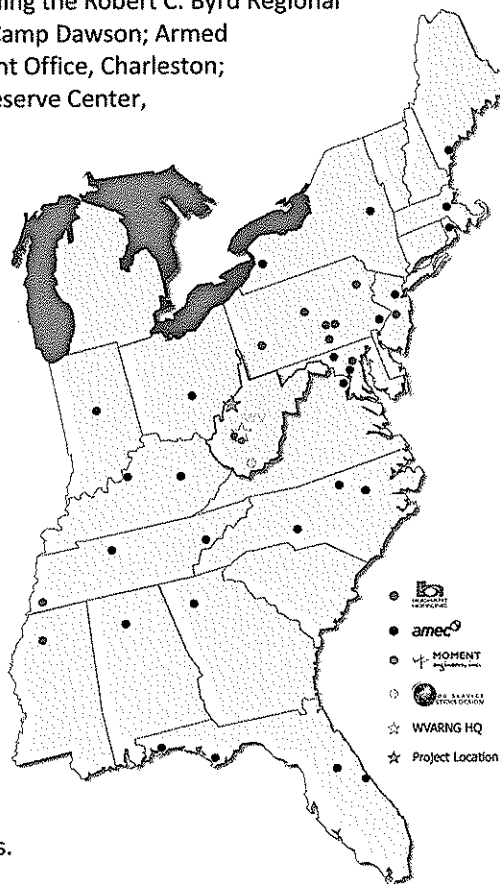
Buchart Horn, Inc. (BH); AMEC Earth & Environmental, Inc. (AMEC); Moment Engineers, Inc. (Moment), and Food Service Systems Design, Inc. (FSSD) have assembled a first-class team to provide professional consulting services to the West Virginia Army National Guard (WVARNG) for the proposed Readiness Center and Field Maintenance Shop near Parkersburg. Our team has recent experience designing readiness centers; office, training, and warehouse facilities; and related projects for the Army and Air National Guards and active Army, and recently teamed on a successful planning charrette to refine the 1391 programming and conceptually design the Readiness Center, USPFO Office, and warehouse facilities at Buckhannon, WV. In addition, we have current relevant experience working together on design of a rappelling tower and leadership reaction course at Camp Dawson for the WVARNG. Moment Engineers, Inc., 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 Buchart Horn 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, our 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, Buchart Horn will have responsibility for the success of the project and will provide overall project management as well as technical lead for the architecture; interior design; mechanical, electrical, and plumbing engineering; landscape architecture; and cost estimating services.

AMEC will provide the technical lead for civil, structural, geotechnical and environmental engineering; permitting; and will support the architectural, mechanical, electrical, and plumbing engineering for the project.

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

Food Service Systems Design will provide specialized assistance with dining facility design.

Our team can also provide construction services if the WVARNG desires.



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.



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

As a veteran-owned large business, Buchart Horn 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, Buchart Horn 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

Buchart Horn has the knowledge and experience to maximize a building's energy efficiency during its planning, design, construction, and operation. Buchart Horn'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. PA 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, Buchart Horn 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.

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. The same set of resources 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.

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.



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 previously, 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 and Facilities Management Office at Charleston.

Food Service Systems Design, Inc.

Food Service Systems Design, Inc. is a professional consulting firm specializing in complete and functional design services for commercial food service applications. The firm offers a wide array of consultative services to the food service industry including facilities design, interior design, as well as HACCP and food safety plans and can provide services from planning through design and construction and operations training. FSSD strives to provide clients with an aesthetically pleasing and functional facility that reduces operating expenses, optimizes workflow, encourages strict sanitation practices, is energy efficient, and provides maximum flexibility.

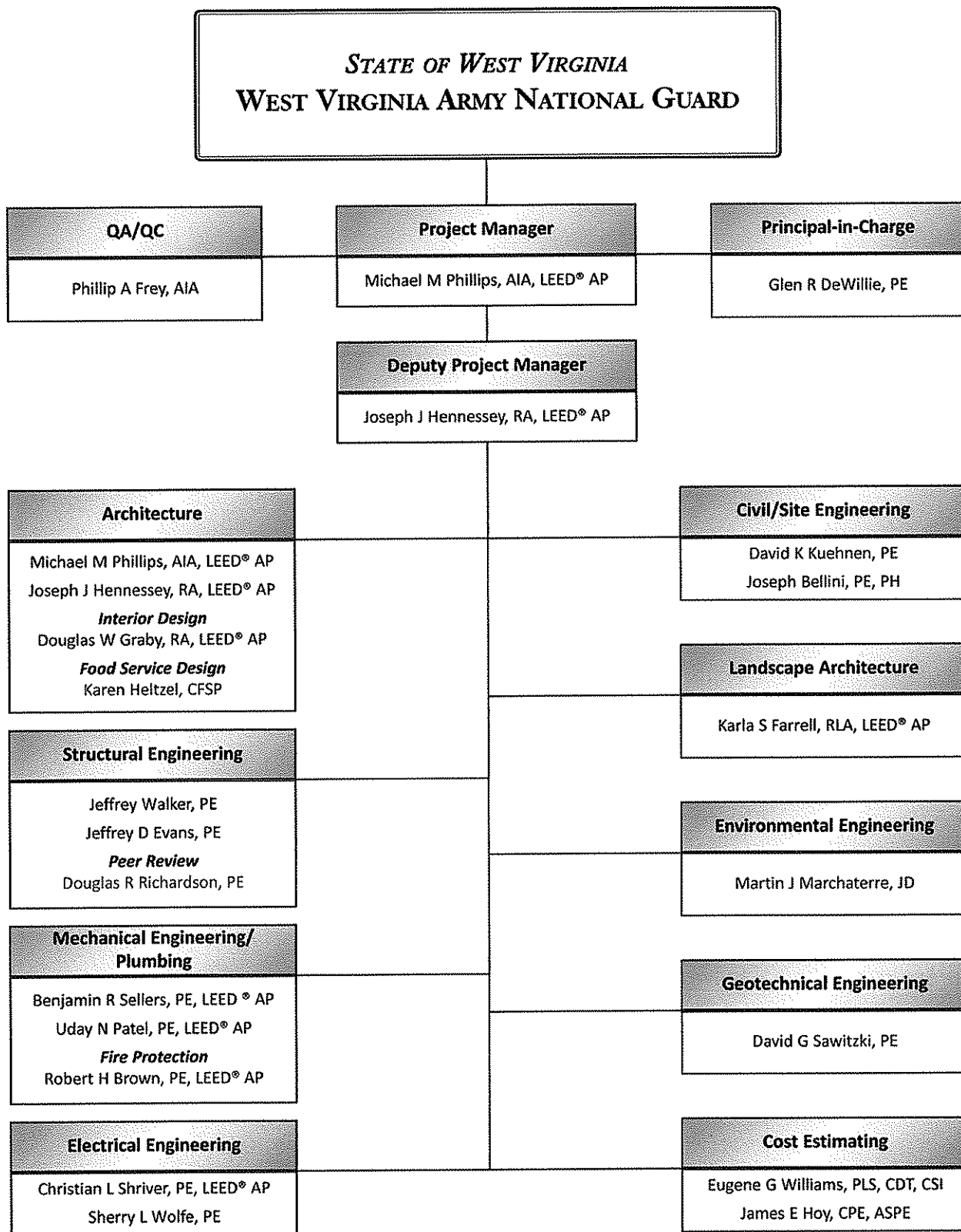


FSSD, a Small Woman Owned Disadvantaged Business, is located in Piedmont, West Virginia. Karen Heltzel, FSSD's Founder and President, is a Certified Food Service Professional and a member of the US Green Building Council.

Why Choose the Buchart Horn Team?

The Buchart Horn team offers unsurpassed architectural, civil, mechanical, electrical, plumbing, interior and landscape design, specialized food service planning and 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. Buchart Horn will ensure the Parkersburg Readiness Center and 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.

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 professional has extensive experience in his or her designated areas of technical specialty as well as with the ARNG, and our team is organized for maximum flexibility and responsiveness.



Key Personnel

Each key member of our proposed project team has first-class background and experience that will enhance our ability to serve the WVARNG. Following this brief overview, detailed resumes are included for each team member.

Management Team:

Principal-in-Charge Glen R DeWillie, PE

- Senior Principal responsible for project success
- More than 27 years of Federal/DoD experience
- Extensive knowledge of MILCON project requirements and related design standards
- Recent Federal experience includes facilities and infrastructure design and construction management, geographic information systems integration, DoD-specific IDIQ contract and program management and Quality Assurance reviews.
- Project management experience includes numerous facilities and infrastructure designs, leading diverse architectural and engineering teams in the completion of more than 20 projects for the USPFO, PA in the past five years.

Project Manager/Lead Architect Michael M. Phillips, AIA, LEED® AP

- Lead Architect and Project Manager responsible for integrating all disciplines within the project team to deliver a successful project while maintaining schedule, budget, and quality standards
- More than 23 years of architectural design experience
- Recent DoD/Federal and National Guard experience on a new facility design and creative renovations
- 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. Strong background and practice in historic preservation and renovation with keen insight into dealing with adaptive re-use and recycling existing built elements.

Deputy Project Manager/Senior Architect Joseph J. Hennessey, AIA, LEED® AP.

- Senior Architect and back-up Project Manager, assisting with project administration and providing discipline-specific oversight
- More than 40 years of architectural planning and design experience
- Broad facility background including relevant structures such as large and small office buildings, maintenance facilities, research and pharmaceutical renovations, hospital renovations, airport facilities, parking garages, municipal facilities, and public and private schools

Quality Assurance/Quality Control Manager Phillip A. Frey, AIA

- Lead QA/QC Coordinator responsible for ensuring calculations, design standards, and special programs such as LEED certification meet all WVARNG quality standards
- More than 31 years of experience in architectural planning and design
- Extensive knowledge of building systems and the integration of special devices and/or systems to enhance building performance

Project Design Team:

Architect/Interior Designer 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.

Food Service Design Consultant Karen Heltzel, CFSP has more than 20 years of experience in the planning and design of institutional and commercial food services operations, beginning as an owner/operator in the commercial segment and later expanding her focus to institutional food service. She is a Certified Food Service Professional and a member of the US Green Building Council and is certified in Hazard Analysis and Critical Control and ServSafe Food Safety.

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, shipbuilding, and electrical generation. Work also includes heavy construction support and design-build engineering.

Senior Structural Engineer Jeffrey D. 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.

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 H. Brown, PE, LEED® AP 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 Electrical Engineer Christian L. Shriver, PE has nearly 20 years of diverse experience in electrical engineering and has managed both projects and designs. His abilities include all phases of electrical engineering from conceptual design to the development of construction documents and construction administration. Mr. Shriver's experience includes the design of electrical, telecommunications, control and instrumentation systems, cost estimating, system analysis, energy studies, and feasibility/constructability studies for educational, healthcare, correctional, commercial, industrial, and water/wastewater facilities.

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.

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 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.

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 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.

Cost Estimator Eugene G. Williams, PLS, CSI, CDT 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, ASPE 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 from \$1 million - \$50 million. He has serviced industrial, healthcare, institutional, commercial, and retail sectors.

Michael M Phillips, AIA, LEED® AP

Project Manager/Lead Architect

Education:

Bachelor of Architecture/
Architecture/University of
Tennessee

Registrations/Certifications:

Registered Architect
National Council of Architectural
Registration Boards
LEED 2.0® Accredited Professional

Years of Experience:

23

Professional Affiliations:

American Institute of Architects



Project Manager: Rappel Tower and Leadership Reaction Course, West Virginia Army National Guard/US Army Corps of Engineers, Camp Dawson, WV. 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. Mr. Phillips was responsible for space programming and architectural design, design team coordination, and client liaison.



Project Manager: Design Charrette, Buckhannon Readiness Center, US Army Corps of Engineers, WV. Professional design and consulting services including meeting facilitation and preparation of supporting documents used during a design charrette for a proposed Readiness Center, USPFO facility, and warehouse. Mr. Phillips was responsible for facilitating discussions on space allocation, end-user needs, and functional requirements, along with reviewing existing DD 1391 documentation and site/building integration.



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



Senior Architect: Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA. Conceptual through 100% design for a 2,800 ft² Combat Arms Training Simulator (CATS) and Combat Arms Training and Maintenance (CATM) facility including administrative offices, classrooms, and maintenance and storage areas. Mr. Phillips was responsible for space programming and architectural design.



Senior Architect: Squadron Operations Building 107 Repair, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA. 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 of the building (including roof replacement), renovation of select interior spaces, and modification of the electrical system for emergency power operations. Mr. Phillips was responsible for space programming and architectural design.



Project Manager: New Research Support Facility and Storage Yard, Canaan Valley Institute, Davis, WV. Design of a 3,750-ft² one-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. Mr. Phillips was responsible for space programming and architectural design, design team coordination, and client liaison.



Project Manager: Elkins Maintenance Facility, WVDOT, Randolph County, WV. Study, design, and preparation of contract plans and related documents for the construction of the Division of Highways' District 8 Equipment Shop Building located on US 219 north of Elkins. Mr. Phillips was responsible for architectural design, design team coordination, and client liaison.

Joseph J Hennessey, RA, LEED® AP

Deputy Project Manager/Senior Architect

Education:

BS/Architecture/Pennsylvania
Institute of Technology/1964

Registrations/Certifications:

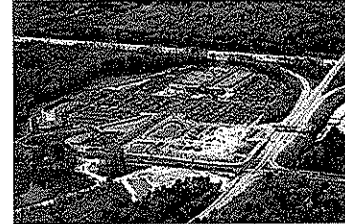
Registered Architect
National Council of Architectural
Registration Boards
LEED 2.0® Accredited Professional

Years of Experience:

40

Cabela's **Director of Architecture: Gateway at Scarborough, New England Expedition LLC, Scarborough, ME.** Design for 48,000 ft² 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 ft² Cabela's retail store; however, the development will also include space for smaller retail facilities, restaurants, office space, and a hotel.

CAT **Director of Architecture: Warehouse and Distribution Center, Milton-Cat, Milford, MA.** Conversion of an 85,000 ft² light manufacturing distribution center to a heavy parts distribution center. 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.



CAT **Project Architect: Caterpillar Power Systems Building, Milton-Cat, Milford, MA.** Mr. Hennessey provided design services to convert an 87,000 ft² office/ warehouse structure into a truck engines and generator maintenance and repair shop for Caterpillar supported equipment. 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.

CAT **Project Architect: Caterpillar Sales & Service Facility, Southworth Milton, Inc., Clifton Park, NY.** Mr. Hennessey 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 ft², and houses a sales and administrative support area, warehousing, truck maintenance and support space, and large equipment maintenance space.



Director of Architecture: Student Recreation Center, University of Maine, Orono. Architectural services, engineering and design services, and construction administration and inspection for a new 90,000 ft² LEED Silver certified Student Recreation Center. Architecturally, AMEC designed the administration offices, welcome areas, locker rooms and restrooms, roofing systems, and vertical building transportation including elevator design and construction.

Glen R DeWillie, PE

Principal-in-Charge

Education:

Master of Science/Civil Engineering
(Environmental)/Stanford
University

Bachelor of Science/Geography &
Computer Science/US Military
Academy, West Point

Registrations/Certifications:

Professional Engineer

Years of Experience:

29

Professional Affiliations:

Military Officers Association of
America

Pennsylvania Regional Water
Boards/Susquehanna Region
(Governor-appointed position)

Society of American Military
Engineers

Trout Unlimited



Principal-in-Charge: Fuel System Maintenance Dock Repair, Building 304, USPFO PA/171st Air Refueling Wing, Coraopolis, PA. Repairs and renovations to Building 304, a dual-use aircraft systems maintenance hangar, including extensive interior and exterior repairs, creation of new office and tire shop, electrical and lighting upgrades, floor drains, ventilation and air breathing systems, and heating system modifications.



Principal-in-Charge: Squadron Operations Building 107 Repair, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA. 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 of the building (including roof replacement), renovation of select interior spaces, and modification of the electrical system for emergency power operations.



Principal-in-Charge: Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA. Conceptual through 100% design for a 2,800 ft² Combat Arms Training Simulator (CATS) and Combat Arms Training and Maintenance (CATM) facility including administrative offices, classrooms, and maintenance and storage areas.



Project Manager: Battalion Storage Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annaville, PA. Design of 20,000-ft² battalion storage area to provide secure storage space for sets, kits, outfits, and other equipment for units of the 28th Division Stryker Brigade Combat Team. Mr. DeWillie was responsible for overseeing budget, schedule and preparation of all work products for eight separate design disciplines on this \$1.9 M facility. Applied background in Army storage facilities to guide conceptual design phase. Managed all aspects of quality control, performed cost estimation and adjusted design to meet sustainable facilities goals using the SPiRiT evaluation system. Ensured all work products conformed to applicable standards and design guides.



Project Manager: Mission Support Training Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annaville, PA. Complete A/E design for a \$4 million, 24,000-ft² C4I Training Facility for the National Guard's only Stryker Brigade. The facility, which is certified for the "Gold" level of USACE Sustainable Project Rating Tool (SPiRiT) certification, serves as the command and control training facility centerpiece for the 28th Division's Stryker Brigade Combat Team. Mr. DeWillie was responsible for overseeing budget, schedule and preparation of all work products for eight separate design disciplines on this \$3.8 M facility. Applied background in Army training facilities to guide conceptual design phase. Managed all aspects of quality control, performed cost estimation and adjusted design to meet sustainable facilities goals using the SPiRiT evaluation system. Ensured all work products conform to applicable standards and design guides.



Project Engineer: Stryker Battalion Training Complex, USPFO for PA, Ft. Indiantown Gap, Annaville, PA. 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. Mr. DeWille was responsible for assisting Project Manager in administrative duties for the project. Developed civil engineer conceptual design narratives and cost estimates. Prepared technical correspondence and project status reports. Resolved open action items and initiated dialogue with another firm to coordinate engineer plans and activities on adjacent sites.



Principal-in-Charge: Renovation/Preparation of High Bay Building 19-126 for the Eastern Army Aviation Training Site Flight Simulator, USPFO for PA/Fort Indiantown Gap, Annville, PA. HVAC and electrical design services, structural review and consultation on stair tower and new doorways and other structural changes, all in preparation for two new flight simulators.



Principal-in-Charge: Master Plan and Multi-Disciplinary Utility Study, Defense Distribution Center Susquehanna, New Cumberland, PA. Multi-disciplinary utility study outlining short and long range development and cataloging existing and planned conditions for utilities and associated infrastructure on the installation.



Principal-in-Charge: Sixth Medical Logistics Management Center (6MLMC) Company Operations Facility Design/Build, Odyssey International/Fort Detrick, MD. Architectural design, including interior space planning, structural, mechanical/HVAC, fire sprinkler and networked alarm system, electrical/security/communications, and land development and permitting services for the 4,464 ft² 6MLMC Supplementary Company Operations Building.



Principal-in-Charge: Building E-1356 Renovation Design, Odyssey International/Edgewood Arsenal, MD. Architectural design services to provide Odyssey International with construction documents for the renovation of Building E-1356 (upgrade a series of ten connected office trailers).



Principal-in-Charge: Design Charrette, Buckhannon Readiness Center, US Army Corps of Engineers, WV. Professional design and consulting services including meeting facilitation and preparation of supporting documents used during a design charrette for a proposed Readiness Center, USPFO facility, and warehouse.

Philip A Frey, AIA

Quality Assurance/Quality Control

Education:

Bachelor of Architecture/
Architecture/Carnegie-Mellon
University

Registrations/Certifications:

Registered Architect

Years of Experience:

31

Professional Affiliations:

American Institute of Architects

Quality Assurance/Quality Control Oversight: Combined Army National Guard Readiness Center, Pennsylvania DGS/PA Army National Guard, Waynesburg, PA. Design, bidding, and administration and construction services review for a \$7.7 million combined 38,000-ft² Readiness Center for the PA Army National Guard. The facility serves as a model Readiness Center for the Reserves in the Commonwealth. All 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.

Quality Assurance/Quality Control Oversight: Readiness Center HVAC Replacement, TN Dept. of Finance and Administration, McKenzie, TN. Design and coordination of new HVAC systems and controls for entire building, as well as replacement of domestic water heaters with instantaneous hot water heaters.

Quality Assurance/Quality Control Oversight: Kitchen and Dining Area Renovations, PA DGS/Smithfield State Correctional Institute, Huntingdon County, PA. Design services for a 3,100 ft² kitchen and dining area addition and renovation at the State Correctional Institution Smithfield.

Quality Assurance/Quality Control Oversight: Pennsylvania Military Museum Vehicle Storage Building, PA DGS, Centre County, PA. Design and construction of a new building on grounds of PA Military Museum to house a collection of historic military vehicles.

Quality Assurance/Quality Control Oversight: Feasibility Study for Math & Science Complex Proposed Addition, The Pennsylvania State University, Altoona, PA. Feasibility study of three buildings on campus including the Science Building, JE Holtzinger Building, and Ralph and Helen Force Advanced Technology Center for Railroad Engineering Major proposed addition.

Project Manager: Architectural and Structural Engineering Services for Additions and Renovations to Upper Allen Township Municipal Building, Mechanicsburg, PA. Architectural and structural construction administration services for renovations to the 15,000-ft² Upper Allen Township Municipal Building, a 36,000 ft² addition, and site work including 200 parking spaces. The building houses the Township Administration, Police, Public Works Department, and EMS Garage.

Quality Assurance/Quality Control Oversight: Trexler Nature Preserve "Green" Environmental Center, Lehigh County, Allentown, PA. Architectural and engineering services for design, specification, and construction of a 3000-ft² sustainably designed environmental center.

Quality Assurance/Quality Control Oversight: Architectural Review of Behney Motors Property, Borough of Middletown, PA. Professional services for architectural design and/or construction management to renovate former 8,484-ft² property as Borough Maintenance Facility.

Douglas W Graby, RA, LEED® AP

Interior Design

Education:

Bachelor of Architecture/
Architecture/University of
Tennessee, Knoxville

Registrations/Certifications:

Registered Architect
National Council of Architectural
Registration Boards
LEED 2.0® Accredited Professional

Years of Experience:

17



Project Architect: Combined Army National Guard Readiness Center, Pennsylvania DGS/PA Army National Guard, Waynesburg, PA. Design, bidding, and administration and construction services review for a \$7.7 million combined 38,000-ft² Readiness Center for the PA Army National Guard. The facility serves as a model Readiness Center for the Reserves in the Commonwealth. All 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. Mr. Graby was responsible for architectural design, space planning, furnishings, and interior finish selection.



Project Architect: Stryker Battalion Training Complex, USPFO for PA, Ft. Indiantown Gap, Annville, PA. 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. Mr. Graby was responsible for architectural design.



Project Architect: Mission Support Training Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA. Complete A/E design for a \$4 million, 24,000-ft² C4I Training Facility for the National Guard's only Stryker Brigade. The facility, which is certified for the "Gold" level of USACE Sustainable Project Rating Tool (SPIRIT) certification, serves as the command and control training facility centerpiece for the 28th Division's Stryker Brigade Combat Team. Mr. Graby was responsible for architectural design, materials selection to improve sustainable design of interiors, and interior space planning.



Project Architect: Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for PA/ Fort Indiantown Gap, Annville, PA. Design of 50' x 700' runway and supporting 5,600 ft² training and maintenance facility to conduct Unmanned Aerial Vehicle (UAV) flight and training operations. Mr. Graby provided architectural design assistance and materials selection to enhance sustainable designs for individual office spaces and an open-space conference and training room area.



Project Architect: Battalion Storage Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA. Design of 20,000-ft² battalion storage area to provide secure storage space for sets, kits, outfits, and other equipment for units of the 28th Division Stryker Brigade Combat Team. Mr. Graby was responsible for interior space planning and panel board selection.



Senior Staff Architect, Project Manager: Architectural Services for Hardin County Schools, Savannah, TN. Physical facilities and site assessments of district facilities resulted in the design of two new 550-student elementary schools, and renovations/additions to five additional schools including mechanical, electrical, structural, and site/civil upgrades. Mr. Graby was responsible for design team management and architectural and interior space planning and design, including finish and furnishing selections.



Project Manager: Municipal Building Space Planning Study and Site Assessment, Borough of Middletown, PA. 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. Mr. Graby led the study and design team.



Project Manager: New Warehouse Complex, Muncy State Correctional Institute, PA DGS, Lycoming County, PA. Design, bid and construction of a new warehouse complex to include maintenance bay and emergency electrical substation with two new generators and appropriate switchgear. Mr. Graby was responsible for space planning and interior finishes including panel board selection.



Project Architect: American Automobile Association (AAA) Office Expansion and Renovation, State College, PA. 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. Mr. Graby was responsible for architectural planning and design, along with space planning and interior finish and furnishings selection.

Karen Heltzel, CFSP

Food Service Facility Designer

Education:

BS/Business Administration/West
Virginia University/1989

Registrations/Certifications:

Certified Food Service Professional
Hazard Analysis and Critical Control
Point (HACCP)
Dietary Manager Proctor
ServSafe Food Safety

Years of Experience:

25

Professional Affiliations:

US Green Building Council

Food Service Facility Designer: Garrett County Jail, Oakland, Maryland. Provided complete foodservice facility design and equipment specifications in accordance with State of Maryland security standards and ACA National Standards Accreditation requirements. Specifications included foodservice systems to accommodate pod/cart meal delivery in compliance with HACCP guidelines. Special design aspects included secure storage areas, full view of operations/service areas, a foodservice equipment security package to allow for inmate labor, and a separate food preparation area for medically prescribed and religious meals. The final design also provided for staff meals and dining.

Food Service Facility Design Coordinator: Allegany County Jail, Cumberland, MD. Acted as an agent of Allegany County to provide design team support and complete project coordination for equipment and installation compliance. Implemented scheduling and tracking of milestones throughout the construction process for various foodservice related trades. Reviewed final installations and prepared punch lists to fulfill contract requirements. Also prepared RFP's for small wares and other services required for day-to-day operations.

Food Service Facility Design Coordinator: Riker's Island, New York City Department of Corrections, NY. Provided primary coordination of the purchase, delivery, and installation of two food preparation kitchens [kitchens #2 and #3] and inmate dining areas during a three-year new construction effort at Riker's Island. The capacity of each kitchen was 5,000+ meals/day. Equipment specifications included custom fabrication [e.g. customized soiled tray return conveyors], large scale secure refrigeration/food storage equipment, and complete cook-hold production lines. Special installation challenges included a single, centrally located, refrigeration rack for both kitchens and a centralized HACCP control monitoring center.

Food Service Facility Designer: Denver Detention Center, Denver, CO. Designed both foodservice and laundry facilities for this five story, 320,000-ft² detention center. The foodservice operation was designed to rethermalize, plate, and serve food prepared at a centralized cook-chill facility located offsite. The design provided for 3 meals/day for the 5,000 inmates plus staff and includes a separate dining room and servery for the Denver Sheriff's Department. Expanded storage was also provided to accommodate 5 days of surplus meals, in case of bad weather during winter months. The laundry design was sized to process all linens, towels, and clothing items.

Food Service Facility Designer: Wyoming State Penitentiary, Rawlins, WY. Provided both project management and design related advisory services through facility opening in August of 2002. Scope of services included the kitchen, laundry, and warehousing areas within the Central Production Facility at the High Security & Special Needs Prison. Special design considerations included equipment/small wares selection and layout to allow trustee inmates to work directly in the kitchen area preparing & cooking food. Design criteria also required adequate sightlines to allow for proper visual surveillance of inmates in the kitchen.

Jeffrey Walker, PE

Lead Structural Engineer

Education:

MS/Civil Engineering/University of
Maine/2001

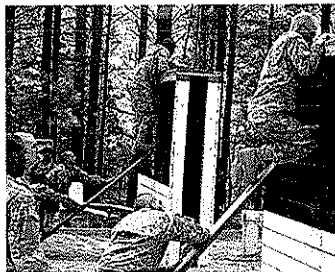
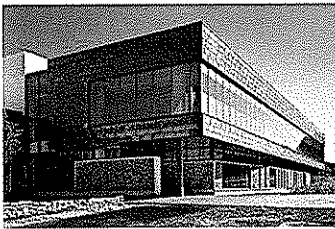
BS/Civil Engineering/University of
Maine/1996

Registrations/Certifications:

Professional Engineer

Years of Experience:

10



Structural Engineer: Sales and Service Facility, Southworth-Milton, Clifton Park, NY. Mr. Walker provided structural engineering for a new 65,000 ft² sales and maintenance facility in the Saratoga area of New York State. There was an additional 10,500-ft² utility building adjacent to the main structure.

Structural Engineer: Gateway at Scarborough, New England Expedition LLC, Scarborough, ME. Mr. Walker 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 ft² Cabela's retail store; however, the development will also include space for smaller retail facilities, restaurants, office space and a hotel.



Structural Engineer: Student Recreation Center, University of Maine, Orono, ME. Mr. Walker provided structural design for a new 85,000 ft² 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.



Structural Engineer: Maine Army National Guard - Regional Training Institute (RTI), Bangor, ME. Mr. Walker provided structural design 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 ATRP Standards.



Structural Engineer: Maine Army National Guard - Operations and Maintenance Facility, Bangor, ME. Mr. Walker provided structural design for a 6,700-ft² 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.



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

Jeffrey D Evans, PE

Senior Structural Engineer

Education:

BS, Architectural Engineering,
Drexel University, 1995

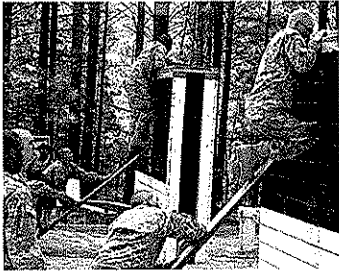
BS, Civil Engineering, Drexel
University, 1995

Registrations/Certifications:

Professional Engineer

Years of Experience:

13



Cabela's **Structural Engineer: 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 ft² Cabela's retail store; however, the development will also include space for smaller retail facilities, restaurants, office space, and a hotel.



Structural Engineer: Maine Army National Guard Regional Training Institute (RTI), Bangor, ME. Mr. Evans is providing structural engineering services 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.

Structural Engineer: 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.

Structural Engineer: Tuscarora Inn and Conference Center, Mt. Bethel, PA. The project consisted of an 18,000-ft² 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.

Structural Engineer: 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-ft² 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

Structural Engineer Peer Reviewer

Education:

BS/Civil Engineering/West Virginia University/1987

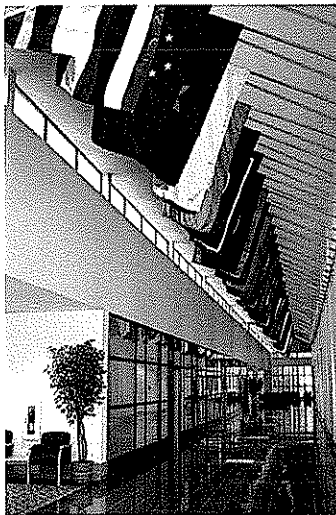
MS/Civil Engineering [major in structures and minor in construction]/North Carolina State University/1989


Registrations/Certifications:

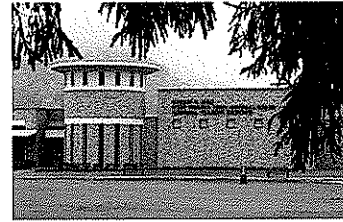
Professional Engineer


Years of Experience:


20





 **Structural Engineer: Robert C. Byrd Regional Training Institute, Camp Dawson, WV.** 143,000-ft² 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.





 **Structural Engineer: Armed Forces Reserve Center (AFRC), Camp Dawson, WV.** A 56,200-ft² AFRC that serves five 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.

 **Structural Engineer: AFRC, Glen Jean, WV.** A two-story, 107,100-ft² 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.

 **Structural Engineer: Construction & Facilities Management Office, Charleston, WV.** A 12,300-ft² expansion to an existing facility. The addition includes a 1,730-ft² manufactured metal building used for workbays, and a two-story office facility constructed using open webbed bar joists, exposed structural steel, structural wood decking, and reinforced masonry.

 **Structural Engineer: Mountaineer Challenge Academy, Camp Dawson, WV.** A 45,800-ft² 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.

 **Structural Engineer: AFRC, Elkins, WV.** 60,600-ft² 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.

 **Structural Engineer: Multi-Purpose Building, Camp Dawson, WV.** A 2-story, 35,800-ft² 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.

Benjamin R Sellers, PE, LEED® AP

Mechanical Engineer

Education:

Bachelor of Science/Mechanical Engineering/York College of Pennsylvania

Registrations/Certifications:

Professional Engineer
NCEES Record
LEED 2.0® Accredited Professional

Years of Experience:

11

Professional Affiliations:

American Society of Heating, Refrigeration and Air-Conditioning Engine
National Council of Examiners for Engineering and Surveying
National Society of Professional Engineers



Mechanical Engineer: Squadron Operations Building 107 Repair, USPFO for PA, 171st Air Refueling Wing, Coraopolis, PA. 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 of the building (including roof replacement), renovation of select interior spaces, and modification of the electrical system for emergency power operations. Mr. Sellers was responsible for design of mechanical systems.



Mechanical Engineer: Combined Army National Guard Readiness Center, Pennsylvania DGS/PA Army National Guard, Waynesburg, PA. Design, bidding, and administration and construction services review for a \$7.7 million combined 38,000-ft² Readiness Center for the PA Army National Guard. The facility serves as a model Readiness Center for the Reserves in the Commonwealth. All 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. Mr. Sellers was responsible for design of mechanical systems.



Mechanical Engineer: New Research Support Facility and Storage Yard, Canaan Valley Institute, Davis, WV. Design of a 3,750-ft² one-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. Mr. Sellers was responsible for design of mechanical systems.



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



Mechanical Engineer: Natural Gas Transition Plan, USPFO for PA, Ft. Indiantown Gap, Annville, PA. Load analysis of all water heating, HVAC, and kitchen equipment in 730 buildings to size and lay out a new natural gas distribution system, which enabled conversion from four previous fuel sources. Mr. Sellers was responsible for analysis of mechanical systems.



Mechanical Engineer: Main Lobby and Wing C Renovation, Command Headquarters Building 11, Tobyhanna Army Depot/US Army Corps of Engineers, Tobyhanna, PA. 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. Mr. Sellers was responsible for design of mechanical systems.





Mechanical Engineer: Building 19 Air Handling Units Replacement, Homeland Security Construction Corp., Lebanon VA Medical Center, PA. Architectural, mechanical, electrical, and structural engineering services to develop contract drawings and specifications for design-build replacement of AC-1-19, AC-2-19, AC-3-19, and AC-4-19 air handling units in Building 19. Mr. Sellers was responsible for design of mechanical systems.

Mechanical Engineer: United States Postal Service, Mechanical/Electrical Upgrades to Suburban P&DC, Gaithersburg, MD. Preparation of design/build documents for mechanical/ electrical upgrades to the United States Postal Service Suburban P&DC in Gaithersburg, MD. Mr. Sellers was responsible for design of mechanical systems.

Uday N Patel, PE, LEED® AP

Mechanical Engineer

Education:

Post Graduate Diploma/Data Processing & Computer Management/Bhartiya Vidhya Bhavan, Gujarat, India

Bachelor of Science/Mechanical Engineering/S.P. University, Gujarat, India

Registrations/Certifications:

Professional Engineer

LEED 2.0® Accredited Professional

NCEES Record

Years of Experience:

22

Professional Affiliations:

American Society of Heating, Refrigeration and Air-Conditioning Engine

American Society of Indian Engineers

American Society of Professional Engineers

National Council of Examiners for Engineering and Surveying

National Society of Professional Engineers



Senior Mechanical Engineer: Cafeteria and Command Headquarters Renovation (Building 11), Tobyhanna Army Depot, PA. 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).



Senior Mechanical Engineer: Command Headquarters/Mission Operations Facility Renovation (Buildings 11/1A), Tobyhanna Army Depot, PA. 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.



Senior Mechanical Engineer: Main Lobby and Wing C Renovation, Command Headquarters Building 11, Tobyhanna Army Depot/US Army Corps of Engineers, Tobyhanna, PA. 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.



Senior Mechanical Engineer: Building 1A Corridor Renovation Study, Tobyhanna Army Depot, PA. Design study for development of a new aesthetics for exhibit and main corridors in Building 1A, the Depot's Mission Operations facility.



Senior Mechanical Engineer: Building 4341 Design/Build Renovations and Addition, Odyssey International/Letterkenny Army Depot, PA. 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.



Mechanical Engineer: Economic Analysis Preparation and Design for Two Building 1 Projects, Tobyhanna Army Depot, Tobyhanna, PA. 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.



Lead Mechanical Engineer: Central Chilled Water Plant Replacement, Building 1, Tobyhanna Army Depot, PA. 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. and assistant Project Manager responsible for the development of design-build criteria and RFP package.



Senior Mechanical Engineer: HVAC Energy Savings Measures, USPFO PA/193rd Special Operations Wing, Middletown, PA. Design for replacement of aging, inefficient HVAC equipment in order to improve energy savings. Heating plants and/or rooftop air conditioning units in four buildings were replaced and existing duct systems were modified to improve efficiency.



Senior Mechanical Engineer: German Embassy Renovation and Restoration Project Oversight, Washington, DC. Project control/project management oversight for a \$35 million renovation of three buildings in the historic German Embassy Complex in Washington, DC.

Robert Brown, PE

Fire Protection Engineer

Education:


BS/Mechanical Engineering/
University of Maine/1977


Registrations/Certifications:


Professional Engineer

Years of Experience:

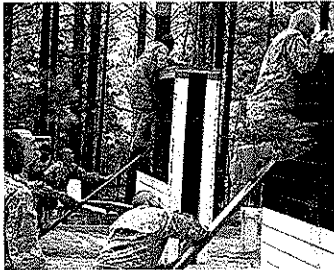
33


 **Mechanical Engineer: 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.


 **Mechanical Engineer: Milton Cat Sales and Service Facility, Batavia, NY.** Performed mechanical engineering services for the approximately 100,000-ft² building that includes wash bays capable of housing D9 bulldozers; sales area for Caterpillar equipment; administrative offices; and a service center.

 **Mechanical Engineer: 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.

Mechanical Engineer: 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.



 **Mechanical Engineer: 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.

 **Mechanical Engineer: 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.

Christian L Shriver, PE, LEED® AP

Electrical Engineer

Education:

Bachelor of Technology/Electrical Engineering/State University of New York, Binghamton

Associate of Applied Science/Electrical-Mechanical Engineering Technology/State University of New York, Alfred

Registrations/Certifications:

Professional Engineer

NCEES Record

LEED 2.0® Accredited Professional

Years of Experience:

19

Professional Affiliations:

National Council of Examiners for Engineering and Surveying



Project Manager/Electrical Engineer: Residential Rehabilitation and Recovery Facility, Astorino for the Lebanon VA Medical Center, PA. Mechanical, plumbing, electrical, and civil design services in support of prime consultant Astorino for construction of 23,000 ft² of new freestanding space consisting of a central community center and two-story residential-style villas that include single-floor apartments.



Electrical Engineer: Design Charrettes, US Army Corps of Engineers, Fort Drum, NY. Electrical engineering consulting services associated with design charrettes involving conceptual design for multiple building types including barracks, company operating facilities, battalion operating facilities, vehicle maintenance facilities, bulk storage areas. Conceptual designs included connection to campus-wide electrical distribution, power distribution, emergency/standby power systems, lighting, data, telephone, site layout, cost estimating, and sustainability analysis.



Project Engineer: Groundwater Well Controls Design, Kelly (Lackland) Air Force Base, San Antonio TX. Provided process and instrumentation design for control panels that monitored and controlled eighty groundwater wells. Produced process and instrumentation diagrams for eight control panels monitoring groundwater wells for level, controlling two wetwell pumps per control panel including interlocks, and hand and automatic controls by a programmable controller. Provided written specifications for components and installation.



Project Engineer: Substation Replacements, Fort Detrick, MD. Design for replacement of electrical substations of 3 & 6 and relocation of existing substations.



Project Engineer: Support Facility Concept Designs, Fort Detrick, MD. Design to the 30% concept level for Brigade support facilities at Fort Detrick.



Lead Electrical Engineer: Hershey Medical Center Administration Building, Hershey PA. Provided design and construction engineering services for a new 160,000-ft², four floor administration building. Extended campus 12.47 kV system to new building, power distribution, interior lighting, site lighting, emergency power distribution, interior branch circuiting via raised floor system and floor boxes. Coordinated with the contractor to ensure value engineering.



Lead Electrical Engineer: Electrical Systems Condition Assessments, West Chester University, West Chester PA. Surveyed over twenty campus buildings for electrical system conditions. Completed written reports of facility conditions, projected maintenance scope and costs, and projected renovation scope and costs. Surveyed campus high voltage distribution system and provided a written report of system capacity, conditions, and future expansion recommendations. The information gathered during this survey was used to determine budgeting and to develop individual upgrade and expansion projects in the future.

Sherry L Wolfe, PE

Electrical Engineer

Education:

Bachelor of Science/Electrical Engineering Technology/
Pennsylvania State University,
Harrisburg

Registrations/Certifications:

Professional Engineer
NCEES Record

Years of Experience:

28

Professional Affiliations:

National Council of Examiners for
Engineering and Surveying



Senior Electrical Engineer: Entry Control Gates and Cantonment Fence, USPFO for PA/193rd Special Operations Wing, Middletown, PA. 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.



Senior Electrical Engineer: Energy Management Control System Design, USACE/Defense Distribution Depot, Susquehanna, New Cumberland, PA. 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 Buchart Horn SCADA Network and Utility Metering study was the impetus for the project.



Senior Electrical Engineer: Cafeteria and Command Headquarters Renovation (Building 11), Tobyhanna Army Depot, PA. 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).



Senior Electrical Engineer: German Embassy Renovation and Restoration Project Oversight, Washington, DC. Project control/project management oversight for a \$35 million renovation of three buildings in the historic German Embassy Complex in Washington, DC.



Senior Electrical Engineer: IQC for A/E Services: Repairs and Alterations and Small Standard Building Design/Medium Standard Building Design, Baltimore and Capital Districts, USPS, Eastern Facilities Service Office, Greensboro, NC. 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.



Senior Electrical Engineer: Boiler Plant Renovation, Allentown State Hospital, PA DGS, Allentown, PA. Engineering services for renovation of the coal-fired boiler plant and control systems at the Allentown State Hospital.



Senior Electrical Engineer: L-3 Close Security Housing Unit, State Correctional Institution Coal Township, Wohlsen Construction Co./PA DGS, Northumberland County, PA. Design/build of two-story, 128-cell, L-3 (close security) housing unit constructed of permanent masonry and concrete type construction. Energy conserving features include energy management control systems, high efficiency motors, lighting, HVAC systems, and any other items necessary to achieve LEED® certification.



Senior Electrical Engineer: L-3 Close Security Housing Unit at State Correctional Institution Pine Grove, GM McCrossin Inc. /PA DGS, Pine Grove, PA. Design/build of two-story, 128-cell, L-3 (close security) housing unit constructed of permanent masonry and concrete type construction. Energy conserving features include energy management control systems, high efficiency motors,



lighting, HVAC systems, and any other items necessary to achieve LEED® certification.

Senior Electrical Engineer: L-3 Housing Unit Preliminary Planning and Investigation, PA DGS, Muncy State Correctional Institute, Lycoming County, PA. Site/civil design and preparation of land development plans for one L-3 Housing Unit for 230 male inmates and architectural, structural and MEP design for 128-cell L-4 Housing Unit for female inmates.

RESUME

Sherry L. Wolfe, PE

David K Kuehnen, PE

Civil Design Engineer

Education:

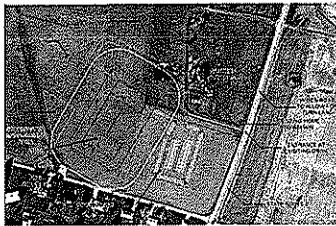
BS/Civil Engineering/University of Memphis/1992


Registrations/Certifications:


Professional Engineer


Years of Experience:


14





 **Civil Engineer: West Virginia Army National Guard: Modified Record Fire Range, Camp Dawson, WV.** Mr. Kuehnen provided civil engineering 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.

 **Civil Engineer: Design Charrette, Buckhannon Readiness Center, USACE, WV.** Mr. Kuehnen provided civil engineering expertise to facilitate 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.

 **Civil Engineer: West Virginia Army National Guard: Planning Charrette for a Joint Armed Forces Reserve Center, Ripley, WV.** Mr. Kuehnen provided civil engineering for the planning charrette and initial site layout for a new Joint Armed Forces Reserve Center. The project includes an approximately 50,000 ft² 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 ft² maintenance shop and motor pool can either be attached or separate from the Reserve Center.

 **Civil Engineer: West Virginia Army National Guard: Camp Dawson Boundary Fence.** Mr. Kuehnen provided civil engineering 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 feet of security fence along the southeastern portion of the Camp Dawson cantonment area. The design included preparation of the Stormwater Pollution Prevention Plan (SWPPP) and obtaining the land disturbance permit.

 **Civil Engineer: West Virginia Army National Guard: Camp Dawson's Pringle Training Area, Motor Pool Site.** Mr. Kuehnen provided civil engineering 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 site. The design included preparation of the SWPPP and obtaining the land disturbance permit.

 **Civil Engineer: West Virginia Army National Guard: Camp Dawson Multi-Purpose Building.** Mr. Kuehnen provided civil engineering design and plan production for a proposed 32,000 ft² multi-purpose building at Camp Dawson. The design includes pad preparation, utilities, and required site improvements including parking and site drainage.

Joseph Bellini, PE, PH

Senior Civil Engineer

Education:

MS/Civil Engineering [Hydraulics/
Hydrology]/University of
Pittsburgh/1993

BS/Civil Engineering/Pennsylvania
State University/1989

Registrations/Certifications:

Professional Engineer

Professional Hydrologist

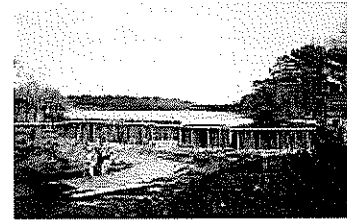
Years of Experience:

19



Civil Engineer: US Army: Hanover Lake Dam Rehabilitation, Ft. Dix NJ.

Mr. Bellini provided 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.



Civil Engineer: US Army: Range 59A & 59D Stormwater Design, Ft. Dix NJ.

Mr. Bellini 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.

Civil Engineer: NedPower LLC: Mt. Storm Wind Energy Project

Stormwater / Site Design, Grant County, WV. Mr. Bellini provided 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.

Civil Engineer: SJ Energy Corporation: Charles Pointe Development Project Preliminary Site Design, Bridgeport WV.

Mr. Bellini provided 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.



Civil Engineer: West Virginia Department of Environmental

Protection: Waterline Design, Fayette and Upshur Counties WV.

Mr. Bellini developed and calibrated hydraulic models for the existing and extended water distribution systems using KYPIPE at two sites. Performed flow tests and designed three standpipe storage tanks and two booster-pumping stations. Developed final construction documents for both water systems.

Karla S Farrell, RLA, LEED® AP

Landscape Architect

Education:

Bachelor of Science/Landscape
Architecture/Pennsylvania State
University

Registrations/Certifications:

Registered Landscape Architect
Council of Landscape Architectural
Review Boards
LEED 2.0® Accredited Professional

Years of Experience:

26

Professional Affiliations:

National Trust for Historic
Preservation



Senior Landscape Architect: Carlisle Barracks Site Plan, US Army Corps of Engineers, Carlisle, PA. 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. Ms. Farrell was responsible for development of five conceptual site plans for multi-family dwelling units.



Senior Landscape Architect: Post Office Renovation and Addition, US Postal Service, Ellicott City, MD. Complete architectural/engineering services for renovation and addition, 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.



Senior Landscape Architect: United Parcel Service Distribution Center Expansion, Lancaster, PA. Land development for 27-acre tract and design of 110,000-ft² building expansion to parcel distribution center including maintenance areas and offices. Ms. Farrell was responsible for preparation of land development plans and CD including grading, site layout, stormwater and SEC landscaping.



Senior Landscape Architect: Trexler Nature Preserve "Green" Environmental Center, Lehigh County, Allentown, PA. Architectural and engineering services for design, specification, and construction of a 3000-ft² sustainably designed environmental center.



Senior Landscape Architect: Civil Engineering for Hershey Center for Applied Research Building 2, Wexford Science and Technology LLC, Derry Township, PA. 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.



Senior Landscape Architect: Civil Engineering Services for the Hershey Center for Applied Research, Hershey Trust Company, Derry Township, PA. 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. Ms. Farrell was responsible for coordination of all site design including utility design, stormwater management design, grading, drainage, site lighting, erosion and sediment control, preparation of documents for land development submittals, preparation of condominium lots, adjacent road improvements, and landscape plan.



Senior Landscape Architect: I-68 Rest Area and Welcome Center, Preston County, WV. Mapping, preliminary site layout and access road design, landscaping, lighting, electrical, and mechanical services for new rest area/welcome center. Ms. Farrell was responsible for development and preparation of construction documents for site layout, grading, and erosion and sediment control.

Martin J Marchaterre, JD

Environmental Planning / Permitting

Education:

JD/Marshall-Wythe School of Law,
College of William and Mary/1988

BA/Williams College/History and
Political Science/1985

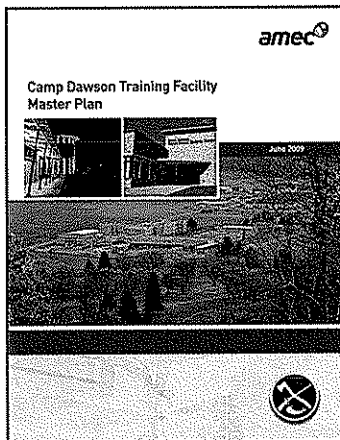
Qualifications:

Virginia Bar Association
Environmental Law Section, Military
Law Section

District of Columbia Bar Association
Environmental, Energy and Natural
Resources Section

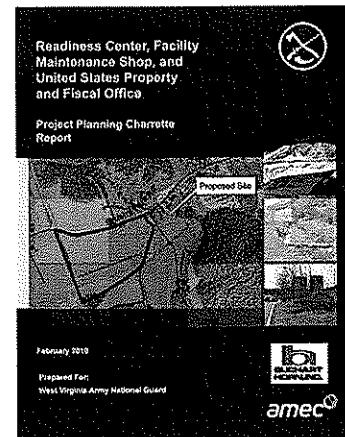
Years of Experience:

19



Environmental Planner: 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.



Environmental Planner: 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.



Environmental Planner: 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.



Environmental Planner: 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 stakeholders, and review the 1391 construction cost estimate. The planning report outlined findings and outlined next steps.

David G Sawitzki, MASC, PE

Lead Geotechnical Engineer

Education:

MASc/Civil Engineering/
[Geotechnical Engineering
Program]/University of
Waterloo/1989

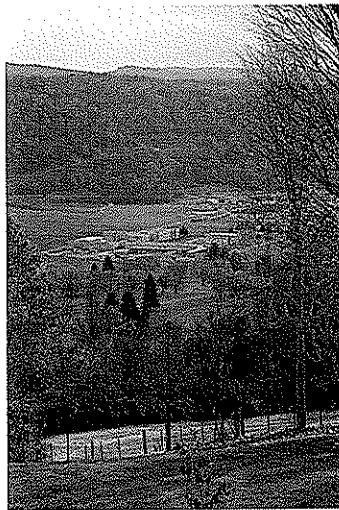
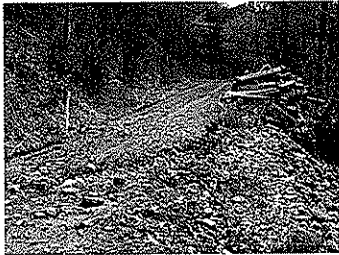
BSE/Civil Engineering/[Geological
Engineering Program]/Princeton
University/1988

Registrations/Certifications:

Professional Engineer

Years of Experience:

19



Geotechnical Study Project Manager: West Virginia Army National Guard: Modified Record Fire Range (MRFR) Geotechnical Study, Camp Dawson, WV.

Geotechnical study 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.



Geotechnical Principal-in-Charge: West Virginia Army National Guard: South Gate Road Slip, Camp Dawson, WV. 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.

Geotechnical Principal-in-Charge: West Virginia Army National Guard: Camp Dawson Hydrogeologic Groundwater Assessment. Study of 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.

Geotechnical Principal-in-Charge: West Virginia Army National Guard: Joint Interagency Education and Training Center (JIETC) Geotechnical Study. Geotechnical study for a planned 3- to 4-story, 150,000-ft² 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.

Eugene G Williams, PLS, CSI, CDT, ASPE

Senior Cost Estimator

Education:

Coursework/Civil Engineering
Technology/Pennsylvania State
University

Registrations/Certifications:

Professional Land Surveyor

Construction Documents
Technologist

Construction Specifications Institute

Years of Experience:

44

Professional Affiliations:

American Society of Professional
Estimators



Senior Cost Estimator: Stryker Battalion Training Complex, USPFO for PA, Ft. Indiantown Gap, Annville, PA. 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. Mr. Williams was responsible for development of specifications and preparation of construction cost estimates.



Senior Cost Estimator: Mission Support Training Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA. Complete A/E design for a \$4 million, 24,000-ft² C4I Training Facility for the National Guard's only Stryker Brigade. The facility, which is certified for the "Gold" level of USACE Sustainable Project Rating Tool (SPIRIT) certification, serves as the command and control training facility centerpiece for the 28th Division's Stryker Brigade Combat Team. Mr. Williams was responsible for development of specifications and preparation of construction cost estimates.



Senior Cost Estimator: Battalion Storage Facility Design, USPFO for PA/ Ft. Indiantown Gap, Annville, PA. Design of 20,000-ft² battalion storage area to provide secure storage space for sets, kits, outfits, and other equipment for units of the 28th Division Stryker Brigade Combat Team. Mr. Williams was responsible for development of specifications and preparation of construction cost estimates.



Senior Cost Estimator: Entry Control Gates and Cantonment Fence, USPFO for PA/193rd Special Operations Wing, Middletown, PA. 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.



Senior Cost Estimator: Command Headquarters/Mission Operations Facility Renovation (Buildings 11/1A), Tobyhanna Army Depot, PA. 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.



Senior Cost Estimator: Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for PA/ Fort Indiantown Gap, Annville, PA. Design of 50' x 700' runway and supporting 5,600 ft² training and maintenance facility to conduct Unmanned Aerial Vehicle (UAV) flight and training operations. Mr. Williams was responsible for development of specifications and preparation of construction cost estimates.



Senior Cost Estimator: Combined Army National Guard Readiness Center, Pennsylvania DGS/PA Army National Guard, Waynesburg, PA. Design, bidding, and administration and construction services review for a \$7.7 million combined 38,000-ft² Readiness Center for the PA Army National Guard. The facility serves as a model Readiness Center for the Reserves in the Commonwealth. All required physical security measures and anti-terrorism/force protection measures are included. Sustainable principles were integrated into project design, development, and construction.

James E Hoy, CPE, ASPE

Cost Estimator

Education:

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

Registrations/Certifications:

Certified Professional Estimator

American Society of Professional
Estimators

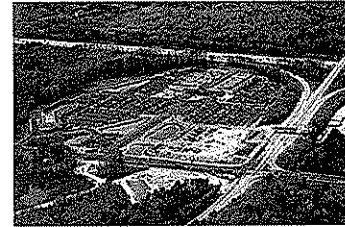
Years of Experience:

12

Cabela's

Cost Estimator: 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.



Cost Estimator: 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.



Cost Estimator: 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.



Client:

PA DGS
Eighteenth & Herr Streets
Harrisburg, PA 17125

Combined Readiness Center PA Army National Guard

Buchart Horn designed a \$7.7 million, 122-person Readiness Center in Greene County, Pennsylvania. The 38,000-ft² 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.

Space programming for the facility includes:

Assembly Hall: 6,200 ft² 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

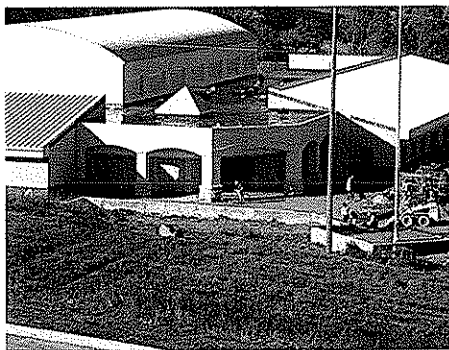
After Action Review (AAR) and Classroom Areas: Multipurpose training spaces with advanced audiovisual circuitry and capability to perform individual or collective training

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 door frames, innovative site design and high efficiency/DDC-controlled HVAC systems. The building also incorporates locally produced materials and emphasizes



Relevance to Services Required

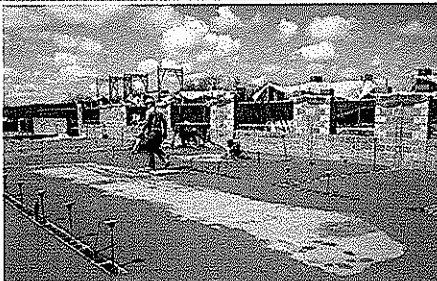
38,000-ft² Combined Readiness Center supporting Reserve training

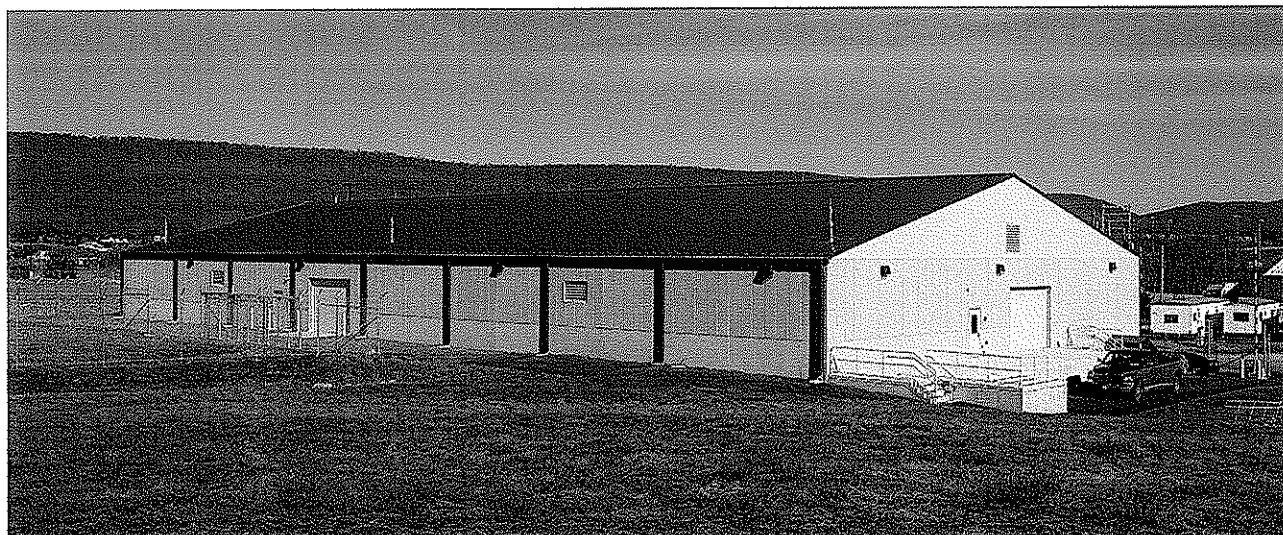
\$7.7 million state priority project

Sustainable Design employs LEED® criteria for site and building envelope (Silver level)

AT/FP compliance for building and site

Complete land development design for 18.2 acre parcel



**Client:**

U.S. Property & Fiscal Office
Department of Military and
Veterans Affairs
Fort Indiantown Gap
Annville, PA 17003

Battalion Unit Site Storage Facility USPFO PA/Ft. Indiantown Gap

Buchart Horn provided conceptual through 100% design services for the Stryker Brigade's 20,000-ft² battalion storage area, which gives rotating units secure space for equipment storage while training at Fort Indiantown Gap. The facility features Centralized Storage Compartment Access (a wide central bay area allows easy forklift access throughout the facility); secure cage areas (individual company-sized storage areas allow easy vertical stacking of palletized loads); and a secure Storage Area (a secure vault handles temporary storage of sensitive equipment).

The facilities were designed in accordance with Army and National Guard sustainable design standards and IBC 2003. The facility is USACE SPIRiT rated "Silver". 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 including advanced electronic surveillance and security systems. We ensured early coordination of all site permitting including PNDI searches and necessary 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.

The building is integrated into a larger Battalion Complex area whose conceptual design was provided by Buchart Horn. All Stryker Brigade personnel training at Fort Indiantown Gap are housed and fed at this location, offering a single, efficient location for staging training units. This concept parallels the training efficiency of a readiness center and our design team understands how to integrate the necessary administrative and support functions into a single complex.

Relevance to Services Required

20,000-ft² warehouse, storage space/vehicle loading, and delivery areas supporting the National Guard's only Stryker Brigade

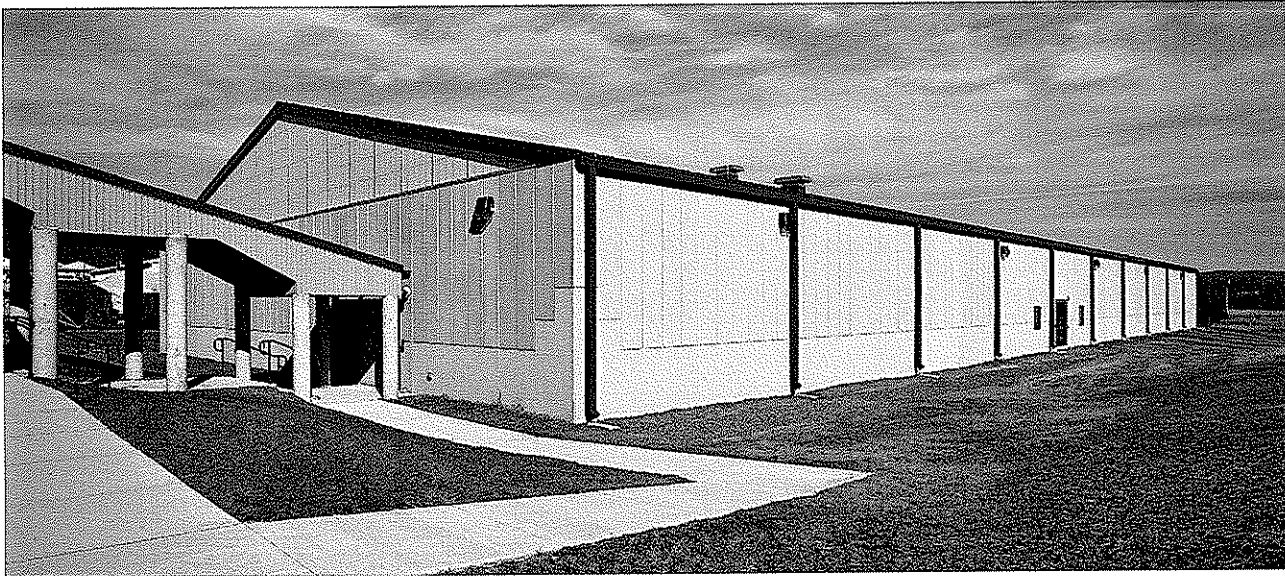
*Centralized access and secure storage vault
AT/FP compliant*

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, and all utility connections

Sustainable design: SPIRiT level "Silver"



Client:

U.S. Property & Fiscal Office
 Department of Military and
 Veterans Affairs
 Fort Indiantown Gap
 Anville, PA 17003

Mission Support Training Facility USPFO PA/Ft. Indiantown Gap

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. Buchart Horn Inc. was contracted to design a 24,000-ft² Mission Support Training Facility (MSTF) and provide complete land development services including geotechnical investigations and site permitting.

This facility serves as the command and control training centerpiece for the 28th Division's Stryker Brigade Combat Team. Units can conduct both individual automation training and up to brigade-sized, classified command and control training exercises in this facility. When completed, this facility will be able to handle all of the Stryker Brigade's advanced and extremely sophisticated telecommunications needs.

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

Secure room which is capable of processing and storing classified information and incorporates 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 is an open space area outfitted with modular furniture for contracted support staff.



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

Sustainable Design; SPIRIT rating "Gold"

Stormwater, Erosion, and Sediment control permitting

Adaptive reuse design concept



Emergency Backup Power System which includes 100 kW generator, switchgear, and UPS battery backup

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.

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 is scheduled for the "Gold" level of USACE Sustainable Project Rating Tool (SPiRiT) certification, leveraging an Energy Star compliant standing seam metal roof system, 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.

We are delivering a facility that will serve as the information management and electronic communications training centerpiece for one of the Army's highest profile units, the Stryker Brigade. The innovative design and construction administration services provided for this facility are being applied to other military facilities throughout the Commonwealth of Pennsylvania and in Maryland.

**Client:**

Air Force Center for Environmental
Excellence
3300 Sidney Brooks Building 532
Brooks-City Base, Texas 78235-5112

Strategic Planning and Development Facility, Andrews Air Force Base

AMEC was selected to provide design-build services for the 50,000-ft² Strategic Planning and Development Facility (SPDF) at Andrews Air Force Base, MD. The SPDF will bring together service and civilian personnel for high-level meetings, conferences, briefings, and related functions. The facility includes one 50-person and two 30-person executive conference rooms, one 600-person multifunction room dividable into 6 sections, a 265-person auditorium with stadium style seating, 150-person sensitive compartmented information (SCI) conference room with command, control and communication capability, audio-visual equipment rooms, storage, reception and administration area, kitchen, and 500 parking spaces. In addition to the base features, the building was designed to Silver LEED standards. This project's key and most complex features are similar to those found in a Readiness Center.

Project Highlights

- This key project is one of the most important military construction (MILCON) projects the Air Force Center for Engineering and the Environment (AFCEE) is currently performing, as it is expected the Air Force Chief of Staff and possibly the President will attend conferences at this facility, which has provisions for satellite links and media connections for CNN distribution of important Department of Defense (DoD) reports
- Will provide the largest DoD conference room and conferencing facility in the Washington DC area.
- AMEC has met all design and construction deliverables, and is on track to complete the project within 720 days - 180 days fewer than the 900-day contract requirement.
- The project has had zero lost-time accidents due to development and strict implementation of a site-specific safety and health plan and program that requires construction staff to

Relevance to Services Required

50,000-ft² office and conference center

Full planning and design services

AT/FP compliant facility and site

Designed to exceed LEED[®] Silver

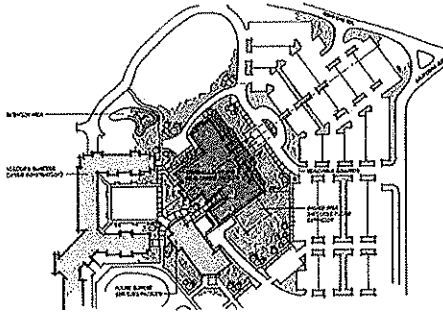
Full site design, including grading, stormwater, pavement, pedestrian and vehicular traffic routing, parking and security features

Standing seam metal roofing system

High efficiency HVAC equipment

Water conservation through automated fixtures and no-irrigation landscaping

Backup up power generation



attend a training session and orientation including a one-hour construction safety review course.

- The SPDF project is currently under evaluation for the 2010 United States Air Force Design Awards.

AMEC has proposed several betterments for the SPDF, which include:

- Refined building approaches to expedite delivery and exit of vehicles, including large buses with a large turning radius to smooth through traffic.
- An enhanced *porte-cochere* of masonry enclosed columns, standing seam metal roof, enclosed steel structure underneath the roof, and all the desired finishes for such a facility.
- Glass curtain walls to enhance the feeling of open space, as it views the area to the north of the SPDF and provides for open space views that will provide a feeling of comfort to the visitors.
- Enhanced view of the monumental stair with an opening to the second floor above the great hall to provide for open space in the great hall. The monumental stair includes glass hand rails of the Metropolitan Railing System type, and includes glass rail and stainless steel structures. Based on the width of the monumental stair, a center glass handrail has also been included with a stainless steel cap.
- The addition of a medium bronze roof color improves energy efficiency and provides additional LEED points.

Quality Control

AMEC implemented our established quality assurance / quality control (QA/QC) program, which meets the Unified Facilities Guide Specifications on Contractor Quality Control (CQC), and ensured activities are performed in a manner that produces products that meet contract requirements. AMEC uses a three-phase approach to quality management, including preparatory phase inspections, initial phase inspections, and follow up phase inspection during construction. Rigorous checks were performed to ensure all aspects of site development, mechanical/electrical systems, building structure and shell and special systems met exacting standards for life safety, force protection, and IT/power redundancy.

Management Approach

The team reviewed resource requirements, using the most productive, cost-effective mix of resources to meet defined goals.

Integrated design and construction activities were emphasized throughout the design build process. This integrated approach incorporated constructability reviews and early completion of design requirements. To enhance communication with the diverse stakeholders involved, AMEC used an online project website system to provide controlled access to project information parties involved in the construction process.

Compliance with Security Standards

- Due to the SPDF having SCIFs and secure rooms and secure communications, NIPRNET and SIPRNET, the facility meets AT/FP and Director of Central Intelligence Directive 69 standards.
- The project further complies with all Uniform Facilities Criteria, National Fire Protection Association 101 Life Safety Code,



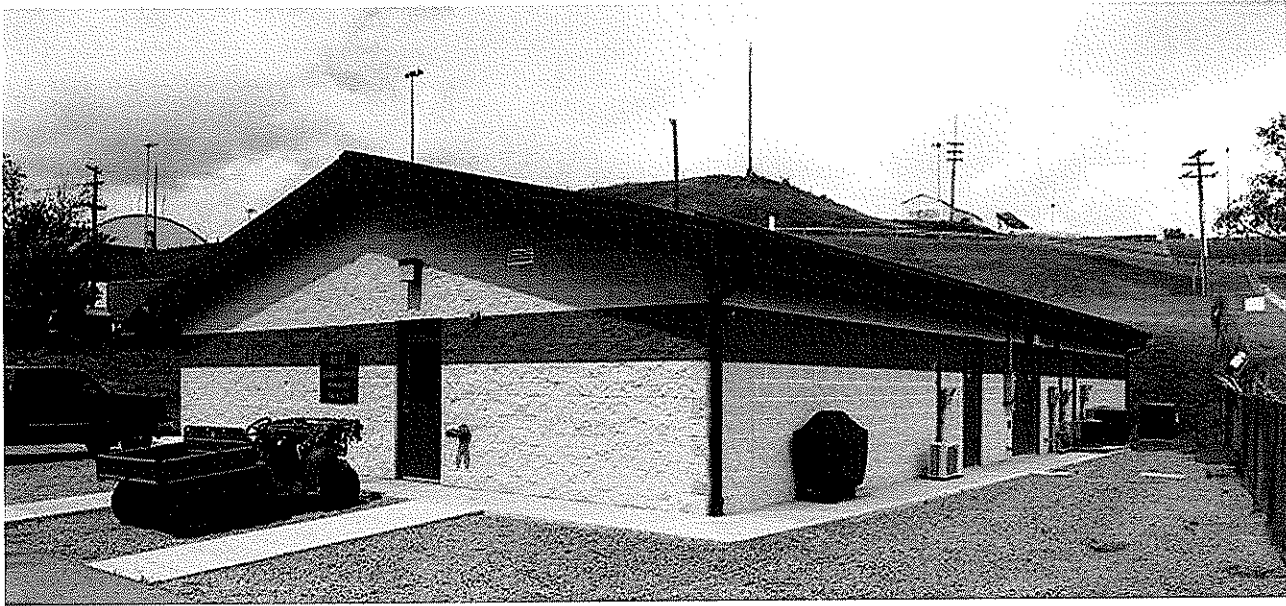
Uniform Federal Accessibility Standards, Americans with Disabilities Act, and Energy Policy Act of 2005.

Implementation of Sustainable Practices

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

Proof of Performance and Success

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



Client:

U.S. Property & Fiscal Office
 Department of Military and
 Veterans Affairs
 Fort Indiantown Gap
 Anville, PA 17003

**Combat Arms Training and
 Maintenance and Combat Arms
 Training Simulator Facility
 USPFO PA/171st Air Refueling Wing**

Buchart Horn Inc. provided conceptual through 100% designs for a 2,800 ft² 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 CO2 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

After Action Review (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

Relevance to Services Required

Indoor small arms simulation and maintenance training facility

2,800- ft² combined training and maintenance spaces

Sustainment, Restoration, and Maintenance funded project

Interior HAZMAT storage and fire protection

HVAC system provides enhanced ventilation for interior spaces during weapons training

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

**Client:**

U.S. Property & Fiscal Office
 Department of Military and
 Veterans Affairs
 Fort Indiantown Gap
 Annville, PA 17003

Stryker Battalion Training Complex Conceptual Design USPFO PA/Ft. Indiantown Gap

The Pennsylvania National Guard is fielding one of the Army's unique Stryker Brigades and the primary training location is at Ft. Indiantown Gap, PA. The 28th Division Stryker Brigade Combat Team (SBCT) required a bed-down and administrative support area for its soldiers during training exercises at Ft. Indiantown Gap. Buchart Horn designed the battalion-sized complex to the 15% conceptual level for design-bid-build contracting.

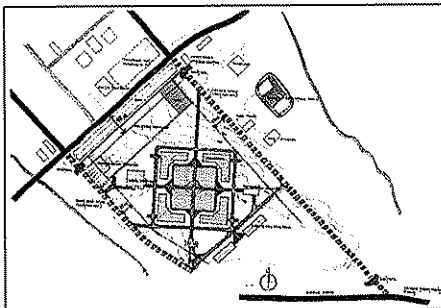
This centralized administrative and bed-down complex houses a full battalion of soldiers and their associated personal equipment. Buchart Horn led the SBCT through a two-day charrette to plan and program each portion of the complex. Upon conclusion of the charrette, the unit was given a full program of individual buildings, planned spaces, approximate sizes, and level of quality. 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.

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 ft² 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 ft²

Dining Facility: Battalion-sized facility at 12,400 ft² to feed up to 800 personnel

**Relevance to Services Required**

\$21 million Battalion Complex for the National Guard's only Stryker Brigade

Planning and design charrette

AT/FP Compliant

Classified training areas with high security telecommunications

Environmental clearances, permitting, and land development

High-level security systems

Sustainable design; SPIRIT rating "Silver"

Battalion HQ: Two-story facility for battalion commander and staff workspace at 3,800 ft²

Battalion Classroom: Single-story classroom area to accommodate company-sized training at 6,000 ft²

Maintenance Building: Single-story support facility with three adjacent 20' X 60' "pull thru" bays of 4,800 ft².

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 is scheduled for the "Silver" level of USACE Sustainable Project Rating Tool (SPiRiT) certification, leveraging an EnergyStar-compliant standing seam metal roof system, sandwich construction pre-cast concrete wall panels, innovative site design, and high energy efficiency using Johnson DDC controls for its HVAC systems.

We have designed a facility that will not only meet National Guard standards, but will serve as a model facility for our nation's armed forces. This bed-down space is very similar to other Army and Air Force administrative complexes. Our design team has recently produced three other complete Stryker Brigade facility designs and has developed a database of design knowledge for transfer to other military facilities throughout the world.

Client:

US Army Corps of Engineers
 City Crescent Building
 10 South Howard Street
 Baltimore, MD 21203-1715

West Virginia Army National Guard
 Joint Forces Headquarters
 Construction and Facilities
 Management Office
 1703 Coonskin Drive
 Charleston, WV

Design Charrette, Buckhannon Readiness Center

In association with AMEC, Buchart Horn led a planning charrette with the West Virginia Army National Guard (WVARNG) and key stakeholders to determine 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 will provide significant upgrades to existing state facilities, which lack the appropriate space, code compliance, and functional alignment to conduct the required training for the state's Guard forces or to accommodate the workflows needed to enhance administrative and contracting support and improve logistical functions.

The project included a three-day on-site planning charrette workshop and site visits prior to the charrette. Buchart Horn 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:

Charrette Facilitator/Team Leader

Civil/Site Engineer

Architect

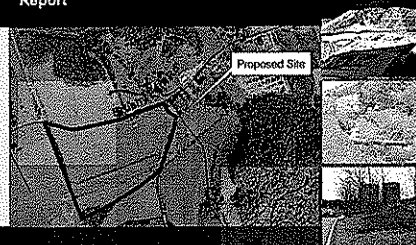
During the charrette, discussions with the stakeholders were organized into separate detailed examinations of building and site considerations. Building discussions focused on space allocation and adjacencies, inter-functional use/design, layout, building orientations, and special requirements such as 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, along with a compilation of significant findings including opportunities and constraints for the given site and envisioned land uses.

Relevance to Services Required

- Design charrette*
- Army National Guard facility*
- DD 1391 review*
- Programming revision*
- Cost estimating*



Readiness Center, Facility Maintenance Shop, and United States Property and Fiscal Office

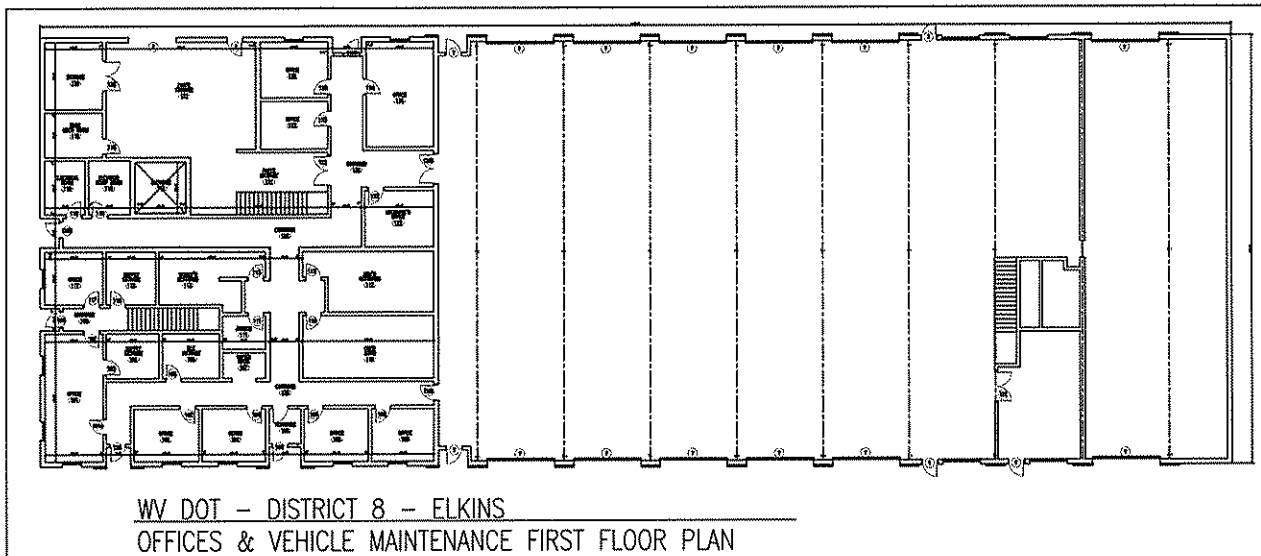
Project Planning Charrette Report



February 2010

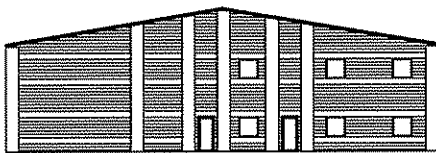
Prepared For:
 West Virginia Army National Guard



Client:

WVDOT
Building Five
1900 Kanawha Boulevard East
Charleston, WV 25305-0430



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*

Elkins Maintenance Facility West Virginia DOT

Buchart Horn provided architectural, civil, structural, mechanical, and general engineering services for the construction of the Division of Highways' District 8 Equipment Shop Building on US 219 north of Elkins. Construction and bid documents have been completed; WVDOT is currently awaiting funding allocation so the project can proceed to construction.

The facility will consist of approximately 22,500 ft² on the main level and 8,300 ft² on a second level for a total of 30,800 ft².

At present, the facility includes five heavy equipment service bays with two five-ton rolling cranes, five light equipment service bays with lifts, machine shop, tire shop, tool shop, and welding shop as well as office suites and staff crew rooms and lockers. The second floor will be parts storage with a freight elevator for access. The design also includes an all-new campus phone system, radiant heating, oil separator equipment, compressor systems, and other amenities. WVDOT intends the design to become a prototype for all of its future maintenance facilities.

reused and recycled material throughout the facility.

The project was coordinated with the installation physical security plan. All required physical security measures and all 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 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

- 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



Client:

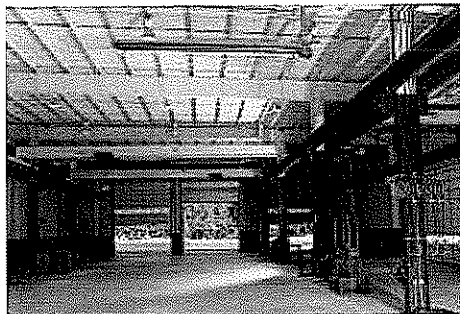
Southworth Milton, Inc
4610 East Saile Drive
Batavia, NY

**Caterpillar Sales and Service Facility,
Southworth Milton, Inc.**

AMEC provided complete design and construction services for a new sales and maintenance facility in the Saratoga area of New York State. AMEC contributed in the site selection process, including locations, compatibility for use, utility requirements and availability, zoning, and environmental permitting.

The new facility is a campus plan design, with initial planning and design for two buildings to be constructed. The main building is a metal building of approximately 65,000 ft² and will house approximately 15,400 ft² of sales and administrative support area; approximately 16,700 ft² of warehousing; approximately 17,700 ft² of truck maintenance and support; and 14,600 ft² of large equipment maintenance. The main building is also designed to support a future second floor of approximately 8,000 ft². There is also a 10,500-ft² utility building adjacent to the main structure. The site is designed to support a yet-to-be determined future structure as well.

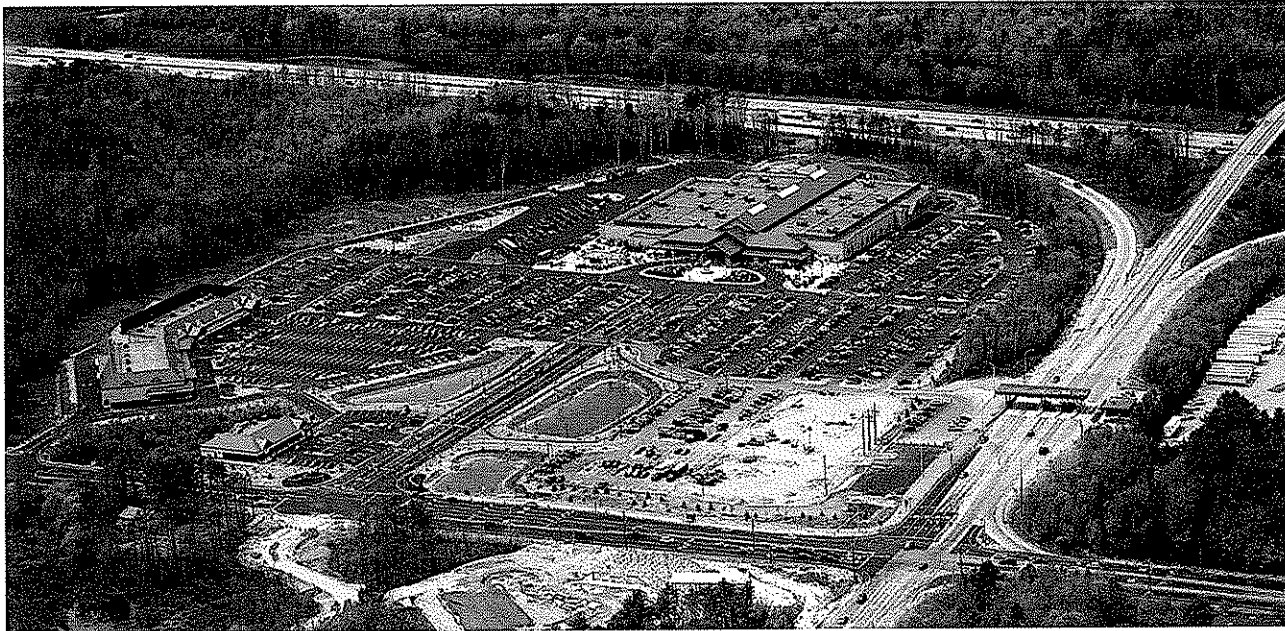
This project was completed three months ahead of schedule, \$250,000 under the approved budget, and won the 2001 American Buildings Company Design/Build Award.



Relevance to Services Required

- 16,700-ft² warehouse*
- Permanent masonry construction*
- Concrete floors*
- Mechanical and electrical equipment*
- Emergency power generation*
- Maintenance facilities*
- Flammable materials storage*
- Access road/sidewalks/utilities*
- Building site planning*
- Energy conservation features*





Client:

New England Expedition, LLC
 37 Pinnacle Mountain Road
 Simsbury, CT

The Gateway at Scarborough

AMEC provided architectural and engineering services for the Gateway at Scarborough, a mixed-use development located on 75 acres of land on Payne Road in Scarborough Maine. The cornerstone of the project is a 138,000-ft² Cabela's retail store. In addition to the Cabela's, AMEC designed complementary retail spaces using green metal standing seam roofing and stone accent columns and heavy timber framing. These buildings are design to be used for a variety of retail spaces including restaurants, banks, and offices. Additional space has been set aside to support a hotel.



Wetlands Permitting

AMEC coordinated all of the permitting with entities such as the Maine Department of Transportation, Town of Scarborough, Department for Environmental Protection, and the USACE. AMEC's survey team provided topographic and property survey on more than 50 acres of high end retail property. The project includes using GPS and verifying existing datums from prior surveys. The project also includes locating wetlands and hydrographic survey of an existing six-acre pond on the site.

AMEC services include architecture; civil, structural, mechanical, electrical and plumbing engineering; permitting; and survey.

Relevance to Services Required

- 138,000-ft² building*
- Tilt-up slab construction*
- Standing seam roof*
- Concrete floors*
- Mechanical and electrical equipment*
- Emergency power generation*
- Access road*
- Sidewalks*
- Utilities*
- Building site planning*
- Energy conservation features*



Client:

Southworth Milton
100 Quarry Drive
Milford, MA

Caterpillar Power Systems Building Milford, MA

AMEC provided design, permit, and construction management services for conversion of an 87,000-ft² 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-ft² office and warehouse space*
- Permanent masonry construction with 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

PROJECT

Caterpillar Power Systems Building

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.



Client:

Southworth Milton
100 Quarry Drive
Milford, MA

**Milton CAT Distribution Center
Milford, MA**

AMEC was responsible for converting an existing 85,000-ft² light manufacturing distribution center to a heavy parts distribution center for Milton CAT, a long time client of AMEC's South Portland office.

AMEC designed 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.

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, an interactive screen 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 users to give the client a state-of-the art facility that will also allow modification as technology improves efficiency.

Relevance to Services Required

85,000-ft² warehouse

Concrete floors

Mechanical and electrical equipment

Emergency power generation

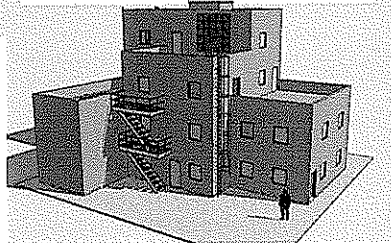
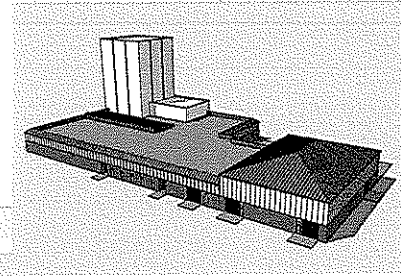
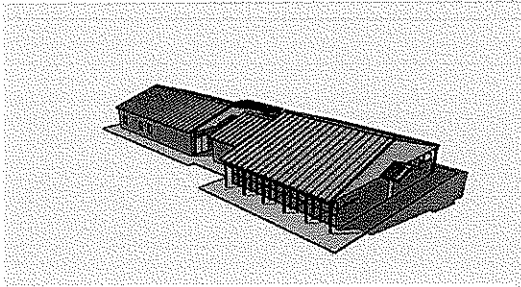
Flammable materials storage

Controlled waste handling

Access road/Sidewalks/Utilities

Building site planning

Energy conservation features

**Client:**

URS Corporation (prime)
PO Box 203970
Austin, TX, 78720

Marine Special Operations Command Camp Lejeune, NC

The Marine Special Operations Command (MARSOC) was the Naval Facilities Engineering Command's (NAVFAC)'s largest and most innovative 2007 design/build project. This \$217 million multi-year appropriation consists of a design/build team of multiple designers that will design and construct 41 new structures comprising nearly one million ft² along with utilities and site infrastructure to support approximately 2,000 MARSOC Marines.

Relevance to Services Required

Architectural planning and design

Site civil design

Structural engineering

Mechanical engineering

Electrical engineering

Communications systems

Sustainable design

Scope of Work

The project includes barracks, administrative facilities, educational facilities, dining facilities, industrial/warehouse facilities, ranges, operational/training facilities, site utilities, and infrastructure. Upgrades to local utilities including potable water, sanitary sewer, LS gas, electrical power, and telecommunications are also included in the scope of work, with the addition of realigning a road around the MARSOC compound to flow existing and future traffic around the MARSOC site. This build-to-budget project includes LEED Silver facilities and numerous LEED-certified and LEED-certifiable facilities.

The design of the new facilities and pavements is configured to avoid low-lying ravines and embankments. Some filling of upland ditches and lower elevations is required to provide sufficient contiguous land for the required facilities; however, the fill, and consequential impact of delineated wetlands, has been minimized. Utilities include LP gas to support heating requirements at new facilities using LP gas-fired boilers or direct-fired equipment. Electrical power is being obtained from the local Jones / Onslow Power Company, and power lines are being re-fed and distributed to new and existing facilities. Power distribution is overhead, except where it must be run underground similar to the headquarters and parade field due to a helipad. Telecommunications include design and construction of a new switch and telephone exchange building along with relocating the existing SONET ring loop feeding building.

**Client:**

Air Force Center for Environmental
Excellence
3300 Sidney Brooks Building 532
Brooks-City Base, Texas 78235-5112

Military Training Center Facilities and Infrastructure Phase II Kabul, Afghanistan

AMEC implemented an extensive program to design and construct student barracks, dining facility, and gymnasium for 14,000 Afghan troops at the Afghan National Army's KMTC. AMEC completed the following major scope elements:

- › Construction of 16,800 m² of barracks; 7,800 m² classrooms; 600 m² offices; 500 m² shopette; 1,000 m² theater; 3,800 m² dry storage facility; 2,800 m² MP Garrison; and 2,200 m² library
- › Addition of 2 MW to the existing power plant for KMTC to maximize power output
- › Development of operation and maintenance manuals in both English and Dari languages, and one-month of classroom and on the job training for all onsite equipment
- › Construction of wastewater collection system and water treatment plant upgrades to sustain an additional 4,000 personnel

AMEC has designed facilities and infrastructure consistent with the KMTC Cantonment Comprehensive Master Plan, the Central Command (CENTCOM) Contingency and Long Term Base Camp Facilities Standards, "Sandbook," UFC, Host Nation codes, and other standards including the IBC.

Innovations/Technologies

AMEC provided value engineering by streamlining the design process and improved construction efficiency with a substitution of material for a wastewater equalization tank. This tank was originally designed as a bolted steel tank, but AMEC identified an alternative reinforced concrete tank that also met contract requirements. By implementing

Relevance to Services Required

Site civil plans

Architecture planning and design

Structural engineering

Mechanical and electrical engineering

High/Low voltage electrical generation and transmission

Water & sewer systems

Roads, bridges, other civil works

Communication systems

Backup power

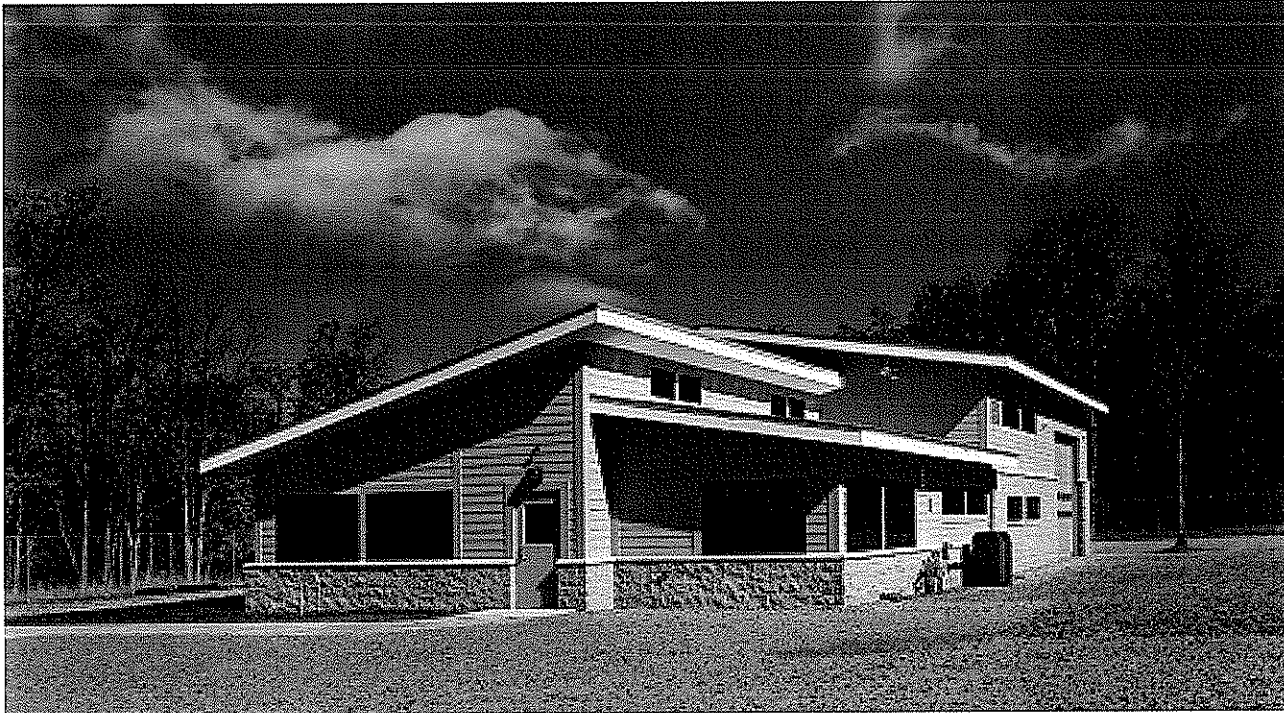
this innovation, AMEC not only accelerated the project schedule, but also saved the government money.

Schedules

AMEC achieved challenging schedule requirements through strategic design and selection of building materials. For example, when new facilities to accommodate 1,000 soldiers were needed within 60 days, AMEC selected a modular K-span steel pre-engineered building (PEB) design, verified supplier availability to deliver the steel, and trained operators to run the coil stock and cut the arched panels. This approach achieved schedule goals, with structures completed and ready for occupancy within 30 days.

Quality Control

To provide the client with best value, AMEC audited the K-span fabrication facility to verify credentials, quality, and workmanship. AMEC performed QC checks throughout all stages of project planning, construction, installation, and testing and commissioning, in accordance with the approved AMEC QC Plan submitted prior to the start of construction.



Client:

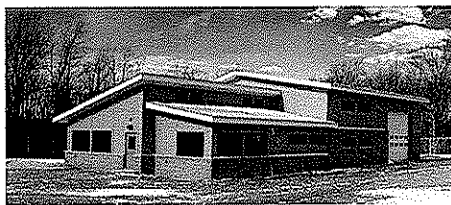
Canaan Valley Institute
 Second Floor, B & L Building
 Front Street Circle, Douglas Road
 Thomas, WV 26292

**Research Support Facility
 Canaan Valley Institute**

True to its mission, the Canaan Valley Institute (CVI) wanted its new Research Support Building to have a minimal environmental impact. CVI is a nonprofit group that helps communities improve the quality of life in their watersheds by restoring aquatic resources using cost effective, locally determined solutions.

Buchart Horn designed CVI's 3,750-ft² Research Support Building in Davis, WV to assist the Institute in its efforts to improve the environment, as well as allow them to be good stewards of their adjacent properties. The new research support facility is used to maintain equipment and oversee several hundred of the Institute's surrounding acres. The facility includes administrative offices, a shop bay with hoist, and a drive-through bay as well as areas for storage, lockers, showers, and shop space. A 1.5-acre fenced storage area is adjacent to the building. In keeping with the mission of the Canaan Valley Institute, the building is registered with the United States Green Building Council and is on track for certification through its LEED® program.

Buchart Horn's designers created a low-impact building with features that include a microturbine for generating electricity, waterless and high efficiency plumbing fixtures and sanitary systems, and radiant heating systems in high bay areas. The one-story "green" building includes a Follansbee roof system and was constructed using LEED - certified construction methods, as well as recycled and regionally available building materials.



Relevance to Services Required

Architectural/engineering planning and design

Space planning and programming

Site design

Sustainable building design: LEED-eligible

Environmental coordination

Specifications and cost estimates



**Client:**

University of Maine, Orono
5765 Service Building
Orono, ME

Student Recreation Center University of Maine

This much-anticipated project kicked off with a design charrette in fall 2004 with students, administrators, and donor from the university. Some of the design objectives established during the charrette included achieving LEED Silver certification; incorporating local materials; being transparent and visually accessible; accommodating future change/expansion; and being durable/easy to maintain.

AMEC coordinated with the university to develop the project to best achieve these design objectives while incorporating spaces for a three-court gymnasium with a raised jogging track; a two-level fitness center for free weights, machine weights and cardiovascular training; locker rooms and restrooms; an administrative center, welcome desk and juice bar area; and multi-purpose rooms.

AMEC's experience with a variety of exterior materials enabled the design team to select materials that were low maintenance, available within the distances recommendations of LEED, and familiar to skilled technicians.

AMEC provided associated architectural services, engineering and design services, and construction administration and inspection. Architecturally, AMEC was responsible for designing the administration offices, welcome areas, locker rooms and rest rooms, roofing systems, and vertical building transportation including the elevator design and construction.

Multiple Structural Systems Design

The design incorporated compound structural systems including moment steel frames and wood glulam construction. The building skin is primarily composed of glass, precast concrete panels, and

Relevance to Services Required

90,000-ft² building

Concrete floors

Mechanical and electrical equipment

Emergency power generation

Access road

Sidewalks

Utilities

Building site planning

Energy Conservation Features

LEED Silver Certified

copper cladding to create an overall design that opens the building to the scenic woods to the north.

The main gymnasium consists of long span steel trusses supported by heavy wood glulam columns. The architect's vision for the structure was to incorporate genuine wood columns to be true to the material rather than using steel columns clad with wood. Support of the heavily loaded steel elements on wood columns posed a significant design challenge, but was accomplished through innovative engineering design with no fit up issues in the field.

LEED Silver certification

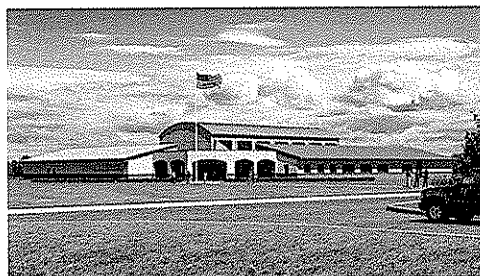
Extensive use of glass on the south façade presents views of the activities within and provides users with views out to the scenic campus. The building's exterior material palette of recycled copper metal clad panels, fieldstone, glass walls, and architectural precast concrete panels harmonizes with the natural setting. Inside, exposed wood structure, wood paneling, and light filled spaces further reinforce and connect with the natural setting.

- › Campus recreation uses only housekeeping and cleaning materials that meet the strict Green Seal standard of environmental responsibility
- › Green power: The recreation center replaces its electrical use by providing 100% green-e certified green power, which helps the project reduce its carbon footprint
- › Office and lounge furniture in the building is "Green Guard" certified
- › Incorporates sustainable building materials and systems, including heat-recovery systems and recycled materials.

The new 90,000 gross ft² LEED Silver certified Student Recreation Center, opened in fall of 2007, offers a multitude of options for current students and gives the University many options to expand in the future.

Design Considerations

The Buchart Horn 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 Readiness Center and Maintenance Shop at Parkersburg. We are uniquely qualified to provide the WVARNG with a successful design that meets or exceeds expectations. Our team has experience in designing military facilities in accordance with DG-415-1 and 415-5, Design Guides for Readiness Facilities and General Facilities Information, and in the design shop and maintenance facilities. 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
- › Armed Forces Reserve Center, Elkins

Pennsylvania:

- › 38,000 ft² Combined Readiness Center, Waynesburg
- › Battalion Training Complex, Mission Support Training Facility, Unit Storage Site and UAV Training Facility, Ft. Indiantown Gap

Maine:

- › 47,500-ft² Regional Training Institute, Bangor
- › Munitions Storage Complex, Bangor

The Buchart Horn team has also successfully designed many other facilities for various government entities, including the West Virginia DOT (22,500 ft² Elkins Maintenance Facility); Canaan Valley Institute (10,000 ft² LEED Compliant Maintenance Facility at Davis, WV) Naval Facilities Engineering Command (Marine Special Operations Command Facilities including barracks, administration, educational, dining, range, and storage facilities, Camp Lejeune, NC); and the National Park Service (concept design and cost estimating for Schoodic Education and Research Center, Acadia National Park, ME). Finally, our 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); higher education (University of Maine 90,000 ft² Student Recreational Center, Orono, ME); and manufacturing (Caterpillar 15,500 ft² sales and service facility, Clifton Park, NY), to name only a few.

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

Project Overview

The project mission is to provide architectural and engineering design services for an approximately 59,835 gross ft² Readiness Center, and an approximately 23,484 gross ft² Field Maintenance Shop of administrative/office space, drill floor spaces, maintenance work bays and heated/unheated storage at a site near Parkersburg, WV. Per the information contained in the Request for Proposal, design and engineering services will include a specially designed Readiness Center of permanent masonry type construction, brick and concrete block units with concrete floors, and a metal or single membrane roof. The building will be a one or two story structure with mechanical and electrical equipment. Outside supporting facilities include military and privately-owned vehicle parking, fencing, sidewalks, exterior fire protection, outside lighting, access roads, detached facility sign, wash platforms, fuel storage and dispensing systems and flagpoles. Physical security and AT/FP measures will be incorporated into design including maximum feasible standoff distance from roads, parking areas, and vehicle unloading areas, creative 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.

In addition to the Readiness Center, the project will include a specially designed Field Maintenance Shop of permanent masonry type construction, brick and concrete block units with concrete floors, and a metal or single membrane roof. The Shop will be 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, appropriate 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 Readiness Centers (DG 415-1), a Readiness Center is defined as a facility that houses one or more units of the State Army National Guard. Its Primary Function is to provide administrative, training, and material storage areas for the assigned military unit(s). Its Secondary Function is to provide support of state functions such as disaster relief and policing actions in case of civil disturbance. Tertiary Functions provide for public social functions, generally on a rental basis. Public access to functional spaces would normally be limited to the Assembly Hall, Rifle Range (by authorized local organizations), Lobby, Toilet, Food Prep/Classrooms and Scullery areas. The functional layout should provide the appropriate compartmentalization of all areas to support the above use. The facility and grounds may also include parking, attached / detached storage, fueling station, landscaping, security lighting, and a unique entry. We will carefully study your requirements and match facilities design with user needs and design regulations.

Architectural Compatibility



The Buchart Horn team appreciates the importance and need for the proposed facilities to be compatible with the architectural plan for Parkersburg 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. The design team will pay special attention to the entry, creating a clearly visible, welcoming, weather shielded transition to the interior spaces. Buchart Horn 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 Buchart Horn 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 our team's existing knowledge base in multiple disciplines, our architects, interior designers, and landscape architects will work together to deliver an effectively functional, aesthetically pleasing, and AT/FP-compliant building design.

Sustainable Design

As members of the US Green Building Council, Buchart Horn and its design partners remain dedicated to creating environmentally conscious design. The 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 professionals 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 specifications. 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 Buchart Horn 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 Buchart Horn architectural team reviews client needs and makes every attempt to maximize natural light, which has numerous benefits for employees.

Our 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 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. Buchart Horn 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.*, RS 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 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, team member 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

Cost, Schedule and Quality (CSQ) Control Program

Cost, Schedule and Quality (CSQ) Control is a constant process in the life of a project, from study to design, and through construction management. Each employee assigned to this project is responsible for CSQ control on his or her portion of the work. The oversight for total CSQ control rests with the individual Project Manager.

Our corporate CSQ Control Program is centered on the Project Work Plan and the Monthly Status Reports. Corporate policy requires the Project Manager to generate a work plan and a monthly status report for each delivery order, for review by the client and the corporate chain-of-command up through the Regional Vice President. The monthly status reports quantify performance for the cost and schedule, and provide an open discussion of qualitative issues that affect product quality, including report sections devoted to “Problems,” and “Actions Required of Client.”

Demonstration of Cost, Schedule and Quality Control

We feel that the best indication of an A/E firm’s CSQ control capabilities is ultimately demonstrated through a lower change order rate when the design is constructed. The change order rate tends to be an indication of the quality of the design. On average, our firm achieves a change order rate of 2% or less. The industry average is in the range of 5%. The table below demonstrates our change order rates on recent multi-disciplined A/E projects conducted for government agencies.

The table is also an excellent demonstration of our past performance in cost, schedule, and quality control. One can see that we; A) complete designs on time, B) estimate construction costs accurately (well within an industry standard range of plus-or-minus 10%), and C) achieve low change order rates due to the completeness and quality of the design.

Schedule and Cost History of Some Buchart Horn Projects:

Project	A/E Design Fee	Planned Design Schedule (Days)	Actual Design Schedule (Days)	A/E Final Cost Estimate	Actual Construction Award	Change Order Rate*
US Consulate Security Upgrades, Munich & Hamburg	\$300,000	140	145 (OBO - Design Changes at Final Phase)	€1,353,460	€1,183,000	0.075 %
Mission Support Training Facility, Ft Indiantown Gap, PA	\$290,054	450	450	\$4,231,000	\$4,177,944	Beneficial Occupancy at year end 2007. no design related change orders to date
Mannheim Post Exchange, AAFES, Germany	\$250,000 with Title II services	120	120	\$5,500,000	\$5,400,000	2.0 % (Due to some client-driven changes)
Unmanned Aerial Vehicle Training Facility, FTIG, PA	\$169,042	450	450	\$2,292,300	\$2,146,795	Beneficial Occupancy at year end 2007; one change order

Key Success Factors

The Buchart Horn team will ensure the following key success factors are part of the Readiness Center design:

- › **Scope of Deliverables:** Every team member will be provided a written scope of deliverables. The scope of deliverables will match the scheduled submission dates.
- › **Design Schedule:** The design schedule will be reviewed at each weekly meeting and updates will be provided to the WVARNG, as appropriate.
- › **Budget:** Every technical discipline will be provided a copy of their discipline’s estimated budget for the project. This allows staffing requirements estimates and progress monitoring by each technical discipline lead to ensure the established budget is maintained.
- › **Project Documentation:** Documenting project decisions is one of the most important tasks for a design project manager. This process includes reviewing and initialing drawing and calculation worksheets, taking accurate meeting minutes, and maintaining accurate phone conversation notes.
- › **Understanding the End Product:** Every line and word on an engineering drawing affects the construction project scope, schedule, and budget. Our team 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:** At the end of the day, the project must provide a design meeting WVARNG’s needs while also satisfying the CCL budget. Our team 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 Buchart Horn 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

Buchart Horn'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 Buchart Horn team has a unique understanding of site conditions that will greatly enhance our ability to provide the WVARNG with an efficient and effective design. Our team understands the architectural aspects and nuances of the surrounding area, and will incorporate this knowledge into the design to ensure architectural compatibility. Buchart Horn'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 the team's proposed sequence of major tasks that will be used as the basis for developing the USPFO design. Buchart Horn will work with the WVARNG to refine these, as appropriate, based on the WVARNG's input and preferences.

Task 1 – Design Charrette Review

Buchart Horn 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. The team 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, Buchart Horn 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

After gathering and reviewing available boundary, topographic, and utility information, Buchart Horn 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. A surveyor licensed in the State of West Virginia will perform this task.

Buchart Horn 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

Buchart Horn 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 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, Buchart Horn 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 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.

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

Task 5 – Bid-Phase Services

Buchart Horn will provide bid-phase services to support the WVARNG in obtaining construction bids for the project. Buchart Horn will respond to Requests for Information (RFIs) from contractors, attend site visits and bid meetings, and support the WVARNG in bid-phase activities. The 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, Buchart Horn 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 Buchart Horn team has energetic, fully trained construction managers, field engineers, and technicians capable of oversight for a project of this magnitude. In essence, Buchart Horn functions as an extension of the owner's staff to manage and oversee the construction work to protect the owner's interest.



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
DEFK10013

PAGE
1

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

VENDOR
 RFQ COPY
 TYPE NAME/ADDRESS HERE
**Buchart Horn, Inc.
 Suite 110
 400 Tracy Way
 Charleston, WV 25311**

SHIP TO
**DIV ENGINEERING & FACILITIES
 ARMORY BOARD SECTION
 1707 COONSKIN DRIVE
 CHARLESTON, WV
 25311-1099 304-341-6368**

DATE PRINTED 03/14/2010	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: **04/13/2010** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-29		
	PARKERSBURG	READINESS		CTR & MAINTENANCE SHOP		
				EXPRESSION OF INTEREST		
				THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA ARMY NATIONAL GUARD'S CONSTRUCTION AND FACILITIES MANAGEMENT OFFICE, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ARCHITECTURAL ENGINEERING DESIGN SERVICES FOR A READINESS CENTER AND FIELD MAINTENANCE SHOP LOCATED NEAR PARKERSBURG, WV, IN WOOD CO., PER THE FOLLOWING BID REQUIREMENTS AND THE 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 DEFK10013 ***** TOTAL:		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>[Signature]</i>	TELEPHONE 304 346-1127	DATE April 12, 2010
TITLE Executive Vice President	FEIN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE

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

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 owed 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 exceeds 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: Buchart Horn, Inc.

Authorized Signature: *Bea A. Willie* Date: April 1, 2010

State of Pennsylvania

County of York, to-wit:

Taken, subscribed, and sworn to before me this 12th day of April, 2010.

My Commission expires October 17, 2013.

AFFIX SEAL HERE

NOTARY PUBLIC *Elizabeth A. Leaman*

