The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 1

List View

General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 1916937
Procurement Type: Central Purchase Order
Vendor ID: VS0000048173
Legal Name: Sixmo Companies
Alias/DBA: Sixmo Inc.
Total Bid: $0.00
Response Date: 03/13/2026
Response Time: 10:25
Responded By User ID: pethornton
First Name: Patrick
Last Name: Thornton
Email: patrick@sixmocompanies.c
Phone: 2166474296

SO Doc Code: CEOI
SO Dept: 0603
SO Doc ID: ADJ2600000005
Published Date: 3/2/26
Close Date: 3/17/26
Close Time: 13:30
Status: Closed
Solicitation Description: Fire Department Facility Design- Camp Dawson Training Center
Total of Header Attachments: 1
Total of All Attachments: 1

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

State of West Virginia
Solicitation Response

Proc Folder:	1916937
Solicitation Description:	Fire Department Facility Design- Camp Dawson Training Center
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2026-03-17 13:30	SR 0603 ESR03132600000005939	1

VENDOR

VS0000048173
Sixmo Companies

Solicitation Number: CEOI 0603 ADJ2600000005

Total Bid: 0 **Response Date:** 2026-03-13 **Response Time:** 10:25:36

Comments: None.

FOR INFORMATION CONTACT THE BUYER
David H Pauline
304-558-0067
david.h.pauline@wv.gov

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

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Fire Department Facility Design-Camp Dawson Training Center				

Comm Code	Manufacturer	Specification	Model #
81101508			

Commodity Line Comments: Expression of Interest attached.

Extended Description:

Provide professional architectural and engineering design services per the attached documentation.

DRS architects

Expression of Interest
Fire Department Facility Design—Camp Dawson

Prepared for:
Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, West Virginia 25305-0130
Fax: 304-558-3970

Vendor Name:	DRS Architects
Buyer:	David H. Pauline (david.h.pauline@wv.gov)
Solicitation No.:	CEOI 0603 ADJ2600000005
Bid Opening Date:	March 17, 2026
Bid Opening Time:	1:30 pm EST
Fax Number:	216-767-5477

Date of Issue:
March 17, 2026

March 17, 2026

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, West Virginia 25305-0130
Buyer: David H. Pauline
304.558.0067
david.h.pauline@wv.gov

Re: Expression Of Interest—DRS Architects
Fire Department Facility Design—Camp Dawson
Solicitation Number CEOI 0603 ADJ2600000005

Mr. Pauline,

We appreciate the opportunity to present you with this Professional Services Qualifications and Expression of Interest for the above referenced solicitation. Our team has the experience, expertise, and passion to fulfil the Agency's objectives. We have carefully studied the information provided in your Centralized Expression of Interest in an effort to develop as thorough an understanding as possible regarding your needs. That understanding is expressed in this document.

This document is being presented by DRS Architects of One Gateway Center, 17th Floor, Pittsburgh, Pennsylvania. Our firm is a part of a larger family of firms, including Triumph Services and Sixmo Architecture serving the Midwest with offices throughout Ohio, Indiana, and Pennsylvania. Our family of firms has formed a comprehensive team that includes H.F. Lenz Co. to most effectively execute your work. The following document expands on our proposed team's capabilities and organization.

I will serve as your primary point of contact through the selection phase. I am available any time to discuss our qualifications and capabilities. My contact information is provided below. We look forward to any opportunity to expand on our understanding, qualifications, and expertise.

Sincerely,

Patrick E. Thornton, AIA, MPE, LEED AP
President, DRS Architects
Partner, Head of Relationships | The Sixmo Companies
patrick@sixmocompanies.com
216-767-5400 Extension 100
1101 Auburn Avenue
Cleveland, Ohio 44113

SECTION I
PROPOSED TEAM

Our Team

We have formed a comprehensive team of professionals with a great deal of direct relevant expertise with a long history of collaboration. DRS Architects will serve as the Prime Consultant. DRS President, Patrick E. Thornton, will serve as the Project Manager.

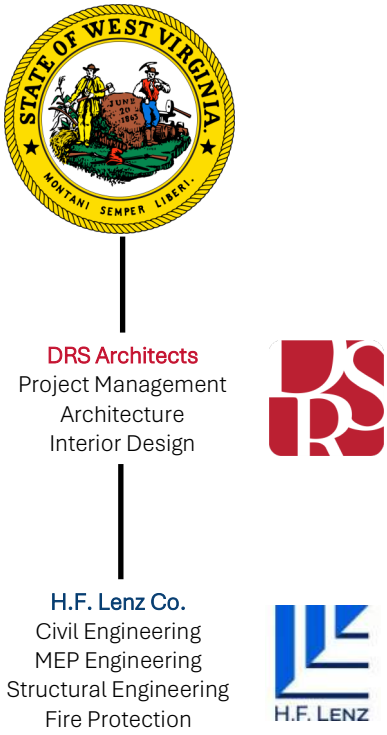
The team will consist of the following member firms:

- DRS Architects, providing Project Management, Architectural Services and Interior Design
- H.F. Lenz Co. providing Civil Engineering, Mechanical/ HVAC Engineering, Plumbing Engineering, Electrical Engineering, Structural Engineering, and Fire Protection Design

H.F. Lenz Co. and DRS Architecture have a deep 30-year history of collaboration, specifically on projects similar to your own. An expression of this impressive relationship is further described later in this document.

Information regarding each member firm, as well as detailed resumes for each key individual, are included later in this section.

Below is a proposed firm organizational chart:



220+ Combined Support Staff

DRS Architects Firm Profile

Celebrating over 60 years of practice as one of the region's leading architectural, planning, and interior design firms, DRS Architects provides design services with a strong commitment to focus on our clients' needs and objectives. DRS provides architectural design, management of the design process, control of project costs and schedule, and we seek design excellence with every commission.

We are now in our sixth generation of firm leadership thanks to our acquisition in 2024 by the Sixmo Companies, strengthening our firm's position in the market and expanding on our service offerings.

Our firm leadership is:

- Patrick E. Thornton, President
- Jared S. Perry, Vice President

Some of our notable clients include:

- Pennsylvania Army National Guard
- Department of Energy, NETL
- Federal Bureau of Investigation
- Pennsylvania State Police
- Baltimore Corps of Engineers
- US Postal Service
- University of Pittsburgh
- Slippery Rock University
- Duquense University
- Starbucks
- YMCA

We provide architectural design services, including:

- Facilities Evaluation
- Code Analysis
- Master Planning
- Site Analysis
- Facility Programming
- Feasibility Studies
- Interior Design
- Cost Estimating
- Contract Documents
- Contract Administration
- Post-occupancy Services

Our clients have relied on DRS to successfully deliver the design of new buildings and renovations for the last six decades. We attribute a large measure of our success to a methodical approach to design, applying thoughtfulness and experience to every project regardless of size, while recognizing that each project is a unique combination of client, program, and circumstance. At the heart of our design approach is the philosophy that the most successful designs are the result of a back-and-forth exchange of ideas, discussion, and understanding between the participants in the process.

We view each project with an eye towards sustainability and as an opportunity to improve the well-being of people by employing environmentally responsible design strategies, even when certification is not a requirement. With our LEED Accredited Professionals, our team brings knowledgeable experience to all our projects.

Firm History

DRS Architects' long and varied history has shaped our corporate culture. Officially founded in 1959, we look back on more than six decades of successful architecture, planning, and interior design, even as we look forward to more achievements in the future.

The first iteration of DRS was the firm Mitchell and Ritchey, a partnership of James Mitchell and Dahlen Ritchey, formed in 1953 to design Pittsburgh's Mellon Square and (as associate architect) the adjacent Alcoa Headquarters tower. These projects were quickly followed by the commission to design Pittsburgh's Civic Arena.

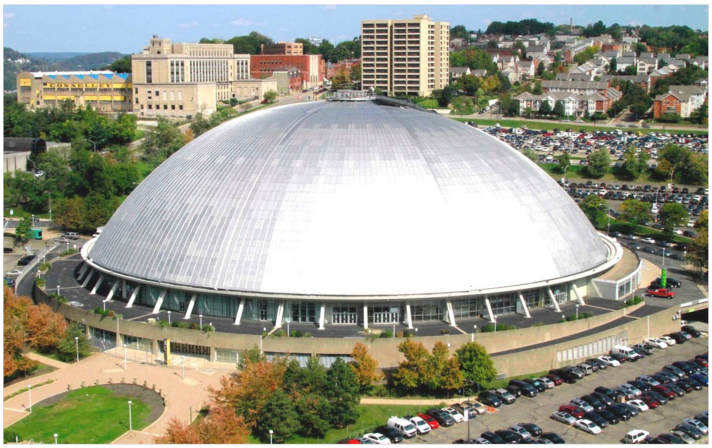
Mitchell left the partnership in 1957 to relocate out of state, and by 1959 Dahlen Ritchey had started a new practice with his good friend Russell Deeter to complete the Civic Arena project. The partnership quickly developed a reputation as an influential architecture firm in Pittsburgh with commissions to design a series of large-scale projects including Three Rivers Stadium, one of the first multi-purpose sports stadiums in the country; Allegheny Center, and multiple new higher-education buildings at the University of Pittsburgh and Carnegie Mellon University. When William Sippel was advanced to Principal from within the firm in 1964, the firm name was changed to Deeter-Ritchey-Sippel, eventually becoming DRS Architects.

Over the course of the 1960's and 1970's, the firm continued to augment its portfolio of consequential projects in the region and around the country. By the 1980's the firm had grown to 60 people, reaching it's largest size.

The ownership of DRS transitioned from the fifth generation of principals to the sixth in 2024 with its acquisition by Sixmo Companies, a multi-discipline family of firms headquartered in Marietta, Ohio. The new partnership offered DRS access to resources not prior available to a firm of its size; provided for an expanded geographic footprint; brought in-house multi-discipline capabilities; and provided an exit transition for the fifth generation of leadership.

DRS continues to be one the region's most significant architectural firms and continues to grow and evolve with the times. We look forward to a promising future, but we always respect the path that led us to our current position.

Mellon Square with the Alcoa Building in the background



The Civic Arena

Three Rivers Stadium

Design Awards

One of the ways we measure success is from the recognition of our peers. DRS Architects' work has been the recipient of numerous design and technical awards over our many years:

2018
Mellon Square Park and Alcoa Building
Timeless Award, 50 Years
AIA Pennsylvania Special Awards

2015
University of Pittsburgh, Salk Hall
Building Excellence Award for New Construction over $25M
Master Builder Association of Western Pennsylvania

2014
Market Square Place
Charter Award of Merit for the Best Block, Global Awards Program for Excellence in Urban Design
The Congress for New Urbanism

Slippery Rock University Robert M. Smith Student Center
Facility Design Award
Association of College Unions International

2013
Slippery Rock University Robert M. Smith Student Center
AIA Honor Award
Pittsburgh Chapter of the AIA

Slippery Rock University Robert M. Smith Student Center
Best Education Design
IIDA New England Interior Design Awards

Westmoreland County Transit Authority Maintenance Facility
Diamond Award Certificate
American Council of Engineering Companies of Pennsylvania

2012
BNY Mellon Center Exterior Rehabilitation
Building Excellence Award for Best Renovation Construction over $10M
Master Builder Association of Western Pennsylvania

2009
Duquense University Power Center
Bronze Design Award
10,000 Friends of Pennsylvania

2005
Advanced Chemistry Lab, Aberdeen Proving Ground
Project Development Team of the Year Worldwide
Corps of Engineers

Richland Twp Fire Department | Nanty Glo Fire Department | West Hills Regional Fire Department

H.F. Lenz Company

Currently in its 80th year, the H.F. Lenz Company (HFL) is a multi-discipline engineering firm offering a full range of professional services for building systems, infrastructure, and industry. Our projects span the nation, with the heaviest concentration in the Northeast, and exceed $1.5 billion in MEP construction annually. Our 45 professional engineers are registered in a total of all 50 states and DC.

The H.F. Lenz Company presently employs 200+ people between our headquarters in Johnstown, Pennsylvania, and our satellite offices in Pittsburgh and Lancaster, Pennsylvania, Conneaut, Ohio and Middletown, Connecticut.

Our services include:

- Mechanical Engineering
- Electrical Engineering
- Plumbing Engineering
- Life Safety / Fire Protection Engineering
- Communications Engineering
- Energy Management
- Civil Engineering
- Structural Engineering
- Surveying
- Construction Phase Services
- Commissioning

Public Safety Buildings

Careful planning for the design of a public facility building, particularly a police or fire station, is paramount to the safety of the community and the EMS personnel. Thorough and careful evaluation and selection of the site and incorporating the latest in durable exterior and interior materials will add to functionality and the longevity of the building, while incorporating flexibility for future expansions and technology, and can result in a well-functioning building designed to last 60-75 years.

A design team with experience, that understands the needs and issues associated with designing these types of facilities, can result in a more cost-effective end result and a safer and more productive facility that benefits the whole community.

Through the experience gained from the various sectors that our firm specializes in such as: government facilities, mission critical facilities, healthcare facilities, hotel/hospitality facilities and higher education facilities, our staff members provide our entire design team with valuable insight into the needs, concerns, trends and upcoming technological advances for police and fire stations.

Building Design Considerations

Protecting the physical and mental health of our firefighters is of the utmost importance. Some of the issues to consider in the overall building design include:

- Vehicle stacking and first out considerations built into apparatus bays. Use of drive-thru apparatus bays to reduce the hazards associated with backing-up of apparatus.
- In-house "soft" alerting system in the station and apparatus bay, including visual (lighting) and audible devices.
- Minimal distance to travel to the front of the apparatus bay where the first engines are located from both the sleeping quarters and the kitchen/dining/day room area.
- Televisions around the station and in apparatus bay dedicated to announcements and incident alerts.

- Sleeping quarters away from kitchen/day room/exercise room to minimize disruptions of firefighters while sleeping.
- Progressive transition from public areas to semi-private areas to very private areas.
- Exercise areas. Should be located on the house side of the fire station whenever possible to avoid the need to cross potential areas of contamination such as the app bay. To allow firefighters good ventilation and additional space for exercise, several doors or roll-up doors should be provided to an exterior exercise patio.
- Easy access to gear rooms and storage adjacent to apparatus bay for additional gear sets for prompt washing of soiled gear

MEP Considerations:

- Critical systems infrastructure must be able to maintain 24/7 operations and be capable of operating in the event of catastrophic events.
- Utilization of a zone strategy for contamination control with decontamination areas. This could include an exterior door from the rear apron entering the decontamination room to allow firefighters to perform the cleaning process prior to entering the apparatus bay. Separation of contaminants from living spaces is critical to the health and safety of the occupants.
- Washer extractors and Personal Protective Equipment (PPE) Area. PPE washing should be immediately adjacent to the decontamination room prior to entering the PPE storage area or the apparatus bay.
- SCBA system area requires ventilation, clearances for maintenance, bottle storage, and space for a compressor.
- A vestibule should be placed between the hot zone and the green zone (apparatus bays and living/sleeping quarters). This area is recommended to have two doors and designed to maintain a positive air pressure flow from the green through the yellow (transitional zone) to the hot zone and include hand washing sinks and boot wash stations or boot changing areas.
- Vehicle Exhaust, positive-pressure vestibule airlock.
- Flexibility for expansion and for implementing new technologies.

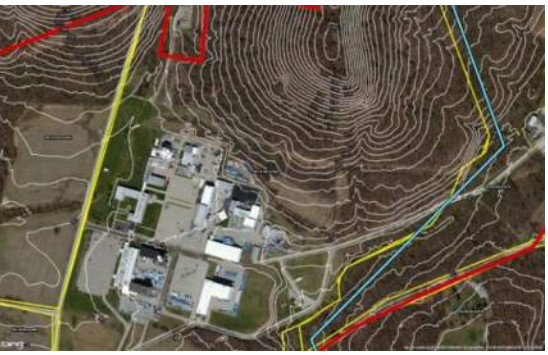
Structural Engineering

Our structural engineering services include analysis and design for new construction, as well as for alterations and additions to existing structures. Utilizing state-of-the art software, our Professional Engineers provide structural design for educational institutions, healthcare facilities, government facilities, Fortune 500 companies, throughout the U.S. With this experience we are capable of meeting a wide range of challenges and requirements, whether the considerations are security threats, installation of sensitive equipment or budget limitations.

Civil/Site Engineering

H.F. Lenz Co. has been providing civil/site engineering services for a diverse clientele for several decades. Our clients include 24/7 Emergency Services clients, state and local government agencies, colleges and universities, health care facilities, Fortune 500 Corporations, large retail stores, and federal agencies. Our full-services capabilities range from feasibility studies through complete site development and have included single-project sites as large as 2,200-acres. Our in-house civil engineers and designers work closely with our GIS specialists and personnel on all types of infrastructure and facility projects for both single-building sites and campus environments.

Firm Profile



Our civil/site engineering services include:

- Land development planning
- Site grading
- Stormwater management
- Site lighting
- Parking facilities
- Utility services
- Soil erosion and sedimentation control
- Curbing and sidewalks
- Resurfacing, guide rails, and shoulders
- Site access roads and approaches
- Traffic control and circulation
- Signalization and signing
- Wetlands delineation
- Geotechnical analysis
- Pavement design
- Underground fuel storage and distribution
- Water distribution systems
- State and local government approvals and permits
- Final construction plans and specifications
- Construction observation and monitoring
- Shop drawing review

Land Development Planning

We offer land development planning services to a variety of clients including municipalities, industrial parks, commercial/retail facilities, residential developments, institutional clients, industrial clients and government agencies such as the National Park Service. The preparation of the documentation for the required jurisdictional agency reviews associated with the land development process must be done by qualified technical staff. It is our philosophy to work closely with the respective jurisdictional review agencies throughout the planning and design development process in order to get their input and support prior to making the formal review submissions. We have found this reduces the review comments significantly and expedites the approval processes.

West Virginia Experience

H.F. Lenz Company has provided engineering services for over $100 million of construction for the Baltimore Corps of Engineers over the past 30 years including 7 indefinite delivery-type contracts and 11 new reserve centers, several of which were in West Virginia. Our experience also includes several recent projects for the Pennsylvania National Guard, including projects for Clearfield Readiness Center, Crane Readiness Center and New Castle Readiness Center. In addition, we have held six consecutive term contracts for Letterkenny Army Depot under which we have completed more than 100 projects requiring a variety of engineering expertise. **We previously provided the engineering services for the design of three new billeting facilities for WVANG at Camp Dawson.** In addition, we have extensive project experience in West Virginia, which includes over 400 projects in the past 30 years.

DRS Architects (Sixmo Companies) and H.F. Lenz Co. have collaborated on hundreds of projects over the past 30+ years, which include projects for the PA National Guard projects at Crane and New Castle Readiness Centers and a new regional maintenance building in Johnstown, PA; and projects under multiple term contracts for the U.S. Air Force - 911th Airlift Group; a confidential federal government agency in West Virginia; a nationwide term contract for NASA facilities; and 70+ projects for DOE/NETL campuses in West Virginia, Pennsylvania and Oregon

Patrick E. Thornton, AIA

President, DRS Architects, **Project Manager**
Partner, Sixmo Companies

Sixmo Companies
1101 Auburn Avenue
Cleveland, Ohio 44113
216-767-5400
patrick@sixmocompanies.com

Patrick Thornton is a proud graduate of Kent State University with over thirty years of experience in the design and construction realm. Patrick has a passion for client relationship development and maintenance that he can demonstrate on a wide breadth of project types. Through a broad range of experience, he has developed problem-solving skills that can be applied to any market or client type, from residential to commercial, municipal to industrial. A drive to constantly improve as a professional inspired Patrick to become a Master Plans Examiner.

Professional Reference:
Mayor Paul Koomar
The City of Bay Village
440-899-3415
pkoomar@cityofbayvillage.com

Education:
Kent State University
Bachelor of Science in Architecture, 1996

Current Registrations:
- Architect, State of Connecticut
- Architect, State of Florida
- Architect, State of Illinois
- Architect, State of Indiana
- Architect, Commonwealth of Kentucky
- Architect, State of Maryland
- Architect, State of Michigan
- Architect, State of North Carolina
- Architect, State of Nebraska
- Architect, State of New York
- Architect, State of Ohio
- Architect, State of Oregon
- Architect, Commonwealth of Pennsylvania
- Architect, State of Utah
- Architect, Commonwealth of Virginia
- Architect, State of Wisconsin
- **Architect, State of West Virginia**
- Combination Examiner, State of Ohio
- Commercial Building Official, State of Ohio
- Residential/Limited Commercial, State of Ohio
- Commercial Building Inspector, State of Ohio
- Residential Electrical Inspector, State of Ohio
- **Building Code Plans Examiner, State of West Virginia**

Technical Organizations:
- American Institute of Architects (AIA)
- International Code Council (ICC)
- National Council of Architectural Registration Boards (NCARB)
- US Green Building Council (USGBC)

Featured Representative Personal Experience:
- Satellite Fire Station #2 | Stow, OH*
- Satellite Fire Station #3 | Stow, OH*
- Belmont College Fire Training Facility | St. Clairsville, OH
- Willard Fire Station | Willard, OH*
- Olmsted Township Fire Station | Olmsted Township, OH*

*Indicates a project that was completed while under the employment of another organization

David Bostak RA

Senior Architect

DRS Architects
One Gateway Center, 17th Floor
Pittsburgh, Pennsylvania 15222
412-391-4850
dbostak@drsarchitects.com

David returned to DRS in 2024 after a brief hiatus to provide studio leadership and to bring his technical expertise to bear on our projects. He is a champion of technology in our industry, ensuring our team is leveraging its value on each and every task. As an advanced BIM user, David manages standards and education within our organization.

David is also a strong designer, developing solutions and carefully coordinating with both his in-house teammates and external consultants. His understanding of modern building systems and emerging technologies in the construction industry are evident in his well-crafted technical solutions.

Education:

- Virginia Polytechnic Institute and State University
  - Bachelor of Architecture, 1999
- Anne Arundel Community College
  - Associate in Arts, Cum Laude Honors, 1994
  - Tau Alpha Pi National Honor Society

Current Registrations:

- Architect, State of Pennsylvania
- LEED Accredited Professional

Technical Organizations:

- National Council of Architectural Registration Boards (NCARB)
- U.S. Green Building Council (USGBC)
- Autodesk University (2011/2020/2021)

Featured Representative Personal Experience:

- DGS Pennsylvania State Police DNA Facility
  - Greensburg, PA
- University of Pittsburg Salk Hall Renovations
  - Pittsburgh, PA
- DOE/NETL Building 34 Advanced Alloy Facility
  - Albany, Oregon
- DOE/NETL Building 30 Improvements
  - Albany, Oregon
- DOE/NETL Building 94 Lab Renovations
  - Pittsburgh, PA
- Clarion University Moore Hall
- Clarion University Stevens Hall
- Social Security Administration Tenant Improvements
  - Johnstown, PA
- UPMC Children's Hospital TV/Radio and Art Therapy
  - Pittsburgh, PA

Stephen G. Ponter, RA

Design Architect

DRS Architects
One Gateway Center, 17th Floor
Pittsburgh, Pennsylvania 15222
412-391-4850
sponter@drsarchitects.com

Steve is a Registered Architect with over 30 years of experience working on projects in the healthcare, commercial, residential, higher education, and corporate sectors. He has a solid understanding of all aspects of the design and construction industry and is able to adapt and excel as new project challenges arise. Steve's work ethic and strong sense of responsibility make him an asset to have on every project team.

Education:

- University of Pittsburgh
  - Bachelor of Arts, Architectural Studies, 1986
  - Minor: Computer Science and Mathematics

Current Registrations:

- Architect, State of Pennsylvania

Technical Organizations:

- National Council of Architectural Registration Boards (NCARB)

Featured Representative Personal Experience:

- Geneva College Welcome Center
  - Beaver Falls, PA
- UPMC Mercy Hospital Envelope and HVAC Improvements | Pittsburgh, PA
- Allegheny Valley Hospital Imaging Department Renovations | Natrona Heights, PA
- Garrett Memorial Hospital MRI Office Building Addition and Renovations* | Oakland, MD
- Mountain Laurel Medical Center New 10K Office Building* | Oakland, MD
- Fifth Third Bank Branch Offices*
  - Various Locations throughout PA
- The Fairfield Townhouses* | East Liberty, PA
- Phillips Resources 10K Office Addition*
  - Cranberry, PA
- ELDI/HACP Scattered Site Housing*
  - Pittsburgh, PA
- Green Acres Scattered Site Housing*
  - Kingswood, WV
- Pleasant View & Parkwood Scattered Site Housing*
  - Oakland, MD
- River Hill Elderly Housing Development*
  - Oakland, MD

*Indicates a project that was completed while under the employment of another organization

Brian D. Schmidt, P.E.

Principal-in-Charge of MEP/FP Engineering

Mr. Schmidt has extensive experience in electrical system modeling and computer calculations (SKM Power Tools) for producing engineering drawings for various types of higher educational, commercial, institutional, and governmental facilities. His experience in the electrical field includes the design of generators, emergency lighting and power distribution systems; exterior high-voltage underground and overhead pole line distribution systems; medium-voltage switchgear building interior and exterior electrical power distribution systems; lightning protection systems; theatrical stage dimming systems; computer room grounding systems and signal reference grid systems; uninterruptible power supply systems; paralleling and synchronizing switchgear; interior and exterior building lighting systems; site utilities; grounding systems; and signal, communication, security, and fire alarm systems. Mr. Schmidt also has attended a 5 day SKM system analysis training course conducted by the SKM System Analysis Tech Support Group.

Education

Bachelor of Science, Electrical Engineering Technology, 2006, University of Pittsburgh at Johnstown

Experience

H.F. Lenz Company - 2006 - present

Professional Registration / Certification

Licensed Professional Engineer in PA, CA, IN, MD, NC, NV, NJ, NY, MD, OH, OK, SD, VA and WV

Completion of PTW Software and Power Systems Application Courses through IEEE • Completion of Battery Technology and Battery Monitoring through Liebert Corporation

References

Monica Reed
Project Manager
The Pennsylvania State University
101N Office of Physical Plant
University Park, PA 16802
814-863-5765
mjr204@psu.edu

Todd Sanders
Project Manager
NASA Goddard Space Flight Center
8800 Greenbelt Road
Greenbelt, MD 20771
301-286-9199
todd.g.sanders@nasa.gov

Project Experience

Camp Dawson, U.S. Army National Guard, Kingwood, WV

- Three new billeting facilities designed to resemble small, upscale hotels including design of the heating, cooling, ventilation, lighting, power, fire alarm, telecommunications, fire protection, plumbing, and natural gas service

Letterkenny Army Depot - Baltimore District, Chambersburg, PA

- Building 320 upgrades and renovations

U.S. Army Corps of Engineers Army Depot, Cumberland, PA

- Developed a project definition for a proposed new Army Depot a three-story billeting facility providing civil, mechanical, plumbing, fire protection, and electrical engineering services for the facility

911 Airlift Wing, U.S. Air Force, Greater Pittsburgh International Airport, Coraopolis, PA

- Visiting Offices Quarters, Building 206, renovations

Fort Detrick, U.S. Army Corps of Engineers, Frederick, MD

- Improvements and modifications to Buildings 1430, 1545, & 1546

PA Army National Guard Readiness Center, New Castle, PA

- Renovation to 23,000 SF readiness center

Pennsylvania Air National Guard, 258th Air Traffic Control Squadron, Johnstown, PA

- Repair of the Composite Support Facility B258 at the John Murtha Johnstown – Cambria County Airport, a civil-military public airport

Sherwood Island State Park, New Maintenance Facility Westport, CT

- Multiple bay vehicle and equipment storage / maintenance building with office space, restroom facilities, meeting space, heating storage and unheated storage

Thomas F. Deter, P.E., LEED AP

Project Manager

Mr. Deter has over 38 years of experience and is responsible for the engineering design of all trades, the supervision of senior designers, the preparation of reports to determine optimal systems and/or equipment selections, and the coordination and checking of contract documents for completeness and quality. He has extensive experience in the design of building systems for both new buildings and building retrofits for mixed-use developments, educational, health care, commercial, government, industrial, residential, and utility related facilities. Mr. Deter has extensive Department of Defense (DOD) project experience, and a long history of projects located in West Virginia.

Education

Bachelor of Science, Electrical Engineering Technology, 1987, University of Pittsburgh at Johnstown

Experience

H.F. Lenz Company 1992-Present
Parfitt/Ling Consulting Engineers 1990-1992 • Gary Johnston & Assoc., Inc. 1987-1990

Professional Registration / Certification

Licensed Professional Engineer in PA, AR, ID, IL, IN, MD, NE, NJ, NC, OH, OK, OR, SD, VA and WV • LEED Accredited Professional

Professional Affiliations

NSPE/PSPE • U.S. Green Building Council

References

Stephen Mariner, P.E.
Project Manager
NASA Wallops Flight Facility
Route 175, 175 Chincoteague Rd
Building J-20
Wallops Island, VA 23337
757-824-1363
stephen.a.mariner@nasa.gov

Allen Lichvar
Supervisory General Engineer
National Technology Laboratory
3610 Collins Ferry Road
Morgantown, WV 26507
304-285-4042
Allen.lichvar@netl.dow.gov

Project Experience

West Virginia Army National Guard Facilities
- Camp Dawson - Three new billeting facilities
- Weirton - 16,000 SF D/B Aviation Center
- Wheeling - 24,000 SF D/B Reserve Center

Pennsylvania Army National Guard Facilities
- Fort Indiantown Gap - New 11,000 SF Multi-purpose Building for the ChalleNGe project and Master plan and design for a new auditorium
- Crane - Renovation of 26,700 SF reserve center
- New Castle - Renovation of 23,000 SF Readiness Center
- Clearfield - Renovation of 49,760 SF Readiness Center
- Johnstown - New 23,560 SF Maintenance Facility

Pennsylvania State Police, Greensburg, PA
- New 31,000 SF State Police Headquarters building

St. Marys Fire & Police Station, St. Marys, PA
- New 22,000 SF Police and Fire Station

Pennsylvania Turnpike Commission, Harrisburg, PA
- New three-story, 50,000 SF addition and renovation of the 112,000 SF Central Administration Building, which serves as the central operations center and houses the State Police Troop T Command Center - LEED Certified

U.S. Drug Enforcement Administration, Pittsburgh, PA
- New two-story, 50,000 SF building with secure parking on the ground floor - LEED Certified

Maryland Army National Guard, Grantsville, MD
- New 15,300 SF training facility and maintenance shop

USACE, Aviation Center, Johnstown, PA
- New 120,000 SF multi-building reserve center

Letterkenny Army Depot, Baltimore District, Chambersburg, PA
- Seven consecutive Indefinite Delivery Contracts, over 100 projects throughout the base

William A. Minahan, P.E.

Mechanical Engineer

Mr. Minahan has over 15 years' experience in the design of HVAC, plumbing, and fire protection systems. His responsibilities as Project Engineer include code compliance verification, schematic layout, calculations, equipment selection, control system selection, specification writing, coordination, life cycle cost analyses, cost estimating, as well as coordination with the client, the architect, regulatory agencies, and the engineering staff; project scheduling; and other project management functions.

Education
Bachelor of Science in Mechanical Engineering Technology, 2010, The University of Pittsburgh

Experience
H.F. Lenz Company 2010 – Present

Professional Registration / Certification
Licensed Professional Engineer in Pennsylvania

Professional Affiliations
ASHRAE – Johnstown, PA Chapter

References
Christopher L. Conroy, PE, CEM, LEED APBD+C
Associate Director MEP
Carnegie Mellon University
Campus Design and Facility Development
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Pittsburgh, PA 15213
412-268-3879
cconroy@andrew.cmu.edu

Ryan Shank, AIA
Design Project Manager | Capitol and Historic Division
DGS Capital Programs |Bureau of Design Management Arsenal Bldg.
1800 Herr St. Harrisburg PA 17125
717-783-2593
ryshank@pa.gov

Project Experience

Clearfield Readiness Center, Clearfield, PA
- Renovations and additions to a 49,760 SF, 25-acres Army National Guard Readiness Center

Pennsylvania State Police, Greensburg, PA
- New 31,000 SF State Police Headquarters building with forensics unit and various types of lab spaces

Dickenson County Justice Center, Clintwood, VA
- New design/build, three-story, 35,542 SF justice center

New Bucks County Justice Center, Doylestown, PA
- Lower Bucks Government Service Study for renovations and multiple county buildings - Current Project
- New 265,000 SF facility designed to attain LEED Silver

Franklin County Courthouse, Franklin County, PA
- Renovation of the existing historic Courthouse, the Courthouse Annex and a new Courts Building, as well as renovations and additions to the existing County Administrative Annex, and construction of a new Archives Building

Lehigh University, Bethlehem, PA
- New 11,400 SF Campus Police Station building with training room, offices, holding, secure storage, laboratory, locker rooms, evidence and processing areas, interview rooms, an armory and two vehicle bays

Hertz Corporation, Various Locations
- Multiple locations for HERTZ vehicle and bus washbay and maintenance facilities

National Energy Technology Laboratory (NETL), Various Locations
- Indefinite Delivery-Indefinite Quantity (IDIQ) contract for NETL facilities in Morgantown, WV, Bruceton, PA, and Albany, OR - Over 100 projects complete

Town Place Building, Pittsburgh, PA
- Renovation of a 12-story, 280,000 SF mixed-use housing facility

Education
Bachelor of Electrical Engineering, Concentration in Power, University of Pittsburgh 2013

Experience
H.F. Lenz Company 2020 – Present, Buro Happold Engineering 2015-2020 Bombardier Transportation 2013-2015

Professional Registration / Certification
Licensed Professional Engineer in PA, AL, AR, DC, DE, IA, KS, KY, LA, MA, MD, MI, MN, MS, MO, SC, TN and UT

Professional Affiliations
IEEE

References
William H. Barnes
Director Capital Projects
Temple University
267-854-4155
william.barnes@temple.edu

Samuel J. Dell, P.E.
Design Project Manager
Department of General Services
717-836-4856
sadell@pa.gov

Eric L. Hoover, P.E.
Electrical Engineer

Mr. Hoover is an established electrical engineer who has managed a wide variety of building construction projects. His experience covers a broad range of project sectors including airports, highrise commercial and residential, retail, cultural, higher education, and research laboratories. His skills include design of medium voltage and low voltage power distribution systems, emergency distribution systems, lighting and lighting control systems, fire alarm systems, and telecommunication distribution systems. He strives to collaborate with contractors, architects and owners to ensure that all project needs are met, and has a proven record of completing projects on time and within budget.

Project Experience* (*indicates previous experience)

Pennsylvania State Police, Greensburg, PA
- New 31,000 SF State Police Headquarters building with forensics unit and various types of lab spaces

New Bucks County Justice Center, Doylestown, PA
- Lower Bucks Government Service Study and design for renovations/HVAC upgrades and multiple county buildings - Current Project

Detroit Parking Authority, Detroit, MI
- Ford underground garage upgrades

Pittsburgh International Airport*, Pittsburgh, PA
- Design of electrical distribution systems within new terminal building. Coordinated design with new on-site solar/gas generation microgrid for building power feed

State Correctional Institute, Various
- SCI Somerset, Somerset, PA - Replacement of central heating plant boilers, pumps, and all associated equipment, rooftop units on two cell blocks - Current Project
- SCI Greene, Waynesburg, PA - Upgrades to the existing generator switchgear, upgrades to the existing main feeds from the transfer switch, the existing switchgear PLCs, the remote transfer switches at various locations and upgrades to the remote annunciators for the generators - Current Project
- SCI Mahanoy, Frackville, PA - Repair/renovations and replacement to switchgear and generator and required electrical upgrades; large generator and revising the distribution panels as needed and two 1K generator to be replaced by 2K ones - Current Project

Education
Bachelor of Science, Mechanical Engineering Technology, 2000, Point Park College

Associate in Specialized Technology 1984, Architectural Drafting and Construction with CAD Technology, Triangle Institute of Technology

Experience
H.F. Lenz Company 1989- Present

Newport News Ship Building 1984-1989

Professional Registration / Certification
Certified in Plumbing Design, ASPE

References
Todd Sanders
Project Manager
NASA Goddard Space Flight Center
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Greenbelt, MD 20771
301-286-9199
todd.g.sanders@nasa.gov

Allen Lichvar
Supervisory General Engineer
National Technology Laboratory
3610 Collins Ferry Road
Morgantown, WV 26507
304-285-4042
Allen.lichvar@netl.dow.gov

Gregory D. Rummel, CPD
Plumbing/Fire Protection Designer

Mr. Rummel has designed complete plumbing and fire protection systems for parks and recreational facilities, colleges, schools, office buildings, industrial facilities, and military installations. He is fully knowledgeable of NFPA codes and is experienced in the design of wet, dry, preaction, FM200, and deluge fire protection systems. He is responsible for plumbing and sprinkler system design, layout, and calculations; selection and sizing of equipment; cost estimates; and site survey work. Mr. Rummel supervises drafting personnel; coordinates the plumbing design with utility companies, with other trades, and with the Project Engineer and Project Architect; and is responsible for assembling complete and accurate plumbing bid documents which meet H.F. Lenz Company standards.

Project Experience

Camp Dawson, U.S. Army National Guard, Kingwood, WV
- Three new billeting facilities designed to resemble small, upscale hotels including design of the heating, cooling, ventilation, lighting, power, fire alarm, telecommunications, fire protection, plumbing, and natural gas service

Pennsylvania Army National Guard Facilities
- Crane - Renovation of 26,700 SF Reserve Center
- New Castle - Renovation of 23,000 SF Readiness Center
- Clearfield - Renovation of 49,760 SF Readiness Center
- Johnstown - New 23,560 SF office and maintenance facility with eight vehicle maintenance bays
- Annville - New 14,400 GSF Youth ChalleNGe Building multi-purpose facility including a large assembly area and multimedia enabled classrooms

6th District Police Station, City of Philadelphia, Philadelphia, PA
- Building assessment and recommendations to improve the existing MEP systems, prepared an energy analysis and operating cost analysis for proposed building envelope modifications

Lehigh University, Bethlehem, PA
- New 11,400 SF Campus Police Station building with training room, offices, holding, secure storage, laboratory, locker rooms, evidence and processing areas, interview rooms, an armory and two vehicle bays

New Bucks County Justice Center, Doylestown, PA
- Lower Bucks Government Service Study and design for renovations/HVAC upgrades and multiple county buildings - Current Project

U.S. Drug Enforcement Administration, Pittsburgh, PA
- New two-story, 50,000 SF building with secure parking on the first floor- LEED Certified

Pennsylvania Turnpike Commission, Harrisburg, PA
- New three-story, 50,000 SF addition and renovation of the 112,000 SF Central Administration Building, which serves as the central operations center - LEED Certified

Education
Bachelor of Science, Civil Engineering Technology, 1998, University of Pittsburgh at Johnstown

Experience
H.F. Lenz Company 1998 – Present

Professional Registration / Certification
Licensed Professional Engineer in PA, CO, FL, GA, ID, IN, MD, NV, OR, OK, TX, UT, VA, and WV

References
Tim Kirsch
Sr. Director, Capital Projects
Robert Morris University
1001 University Blvd.
Moon Township, PA 15108
412-397-6282

Andew Schwartz
Environmental Planning and Design
100 Ross Street, Suite 500
Pittsburgh, PA 15219
421-261-6000
AndrewSchwartz@epd-pgh.com

Keith A. Gindlesperger, P.E.
Civil Engineer

Mr. Gindlesperger is a Vice President of H.F. Lenz Company and leads our Civil Engineering Team. He has over 28 years' extensive experience in civil engineering, site planning and design for military bases, DOD projects and secure facilities. He is responsible for interfacing with the Client to review the program, budget, contractual matters, establish responsibilities and allocate personnel and firm resources. His responsibilities also include overseeing site design, site utilities, parking and traffic circulation, roadway design, stormwater management, erosion and sedimentation control and permitting.

Project Experience

Hempfield Township West, Hempfield, PA
- Conceptual planning for a new fire station

Richland Township Volunteer Fire Department, Johnstown, PA
- Station Renovation and improvements
- Social Hall Addition - Current Project

Pennsylvania Army National Guard Facilities
- New Castle - Renovation of 23,000 SF Readiness Center
- Clearfield - Renovation of 49,760 SF Readiness Center

Letterkenny Army Depot - Baltimore District, Chambersburg, PA
- Seven consecutive IDIQ contracts at Letterkenny Army Depot for Civil Engineering throughout the base: Integrated Contingency Plan; Master Planning Services; LEAD/LEMC New Rocket Motor Destruction Facility & Site Design

911th Airlift Wing, U.S. Air Force Reserve, Greater Pittsburgh International Airport - Coraopolis, PA
- Various renovations and new construction under two term contracts

SAIA Motor Freight Line LLC, Various States
- Principal-in-Charge of multi-discipline engineering services for new and renovated trucking terminals across the U.S. including recent project at Parkersburg, West Virginia

West Virginia University, Morgantown, WV
- Site design for the new Ag Sciences Building II; included site utilities, grading and drainage plan, stormwater management plan, erosion and sedimentation control plan, WV DEP Permitting, Morgantown Utility Board Approvals

United Parcel Service, Parkersburg, WV
- Evaluation and analysis of the existing pavement structure and design of a pavement management plan for the facility. Provided construction documents and construction observation services

Robert M. Ball Federal Building, Woodlawn, MD
- Complete renovation of the 1.2 million SF SSA Headquarters building - LEED Certified

David A. Blackner, P.E.

Structural Engineer

Mr. Blackner is a Senior Vice President of H.F. Lenz Company and leads our Structural Engineering Team. He is responsible for the complete layout, design and detailing of building structural systems. He has diverse experience in the structural analysis and design of projects involving steel, engineered masonry, reinforced cast-in-place concrete, pre-cast/pre-stressed concrete and wood frame structures. He is proficient in multiple analysis platforms (STAAD, RAM Structural Systems, 3-D Analysis and Finite Elements). He also oversees structural coordination with other trades, as well as conducting periodic site visits related to the structural work.

Education

Associate, Mechanical Engineering Technology, 1988, Pennsylvania State University
Associate, Architectural Engineering Technology, 1988, Pennsylvania State University

Experience

H.F. Lenz Company 1998-Present

L. Robert Kimball & Associates 1995-1998

George D. Zamias Developer 1989-1995

Professional Registration / Certification

Licensed Professional Engineer in PA, AZ, CO, CT, DE, GA, ME, MD, MA, NY, and NC

References

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National Parks Service
12795 West Alemeda Parkway
Denver, CO 80225
303-987-6685
Paul_Rothgery@nps.gov

Project Experience

Pennsylvania Army National Guard Facilities, Clearfield, PA
- Clearfield - Renovation of 49,760 SF Readiness Center

Letterkenny Army Depot - Baltimore District, Chambersburg, PA
- Seven consecutive IDIQ contracts at Letterkenny Army Depot

U.S. Air Force, 911th Airlift Group/CE, Greater Pittsburgh International Airport - Coraopolis, PA
- Expansion of Building 130

Richland Township Fire Department, Johnstown, PA
- Structural evaluation of fire department

Carnegie Mellon University, Pittsburgh, PA
- Doherty and Wean Hall Classroom renovations

City of Pittsburgh, Pittsburgh, PA
- Structural assessments and existing conditions reports for 13 city public safety stations

Jackson Township, Mineral Point, PA
- Feasibility Study of Volunteer Fire Department

Waterbury Arts Magnet School, Waterbury, CT
- Structural analysis of existing parking garage and preparation of bridging documents for a design/build project to separate the HVAC systems of the Waterbury Arts Magnet School and Palace Theater

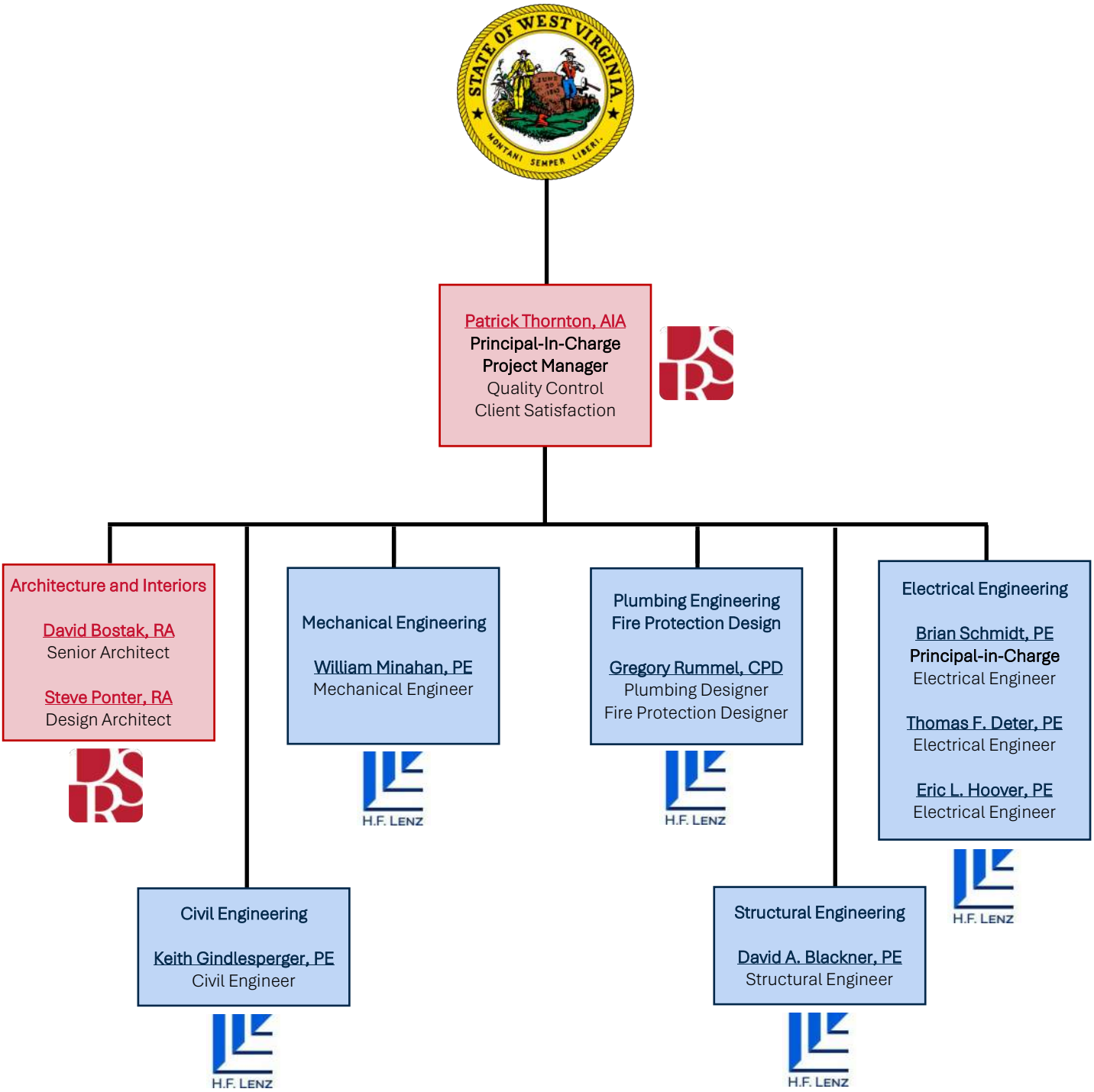
Allegany Co. Human Resources Development Center, Cumberland, MD
- New 20,000 SF two-story Community Center with spaces for various class and public activities, fitness center, and kitchen - LEED Gold

Johnstown Heritage Discovery Center, Johnstown, PA
- Renovations of an historic, five story building serving as a cultural center with various classrooms, exhibits, visitor areas, offices and meeting spaces

West Virginia University, Morgantown, WV
- New 54,000 SF Alumni Center

Staffing Plan

The following diagram represents the staffing plan for the project, including lines of command and communication. Firm owner, Patrick E. Thornton, will serve as your project manager with nearly 30 years of experience on public safety building design. Each sub-consulting firm will also assign a project manager to oversee their discipline—each of those individuals is listed first in the following diagram.



SECTION II
OUR EXPERIENCE

Relevant Projects

DRS Architects is one of the oldest practicing architectural and planning firms in the region; we have been located in Gateway Center in downtown Pittsburgh, Pennsylvania for over sixty years. The firm enjoys a long-standing reputation for design, management of the design process, control of project costs and schedules, and excellent service to our clients.

DRS has extensive experience in the design of Readiness Centers, Armories, and Reserve Centers, including designing and completing the recent renovations to the existing historic New Castle Readiness Center in New Castle, Pennsylvania—completed in 2019. Other similar projects include:

- Crane Avenue PA National Guard Readiness Center and Armory; Pittsburgh, Pennsylvania; Renovations and Addition
- Ford City Armory for the PA Army National Guard; Ford City, Pennsylvania; New Armory with Maintenance and Training
- Cambridge Springs Readiness Center and OMC for the PA National Guard; Cambridge Springs, Pennsylvania
- Johnstown Maintenance Facility for the PA Army National Guard; Johnstown, Pennsylvania
- Morgantown Army Reserve Center and OMS; Morgantown, West Virginia
- Elkins Army Reserve Center and OMS; Elkins, West Virginia
- Wheeling Army Reserve Center and OMS; Wheeling, West Virginia
- Kingwood Army Reserve Center and OMS; Kingwood, West Virginia
- Grantsville Army Reserve Center and OMS; Grantsville, West Virginia

Through the years the firm has enjoyed a solid reputation for design achievement having received over 50 design and technical awards including a national AIA award and numerous state and local awards.

- The firm received the very first Owens-Corning Fiberglass Award for Energy Conservation and also received national recognition with a High Honor Award for the design of the High Temperature Materials Laboratory at the Oak Ridge National Laboratory for the U.S. Department of Energy.
- DRS received a 2004 Citation Award from the American Association of School Administrators / American Institute of Architects / Council of Educational Facility Planners International for the Science, Technology & Cultural Center for Butler County Community College.

DRS Emphasizes strategies for sustainable design, site development, water savings, energy efficiency, materials selections and indoor environmental quality. DRS has completed multiple LEED certified projects.

On the following pages you will find individual examples of projects we designed that are relevant to your project. They also demonstrate a long history of work with federal and military clients.

Federal and Military Clients:

- Department of Energy / National Energy Technology Laboratories, Pittsburgh, Morgantown, and Albany (OR)
- Federal Bureau of Investigation, Pennsylvania and West Virginia
- 171st Air Refueling Wing, Pittsburgh, Pennsylvania
- 911th Air Wing / LGC, Pittsburgh International Airport
- Joint Armed Forces Aviation Facility, Johnstown, Pennsylvania
- US Army, Baltimore Corps of Engineers, Advanced Chemistry Lab, Aberdeen Proving Ground, Aberdeen, Maryland
- U.S. Drug Enforcement Administration, Pittsburgh, Pennsylvania and Milwaukee, Wisconsin
- Social Security Administration, Johnstown, Pennsylvania and McKeesport, Pennsylvania
- U.S. Postal Service, Western PA and West Virginia

Pennsylvania State Police New DNA Facility

Greensburg, Pennsylvania
Construction Cost: $29,500,000
Completed: Est. 2026

DRS was commissioned to design a new 50,000 SF DNA Analysis Lab for the Pennsylvania State Police, with the programming and design phases completed with MWL Architects as Lab Planning consultants. The budget for the project is $29,500,000, and the project is being funded and managed through the PA Department of General Services.

The new lab is meant to allow the State Police scientists to keep up with increasing demands for forensic and database DNA processing, by creating a state-of-the-art facility designed to give precedence to evidence chain-of-custody, building security, and the prevention of evidence contamination. The three-story building will have open lab space and separate office spaces for the scientists on the upper level, and associated administrative office space, storage, building systems, training rooms, break rooms, and support spaces on the lower level. The third floor is a mechanical penthouse.

Lab spaces are separated from the rest of the building with negatively pressurized gowning/de-gowning vestibules to prevent possible evidence contamination from office spaces migrating into the labs, and prevents lab air from escaping into the office area. The design includes evidence analysis of three types; each type was designed to have its own extraction lab and associated amplification labs. Unlike teaching and research labs, write-up stations in the DNA Lab must be outside the lab space to prevent evidence contamination. Large windows from the office space into the labs allow the technicians to check on processes that are running without the need for frequent gowning and de-gowning, and help give the building a feeling of openness and united purpose.

The building will contain about 25,000 SF of lab space; the rest of the program is the associated office space, training room, evidence storage, and building systems.

The building is due to be completed in the Spring of 2026.

Pennsylvania Army National Guard
Crane Avenue Readiness Center Renovation

Pittsburgh, Pennsylvania
Construction Cost: $3,100,000
Completed: 2018

This project involved renovations to the existing masonry armory building and site, and the design of a new unheated metal storage building. The main building was originally designed by DRS in 1965, and includes a two-bay maintenance shop, a drill hall, three Unit storage areas with adjacent weapons vaults, a kitchen, offices, restrooms, showers, and locker rooms. The renovation made improvements to the building's accessibility, including the addition of a new elevator in the center of the building and full renovations of the restroom and shower rooms. The roof was also replaced.

Since the number of military units assigned to this facility was being increased, additional storage space was a program requirement. The demand was solved through the construction of an unheated storage building placed adjacent to the existing cold-storage building.

Mechanical, plumbing, and electrical work mainly involved the replacement of existing systems, such as heating boilers, exhaust fans, maintenance shop vehicle source-capture exhaust reels, water heater, plumbing fixtures, emergency generator, and electrical distribution panels. New lighting was also provided in the office wing corridors resulting from the necessary abatement and replacement of the existing plaster ceilings in those areas.

The scope of site work included the replacement of security fencing around the military equipment parking area, the addition of a vehicle control gate, and the creation of an accessible path for the new accessible entry to the armory.

Contact

Matthew A. Dubovecky, EIT
Project Manager
PA Dept. of Military & Vet Affairs
814.533.2466
c-mdubovec@pa.gov

This project was completed in collaboration with H.F. Lenz Co.

Pennsylvania Army National Guard
New Castle Readiness Center Renovation

New Castle, Pennsylvania
Construction Cost: $2,200,000
Completed: 2018

This project was the renovation of the two-story, 23,000 square foot New Castle Readiness Center for the 107th Field Artillery Battalion, PA Army National Guard, completed through the Pennsylvania Department of General Services. The stone and brick building was built in 1938 and is listed in the National Register of Historic Places.

The project scope included exterior architectural improvements to repair the stone façade, door replacement, roof replacement over the barrel-vaulted Drill Hall, and other minor roof repairs. Site improvements included updated water and gas services, milling and repaving of the vehicle parking area and access drives, the addition of an accessible parking area, and replacement of the site perimeter fencing. Interior architectural improvements included a complete renovation and reconfiguration of the administrative areas, reconfiguration and upgrades to all the restrooms to modernize and bring them into compliance with current building codes, and improvements including minor space reconfigurations, painting, ceiling replacement, flooring replacement, and door replacements.

HVAC work included replacement of two existing steam boilers with two high-efficiency gas boilers; the addition of energy efficient air-conditioning systems for office, classrooms, fitness rooms and other areas; the addition of a new kitchen exhaust hood; and the integration of a new web-based DDC control system. All plumbing fixtures and piping systems throughout the building were replaced as part of the toilet facilities upgrade. Electrical work included upgrades to the distribution system; LED interior lighting throughout the building; new site lighting; replacement of branch panelboards, conduit, and feeders; and a new building wide addressable fire alarm system.

Contact

Matthew A. Dubovecky, EIT
Project Manager
PA Dept. of Military & Vet Affairs
814.533.2466
c-mdubovec@pa.gov

This project was completed in collaboration with H.F. Lenz Co.

Butler County Public Safety Training Facility
Butler County Community College

Butler, Pennsylvania
Construction Cost: $2,530,000
Completed: 2001

The Butler County Public Safety Training Facility is currently under construction on a 5.5 acre site on the Butler County Community College Campus. Three structures are located on the site: the Fire Science Building, Fire Training Tower and a Burn Building. In addition to these structures, the site contains a 1.0 acre pond which will be used for storm water management and drafting training (drawing water for fire fighting from a rural pond), ice rescue training and scuba rescue training. Various elements on the site will allow for training evolutions that simulate railroad tanker or truck tanker fires and confined space rescue training, A flammable gas area will be provided for LP gas flange and gas vent piping evolutions.

Fire Science Building

The two story Fire Science Building houses two separate areas within the 10,000 SF split-face block structure. The lower level contains a climate-controlled equipment storage area; an air compressor room; a “wet” classroom and a garage for fire fighting equipment. The upper level, accessible by exterior stairs at both sides of the building from the training pad level, houses four classrooms and office and library space.

Fire Training Tower

The five story Training Tower is a masonry structure with a 20’ by 24’ footprint, using for fire fighting training, including rappelling, equipment handling exercises and smoke delivery systems (portable) to simulate actual conditions.

Burn Building

The Burn Building is a cast-in-place concrete structural frame with replaceable concrete masonry infill walls. This building replicates a residential layout including living, dining and family rooms, kitchen, three bedrooms, two bathrooms, a balcony and attic. This is a protected structure with firebrick floors and thermal lining of walls and ceilings. The internal temperature is monitored to protect the structure from overheating and eventual deterioration of the structure.

Contact

Mr. Brian Opitz, Director of Physical Plant Services
Butler County Community College
(724) 287-8711 Ext. 240

WEST VIRGINIA ARMY NATIONAL GUARD – CAMP DAWSON

New Billeting Facilities

Kingwood, WV

Services
Mechanical, Electrical, Plumbing and Fire Protection

Completed
2009

Cost
$1 million

H.F. Lenz Company provided mechanical, electrical, plumbing and fire protection engineering services for the design of three new billeting facilities for West Virginia Army National Guard, Camp Dawson. The facilities were designed to resemble small, upscale hotels. Each facility consisted of eight sleeping rooms with full baths, a common gathering area with fire place, and a full kitchen. The project included the design of the heating, cooling, ventilation, lighting, power, fire alarm, tele-communications, fire protection, plumbing, and natural gas service. Each sleeping room had individual heating and cooling control.

The construction budget for this project was $1,000,000, which did not include site work.

Design services were completed in 2002.

Rendering provided by SGS Architects

Hempfield Township Municipal Complex

Master Planning and Engineering for a New Public Safety Building

Hempfield Township, Westmoreland County, PA

Services
Civil, Electrical, Mechanical, Plumbing, Project Management, Surveying

Size
4.5-acres

Planning Completed
2024

Design Completed
In Progress

Reference
Aaron Siko
Township Manager,
Hempfield Township
724-834-7232
asiko@hempfieldtwp.org

H.F. Lenz Company prepared a Master Plan and Redevelopment Assistance Capital Program (RACP) grant application for the development of a proposed Municipal Complex for Hempfield Township. The purpose of the Master Plan is to consolidate municipal services for Hempfield Township residents while also providing a recreation destination on the central and accessible U.S. Route 30 travel corridor.

Hempfield Township consists of 11 fire departments that are operated strictly by volunteers. A Public Safety Building was incorporated into the Hempfield Township Municipal Complex to provide a centrally-located fire headquarters that consolidates two nearby fire stations into one.

Recently, H.F. Lenz Company was awarded the engineering design contract to provide civil, electrical, mechanical, plumbing, and project management services to Hempfield Township for the design of the Public Safety Building. During the design development process, H.F. Lenz Company met numerous times with municipal stakeholders to gather input on programmatic needs for this facility and budget for the construction and implementation of the building.

Elements of the Public Safety Building design include:

- 25,680 SF Public Safety Building consisting of five (5) drive-in bays, equipment storage areas, live-in areas and bunks, E.O.C. room, and museum.
- Hose/Training Tower with Outdoor Training Apron
- Memorial Park
- Outdoor Patio
- Private Fueling Station for Hempfield Township Fleet Vehicles



CITY OF JOHNSTOWN FIRE DEPARTMENT

Fire Training Facility - Iron Street

City of Johnstown, Cambria County, PA

Services
Civil

Completed
2011

Reference
James McCann
Assistant Chief
City of Johnstown Fire Department
401 Main Street
Johnstown, PA 15901
814-539-0889 x200

The City of Johnstown Fire Department retained H.F. Lenz Company to provide engineering services for the development of a training facility along Iron Street in the City of Johnstown.

Coordination with the City of Johnstown Fire Department to provide proper access to the training facility. Concrete design to handle the load of the storage containers (training structure) and to handle the heat exposure from burn training on site. Additional coordination with the fire department for apparatus placement and fire hydrant use.

A floodplain assessment was performed on site to verify the facility and structures were above the 100-year floodplain.

Collection of stormwater runoff and fire training runoff on site and directed to existing facilities. Debris screens were placed on the discharge to prevent any debris from training discharging from the site.

Engineering Services Provided by H.F. Lenz Company

- Preliminary assessment of site, existing structures, and utilities (storm sewer, sanitary sewer, water, natural gas, and electric)
- Civil engineering services including:
  - Site layout and design
  - Site grading
  - Stormwater conveyance and management
  - Site cost estimating
- State and local government approvals and permitting
- Coordination with storage container manufacturer
- Bidding and construction phase services


RICHLAND TOWNSHIP VOLUNTEER FIRE DEPARTMENT

Renovations and Improvements at the Scalp Avenue Fire Station

Richland Township, Cambria County, PA

Services
Mechanical, Electrical, Plumbing, Fire Protection and Civil

Completed
2016

Reference
Ron Shomo
President
Richland Township Volunteer Fire Department
1321 Scalp Avenue
Johnstown, PA 15904
814-266-4331
rshomo@richlandfire.com

The Richland Township Volunteer Fire Department retained H.F. Lenz Company provide engineering services for the renovations at the Scalp Avenue Fire Station. The intent of the project was to renovate to improve fire station and attached social hall.

The social hall was updated with current lighting and modern design styles for events. The entrance was relocated to accommodate an accessible and covered entrance. Storage spaces were provided for tables and chairs with easy access to the social hall.

The fire station living quarters were updated with individual bunk rooms, accommodations for separate living quarters, and community room. The administrative, fire officer, and communications rooms were updated. Separation of equipment storage room, decontamination room, and compressor room.

Site improvements were completed to accommodate accessible parking and entrances into the building. Lawn areas were established to offset current and future impervious areas to reduce stormwater runoff from the site.

Engineering Services Provided by H.F. Lenz Company

- Preliminary assessment of site, existing structures, and utilities (sanitary sewer, water, natural gas, electric)
- Civil engineering services including:
  - Site layout and design
  - Site grading
  - Stormwater conveyance and management
  - Site cost estimating
- State and local government approvals and permitting
- Mechanical and plumbing engineering services
- Coordination with Architectural

Pennsylvania Army National Guard

New Castle Readiness Center Rehabilitation

New Castle, PA

Services
Mechanical, Electrical, Plumbing/Fire Protection, Civil and Structural

Square Feet
23,000

Completed
2018

Cost
$2.5 million

Reference
Matthew A. Dubovecky, EIT
Project Manager
PA Department of Military & Veterans Affairs
814-533-2466
c-mdubovec@pa.gov

The new Castle Readiness Center consisted of two, two-story wings of the building with a one-story Maintenance Shop/Drill Hall which connects the two. The building is masonry type construction with stone, brick, and concrete block. Outside supporting facilities include military and privately-owned vehicle parking, fencing, sidewalks, access roads, and storage buildings as well as a vehicle maintenance facility.

This project was focused on the Readiness Center or the main building. The size of the existing facility was approximately 23,000 SF. The facility houses approximately 120 soldiers from the 107th Field Artillery Battalion for the Pennsylvania Army National Guard. The original building was constructed in 1938 and housed the Calvary Units, which included administrative offices, stables, and a riding hall, which is now the Drill Hall.

The rehabilitation scope of work included:

- Exterior architectural improvements
- Interior architectural improvements
- Electrical upgrades consisting of new electrical service, new distribution equipment and panelboards throughout. New lighting and receptacle layouts are also included as part of the renovation. Fire alarm system and emergency lighting will be updated throughout the building, and a connection for a future generator will be incorporated into the design.
- HVAC renovations include replacement of the steam heating system with hot water, adding air conditioning to the Administration Wing, Rear Wing, and the existing classroom which is part of the Drill Hall, toilet room and locker room exhaust upgrades, and a kitchen exhaust and make-up air system.
- The plumbing scope of work includes replacing water heaters, providing a new domestic water service and piping, updating the sanitary sewer and vent piping, modifying the natural gas service and piping to accommodate the increased loads, renovations to the toilet rooms and shower rooms throughout the building, and providing new roof drains.

LETTERKENNY ARMY DEPOT (LEAD), BALTIMORE DISTRICT

Indefinite Delivery Contracts

Chambersburg, PA

Services
Mechanical, Electrical, Plumbing/Fire Protection, Civil, Structural

Square Footage
Various

Completed
2013-Present

Reference
Brandon R. Kohler
717-267-8853

H.F. Lenz Company has provided the MEP/FP, civil and structural engineering services for over $100 million of construction for the Baltimore Corps of Engineers over the past 30 years through 6 IDIQ contracts.

Projects Completed Under the IDIQ Contracts Included:

- Building 12 - DISA/CSC Office Renovation - Renovate the existing warehouse to office space for Defense Information Systems Agency (DISA)/Computer Science Corporation (CSC)
- Building 3 - Defense Data Center - Retrofit central chilled water plant
- Building 1 - HVAC System Upgrade - Replace the existing office HVAC system including distribution and control systems
- Building 2360 - Ammunition Area Central Boiler Plant - Renovate the interior/exterior including replacement of oil-fired boilers
- Building 1 - Office and Warehouse Building - Sprinkler modifications
- Building 7 - Warehouse Building - Renovate lighting
- Building 14 - Repairs - Architectural modifications and replacement of HVAC system
- Building 521 - Addition - Civil, structural, mechanical, and electrical design of a 1,400 SF addition to the security headquarters
- Building 663 - Renovate facilities engineering building
- Building 3812 - Replace boiler/AHU
- Building 350 - Upgrade lighting, improve HVAC systems, Combat Vehicle Maintenance Shop
- Building S234 - Post Cafeteria Renovation and Expansion - Design of complete renovation and an addition to the Depot's Post Cafeteria including a conference/training area
- Master Planning Services - Working with our Master Planning consultant, an assessment of existing conditions and development of requirements analysis were prepared in accordance with AR 210-20, Real Property Master Planning for Army Installations and in the Master Planning Instructions
- Programming Documents, 1391 Preparation - Working with the Depot's Master Planner, we provided services related to the development of 1391's for various MCA projects
- Building 3 - Upgrade Fire Alarm System
- Command Flag Area Improvements - Renovate the commander's site entrance area to include walks, grass, sitting areas, flag poles, and the inclusion of the original LEAD iron gates
- Building 349 - Boiler plant modifications and roof replacement
- Building 1 - Restroom Renovations - Renovate and upgrade the restroom area including a new floor plan to accommodate ADA requirements, new plumbing fixtures, ventilation, and architectural finishes
- Child Development Center - Sanitary sewer expansion
- Phase 1 Environmental Site Assessment of Adjacent Property
- Reasonably Available Technology (RACT) Analysis - A Reasonably Available Technology RACT Analysis was conducted for the acid wash primer utilized in the painting operations to determine the feasibility of installing additional VOC emission controls. The RACT Analysis will be performed in accordance with the U.S. Environmental Protection Agency and PA DEP guidelines

- Building 397 - Renovation and Addition - Renovation to use as generator/compressor rebuild shop. Upgrade electric, fire sprinklers, lighting, and all interior and exterior finishes
- Building 321 - Demolition and Reconstruction - Demolish the existing structure and replace with a new building for Mine Resistant Ambush Protected (MRAP) process line
- Building 330 - Renovation and Upgrade - Enclose and renovate a portion of the south end of the building to provide workspace for storage operations
- Building 331 - Renovation and Upgrade - Enclose and renovate a portion of the north end of the building to provide workspace for storage operations
- Building 330 and 331 - Dock 2 Shipping and Receiving Office - Construct administrative space to coordinate shipping and receiving functions
- Building 320 - Renovation of vehicle restoration building - New finishes, lighting. HVAC, fire protection, electrical distribution, plumbing, roof, garage doors, wash bay, and emergency generator

H.F. Lenz Company has held multiple IDIQ Term Contracts for this agency as both Prime Consultant and Subconsultant.

Lehigh University Campus Police Station

New Campus Police Station

Bethlehem, PA

Services
Mechanical, Electrical, Plumbing/Fire Protection

Square Feet
11,400

Completed
2016

Cost
$4.5 million

Reference
Erin Liston
Assistant Director
Design and Construction
Lehigh University
27 Memorial Drive W
Bethlehem, PA 18015
610-758-4086
erl314@lehigh.edu

H.F. Lenz Company provided the MEP design for the new 11,400 SF campus police station that serves as the headquarters for over 25 officers, full-time dispatchers, security guards and administrative staff. The building includes training room, offices, holding, secure storage, laboratory, locker rooms, evidence and processing areas, interview rooms, an armory and two vehicle bays. Technology includes 140 neighborhood and campus cameras tied into the Department's emergency response system.

The project was designed with an environmental focus without pursuing a certification. The building was provided with an emergency generator to provide full building backup power.

UNIVERSITY OF CONNECTICUT

Public Safety Building Addition and Renovation

Storrs, CT

Services
Mechanical, Electrical, Plumbing/Fire Protection, Communications

Square Feet
3,901 Fire Department Addition

4,825 First Floor Renovation

250 Lobby Addition

Completed
2021-2023

Cost
$7.3 million

Reference
Scott Gallo
Project Manager
UPDC
860-208-2337
scott.gallo@uconn.edu

H.F. Lenz Company provided the multi-discipline engineering services for an addition and renovation to the existing Public Safety Building at the University of Connecticut Storrs Campus. The building serves as Headquarters for the University's Police Department, Fire Department, and Office of Emergency Management. The project was driven by the need to accommodate the increasing staffing needs of the departments.

The new 3,901 SF addition to house the fire department support services included offices, bunkrooms, common and training areas and storage and locker facilities. Renovations to the 4,825 SF of existing first responder spaces were needed to increase the size of the locker rooms and dispatch area. The lobby is also expanded by incorporating a 250 SF addition.

Project features include:

- Renovated and new berthing areas, lavatory, locker rooms, office areas, kitchens, and utility rooms
- New 12.5-ton gas fired rooftop unit with DX cooling coil to serve the addition for both heating and cooling
- Rooftop unit - variable air volume design with minimum outdoor air required to meet ASHRAE 62.1 ventilation standards
- New 1,500 CFM exhaust systems for kitchen and bathroom ventilation
- New utility upgrades which included new natural gas service and upsized electrical service to serve the addition and renovated spaces
- All existing building illumination and lighting controls were upgraded to LED technology
- IT Upgrades that included the existing Dispatch Room/Equipment being relocated to a new location within the existing building for temporary operations while the existing location was upgraded for a completely new Dispatch Room and Operational Center

H.F. LENZ ENGINEERING

Additional Project Experience

PA State Police, Greensburg, PA
- New 35,000 SF Headquarters Facility
- New 50,000 SF DNA Lab Facility

Windber Fire Department, Windber, PA
- New firehouse facility

City of St. Marys, St. Marys, PA
- New 22,000 SF fire station and police department

Nanty Glo Volunteer Fire Department
- Surveying of property limits and land merger plans
- Energy Audit of existing fire station and social hall
- Site drainage improvements

Jackson Township Volunteer Fire Department
- Preliminary assessment of facility for a new fire station on the existing lot. Demolition of existing facility and replacement with a new facility. Also, option for renovation of existing facility with addition

Oakland Volunteer Fire Company, Johnstown, PA
- New bunk room

Solomon Run Fire Station, Johnstown, PA
- Natural gas conversion for fire station and club
- Surveying of property to determine limits
- Stormwater runoff improvements on site.

Geistown Fire Station, Johnstown, PA
- Improved drainage on site to accommodate surface runoff
- Surveying for sale of the property.

City of Johnstown Fire Department
Fire Training Center along Iron Street
- Worked with the fire department to provide proper access to training facility.
- Concrete design to handle increase heat exposure from burn training on site
- Stormwater runoff and fire training water runoff collection on site with debris screen on discharge.
- Access to the site from Iron Street to accommodate apparatus placement at training facility and fire hydrant use.
- Floodplain assessment, analysis, and impact to the training facility.

Fire Training Center near Oak Street (Relocation of existing training facility)
- Site assessment for the relocation of the existing training facility.

Lehigh University, Bethlehem, PA
- New 14,000 SF Campus Police Station

City of Fairfield, Fairfield, CT
- Renovations and alterations to three fire stations

Lincoln Co. Emergency Center, Hamlin, WV
- New E-911 Center

H.F. LENZ ENGINEERING

Additional Project Experience

Hempfield Township, Greensburg, PA
- Master Planning for Weatherwood Park and Municipal Complex including 25,680 SF Public Safety Building

Pennsylvania Turnpike Commission, Harrisburg, PA
- New three-story, 50,000 SF addition and renovation of the 112,000 SF Central Administration Building, which serves as the central operations center and houses the State Police Troop T Command Center - LEED Certified

U.S. Drug Enforcement Administration, Pittsburgh, PA
- New two-story, 50,000 SF building - LEED Certified
- New, two-story 19,427 SF office building to house a federal agency of the intelligence community offices. The facility includes forensic evidence labs, investigators' work and technology spaces, and service bays to modify surveillance vehicles - designed to LEED Silver (minimum) and also attain an ENERGY STAR rating of 75 or above.

Pennsylvania State Correctional Institutions
- Mechanical, Electrical, Structural, and Civil project experience at 10 different state correctional institutes facilities across Pennsylvania

Philadelphia Police Department, Philadelphia, PA
- Building assessment and recommendations

Sherwood Island State Park, New Maintenance Facility Westport, CT
- Multiple bay vehicle and equipment storage / maintenance building with office space, restroom facilities, meeting space, heating storage and unheated storage

Yale University, New Haven, CT
- Planning study to relocate police department servers

Community College of Allegheny County, Pittsburgh, PA
- Police Training Building renovations

Cape May Public Safety Academy, Cape May, NJ
- Public Safety Training Facility gymnasium, training area, showers, locker rooms, offices and equipment storage

Edinboro University, Edinboro, PA
- Police Station UPS replacement

Pennsylvania Army National Guard, PA
- Multiple readiness centers throughout the state

Pennsylvania Department of Transportation (PennDOT)
- Statewide Term contract for design services at any of the 4,100 facilities statewide including Office Buildings, Maintenance Facilities, General Storage Buildings, Welcome Center and Driver Licensing Centers. Over 29 projects were awarded

SECTION III
UNDERSTANDING AND APPROACH

Understanding

The West Virginia Army National Guard, Construction and Facilities Office intends to undertake the development of a new Fire Department Facility on the Camp Dawson garrison in Kingwood, West Virginia. The project will involve the design and construction of a new permanent building designed to include climate-controlled vehicle and apparatus storage, equipment storage, sleeping area, kitchen, toilet and shower facilities, office and administrative spaces, and general-purpose areas – including all supporting mechanical, electrical, plumbing, and fire suppression systems. Supporting site improvements such as roads, aprons, pads, sidewalks, parking, and utilities will also be included in the project. Cost effective and energy conserving building systems should be considered to reduce construction and operational costs. As such, the design should prioritize sustainable, economical, and low-maintenance systems and materials. The design, delivery, and construction processes should also include compliance with physical security, DOD compliance, force protection, and Army regulations as prime design considerations.

The objective of the design services is to provide comprehensive professional services from the project initiation through the completed construction, including all disciplines necessary to execute the task as efficiently and effectively as possible.

Our Approach

As architects, our job is to guide the design process, not to impose one-sided solutions on a given project. We use our experience and knowledge to provide information that will allow participants to make informed decisions, while working creatively to solve problems in a thoughtful way.

At each stage of the design process, we aim to foster a collaborative environment where ideas can flourish and evolve organically. By nurturing a dialogue that builds upon previous discussions, we ensure that every iteration of the design is continuously refined and improved from the last. The ideal result is a final design that resonates with all involved, evoking a sense of satisfaction and pride from the collaborative contribution to its evolution.

The proposed design process and project management for the Parkersburg Readiness Center will follow this approach, moving the project from start to finish through the milestones and submissions outlined in the Expression of Interest.

Phase 1 - Planning (35% Design)

Our process will begin with a series of meetings with the using Agency to verify current program and goals of the project, and to assess other requirements established for the project. DRS Architects and HF Lenz Engineers will attend these meetings as needed. Although some important design decisions will occur later in the project, such as interior design, some of the basic decisions for the project will be explored and assessed in these early stages - such as the appropriate sighting of the building on the property, building massing as effected by the site choice, and selection of major mechanical and electrical systems. The design team will meet stakeholders to discuss the goals for the project, the requirements for each element, and learn how the facility will be used. Even though the government may have established standards for design of this facility type, we have found that every project presents some unique circumstances.

H.F. Lenz Engineers will search for ways to provide long-term operating benefits, such as ease of systems maintenance, redundancy, and effective life-cycle costing. They will also explore any sustainability or green building objectives beyond those required by the International Energy Conservation Code.

The project team will also study the existing site conditions during this phase, including undertaking geotechnical investigations and studies; collecting site development information such as utility availability and capacity; surveying and documenting site conditions (if that information is not already made available by the Agency); and developing a thorough understanding of any relevant or governing land development codes, restrictions, or requirements.

Approximately half-way through this Phase 1 (around 15% of the total project), the team will compile a written report of all findings to this point and issue for review by all stakeholders to confirm accuracy of assumptions and findings. Adjustments will be made prior to progressing to the next stage. This report will:

- Describe the project and program in detail
- Describe each element planned for the facility
- Explain the needs of each space as understood by the design team
- Review the applicable building codes to determine how they may affect the design and construction of the facility
- Indicate a direction for initial major decisions, such as building placement and what the general arrangement of the floor plan may be
- Serve as a record to guide the balance of the design process

Once the intermediate report has been accepted, essentially establishing a benchmark for design, the team will continue the design process for the balance of Phase 1. This effort begins by translating the information gathered to date into floor plan diagrams and drawings that define the priorities of the project and summarize the primary ideas discussed with the participants of the process. The diagrams will typically offer various options.

The purpose of these diagrams is not to solve the design immediately, but rather to act as seeds for conversation on the advantages and disadvantages of each option, and to identify the limitations and opportunities for the facilities and site. This conversation, usually occurring over the course of a meeting or two as plan options are refined, will help the design team develop a deeper understanding of the priorities and goals of the project.

The design team's engineers and consultants will be key participants in the process at this early stage. They will develop general strategies for the way various systems will work in the building and determine the effect those systems will have on the design. We will discuss the requirements for mechanical, electrical, plumbing, fire protection, and data/comm systems. The team will evaluate the proposed plan options and adjust them accordingly to address the goals of the project.

Over the course of this phase the team should reach an understanding of what should be included in the design, what may or may not fit on the site or in the budget, and what elements should be included as possible base bid options if needed.

The next stage of the work is the development of the design to a point at which reliable financial models can be built for the project. The design will be refined in a process that moves from larger challenges to smaller ones.

In meetings with the stakeholders and users of the facility, we will:

- Examine the location of the building on the site and refine the placement of the building footprint and surrounding elements.
- Look at the way the interior spaces will be used and how they each should interrelate, one room at a time, and determine how best to embody use patterns in design.
- Examine the effect MEP/FP systems will have on the design and how best to incorporate them.
- Begin researching and selecting the appropriate materials and products to use in the new facility, as well as potential construction methods
- Begin refining decisions on the structural and civil (site) designs

The result of this process (Phase 1) is a 35% complete design package (including estimated costs to execute the programmed work) that is sufficient for the Agency to secure funding for the entire project. This package will include 35% completion level design drawings such as site layouts, floor plans, exterior elevation, and detailing necessary to ascertain the cost of such work. It will also include our opinion of probable costs including suitable for the establishment of a complete project budget. Finally, the bound deliverable will include a summary of the process to date.

The document will be presented to the agency initially in draft form for final review, and any necessary modifications will be made prior to finalization. At the end of this phase the design team and the Agency should have reached a collective consensus on a single conceptual design that best expresses the goals of the project, physical and financial.

At this stage of the process, while the Agency utilizes the data we have provide to secure the funding to advance the project, our team will carefully catalog our findings, process, and all the collateral collected in a sort of "mothballing" of data in an effort to preserve the knowledge we have collected to survive any potential delay between the conclusion of the Phase 1 35% effort and the receipt of direction from the Agency to initiate Phase 2.

Phase 2 - Execution (Construction Documents through Construction)

Upon receipt from the Agency of directive to proceed with Phase 2 of the project, our team will arrange a re-initiation conference to review the current goals and objectives with all stakeholders. This will ensure a complete understanding amongst all players—including any new individuals that have entered the process during the time span between phases.

Based on the approved Phase 1 designs, the design team will work to resolve any outstanding items as well as any deviations resulting from the funding approval process. This initial sub-phase will consist mainly of cleaning up loose ends, making changes necessary to meet new agency requirements, and making adjustments dictated by budget. All the information preceding this point in the process is then compiled into a set of conformed construction documents, suitable for procurement, permitting, and construction.

The process of developing the final construction documents will involve a great deal of coordination between disciplines, coordination between the design team and Agency and user, and coordination between the design team and any related outside vendors that the Agency assigns. The ability to communicate as a team is essential in this part of the process. From common software platforms to communication systems—every aspect that simplifies communication results in a higher quality deliverable. That equates to fewer surprises along the way. Our project team has a great deal of experience collaborating on projects.

This phase is not executed in a vacuum. The team will hold periodic design meetings that engage the Agency and user in the detailed design decision processes. Intermediate check sets will be distributed and page turns will be held to ensure progress is meeting the objectives of the project and that the designs are continuously improved in a manner that results in a successful project. Milestone check sets will be distributed for review and comment at 65% and 95% completion points. Comments will be integrated into the design, and estimates will be revisited. At what we will call 99%, a final set will be distributed for final approval, upon which the documents will be buttoned up and prepared for the permitting and procurement processes.

Permitting

Our team of professionals will be responsible to foster any permitting processes that are necessary, including zoning, planning, design review, and building code compliance. We will review recommended revisions to the documents necessary for permitting approvals with the Agency so that decisions can be made in the best interest of the project. Once all AHJ's have been satisfied and approvals acquired, the document set will be consolidated into a conformed 100% complete set, distributed to the team for approval to move into the procurement sub-phase.

Procurement

Throughout the procurement process the entire DRS team will be available—led by the project manager—to respond to proposing firms (bidder) questions and inquiries to ensure that each bidder has a complete understanding of the projects technical details as well as the Agency's objectives. As clarifications may be necessary, supplemental information will be developed and assimilated into the construction documents prior to construction.

Construction Administration Phase

Our team of professionals will administer the construction phase of the work, providing services including:

- Participate in Project Kick-off Conference
- Participate in periodic OAC meetings (field meetings)
- On-site observation (full or part time)
- Review of shop submittals / shop drawings
- Responses to Contractor written requests for information
- Manage the change process
- Review payment applications
- Provide documentation of the entire construction administration process
- Develop punch-list / facilitate substantial completion walk-through

The leadership for construction administration will be from the nearest office of the project team to ensure quick response time to field issues.

Project Management and Communication

The key to a successful project for all stakeholders is management and communication. Each project is managed from the viewpoints of design, technical excellence, and administration. DRS uses several management concepts to achieve these goals:

- Principal leadership
- Establishment of design and technical criteria and standards
- Quality control
- Project planning and scheduling
- Internal checking of project progress and budgets
- Coordination within DRS
- Coordination with outside consultants

The design and construction process is collaborative, so clear and regular communication is vital to a successful project. A communication plan is established at the beginning of each of our projects, usually following the flow of the organizational chart of the team. The project manager is the funnel through which all communication is channeled, whether it is from the client to the design team, the team to the client, consultant to client, and so forth.

We typically identify at least one other member of the DRS team to be included on all electronic communication, of the sake of redundancy should the project manager become unavailable for any period of time, to assure that the needs of the project are continuously covered.

Within the design team, communication is regular and fully integrated, as needed. Internal design team meetings are held between DRS team members and consultants, at intervals throughout the process, to make sure the various design disciplines are coordinated and questions are answered.

As projects proceed and relationships develop, clients become comfortable communicating directly with the design team consultants. We encourage this, as long as the DRS project manager is included in the conversations or correspondence. Not every issue that arises will need an architectural solution or architectural involvement. Often, issues that are initially thought to be purely technical can have an effect on the project beyond just solving the issue at hand. This is why every discussion needs the participation of the project manager. The project manager will be looking at the issue from a larger perspective, and will be able to determine what influence any solution might have on the project objectives.

Quality Control

DRS uses a regimented quality control program throughout the project to make sure projects are completed on time and within budget. We ascribe to a vertically integrated project delivery system, where the same group of architects and engineers are responsible for all project tasks from the start of the project to the finish.

Although the design team routinely checks and coordinates the design documents at intervals through the process, we use an Independent Technical Review (ITR) Team on many of our projects. The members of the review team are purposely chosen from outside the projects team. The reason for this is to have a fresh set of eyes looking at the project design, documents, and decisions. They are more likely to spot an anomaly that the design team, focused on documenting design decisions, might not otherwise identify.
The ITR team reviews the documents at stages as the project develops, and is typically comprised of senior members of the design firms encompassing all disciplines. This approach has worked well for our projects, including those with a high degree of complexity.

QC Review Procedure

Quality Control reviews will be undertaken by the ITR prior to each design submission—including prior to the issuance of the Phase 1 deliverables, and again at 65%, 95% and 100% milestones during the Phase 2 process. The ITR will review the documents of the applicable disciplines to determine the submission's ability to convey the intent of the systems and assemblies shown. The review will also assess the appropriateness and reasonableness of information noted in the documents based upon the design submission requirements. During this process, drawings from the various disciplines are reviewed simultaneously, and comparisons are made between building systems and building architecture. Recognizing potential problems at these early stages will help to avoid changes during construction.

The review shall address, but not be limited to:

- Accuracy, completeness, clarity and consistency
- Identification of deficiencies, ambiguities, errors, and omissions
- Delineation of contract scope, including identification of bid packages, alternates, and items not in the contract (NIC)

Interdisciplinary Coordination Review (ICR)

The design team will use standard design checklists to assist with the reviews. These checklists will help focus on interface points between the various design disciplines, and help uncover inconsistencies or coordination discrepancies between or among disciplines. The ICR shall also look at the typical sequences of construction to see if the design may effect the way the project is constructed or phased.

Design Submission Reviews

DRS is familiar with peer reviews at milestone submissions. Face-to-face meetings will be held after the submissions, if needed, to address comment items. The review and follow-up meetings ensure compliance with technical requirements and quick response to the concerns of the User.

Additional Information

Learn more about our team of professionals by visiting our websites:

www.DRSArchitects.com
www.HFLenz.com