

Expression of Interest to Provide:
**Architect and Engineering Services for the
Camp Dawson Multipurpose Building**

submitted to:

West Virginia Army National Guard

*Camp Dawson
Kingwood, WV*

April 9, 2008



Suite 110
400 Tracy Way
Charleston, WV 25311

(304) 346-1127
(800) 274-2224
Fax (304) 346-7295

www.bh-ba.com

Baltimore, MD
Charleston, WV
Chantilly, VA
Coatesville, PA
Frankfurt/Main, Germany
Harrisburg, PA
Hershey, PA
Kaiserslautern, Germany
King of Prussia, PA
Marlton, NJ
Memphis, TN
Morgantown, WV
Nashville, TN
New Cumberland, PA
Batesville, MS
Pensacola, FL
Pittsburgh, PA
State College, PA
Stroudsburg, PA
York, PA

April 8, 2008

Department of Administration
Purchasing Division
2019 Washington Street, East
P.O. Box 50130
Charleston, WV 25305-0130
Attn: John Abbott, Buyer

Reference: Expression of Interest
WVANG Camp Dawson Multi-Purpose Building
Requisition No. DEFK8179

RECEIVED

2008 APR -9 A 11: 01

PURCHASING DIVISION
STATE OF WV

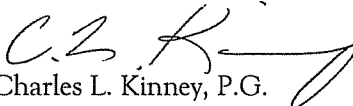
Dear Mr. Abbott:

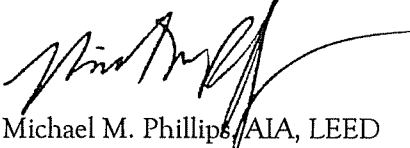
Buchart-Horn, Inc., in association with **ZDS Design/Consulting Services, Inc.**, presents our qualifications to provide design engineering services for a new multi-purpose building for the WV Army National Guard at Camp Dawson. Buchart-Horn is a full service architectural and engineering firm offering extensive experience in the design and administration of military facilities, including specific experience in the design of multi-purpose facilities of a similar size and construction. We are currently completing design on a joint use facility for the Pennsylvania Army National Guard in Greene County, PA, and have been involved in the design of National Guard Facilities throughout Pennsylvania and Maryland. Our recent experience also includes a facilities assessment for the 130th Airlift Wing at Yeager Airport in Charleston, performed at the request of the Central West Virginia Regional Airport Authority as part of the local response to the preliminary recommendations of the Federal BRAC Commission.

This Expression of Interest package has been prepared in accordance with the requirements outlined in your Request for Quotation. Should you have any questions regarding the material contained in this package, please contact one of the undersigned at 304-346-1176. Thank you again for your consideration of Buchart Horn for this assignment. We look forward to the opportunity to serve the State of West Virginia on this important endeavor.

Sincerely,

BUCHART-HORN, INC.


Charles L. Kinney, P.G.
Vice President


Michael M. Phillips, AIA, LEED
Project Manager

CSK/mrk



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

Request for Quotation

RFQ NUMBER
DEFK8179

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
JOHN ABBOTT
304-558-2544

PROPOSERS

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

SHIP TO

DIV ENGINEERING & FACILITIES
CAMP DAWSON ARMY TRAINING SITE
240 ARMY ROAD
KINGWOOD, WV
26537-1077 **304-329-4417**

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
03/13/2008				

BID OPENING DATE: **04/09/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		906-07		
ARCHITECT SERVICES, PROFESSIONAL						
EXPRESSION OF INTEREST (EOI)						
CONTRACT TO PROVIDE ARCHITECT AND ENGINEERING SERVICES FOR THE WEST VIRGINIA ARMY NATIONAL GUARD, CAMP DAWSON MULTIPURPOSE BUILDING, KINGWOOD, WV, PER THE SPECIFICATIONS.						
EXHIBIT 10						
REQUISITION NO.:						
ADDENDUM ACKNOWLEDGEMENT						
I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.						
ADDENDUM NO.'S:						
NO. 1						
NO. 2						
NO. 3						
NO. 4						
NO. 5						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Kenneth D. Bush</i>	TELEPHONE (304) 346-1127	DATE April 7, 2008
TITLE Regional Manager	FEIN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE

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



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2

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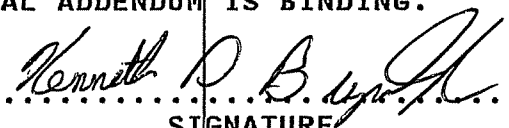
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<p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p style="text-align: right;">  SIGNATURE </p> <p style="text-align: right;"> Buchart Horn, Inc. COMPANY </p> <p style="text-align: right;"> April 7, 2008 DATE </p> <p style="text-align: center;">VENDOR PREFERENCE CERTIFICATE</p> <p>CERTIFICATION AND APPLICATION* IS HEREBY MADE FOR PREFERENCE IN ACCORDANCE WITH WEST VIRGINIA CODE, 5A-3-37 (DOES NOT APPLY TO CONSTRUCTION CONTRACTS).</p> <p>A. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS AN INDIVIDUAL RESIDENT VENDOR AND HAS RESIDED CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR</p>						

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SIGNATURE 	TELEPHONE (304) 346-1127	DATE April 7, 2008	
TITLE Regional Manager	FEIN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE	

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<p>() BIDDER IS A PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR AND HAS MAINTAINED ITS HEAD-QUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR 80% OF THE OWNERSHIP INTEREST OF BIDDER IS HELD BY ANOTHER INDIVIDUAL, PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR WHO HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR</p> <p>() BIDDER IS A CORPORATION NONRESIDENT VENDOR WHICH HAS AN AFFILIATE OR SUBSIDIARY WHICH EMPLOYS A MINIMUM OF ONE HUNDRED STATE RESIDENTS AND WHICH HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA CONTINUOUSLY FOR THE FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION.</p> <p>B. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS A RESIDENT VENDOR WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES WORKING ON THE PROJECT BEING BID ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID; OR</p> <p>() BIDDER IS A NONRESIDENT VENDOR EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS OR IS A NONRESIDENT VENDOR WITH AN AFFILIATE OR SUBSIDIARY WHICH MAINTAINS ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS WHO CERTIFIES THAT,</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE <i>Kenneth D. B...</i>	TELEPHONE (304) 346-1127	DATE April 7, 2008	
TITLE Regional Manager	FEIN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE	

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Buchart Horn, Inc.
 400 Tracy Way, Suite 110
 Charleston, WV 25311

**DIV ENGINEERING & FACILITIES
 CAMP DAWSON ARMY TRAINING SITE
 240 ARMY ROAD**

**KINGWOOD, WV
 26537-1077 304-329-4417**

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LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES OR BIDDERS' AFFILIATE'S OR SUBSIDIARY'S EMPLOYEES ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID.</p> <p>BIDDER UNDERSTANDS IF THE SECRETARY OF TAX & REVENUE DETERMINES THAT A BIDDER RECEIVING PREFERENCE HAS FAILED TO CONTINUE TO MEET THE REQUIREMENTS FOR SUCH PREFERENCE, THE SECRETARY MAY ORDER THE DIRECTOR OF PURCHASING TO: (A) RESCIND THE CONTRACT OR PURCHASE ORDER ISSUED; OR (B) ASSESS A PENALTY AGAINST SUCH BIDDER IN AN AMOUNT NOT TO EXCEED 5% OF THE BID AMOUNT AND THAT SUCH PENALTY WILL BE PAID TO THE CONTRACTING AGENCY OR DEDUCTED FROM ANY UNPAID BALANCE ON THE CONTRACT OR PURCHASE ORDER.</p> <p>BY SUBMISSION OF THIS CERTIFICATE, BIDDER AGREES TO DISCLOSE ANY REASONABLY REQUESTED INFORMATION TO THE PURCHASING DIVISION AND AUTHORIZES THE DEPARTMENT OF TAX AND REVENUE TO DISCLOSE TO THE DIRECTOR OF PURCHASING APPROPRIATE INFORMATION VERIFYING THAT BIDDER HAS PAID THE REQUIRED BUSINESS TAXES, PROVIDED THAT SUCH INFORMATION DOES NOT CONTAIN THE AMOUNTS OF TAXES PAID NOR ANY OTHER INFORMATION DEEMED BY THE TAX COMMISSIONER TO BE CONFIDENTIAL.</p> <p>UNDER PENALTY OF LAW FOR FALSE SWEARING (WEST VIRGINIA CODE 61-5-3), BIDDER HEREBY CERTIFIES THAT THIS CERTIFICATE IS TRUE AND ACCURATE IN ALL RESPECTS; AND THAT IF A CONTRACT IS ISSUED TO BIDDER AND IF ANYTHING CONTAINED WITHIN THIS CERTIFICATE CHANGES DURING THE TERM OF THE CONTRACT, BIDDER WILL NOTIFY THE PURCHASING DIVISION IN WRITING IMMEDIATELY.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE <i>Kenneth D. Burt</i>	TELEPHONE (304) 346-1127	DATE April 7, 2008	
TITLE Regional Manager	FEIN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE	

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				BIDDER: Buchart Horn, Inc.		
				DATE: April 7, 2008		
				SIGNED: <i>Kenneth D. Burch</i>		
				TITLE: Regional Manager		
<p>* CHECK ANY COMBINATION OF PREFERENCE CONSIDERATION(S) IN EITHER "A" OR "B", OR BOTH "A" AND "B" WHICH YOU ARE ENTITLED TO RECEIVE. YOU MAY REQUEST UP TO THE MAXIMUM 5% PREFERENCE FOR BOTH "A" AND "B". (REV. 12/00)</p> <p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: JOHN ABBOTT</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE <i>Kenneth D. Burch</i>	TELEPHONE (304) 346-1127	DATE April 7, 2008	
TITLE Regional Manager	FEBN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE	

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PAGE
6

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				RFQ. NO. : DEFK8179		
				BID OPENING DATE: 04/09/2008		
				BID OPENING TIME: 1:30 PM		
				PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: (304) 346-7295		
				CONTACT PERSON (PLEASE PRINT CLEARLY): Kenneth D. Bryant, Jr., PE, PS		
				***** THIS IS THE END OF RFQ DEFK8179 ***** TOTAL:		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Kenneth D. Bryant, Jr.</i>	TELEPHONE (304) 346-1127	DATE April 7, 2008
TITLE Regional Manager	FEIN 23-1498326	ADDRESS CHANGES TO BE NOTED ABOVE

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STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

DEFINITIONS:

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

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

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

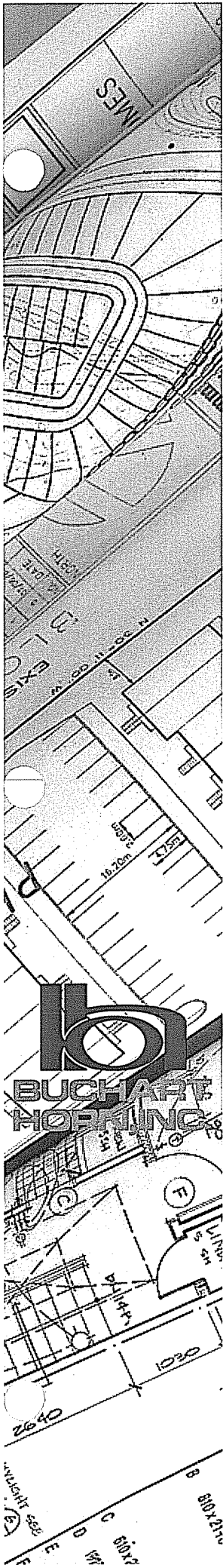
LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

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

Vendor's Name: Buchart Horn, Inc.

Authorized Signature:  Date: April 7, 2008



Contents

Corporate Profile..... Section 1

Project Approach..... Section 2

Organizational Chart & Resumes Section 3

Past Performance..... Section 4

References..... Section 5

For more than 62 years, **Buchart Horn, Inc. Engineers, Architects and Planners** has managed and successfully completed multi-disciplinary design projects throughout the eastern United States. As a full-service architectural and engineering firm that serves our clients through 21 operating offices, we are well positioned to assist our clients with any project.

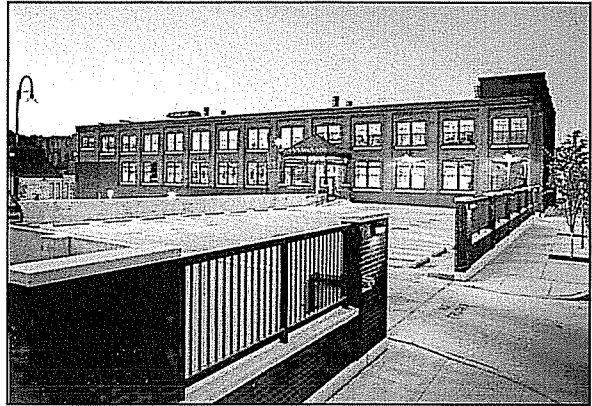
Buchart Horn has extensive experience with all types of governmental and military facilities. We have previously completed work on several National Guard facilities, and have also extensive experience working on military bases.

Engineering News Record ranks Buchart Horn among the top 200 environmental firms and the top 200 international design firms. With more than 330 professional and support personnel, we have the ability to meet the most aggressive schedule.

Locations

Our firm serves public and private clients around the world from these locations:

- West Virginia: Charleston, Morgantown
Pennsylvania: York, Coatesville, Harrisburg, Hershey, King of Prussia, New Cumberland, Pittsburgh, State College, Stroudsburg
Florida: Pensacola
Germany: Frankfurt/Main, Kaiserslautern
Louisiana: Baton Rouge
Maryland: Baltimore
Mississippi: Batesville
New Jersey: Marlton
Tennessee: Memphis, Nashville
Virginia: Chantilly



BH redeveloped this abandoned brownfield site to Class A office space.

Services

We specialize in designing, improving, and solving infrastructure and structure problems and in helping our clients comply with environmental, life safety, and other codes and regulations. We provide:

- ✦ Civil/Site development
- ✦ Architecture
- ✦ Landscape architecture design
- ✦ Environmental planning, engineering, compliance
- ✦ Surveys/mapping
- ✦ HVAC, plumbing, energy conservation
- ✦ Construction Management
- ✦ Electrical systems and computer wiring
- ✦ Structural design
- ✦ Geographic Information Systems (GIS)
- ✦ Hazardous and toxic substances
- ✦ Highways, roads, streets
- ✦ Bridges
- ✦ Traffic and traffic management
- ✦ Recreation parks and trails
- ✦ Schools
- ✦ Telecommunications
- ✦ Telemetry and SCADA control systems
- ✦ Vulnerability assessments
- ✦ Wastewater treatment and systems
- ✦ Water treatment and systems

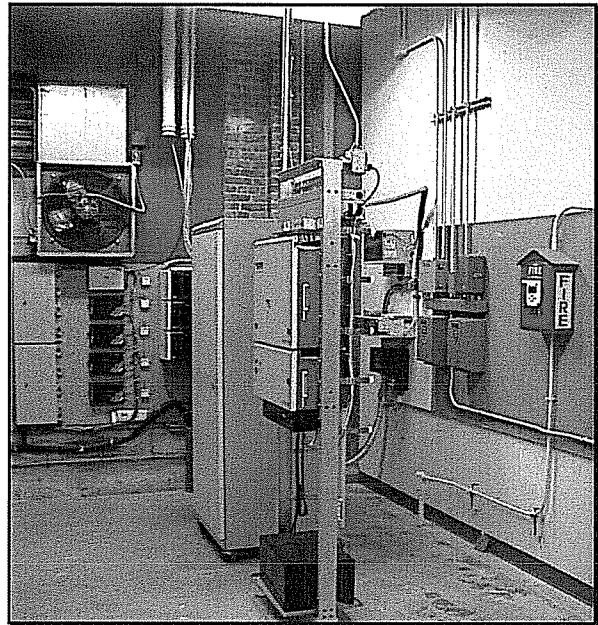
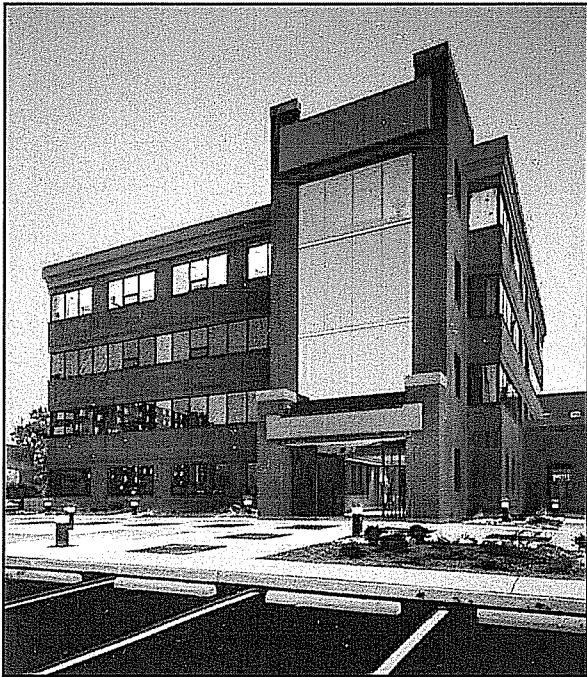
Professional Services

With complete in-house capabilities, we can assemble a team from our full-service staff to match each client's particular needs.

Architecture

Buchart Horn offers complete architectural design capabilities including site selection, feasibility analysis, and the following services:

- ✦ Architectural design
- ✦ Building evaluation
- ✦ Compliance with ADA
- ✦ Environmental assessments
- ✦ Historic preservation
- ✦ Interior design
- ✦ Restoration
- ✦ Site engineering
- ✦ Site evaluation
- ✦ Space planning



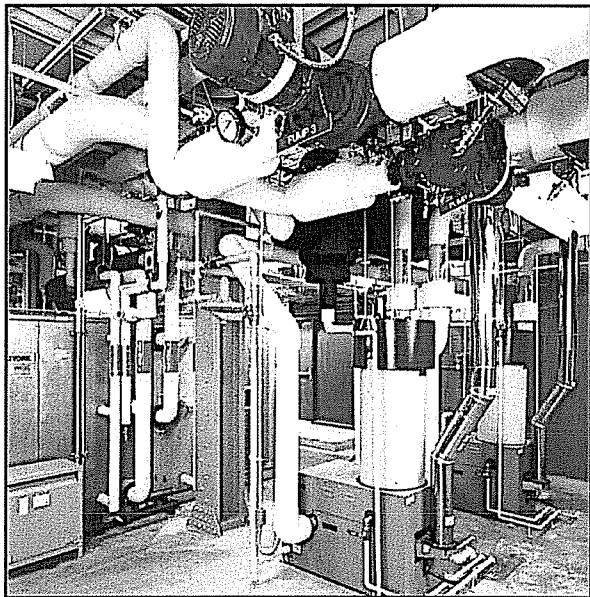
Electrical Engineering

From specialty lighting design and electrical power supply to completely automated systems development, our experienced electrical engineering staff can support a project from evaluation through system start-up and troubleshooting. Complete electrical engineering services are provided to architects, engineers, and public and private sector clients. Sophisticated instrumentation and control systems are often at the heart of today's electrical engineering projects. Our specialized experience brings cost-effective solutions to respond to client needs through the following services:

- ✦ Navigational aids (NavAids)
- ✦ Interior and exterior lighting
- ✦ Power distribution
- ✦ Facility systems
- ✦ Telecommunications and networking
- ✦ Process automation and control
- ✦ Operation and maintenance evaluation
- ✦ Systems commissioning, field inspection, start-up
- ✦ Electrical studies and analysis



Mechanical Engineering



We provide complete system assessment, design and construction phase services for HVAC, plumbing, and fire protection systems. Our designs achieve a suitable balance of comfort, safety, health, and hygiene with sensitivity to client budgets and ease of upkeep. Our common sense approach integrates the building systems with the client's need for a flexible, responsive, and energy-saving environment. Services include:

- ✦ Alternative energy sources
- ✦ Automatic temperature controls
- ✦ Building management systems
- ✦ Coal, gas, and oil burner retrofits
- ✦ Compressed air systems
- ✦ Dust collection systems
- ✦ Energy protection systems
- ✦ High-pressure boiler plants
- ✦ HVAC systems
- ✦ Industrial process distribution
- ✦ Plumbing and drainage systems
- ✦ Steam power distribution
- ✦ Value engineering and life cycle analysis
- ✦ Ventilation heat recovery

Structural Engineering

Our structural engineering services involve all types of materials and systems, including:

- ✦ Structural studies, reports, investigations, evaluations, design for structural systems
- ✦ Foundation systems
- ✦ Retaining walls
- ✦ Above- or below-ground containment structures
- ✦ Masonry wall-bearing systems
- ✦ Steel frames

Planning



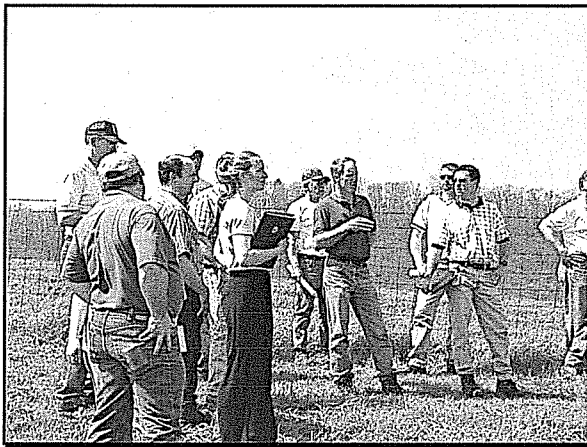
In our firm, planning is not a separate discipline. It is an important component in assisting our clients in making knowledgeable project and programming decisions. We provide planning for the following types of projects:

- ✦ Comprehensive planning
- ✦ Economic feasibility
- ✦ Environmental planning
- ✦ Facilities planning
- ✦ GIS/mapping
- ✦ Land planning
- ✦ Landscape architecture
- ✦ Master planning
- ✦ Public meetings
- ✦ Recreational planning
- ✦ Space planning
- ✦ Zoning and subdivision ordinances

Civil Engineering

Buchart Horn's civil engineering group matches sophistication and execution to complex, project-specific, and regulatory requirements to leverage the latest technological and computer advances.

- ✦ Flood studies
- ✦ Grading and drainage design
- ✦ Parking studies and design
- ✦ Right-of-way services
- ✦ Sediment and erosion control
- ✦ Signalization
- ✦ Site development
- ✦ Stormwater management
- ✦ Traffic studies and analyses
- ✦ Utilities design



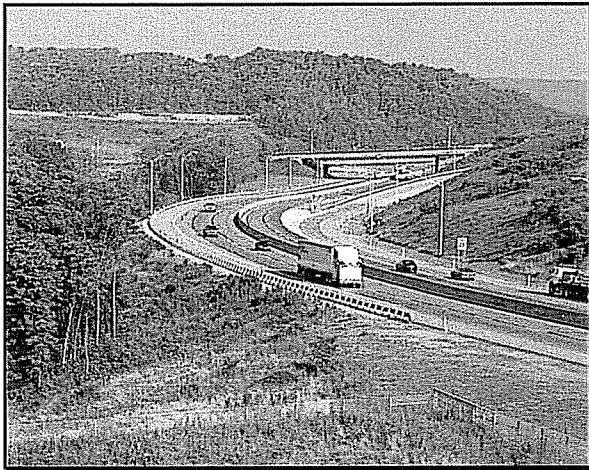
Environmental Engineering

Our environmental engineering services range from water treatment to sludge management and disposal. Our staff is familiar with code regulations. Services available include:

- ✦ Comprehensive planning
- ✦ Environmental assessments/impact studies
- ✦ Environmental auditing
- ✦ Environmental compliance: CAA, CWA, RCRA, UST, CERCLA/SARA, PCB, Asbestos, HMTA

- ✦ Environmental site assessments (Phases I-IV)
- ✦ Financial analysis/funding assistance
- ✦ Geological engineering
- ✦ Geophysical investigations
- ✦ Groundwater contamination investigations
- ✦ Highway noise analysis
- ✦ Hydrogeological studies
- ✦ Industrial and hazardous waste management
- ✦ Infiltration/inflow studies
- ✦ Instrumentation, telemetering, and controls
- ✦ Permitting and government regulations
- ✦ Pollution prevention plans
- ✦ Remedial action design and implementation
- ✦ Soil contamination studies
- ✦ Solid waste/air quality management
- ✦ Stormwater management/NPDES permitting
- ✦ Underground storage tank investigation
- ✦ Water and wastewater collection/treatment systems
- ✦ Water and sewage facilities planning
- ✦ Water distribution/storage systems
- ✦ Wetlands delineation and permit applications

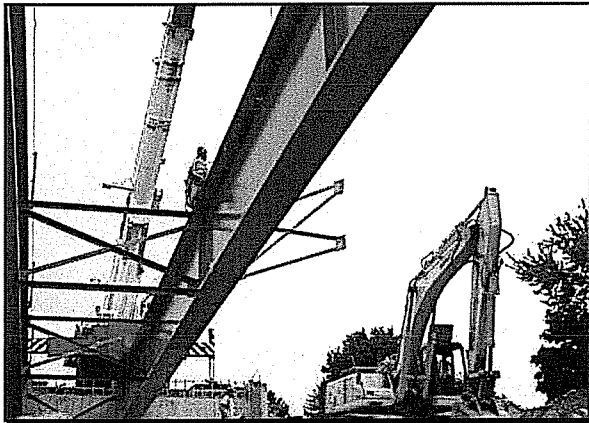




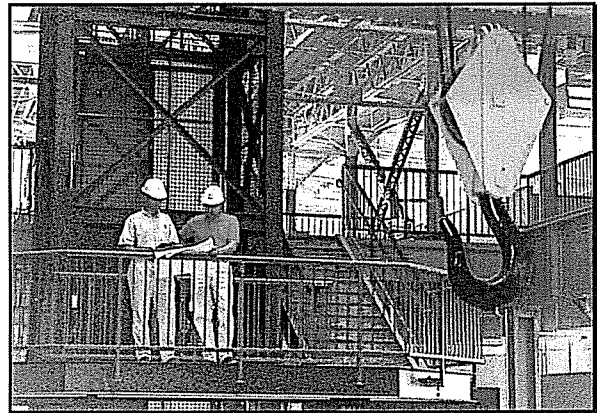
Transportation

Our Transportation Division offers a full range of transportation-related experience including:

- ✦ Airport design
- ✦ Bridge design and inspection
- ✦ Dam design and inspection
- ✦ Flood studies and hydrological analyses
- ✦ General structural design
- ✦ Highway design
- ✦ Railroad and railroad bridge design
- ✦ Site grading, drainage, and stormwater design
- ✦ Traffic studies



Construction Management



Our construction management engineers and inspectors serve as representatives of the client/owner, providing liaison with contractors so that construction complies with contract documents. We provide the full spectrum of construction phase services for all types of architectural and engineering projects including:

- ✦ Construction inspection
- ✦ CPM scheduling and evaluation
- ✦ Claims/change order management
- ✦ Constructability analysis
- ✦ Construction audits
- ✦ Construction management
- ✦ Contract administration
- ✦ Design/build
- ✦ Equipment start-up
- ✦ Grants administration
- ✦ Materials/equipment procurement
- ✦ Material sampling and testing
- ✦ Permit processing
- ✦ Specialized testing
- ✦ Videotaping

ZDS offers an effective organizational structure; one that takes each project from inception through completion, working as an extension of the *Client* every step of the way.

In 1983, Todd A. Zachwieja founded ZECO Consultants. In 1994 ZDS Limited Liability Company was incorporated in WV using dba **ZDS Design/Consulting Services**. This company was founded to provide design and consulting services. Today there are five principals with over 100 years of technical expertise:

- **Todd A. Zachwieja**, PE, C.E.M., Chief Executive Officer, brings with him over 25 years in the design and consulting business.
- **Ted T. Zachwieja**, Principal over Construction Administration services with over 40 years experience in the design and consulting business. He was owner of Ted T. Zachwieja & Company from 1962 to 1982.
- **Daniel H. Kim**, Ph.D., Manager of Strategic Planning, brings with him over 20 years in the design and consulting business and is one of the nation's leading experts in organizational management. He is also owner/founder of Pegasus Communications, Inc. from 1991 to present.
- **Lori Zachwieja**, CPA, Chief Financial Officer and cofounder of ZECO Consultants.
- **Sandra W. Zachwieja**, Specification writer and former co-owner of Ted T. Zachwieja & Company.

ZDS is a consulting engineering firm specializing in the following areas:

**MECHANICAL
ELECTRICAL
INDOOR AIR QUALITY
COMMISSIONING
ENERGY**

Each new project is assigned to a principal in-charge who will follow the project from inception through commissioning.

We assign the production staff according to the nature of the project and the work force necessary to meet the schedule. The Principal in charge of that project determines if consultants are needed and coordinates all areas. After bidding, the same Principal of ZDS visits the job site regularly, all the way through the eight-month warranty inspection once the project is completed.

“Excellent mechanical and electrical design results from an experienced team, as well as, listening to the needs of the Client.”

ZDS believes in the team approach when providing engineering design and consulting services. We start with *our client* as the number one member on our team. We listen to the **needs** and **concerns** of our client and that becomes the basis for our design. Our design expertise includes:

MECHANICAL DESIGN

- Heating & Ventilation
- Air Conditioning
- Refrigeration
- Environmental Controls
- Process Controls
- Fire Protection
- Sprinklers
- Plumbing
- Medical Gases
- Master Planning

ELECTRICAL DESIGN

- Power Distribution
- Interior Lighting
- Exterior Lighting
- Emergency Power
- Communications
- Technology
- Fire Alarm
- Security
- Life Safety
- Master Planning

ZDS provides comprehensive design services. We have experience and specialties in indoor air quality, energy management and commissioning, along with traditional mechanical and electrical design experience dating back as far as 1958. We offer a complete package.

We work with all levels of the client’s staff: the building owner, the budget supervisor, the operating and maintenance staff and others impacted by the project. We recognize the maintenance and operating staff live with the design long after the project’s completion. We listen to and work with those who will continue to operate and maintain the equipment. We find that proper communication benefits the client throughout the design process and beyond.

ZDS design team provides a total system evaluation for cost effective selection, installation, and ease of maintenance for both new systems and retrofit of in-place systems.

Design begins with *our client*. Our staff meets with our client to review their concerns, budgets and schedules. The ZDS design team reviews the *entire* picture, and ends with “A Total Design.”

ZDS provides consulting engineering services for the indoor air quality (IAQ) environment. These services include; strategic planning for renovation and new construction projects; technical research and writing; specialized applications software development; corporate and professional training programs; publications support and fulfillment; and site-specific engineering and scientific consultation.

Todd Zachwieja, **ZDS** principal, is contributing editor for the following technical and IAQ publications:

- Contributing Editor and Technical Review Panel for the publication of the *ENVIRONMENT^o Handbook of Building Management and Indoor Air Quality*, by Chelsea Group and published for Powers Educational Services.
- Technical Review Panel for the Quarterly publication of the *ENVIRONMENT[™] Newsletter*, by Chelsea Group for Powers Educational Services.
- *Ventilation for a Quality Dining Experience: a Technical Bulletin for Restaurant Owners and Managers*, released in January 1993.
- *The New Horizon: Indoor Environmental Quality*, published as a supplement to the June 1993, issue of *Consulting Specifying Engineer* magazine, a trade magazine distributed to roughly 50,000 engineers.
- Editorial Advisory Board member reviewing the articles of the monthly publication *ENVIRONMENT[™] Professional*
- Editorial Advisory Board member of *POWER PRESCRIPTIONS[™]* Indoor Air Quality Publication by *Electric Power Research Institute*.

ZDS provides IAQ services for major corporations, government organization, and property owners to resolve their specific facility problems:

- Resolve the building's "sick building syndrome" complaints.
- Identify solutions to extensive biological contamination building related illnesses in renovated office buildings.
- Develop solutions for HVAC systems, temperature controls, equipment, operating and maintenance practices causing IAQ problems in schools and commercial buildings.
- Commission new and renovated facilities to minimize or eliminate IAQ issues before they become problems.
- Develop and establish master plans as well as conduct training seminars for IAQ of schools and commercial buildings.

As one of the Nation's leaders in Indoor Air Quality, **ZDS** produces sophisticated technical expertise that enables *Our Client* to be proactive in solving and preventing indoor environmental problems.

At **ZDS**, our engineering staff integrates energy efficiency into each project design to provide you, our client, with the added value that you expect and deserve. The **ZDS** team approach represents a tremendous amount of experience in designing energy efficient facilities. **ZDS** offers a comprehensive range of energy management services that includes:

- Providing detailed analysis of facilities.
- Recommending sound and proven energy saving solutions.
- Implementing energy management improvements
- Determine, quantify and assist in securing available Utility & Government grants.
- Evaluating and documenting utility savings.

The **ZDS** team members take pride in the quality of their projects and have been responsible for designing and implementing numerous energy management programs. These programs are providing significant energy improvements and include; optimizing, central utility plant equipment, control systems, air handling systems, lighting systems, and other energy consuming equipment. Recent projects include:

- Interconnecting boilers and chiller plant systems.
- Optimizing HVAC equipment and operating sequences.
- Installing Direct Digital Control (DDC) Energy Management Systems.
- Replacing inefficient lighting equipment with energy efficient ones.
- Converting constant speed air handling equipment and pumping systems to variable speed operation.
- Modifying air handling equipment from 100% outside air to return air operation.
- Implementing heat recovery units into HVAC equipment.
- Improving laundry, kitchen and other process application efficiencies.

In addition to the energy management projects outlined above, the **ZDS** team members have extensive experience in identifying and implementing energy efficient operating and maintenance measures. These are typically low cost or no cost measures that include:

- Inspecting, calibrating temperature controls and adjusting outdoor air dampers.
- Commissioning economizer cycle operation.
- Testing steam trap and pressure relief equipment operation.
- Enabling heating and cooling equipment only when required.

The **ZDS** team is trained and experienced in advising you of program options to incorporate energy efficiency and operational saving features into the design of your new construction and renovation projects. At **ZDS**, we view our role as helping you to define your own energy efficiency needs and goals through identifying energy saving options and providing supporting financial information. We then help you to fit your energy efficiency needs and goals into a workable budget and schedule, and then design a program to fill those needs.

The design and construction industry have had start-up problems when a facility is occupied and constructions' deficiencies that were not discovered until the contractors traditional one-year warranty period expires. The mechanical and electrical systems have continued to become more complex with sophisticated control systems and equipment, and a mountainous amount of changing technology. If not properly addressed, building Owners could face numerous operational problems from "Sick Building Syndrome," excessive energy costs, and uncomfortable indoor environments. Commissioning is the missing link between design and implementation.

Subsequent to joining **ZDS**, Todd Zachwieja established commissioning services for one of the nations largest energy service companies. Many utility companies and building Owners now require commissioning for the new or renovated facilities in order to maximize the use of their investments in their facilities. The commissioning process offers the following benefits:

- Improved comfort, serviceability and Owner understanding of systems and design intent.
- Added technical support for the Owner and being proactive in preventing new problems.
- Reduced maintenance and decreased expenses related to operating deficiencies.
- Early identification and resolution of system discrepancies while designers and contractors are still under contract and on the job.
- Verification of system performance while meeting financial restraints.
- Commission new and renovated facilities to minimize or eliminate IAQ issues before they become problems.

ZDS and its consultants, offer commissioning services for their commercial and institutional clients. These services include strategic planning operations assistance for renovation and new construction projects. Commissioning services consists of construction document review, equipment performance testing, documentation of design criteria, value engineering, operational fine tuning, professional operations training programs and site-specific engineering consultation. Our project team has the unique experience of in-depth design knowledge and hands-on operations knowledge that fills in the gap between traditional design services and the building Owners operational needs.

NATIONAL RECOGNITION

The Second National Conference on Building Commissioning invited Todd Zachwieja, **ZDS's** owner, to speak. He jointly presented a paper with the Director of Maintenance of Charleston Area Medical Center's Memorial division. The Tampa, Florida Conference was held in May 1994.

The principal owners of **ZDS** and their consultants have extensive experience in building commissioning and have saved their customers hundreds of thousands of dollars in construction costs and operating costs through their efforts.

The design team at **ZDS Design/Consulting Services** is the Best to provide engineering services for **your** project. Satisfying *our Client's* individual needs and distinct requirements is the foremost concern of **ZDS**.

The most important member of the design team is the client. We make every effort to involve our clients throughout the entire process, from the planning through the construction and beyond.

The **ZDS** design staff continuously provides engineering design services value well into the millions of dollars on a variety of project types. Designing expertise goes as far back as 1958. Through the efforts of our staff, project locations include:

West Virginia	Virginia	North Carolina	Georgia
Kentucky	Ohio	Pennsylvania	Florida
Illinois	Connecticut	Texas	Michigan
New York	Wisconsin	Massachusetts	Indiana
Colorado	Tennessee	Maryland	Washington DC
California	Hawaii		

Our clients can rest assured that the design team will be available. Not just for the year or two that we are involved in the initial design and construction, but also for years that follow as questions arise about your facility. A good-engineered system and its equipment should last 15 to 40 years. A design firm with staff committed to their projects of comparable duration is logical.

Our design team will provide comprehensive services utilizing experienced staff through planning; cost estimating, engineering, coordination of bidding, regular site visitation during construction and specifications for equipment. You, *our Client*, will greatly benefit from a *single point of responsibility* for every need your project may have.

Our staff has the expertise with codes and standards. We have extensive experience in conducting engineering code surveys of existing facilities. Our staff has excellent working relationships with the West Virginia Fire Marshal's Office and the West Virginia Department of Health.

In addition to comprehensive Engineering services from an experienced design team, another major consideration in the selection of your engineer and design staff should be their track record. **ZDS** organization has an unbeatable, long running, and well-known track record for meeting *our Client's* needs, on time and within budget with outstanding quality.

We view these characteristics as the foundation of Quality. We look forward to the opportunity to discuss our ideas with you and assist you by providing solutions for your needs with a full range of services from Planning to Commissioning.

Qualifications Overview/Project Summary

The Buchart Horn/ZDS Team offers a number of benefits to the West Virginia Army National Guard, Construction and Facilities Management Office (C&FMO), for the performance of this work. These include:

Experience in the Design of Military / National Guard Facilities

Including specific experience in the design of multi-use and multi-purpose facilities of a similar size and construction to that anticipated for the Camp Dawson Multi-purpose Building.

Experience with West Virginia Codes and Standards

Gained through performance of a number of related designs in West Virginia, including recent new facilities designed for the West Virginia Department of Transportation and the Canaan Valley Institute.

Knowledgeable Project Team

Led by an experienced Project Manager, Michael Phillips, AIA, LEED® AP, who possesses experience in the design of military facilities and in the design of new facilities in West Virginia.

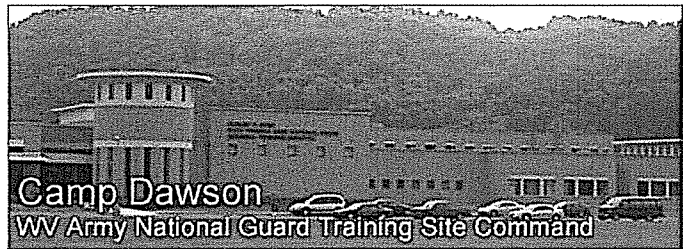
Proven Project Approach

Developed and refined over past projects and specifically tailored to meet your needs, focused on quality and cost control.

Project Overview

The project mission is to provide architectural and engineering services for the construction of an approximately 50,000-60,000 square foot permanent multi-use masonry steel-framed structure with support facilities

to support military units of the WV Army National Guard. As described in the Request for Expressions of Interest, the facility will be a multi-use, with offices, conference room, locker room, shower facilities, and a large open space. The scope of services will be for full multi-discipline design services to include those necessary to finalize the facility scope, develop the site, construct the facility, and all supporting structures to produce a complete and useable facility. Work may include permit acquisition, approval and adherence to the design guidelines and instructions of various government agencies.



Approach

Buchart Horn will utilize a project approach that stresses early and open communication with the West Virginia Army National Guard and appropriate review agencies, including the State Fire Marshall's Office, to ensure that the design satisfies agency requirements while meeting an aggressive design and construction schedule. We understand that the Mission of the Army Training Site, Camp Dawson, is to provide realistic training opportunities for the West Virginia Army National Guard, the Army National Guard of other States, Army Reserve, Reserve Officer's Training Corps, and other Active and Reserve components of the Air Force, Navy, and Marine Corps. To support this Mission through our services, we propose a phased design approach, as follows:

- Planning and Programming Phase, including conduct of a design charette meeting and associated documents and other pre-planning services.
- Preliminary Design Phase, including field surveys, geotechnical investigations, cost estimates and development of 35% Design Documents
- Final Design Phase, including development of a final review packet and final construction documents.
- Bid Phase, including printing and document production, attendance at the pre-bid meeting, development and distribution of addenda, and assistance with award of a construction contract.
- Construction Phase Services, including shop drawing and information reviews, and appropriate on-site inspection.



Buchart Horn, Inc.

We believe that the goal of every successful project is a fully satisfied client and workable, cost effective solutions to problems. The element that enables a successful project is the people – skilled and experienced technical personnel committed to a successful project and supported by the management and owners of the firms. We have assembled an exceptional group of professionals to work on the design of this new facility.

A chart showing the organizational structure and technical responsibilities of the project team is included within this submittal. Detailed resumes for all project personnel are also included.

Michael Phillips, AIA, LEED, will serve as Project Manager and Lead Architect. In this role, Mr. Phillips will serve as the lead point of contact with the State. As Lead Architect for Buchart Horn's West Virginia operations, Mike has served as Project Manager and Lead Architect for all of our recent West Virginia facilities. As Project Manager, Mike's responsibilities will include:

- Formulating the Project Work Plan.
- Establishing the Project Schedule.
- Ensuring that all project milestones are met through the coordination and monitoring of the project schedule and budget for the entire project team.
- Conducting meetings with the WVANG to document decisions or open items (project issues) and to publish meeting minutes that document those decisions/open items.
- Identifying and monitoring all open items/project issues so that all key project information is acted upon/ responded to in a timely and professional manner.
- Participating with the team in site visits in order to assess existing conditions and to collect and verify all appropriate program needs and requirements.
- Confirming that all work is being performed in accordance with the project scope and guidelines.
- Coordinating and monitoring of project engineers/ architects to ensure consistency and quality of work via regular meetings.
- Communicating among all members of the project team to ensure the consistent application of all project standards, schedules and date decisions.
- Responding to inquiries by the WVANG.

West Virginia Army National Guard

Principal-In-Charge/Program Manager

Glen R. DeWillie, PE

QA/QC

A. Stevens Krug, AIA, PE, CEM,
LEED®AP, GBE®, CSDP
Joseph C. Crumbling, AIA

Project Manager

Michael M. Phillips, AIA, LEED®AP

Resource Management

Kenneth D. Bryant, Jr., PE, PS

Architect

Michael M. Phillips, AIA, LEED®AP
David J. Polatnick, AIA

Structural Engineer

James M. California, PE
Thomas R. Tessaro, PE

Civil/Site/Utilities

Jason M. Boyd, PE, MBA
Vincent Wayne, PE

Electrical/Security/Fire Protection Engineer

Jeffrey B. Moreland, PE, LEED®
Mark A. Moore, PE
Daniel H. Kim, Ph.D
James W. Lowry, EIT

Mechanical Engineer

Michael G. Miller, PE, LEED® AP
Todd (Ted) A. Zachwieja, PE, CEM, LEED®
Ted T. Zachwieja
David G. Dial, PE

Construction Administration/Management

David J. Polatnick, AIA
Robert G. Cramer, PE

Specifications and Estimating

Robert L. Loftin, AIA
Eugene G. Williams, PLS, CSI, CDT,
ASPE

Over 300 support staff including
Field Survey, CADD, IT, GIS,
Environmental, Traffic/Transportation,
Landscape Architects, etc.

Michael M Phillips, AIA, LEED® AP

Project Manager/Lead Architect

Education:

Bachelor of Architecture/
Architecture

Registrations:

Registered Architect

NCARB

Years' Experience:

Total: 20

Professional Affiliations:

American Institute of
Architects

With a diverse background in project scale, type, and style, Mr. Phillips has a strong record of successfully working with and integrating existing facilities into new designs and programs. His knowledge and experience gained from a strong background and practice in historic preservation and renovation bring a keen insight into dealing with the issues of adaptive re-use and the recycling of existing built elements. This wide-ranging experience has also helped fashion a working knowledge of resilient, lasting designs, structurally, functionally, and pragmatically as well as aesthetically. Mr. Phillips has also given his time, talent, knowledge, and leadership skills to the community by being a founding tutor, board member, and past Vice President of PRO-Kids, Inc., a non-profit tutoring organization for disadvantaged children. He also was a founding board member, Vice President, and past President of the Greater Kanawha Community and Economic Development, a non-profit corporation dedicated to renovating affordable housing. Mr. Phillips currently serves as Chairman of Mainstreet Ripley's design committee, volunteering in their efforts as well as spearheading their recent streetscape program.

Mr. Phillips' relevant experience includes the following projects:

- New Maintenance Building and Yard, Canaan Valley Institute, Davis, WV.
- WVDOT, Design of Elkins Maintenance Facility, Randolph County, WV.
- Design of Huse Memorial Park Administration/Maintenance Facility, Town of Fayetteville, WV.
- Tri-State Transit Authority, Additions and Alterations to Bus Service Facility, Huntington, WV.
- Monongalia County Courthouse Addition and Intermodal Parking Facility, Morgantown, WV.
- Central West Virginia Regional Airport Authority, Yeager Airport Gate 10 Terminal and Airside Expansion, Charleston, WV.
- Yeager Airport, New Passenger Boarding Bridge, Charleston, WV.
- Yeager Airport, Design of Transportation Security Administration Offices, Charleston, WV.
- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, Pennsylvania Air National Guard/171st ARW, Coraopolis, PA.

Glen R DeWillie, PE

Principal-in-Charge

Mr. DeWillie has 25 years of federal engineering service, culminating in command of the Buffalo District, US Army Corps of Engineers. This experience includes construction management, geographic information systems integration, urban 3D visualization, environmental planning and program management. His federal background also includes three years of teaching at the US Military Academy. His project oversight experience includes leading diverse architectural and engineering teams in the completion of three sustainable facilities designs in support of the National Guard's only Stryker Brigade at Ft Indiantown Gap, Pennsylvania.

Education:

*MS/Civil Engineering
(Environmental)/Stanford
University*

*BS/Geography & Computer
Science/U.S. Military Academy,
West Point*

Registrations:

Professional Engineer

Years' Experience:

Total: 27

Professional Affiliations:

*International Joint Commission
(Service on Two US-Canadian
Water Control Boards)*

*Pennsylvania Regional Water
Boards (Susquehanna Region),
Governor appointed positions,
past member*

*Society of American Military
Engineers, member*

*Military Officers Association of
America, member*

Trout Unlimited, member

- Architectural and Engineering Design and Consulting, Odyssey International, Tobyhanna Army Depot, PA.
- Building 1A HVAC System Replacement Design Services, Odyssey International/Tobyhanna Army Depot, PA.
- Building 55 Lighting Design, Odyssey International, Tobyhanna Army Depot, PA.
- Building 10 (Bay C) Renovation, Odyssey International, Tobyhanna Army Depot, PA.
- Architectural, Mechanical, and Electrical Field Investigation for Building 4311 and Building E-1356, Odyssey International, Aberdeen Proving Ground and Edgewood Arsenal, MD.
- Building 4311 Renovation Design and Construction Phase Services, Odyssey International, Aberdeen Proving Ground, MD.
- Building E-1356 Renovation Design, Odyssey International, Edgewood Arsenal, MD.
- Renovation/Preparation of High Bay Building 19-126 for the Eastern Army Aviation Training Site Flight Simulator, USPFO for Pennsylvania, Fort Indiantown Gap, Annville, PA.
- Stryker Battalion Training Complex Conceptual Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Mission Support Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Battalion Storage Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, Pennsylvania Air National Guard/171st ARW, Coraopolis, PA.
- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Ventilation Systems Repair, Fuel Cell Hangar 302, Pennsylvania Air National Guard, 171st ARW, Coraopolis, PA.
- Open-end A/E Consulting and Design Contract, USPFO for Pennsylvania, Statewide, PA.

Joseph C Crumbling, AIA
Quality Assurance/Quality Control

Education:

Diploma/Architecture/
Pennsylvania State University

Registrations:

Registered Architect

NCARB

Years' Experience:

Total: 57

Professional Affiliations:

American Institute of
Architects

Society of American Military
Architects

Mr. Crumbling has over 57 years of architectural experience with Buchart Horn. In his current role, Mr. Crumbling serves as the Quality Assurance/Quality Control Manager on many Facilities projects. As QA/QC Manager, he is responsible for confirming that the firm's Quality Assurance and Quality Control Process is followed on each project. This is done through regularly scheduled review of project files and work product with the Project Manager and, as necessary, meetings with individual project team members.

- Fort Indiantown Gap National Guard Armory Design, Lebanon County, PA.
- New Snyder County Maintenance Garage, PA DGS/PennDOT, Selinsgrove, PA.
- Naval Support Station, Building 306C, Mechanicsburg, PA.
- A/E DO #01, Security Building, Tobyhanna Army Depot, PA.
- Tobyhanna Army Depot A/E DO #07, Bldg. #11, Wing C Computer Room Renovation, Tobyhanna, PA.
- Tobyhanna Army Depot Master Plan Delivery Order #05 Facility-Space Management Prototype, Tobyhanna, PA.
- Tobyhanna Army Depot Electrical Distribution System Study, Tobyhanna, PA.
- U.S. Army Corps of Engineers, A/E DO #15, Rooftop Fall Restraint Study, Tobyhanna Army Depot, PA.
- Willow Grove Naval Air Station, Joint Reserve Base, Hangar Repairs for Building 177, Willow Grove, PA.
- Main Capitol Building, North Wing Basement Fit-Out, Pennsylvania State Senate, Harrisburg, PA.
- Montebello Maintenance Shop and Storage Building, City of Baltimore, MD.
- Kanawha County Judicial Annex Renovations, Charleston, WV.
- Combined Army National Guard Readiness Center, Pennsylvania DGS/PAANG, Waynesburg, PA.

A Stevens Krug, AIA, PE, LEED® AP, CEM, GBE™, CSDP

Quality Assurance/Quality Control

Education:

Bachelor of
Architecture/Architecture/Syracuse University

Graduate
Coursework/Architectural
Engineering/Pennsylvania
State University

Registrations:

Registered Architect

Professional Engineer

LEED 2.0® Accredited
Professional/2003

CEM®/1985

GBE™

CSDP/2007

Years' Experience:

Total: 26

Professional Affiliations:

American Institute of
Architects

Association of Energy
Engineers

National School Boards
Association

US Green Building Council

Mr. Krug is Senior Vice President of Architecture and Facilities for Buchart Horn. In the past 25 years, he has acquired experience in the design of government, institutional, health care, libraries, religious, and various commercial and retail facilities. Mr. Krug also has extensive experience in feasibility studies, strategic facilities planning, facilities master planning, architectural programming, energy analyses, sustainable green design, cost estimating, and project management.

- Combined Readiness Center for the Army National Guard, Pennsylvania DGS, Waynesburg, PA.
- Stryker Battalion Training Complex Conceptual Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Mission Support Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Battalion Storage Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Open-end A/E Consulting and Design Contract, USPFO for Pennsylvania, Statewide, PA.
- Structural Engineering Support, Tobyhanna Army Depot, PA.
- Indefinite Quantity Architectural/Engineering Services for Maryland Postal Facilities, US Postal Service, Eastern Facilities Service Office, Greensboro, NC.
- Rudy Park Maintenance Facility, County Commissioners of York County, PA.
- New Maintenance Garage, New Emergency Services Building, and Municipal Building Renovations, Hampden Township, PA.
- Monongalia County Courthouse Addition and Intermodal Parking Facility, Morgantown, WV.
- Montebello Maintenance Shop and Storage Building, City of Baltimore, MD.
- New Snyder County Maintenance Garage, PA DGS/PennDOT, Selinsgrove, PA.
- Municipal Complex Design and Adaptive Re-Use, Township of Derry, Hershey, PA.
- Main Capitol Building, North Wing Basement Fit-Out, Pennsylvania State Senate, Harrisburg, PA.
- Building Prototype Modifications, Community Banks, York and Lancaster Counties, PA.

Kenneth D Bryant, Jr., PE, PS

Resource Management

Education:

BS/Civil Engineering

Registrations:

Professional Engineer

Professional Surveyor

Years' Experience:

Total: 25

Professional Affiliations:

American Society of Civil Engineers

American Highway Engineers Association

West Virginia Association of Land Surveyors

As Regional Manager of the firm's Charleston and Morgantown, WV offices, Mr. Bryant has overview responsibility for all projects being conducted through West Virginia office operations. Currently the Principal-in-Charge on the investigation and proposed modifications to the State Capitol Parking Facility in Charleston, he also assumes project management responsibility on select projects. His 25 years of experience in highway design and engineering have provided him with familiarity and experience in the performance of concrete surfaces and structures.

Mr. Bryant's relevant experience includes the following projects:

- Investigation and Proposed Modifications to State Capitol Parking Facility, Charleston, WV.
- Improvements to Huse Memorial Park including New Mausoleum and Administration/Maintenance Facility, Town of Fayetteville, WV.
- Jones and Laughlin Overpass Bridge Replacement, WVDOT, Martinsburg, Berkeley County, WV.
- Corridor H, Section 4, Final Design of Four-Lane Divided Highway with Two Major Structures, WVDOT, Grant County, WV.
- Study and Design of I-81 Tabler Station Interchange including Modification of Ramps, Replacement of Overpass Bridge and Design of Industrial Access Road, WVDOT, Martinsburg, WV.
- Scott Slab Bridge, WV Route 12, WVDOT, Harrison County, WV
- Kings Creek Bridge, WVDOT, Hancock County, WV
- Corridor D, WVDOT, Wood County, WV
- US 522 Relocation, WVDOT, Morgan County, WV
- US Route 219 Relocation, WVDOT, Ronceverte, WV
- I-79 Route 73 Interchange Study, WVDOT, Fairmont, WV

David J Polatnick, AIA

Architect

Education:

BS/Architectural
Technology/New York Institute
of Technology

AAS/Construction
Technology/SUNY,
Farmingdale, NY

Registrations:

Registered Architect

Years' Experience:

Total: 28

Professional Affiliations:

American Institute of
Architects

Mr. Polatnick has over 28 years of experience in the study and practice of architecture and construction in both the public and private sectors. He has managed projects and provided professional architectural services for Tobyhanna Army Depot, Fort Indiantown Gap and NAVFAC Naval Support Activity - Mechanicsburg. In addition to architectural design, Mr. Polatnick's diversified background includes design work within the following disciplines: civil engineering, electrical engineering, mechanical engineering, structural engineering, estimating and project budgeting, project management, construction administration, specification writing, and facility management.

- Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Indefinite Quantity A/E Contract, U.S. Army Corps of Engineers, Tobyhanna Army Depot, PA.
- U.S. Army Corps of Engineers, A/E DO #13, Design Building 1A HVAC, Tobyhanna Army Depot, PA.
- U.S. Army Corps of Engineers, A/E DO #15, Rooftop Fall Restraint Study, Tobyhanna Army Depot, PA.
- NAVFAC Naval Inventory Control Point, Indefinite Delivery/Indefinite Quantity A/E Services Contract, Mechanicsburg, Philadelphia, and Navy/Marine Reserve Centers throughout PA.
- U.S. Army Corps of Engineers, Building 1A Corridor Renovation Study, Tobyhanna Army Depot, PA.
- Underground Utilities Location and Mapping, US Army Corps of Engineers Baltimore District, Tobyhanna Army Depot, PA.
- Building Evaluation Study Update and Expansion, US Army Corps of Engineers, Tobyhanna Army Depot, PA.
- Tobyhanna Army Depot, Comprehensive Needs Assessment, Tobyhanna, PA.
- Building 22 Adaptive Study and Renovation, US Army Corps of Engineers, Tobyhanna Army Depot, PA.
- Architectural and Engineering Design and Consulting, Odyssey International, Tobyhanna Army Depot, PA.
- Building 10 (Bay C) Renovation, Odyssey International, Tobyhanna Army Depot, PA.
- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Open-end A/E Consulting and Design Contract, USPFO for Pennsylvania, Statewide, PA.
- Structural Engineering Support, Tobyhanna Army Depot, PA.
- Renovation of Wing D, Second Floor, Building 11, Command Headquarters Facility, Tobyhanna Army Depot, PA.

Michael G Miller, PE, LEED® AP

Mechanical Engineering Review

Mr. Miller is responsible for the overall design and quality control of mechanical engineering projects. In choosing economical and innovative plumbing, fire protection, and HVAC systems, he evaluates practicality of operation and application; energy conservation; compliance to building code, safety, and health issues; hygienic practice; energy reclamation devices and procedures; and estimates the economical construction, maintenance, and operating costs for life cycle value engineering analyses. As Director of Buchart Horn's Mechanical Group, Mr. Miller oversees the quality control checking of mechanical calculations, equipment and distribution systems, drawings and specifications.

Education:

AS/Engineering/Pennsylvania State University

Registrations:

Professional Engineer

LEED 2.0® Accredited Professional/2006

Years' Experience:

Total: 38

Professional Affiliations:

American Society of Heating, Refrigeration and Air-Conditioning Engineers

National Fire Protection Association, #000130913, received 4/30/2003

American Society of Plumbing Engineers

- Fifth Regiment Armory Renovations and Upgrades, City of Baltimore, MD.
- IDC, McGuire AFB Hangar 2253 Alterations, McGuire Air Force Base, NJ.
- Public Works Building DD1391, Tobyhanna Army Depot, Tobyhanna, PA.
- WVDOT Testing Lab/Maintenance Facility, Charleston, WV.
- Indefinite Quantity A/E Contract, U.S. Army Corps of Engineers, Tobyhanna Army Depot, PA.
- U.S. Army Corps of Engineers, A/E DO #13, Design Building 1A HVAC, Tobyhanna Army Depot, PA.
- Yeager Airport New Passenger Boarding Bridge, Charleston, WV.
- Combined Readiness Center for the Army National Guard, Pennsylvania DGS, Waynesburg, PA.
- Utility Master Plan Study, Defense Distribution Center, New Cumberland, PA.
- Open-End Contract for Architectural/Engineering Services, Defense Distribution Depot, Susquehanna, New Cumberland, PA.
- Renovation/Preparation of High Bay Building 19-126 for the Eastern Army Aviation Training Site Flight Simulator, USPFO for Pennsylvania, Fort Indiantown Gap, Annville, PA.
- Stryker Battalion Training Complex Conceptual Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Mission Support Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Battalion Storage Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Open-end A/E Consulting and Design Contract, USPFO for Pennsylvania, Statewide, PA.

Jeffrey B Moreland, PE
Electrical Engineering Reviews

Education:

*MS/Electrical
Engineering/University of
Pittsburgh*

*BS/Electrical
Engineering/Carnegie-Mellon
University, Pittsburgh*

Registrations:

Professional Engineer

NCEES Record/2007

Years' Experience:

Total: 24

Professional Affiliations:

*Institute of Electrical and
Electronics Engineers: Control
Systems, Instrumentation and
Measurement, and Digital
Signal Processing Societies*

*Association of Energy
Engineers*

*Association of Iron and Steel
Engineers*

*Sigma XI Scientific Research
Society*

Mr. Moreland is an Electrical Engineer with a solid background in process control and signal processing including a 23-year record of achievement in applying new and innovative technologies. He has also designed lighting, power, emergency and standby generation, telecommunications, CATV, fire alarm, and security systems.

Mr. Moreland's relevant experience includes the following projects:

- Combined Readiness Center for the Army National Guard, Pennsylvania DGS, Waynesburg, PA.
- Elkins Maintenance Facility, WVDOT, Randolph County, WV.
- Yeager Airport Gate 10 Expansion, Central West Virginia Regional Airport Authority, Charleston, WV.
- Administrative and Judicial Facilities Renovation Design, Preston County Commission, Kingwood, WV.
- Yeager Airport New Passenger Boarding Bridge, Charleston, WV.
- Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, Pennsylvania Air National Guard/171st ARW, Coraopolis, PA.
- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Statewide Architectural Services, WVDOT.
- Southside Expressway Lighting Renovation, WVDOT, Kanawha County, WV.
- Vesuvius USA, Instrumentation of Furnace Repair Pod, Carnegie, PA
- New Maintenance Building and Yard, Canaan Valley Institute, Davis, WV.
- Huse Memorial Park Administration/Maintenance Facility, Town of Fayetteville, WV.
- Bus Service Facility Additions and Alterations, Tri-State Transit Authority, Huntington, WV.
- Investigation and Proposed Modifications to State Capitol Parking Facility, Charleston, WV.
- Architectural Services for Hardin County Schools, Savannah, TN.

James M California, PE
Structural Engineer

Education:

*Bachelor of Architectural
Engineering/Structural
Engineering*

Registrations:

Professional Engineer

Years' Experience:

Total: 26

Professional Affiliations:

*American Institute of Steel
Construction*

Mr. California is a Senior Structural Engineer and has extensive experience in structural building design on various projects; field investigation and evaluation of existing structures; technical report preparation; shop drawing review; and technical support during construction. He has also designed various tanks, towers, equipment supports, and foundations.

Mr. California's relevant experience includes the following projects:

- Ft. Indiantown Gap, Design of Vehicle Garage Building, Annville, PA.
- WVDOT, Design of Elkins Maintenance Facility, Randolph County, WV.
- WVDOT, Design of Testing Lab/Maintenance Facility, Charleston, WV.
- Design of Huse Memorial Park Administration/Maintenance Facility, Town of Fayetteville, WV.
- Tri-State Transit Authority, Additions and Alterations to Bus Service Facility, Huntington, WV.
- Central West Virginia Regional Airport Authority, Yeager Airport Gate 10 Terminal and Airside Expansion, Charleston, WV.
- Yeager Airport, Design of Transportation Security Administration Offices, Charleston, WV.
- Design of Montgomery County Police Vehicle Recovery Facility, Gaithersburg, MD.
- New Montebello Maintenance Shop and Storage Building, City of Baltimore, MD.
- New Maintenance Garage, New Emergency Services Building, and Municipal Building Renovations, Hampden Township, PA.
- Design of Rudy Park Maintenance Facility, County Commissioners of York County, PA.
- Modern Landfill, Truck Wash Facility Design and Bypass Pump Neutralization, York, PA.
- Poole Anderson Construction/Pennsylvania State University, Pre-engineered T-Hangars, Concrete Aprons, and Pilots' Lounge Design-Build, University Park Airport, State College, PA.

Thomas R Tessaro, PE
Structural Engineer

Education:

MS/Civil Engineering/
Pennsylvania State University

BS/Civil Engineering/
Pennsylvania State University

Registrations:

Professional Engineer

Years' Experience:

Total: 18

Mr. Tessaro has 18 years of structural experience as a Project Engineer or Project Manager on a variety of institutional, commercial and industrial structures. Locally, he managed and provided structural support services for Clerk-of-the-Works personnel overseeing construction of the County-owned Interim Care Facility constructed on the grounds of the Butler VA Hospital. Broadly, his design history includes structural evaluation of existing facilities as well as design services and construction oversight for new and renovated hospitals, prisons, treatment plants, shopping centers, motels and airports. Recent projects include site walls for hospitals, office/storage buildings for prisons, vehicle maintenance facilities for DOT's and hangars for military installations in PA, WV and SC.

- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Elkins Maintenance Facility, WVDOT, Randolph County, WV.
- Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, Pennsylvania Air National Guard/171st ARW, Coraopolis, PA.
- IQC for A/E Services: Repairs and Alterations and Small Standard Building Design/Medium Standard Building Design, Baltimore and Capital Districts, USPS, Eastern Facilities Service Office, Greensboro, NC.
- Statewide Architectural Services, WVDOT.
- PA American Water, Hays Mine Chemical Feed Building Evaluation, Pittsburgh, PA.
- PennDOT District 1-0, Open End Environmental and Engineering Services, Northwestern Pennsylvania.
- Borough of Etna Regulatory Support, Etna, PA.
- Group C Bridge Designs, County of Allegheny, PA.
- Group B Bridge Design, Allegheny County, Pittsburgh, PA.
- 2006 CDBG Engineering, Farmerie Alley Flood Drainage, Borough of Etna, PA.

Jason M Boyd, PE, MBA
Site/Civil Engineer

Education:

MBA/Business Administration

BS/Civil Engineering

Registrations:

Professional Engineer

Years' Experience:

Total: 8

Mr. Boyd's civil engineering experience includes roadway design, right of way, geometric layouts, utility relocation design, maintenance of traffic, signing and marking, plan preparation/presentation, quantity/cost estimates, drainage design, hydrologic procedures, pavement/deck drainage, inlet spacing computations, channels, culverts, storm drains, and stormwater management.

Mr. Boyd's relevant experience includes the following projects:

- WVDOT, Corridor H, Section 4, Final Design, Grant County, WV.
- WVDOT, I-81 Tabler Station Interchange, Martinsburg, WV.
- WVDOT, Jones and Laughlin Overpass Bridge, Martinsburg, Berkeley County, WV.
- Allensville Low Water Crossing Design Study, Berkeley County, WV.
- WV Route 10, Logan County, WV.
- I-64 Widening Design Study, Putnam County, WV.

Vincent Wayne, PE
Site/Civil Engineer

Education:

BS/Civil
Engineering/Pennsylvania
State University

AS/Architectural Engineering
Technology/Pennsylvania State
University

Registrations:

Professional Engineer

Years' Experience:

Total: 24

Professional Affiliations:

American Society of Civil
Engineers

Mr. Wayne has more than 22 years of experience in the field of land development. He is responsible for managing projects as well as coordinating design teams. His abilities encompass all phases of land development, from conceptual design and final plan through production of construction documents. Mr. Wayne's experience includes residential, commercial, and educational site designs. His site planning experience includes designs for stormwater management, grading plans, erosion and sedimentation control plans, and site layouts.

- Maintenance Building Addition, Kutztown University/PA State System of Higher Education, Kutztown, PA.
- Tobyhanna Army Depot A/E DO #16, Stormwater Management Basin Study, Tobyhanna, PA.
- Harrisburg International Airport, Building 517 Apron Expansion, Middletown, PA.
- Combined Readiness Center for the Army National Guard, Pennsylvania DGS, Waynesburg, PA.
- Stryker Battalion Training Complex Conceptual Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Mission Support Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Battalion Storage Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Combat Arms Training Simulator and Combat Arms Training and Maintenance Facility Design, Pennsylvania Air National Guard/171st ARW, Coraopolis, PA.
- Open-end A/E Consulting and Design Contract, USPFO for Pennsylvania, Statewide, PA.
- Building 11/1A Tunnel Renovation, Tobyhanna Army Depot, PA.
- Indefinite Quantity A/E Contract 2004 Re-Award, U.S. Army Corps of Engineers, Tobyhanna Army Depot, PA.
- Montgomery County Police Vehicle Recovery Facility, Gaithersburg, MD.
- Rudy Park Maintenance Facility, County Commissioners of York County, PA.
- New Maintenance Garage, New Emergency Services Building, and Municipal Building Renovations, Hampden Township, PA.

Eugene G Williams, PLS, CSI, CDT, ASPE
Specifications/Estimating

Education:
Coursework/Civil Engineering
Technology

Registrations:
Professional Land Surveyor

Years' Experience:
Total: 41

Professional Affiliations:
Construction Specifications
Institute

American Society of
Professional Estimators

As Assistant Director of Specifications/Estimating Division, Mr. Williams directs and supervises the work of Specification Writers and Typists and prepares construction cost opinions relating to a variety of engineering projects. He is experienced in preparing both technical and non-technical project specifications and cost estimates from preliminary through final design phases. His experience includes generating architectural and engineering specifications as well as preparing front end documents using AIA, EJCDC, and our own documents. Mr. Williams has also developed architectural and engineering cost estimates for numerous projects to ensure that projects remain within budget.

Mr. Williams' relevant experience includes the following projects:

- Design of Emergency and Municipal Services Complex, Lower Allen Township Authority, Camp Hill, PA.
- New Maintenance Garage, New Emergency Services Building, and Municipal Building Renovations, Hampden Township, PA.
- Public Works Center and Materials Recycling Facility Planning and Design, Township of Derry, Hershey, PA.
- Municipal Complex Design and Adaptive Re-Use, Township of Derry, Hershey, PA.
- PA DGS/PennDOT, New Snyder County Maintenance Garage, Selinsgrove, PA.
- Susquehanna Area Regional Airport Authority, Design of Capital City Airport Snow Removal Equipment Storage and Maintenance Building, New Cumberland, PA.
- Power System Upgrades for Administration Buildings and Vehicle Storage Facilities in PA, Delaware River Joint Toll Bridge Commission.
- Battalion Storage Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Design of Rudy Park Maintenance Facility, County Commissioners of York County, PA.
- Spring Garden Township, Master Planning and Design of Municipal Complex, York, PA.
- Sustainable Building Design of New Public Works Building, York Township, PA.
- Modern Landfill, Truck Wash Facility Design and Bypass Pump Neutralization, York, PA.
- Anne Arundel County Maintenance Garage, Addition of Truck Wash Facility, Pasadena, MD.
- New Montebello Maintenance Shop and Storage Building, City of Baltimore, MD.
- Monongalia County Courthouse Addition and Intermodal Parking Facility, Morgantown, WV.
- Yeager Airport, Design of Transportation Security Administration Offices, Charleston, WV.
- Design of Truck Maintenance Facility, Golub Corporation, Schenectady, NY.

Robert L Loftin, AIA
Specifications/Estimating

Education:

BA/Architecture/Iowa State University

Masters of Architecture/Urban Design/Virginia Polytechnic Institute & State Univ.

Registrations:

Registered Architect

Years' Experience:

Total: 29

Professional Affiliations:

American Institute of Architects

Pennsylvania Society of Architects, Central Pennsylvania Chapter

Society of American Military Engineers

Mr. Loftin has 29 years of experience in the field of architecture. He has designed projects ranging from maintenance facilities to office buildings, to educational facilities, to industrial projects. His expertise includes design, construction documents, specification editing, and feasibility studies.

- New Maintenance Garage, New Emergency Services Building, and Municipal Building Renovations, Hampden Township, PA.
- Montebello Maintenance Shop and Storage Building, City of Baltimore, MD.
- New Snyder County Maintenance Garage, PA DGS/PennDOT, Selinsgrove, PA.
- Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Emergency and Municipal Services Complex, Lower Allen Township Authority, Camp Hill, PA.
- Yeager Airport, Transportation Security Administration Offices, Charleston, WV.
- Kanawha County Judicial Annex Renovations, Charleston, WV.
- Montgomery County Police Vehicle Recovery Facility, Gaithersburg, MD.
- City of York, Philadelphia Street Parking Garage Structural Repairs, York, PA.
- Spring Garden Township, Master Planning and Design of Municipal Complex, York, PA.
- A/E DO #01, Security Building, Tobyhanna Army Depot, PA.
- Tobyhanna Army Depot A/E DO #07, Bldg. #11, Wing C Computer Room Renovation, Tobyhanna, PA.
- U.S. Army Corps of Engineers, Main Lobby and Wing C Renovation, Command Headquarters, Building 11, Tobyhanna Army Depot, PA.
- Indefinite Quantity Architectural/Engineering Services for Maryland Postal Facilities, US Postal Service, Eastern Facilities Service Office, Greensboro, NC.
- Mission Support Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Battalion Storage Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.

Robert G Cramer, PE
Construction Management

Education:

*BS/Civil
Engineering/Pennsylvania
State University*

*MBA/Business
Administration/Pennsylvania
State University - The Capital
College*

Registrations:

Professional Engineer

Years' Experience:

Total: 18

Professional Affiliations:

*American Society of Civil
Engineers*

*American Institute of Steel
Construction*

Mr. Cramer has 18 years of experience in structural engineering design and project management for municipal, industrial, and institutional facilities. He has extensive experience on design-build projects both as a design engineer and project manager.

- Aircraft Systems Maintenance Hangar Repair and Renovation, Building 304, Pennsylvania Air National Guard/171st Air Refueling Wing, Coraopolis, PA.
- Building 10 (Bay C) Renovation, Odyssey International, Tobyhanna Army Depot, PA.
- New Maintenance Building and Yard, Canaan Valley Institute, Davis, WV.
- Combined Army National Guard Readiness Center, Pennsylvania DGS/PAANG, Waynesburg, PA.
- Sprinkler and Fire Alarm Systems Replacement, Building 87, Defense Distribution Depot, Susquehanna, New Cumberland, PA.
- Demolition and Replacement of Pool Bathhouse, Defense Distribution Depot, Susquehanna, New Cumberland, PA.
- Open-End Contract for Architectural/Engineering Services, Defense Distribution Depot, Susquehanna, New Cumberland, PA.
- Technical Specifications for Task Order Contract Documents, Defense Distribution Depot, Susquehanna, New Cumberland, PA.
- Mission Support Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Renovation/Preparation of High Bay Building 19-126 for the Eastern Army Aviation Training Site Flight Simulator, USPFO for Pennsylvania, Fort Indiantown Gap, Annville, PA.
- Elkins Maintenance Facility, WVDOT, Randolph County, WV.
- Indefinite Quantity A/E Contract 2004 Re-Award, U.S. Army Corps of Engineers, Tobyhanna Army Depot, PA.
- Stryker Battalion Training Complex, USPFO for Pennsylvania, Ft. Indiantown Gap, Annville, PA.
- Open-end A/E Consulting and Design Contract, USPFO for Pennsylvania, Statewide, PA.

TODD (TED) A. ZACHWIEJA, PE, C.E.M.**Chief Executive Officer
Principal-in-Charge, M/E Design Project Manager**

Education Bachelor of Science in Mechanical Engineering from West Virginia Institute of Technology in 1982.
Masters of Science in Engineering Management from the University of West Virginia College of Graduate Studies in 1989.

Registrations Professional Engineer, West Virginia, No. 10,127
Certified Energy Manager (C.E.M.), National Certification
Professional Engineer, Pennsylvania, No. PE-040929-R
Professional Engineer, Virginia, No. 0402 025427
Professional Engineer, Ohio, No. E-53587
Professional Engineer, North Carolina, No. PE-17,445
Professional Engineer, Kentucky, No. PE-17,961
Professional Engineer, Georgia, No. 18,253

Qualifications Todd has more than 25 years of experience; in the design, construction management, and specifications for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical, and lighting; indoor air quality analysis and building system commissioning for institutional, commercial and industrial facilities. His specialties include mechanical engineering, HVAC systems master planning, conceptual design, energy conservation program development, commissioning and IAQ analysis relating to HVAC systems. He has extensive experience in industrial, commercial facilities, hospitals and school design including preparation of construction documents for millions in renovations and additions to facilities. Some of his project experience includes projects new Mercer County Courthouse, Princeton, WV, Kanawha County Commission – 120,000 sf additions/renovations for the Judicial Annex/Kanawha County Courthouse Charleston WV, Laidley Towers – Charleston WV, Renovations to Buildings #1, #3, #4, #5, #5, #7, #8, #9, #10 at the WV State Capitol complex, Cultural Center HVAC Renovation, Union Carbide, United Center - Charleston WV, Phillip Morris USA, Rhone-Poulenc, Toyota, Olin Corporation, Walker Machinery, WV Air & Army National Guard, Bank One, WV; Kohl's, Sears, WV Public Service Commission Headquarters, and Yeager Airport. He also designed one of the largest geothermal heat pump applications in the mid Atlantic region, commissioned HVAC systems and mechanical engineering at many General Motors facilities in North America.

Some of his health care experience includes millions in renovation and new construction design for Charleston Area Medical Center including commissioning of Charleston Area Medical Center's \$41 million Surgery Replacement center. Other health care experience includes Bluefield Medical Center, Hopemont Hospital, Monongalia General Hospital, Montgomery General Hospital, United Hospital Center, St. Mary's Hospital, Summersville Memorial Hospital, Thomas Memorial Hospital, Webster Memorial Hospital, Cabell Huntington Hospital, Welch

Emergency Hospital, Surgicare Center, VA Hospital - Clarksburg, Mercy Medical Center, Wayne Memorial Hospital and Webster Memorial Hospital.

He also has experience in providing M/E design for the following College and Universities including:, Bluefield State College, Concord University, Fairmont State College, Marshall University, Ohio University's Athens & Chillicothe campuses, Southern WV Community & Technical College, Washington & Lee University, WV Wesleyan College, and West Virginia University. He was recognized nationally for his work with Ohio University in development of a performance contracting program that is anticipated to save between \$2 to \$2.5 million annually in energy and operating costs.

He also has experience in providing M/E design for the following schools: Clay, Grant, Hardy, Harrison, Jackson, Kanawha, McDowell, Mercer, Monroe, Ohio, Pocahontas, Raleigh, Randolph, Ritchie, Summers, Taylor, Tucker, Upshur, Webster, and Wyoming County Schools. Some of his project experience includes the development and design of a pilot geothermal heat pump HVAC with variable speed pumping system at Webster County High School which reduced electric bills by more than 40% while meeting indoor air quality requirements.

Prior to joining ZDS, Todd Zachwieja coordinated more than \$10 million in comprehensive energy conservation programs resulting in annual energy saving of over \$2 million per year and managed a profitable regional office for one of the countries largest energy service companies. He has also assisted in the development of computer programs for building energy analysis and monitoring and presented technical papers at regional and national conferences.

Professional Affiliations

Charter member of and instrumental in establishing the West Virginia Mountaineer chapter of American Society of Heating Refrigeration and

Air conditioning Engineers (ASHRAE)

Served as ASHRAE's Energy and Technical Affairs Chairman for 6 years. Recognized by the International Who's Who of Professionals.

Recognized nationally as West Virginia's 2003 Business Man of the Year

Charter life member of the Association of Energy Engineers

Member of the American Association of Hospital Engineers

Member of the National Society of Professional Engineers

Member of National Society of Plumbing Engineers

Contributing editor and served on the Editorial Review Panel for "The Handbook of Building Management and Indoor Air Quality", "Ventilation for a Quality Dining Experience", INvironment Professional, Power Prescriptions and other publications and articles dealing with Indoor Air Quality (IAQ) and mechanical/electrical engineering systems.

Presented at regional and national conferences including the National System Commissioning Conference

TED T. ZACHWIEJA**Principal-in-Charge Construction Administration**

Education Bachelor of Science in Mechanical Engineering, West Virginia Institute of Technology, 1958.

Qualifications Ted's responsibilities include over 40 years of experience in mechanical and electrical systems design and construction administration. His specialties include the design and development of mechanical and electrical systems, master planning and budgeting for mechanical and electrical systems, and management of complex design and construction projects. He is also a Codes and Standards Specialist.

He has been involved in West Virginia since 1958 in all aspects of mechanical and electrical design and construction, including machine design, structural design and design of heating, ventilating, air conditioning, plumbing, fire protection and electrical systems. His experience includes work for U. S. Steel, Union Carbide, Rhone-Poulenc, Charleston Area Medical Center, United Hospital Center, Kanawha County Schools, Marshall University, most buildings on the West Virginia Capitol Complex, West Virginia Institute of Technology, West Virginia University, Bank One and many others in the private sector.

Ted's Design regarding Bank One, Charleston, formerly Charleston National Bank, including conducting a comprehensive energy audit, design of a Building Automation Energy Management System, HVAC renovations of floors LM and LM1, design of flat plate heat exchanger system for the perimeter fan coil units and design of the boiler replacement.

Ted has been involved in the Renovation Planning of West Virginia University's White Hall and Armstrong Hall, WVU's Wise Library Sprinkler System, WVU's Chilled Water Loop Interconnect, Morgantown, WV; Charleston Area Medical Center (CAMC), Memorial Division Chiller Replacement; CAMC's General Division Chiller Replacement, Variable Pumping System and Chillers Interconnect, Charleston, WV; and many others. He has worked on new and renovation projects such as West Virginia University Stadium and Forestry Building, Morgantown, WV; Addition and Renovation of the Air Conditioning System for the West Virginia State Capitol Building, Charleston, WV; Conley Hall and Science Building HVAC Renovations and Additions, West Virginia Institute of Technology, Montgomery, WV; Indoor air quality (IAQ) and HVAC Renovations of Andrew Jackson Junior High School for Kanawha County School Systems; Fume Hood Design and HVAC Additions and Renovations for Union Carbide, Charleston, WV; and Rhone Poulenc, Institute, WV; HVAC renovation for the Benedum Student Center at West Virginia Wesleyan College, Buchannon, WV; Greenbrier East and Greenbrier West Schools; Mingo County Schools; Raleigh County

Schools including Shady Springs Middle School, Trap Hill Junior High School, Academy of Career and Technology Center, Marsh Fork Elementary, Park Middle School, Woodrow Wilson High School and others, Pocahontas County High School (Geothermal), Wyoming County Schools; Tucker County Schools; Webster County High School & Webster Springs Elementary School HVAC Renovations (Geothermal) and Exterior Renovations, and various other secondary schools throughout the years.

Ted was involved with the mechanical and electrical renovations for the State of West Virginia Library Commission stacks and office spaces as part of a total \$4.5 million HVAC and Electrical Renovations for the Division of Culture and History, Charleston, WV. The indoor air quality, temperature and humidity each were not in accordance with good design practices for this type of structure. ZDS is commissioned to correct these deficiencies while conserving energy.

Ted was selected as one of three engineers to train and teach a course designed by the Department of Energy and American Society of Heating, Refrigeration and Air Conditioning Engineers for emergency building temperature restrictions.

Prior to forming ZDS, Ted was regional manager for a hospital design firm and responsible for designing, construction management and project management for over 200 million in hospital and health care facilities. The facilities were located over eastern United States. Some of his health care experience includes millions in renovation and new construction design for Charleston Area Medical Center's Special Care Facility. Other local health care experience includes Bluefield Medical Center, Hopemont Hospital, Monongalia General Hospital, Montgomery General Hospital, United Hospital Center, St. Mary's Hospital, Summersville Memorial Hospital, Thomas Memorial Hospital, Webster Memorial Hospital, Cabell Huntington Hospital, Welch Emergency Hospital, Surgicare Center, VA Hospital - Clarksburg, Mercy Medical Center, and Webster Memorial Hospital

**Professional
Affiliations**

Construction Specifications Institute (Charter Member)
American Society of Mechanical Engineers
American Society of Heating, Refrigeration & Air Conditioning Engineers
WV Mountaineer Chapter ASHRAE Past President and Charter Member
Association of Energy Engineers
Association of Hospital Engineers
WV Society of Hospital Engineers
Professional Affiliate Member of AIA
WV Association of Physical Plant Administrators

DANIEL H. KIM, PH.D.

Management Services

Education Ph.D. in Management from Massachusetts Institute of Technology Sloan School of Management in 1993
Bachelor of Science in Electrical Engineering from Massachusetts Institute of Technology in 1987

Qualifications Daniel brings with him a strong design and management experience with over 20 years of experience in consulting ranging from traditional electrical and mechanical systems design to being one of the nations leading experts in organizational issues including Total Quality Management and Systems Thinking.

His specialties include the management and design of HVAC systems for new building construction in the \$50 - 150 million range including the One Hundred and Fifty, Federal Streets, Boston, MA; the Becton Dickinson World Headquarters, NJ; Marketplace Center, Boston, MA.

Daniel has been an organizational consultant and public speaker who are committed to helping problem-solving organizations transforming into learning organizations. He has worked with numerous companies including DuPont, Ford Motor, Harley Davidson, Hanover Insurance, Healthcare Forum, CIGNA, Life Technologies, Ameritech Services, Brigham & Women's Hospital and General Electric among others.

Publications "Learning Laboratories: Designing Reflective Learning Environments," *Proceedings of 1989 International System Dynamics Conference*, Stuttgart.
"Experimentation in Learning Organizations: A Management Flight Simulator Approach," *European Journal of Operations Research*, May 1992.
"Systems Archetypes: Diagnosing Systemic Issues and Designing High-Leverage Interventions" 1992, Cambridge, MA: Pegasus Communications.
"Toward Learning Organizations: Integrating TQC and Systems Thinking," *Special Report Series*, Cambridge, MA: Pegasus Communications.
"The Leader with the "Beginner's Mind," *Healthcare Forum Journal*, July/August 1993.

Lectures Keynote speaker and/or concurrent session at several conferences, including those hosted by The Planning Forum, The Healthcare Forum, Institute for Healthcare Improvement, The Conference Board. Speaker at Hofstra University, Monmouth College, University of Houston, and U.C. Berkeley.

LORI L. ZACHWIEJA, CPA

Chief Financial Officer

Education Bachelor of Science in Accounting, Bachelor of Science in Business Management and a Bachelor of Science in Computer Management; all three degrees were with Honors, West Virginia Institute of Technology in 1983.
Master's Degree at Marshall University, December 2006.

Registrations Certified Public Accounting in 1988, No. 2542
Member of West Virginia Society of CPAs since 1985
Certificate Number 1949

Qualifications Lori has over 23 years experience in finance, business, and accounting including being a Partner in a consulting firm, a Senior Financial and Tax Analyst for the Corporate Financial Services and Small Systems Support Department at Blue Cross and Blue Shield of West Virginia, Inc. and Staff Accountant for Simpson and Osborne, a CPA firm located in Charleston WV. Lori also has worked with an architectural firm located in Charleston, WV.

SANDRA W. ZACHWIEJA

Administrative Assistant

Education West Virginia Institute of Technology, Montgomery, WV, West Virginia State College, Institute, WV
Dale Carnegie Leadership and Communications Skills.
Certified Energy Auditor in West Virginia.

Qualifications Sandy is Specs Coordinator and has worked with the specifications of engineering design for over twenty years. She is familiar with the construction process. She has also provided assistance with contracts and Construction Administration documents. She handled payroll, bookkeeping and other office management activities for a consulting firm. Sandy has helped in the planning and the conducting of training seminars and workshops on the local and state level for non-profit organizations. She has a diverse background through previous volunteer and charity work activities. She has been actively involved in Literacy Volunteers as a member of the Board of Directors and as a tutor. She has served as co-coordinator and officer for numerous local groups and charities.

MARK A. MOORE, E. I. T.

Project Manager: Electrical, Fire Protection & Plumbing

Education BS in Electrical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 2001

Registration EIT West Virginia #08010
West Virginia State Board of Registration for Professional Engineers

Qualifications Mark has more than 7 years of experience in the information systems and design for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical, lighting for institutional, commercial and historical facilities. He researches and applies, International Building Codes, NFPA, Illuminating Engineers Society standards and National Electric Code in design. Mark has a strong background in microprocessor and microcomputer use in design. Mark has Auto CAD through 2006 design experience and manages CAD operators. He handles electronic processing and replicating functions and is responsible for Information Technology functions for ZDS and our customers.

Mark is also an information systems and technology specialist and provides networking solutions and Windows based programming system solutions. He designed the engineering programs in Excel and created customized programming in ACT databases.

Mark specializes in power, security, fire alarm, lighting, plumbing, HVAC piping, and fire protection. Some of his institutional project experience includes: Bluefield High school renovations/Performing Art Center, Clay Elementary School HVAC Renovations, Concord University Technology Center, Elkins Middle School Renovations, H. J. Keiser Elem renovations, Hopemont State Hospital Fire Alarm renovations, James Monroe High School renovations, Ohio University Bennett Hall M/E Renovations, Park Middle School renovations, Ravenswood High Renovations, Tucker County High/Career Center renovations, Webster Springs Elementary School geothermal heap pump system, Winfield High School HVAC/Electrical renovations, Pocahontas Co High School Renovations/science center additions, new War K-8 school, Woodrow Wilson High School HVAC/Electrical renovations, United Hospital Center Wound Center and others.

His commercial experience includes; Cass Railroad Clubhouse renovations, DOT Rest Area prototype, 4-H Camp Muffly Training/Dining facility, Hardy Co. Daycare, Kanawha County Judicial Annex Renovations, Mercer County Courthouse Annex, multiple branch bank facilities, Camp Dawson Barracks security renovations, IMC office facilities, Pendleton County Courthouse additions/renovations, new Webster Co. Multi-tenant Bldg., WV Capitol Complex Performance Contracting HVAC retrofits, WV Capitol Complex Master Planning for Security/Fire Alarm/Life Safety systems and others.

JAMES W. LOWRY, E. I. T.**HVAC, Plumbing & Fire Protection Designer**

Education BS in Mechanical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 2004

Registration EIT West Virginia # 8376
West Virginia State Board of Registration for Professional Engineers

Qualifications James has completed 4 weeks of HVAC design training at Carrier Training Center, Syracuse, NY and hydronic design/applications at the B&G training center, Chicago, IL. He also had special courses in: Finite Element Analysis, Vibration Analysis, Fluid Power, Automatic Controls, Industrial Instrumentation, and Programmable Logic Controllers (PLCs).

Some of his education experience included; Sterling Engine Design where he was responsible for design calculations and project organization; Brick Lift Design where he was responsible for motor/pulley system & controls including performing finite-element analysis on ladder structure; Mechanical Press Design of Machine Elements including screw mechanism and performed finite-element analysis.

James has about 2 years of experience in the design for mechanical engineering, heating, ventilating, air conditioning, plumbing, electrical, and lighting for institutional and commercial facilities. He specializes in HVAC and Plumbing design. He researches and applies International Building Codes, NFPA and ASHRAE standards in design.

His commercial experience includes Pendleton County Courthouse additions/renovations, Cass Railroad Clubhouse renovations, DOT Rest Area prototype, 4-H Camp Muffly Training/Dining facility, Hardy Co. Daycare, multiple branch bank facilities, Webster Co. Multi-tenant build-out, WV Capitol Complex Performance Contracting HVAC retrofits & Master Planning for Security/Fire Alarm/Life Safety systems and others.

Some of his institutional project experience includes: Concord University Technology Center, Elkins Middle School Renovations, James Monroe High School renovations, Park Middle School renovations, Tucker County High/Career Center renovations, new War K-8 School, and Woodrow Wilson High School HVAC/Electrical renovations.

Professional Affiliations American Society of Mechanical Engineers

MARSHALL COCHRAN

MEP CAD Designer/Technical Analyst

Education

Associate Degree in Computer-Aided Drafting, ITT Technical Institute, Murray, Utah, 1990. Has completed various courses at Parkersburg Community College, Parkersburg, WV and at Arch Moore Vo-Tech, Frozen Camp, WV

Qualifications

Marshall has specialized in Computer-Aided Drafting and design since 1988 and is presently working with AutoCAD 2005. He has a comprehensive knowledge of AutoCAD and Integraph.

Marshall has been involved with the design and production of mechanical and electrical drawings including HVAC, plumbing, fire protection, lighting, power and piping systems. He has worked with Engineers in the design of HVAC systems for schools and commercial buildings in the state of Utah and in West Virginia: determining CFM's to size ductwork, HVAC load calculations, plumbing design, computer rooms, gymnasiums, and auditoriums. He determined type, size and directional flow of diffusers; ductwork sizing, equipment selection and details. He has also worked on architectural and structural design of buildings, the design of blowout panels to be installed in hazardous buildings and civil drawings for layout of new roadways.

Some of Marshall's HVAC, plumbing, fire protection and electrical design project experience includes Kanawha County Judicial Annex HVAC Renovations, M/E renovations for schools in Clay County, Jackson, Kanawha, Grant, Hardy, Harrison, McDowell, Mercer, Monroe, Raleigh, Pocahontas, Summers, Tucker, Webster, and Wyoming County. Some of his college and University experience includes Bluefield College, Bluefield State College, Concord University, Marshall University, Ohio University, Southern WV Community & Technical College, WV Wesleyan College, Washington & Lee University, and West Virginia University. Some of his health care and commercial experience includes the Bank One of Charleston, Charleston Area Medical Center, Hopemont State Hospital, General Motors, Toyota, WV Cultural Center HVAC Renovations, Webster Memorial Hospital, and WV Public Service Commission Headquarters Building.

DAVID G. DIAL, P. E.**Senior MEP Engineer**

- Education** Bachelor of Science Mechanical Engineering, WV University, 1978
Masters of Science Environmental Engineering, WV University, 1980
- Registration** Professional Engineer, West Virginia, No. 11692
- Qualifications** David has over twenty-seven years of experience in the design and commissioning of Mechanical and Electrical systems. He provides HVAC, electrical and plumbing design services for a variety of clients in West Virginia. His background also includes managing operating and maintenance repair and construction services for HVAC, plumbing, electric, and maintenance. David has managed grounds maintenance, security staff, information technology, IT NASA network, video surveillance and telephone systems. These areas provide inherent coordination expertise.
- David has experience in Maintenance Engineering in plumbing, HVAC, clean room design, dust collector selections, steam and condensate flow measurement, transfer of steam production from in-house to private contractor, athletic field lighting design, farm pump water design, and even completed a successful energy grant application from the US Department of Energy.
- Environmental Design experience includes PCB remediation, Air Pollution Control Commission annual reporting, removal of underground fuel storage tanks/pumps, installation & testing for radioactive material, conversion of a fleet of vehicles to operated dual fuel (gasoline and natural gas) including training, designing a filling station, custom built compressor station, cylinder operations area, filling post and monitoring of natural gas usage.
- He has been involved in the design, document development, contract administration and recommissioning of the structural, mechanical, and electrical disciplines of several WVU projects including: Downtown Steam Tunnel Assessment, Coliseum Tunnel Redesign, Towers exercise room, Brooks Clean Room, lighting retrofits at Brooks Hall, exterior lighting for Mountainlair Parking Garage, cooling towers replacement at the Chemistry Annex, replacement of electric hot water boilers with natural gas pulse steam boilers, HVAC controls for Allen Hall, measure flow for sub metering/billing for campus steam/condensate systems, PCB removal from electrical equipment on campus, and power/cooling for a data Center at the WVU/NASA facility.
- Other project experience includes design for Trinity High School's HVAC, plumbing and electric system, industrial dust collector system for the Percival Dust Collector, replacement of rigging of a 2500 seat Auditorium. As a production engineer, David optimized design of medical quality cryogenic freezers, incubator and shaker including scheduling the freight trucks, quality assurance of sheet metal shipments, writing repair manuals and set up insulation.

MARK W. ESTEP, PE
ME Consulting Engineers Inc.
Mechanical/Electrical/Plumbing Engineer

Education BS in Mechanical Engineering from West Virginia University Institute of Technology, Montgomery, WV in 1999
B.S. Architectural Engineering Technology and A.S. Mechanical Engineering Technology from Fairmont State College, Fairmont, WV 1990

Registration Professional Engineer, West Virginia #16199

Qualifications Mark has more than 15 years of experience in design for mechanical engineering, heating, ventilating, air conditioning for Public Housing, institutional and commercial facilities. He specializes in HVAC and supporting architectural design. Mark has a strong background in both architectural and mechanical design and continues to strengthen his piping, plumbing, lighting and power electrical design founded ME Consulting Engineers and New Dimensions. Mark has Auto CAD 14 through 2005 design experience.

Mark's Public Housing design experience includes modernization projects for 64 apartments and 10 community spaces plus a new 9,000 ft² community facility for Charleston Housing, modernization projects for 50 apartments at Sunset Terrace and Elizabeth Cather Towers for Grafton Housing, modernization projects for 504 handicapped accessible renovations to three separate complexes for the Point Pleasant Housing Authority and renovations to 13 separate structures and an addition of a new community room for the Huntington Housing Authority.

Mark's commercial, university and school experience includes Harris Hall HVAC & Electrical renovations for Marshall University, HVAC renovations to the WV Capitol Complex Buildings #3 and #5, Woodrow Wilson High School HVAC Renovations in Beckley WV and a new War K-8 School for McDowell County Schools through ZDS. Additional experience includes Upshur County Courthouse Annex for the 24,000 ft² three-story annex to the existing courthouse, Buckhannon WV City Hall renovations, Child Development Center of Central WV located in Buckhannon, new 2,000 ft² building for Elkins-Randolph County Airport Authority in Elkins, a new 28,000 ft² Maintenance Hanger for Crown Airways in Parkersburg WV.

Mark's industrial experience includes the design of 16 natural gas dispensing service stations located throughout WV, MD and Washington D.C., Design/Build for a 6,000 ft² two-story laboratory facility for Union Carbide in Charleston WV, and a new 50,000 ft² pre-engineered facility for multi-tenant at the Philippi Industrial Facility.

Professional Affiliations American Society of Professional Engineers
National Fire Protection Agency

CRAIG MILLER, PE

Miller Engineers, Inc.

Mechanical & Electrical Engineer

Education Bachelor of Science in Mechanical Engineering, WV University, 1995
Bachelor of Arts in Mass Communication, University of Charleston 1988

Registration Professional Engineer, West Virginia, No: 15184
Professional Engineer, Pennsylvania, No: PE062308
Professional Engineer, Maryland, No: 32894

Qualifications Craig has more than 12 years of experience in the design, specification, and construction/ project management of mechanical, electrical, and plumbing systems and 10 years experience in facilities operations, maintenance, management and “operational engineering”. He has worked extensively in the commercial & institutional facilities including experience as an electrician and HVAC systems mechanic prior to obtaining his engineering education which gives him a distinctive “hands on” approach to engineering application and design.

Craig’s MEP design experience includes Marion County Courthouse, Davis & Elkins Student Union, Charleston Area Medical Center Women’s and Children’s Hospital, Wetzel County Hospital and some retrofits at the WV Capitol Complex.

Craig’s experience at West Virginia University included infrastructure upgrade projects, performed engineering design, assisted maintenance personnel with operational issues, and managed the University’s Energy Program. Additionally, he served as the Owner’s design review engineer on numerous capital construction projects including a new \$30 million Life Sciences Building and \$35 million Student Recreation Center. The Life Science and Rec. Center construction which required \$6 million in high voltage electrical and high pressure steam infrastructure improvements. \$4 million Downtown Campus Electrical Upgrade and Substation (23 & 4kv), \$2 million Coliseum Substation Replacement (23 & 4kv), \$2.5 million Stadium Electric and Lighting Upgrade, Natatorium HVAC replacement, Knapp Hall Heating retrofits, Natatorium Chemical Controllers, and others.

Professional Affiliations ICC International Code Commission
National Fire Protection Agency
American Society of Heating, Refrigeration & Air Conditioning Engineers
BACNET Interest Group

USPFO PA/Ft. Indiantown Gap, Mission Support Training Facility Design

Annville, Pennsylvania

Client:

U.S. Property & Fiscal Office,
Dept. Military and Veterans
Affairs

Buchart Horn Inc. provided conceptual through 100% designs for a 24,000 square-foot Mission Support Training Facility (MSTF) located at Fort Indiantown Gap, Pennsylvania. This facility serves as the command and control training facility centerpiece for the 28th Division's Stryker Brigade Combat Team. Units may conduct individual automation training and up to brigade-sized, classified command and control training exercises in this facility. When constructed, this facility will be able to handle all of the Stryker Brigade's advanced and extremely sophisticated telecommunications needs.

While the MSTF is designed with a future adaptive reuse potential in mind, it is optimized for today's simulation training needs. Buchart Horn led a fact-finding investigation of a similar facility at Fort Hood Texas, and through a charrette and design review process, integrated the most desirable features of the Texas facility into the MSTF to optimize its functional layout. The MSTF includes a secure room which is capable of processing and storing classified information and incorporates Secret Internet Protocol Router Network (SIPRNET) communication connectivity; a Force Battle Command Brigade and Below (FBCB2) Simulation Area (reconfigurable open space with overhead cable trays to allow flexible C4I equipment and workstation configuration); a Higher Control (HICON) Area (dedicated area for configuring, testing, and administering simulation exercises).

The Administrative Area is an open space area outfitted with modular furniture for contracted support staff. After Action Review (AAR) Areas provide flexible swing space for conducting AARs or for use in supporting simulation and collective C4I training exercises. Individual office areas, a break/kitchenette area, conference room, and latrines are also provided within the facility. The existing utilities of neighboring facilities required deliberate planning and routing to ensure disruptions, and encroachments were minimized while providing full service to the MSTF.

The facilities were all designed in accordance with the latest Army and National Guard sustainable design standards and International Building Code (IBC) 2003. Our team employed innovative structural design concepts to maximize open bay space and minimize construction costs. In addition, the building is scheduled for the "Gold" level of USACE Sustainable Project Rating Tool (SPiRiT) certification, leveraging an *Energy-Star*-compliant standing seam metal roof system, sandwich construction pre-cast wall panels, Kalwall ambient lighting systems in the endwalls, low maintenance aluminum window and door frames, innovative site design, and high energy efficiency and Johnson controls for its HVAC systems.

Our team used a SPiRiT spreadsheet model developed in house to allow the client to iteratively select SPiRiT-related features based on tradeoff analyses including cost and energy efficiencies. Major design references included: National Guard Bureau Pamphlet (NGB PAM) 415-5; NGB Design Guides (415 series); AR 190-11 (Physical Security) and Uniform Fire Code (UFC) 04-010 (anti-terrorism/force protection [AT/FP] design criteria). We ensured early coordination of all site permitting including Pennsylvania Natural Diversity Inventory (PNDI) searches and the necessary National Pollutant Discharge Elimination System (NPDES) permitting and stormwater control.



Buchart Horn, Inc.

We are delivering a facility that will not only meet National Guard standards, but will serve as a model facility for National Guard-owned, contractor-operated training centers. This training space is very similar to portions of a readiness center that allow multiple uses and reconfiguration for various collective or individual training needs. Our design team has produced three other Stryker Brigade facility designs and has developed a database of design knowledge for transfer to Readiness Centers.



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

Client:

U.S. Property & Fiscal Office,
Dept. Military and Veterans
Affairs

This work was performed under a U.S. Army Corps of Engineers Baltimore District Indefinite Delivery Contract. The 28th Regiment Stryker Brigade Combat Team required a beddown and administrative support area for its soldiers during training exercises at Ft Indiantown Gap. This battalion sized complex was designed to the 15% conceptual level for design-bid-build contracting.

Buchart Horn provided 15% conceptual facility designs for the \$21M dollar battalion training complex:

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

The facilities were designed in accordance with Army and National Guard design standards. Construction materials were specified in the 1391 as CMU block or precast walls with standing seam metal roof systems.

This project highlights Buchart Horn's experience with sustainable design of military facilities. Site layout received high praise from client for innovative force protection measures and unique building layouts. Creative planning led to efficient space programming and floor plan layouts

USPFO PA/Ft. Indiantown Gap, Unmanned Aerial Vehicle Runway and Maintenance/Training Facility Design

Annville, Pennsylvania

Client:

U.S. Property & Fiscal Office,
Dept. Military and Veterans
Affairs

Buchart Horn Inc. provided conceptual through 100% designs for a 50- x 700-ft runway and supporting 5,600 ft² training and maintenance facility to conduct unmanned aerial vehicle (UAV) flight and training operations at Fort Indiantown Gap, Pennsylvania. This project will serve as the training area for all UAV flight training operations, allowing other units beyond the 28th Division's Stryker Brigade Combat Team to train throughout the year on this important new technology. The facility is a "one of a kind" addition to Fort Indiantown Gap and will become a much needed addition to accommodate the Stryker Brigade's unique training needs.

The UAV Training and Maintenance Facility is designed in accordance with the latest Army and National Guard sustainable design standards. The building is scheduled for the "Gold" level of SPiRiT certification, leveraging an Energy Star-compliant standing seam metal roof system, block cavity wall construction, low maintenance aluminum window and door frames, innovative site design, and high efficiency/DDC-controlled HVAC systems. Our team used a SPiRiT spreadsheet model developed in-house to allow the client to iteratively select SPiRiT-related features based on trade-off analyses including cost and energy efficiencies. The building also incorporated locally produced materials and emphasized reuse and recycled material use throughout the facility and on site. Particular attention was given to the integration of force protection features into the site to minimize interference to flight operations while enhancing security for the site.

Major design features include a 50- x 700-ft bituminous paved runway with appropriate drainage, slope, and vertical approach paths; hangar space for storing and repairing UAVs and conducting classroom training for individuals or small groups; and pull-through bay space as well as a dedicated maintenance bay area. The maintenance bay area was designed to accommodate wider wingspans for potential use by future designed aircraft. Individual office spaces are provided as well as a flexible, open-space conference and training room area. An arms vault provides secure storage and features a high security intrusion detection system. The site includes ample parking areas to support military vehicle and Privately Owned Vehicle (POV) parking needs for training units and visiting personnel. Appropriate standoff distances were maintained to ensure vehicles could be screened in a pull-through parking approach to enhance force protection.

A unique feature of this project is an abnormally high groundwater table. Special investigations were performed and a cost-effective foundation drainage system was added to prevent future subsurface water damage to the building and runway. Stormwater control and quality is managed with an onsite detention sedimentation basin and infiltration trenches on site. Buchart Horn Inc. ensured early coordination of all site permitting including PNDI searches and the necessary NPDES permitting and stormwater control. Entrances and exits were designed to allow easy servicing of the facility while eliminating disruption to aerial training operations.

Military Operations in Urban Terrain (MOUT) Training Site

Stuttgart, Germany

Client:
ODCSENGR, FE Division
HQ USAREUR

Based on the request of a Special Forces Group located in Stuttgart, Böblingen, a Training Facility for Military Operations in Urban Terrain was built in the Böblingen Training Area.

The first task of Buchart Horn was to detail site geometry and site location utilizing the Environmental Assessment that had previously been performed for this project. The roughly defined area was surveyed and staked and a soil investigation was performed to define soil type profiles, load bearing capacity, and ground water level.

Based on these parameters, Buchart Horn developed a design which preserved existing wildlife habitats in the area and minimized the environmental impact.

The chosen site is a mixed forest on a mildly sloped ridge stretching from West to East. The top of the ridge a protected habitat area is covered by swampy wetland and is excluded as a project site. A brook defines the site to the North. The chosen training arrangement is comprised of a compound of six building shells including a school mock-up. Placement of buildings and road alignments were defined in areas with slopes of less than 5% in order to minimize erosion as outlined in the Environmental Assessment. Areas with dense vegetation were not used and a gravel type pavement with minimal run-off was selected.

Buchart Horn developed construction documentation including specifications, drawings, and cost estimates covering the site-specific requirements such as the provision of utilities in the forest, the protection of wildlife and vegetation, and erosion control during construction.

This was handled by limiting the access and usage of heavy machinery to the planned roadways and by requiring seeding of grass every 30 days before proceeding with the next construction phase.

Ft Indiantown Gap, Combat Arms Training and Maintenance & Combat Arms Training Simulator Facility

Coraopolis, Pennsylvania

Client:

U.S. Property & Fiscal Office
Dept. Military and Veterans
Affairs

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

Space programming for the facility includes:

- Simulation Room: Allows CO2 system firing of small arms weapons with laser and projector-based simulator
- Weapons maintenance area: Dedicated cleaning and maintenance area capable of handling hazardous materials and providing appropriate safety controls (fire safety and ventilation)
- Instructor area: Dedicated area for administrative record keeping and trainer preparation
- Administrative storage: Storage room for training support materials
- After Action Review (AAR) and Classroom Areas: Flexible swing space designed to allow AARs or be used for formal classroom training
- Individual Mechanical/Electrical and Communication rooms
- Latrines

The Simulator Training and Maintenance Facility is designed in accordance with current Air National Guard sustainable design standards. The building consists of a simple split-faced block cavity wall system, low maintenance aluminum window and door frames, innovative site design, and high efficiency/DDC-controlled HVAC systems. The building also incorporates locally produced materials and emphasizes reused and recycled material throughout the facility.

Major design tasks for the CATM/CATS included:

- Conducting site utilities layouts, topographic surveying, and geotechnical investigations
- Developing site and environmental plans to address erosion and sediment control, stormwater management and impacts on existing base air/water environmental permits
- Conducting design charrette to develop preferred floor plan and layout
- Incorporating sustainable design features to enhance building envelope and energy related systems
- Providing centralized fire protection
- Providing energy efficient HVAC system equipped with Direct Digital Controls



Buchart Horn, Inc.

- Providing adequate safety features for operation and maintenance of small arms weapons and hazardous materials
- Providing future options for communications installation and network development within the building and connected to base system

Aberdeen Proving Ground Training Space Utilization Study

Aberdeen, Maryland

Client:
U.S. Army Corps of Engineers

Buchart Horn conducted a space utilization study for the Aberdeen Proving Grounds Planning Board. The study consisted of two separate work orders and involved approximately 100 administrative buildings with a total of over 1,470,000 square feet.

The first work order required a survey of existing facilities and preparation of a report showing the floor plans of each building and how the area was currently being used. The second work order involved evaluations of space utilization at training facilities at Aberdeen. Both projects involved incorporating existing information into our in house Intergraph CADD system and into dBaseIII+ for future use by the Baltimore District, Corps of Engineers.

Buchart Horn, Inc.

PA Army National Guard Combined Readiness Center Waynesburg, Pennsylvania DGS *Waynesburg, Pennsylvania*

Client:
PA DGS



Buchart Horn, Inc. is providing design for a \$7.7M, 122-person Readiness Center in Waynesburg, Greene County, Pennsylvania. The 38,000 s.f.-center will serve the peacetime missions of the assigned unit, permitting personnel to perform tasks necessary to improve the unit's readiness posture.

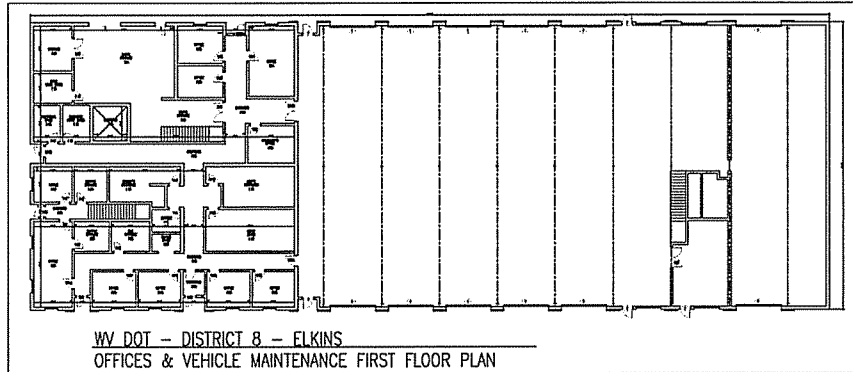
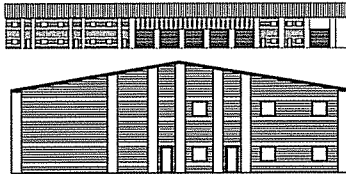
Alternative methods of meeting this requirement have been explored by the National Guard Bureau during project development and the determination was made that 35,063 sf is required to adequately provide the units housed in this facility with administrative, supply, classrooms, locker, latrine, vehicle parking, and kitchen space.

The project has been coordinated with the installation physical security plan. All required physical security measures and all anti-terrorism/force protection measures are included. Sustainable principles will be integrated into the design, development, and construction of the project in accordance with Executive Order 13123 and other applicable laws and Executive Orders.

Buchart Horn, Inc.

Elkins Maintenance Facility, WVDOT *Elkins, West Virginia*

Client:
WVDOT



Buchart Horn provided architectural, civil, structural, mechanical and general engineering services for this project. The facility will consist of approximately 22,500 square feet on the main level and 8,300 square feet on a second level for a total of 30,800 square feet.

At present, the facility includes five heavy equipment service bays with two five-ton rolling cranes, five light equipment service bays with lifts, machine shop, tire shop, tool shop and welding shop as well as office suites and staff crew rooms and lockers. The second floor will be parts storage with a freight elevator for access.

The designs also include all new campus phone system, radiant heating, oil separator equipment, compressor systems and other amenities.

Buchart Horn, Inc.

Canaan Valley Maintenance Building

Davis, West Virginia

Client:

Canaan Valley Institute

Buchart Horn is preparing design plans for a new maintenance facility for the Canaan Valley Institute in Davis, WV. The new facility will be approximately 10,000 square feet, with four maintenance bays, including one heated bay. Storage, office, locker, and shower areas, as well as shop space, will all be included in the facility. In keeping with the mission of the Canaan Valley Institute, the building will feature green building techniques, and will be designed to achieve LEED certification. Special design considerations include:

- Development of a low impact building
- Reuse of natural resources
- Aesthetics
- Use of high efficiency materials and systems



Yeager Airport Transportation Security Administration Offices

Charleston, West Virginia

Client:

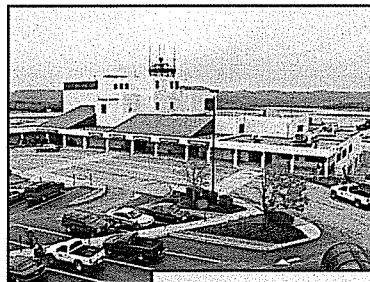
Central WV Regional Airport Authority

With seemingly no available adjacent space to provide new critical services, Buchart Horn Inc was contracted to design an innovative solution to add space on the existing rooftop of the 1940's terminal building. This created much needed office space immediately adjacent to the airports executive offices which was a requirement of the TSA to allow close coordination of security, paramount in the event of emergencies.

The space is utilized by the General Services Administration for the central offices of the Transportation Security Administration, for their West Virginia operations. The solution includes:

- Biometric security devices
- Proximity security devices
- Director's and administrative offices
- Conference/Emergency Operations area
- Outside runway observation deck
- Interior runway observation bridge
- Secure private elevator
- Training areas
- Information Technologies room
- Network servers
- Kitchenette and breakroom
- ADA-compliant restrooms

The project also included modifications to other existing spaces for ADA and sprinkler as well as adding HVAC to certain areas.



before



Buchart Horn, Inc.

Preston County Administrative and Judicial Facilities, Space Needs Analysis and Design *Kingwood, West Virginia*

Client:
Preston County Commission



Faced with overcrowding and paying rent to house County functions and in an effort to streamline their operations and serve their community more efficiently, Preston County hired Buchart Horn to perform a space needs analysis and a facilities inventory and assessment of their current facilities; as well as perform a feasibility study for remodeling a former bank building across from their courthouse into a County Administrative Office building.

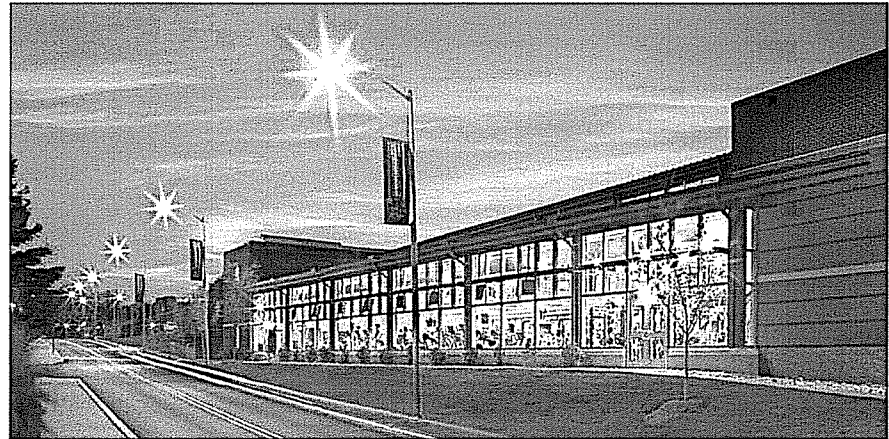
Buchart Horn's analysis and feasibility study provided convincing evidence that this was indeed feasible and would be financially beneficial to the County for several reasons: the County would no longer have to rent space as all functions could be accommodated on County property; administrative offices which were currently scattered over 3 1/2 floors, could be located adjacent to each other on one floor. This alone would greatly reduce the amount of duplicate files, printers and storage necessary to fulfill their tasks as well as potentially eliminate needs for additional staff in the short term. Not to mention that the renovated modernized offices would be designed for their respective functions instead of 'making-do' with existing space. With unanimous approval, Buchart Horn was asked to continue into making the necessary modifications to the buildings.

Kutztown University, Campus Recreation Center

Kutztown, Pennsylvania

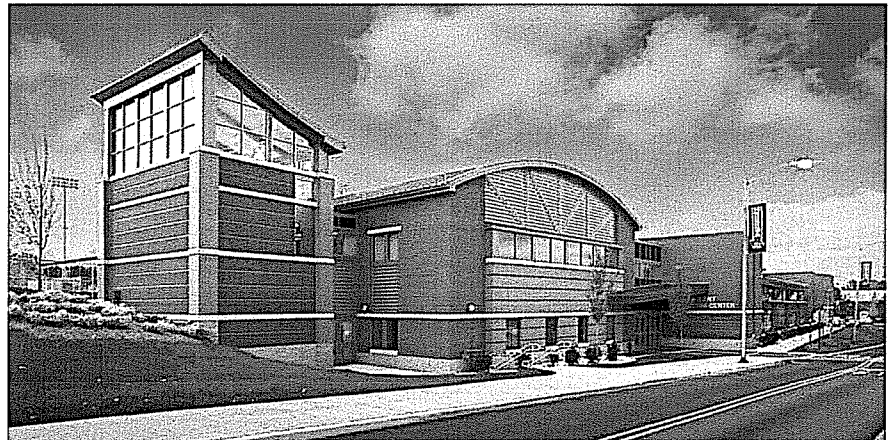
Client:

Kutztown University of
Pennsylvania
224 Stratton Administration
Building
Kutztown, PA



Building on the natural draw of the University's primary athletic attraction, Buchart Horn designed the 44,000 square foot Campus Recreation Center adjacent to University Field. The Recreation Center serves as a hub of fitness activity and social gatherings for students, athletes, and fans.

The Recreation Center provides a multi-activity gymnasium suitable for basketball, indoor soccer, hockey, volleyball, and badminton. Among the amenities are a nearly 9,000 sq.ft. fitness center and weight room, two group fitness studios, two racquetball courts, a two-story rock climbing wall, a synthetic surface full-size gymnasium with curved walls for indoor sports, a suspended jogging track (approximately 1/10 mile), an office suite for recreational services staff, retail space/snack bar and locker rooms with Jacuzzis[®]. The efficient design also includes a synthetic surface half-size gymnasium and running track, seminar rooms and administrative offices.



Buchart Horn, Inc.

PA DGS, State Regional Correctional Facility Mercer, Administration & Program Facilities Mercer, Pennsylvania

Client:
PA DGS
18th & Herr Streets
Harrisburg, PA



Buchart Horn provided construction management services for:

- A new inmate intake addition
- An administration building
- A control center
- A connecting corridor between the administration building and control center
- Parking lots

The floor area for the inmate intake addition was approximately 3,530 square feet. The combined floor area for the administration building, control center, and connecting corridor is 24,200 square feet. The structure for all three buildings and the connecting corridor is steel frame with brick and concrete block infill.

Fisher Auditorium Addition and Renovation Construction Management Services, PA DGS/Indiana University of Pennsylvania *Indiana, Pennsylvania*

Client:
PA DGS
18th & Herr Streets
Harrisburg, PA

The PA DGS engaged Buchart Horn to provide Construction Management Services for the renovation and addition to the historic Fisher Auditorium and the construction of the second phase of a central chiller plant for the University.

The project is broken down into three distinct pieces: Renovation of Fisher Auditorium, a 20,500 s.f. addition between Fisher Auditorium and Waller Hall, and a 3,700 s.f. addition to the Central Chiller Plant including two 1000-ton chillers.

Buchart Horn filled the Construction Management role that DGS would normally perform on this type of project. Those services include:

- Schedule Reviews
- Coordination of Prime Contractors
- Job Conferences
- Applications for Payments
- Change Orders
- Inspections
- Coordination of Special Inspections and QA Testing

References

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