

**EXPRESSION OF INTEREST**

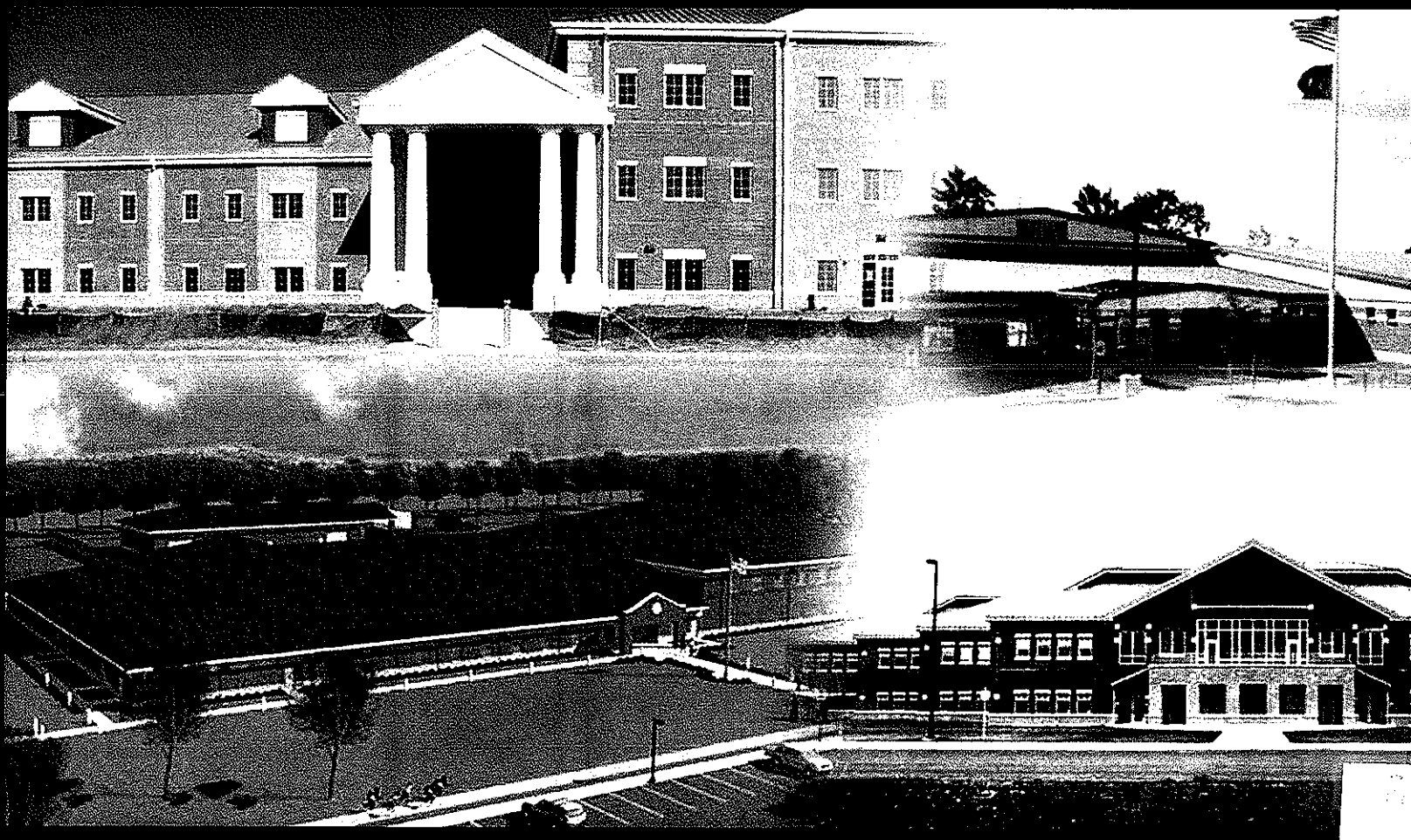
**STATE OF WEST VIRGINIA  
WEST VIRGINIA NATIONAL GUARD  
DIVISION OF ENGINEERING AND FACILITIES**



**A/E Design  
Services**

for a  
**JOINT OPERATIONS FACILITY**  
Charleston, WV

RFQ DEFK11028





March 21, 2011

State of West Virginia  
Department of Administration  
Purchasing Division  
Building 15  
2019 Washington Street, East  
Charleston, WV 25305-0130

Subject: Expression of Interest, A/E Design Services for a Joint Operations Facility,  
Charleston, West Virginia; RFQ DEFK11028

Dear Sir or Madam:

Thank you for the opportunity to submit two copies and one CD of our Expression of Interest (EOI) for A/E Design Services for a Joint Operations Facility, Charleston, West Virginia. STV Incorporated (STV) is a full-service, nationally recognized firm providing fully integrated design services. Many clients turn to us because of our comprehensive expertise with all types of facility projects, including reserve centers, training facilities, offices, and industrial maintenance facilities. To supplement our capabilities, STV has invited Triad Engineering, Inc., a West Virginia-based firm with expertise in civil and geotechnical engineering, surveying, and landscape architecture.

We have carefully reviewed the requirements for this project and have assembled an outstanding team of professionals who have the experience and qualifications necessary to support the State of West Virginia in providing the services needed to meet the mission goals of this project. All of our Designers of Record are registered in West Virginia. Our professionals understand the type of facility, operations and security issues, sustainable design integration, communications, and economic impact of this project. STV understands the bottom line and has a long history of satisfied clients, both governmental and private, with projects delivered on time and on budget.

The projects and resumes featured in our EOI reflect STV's full range of planning, design, and construction services and demonstrate our ability to provide all the services requested for the facility type required. We have a 90% rate of repeat business from satisfied clients.

STV has the capacity, structure, experience, and management systems to effectively execute this assignment. We have experience working in West Virginia, and are currently designing a phased renovation of Dadisman Hall at West Virginia University. Our project management experience, contract administration infrastructure, and strong team of expert staff enable us to provide high-value service at very short notice. From our previous assignments, we are attuned to key issues that government contracts entail and know how to manage them effectively.

Our top management is committed to providing all of the required resources to meet your needs. We look forward to working with you and are available to meet to discuss our qualifications at your convenience.

Sincerely,  
STV Incorporated

James R. Vilbert, PE, LEED®AP  
Senior Vice President  
Director of Operations, Buildings and Facilities



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  
**DEFK11028**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**TARA LYLE**  
**304-558-2544**

VENDOR

RFQ COPY  
 TYPE NAME/ADDRESS HERE

STV Incorporated  
 205 West Welsh Drive  
 Douglassville, PA 19518

SHIP TO

DIV ENGINEERING & FACILITIES  
 ARMORY BOARD SECTION

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

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/01/2011				

BID OPENING DATE: **03/15/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-00-00-001		
<p>ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL</p> <p>EXPRESSION OF INTEREST (EOI)</p> <p>THE WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WV NATIONAL GUARD, DIVISION OF ENGINEERING AND FACILITIES, IS SOLICITING EXPRESSIONS OF INTEREST FOR PROFESSIONAL ARCHITECTURAL ENGINEERING DESIGN SERVICES FOR A JOINT OPERATIONS FACILITY TO BE LOCATED IN THE VICINITY OF THE WEST VIRGINIA NATIONAL GUARD STATE HEADQUARTERS IN CHARLESTON, WV PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.</p> <p>TECHNICAL QUESTIONS MUST BE SUBMITTED IN WRITING TO TARA LYLE VIA MAIL AT THE ADDRESS SHOWN IN THE BODY OF THIS EOI, VIA FAX AT 304-558-4115, OR VIA EMAIL AT TARA.L.LYLE@WV.GOV.</p> <p>DEADLINE FOR ALL TECHNICAL QUESTIONS IS 2/23/2011 AT THE CLOSE OF BUSINESS. ANY TECHNICAL QUESTIONS RECEIVED WILL BE ANSWERED BY FORMAL ADDENDUM ISSUED BY THE PURCHASING DIVISION AFTER THE DEADLINE HAS LAPSED. CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE 	TELEPHONE 610-385-8265	DATE 3-21-11
TITLE Principal in Charge	FEIN 13-1986759	ADDRESS CHANGES TO BE NOTED ABOVE

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

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

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vrc/hipaa.htm](http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

---

**INSTRUCTIONS TO BIDDERS**

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



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

# Request for Quotation

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DEFK11028

PAGE
2

ADDRESS CORRESPONDENCE TO ATTENTION OF
TARA LYLE 304-558-2544

VENDOR

**RFQ COPY**  
**TYPE NAME/ADDRESS HERE**

STV Incorporated  
 205 West Welsh Drive  
 Douglassville, PA 19518

SHIP TO

**DIV ENGINEERING & FACILITIES**  
**ARMORY BOARD SECTION**

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

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/01/2011				

BID OPENING DATE: **03/15/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p><b>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</b></p> <p style="text-align: center;"><b>NOTICE</b></p> <p><b>A SIGNED BID MUST BE SUBMITTED TO:</b></p> <p style="text-align: center;"><b>DEPARTMENT OF ADMINISTRATION            PURCHASING DIVISION            BUILDING 15            2019 WASHINGTON STREET, EAST            CHARLESTON, WV 25305-0130</b></p> <p><b>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</b></p> <p><b>SEALED BID</b></p> <p><b>BUYER:-----TL/32-----</b></p> <p><b>RFQ. NO.:-----DEFK11028-----</b></p> <p><b>BID OPENING DATE:-----03/15/2011-----</b></p> <p><b>BID OPENING TIME:-----1:30 PM-----</b></p> <p><b>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: 610-885-8544</b></p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
	610-385-8265	3-21-11	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	
Principal-in-Charge	13-1986759		

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State of West Virginia  
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**CHARLESTON, WV**  
**25311-1099 304-341-6368**

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
02/01/2011				

BID OPENING DATE: **03/15/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>-----</p> <p><b>CONTACT PERSON (PLEASE PRINT CLEARLY):</b></p> <p>James R. Vilbert, PE, LEED®AP            Senior Vice President            Buildings &amp; Facilities Director of Operations</p> <p>-----</p>						
<p>***** THIS IS THE END OF RFQ DEFK11028 ***** TOTAL: _____</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE 	TELEPHONE 610-385-8265	DATE 3-21-11
TITLE Principal-in-Charge	FEIN 13-1986759	ADDRESS CHANGES TO BE NOTED ABOVE

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RFQ No. DEFK11028

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

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

**DEFINITIONS:**

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

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

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

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

**WITNESS THE FOLLOWING SIGNATURE**

Vendor's Name: STV Incorporated

Authorized Signature: [Signature] Date: 3/21/11

State of Pennsylvania

County of Berks, to-wit:

Taken, subscribed, and sworn to before me this 21<sup>st</sup> day of March, 2011.

My Commission expires December 21, 2014.

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]

COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Lori J. Berk, Notary Public  
Amity Twp., Berks County  
My Commission Expires Dec. 21, 2014  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES



State of West Virginia  
 Department of Administration  
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 CHARLESTON, WV  
 25311-1099 304-341-6368

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/08/2011				
BID OPENING DATE: 03/22/2011		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 1						
1. QUESTIONS AND ANSWERS ARE ATTACHED. 2. TO MOVE THE BID OPENING FROM 03/15/2011 TO 03/22/2011. 3. ADDENDUM ACKNOWLEDGEMENT IS ATTACHED. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID. EXHIBIT 10						
REQUISITION NO.: DEFK11028						
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 ..... Received 3-10-11						
NO. 2 .....						
NO. 3 .....						
NO. 4 .....						
NO. 5 .....						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
	610-385-8265	3-21-11	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	
Principal-in-Charge	13-1986759		

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LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<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>.....            SIGNATURE</p> <p>STV Incorporated            .....            COMPANY</p> <p>3-21-11            .....            DATE</p> <p>NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.</p> <p>REV. 09/21/2009</p> <p>END OF ADDENDUM NO. 1</p>						
0001	1	JB		906-00-00-001		
ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL						

SIGNATURE				SEE REVERSE SIDE FOR TERMS AND CONDITIONS	
TELEPHONE		DATE			
610-385-8265		3-21-11			
TITLE			ADDRESS CHANGES TO BE NOTED ABOVE		
Principal-in-Charge			13-1986759		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE I AM FILLING IN FOR 'VENDOR'

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## Introduction

**STV Incorporated (STV)** has assembled a team of first-class planning, architectural, and engineering professionals to provide professional design services for a Joint Operations Facility in support of the West Virginia Army National Guard, Construction and Facilities Management Office (CFMO), and related emergency state organizations.

STV has worked on numerous National Guard projects where new facilities are required to meet mission objectives, and we bring that expertise and experience to the West Virginia National Guard. Our Design Team comprises highly qualified individuals with extensive experience working on a variety of facility types that will enhance the design of the approximate 70,000-sf Joint Emergency Operations Center to be located on Coonskin Drive, Charleston, West Virginia.

The STV Design Team will be led by our Project Manager, Cynthia Manning, PE, LEED®AP, and Deputy Project Manager, Timothy Davidheiser, AIA, LEED®AP; experienced project managers with 22 and 23 years of experience, respectively. They will be supported by key individuals from all architectural and engineering disciplines and a civil subconsultant.

STV is a full-service, multidiscipline architectural and engineering design firm. Currently ranked No.44 among the *Engineering News Record's* Top 500 Design Firms, STV employs approximately 1,783 professional and support staff in 32 offices in the U.S. and Canada. STV has been a national leader in the planning and design of federal and state facilities, beginning in 1965 with our design work at Fort Detrick's U.S. Army Medical Research Institute of Infectious Diseases facility. STV has successfully performed a variety of A/E and planning contracts for government agencies, including the Army, Navy, Air Force, National Guard, DHS, FAA, USACE, FBI, GSA, NPS, NASA, DOE, USDA, and defense contractors such as Lockheed Martin Corporation and the Boeing Company. In addition, we are currently working in West Virginia, providing complete A/E services to West Virginia University for a phased renovation of a large residence hall.

In the last five years, STV has provided extensive planning and design services for the PA Army National Guard (PAARNG) in support of their Stryker Brigade Combat Team (SBCT) mission transformation. This program included eight new or renovated Readiness Centers at various locations throughout eastern Pennsylvania. We have also recently completed designs on three design-build Armed Forces Reserve Center (AFRC) projects for the PA and DE National Guard and U.S. Army Reserves. These AFRCs contain operational, training, classroom, administrative office, fitness, and unit storage spaces. Consequently, we have recent, demonstrated experience that will immediately and directly help WV ARNG accomplish its mission. We are proven partners with significant capacity to take on additional work, and we are eager to continue this important relationship with the National Guard.

We have supplemented STV's resources with staff from an outstanding civil firm, with recent experience with the WV ARNG, to provide civil, architectural landscaping, surveying, and geotechnical services.

**Triad Engineering, Inc.** (TRIAD) is a regional consulting firm based in West Virginia that provides professional services in the areas of civil, water and wastewater, environmental, mining, geotechnical and chemical engineering; site assessment; planning and landscape architecture; geology and hydrogeology; surveying and mapping; construction inspection; and related services. Their clients include Federal and State governmental agencies, mining and industrial corporations, contractors, architects, engineers, attorneys, developers, and commercial organizations. The firm has provided services on many thousands of projects of varying size and complexity since its founding in Morgantown, West Virginia in 1975.

TRIAD currently includes a staff of approximately 225 personnel located in seven offices. Their personnel include chemical, civil, environmental, geotechnical and mining engineers, as well as geologists and hydrogeologists, biologists, chemists, environmental scientists, planners, landscape architects, natural resource specialists, regulatory compliance specialists, permitting engineers, risk assessors and health and safety specialists.

<b>STV National Rankings</b>	
ENGINEERING-NEWS RECORD Top 500 Design Firms Sourcebook	
CATEGORY	CURRENT RANKING
The Top 500 Design Firms	44
The Top 100 "Pure" Designers	24
The Top 25 in Education	13
The Top 150 Global Design Firms	91

## ***Response to Evaluation Criteria***

### **1. Proposed Approach to the Project**

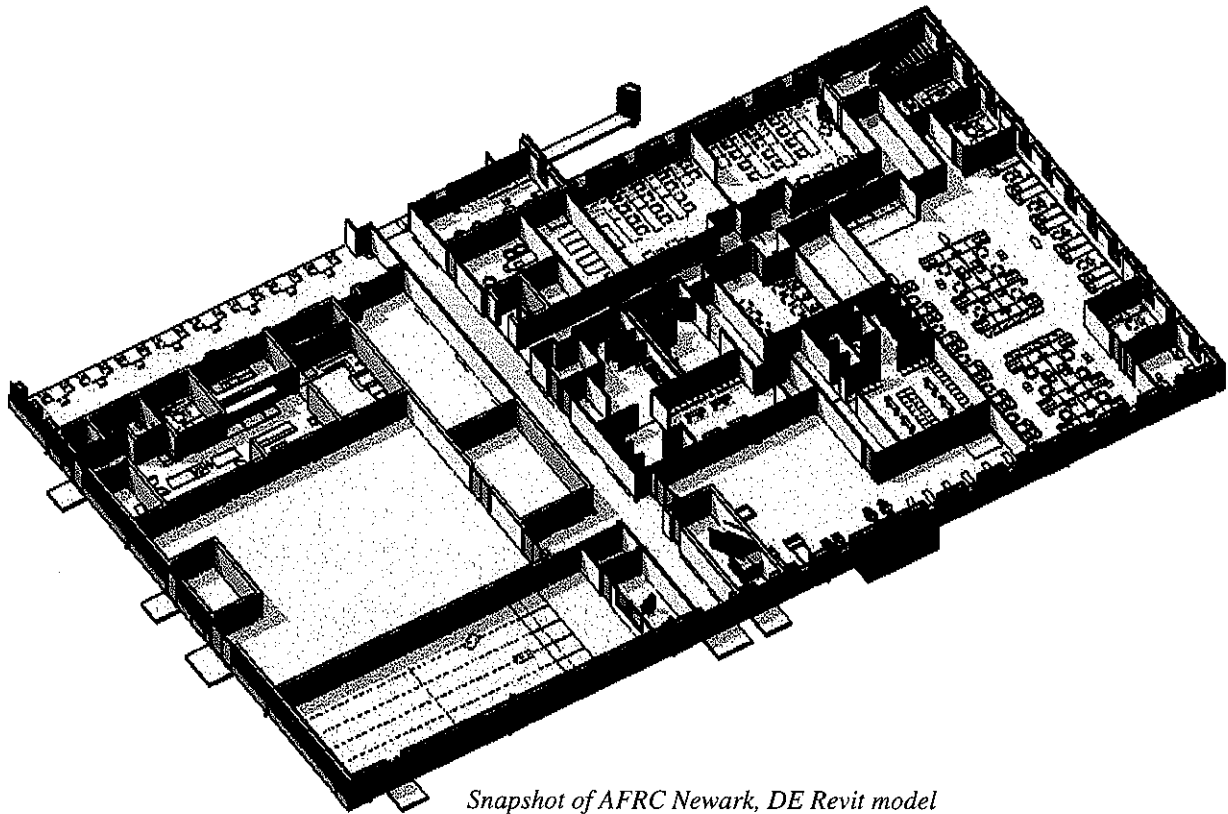
The Joint Emergency Operations Center (EOC) will be specially designed to support the mission requirements of the WV National Guard, the National Weather Service, elements of the WV State Road, the State of WV EOC, and other smaller state elements that are active during state emergencies. The Joint EOC will include all the features outlined in the EOI, and will be sited and planned in a manner befitting the operational nature of this multi-user facility. It will be designed to be durable and easily maintainable. While functional, the siting, architecture, and systems will also provide an aesthetically pleasing and comfortable environment for all building occupants and visitors alike. Because of its location, its size and architecture will speak to its importance as a state facility. By strictly adhering to the antiterrorism force protection requirements, it will also provide a safe and secure environment. With the goal of LEED Silver certification, the building and site will be designed to be energy efficient and environmentally responsible.

As an example, the rendering below of a recent STV- designed AFRC for the PAARNG shows a facility that is similar in size and function to the proposed Joint EOC.



Upon award of this project, the STV Design Team will conduct a kick-off meeting with the identified stakeholders to develop a collaborative relationship that will enable us to partner throughout the life of this project. In addition, a clear Scope of Work (SOW) will be developed as well as an understanding of all applicable design criteria for the new Joint EOC.

A planning meeting will follow with the stakeholders to review the design requirements, discuss User requirements and desires, demolition specifics, environmental impacts, LEED objectives, ATFP criteria, alternative energy initiatives, and any other known constraints that may exist for this project. The specific site orientation and building space adjacencies will be discussed. STV will take this information and develop conceptual site and facility floor layout plans. A Basis of Design (BOD) document will accompany this conceptual design. A cost estimate will be developed against the budget planning requirements (DD 1390/1, if available), and reviewed throughout the design so that it remains within the project budget. STV intends to utilize Revit 3D modeling software for this project, which will facilitate an interactive design process from the beginning of the project. Shown below is a snapshot of the AFRC model for the Delaware Army National Guard (DEARNG), which enabled the stakeholders to see their facility in 3D, and analyze and modify it until the design met their needs. The cost estimate will be linked to this model, so as the design evolves, the cost estimate will automatically adjust to reflect the latest changes.



*Snapshot of AFRC Newark, DE Revit model*

At the same time the conceptual design is being developed, the Design Team will also be assessing the design for the site infrastructure. It is first necessary to understand the existing conditions of the proposed site and what is required by the project scope. Knowing these requirements, we can direct our efforts to a clear and concise site design.

STV's Sub-consultant, Triad Engineering, Inc., will gather all available documents—drawings, studies, reports, specifications—related to the existing facilities and carefully review them for information relevant to any demolition. Then an experienced team of professionals will visit the site and perform an extensive physical observation of existing site conditions.

They will also contact all federal, state, and local regulatory agencies and utility companies to start application processes for utilities and environmental permitting. Triad has expertise in environmental permits, routinely recommending and performing environmental permitting needs evaluations for government and private sector clients alike, either in conjunction with, or independent of, NEPA compliance activities. Triad will regularly coordinate with federal, state, and local regulatory agencies with jurisdiction over air, water, solid/hazardous waste, threatened and endangered species, historical preservation, soil conservation, and other areas of purview. We recognize that coordination is critical towards assessing each agency's permitting requirements, review schedules, fees, and impacts, each of which may impact project design and implementation schedules. A permitting needs matrix will be provided early in the project to avoid delays to the schedule.

Permit application preparation, submittal, review, and approval activities can require significant up-front project time and must be recognized early in the project's life to avoid delays. A pre-application submittal meeting will be conducted with applicable regulatory agencies to discuss all requirements and schedule impacts. Permit applications for long-lead or critical path items will be developed and submitted as early in the design process as possible. This approach has proven to be extremely successful toward obtaining permits prior to solicitation for construction.

Once the conceptual design has been reviewed and approved, Triad will conduct their geotechnical and surveying analysis of the site. Utilizing the results of the reports generated, STV will continue the design development, including the evaluation of life safety code and life cycle costs.

The design for the new Joint EOC will comply with requirements of UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings (22 January 2007). Stand-off distances and unobstructed zone configuration will comply with the standard. Potential external pressures from explosive devices will be factored into the lateral framing system as required by the UFC. All exterior doors will open out and be constructed of metal. Elements of the ATFP design for the mechanical systems will include locating outdoor equipment beyond the required unobstructed space adjacent to the buildings when possible. If equipment must be installed within the required unobstructed space, that equipment will be properly enclosed on all sides and top to allow access only by authorized operations and maintenance personnel. Outdoor air intakes for HVAC systems will be located more than 10 feet above the adjacent grade. Utility distribution and installation and equipment bracing will comply with the UFC. Emergency air distribution shutoff control will be provided for all HVAC systems. Mass notification systems (integrated with the fire alarm system) will be provided.

The Joint EOC will be designed to achieve a minimum LEED Silver rating. In order to meet the energy conservation requirements and achieve an energy use reduction in compliance with the latest ASHRAE standards, the design team will take an integrated design approach to this facility. By coupling energy savings measures such as improved envelope thermal performance, improved window thermal and solar performance, and reduced lighting power densities with high performance mechanical system design, we can achieve the desired energy conservation goals. We will implement this integrated design approach through all phases of the design process and incorporate the use of energy simulation software to guide design decisions and enhance the overall life-cycle cost efficiency of this facility.

During the design process, STV will meet with stakeholders for review and approval of each design milestone prior to moving forward with the design. These milestones include the conceptual design, schematic design, design development, and final construction documents. Drawings, specifications, construction cost estimate, and a Basis of Design document will accompany each submission. In addition to the final sealed construction documents, STV will also provide a rendering, construction schedule, and the completed LEED design templates.

STV will also assist with the construction solicitation process, hosting a pre-bid meeting and answering any RFIs that may be submitted. During construction of the Joint EOC, STV will provide construction administration services. These can include participation in construction progress meetings, review of construction submittals and RFIs, participation in punch-list inspections, and preparation of as-built documents from the contractor's red-lined drawings.

STV has been very successful with this project approach. It allows adequate planning time upfront to validate that all stakeholder requirements are incorporated into the scope of the project, and the continuous collaboration ensures the integrity of the design is maintained throughout the project. These professional services will be provided in accordance with STV's Quality Control Program. Please see section below for information on STV's Quality Control Program.

The project will result in the design of a new Joint EOC that will meet the WV National Guard's mission objectives, provide an outstanding environment for joint operations, and be a facility soldiers can show pride in.

## Applicable Codes

STV has a long and successful history of working on new construction projects for a variety of clients including federal, state, and local governments and the private sector. We are accustomed to working in accordance with governmental regulations, including the Environmental Protection Agency (EPA), as well as industry standards such as OSHA, ASHRAE, NFPA, NEC, International Building Code (IBC), Unified Facilities Criteria, Uniform Federal Accessibility Standards, Americans with Disabilities Act (ADA) Accessibility Guidelines, and a variety of agencies regulating historic preservation. Our design and engineering services comply with the most current UFC 1-300-09N Design Procedures and other requirements listed on the Whole Building Design Guide Web Site.

## EXPRESSION OF INTEREST

The design for the new Joint EOC will comply with State and local codes and regulations. Where any of the applicable requirements conflict, the most stringent shall govern. It will be designed in accordance with National Guard Bureau (NGB) Design Guides (as applicable), and other military directives as listed in Appendix A of DG 415-5. The following is a non-inclusive list of some of the major codes and regulations that will govern this project. It is provided to illustrate STV's experience with working with these codes during the design of facilities similar to the new Joint EOC as outlined in the solicitation.

### All Design Disciplines

ADA-ADAAG	Americans with Disabilities Act – Accessibility Guidelines Most Stringent of ANSI, UFAS, or ADA
AR 190-11	Army Regulation: Physical Security of Arms, Ammunition, and Explosives
ANSI	American National Standards Institute
ASHRAE Std 90.1	Energy Standards for Building – Except Low Rise Buildings
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
DG-415-1	Army National Guard Design Guide for Readiness Centers
DG-415-2	Army National Guard Design Guide for Logistics Facilities
DG-415-4	Army National Guard Design Guide for Training Site Facilities
DG-415-5	Army National Guard General Facilities Information Design Guide
ETL 1110-3-491	Sustainable Design for Military Facilities
FM	Factory Mutual
ICC	International Code Council
IBC	International Building Code
IEC	International Electric Code
IECC	International Energy Conservation Code
IMC	International Mechanical Code
IPC	International Plumbing Code
OSHA	Occupational Safety and Health Act
NG-PAM-415-12	Army National Guard Facilities Allowances
NFPA 101	Life Safety Code (as directed in MIL HDBK 1008c)
UFC	Uniform Facilities Criteria
UFC 1-200-01	Design: General Building Requirements
UFC 3-250-01	Design: Pavement Design for Roads, Streets, Walks, and Open Storage Areas
UFC 3-400-01	Design: Energy Conservation
UFC 3-490-04A	Design: Indoor Radon Prevention and Mitigation
UFC 3-520-01	Interior Electrical Systems
UFC 3-530-01	Design: Interior and Exterior Lighting and Controls
UFC 3-580-01	Telecommunications Building Cabling Systems Planning and Design
UFC 3-600-01	Design: Fire Protection Engineering for Facilities
UFC 4-010-01	Department of Defense Minimum Antiterrorism Standards for Buildings
UFC 4-021-01	Design and O&M: Mass Notification Systems
UFAS	Uniform Federal Accessibility Standards
UL	Underwriters Laboratory
ASCE 7-95	Minimum Design Loads for Buildings

### Civil/Site

AASHTO	American Association of State Highway and Transportation Officials
ASCE	American Society of Civil Engineers
WVDOH	West Virginia Division of Highways Standard Specifications for Roads and Bridges Adopted 2011
	West Virginia Division of Highways Erosion and Sediment Control Manual

## EXPRESSION OF INTEREST

WVDEP West Virginia Department of Environmental Protection Erosion and Sediment Control BMP Manual  
West Virginia Building Code  
West Virginia State Fire Code

### Architectural

AAMA American Architectural Manufacturers Association  
AR 190-51 Army Regulation: Security of Unclassified Army Property  
ASHRAE Std 90.1 Energy Standard for Buildings – Except Low Rise Residential Buildings  
AWI Architectural Woodwork Institute

### Structural

ACI American Concrete Institute  
AISC American Institute of Steel Construction  
AISI American Iron and Steel Institute  
SJI Tech Digest No. 5 Vibration of Steel joist-Concrete Slab Floors

### Mechanical/Plumbing/Fire Protection

ABMA American Boiler Manufacturers Association  
ANSI American National Standards Institute  
ARI Air Conditioning and Refrigeration Institute  
AMCA Air Movement and Control Association  
ASME American Society of Mechanical Engineers  
AWWA American Water Works Association  
TM 5-785 Engineering Weather Data  
NFPA 13 Installation of Sprinkler Systems  
NFPA 90A Installation of Air Conditioning and Ventilating Systems  
NFPA 54 National Fuel Gas Code  
SMACNA Sheet Metal and Air Conditioning Contractor's National Association  
ASHRAE Std 90.1 Energy Standard for Buildings – Except Low Rise Residential Buildings  
ASHRAE Std 62.1 Ventilation for Acceptable Indoor Air Quality  
CR-200010 Joint Service Oil/Water Separator Guidance Document

### Electrical

NEC National Electrical Code  
NFPA 70 National Electrical Code  
NFPA 72 National Fire Alarm Code  
TIE/EIA Telecommunications Industries Association / Electronic Industries Association  
IEEE Institute of Electrical and Electronics Engineers  
IESNA Illuminating Engineering Society of North America  
NEMA National Electrical Manufacturer's Association  
NETA International Electrical Testing Association

### Landscape Architecture

American Association of Nurserymen (AAN)  
American National Standards Institute (ANSI):  
ANSI A300 – Tree Case Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices  
ANSI Z60.1 – Standard for Nursery Stock



## Quality Control Program

Recognizing that the quality of our work is the best indicator of our integrity and professionalism, our ISO 9001:2008 compliant Quality Program heads the list of "best practices" at STV. The procedures associated with the Quality Program are available to all staff on STV's corporate intranet and are applied to all of our projects, guiding the preparation, management, and checking of all work products produced by STV.

STV's mission is to provide high quality products and services that meet our clients' requirements. We accomplish this by integrating a high level of project planning, vision, innovation, and integrity with a quality management system that is based on clear objectives and a commitment to continual improvement.

An independent corporate quality staff, reporting to the Chairman of the Board, Dominick Servedio, PE, and by Corporate Quality Director (CQD), John Tomann, CQA, is responsible for implementing, monitoring, evaluating, and revising our quality management system. This dedicated group provides an objective assessment of the effectiveness of STV's quality practices.

A Design Quality Control Plan (DQC) is developed for each project and applies to all subconsultants. It helps to provide a compliant application of Quality Assurance and Quality Control for all phases of a project. All Project Design Team members have a copy of the DQC Plan, as well as the required project procedures.

Quality procedures outlined in the DQC Plan define the various departmental coordination required in producing and evaluating the design. Subconsultant coordination is viewed as an extension, following the same procedures for evaluation of their design effort. The quality procedures specify the information that is documented, distributed and regularly reviewed to confirm that the design is kept current and technically accurate.

During the performance of the project there are scheduled review meetings. It is through this constant monitoring that design control is accomplished. Participants include representatives from all disciplines concerned with the particular phase of the design being reviewed (including subconsultants as required). Documentation of these reviews is prepared for record purposes and distributed. The product is evaluated for compliance with the contract requirements and the applicable codes. The process is monitored to provide project optimization and allow for the incorporation of effective enhancements provided that there is no net cost increase or schedule impact.

Management assigns qualified personnel to the activity of verifying the adequacy of the design. The design verification activities include use of checklists and documentation of these activities. Design verification is performed to assure design outputs meet design inputs. These activities check overall technical coordination and compliance with sound engineering practices and principles.

Design validation is performed to verify that the results comply with the contract requirements, defined standards, and intended user needs. Comments are evaluated and incorporated as appropriate by the design team. Verification and validation activities take place during on-board reviews and independent reviews.

The entire review process involves a series of overlapping reviews and guidance from technical supervision to assure compliance with contract requirements and implementation of sound engineering practices. The process involves both, day-to-day review and checking by various levels of the technical organization, formal checking, and senior technical management approval of design deliverables and peer reviews.

Prior to the submission of any design deliverable to a client, the design products are subjected (including subconsultants as required) to a series of design-specific checks and cross-discipline design coordination reviews. These reviews occur prior to every submission whether it is for a feasibility study, design development, or the final construction documents. These reviews are as follows:

- Detailed Technical Check: Performed by the discipline for each submittal to verify the technical accuracy of the work, and it is signed off by the Discipline Chief.
- Contract Requirements Compliance Check: Performed by the design team responsible for the design package. These documents are signed off by each Discipline Chief.

- Quality Assurance Review: Performed by the Project Manager and QA/QC Manager to assure all checks and reviews have been satisfactorily completed and documents are ready for release.
- Independent Technical Review: Review by each discipline's designated checker at each submission. It includes review of design input, assumptions, methods, calculations, constructability, and design output.
- Coordinate Review: Review performed by the QA/QC Manager at each submission.
- Project Management Review: Review performed at each submission to verify compliance with the contract documents and the client's objectives.
- Construction submittals Review: Review includes shop drawings, product data, RFIs, samples and other items required by the contract documents. A Submittal is reviewed per established procedures, and marks appropriate action response.

A time-scaled schedule is prepared with every project which indicates the timing of the required discipline review checks, coordination reviews checks, submittal production requirements, and the timing of the actual design submission. This allows for the Project Manager and Design Team to monitor their design time available for each phase of a project to ensure enough time is allocated to comply with all the quality procedures. This schedule is monitored and updated as warranted throughout the life of a project to ensure we stay within our allowed timeframe for the project.

Cost is also monitored as part of our quality control program. A detailed cost breakdown is developed for each project that directly correlates with the work breakdown structure. As a result, the Project Manager and entire Design Team can clearly understand the budget established for each phase of a project, and can track it against the actual effort expended to provide the design services identified in the scope of work. The project budget is monitored weekly by the Project Manager, and depending on the duration of the project, it is updated monthly based on revised estimates-to-complete. Again, constant monitoring and adjustments ensure actual costs remain within budget.

As a project evolves from the design phase to the construction phase, STV continues the Quality Control process. STV provides selected construction services including bid support, responses to RFIs, shop drawing review, on-site construction observation, punchlist inspections, consultation, and project close-out services. STV's in-house system for construction-related submittals and RFIs includes a daily update report and review of all open issues. This process keeps the focus on pending items. Upon completion of a project, quality procedures are followed in closing out the project and verification that all applicable documents have been recorded and placed in storage is performed.

## Project Cost Control

STV's methodology for addressing Project Cost Control was discussed above in our project approach. Project Cost Control is also part of our Quality Control Program, and it is evaluated by comparing the Project Cost Estimate against the contract award price. In general, our clients require this factor to be +/-10% of the estimate. The following table demonstrates STV's Cost Control past performance across various facility types:

### Cost Control Summary

Client	Project Name	STV Cost Estimate	Award	Deviation
<b>Project Type – Personnel Housing</b>				
Bloomsburg University	Bloomsburg Student Housing	\$32.75 million	\$30.2 million	7.8%
West Chester University	West Chester University North Hall Student Housing	\$31 million	\$29.05 million	6.3%
<b>Project Type – Training Facilities</b>				
USACE Philadelphia District	Combined Arms Collective Training Facility (CACTF)	\$11 million	\$10.66 million	3.1%
Reading Area Community College (RACC)	Schmidt Training and Technology Center	\$7.072 million	\$7.1 million	.45%
Montgomery County Community College	Advanced Technology Center	\$16.344 million	\$16 million	2.15%
Delaware State Police	State Firing Range	\$2.03 million	\$2.005 million	1.4%
<b>Project Type – Office Facilities</b>				
USPS – Doylestown, PA	Office Facility	\$1.436 million	\$1,428 million	.56%
FBI – Ponce, Puerto Rico	Office Facility	\$5.839 million	\$5.957 million	-2.02%
USMA Michie Stadium Pressbox	Office Facility	\$8.128 million	\$8.192 million	.7%
<b>Project Type – Industrial Maintenance Facilities</b>				
USACE through Ranco Construction Design/Build	Controlled Humidity Storage Facility	\$7.75 million	\$7.53 million	.028%
USPFO FY08	Stryker Brigade Program – Hazelton RC	\$5.243 million	\$5.475 million	4%
USPFO FY08	Stryker Brigade Program –FITP Ammo Supply	\$9.02 million	\$8.58 million	5%
USACE	C-17 Engine Storage Facility	\$2.85 million	\$2.76 million	3.16%

## 2. Past Experience in Performing Similar Projects

STV has comprehensive experience in the planning and design of training, classroom, administrative, and office type facilities. Services have included Basis of Design development, engineering evaluations, concept studies, energy and life cycle cost analysis and modeling, sustainable designs for LEED certification, environmental studies, ATEP considerations, life safety code analysis, interior space planning, utility studies, permitting, construction documents, specifications, detailed construction cost estimates, scheduling, and construction administration services.

The work we performed with the PAARNG on their SBCT program (as shown in Appendix A) provided STV with unique experience that is unmatched by any other firm in eastern Pennsylvania. STV utilized the Army National Guard Design Guide DG-415 series to employ best practices to meet the Army National Guard's design requirements. We addressed current and future mission requirements, developed energy efficient and sustainable designs that complied with all life safety codes, and met building occupancy and performance criteria that supported the facility loading differences between full-time active personnel and reserve unit drill weekends. We performed this work on eight different Readiness Centers. STV exploited this great experience working with the PAARNG, and applied it to our three most recent projects for AFRCs in support of the PAARNG, USAR, and DEARNG. Our approach will be the same for this important WV ARNG project.

In addition to the projects included in Appendix A, the following provides a listing of training, classroom, and office facility type projects performed by STV. These provide additional evidence of our relevant experience with these types of projects that are similar in scope and size to the project outlined in the solicitation.

### Training and Classroom Facilities

- U.S. Military Academy Preparatory School, West Point, PA (2012)
- USACE Armed Forces Reserve Center, Lewisburg, PA (2011)
- USACE Armed Forces Reserve Center, Scranton, PA (2011)
- USACE Armed Forces Reserve Center, Newark, DE (2011)
- USACE Combined Arms Collective Training Facility (CACTF), Fort Dix, NJ (2008)
- Thomas Jefferson Hall Library and Learning Center, U.S. Military Academy (2008)
- Beury Hall (Engineering Building) Renovation, Temple University, Philadelphia, PA (2008)
- Sharadin Arts Building Renovation and Addition, Kutztown University, Kutztown, PA (2008)
- School of Telecommunication Arts and Technology Addition, New York City School Construction Authority, Brooklyn, NY (2008)
- Delaware State Police Firing Range, Smyrna, DE (2007)
- Montgomery County Community College Advanced Technology Center, Blue Bell, PA (2006)
- Kutztown University Academic Forum, Kutztown, PA (2006)
- Lockheed Martin Maritime Systems and Sensors Reconstruction of Existing Deckhouse and Deckhouse Reconfiguration, Wallops Island, VA (2005)
- Shire Pharmaceuticals Corporate Headquarters Fit-out, Wayne, PA (2005)
- Reading Area Community College Schmidt Training and Technology Center, Reading, PA (2004)
- Lockheed Martin Spy-ID (V) Facility Modification, Wallops Island, VA (2004)
- USACE A&E Task Order Renovation Projects at Fort Dix, NJ (2004)
- Breakiron Engineering Building, Bucknell University, Lewisburg, PA (2004)
- Science Center Expansion and Renovation, Kutztown University, Kutztown, PA (2004)



*Thomas Jefferson Hall Library and Learning Center, USMA*

- USACE Urban Assault Course and Shoot House, Fort A.P. Hill, VA (2003)
- Bartley Hall Expansion and Renovation, Villanova University, Villanova, PA (2002)
- NJ Army National Guard Training & Training Technology Battle Lab, Fort Dix, NJ (2002)
- US Military Academy Marksmanship Facility, West Point, NY (2002)
- USACE HQ & Physical Fitness Facility Program Documentation, New Cumberland, PA (2002)
- USAF A&E Task Order Renovation Projects at McGuire Air Force Base, NJ (2002)



*Rendering of USACE Armed Forces Reserve Center, Newark, DE*

## Office Facilities

- USACE Savannah District Brigade/Battalion Headquarters, Fort Stewart, GA (2011)
- Lockheed Martin Building High Bay Addition and Multipurpose Meeting Facility, Newtown, PA (2010)
- Ft. Dix design/build SCIF office renovations, Ft. Dix, NJ (2009)
- Ft. Dix design/build roof repairs, Ft. Dix, NJ (2009)
- Medarex Building 1 Office and Future Laboratory Renovation, Bloomsbury, NJ (2006)
- U.S. Army Medical Command IDIQ Contract for Medical and Research Laboratory Planning and Design for Various Projects in MD (2005)
- Shire Pharmaceuticals Corporate Headquarters Fit-out, Wayne, PA (2005)
- Lockheed Martin Building 100, GPS III Office Renovation (SCIF), Valley Forge, PA (2005)
- Lockheed Martin Building D-2 Addition, Valley Forge, PA (2005)
- Lockheed Martin Maritime Systems and Sensors Building 152 SCIF, Moorestown, NJ (2005)
- Lockheed Martin Maritime Systems & Sensors Building 134 Traffic Office Renovation and Addition- DITC SCIF, Moorestown, NJ (2004)
- Lockheed Martin Maritime Systems & Sensors Building 135 SCIF Renovation, Moorestown, NJ (2004)
- Lockheed Martin Maritime Systems & Sensors Building 532 Office Renovation, Mount Laurel, NJ (2004)
- U.S. Southern Command (SOUTHCOM) Headquarters Support Requirements, Location, and Configuration Study, Miami, FL (2003)



*Shire Pharmaceuticals Corporate HQ*



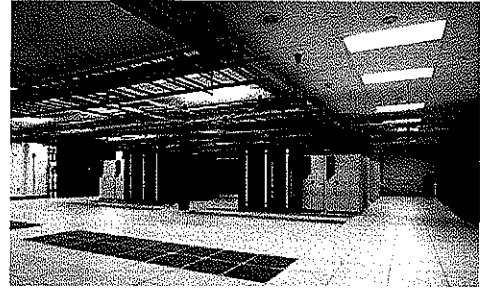
- USACE New York, New 122,000-sf Consolidated Soldier and Family Support Center and Office Building, Fort Drum, NY (2002)
- USACE Capital Funding and Programming Documents for the Administration/Conference Center Renovation, Fort Detrick, MD (2002)

## Advanced Computer Facilities

STV has extensive experience in providing professional services for data centers and mission-critical facilities. Our clients include government agencies, branches of the military, and the private sector. STV's architects and engineers have an in-depth working knowledge of these facilities and the needed support spaces. Our relevant experience in data center and mission-critical facility design encompasses planning and conceptual design, detailed design, construction administration, and construction management.

We have the expertise and skill sets to design the following types of projects:

- High-capacity, high-availability, redundant, and efficient electrical and mechanical infrastructures
- Fiber optic and copper data networks
- Sophisticated fire detection and suppression systems
- Leak detection systems
- High-security provisions including RF-shielding, physical security, controlled access, and intrusion detection
- Video surveillance provisions
- Structural systems suitable for high floor loadings common to such facilities



## Interior Space Planning

STV has the expertise to create functional and dynamic interior environments. Our Interior Designers are certified as defined by UFC 3-120-10N. We understand that effective space planning leads to increased productivity, teamwork, and communication, and we use our expertise in custom and standardized designs to enhance functional effectiveness and transform interior environments through lighting, color, and texture.

STV designs are created in response to and coordinated with the building shell, acknowledging the physical location and social context of the project. Our designs adhere to code and regulatory requirements, and encourage the principles of environmental sustainability. In providing interior space planning and design, we follow a systematic and coordinated methodology which involves research, analysis, and integration of knowledge into the creative process. In this way, the needs and resources of the client are satisfied and the interior space fulfills project goals. A representative sampling of STV projects follows:

- Shire Pharmaceuticals Headquarters Office Facility, Wayne, PA
- Montgomery County Community College, Advanced Technology Center, Blue Bell, PA
- Immaculata University New Student Center, Immaculata, PA



*Advanced Technology Center*

- C-17 Engine Storage Facility, CID, SID Package, Dover, DE
- Kutztown University Academic Forum, Kutztown, PA
- Lock Haven Bentley Hall Dining and Student Center, Lock Haven, PA
- Clarion University Dining and Conference Center, Borough of Clarion, PA
- Bloomsburg University Jessica Kozloff Student Housing Apartment Complex, Bloomsburg, PA

To reinforce our relevant project experience, it is important to supplement it with information on the additional factors that encompass all the requirements of the solicitation. These support elements are important to the overall success of this project. The following narratives illustrate that experience.

## Sustainable Design and LEED

STV is a member firm of the U.S. Green Building Council and committed to sustainable design/LEED goals. We have approximately 175 LEED Accredited Professionals in all architectural, planning, environmental, and engineering disciplines. We have provided sustainable design for numerous federal and private industry clients where compliance with federal directives for sustainable design, energy management and modeling, and renewable energy evaluation were required. These have included Energy Policy Act 2005, EO 13423 Strengthening Federal Environmental, Energy, and Transportation Management, Energy Independence and Security Act of 2007, ASHREA 90.1 for energy standards, and 10 CFR part 436 for life cycle cost analysis and renewable energy considerations to determine feasibility. These are all covered under UFC 3-400-01, Energy Conservation.

Our commitment to sustainable design begins with our approach of a unified architectural-engineering team working together to develop designs that optimize opportunities for high performance buildings and sites. Our sustainable design philosophy embraces:

- Sustainable sites and protection of natural sites and environments
- Reduced materials usage during construction and building life-cycle
- Improved energy performance and life-cycle performance
- Improved indoor environments



*Thomas Jefferson Hall Library, West Point*

STV's recent work includes a variety of projects that are striving for or have achieved sustainable design certifications, including the Thomas Jefferson Library at the U.S. Military Academy in New York which will receive bronze certification from the U.S. Army Corps of Engineers' SPiRiT program (comparable to LEED). Another is the current \$92 million Stryker Brigade Combat Team Program in Pennsylvania for the PAARNG, which has a goal of five SPiRiT gold certifications and five LEED Silver certifications. The Brookhaven National Laboratories Research Support Building in Suffolk County, NY, for the USDOE was awarded a LEED Silver certification, as was Clarion University's Eagle Commons. Lockheed Martin Corporation Space System Company's new Patriot Center, a 15,000-sf multipurpose meeting facility, just achieved Gold certification. For the Parks and People Foundation, STV is providing surveying and civil engineering services for the new Headquarters in Baltimore, Maryland, which seeks to attain LEED platinum certification. This project would become only the second in the state of Maryland to attain the highest LEED certification level. Other STV projects pursuing LEED certification upon completion of construction include the following:



*Lockheed Martin Patriot Center*

- Armed Forces Reserve Center, Newark, Newcastle County, DE (Silver)
- Armed Forces Reserve Center, Scranton, Lackawanna County, PA (Silver)
- Armed Forces Reserve Center, Lewisburg, PA (Silver)
- Brigade/Battalion Headquarters Facility, Fort Stewart, GA (Silver)
- Munitions/Explosive Ordnance Disposal (EOD) Complex, Fort Lee, VA (Silver)
- Susquehanna University—New Science Building, Selinsgrove, PA (Silver)
- Port of Los Angeles—Berth 200 Rail Yard (Gold)
- Truman College—New Student Services/Parking Garage Facility, Chicago, IL (Silver)
- San Joaquin Regional Rail Commission—Altamont Commuter Express Authority Equipment Storage and Maintenance Facility (Silver)
- Immaculata University—New Student Center, Immaculata, PA (LEED certified)



*New Science Building, Susquehanna University*

## Application of ATFP Criteria

The STV Design Team has a depth of experience with the analysis and implementation of DoD Anti-Terrorism and Force Protection (ATFP) requirements. STV has worked closely with USACE, PAARNG, and DEARNG, as well as other agencies and security organizations, to provide ATFP planning and design for military installations and related structures in accordance with UFC 4-010-01 Department of Defense Minimum Antiterrorism Standards for Buildings.

To remain at the forefront of ATFP planning and design, the Team has participated in USACE anti-terrorism seminars. Both the Project Manager and Deputy Project Manager for this project have recently completed the Security Engineering Training Course hosted by the PAARNG and taught by the Protective Design Center for the USACE. This expertise will be drawn upon for this project.

We also participated in the PAARNG anti-terrorism seminars specifically for the SBCT Program and developed the site-specific ATFP requirements for new Readiness Centers, new Field Maintenance Shops, and for additions and alterations to existing Readiness Centers. On the three AFRCs that STV recently designed, specific discussions were held with the PAARNG and DEARNG to ensure compliance with all ATFP requirements due to these facilities being located outside of any military installation and without a controlled perimeter.

Other project experience includes the planning, programming, and conceptual design of the West Point Military Academy Thomas Jefferson Library and Learning Center. The Team prepared Form DD 1391 and funding documentation that, among other things, addressed all ATFP criteria. We also addressed ATFP safety design standards for the West Point Military Academy Master Plan Direction Assessment Study, and evaluated proposed new projects for West Point, identifying their priority, developing site selection alternatives for each project, and finding the highest-and-best use for the installation.

Each project included a programming and design component to establish project needs criteria and space requirements and took all Department of Defense ATFP design standards into consideration.

## Cost Estimating

The STV Team has an exceptionally experienced cost estimating and cost engineering staff to support WV ARNG in providing construction and life cycle cost (LCC) estimates and cost/budget monitoring and oversight. Our cost management team includes highly qualified professionals who have been involved in the planning, design, and construction of numerous large-scale projects throughout the nation. They are trained and experienced in a wide range of cost estimating/cost engineering, accounting, and related software programs that are currently available to support our clients.



STV will first develop a customized Basis of Estimate (BOE) which clearly defines the detailed assumptions of what is included in this project. This is the key to success in preparing effective cost estimates. STV will provide comprehensive cost estimating, including independent cost estimate (ICE) services, for all phases of the design, including but not limited to, parametric and detailed "bottom up" cost estimates. We understand the importance of accurate cost estimates during the design phase and the development of effective bid documents. STV produces accurate cost estimates by applying current construction cost data and practices, all adjusted for local conditions. STV's estimators are experienced in all disciplines and have hands-on knowledge of current methodology and practices. We use computer-based systems such as Timberline and Means CostWorks to develop costs by component (labor- crew based, equipment, and material); by any level of the project WBS; by area, phase, or building component including CSI, Uniformat or unique cost modeling that may be required.

As each part of the design proceeds through its successive milestones, STV will update the estimates of successive construction packages. These updates can occur immediately prior to the release of the relevant milestone documents and can be incorporated into the current working estimate of the project.

### Building Information Modeling (BIM)

STV has been an industry leader in the use of technology for architecture, engineering, and construction and has made a commitment to transition our design technology from CAD to BIM. Since 2007, our in-house technology director along with our information technology specialists and architectural and engineering discipline managers have been actively engaged in transitioning the entire firm to model-based design using both Bentley and Autodesk Revit 3D modeling tools.

STV utilizes analysis software that is interoperable with our building models to perform LEED, mechanical, structural, and building performance/energy modeling analysis. Utilizing Navisworks, STV can perform clash detection, reducing the risk of human error by identifying interferences in our 3D project models. With Timberline software, we have the ability to use electronically modeled information for cost estimating purposes.

Our design professionals have applied BIM on numerous projects and we intend to apply the advantages this BIM technology has to this project. Examples of projects similar to the facility type for this project in which STV has or is currently utilizing BIM authoring tools follow:

USACE Savannah District  
Brigade/Battalion Headquarters Facility, Fort Stewart, GA

USACE Savannah District  
Munitions/EOD facility, Fort Lee, VA

USACE Louisville District  
Combined Arms Collective Training Facility (CACTF), Fort Dix, NJ

USACE Louisville District  
Armed Forces Reserve Center, Lewisburg, PA

USACE Louisville District  
Armed Forces Reserve Center, Scranton, PA

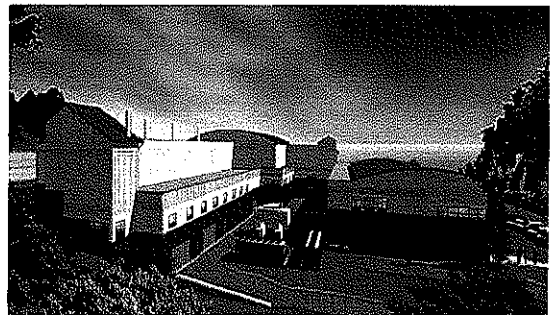
USACE Louisville District  
Armed Forces Reserve Center, Newark, DE

USACE New York District  
USMA Preparatory School Relocation, West Point, NY

PA Department of General Services  
Bio Level 3 (BL-3) Agriculture Lab Addition to Pennsylvania Veterinary Laboratories, Harrisburg, PA



*Lewisburg Armed Forces Reserve Center*



*PADGS Bio-Level 3 Agricultural Lab*

PA Army National Guard Stryker Brigade Combat Team Support:

- Carlisle Readiness Center (additions/alterations)
- Graterford Field Maintenance Shop (new)
- Kutztown Readiness Center (new)

## Past Performance and Awards

STV is an award-winning design firm with an outstanding reputation among federal government agencies, and private industry. The firm's commitment to quality of work and customer satisfaction is demonstrated by our repeat business with customers and by the commendation letters and evaluations we have received from government agencies and private industry. The commonly shared themes of these commendations are:

- High-quality products
- Responsiveness
- Capability of completing complex assignments on time and within budget
- Effective management approach

Ninety percent of the STV's projects are on a continuing client basis, which emphasizes our ability to consistently beat schedules and budgets and to meet the demanding quality standards of our clients. The quality of services provided by STV is shown by comments provided to us in letters and in response to customer satisfaction surveys. The following are quotes from those responses:

### **Armed Forces Reserve Center Design-Build, Newark, DE**

"This whole process has been extremely smooth. Your team is outstanding and it has truly been a pleasure working with them. I have expressed my opinions of STV with the USACE and look forward to working with you in the future." (May 2010)

*David Wickersham, 1LT, EN  
DEARNG, Construction and Facilities Management Office*

### **Roof/Boiler Stack Replacement, National Agricultural Library, Beltsville, MD**

"STV exceeded the expectations of the government in every aspect of the design process."

*Jessica Nunnelee, Contracting Officer  
USDA Agricultural Research Services*

### **A/E Task Order Contract, Stryker Brigade Combat Team Support**

"STV performed a tremendous amount of design work in a short period of time to a high level of quality. They maintained all delivery schedules. Design team and managers did an excellent job. The design team members consistently acted and performed in a professional manner. The design team remained consistent throughout the term of the contract, qualified substitutes occasionally were used when a team member was sick or on leave. STV always brought site problems to our attention and provided guidance on how the issues could be addressed. Good budget controls were established prior to the contract and maintained throughout. When asked to perform extras, timely and fair prices were always submitted."

**"Overall quality of the services provided: EXCELLENT"**

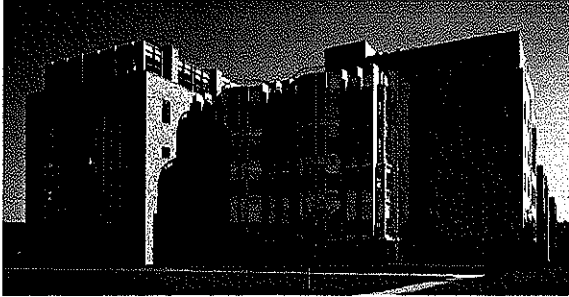
*Major Mark A. Austin, TCOR  
Pennsylvania Army National Guard*

**Pennsylvania Veterinary Laboratory (PVL), Harrisburg, PA)**

STV received a certificate of appreciation from the Pennsylvania Department of Agriculture for the quality workmanship and good business practices demonstrated during the planning of the laboratory.

"Your efforts in support of [this] facility were critical to Pennsylvania having this expanded and enhanced capability to protect our animal agriculture industry and our citizens..."

*Russell C. Redding  
Secretary of Pennsylvania Department of Agriculture*



**Thomas Jefferson Hall Library and Learning Center,  
U.S. Military Academy**

"STV provided excellent services with an experienced team. The project, due to budget constraints, was challenging. STV met the challenge and provided services above and beyond their contract requirements when urgent need arose." **Performance rating: Excellent.**

*Jeffery Friese, PE, Project Manager  
USACE New York District*

**The Academic Forum, Kutztown University**

"Last week I toured the campus several times in preparation for opening weekend and the first day of classes, and it struck me just how beautiful and well planned out this campus really has become over the past 10 years or so. I want you to know that this has been accomplished in no small part thanks to the cooperative efforts between the University and STV over the years. I think that the benefit of having a long term relationship has paid off in spades in terms of architectural integrity and overall aesthetics...."



"The Academic Forum is probably one of the best buildings not only in the System, but at any campus for its size and function. I have yet to meet anyone who has seen that building who hasn't been completely impressed,

and the successful functioning of the building with the two diverse operations that occur in it (teaching and food services) is beyond what we really could have hoped for."

*R. Jeff Grimm, PE, Assistant Vice President for Facilities  
Kutztown University of Pennsylvania*

**Hoffman Press Box, U.S. Military Academy**

"I am writing to offer my congratulations on a job superbly done with respect to the design and Title II services for the Hoffman Press Box at West Point.... It was my pleasure from the start to work with STV, and with its design team and project representatives.... The project turned out absolutely brilliantly; it was a wonderful reflection of the professional competence of STV as well as STV's ability to work as part of a "government-private team," to bring on-line a desperately needed project.... Throughout the project, STV was required to adapt the design to changing budgetary and user needs. In every case, the company acted responsibly and professionally.... It is truly a remarkable engineering achievement in every respect."

*Daniel W. Christman, Lieutenant General (Retired)  
55th Superintendent, U.S. Military Academy*

**Sue Morris Complex  
Glenville, West Virginia**

The project consisted of converting a 13-acre landfill site into a multipurpose athletic complex, designed to encompass two little league fields (doubling as softball fields) and one collegiate-sized baseball field, as well as space for 1,000 spectators, a playground, picnic pavilion, other outdoor athletic courts and spectator hospitality structures. The Glenville, WV complex was a design-build project and required regularly scheduled coordination meetings with members of the design team and subcontractors.

Triad Engineering, Inc. provided geotechnical engineering services, surveying, civil design, and landscape architecture services on this project. Jarrett Construction Company of Charleston was the prime on this design-build project

**Associated Builders and Contractors, Inc. (ABC) 2007 Excellence in Construction Pyramid Award.**

**Welch River Front Park  
Welch, West Virginia**

Triad Engineering, Inc. was selected by the City of Welch to design a park and streetscape improvements to a downtown area that is adjacent to the Tug Fork River. The park included extensive landscape improvements, lighting upgrades, concrete sidewalks with clay pavers, street furniture, parking improvements and the creation of an amphitheater space that connected the lower level and the upper level with ADA ramps and steps. The space was developed to create an open space that could be used for community events as well as to create a greatly needed open space in the downtown area. Services included the preparation of a master plan, construction documents, and construction administration.

**West Virginia Chapter American Society of Landscape Architects 2009 Honor Award for Outstanding Professional Achievement**

### 3. Expertise of Team

The organization chart shown on the following page identifies the key personnel assigned to this project, including our Sub-consultant, that make up STV's Design Team. All Designers of Record are registered in the State of West Virginia. We have specifically structured our team to support the planning and design requirements for this project as outlined in the solicitation. The chart also identifies each person's role for the project.

STV's management team for this project has specific qualifications and experience that align with the requirements outlined in the solicitation. STV understands how important providing a strong management team is to the success of every project. The following management professionals are presented for this project:

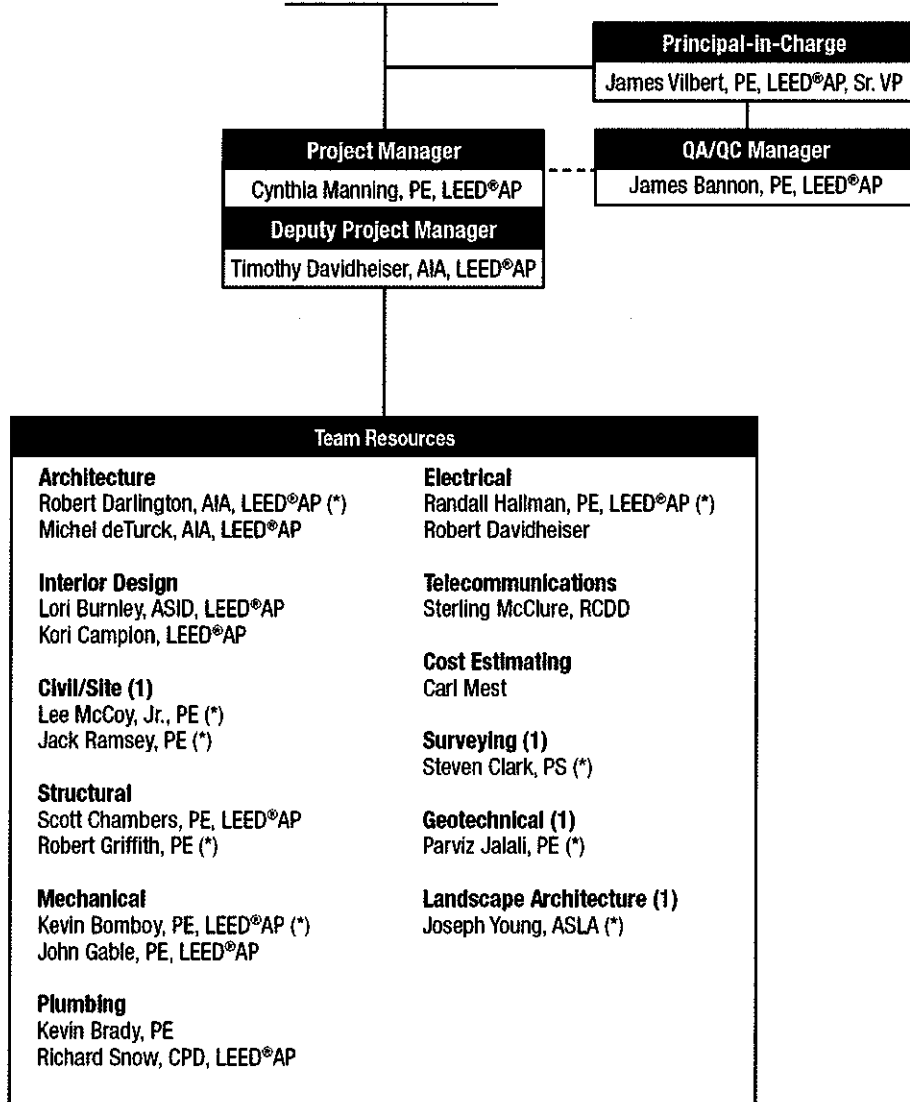
**James Vilbert, PE, LEED®AP, Principal-in-Charge**, a senior vice president and STV's Director of Operations, Buildings & Facilities Division, will assure the overall commitment of qualified personnel and resources to the project from inception to completion. He will keep abreast of budget, schedule, and contract compliance, and will directly oversee the performance of the project manager. A graduate of the U.S. Naval Academy, Old Dominion University, and the University of Pennsylvania, Mr. Vilbert has been involved with major projects for the military throughout his career. He has served as a principal-in-charge for numerous facility projects, including the Fort Lee Munitions/EOD Complex; three Armed Forces Reserve centers; the Fort Stewart Battalion and Brigade Headquarters; the Stryker Brigade Combat Team Facilities for the Pennsylvania Army National Guard; the Ammunition Supply Point at Fort Indiantown Gap; and the Controlled Humidity Storage Facility, Combined Arms Collective Training Facility (CACTF), and Sensitive Compartmented Information Facility (SCIF) at Fort Dix, among others.

**Cynthia J. Manning, PE, LEED®AP, Project Manager**. Ms. Manning will provide project management for the Joint EOC, providing a single point of contact for overall coordination of the project. Ms. Manning recently retired from the Navy as a Commander in the Civil Engineer Corps with 20 years of military service. Prior to joining STV, she served as Program Manager and Public Works Officer for the Naval Facilities Engineering Command (NAVFAC), managing projects of similar size and scope. She has extensive experience in all facets of project management and contract administration, and understands the needs of federal clients. Since joining STV, she has assumed management of the Stryker Brigade Combat Team Program in Pennsylvania. She also managed the design of three Armed Forces Reserve Centers, and provides oversight for projects within the Project Management Group.

**Timothy Davidheiser, AIA, LEED®AP, Deputy Project Manager**. Ms. Manning will be assisted by Mr. Davidheiser, who has 23 years of experience in the industry. Mr. Davidheiser has extensive experience in planning, execution, and construction administration services. His experience ranges from task order to design-build contracts, responsible for providing concurrent and fast-tracked construction documents. These facilities range from explosive storage facilities to office and training spaces. Mr. Davidheiser is currently serving as the Deputy Project Manager for the Stryker Brigade Combat Team Facilities for the Pennsylvania Army National Guard and is the Project Manager for the Munitions/EOD Complex for the USACE in Fort Lee, VA.

STV TEAM ORGANIZATION

State of West Virginia  
 Joint Operations Facility



(\*) West Virginia registration

Subconsultants  
 (1) Triad Engineering, Inc.

**EXPRESSION OF INTEREST**

In addition to this management team are the highly qualified technical professionals presented on the organization chart above and the Project Team Qualifications table below. Their qualifications are also detailed in the resumes in Appendix B. We have structured our team based on their extensive experience with the Stryker Brigade program, the three recent Armed Forces Reserve Centers, and comparable experience working on military projects. STV's Design Team features experienced, registered personnel capable of supporting all the requirements identified in the solicitation. We have shown a depth of qualified resources that represents only a fraction of the experienced personnel available throughout STV and our Sub-consultant. If additional support is required, there are more than 250 professional, technical, and support personnel in STV's Douglassville office from which to draw.

**Project Team Qualifications**

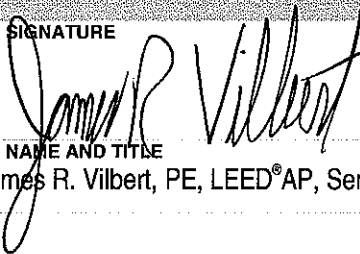
Project Team	Registration	Project Assignment	Firm	Degree	Years Exper.
Cynthia Manning	PE, LEED®AP	Project Manager	STV	ME Env Eng, BS Ocean Eng	22
Timothy Davidheiser	AIA, LEED®AP	Deputy Project Manager	STV	~	23
James Vilbert, Sr VP	PE, LEED®AP	Principal-in-Charge	STV	MEEE, MBA	34
James Bannon	PE, LEED®AP	QA/QC Manager	STV	BSEE	37
Robert Darlington*	AIA, LEED®AP	Architecture	STV	B Arch	36
Michel deTurck	AIA, LEED®AP	Architecture	STV	B Arch; BS Bldg Services	33
Lori Burnley	ASID, LEED®AP	Interior Design	STV	AS Interior Design	29
Kori Campion	LEED®AP	Interior Design	STV	BS Interior Design	2
Lee McCoy, Jr.*	PE	Civil/Site	Triad	BSCE	15
Jack Ramsey*	PE	Civil/Site	Triad	BSCE	17
Robert Griffith*	PE	Structural	STV	MSME, MSSE	40+
Scott Chambers	PE, LEED®AP	Structural	STV	MSCE, BSCE	14
Kevin Bomboy*	PE, LEED®AP	Mechanical	STV	B Arch Eng	27
John Gable	PE, LEED®AP	Mechanical	STV	B Arch Eng, Mech Eng	9
Kevin Brady	PE	Plumbing/Fire Protection	STV	BS Eng	13
Richard Snow	CPD, LEED®AP	Plumbing/Fire Protection	STV	AA Arch Eng	34
Randall Hallman*	PE, LEED®AP	Electrical	STV	BSEE	26
Robert Davidheiser	~	Electrical	STV	~	37
Sterling McClure	RCDD	Telecommunications	STV	BS Business Mktg	32
Carl Mest	~	Cost Estimating	STV	~	27
Steven Clark*	PS	Surveying	Triad	~	22
Parviz Jalali*	PE	Geotechnical	Triad	BSCE	35
Joseph Young*	PE	Landscape Architecture	Triad	BS, Landscape Arch	20

\*West Virginia Registration

## STV is the Right Choice

- ✓ We have a unique skill set for this project as a result of our long-term relationship with the Army National Guard.
- ✓ We have the specialized experience with every discipline in-house to meet your project needs as specified in the solicitation.
- ✓ We have a strong Design Team of registered professionals supported by highly qualified Sub-consultant.
- ✓ We are proven partners when it comes to project collaboration with our Clients.

STV and our Sub-consultant are committed to this opportunity to serve the State of West Virginia. We look forward to joining your team for this project.

I: AUTHORIZED REPRESENTATIVE The foregoing is a statement of facts.	
31. SIGNATURE 	32. DATE March 21, 2011
33. NAME AND TITLE James R. Vilbert, PE, LEED® AP, Senior Vice President, Director of Operations Central Division, Buildings & Facilities	



EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		EXAMPLE PROJECT KEY NUMBER
		1
TITLE AND LOCATION (City and State)	YEAR COMPLETED	
Design and Construction of an Armed Forces Reserve Center Scranton, PA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2011	2011
PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
USACE Louisville District	Hans Probst, Project Manager	502-315-6809
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		



STV is providing design and post-design services for a \$25 million design-build of a new, 1,000-member Armed Forces Reserve Center (AFRC) in support of the U.S. Army Reserve (USAR) and Pennsylvania Army National Guard (PAARNG). These design services include architectural and interior design, and civil, structural, mechanical, electrical, and plumbing/fire protection engineering. The design was developed utilizing 3D Building Information Modeling (BIM) Bentley software.

The AFRC consists of a two-story, 72,000-sf Training Center, a single-story, 45,000-sf Heated Storage Building (HSB), two (2) Unheated Storage (UHS) Buildings, and a single-story, 8,000-sf Vehicle Maintenance Facility (VMF) on a 25.62-acre site. STV is a subcontractor to Lobar Incorporated on this design-build project.

The project site improvements also include privately owned vehicle (POV) and military equipment parking (MEP) lots, stormwater management (SWM) facilities, loading dock, dumpster enclosure, and two driveways. The supporting elements of this project site also include underground utilities, paving, fencing, physical training path, sidewalks, curbs, exterior lighting, communications, CATV, PA system, electric, HVAC, fire protection/alarm systems, IDS, signage, landscaping, and antiterrorism force protection (ATFP) measures. The civil design also included surveying and geotechnical services, and application and approval for all necessary permits.

The project was fast-tracked to meet client mission objectives. There was early collaboration with all stakeholders utilizing a kick-off meeting, design charrette, and a Partnering session to ensure all design requirements were known. Additional specialty meetings were held to discuss furniture, IT, communications, and security requirements. Review meetings were held at the 50%, 100%, and final design milestones with incorporation/ resolution of all review comments prior to proceeding to the next design deliverable milestone. A Basis of Design, specifications, and construction drawings were developed for the project. Construction administration services are being provided during the construction phase with review of shop drawings, responding to RFIs, conducting site visits, participating in red-zone meetings, punch-list walk-through, and preparation of as-built drawings to close out the project.

The design is in accordance with the Design Guide for US Army Reserve (UFC 4-171-05), and the Army National Guard General Facilities Information Design Guide (DG 415-5). The structures will be of permanent construction with reinforced concrete foundations; concrete floor slabs; masonry structure with brick veneer and shingle roofs for the Training Center and VMF; pre-engineered steel framed buildings with

#### PROJECT HIGHLIGHTS

- Army National Guard project
- Design-Build project
- Design and post-design services
- ATFP
- LEED Silver
- BIM
- EMCS
- IDS
- NG Design Guides
- Charrette/Partnering
- Permitting
- Survey/geotechnical services

standing-seam metal roofs for the HSB and UHS; mechanical systems including air conditioning; plumbing, fire protection, communication, and electrical systems.

The buildings are designed to provide a 25-year useful design life and a 50-year building replacement life. Exterior materials were selected for their contribution to architectural aesthetics and style, but also because of their durability and maintainability. The brick facades are low maintenance and have a high product life. The roof shingles will provide a 40-year life.

The Training Center includes offices, open office areas, classrooms with folding partitions, and meeting spaces; SIPRNET space, conference rooms with audio-visual conferencing capabilities; mail sorting and distribution; distance learning center; support areas for soldiers and their families, PAARNG Learning Center, and Library Reading spaces; break room/vending area; physical readiness room; male and female shower/locker rooms; assembly space; kitchen; an auditorium; and telecommunications spaces.

The 45,000-sf Heated Storage Building includes offices, warehouse type storage space for unit and individual equipment storage cages and lockers, armorer's space and arms vaults, weapons simulator, mechanical and electrical rooms, telecommunication, and supply and staging spaces.



The 8,000-sf Vehicle Maintenance Facility has two vehicle maintenance bays with motorized insulated coiling doors, with daylighting panels, at each end for the vehicle to pass through. The clear height of the structure is 16 feet from grade elevation to accommodate any vehicle height. The VMF also includes equipment alcove, storage (tools, parts), work stations, office, telecommunication space, restrooms, janitor closet, flammable storage, controlled waste, battery room, mechanical and electrical rooms. It has tail pipe vehicle exhaust system, water service and compressed air drops in the workbays, in-floor radiant heat and gas-fired radiant heaters, and a wash rack at the end of the VMF.

The mechanical systems for the Training Center, VMF, and HSB were selected to maximize energy efficiency while maintaining air quality. A complete Building Automation System (BAS) includes direct digital control automatic temperature control system to control and monitor all HVAC systems. The system will connect the Training Center with the VMF and the HSB. All high occupancy spaces will have an independent CO<sub>2</sub> sensor to control ventilation rates and reduce energy consumption.

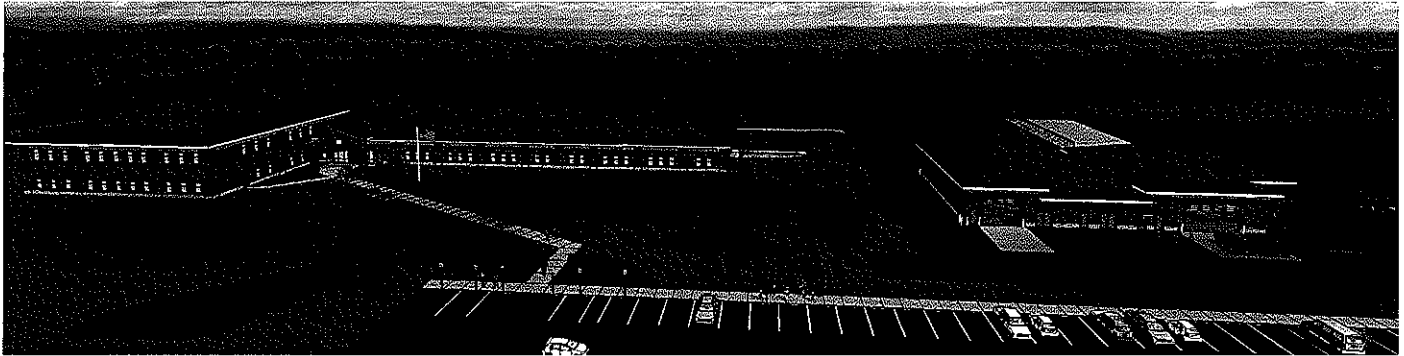
The AFRC design meets the UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings. Stand-off distances and unobstructed zone configuration comply with the standard. Potential external pressures from explosive devices were factored into the lateral framing system as required by the UFC. All exterior doors open out and are constructed of metal. Elements of the ATFP design for the mechanical systems included locating outdoor equipment beyond the required unobstructed space adjacent to the buildings when possible. For equipment installed within the required unobstructed space it was properly enclosed on all sides and top to allow access only by authorized operations and maintenance personnel. Outdoor air intakes for HVAC systems are located more than 10 feet above the adjacent grade. Utility distribution and installation and equipment bracing comply with the UFC. Emergency air distribution shutoff control is provided for all HVAC systems. Mass notification systems (integrated with the fire alarm system) were also provided.

The AFRC meets the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005. The design included improved envelope thermal performance, improved window thermal and solar performance, reduced lighting power densities, high performance mechanical system design, and improved site and indoor environment to achieve sustainability goals.

**FIRM INVOLVED WITH THIS PROJECT**

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. STV	Douglassville, PA and Baltimore, MD	Subcontractor – Design firm

EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		EXAMPLE PROJECT KEY NUMBER
		2
TITLE AND LOCATION (City and State)	YEAR COMPLETED	
Design and Construction of an Armed Forces Reserve Center Newark, DE	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2011	2011
PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
USACE Louisville District	Michael Higgins	502-315-7472
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost).		



STV provided design services and is presently providing post-design services for a \$15 million design-build of a new 400-member Armed Forces Reserve Center (AFRC). These services included architectural and interior design, and civil, structural, mechanical, electrical, plumbing, and fire protection engineering. Design deliverables included a Basis of Design analysis document, specifications, and construction drawings. These also encompassed life cycle costs analyses (LCCA), life safety and building code analyses, energy modeling, vehicle circulation analysis, ATFP analysis, and all the engineering calculations as part of the design.

This AFRC includes a two-story, 63,000-sf Training Center, a one-story, 8,600-sf Organizational Maintenance Shop (OMS), and an Unheated Storage Building (UHS) that will support four U.S. Army Reserve (USAR) units and two Delaware Army National Guard (DEARNG) units in executing their support and training missions. STV's partner on the design-build contract is Pike Wohlsen, LLC.

The design for the site infrastructure included privately owned vehicle (POV) parking areas for 131 vehicles, access driveways, loading dock, dumpster enclosure, and other associated site improvements such as sidewalks, curbs, fences, exterior lighting, signage, and site landscaping, plus construction of military equipment parking (MEP) areas for both USAR and DEARNG. The civil design also included surveying and geotechnical services, and application and approval for all necessary permits. The site required extensive demolition and removal of all structures and existing improvements such as utilities, pavement, and fencing.

The project was fast-tracked to meet client mission objectives. There was early collaboration with all stakeholders utilizing a kick-off meeting, design Charrette, and a Partnering session to ensure all design requirements were known. Additional specialty meetings were held to discuss furniture, IT, communications, and security requirements. Review meetings were held at the 50%, 100%, and Final design milestones with incorporation/resolution of all review comments prior to proceeding to the next design deliverable milestone. Construction administration services are being provided during the construction phase with review of shop drawings, responding to RFIs, conducting site visits, participating in red-zone meetings, punch-list walk-through, and preparation of as-built drawings to close out the project.

The design is in accordance with the Design Guide for US Army Reserve (UFC 4-171-05), and the Army National Guard General Facilities Information Design Guide (DG 415-5). The structures will be of permanent construction with reinforced concrete foundations; concrete floor slabs; masonry structure with brick veneer and shingle roofs for the Training Center and OMS; and pre-engineered building with standing-seam, metal roof for the UHS; mechanical systems including air conditioning; plumbing, fire protection, communications, and electrical systems.

The buildings are designed to provide a 25-year useful design life and a 50-year building replacement life. Exterior materials were selected for their contribution to architectural aesthetics and style, but also because of their durability and maintainability. The brick facades are low maintenance and have a high product life. The roof shingles will provide a 40-year life.

The Training Center includes classrooms with wall partitions, offices, open office area space, family support spaces, break room, kitchen, assembly hall, conference room with audio-visual conferencing capabilities, physical readiness area, shower/locker rooms, weapons simulator,

#### PROJECT HIGHLIGHTS

- Army National Guard project
- Design-Build project
- Design and post-design services
- ATFP
- LEED Silver
- BIM
- EMCS
- IDS
- NG Design guides
- Charrette/Partnering
- Permitting
- Survey/geotechnical services

armorer's office and arms vaults, SIPRNET Café, warehouse type storage space with unit and individual equipment storage locker and cage areas, supply and staging space, learning center, and library/reading area.

The 8,600-sf Organizational Maintenance Shop (OMS) has two vehicle maintenance bays with motorized insulated coiling overhead doors with daylighting panels, equipment alcove, storage (tools, parts), work stations, office, telecommunication space, restrooms, janitor closet, flammable storage, controlled waste, battery room, mechanical and electrical rooms, and a wash rack structure. It has tail pipe vehicle exhaust system, compressed air, gas-fired radiant heaters, and DDC controllers.

The mechanical systems for the Training Center and OMS were selected to maximize energy efficiency while maintaining air quality. A complete Building Automation System (BAS) includes direct digital control automatic temperature control system to control and monitor all HVAC systems. The system will fully integrate with the existing facility-wide Energy Monitoring and Control System (EMCS). All high occupancy spaces, such as classrooms, will have an independent CO<sub>2</sub> sensor to control ventilation rates and reduce energy consumption.

The design was developed utilizing 3D Building Information Modeling (BIM) Revit software.

The facilities include Intrusion Detection System (IDS) for security and access control, CATV, public address, fire alarm, and mass notification systems.

The design complies with requirements of UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings (22 January 2007). Stand-off distances and unobstructed zone configuration comply with the standard. Potential external pressures from explosive devices have been factored into the lateral framing system as required by the UFC. All exterior doors open out and are constructed of metal. Elements of the ATRP design for the mechanical systems included locating outdoor equipment beyond the required unobstructed space adjacent to the buildings when possible. For equipment installed within the required unobstructed space it was properly enclosed on all sides and top to allow access only by authorized operations and maintenance personnel. Outdoor air intakes for HVAC systems are located more than 10 feet above the adjacent grade. Utility distribution and installation and equipment bracing comply with the UFC. Emergency air distribution shutoff control is provided for all HVAC systems. Mass notification systems (integrated with the fire alarm system) are also provided. The arms vaults for the Training Center have been designed in accordance with DoD Standard AR 190-11.

The AFRC meets the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005. An integrated design approach to sustainability was implemented throughout all phases of the design and incorporated the use of energy simulation software to guide design decisions and enhance the overall life-cycle cost efficiency of the facility. By coupling energy savings measures such as improved envelope thermal performance, improved window thermal and solar performance, and reduced lighting power densities with high performance mechanical system design, the desired energy conservation goals and LEED Silver certification will be achieved.

**FIRM INVOLVED WITH THIS PROJECT**

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	STV	Douglassville, PA and Baltimore, MD	Subcontractor – Design firm

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

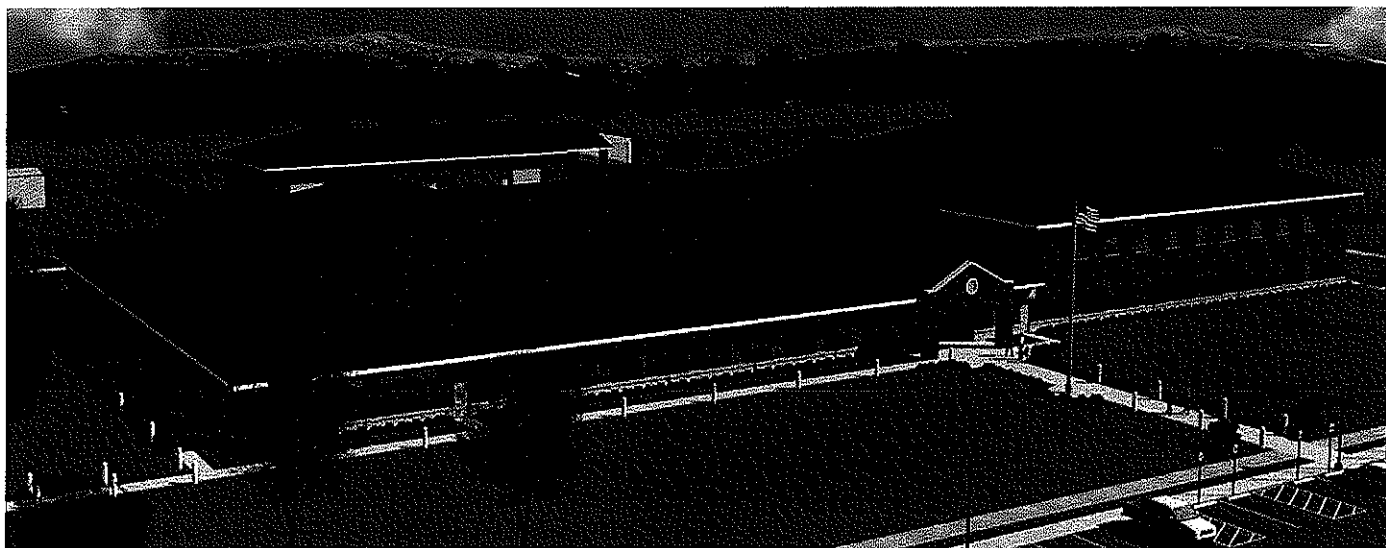
**EXAMPLE PROJECT KEY NUMBER**  
3

TITLE AND LOCATION (City and State)	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Design and Construction of an Armed Forces Reserve Center Lewisburg, PA	2011	2011

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER USACE Louisville District	b. POINT OF CONTACT NAME Steve Farkus, Project Manager	c. POINT OF CONTACT TELEPHONE NUMBER 502-387-4302
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**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost).**



STV provided design and is currently providing post-design services for a \$17 million design-build project of a new 400-member Armed Forces Reserve Center (AFRC). These design services include architectural and interior design, and civil, structural, mechanical, electrical, and plumbing/fire protection engineering. The design was developed utilizing 3D Building Information Modeling (BIM) Revit software.

The AFRC consists of a two-story, 73,000-sf Training Center and a single-story, 7,900-sf Vehicle Maintenance Facility (VMF) in support of Army Reserve and National Guard units. STV's partner on the design-build contract is Lobar Incorporated.

The project's site improvements include Unheated Storage Buildings (UHS), privately owned vehicle (POV) and military equipment parking (MEP) lots, stormwater management (SWM) facility, loading dock and loading ramp, dumpster enclosure, and a heavy-duty paved driveway. There are 331 POV spaces, including 8 handicap spaces. The MEP parking areas for the U.S. Army Reserve (USAR) and the PA Army Reserve National Guard (PAARNG) units are located in the rear of the site adjacent to the Vehicle Maintenance Facility, and they are sized to contain the equipment assigned. The supporting elements of this project include underground utilities, storm drainage, communications, CATV, PA system, electric, HVAC, fire protection/alarm systems, IDS, lightning protection, antiterrorism force protection measures, paving, fencing, sidewalks, curbs, exterior lighting, signage, and landscaping. The civil design also included surveying and geotechnical services, and application and approval for all necessary permits.

The project was fast-tracked to meet client mission objectives. There was early collaboration with all stakeholders utilizing a kick-off meeting, design Charrette, and a Partnering session to ensure all design requirements were known. Additional specialty meetings were held to discuss furniture, IT, communications, and security requirements. Review meetings were held at the 50%, 100%, and Final design milestones with incorporation/resolution of all review comments prior to proceeding to the next design deliverable milestone. A Basis of Design, specifications, and construction drawings were developed for the project. Construction administration services are being provided during the construction phase with review of shop drawings, responding to RFIs, conducting site visits, participating in red-zone meetings, punch-list walk-through, and preparation of as-built drawings to close out the project.

The design is in accordance with the Design Guide for US Army Reserve (UFC 4-171-05), and the Army National Guard General Facilities Information Design Guide (DG 415-5). The structures will be of permanent construction with reinforced concrete foundations; concrete floor slabs; masonry structure with brick veneer and shingle roofs.

**PROJECT HIGHLIGHTS**

- Army National Guard project
- Design-Build project
- Design and post-design services
- ATRP
- LEED Silver
- BIM
- EMCS
- IDS
- NG Design Guides
- Charrette/Partnering
- Permitting
- Survey/geotechnical services

The buildings are designed to provide a 25-year useful design life and a 50-year building replacement life. Exterior materials were selected for their contribution to architectural aesthetics and style, but also because of their durability and maintainability. The brick facades are low maintenance and have a high product life. The roof shingles will provide a 40-year life.

The Training Center features an enlarged central lobby with a high, sloped ceiling. The lobby is flanked by a two-story wing to the east that contains the majority of classroom, meeting, office, open office, SIPRNET, fitness, and training spaces. To the west is a one-story wing containing PAARNG offices and the building's equipment, storage, supply, and vault spaces. Directly ahead of the main entrance and adjacent to the lobby is the assembly space. Beyond the assembly space on the north side of the building are the kitchen and its support spaces. With this arrangement, the lobby provides direct and convenient access to all major areas of the building.

The first floor of the two-story wing to the east of the lobby contains the USAR recruitment and retention office immediately adjacent to the lobby with direct visual connection through an interior window. Support spaces for soldiers and their families are located off of the corridor that opens to the lobby, including the PAARNG Family Support, USAR Reading, PAARNG Learning Center and other similar spaces. The physical readiness room and male and female shower/locker rooms are located in this area. The weapons simulator is in an interior location bounded by spaces that are not normally occupied (storage spaces, mechanical spaces, corridors, etc.) to minimize any acoustical impact. The first floor classrooms with folding partitions are on an exterior wall to provide them with windows and daylighting. A break room with counters, cabinets, a sink and a refrigerator is also provided on the first floor of this wing on an exterior wall. A liberal use of windows is emphasized to provide abundant natural light to the building interior. The second floor of the two-story wing contains classrooms, offices, briefing rooms with audio-visual conferencing capabilities, and meeting spaces. The one-story wing to the west of the lobby contains office and support spaces for the PAARNG, including field lockers and unit storage areas. In addition, the vault spaces, staging areas, and loading dock are located in this wing.

The 7,900-sf Vehicle Maintenance Facility has a masonry exterior wall structure with steel structure frame and roof. It has two vehicle maintenance bays at ends of the VMF with the first bay designated as a vehicle maintenance bay with motorized insulated coiling doors with daylighting panels at each end for the vehicle to pass through. The clear height of the structure is 16 feet from grade elevation to accommodate any vehicle height. The VMF also includes equipment alcove, storage (tools, parts), work stations, office, telecommunication space, restrooms, janitor closet, flammable storage, controlled waste, battery room, mechanical and electrical rooms. It has tail pipe vehicle exhaust system, water service and compressed air drops in the workbays, and in-floor radiant heat and gas-fired radiant heaters. There is a wash rack structure with four columns next to the VMF.

The mechanical systems for the Training Center and were selected to maximize energy efficiency while maintaining a high level of indoor air quality, assure ease of maintenance and enhance the overall life-cycle cost efficiency of the facility. The systems include high efficiency boilers and chiller, variable speed pumps and fans, indoor mechanical equipment with easy service access, and high efficiency filtration for improved indoor air quality. The mechanical systems for the Vehicle Maintenance Facility were selected to maximize energy efficiency while meeting the required ventilation and exhaust rates in the RFP, UFC-4-171-05 and DG 415-2. The design assures ease of maintenance and enhances the overall life-cycle cost efficiency of the facility.

A complete Building Automation System (BAS) has been provided, including direct digital control (DDC) automatic temperature control system to control and monitor all HVAC systems. This system will provide environmental control for both buildings and alert maintenance personnel when systems are not operating properly. This will enhance overall system maintenance and provide long-term efficient operation of all systems. The system will be a single, complete, non-proprietary control system and will include the ability for remote monitoring and alarm notification via network and pager. An emergency HVAC system shut-off switch will be provided.



The AFRC meets the UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings. The arms vaults for the Training Center have been designed in accordance with DoD Standard AR 190-11. Stand-off distances and unobstructed zone configuration comply with the standard. Potential external pressures from explosive devices were factored into the lateral framing system as required by the UFC. All exterior doors open out and are constructed of metal. Elements of the ATRP design for the mechanical systems included locating outdoor equipment beyond the required unobstructed space adjacent to the buildings when possible. For equipment installed within the required unobstructed space it was properly enclosed on all sides and top to allow access only by authorized operations and maintenance personnel. Outdoor air intakes for HVAC systems are located more than 10 feet above the adjacent grade. Utility distribution and installation and equipment bracing comply with the UFC. Emergency air distribution shutoff control

is provided for all HVAC systems. Mass notification systems (integrated with the fire alarm system) were also provided.

The AFRC meets the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005. The design included improved envelope thermal performance, improved window thermal and solar performance, reduced lighting power densities, high performance mechanical system design, and improved site and indoor environment to achieve sustainability goals.

**FIRM INVOLVED WITH THIS PROJECT**

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	STV	Douglassville, PA and Baltimore, MD	Subcontractor – Design firm

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**

4

**TITLE AND LOCATION** (*City and State*)

**YEAR COMPLETED**

**A/E Task Order Contract for Facilities Projects, Stryker Brigade Combat Team Support, Various locations, PA**

PROFESSIONAL SERVICES

CONSTRUCTION (*If applicable*)

2011

2011

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER

Departments of the Army and Air Force, National Guard Bureau, USPFO-PA

b. POINT OF CONTACT NAME

LTC John Saufley

c. POINT OF CONTACT TELEPHONE NUMBER

717-861-8212

**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT** (*include scope, size, and cost*)

The 56th Brigade, Pennsylvania Army National Guard (PAARNG) is transforming its mission to become a Stryker Brigade Combat Team (SBCT). The program supporting this new mission involves the design and construction of facilities at various sites in Pennsylvania. To date, STV has been assigned task orders for support on eight new or renovated Readiness Centers (RC), and four new or renovated Field Maintenance Shops (FMS). The facilities will provide for SBCT training of troops, and maintenance and storage of military vehicles.

On a task order basis, STV has been planning, designing, and developing design-build bid documents for these RCs and FMSs. The facilities are all designed in accordance with the National Guard Bureau Design Guides, DG-415 series. A major element of the SBCT effort is the development of standardized approaches to the various design challenges involved in a multi-site Program. STV evaluated the various National Guard Design Guides and developed best practices for meeting the spirit and intent of the guides for multiple like-kind facilities located on diverse project sites. The best practices developed were used to give concise guidance to the Design-Build firms selected for final project delivery.

All the new structures were designed and are being constructed in accordance with UFC 4-010-01, DoD Minimum Antiterrorism Standards New Buildings. These projects have encompassed anti-terrorism force protection (ATFP) criteria from threat analysis to site layout design, incorporating vehicle parking standoff distances, security checkpoints, perimeter control, and natural and man-made barriers. The architectural, structural, mechanical, and electrical design elements also complied with this standard.

Work on all task orders included existing conditions surveys, surveying and geotechnical analysis, environmental (NPDES) permitting obtained through Townships and Counties, land development, sustainable Project Rating Tool (SPiRiT) and LEED design considerations (with a goal of five SPiRiT Gold and five LEED Silver certifications), commissioning design, and preliminary design services for the purposes of development of the design-build bid documents at numerous sites. STV provided services in all fields of architecture and engineering including architectural, interior design, structural, mechanical, plumbing, fire

**PROJECT HIGHLIGHTS**

- Army National Guard project
- NG Design Guides
- AEP Studies
- Programming
- Space planning
- Training facilities
- Emergency power generation systems
- Office relocation
- Existing conditions surveys & evals
- Environmental impact assessments
- Geotechnical/Surveying investigations
- Conceptual designs
- Design development
- Cost estimating
- Preparation of complete construction contract documents
- Construction phase support
- Building automation systems
- Fire protection
- Life safety
- Energy efficiency
- Sustainable design elements
- LEED
- Antiterrorism Force Protection (ATFP)
- Building Information Modeling (BIM)
- Construction schedules
- Permitting
- Renovation
- Utility studies

Facility	Construction Cost
Reading Readiness Center Addition/Alteration	\$5.7 million
Chambersburg Readiness Center Addition/Alteration	\$4.6 million
Carlisle New Field Maintenance Shop	\$6.9 million
Southampton Philadelphia Readiness Center Alteration	\$10 million
Carlisle New Readiness Center	\$7.7 million
Southampton Philadelphia New Field Maintenance Shop	\$12.5 million
Easton New Readiness Center	\$11.5 million
Easton New Field Maintenance Shop	\$10.5 million
Kutztown Readiness Center Addition/Alteration	\$7.3 million
Graterford New Field Maintenance Shop	\$7.8 million
Hazleton Readiness Center Addition/Alteration	\$5.5 million
Coatesville New Readiness Center	TBD
FITG – Ammo Supply Point	\$8.6 million

protection, industrial, electrical, and civil

design services, as well as construction cost estimating services, construction schedules, and construction management services.

The Readiness Centers include an assembly hall, offices, kitchen, arms vault, classrooms, toilets & showers, physical fitness, break rooms, storage, mechanical and electrical rooms, and support spaces. The projects also included building automation systems, telephone, data, mass notification system, and security access control.

The Facility Maintenance Shops include maintenance bays, office spaces, storage areas, inspection area, library, small arms vault, break and assembly room, classroom, shower/locker/restroom areas, mechanical, electrical and

telecommunication rooms, and support areas. The maintenance work-bay areas were designed to include drive-through workbays to house electronic bay, lubrication bay, support maintenance bay, welding bay, and warm up bay. An overhead crane was provided to support the workbays. The support core areas and supply room house the tools, supplies, batteries, bulk equipment, bulk POL storage, Flammable storage, and controlled waste spaces.

The site improvements for the project sites included access roads, aprons, sidewalks, lighting, landscaping, and signage. In addition, there are service areas for trash collection, emergency generator, maintenance equipment storage, delivery, loading, fuel storage and dispensing system, and wash platform. There is parking for POVs as well as military equipment parking (MEP).

**Reading Readiness Center (RC):** This task order involved the development of design-build bidding documents for extensive alterations to a 24,060 GSF existing armory, and two additions equaling 11,870 GSF which house heated storage space, computer training spaces, secure and operation rooms, and a workbay. The project included design considerations to achieve a SPIRiT Gold Rating.

**Chambersburg Readiness Center (RC):** This task order involved the development of design-build bidding documents for alteration to a 15,930 GSF Armory with a 5200 GSF addition to create a new RC with spaces as described above. It also included extensive alterations to an adjacent 9,500 GSF annex facility. Improvements to the 5-acre site include elements identified above.

**Southampton Philadelphia Readiness Center (RC) and Field Maintenance Shop (FMS):** This task order involved the development of design-build bidding documents for the renovation of a 133,938 GSF RC and a new 27,524 GSF FMS located on an 18-acre site. The project began with a scoping study to determine what renovations could be accomplished within the budgetary constraints. Renovations to the three-story structure included offices, classrooms, kitchen, restrooms, arms vaults, mechanical rooms, physical fitness and storage areas. The design incorporated cost effective, energy conserving features including energy management control systems, high efficiency HVAC and lighting systems. The new FMS facility included spaces as identified above.



*Southampton Field Maintenance Shop*

**Carlisle Field Maintenance Shop (FMS) and Readiness Center (RC):** This task order involved the development of design-build bidding documents for a new 27,300 GSF FMS and new 40,000 GSF RC designed of permanent masonry-type construction with standing seam metal roof. The project also included a 2,200 GSF unheated storage building. Building Information Modeling (BIM) was used to develop the RFP document drawings. The facilities and site improvements included the spaces as outlined above. The project included LEED design considerations for attaining SPIRiT certification.

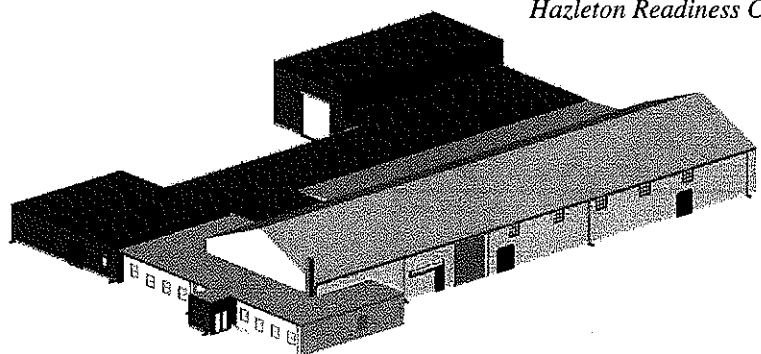
**Easton Readiness Center (RC) and Field Maintenance Shop (FMS):** This task order involved the development of design-build bidding documents for a new 37,956 GSF one-story RC of permanent masonry type construction with a FMS and small unheated storage building on a 22-acre site. The project included LEED design considerations for attaining SPIRiT Gold Rating.



*Easton Field Maintenance Shop*

**Kutztown Readiness Center (RC):** This task order was for the development of design-build bidding documents for the extensive renovation of an existing 16,000 GSF RC with a 15,586 GSF addition of permanent masonry type construction located on a 7-acre site. The newly created RC and site improvements included all elements identified above. Building Information Modeling (BIM) was used to develop the RFP document drawings. The project included design considerations to achieve LEED NC 2.2 Certified Rating.

**Hazleton Readiness Center (RC):** This task order was for the development of design-build bidding documents for the renovation and addition to the existing Hazleton Readiness Center (RC). The renovation to the existing 13,625 GSF RC included the assembly hall, offices, kitchen, toilets & showers, physical fitness, break rooms, storage, mechanical room, and support spaces. The renovation was extensive; removing and replacing windows and doors, walls, ceilings, and fixtures and installing energy management control systems, high efficiency motors, lighting, and HVAC. The 11,830 GSF addition



*Hazleton Readiness Center*



was designed of permanent masonry-type construction with brick veneer and a single-ply roof. The addition included a drive-thru maintenance bay, office spaces, personnel and unit storage areas, classrooms, library, small arms vault, mechanical, electrical and telecommunication rooms, and support areas.

STV developed a Phasing Plan for the entire project which enabled construction of the addition prior to renovation of the existing RC, while the RC remained fully operational. Due to the fact that the existing RC remained to be renovated, a waiver of the required standoff distances was required on the south side of the project site along Samuels Street. The project included LEED design considerations for attaining LEED NC 2.2 Certified Rating. STV also provided independent third-party reviews of specific disciplines.

**Graterford Field Maintenance Shop:** This task order involves the development of design-build bidding documents for a new 22,812 GSF FMS, a small unheated storage building, and site improvements located on a 30-acre site. Building Information Modeling (BIM) was used to develop the RFP document drawings. The project included design considerations to achieve LEED NC 2.2 Certified Rating.

**Coatesville Readiness Center (RC):** This task order was for the development of design-build bidding documents for a new 31,300 GSF RC and a small flammable storage materials facility. The project included design considerations to achieve LEED NC 2.2 Silver Rating. STV is currently developing the bidding documents for this project with completion expected in early 2011.

**Ammunition Supply Point (ASP):** This task order included full design services for the modernization of existing 1938-era magazines increasing the storage capacity required at the existing Ammunition Supply Point (ASP). This facility, in conjunction with SBCT Program, will be used to assist in weapons training for soldiers and provide for a consistent availability of ammunition supplies. The new facility will allow for modern, cost-effective, energy-efficient training, and sustaining operations that will improve the PAARNG's readiness posture.

Originally built around 1938, the modernization program goals included replacing all of the 1938-era magazines and providing approximately 19,200 sf of new magazines. A new 3,200-sf Small Arms Ammunition Warehouse and a new 2,400-sf Administration Building with extensive access road development, utilities, and associated MEP and POV parking complete the project.

STV services included project oversight, including creating clear and attainable project objectives, building the project requirements, managing the overall scope of the project, as well as maintaining the project budget, schedule, and quality of the project. These services included pre-design, design, and construction administration services. Pre-design services included the facilitation of a design Charrette, which integrated the interests and concerns of all stakeholders, resulting in the development of the Basis of Design for the project. Architectural and engineering (civil, structural, mechanical, electrical, and plumbing) design services were provided, including participating in preconstruction and progress meetings.



*Ammunition Supply Point, Fort Indiantown Gap, PA*

STV completed DD Forms 1390/1391 identifying the construction of six ammunition magazines to meet the 19,200-sf authorization. Site restrictions and limitations on the maximum-approved magazine sizes required re-thinking the PAARNG's original plans. In collaboration with the PAARNG, STV developed a new plan allowing construction of twelve magazines to meet the project requirements without exceeding the project budget.

Due to the nature of this project, construction budget limitations, and special project security requirements for the ASP, the LEED points available for achieving a LEED-NC Silver rating were limited. During the Design Phase, STV provided estimates of the hard and soft costs of complying with each of the LEED categories to allow the PAARNG to make both the appropriate technical as well as business

decision in reaching the desired LEED rating. As a result, only the Administration Building was required to achieve a LEED Silver rating for self-certification.

Antiterrorism/Force Protection (ATFP) measures were taken into consideration for the project. The project complied with ATFP UFC 4-010-01 for the Administration Building. The Ammunition Storage Magazines were located within a secure site, requiring their own special security criteria.

STV provided NPDES permitting services for all 14 structures and extensive site work associated with the ASP Upgrade Project. STV prepared the plans, reports, and applications for the township, county, and state permits which included the local land development plans, the County Conservation District approvals, and State Stream Encroachments, Storm Water Management Associated with Construction Activities and Wetlands permitting.

The magazines and Small Arms Ammunition Warehouse are integrated into the existing ASP layout with the proposed new Administration Building being a newly constructed facility on a previously undeveloped forested site. The ASP Upgrade Project required coordination with pre-construction activities that needed to be completed before new construction could begin. The pre-construction activities were handled by others.

The ASP upgrade consists of all new construction and required coordination with existing operations at the site. With the exception of the new Administration Building, the new structure pad sites are located among existing, operational ammunition magazines. The pre-cast magazine

construction allows multiple magazines to be constructed simultaneously since formwork is minimized. Consequently, to fully benefit from the financial economies of this method of construction, a construction schedule, and phasing plans were developed that allow a number of magazines to be under construction at one time.

The construction cost allocation was \$8,816,300, not including construction contingency. STV's cost estimating was refined to within 4% of the construction budget and a series of Base-Bid Alternates were developed to assure the project could be awarded in the event unfavorable market conditions drove costs higher than anticipated. Based on the unique construction requirements for earth-covered ammunition magazines, small arms ammunition warehouses, and the high occupant density of the Office Building, at each level of design the STV Team developed more detailed construction cost estimates than normally performed. The award cost of \$8,586,136 was within budget, and the design was delivered on time.

**Post-design construction services were also provided. They included administration of progress meetings, shop drawing review, response to RFIs, construction inspections, cost estimating, modifications, punch lists, and as-builts.**

**Construction Management Services:** On this task order, STV provided on-site construction management services for a Combined Arms Collective Training Facility (CACTF); a 15-building training site and field maneuver observation facility designed by another firm and built in the mountains of Fort Indiantown Gap. STV provided field supervision of construction activities and coordination of drawings and specifications, and reviewed change orders, requests for information (RFIs), and pay applications from contractors to make sure there was a free flow of information and compliance with contracts. STV worked with the architect and engineer to resolve errors and omissions in drawings, and with regulatory agencies to make sure that contractors met site safety and environmental concerns.

FIRM INVOLVED WITH THIS PROJECT		
(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. STV	Douglassville, PA	Prime – A/E and CM services

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**

5

**TITLE AND LOCATION** *(City and State)*

**YEAR COMPLETED**

**Design and Construction of the Brigade and Battalion Headquarters**  
Fort Stewart, GA

PROFESSIONAL SERVICES

CONSTRUCTION *(If applicable)*

2011

2011

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER  
USACE Savannah District

b. POINT OF CONTACT NAME  
Michael Jacobs, Project Engineer

c. POINT OF CONTACT TELEPHONE NUMBER  
912-368-8180, x124

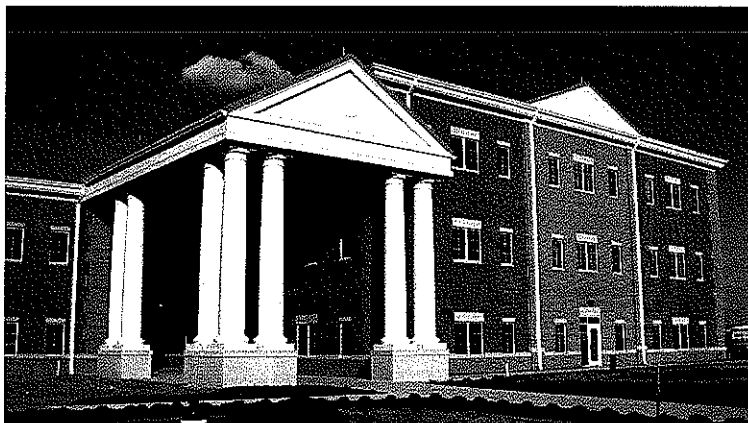
**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT** *(Include scope, size, and cost)*



STV, as a subconsultant to Mortenson Construction, is providing design and post-design services for a \$21 million design-build of a three-story, 138,000-sf Brigade and Battalion Headquarters. These services include architectural and interior design, and civil, structural, mechanical, electrical, plumbing, and fire protection engineering. The facility includes administrative areas; operations areas; classrooms; conference rooms; break rooms, and special use space for a Secure Compartmented Information Facility (SCIF), Brigade Operations Center, Network Operations Center, plus a 700-sf multi-purpose room overlooking the main entrance. The latter opens onto a stately balcony that overlooks the main entrance court and the parade ground area. Site improvements include sidewalks, storm drainage, and grading.

**PROJECT HIGHLIGHTS**

- Design and post-design services
- U.S. Army project
- ATFP and progressive collapse criteria
- BIM
- LEED Silver

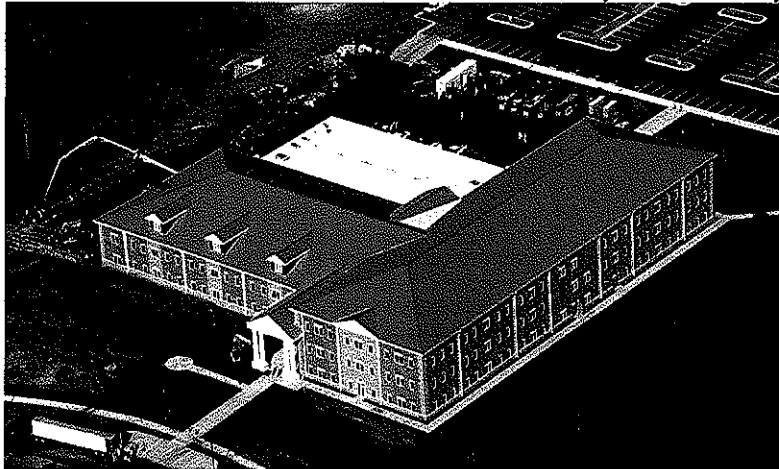


The design is in accordance with the Fort Stewart Installation Design Guide. The design uses many features of Southern Colonial Revival Style of architecture, including entrance porches composed of a pediment and classical columns, brick pilasters, classically proportioned windows, masonry quoins at the building corners, dormer windows, and a contrasting masonry water table. Façades are all masonry construction. A liberal use of windows provides abundant natural light to the building interior. Standing seam metal roof is used for the Brigade and Battalion wings. The flat roof over the classroom area is a fully adhered membrane roof, selected for its durability.

The structural system for this facility uses isolated spread footings and continuous spread footing on compacted fill to create the foundation. Steel columns with composite steel/concrete framing and cold formed steel for roof framing were used for the building framing system. The proposed design, structural system and materials are in accordance with the UFC 4-010-01 DoD minimum standards for progressive collapse and utilize redundant members to bridge across any area that may be subject to a terrorist activity to retain continuity in

the structural system. Potential external pressures from explosive devices have been factored into the lateral framing system as required by the UFC.

The mechanical systems for this facility were selected to maximize energy efficiency while maintaining a high level of indoor air quality, to assure ease of maintenance, and to enhance the overall life-cycle cost efficiency of the facility. Systems include high efficiency boilers and chiller, variable speed pumps and fans, indoor mechanical equipment with easy service access, and high efficiency filtration. A complete Building Automation System includes direct digital control automatic temperature control system to control and monitor all HVAC systems. The system will fully integrate with the existing facility-wide Utility Monitoring and Control System. All high occupancy spaces such as classrooms and conference rooms have an independent CO<sub>2</sub> sensor to control ventilation rates and reduce energy consumption.



Teleconferencing, cable televisions and data facilities will be provided in each classroom, as well as visual display boards and projection screens. Secure videoteleconferencing is provided in specific areas, and videoteleconferencing and a conduit for GFGI Projector signal wiring are provided in all

conference rooms and classrooms. A zoned paging system is provided throughout the facility, integrated with the telephone system. A multi-zone, all call, mass notification system designed and tested in accordance with NFPA 72 is provided as an emergency voice alarm communications system.

The design was developed utilizing Bentley Building Information Modeling (BIM) software to create a 3D graphic model and facility data to produce accurate construction documents and minimize interferences between disciplines.

The AFRC design meets the UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings. The facility will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005.



**FIRM INVOLVED WITH THIS PROJECT**

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	STV	Douglassville, PA and Baltimore, MD	Subconsultant – Design firm

EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		EXAMPLE PROJECT KEY NUMBER
		6
TITLE AND LOCATION (City and State)	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Fort Drum Consolidated Soldier and Family Support Center Watertown, NY	2003	2004
PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
USACE New York District	Edward Sim, Chief of Construction	917-790-6131 E-mail: edward.r.sim@usace.army.mil
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		



The \$20.4 million Consolidated Soldier and Family Support Center combines several support functions previously housed in different buildings at Fort Drum into a new 2-story building containing medical facilities, a motor vehicle department, a post office, Red Cross, transportation offices, housing administration offices, financial offices, inspector general offices, conference rooms, childcare facilities, an auditorium, a café, classrooms, computer rooms, a library, and court-related facilities.

The new center is a 122,000-sf steel frame structure clad with a brick and block exterior. It has a commanding entrance arcade flanked on either side by freestanding walls. These elements help reduce the scale of the building, making it more user-friendly. The building exterior conforms to the Fort Drum Master Plan. The building is sited to provide blast protection, and the exterior walls are designed to meet the required level of security. The design is ADA compliant. As mandated by the client, all aspects of the design used metric units of measure.

STV provided complete architectural and engineering services and construction administration for the new support center and office building, including an 800-vehicle parking lot. STV's scope encompassed all civil and architectural elements, surveying, environmental, geotechnical, and MEP work, as well as information technology services.

Prior to development of the design, STV assessed the original code analysis, feasibility study, and cost estimate reports, which had been prepared 10 years earlier and required extensive updates and revisions to bring them in line with current codes and new ADA requirements. The firm also prepared a topographic survey and subsurface soil investigation report.

In addition to architectural design, STV designed fire alarm and sprinkler, HVAC, plumbing, electrical, and information systems, as well as an intrusion detection system (IDS). The design encompassed supporting facilities, including utilities such as electric, water, and natural gas service; paving, walks, curbs, and gutters; storm drainage, water, and sanitary sewers; and associated site improvements. The stormwater management element of the project included an analysis of the existing drainage system and of the impact of the facility on the hydrologic conditions of the site and the storm sewer system.

STV coordinated the inclusion of a major existing information relay node within the building to serve the base's communications system. The node, which requires stand-alone mechanical services, needed to be kept in operation during construction of the new facility.

Through innovative and cost-effective design approaches, STV played a key role in providing the soldiers and families at Fort Drum with a unique center of support. STV used a single architectural form repeated throughout the facility, which reduced the amount of design needed and simplified

#### PROJECT HIGHLIGHTS

- Design and post-design services
- ATFP
- IDS
- Permitting
- Survey/geotechnical services
- Cost estimating

construction. A cost savings also resulted from concentrating the limited design and material resources on those parts of the facility that will be used and viewed the most. A challenge STV faced involved maximizing the amount of area while remaining within the USACE construction budget. STV developed an elaborate series of alternatives which ultimately allowed USACE to build out the entire program. These alternatives included a series of additions to the base building including structural, mechanical, plumbing, and electrical alterations.

FIRM INVOLVED WITH THIS PROJECT		
(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a. STV	New York, NY	Prime – Design firm

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**  
7

TITLE AND LOCATION (City and State)	YEAR COMPLETED	
Design-Build Munitions/ Explosive Ordnance Disposal (EOD) Complex Fort Lee, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2011	2011

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER USACE Norfolk District	b. POINT OF CONTACT NAME Candace Michener, PE BRAC Resident Engineer	c. POINT OF CONTACT TELEPHONE NUMBER 804-734-4929
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**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost).**



STV, as a **subconsultant to Mortenson Construction**, is providing design development through construction for a **\$23 million design-build project**, which consists of construction of a new 2-story, **110,000-sf munitions/EOD building** and a 1-story, 11,000-sf robotics training building at Training Area 5 (TA-5) at Fort Lee, VA. The EOD Complex comprises 34,570 sf of classroom space, 21,520 sf of administration and operations offices, along with 16,480 sf of laboratories and specialized functions.

The project was initiated with a partnering session conducted with all members of the integrated project team. STV's services included a significant amount of predesign interface with the user agency and the end-users validating the design concept and substantiating specific user needs. As a result of this process, a Basis of Design was developed and followed throughout the design. Design services included architectural and interior design, and civil, structural, mechanical, electrical, plumbing, and fire protection engineering. Post-design construction services are also being provided, including facilitation of shop drawing reviews, responses to RFIs, and as-builts documentation, as well as maintaining continual dialog with the user agency, confirming the program design has been achieved.

The facility includes administrative areas, **conference rooms with audio-visual capabilities**, numerous **flexible classroom spaces**, communications rooms, counseling rooms, break rooms, labs, testing rooms, X-ray room, ammo and ordnance identification rooms, ammo inspection station, **arms vault**, and a variety of support and storage spaces. The two-story training building has both a **secure and a non-secure wing**.

The Munitions/EOD Training Complex is designed to be a functional and attractive addition to the new expansion at Fort Lee. It was planned to complement other structures in the proposed expansion program while its size and architecture speak to its function and role as an important educational facility.

The buildings are designed to comply fully with the Fort Lee Installation Design Guide, Life Safety, and Fire codes. The design uses a variety of architectural features, including an entrance porch composed of a gable roof and masonry columns, classically proportioned windows, and a contrasting masonry water table. The exterior walls provide a high level of insulation with a total R-value of 23, and the roof provides an R-value of 30. This energy efficient building envelope will contribute to the Energy Optimization Performance credits for the **LEED Silver certification**, reduce building energy costs, and increase the thermal comfort for the building occupants.

The building is designed as a two-story steel-framed structure supporting a hipped standing seam metal roof. The building frame supports the masonry exterior walls to provide for lateral resistance of earthquake and wind. The design complies with requirements of **UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings**. Stand-off distances and unobstructed zone configuration will comply with the standard. Due to site constraints, a portion of the NE section of the Munitions/EOD building will be within the 82-foot ATFP setback; 55 feet from the road. Potential external pressures from explosive devices have been factored into the lateral framing system as required by the UFC. This part of the

**PROJECT HIGHLIGHTS**

- Design-Build project
- Design/post-design services
- Compliance with Installation Design Guide, Life Safety, and Fire codes
- Bentley BIM
- ATFP and progressive collapse criteria
- LEED Silver
- EMCS
- IDS

building will be designed to withstand the added blast pressures by upgrading the steel framing system and providing blast-resistant windows in the affected area.

The mechanical systems were selected to maximize energy efficiency while maintaining a high level of indoor air quality, to assure ease of maintenance, and to enhance the overall life-cycle cost efficiency of the facility. Systems include high efficiency boilers and chiller, energy recovery ventilators, variable speed pumps and fans, indoor mechanical equipment with easy service access, and high efficiency filtration for improved indoor air quality. Elements of the ATRP design for the mechanical systems include locating outdoor HVAC equipment beyond the required unobstructed space adjacent to the buildings. Outdoor air intakes for HVAC systems are located more than 10 feet above the adjacent grade. Emergency air distribution shutoff control will be provided for all HVAC systems.

A complete Building Automation System (BAS) includes direct digital control automatic temperature control system to control and monitor all HVAC systems. This system will provide environmental control for the entire building and will provide service alerts to maintenance personnel. This will enhance overall system maintenance and provide long-term efficient operation. The BAS will fully integrate with the existing facility-wide **Energy Monitoring and Control System**. All high occupancy spaces, such as classrooms and conference rooms, will have an independent CO2 sensor to control ventilation rates and reduce energy consumption.

Telecommunications requirements for both buildings include: data and voice communication, NIPRNET, SIPRNET, and dial tone. A complete UL-listed addressable fire alarm system will be provided for each building with full control, supervisory, alarm, signal, display, and battery backup features. A mass notification system will be provided for both the MUN/EOD and EOD Training Buildings. The system will be designed and tested in accordance with NFPA 72 as an emergency voice alarm communications system. A complete CATV system will be provided to both new facilities. A **programmable electronic key card access system** will be provided in accordance with the Army Installation Design Standard, Para. 3.5.11., Locks and Locking Devices. A complete Electronic **Intrusion Detection System (IDS)** will be provided in both buildings. The IDS will consist of passive infrared motion detection, magnetic door switches, and a central IDS controller to monitor, supervise, and annunciate unauthorized intrusion and notify Fort Lee base security forces.

Multiple phases of the design were developed in a fast-track environment, where independent design packages were created simultaneously during the design phases of the project. The design was developed utilizing **Bentley Building Information Modeling (BIM)** software to create a 3D graphic model and facility data to produce accurate construction documents and minimize interferences between disciplines.

The facility will meet the energy requirements for **LEED Silver Certification** and for the **Energy Policy Act of 2005**, and will comply with anti-terrorism force protection requirements (ATFP). This project is a task under an existing Multiple Award Task Order Contract (MATOC).

FIRM INVOLVED WITH THIS PROJECT		
(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. STV	Douglassville, PA and Baltimore, MD	Subcontractor – Design firm



**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**  
8

TITLE AND LOCATION <i>(City and State)</i>	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>
<b>Thomas Jefferson Hall Library and Learning Center, U.S. Military Academy (USMA), West Point, NY</b>	2008	2008

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER U.S. Army Corps of Engineers New York District	b. POINT OF CONTACT NAME Jeffery Friese, PE USACE Project Manager	c. POINT OF CONTACT TELEPHONE NUMBER 845-938-2116
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**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT** *(Include scope, size, and cost)*

The United States Military Academy (USMA) at West Point recognized that construction of a new library facility was necessary to meet the growing educational needs of the cadets and faculty. STV has been a key player in West Point's vision for the new library and learning center, providing planning, programming, architectural, and engineering services for these facilities.

The project's first task consisted of strategic planning to identify the best approaches to new construction and renovation on campus that meet the operational needs, short- and long-term goals, and budget of the Academy.

STV conducted a site selection investigation to evaluate 19 potential sites for construction of the new library and learning center. The second task of this project included complete architectural and operational programming, as well as the development of schematic design for the new library and Learning Center, as well as the renovated academic building.



**PROJECT HIGHLIGHTS**

- U.S. Army project
- Planning/design charrettes
- Design and post-design services
- Form 1390/91
- ATFP
- LEED
- Cost estimating
- Survey/geotechnical services



Prior to completion of this project, the library was housed in two separate locations, the main library building and the basement of Bartlett Hall, with the archives located remotely off campus. To consolidate the library collection and provide space for the expansion and new educational challenges, the USACE commissioned the design and construction of a new library. STV is the architect-of-record and engineer for the new 141,000-gsf facility. The new building will provide for 40 years of expansion and incorporate state-of-the-art technology to propel the students and faculty into the information age, and is designed to comply with the

Bronze level of the USACE's SPiRiT sustainable design program (USGBC/LEED-certified level). The facility is designed in compliance with military Antiterrorism/Force Protection (ATFP) standards and is structurally designed to meet necessary blast resistance criteria.

Integral to its architectural and engineering functions, STV provided USACE with several pre-schematic (conceptual) cost estimates corresponding to alternatives in design, as well as design-development construction cost estimates, and a master project schedule indicating design and construction milestones.

The mission of the project was to create a library that serves as a center to advance the army's technological development. The library will emphasize the integration of a variety of teaching and learning tools, including group study rooms; technological classrooms that use computers as teaching devices; digital imaging services; and internet resources, to provide access to other library collections and a broader range of information.



Work on this project included planning and programming, architecture, engineering/survey, and environmental/ geotechnical services.



The Learning Center, which combines teaching, learning, and technology support, is an expanding program for the West Point Campus. The Learning Center provides academic support services to cadets and staff, including computer and multimedia support and centers for enhanced performance and teaching excellence. Locating these services and resources in a single center also housing the library facilitates greater integration and cooperation in supporting the academic achievement of cadets and instructors. The library and Learning Center also include seminar rooms for interdisciplinary work. To be sure that the state-of-the-art learning facility is flexible enough to accommodate future needs, STV designed an information technology infrastructure that allows for growth of program areas and advances in communication technologies.

To promote the timely completion of this project, STV prepared documents to secure funding for the project through the Department of

the Army and the U.S. Congress. In addition, the firm packaged submissions to the New York State Historic Preservation Office to document the need for the project and to justify the new construction on what is a historic landmark site.

Based on STV's superior performance on this project, the Army Corps of Engineers awarded the firm the next phase of the project, the development of design and preparation of construction documents for the new library and Learning Center, as well as renovations to the existing library to house the USMA Archives.

Prior to bidding, STV's estimating consultant prepared a ready-to-bid estimate with variance reports to prior estimates to verify project cost. During the bidding process STV promoted the project by contacting general contractors and subcontractors to create bidding interest, participated in pre-bid conferences, and advertised the project in several national construction trade journals.

During the construction phase, STV provided shop drawing review, response to substitutions and requests-for-information. STV also reviewed on-site mock-ups of critical construction components and provided periodic construction observation.



*"STV provided excellent services with an experienced team. The project, due to budget constraints, was challenging. STV met the challenge and provided services above and beyond their contract requirements when urgent need arose."*

Performance rating: **Excellent.**

Jeffery Friese, USACE Project Manager  
Thomas Jefferson Hall Library and Learning Center

#### Awards

**Federal Planning Division Award**, Category 3: Area Development Plan, *American Planning Association*.

**Platinum Award, 2009 Engineering Excellence Awards:** Building/Technology Systems, *American Council of Engineering Companies of New York*

**Merit Award, Best of 2008 Awards:** Higher Education, *New York Construction magazine*

#### FIRM INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. STV	New York, NY and Douglassville, PA	Prime – A/E and CM services

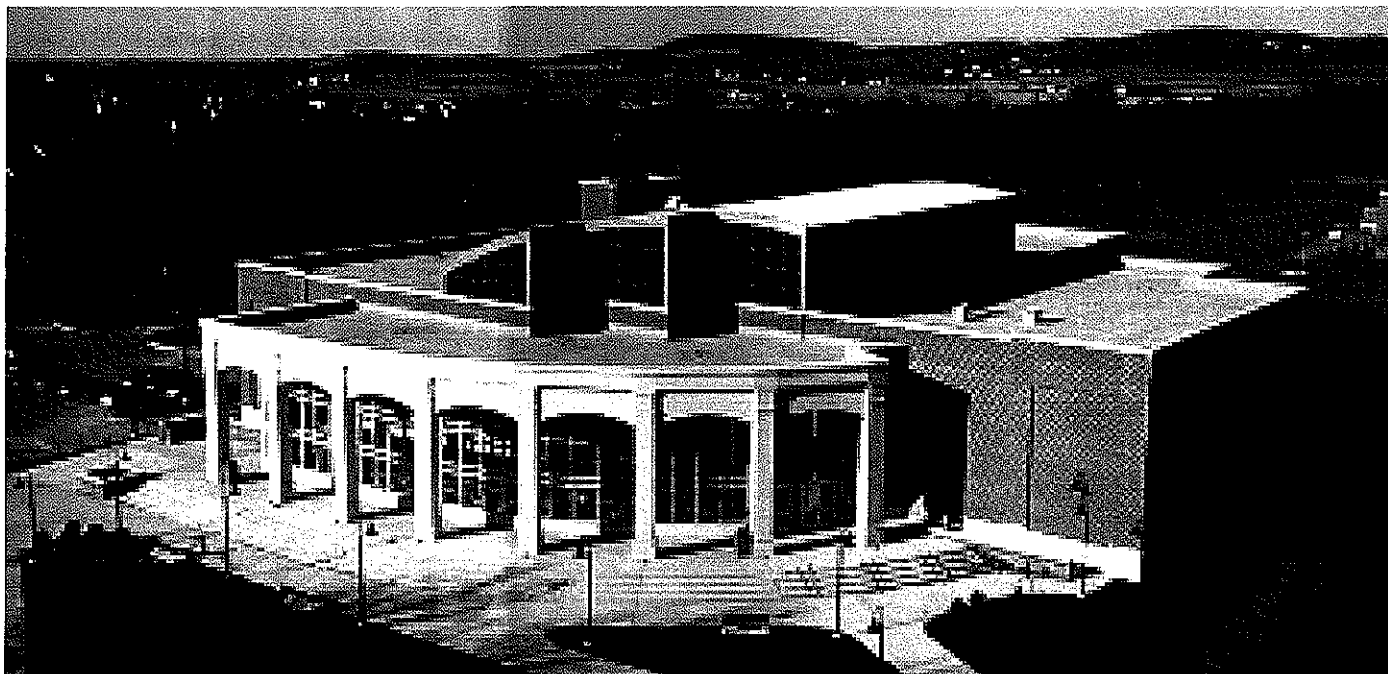
**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**  
9

TITLE AND LOCATION (City and State)	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
<b>Academic Forum, Kutztown University</b> Kutztown, PA	2006	2006

PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER Kutztown University	b. POINT OF CONTACT NAME Terry Brown, Director of Facilities, Project Services	c. POINT OF CONTACT TELEPHONE NUMBER 610-683-1573

**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost).**



*"The Academic Forum is probably one of the best buildings not only in the System, but at any campus for its size and function. I have yet to meet anyone who has seen that building who hasn't been completely impressed, and the successful functioning of the building with the two diverse operations that occur in it (teaching and food services) is beyond what we really could have hoped for."*

R. Jeff Grimm, PE, Asst VP for Facilities

STV provided architectural, structural engineering, and interior design, as well as construction management services for a new 62,000-sf, 2-story Academic Forum (with a partial basement) on the Kutztown University campus in Kutztown, PA. The facility houses a variety of classrooms and configurations, as well as the new North Campus food service area.

**PROJECT HIGHLIGHTS**

- Design and post-design services
- Sustainable design principles
- Classrooms and offices
- Interior design

The classroom program required seven lecture halls: three 85-seat tiered classrooms with table configurations, three 175-seat tiered classrooms with tablet arms, and one 200-seat tiered classroom with tablet arms. STV's design provided for all of the classrooms to be fully equipped with state-of-the-art audiovisual technology wired to each seat or completely wireless. Kutztown University did not assign the classrooms to any particular college but has them available to the entire campus, scheduled by the Provost. Because of this, the high-tech classrooms and North Campus Food Service Facility are essentially "community space"; therefore, interactive and collaborative design was essential. Approximately 3,000 students pass through the facility each day.



A signature feature at the facility's core is a 6,000-sf Commons area that contains a variety of seating and interaction "hooks" in support of the food service operation and lounge/interaction functions. STV's design for the 100- to 150-seat food service facility provided for service operations, service points, storage, and a loading dock. It contains approximately 4,000 sf of combined space for retail and board plan opportunities.

STV's construction management services for the Academic Forum included full pre-bid services, including constructability, value engineering, budgeting, and procurement using "best value" construction procurement for four prime contractors. STV managed all site activities during construction. The firm provided all project documentation including cost control, schedule maintenance and recovery plans, quality assurance inspections, processing of contractor payment applications, and change management, including change order scope preparation and negotiation. All work was monitored to assure that work proceeded in accordance with the contract documents and approved contractor submittals. In addition, STV conducted equipment operation and maintenance training with the owner prior to building turnover. The firm prepared final punch lists, and substantial completion was determined to provide final inspection and building occupancy. STV was also responsible for preparing all closeout documentation including warranties, instruction manuals, and final payments.

The original occupancy date was January 2007, to be ready for scheduled spring semester classes and food service. The project was completed ahead of schedule and under budget.



*"Your attention to detail and your willingness to work on so many projects has enabled the University to continue to grow, to expand, and to serve the young men and women of this region. Kutztown University today has a much different physical appearance and environment than it did 10 years ago, and you have been an integral part of that transformation."*  
 William Sutton, VP for Advancement

In 2007, the Academic Forum was named an "Outstanding Project" in the Outstanding Buildings - Common Areas category of *American Schools & University's Educational Interiors Showcase*.

FIRM INVOLVED WITH THIS PROJECT		
(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. STV	Douglassville, PA	Prime – A/E and CM services

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**

10

**TITLE AND LOCATION** *(City and State)*

**YEAR COMPLETED**

**Advanced Technology Center**  
Blue Bell, PA

PROFESSIONAL SERVICES

CONSTRUCTION *(If applicable)*

2007

2007

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER

Montgomery College Community College (MCCC)

b. POINT OF CONTACT NAME

George Mulligan, Former Executive Director, Capital Projects and Support Services, MCCC

c. POINT OF CONTACT TELEPHONE NUMBER

GeorgeM@temple.edu\*  
\*Mr. Mulligan has asked to be contacted by email rather than telephone.

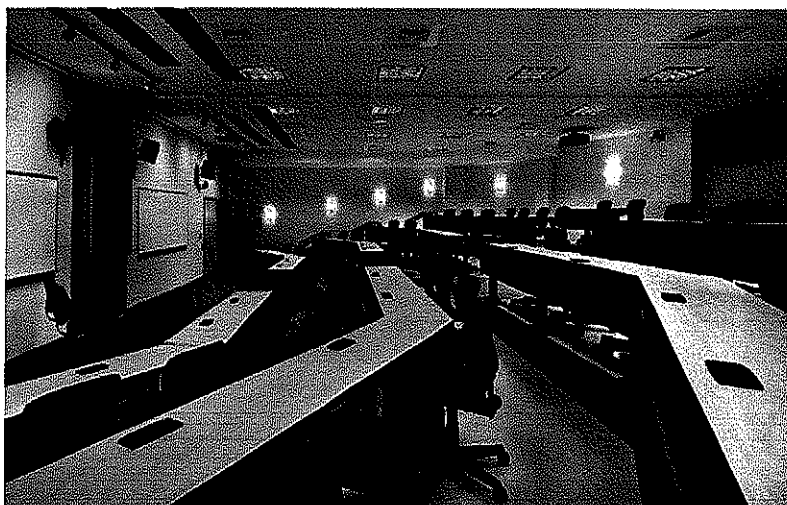
**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT** *(Include scope, size, and cost)*

STV provided complete design services for Montgomery County Community College's new Advanced Technology Center (ATC), including architectural as well as structural, mechanical, electrical, and plumbing/fire protection engineering. These services also included civil engineering/site planning improvements and permitting.

The \$18 million ATC accommodates five different divisions of the college—Humanities, Social Science, Math/Science/Advanced Technologies, Information Technology, and Business/Computer Science. The building was designed to provide a collaborative learning environment where the humanities and the sciences are brought together within a facility that promotes an interdisciplinary approach to education.

The 60,000-gsf multi-use facility consists of four floors. The basement floor houses the mechanical and electrical systems, equipment, and some general storage.

The first floor houses the Communications Group, including a television studio, radio station, presentation hall, and an entrance/atrium space that is three stories high and features a glass elevator and art gallery. The second and third floors house a biotechnology lab with associated support spaces, 11 Smart Classrooms, 16 faculty offices, an observatory, and a large conference room.



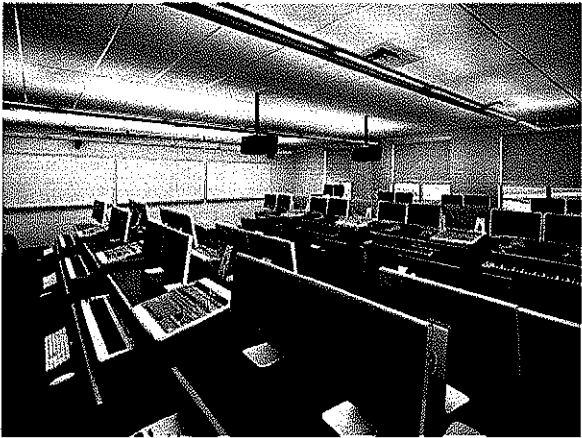
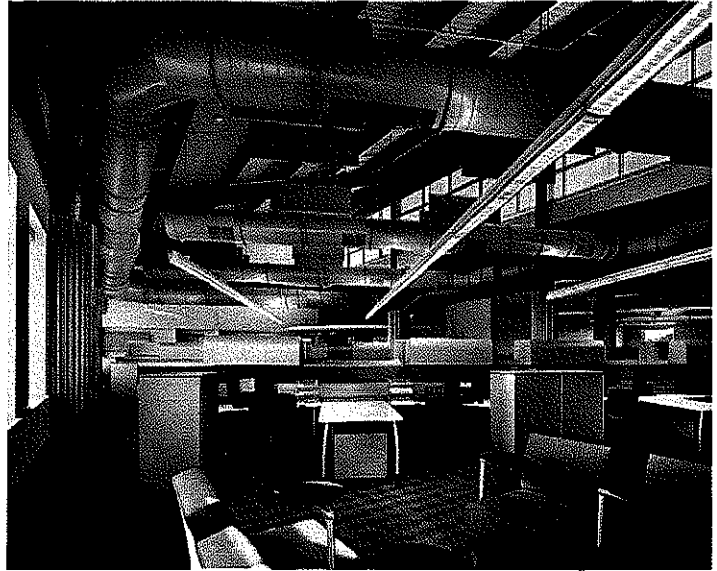
**PROJECT HIGHLIGHTS**

- Multi-purpose with 11 Smart Classrooms, 16 faculty offices, an observatory, and a large conference room
- Design and materials compatible with the University's architectural plan
- Sustainable design principles
- Design and post-design services
- Interior design



The atrium space includes a coffee bar and an interactive, electronic reception area with a touchscreen and plasma monitor for directing visitors, which is connected to the IT area on the third floor. The atrium is adaptable for use as a reception hall.

Student and faculty interaction spaces of varying sizes were strategically located throughout the facility.



While the client elected not to pursue LEED certification, STV conducted a LEED workshop and addressed sustainable design elements including indoor air quality, recycled content, recyclability of building materials, the use of local building materials, and impacts of design and building materials on the occupants.

This project received the 2008 Outstanding Design – Post-Secondary Award, *American School & University's Architectural Portfolio*.

**FIRM INVOLVED WITH THIS PROJECT**

(1) FIRM NAME  
a. STV

(2) FIRM LOCATION *(City and State)*  
Douglassville, PA

(3) ROLE  
Prime – A/E services

EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		EXAMPLE PROJECT KEY NUMBER	
		11	
TITLE AND LOCATION (City and State)	YEAR COMPLETED		
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	
<b>Oil Water Separator Installation</b> Barbour County, Eleanor, WV	2008	2009	
PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
WV Army National Guard	Scott Sharp, Phil Emmerth	(304) 561 6459	
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost).			

TRIAD provided full civil engineering services including site development design for these projects. The projects consisted of the installation of a new 550-gallon, 55 gpm, S.T.I.P.-3, single wall unit oil/water separator at each location. The new separators were sized to accommodate drainage from CHP Storage Buildings No. 1, No. 2, and the Decon Building. The projects included connecting to existing piping from the above-mentioned buildings to the new oil/water separator. The oil/water separator was designed to drain into the existing sanitary sewer line. TRIAD worked closely with WVArNG personnel to develop a comprehensive set of bid and construction documents within a short time frame and limited budget. Additional project elements included electrical and venting design, and erosion and sediment control.

Services provided by TRIAD consisted of field surveying and mapping to determine existing site conditions, design of the oil/water separator system, collaboration with the WVArNG to optimize use of a relatively small work site, design of all site grading and drainage features, and the preparation of an opinion of probable construction cost, bidding, construction, and as-built documents.

**Relevant RFP Components:**

- Site/Civil
- Geotechnical Investigation and Recommendations

FIRM INVOLVED WITH THIS PROJECT		
a. (1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
Triad Engineering, Inc.	Scott Depot, WV	Civil design firm

EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		EXAMPLE PROJECT KEY NUMBER
		12
TITLE AND LOCATION (City and State)	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>Secondary Containment Designs</b> Clarksburg, Preston County, WV	2008	2009
PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
WV Army National Guard	Phil Emmerth	(304) 561 6459
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		

TRIAD provided full civil engineering services including site development design for this project. The project consisted of the installation of a new 550-gallon, 55 gpm, S.T.I.P.-3, single wall unit oil/water separator and a new concrete secondary containment pad. The new separator was sized to accommodate drainage from the new secondary containment pad and drainage from the existing wash pad. The purpose of the new secondary containment pad was for fueling and parking of mobile fuel tanker vehicles (HEMMTs). TRIAD worked closely with WVArNG personnel to develop a comprehensive set of bid and construction documents within a short time frame and limited budget. Additional project elements included changes to the existing security fencing to accommodate the new work, sanitary sewer and storm drainage design, electrical and venting design, and erosion and sediment control.

Services provided by TRIAD consisted of field surveying and mapping to determine existing site conditions, design of the oil/water separator system, replacement of the existing lube and inspection rack apron, and associated site work, collaboration with the WVArNG to optimize use of a relatively small work site, design of all site grading and drainage features, and the preparation of an opinion of probable construction cost, bidding, construction, and as-built documents.

**Relevant RFP Components:**

- Site/Civil
- Geotechnical Investigation and Recommendations

FIRM INVOLVED WITH THIS PROJECT		
(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a. Triad Engineering, Inc.	Scott Depot, WV	Civil design firm



**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**  
13

TITLE AND LOCATION <i>(City and State)</i>	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>
East Hills Development Huntington, WV	2010	2010

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER Structures Resources, Inc.	b. POINT OF CONTACT NAME Bob Childers, Owner	c. POINT OF CONTACT TELEPHONE NUMBER (304) 302 8020
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**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)***

TRIAD provided full civil engineering services including site development design for this project, which included the construction and site development for commercial use of approximately 12 acres. The development consisted of the complete remodeling of interior and exteriors of a 186,000 square foot structure, the design of two stand-alone structures as well as the redesign and improvement of site drainage and parking. Triad designed five large retaining walls to greatly increase the onsite parking. TRIAD worked with a project team consisting of the architect, developer and future tenants/owners to create a complete comprehensive set of construction drawings. Site features included concrete and asphalt paving, sidewalks, curb and gutter, site utility routing and drainage structures.

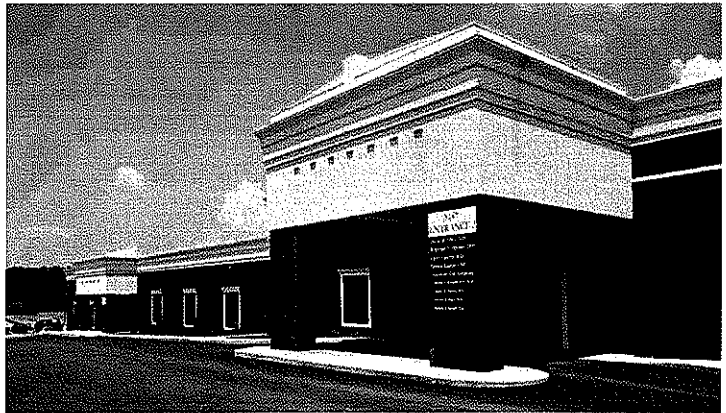
As with most site development projects, this project involved optimizing the use of available property and terrain to accommodate the housing facilities and associated parking and access drives.

As with most site development projects, this project involved optimizing the use of available property to accommodate the commercial development and associated parking and access drives.

Services provided by TRIAD consisted of field surveying to generate a map of existing site and topographic features, an ALTA survey, a geotechnical investigation to determine subsurface conditions to facilitate design of the building foundations and associated site work, design of all site grading and drainage features, and preparation of West Virginia Division of Highways (WVDOH) encroachment permit and West Virginia DEP construction storm water permits.

**Relevant RFP Components:**

- Storm Water Design Including Retention/Detention
- Site/Civil
- Electronic Data Collection
- Topographic and Planimetric Surveys
- GPS Survey
- Control Survey
- HTRW-Level C & D Surveys
- Structural Deformation surveys
- Land Surveys
- Construction Layout



**Contract Amount:** \$50,000  
**Key Personnel:** L. Lee McCoy, PE  
 Steve Clark, PS

**FIRM INVOLVED WITH THIS PROJECT**

(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a. Triad Engineering, Inc.	Scott Depot, WV	Civil design firm

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**

14

**TITLE AND LOCATION (City and State)**

**YEAR COMPLETED**

**Devonshire**  
Scott Depot, WV

PROFESSIONAL SERVICES

Ongoing

CONSTRUCTION (If applicable)

Ongoing

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER

Cathcart Properties/Construction

b. POINT OF CONTACT NAME

Marshall Armstrong, Project Manager

c. POINT OF CONTACT TELEPHONE NUMBER

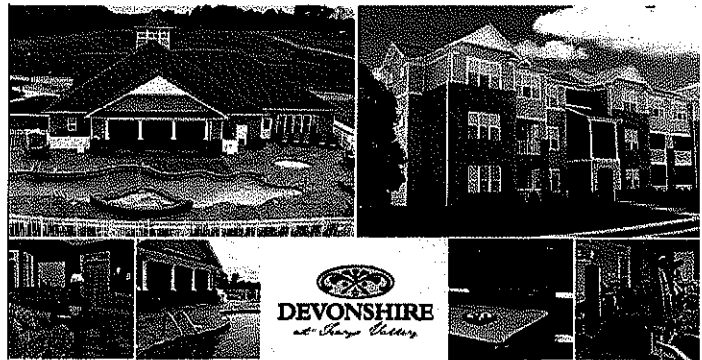
(434) 872 0281

**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)**

TRIAD provided full civil engineering services including site development design for this project, which consisted of the construction and site development for a large luxury mixed-used residential development located in Scott Depot, WV. The development, which encompasses approximately 110 acres, will ultimately have 532 luxury apartments, 174 townhouses, 72 condominiums, and 59 single family patio homes. The development also includes a 6,500-square-foot clubhouse, resort style pool, playgrounds and sport courts. TRIAD worked with a project team, consisting of the architect and developer, to create a complete comprehensive set of construction drawings. Site features included concrete and asphalt paving, sidewalks, curb and gutter, site utility routing, drainage structures, and storm water management features.

As with most site development projects, this project involved optimizing the use of available property and terrain to accommodate the housing facilities and associated parking and access drives.

Services provided by TRIAD consisted of field surveying to generate a map of existing site and topographic features, geotechnical investigations to determine subsurface conditions to facilitate design of the building foundations and associated site work, design of all site grading and drainage features and storm water management features, and preparation of WV Division of Highways (WVDOH) encroachment permit and WV Department of Environmental Protection (WVDEP) construction storm water permits.



**Relevant RFP Components:**

Storm Water Design Including Retention The permitting phase of the project also included close coordination with the Putnam County, WV Planning Commission to obtain building permits and certificates of occupancy. TRIAD also performed construction administration services on this project including full time inspection, construction documentation, pay estimate review, and Owner / Contractor coordination.

- Detention
- Site/Civil
- Retaining Wall Design
- Geotechnical Investigation and Recommendations
- Pavement Design
- Landscape Design

**FIRM INVOLVED WITH THIS PROJECT**

(1) FIRM NAME

a. Triad Engineering, Inc.

(2) FIRM LOCATION (City and State)

Scott Depot, WV

(3) ROLE

Civil design firm

**EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT**

**EXAMPLE PROJECT KEY NUMBER**  
15

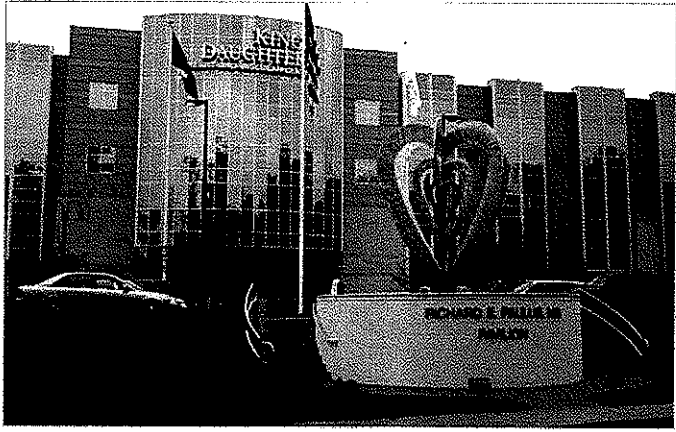
TITLE AND LOCATION <i>(City and State)</i>	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(# applicable)</i>
<b>King's Daughters Medical Center</b> Various Projects, Ashland, KY	2010	N/A

**PROJECT OWNER'S INFORMATION**

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Kings Daughters Medical Center	Howard Harrison	(606) 408-4000

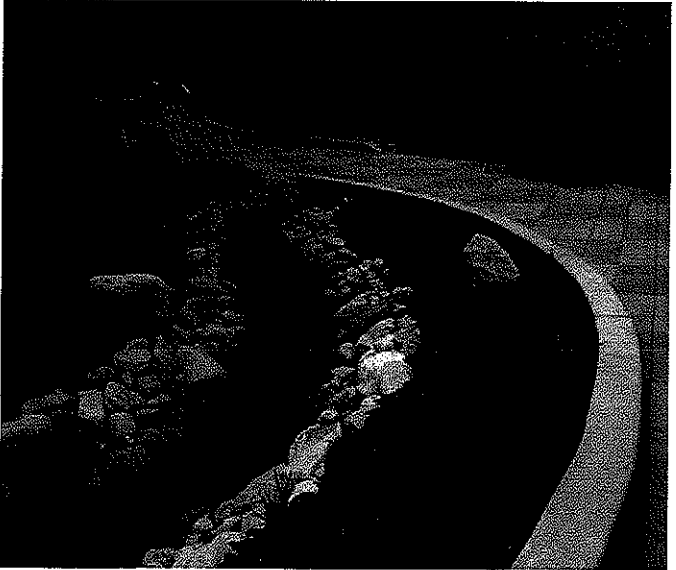
**BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)***

Triad Engineering provided site civil engineering services as well as landscape architectural services for five new medical buildings on the King's Daughters Medical Center Campus in Ashland Kentucky. Triad worked with a project team headed by the Architect and the owner, to develop a complete comprehensive set of construction drawings for the Heart and Vascular Center, Imaging Center, Data Center, Medical Office Building and a Hospitality House. The projects involved optimizing the available property to accommodate the new buildings and parking areas and the improvement of pedestrian and vehicular circulation. The projects consisted of the landscaping and civil site engineering associated with additional structures for this medical facility. Each project was unique, but generally Triad worked with the architect to improve vehicular and pedestrian access and flow, created pedestrian amenities including water features, pedestrian courtyards, and extensive landscaping. Triad also worked with a local sculptor to site 2 major art pieces which included a water element for the campus. Services provided by Triad included preparation of construction documents and details including site grading and drainage features, landscaping to compliment the architecture of the building and local and state permits.



**Relevant RFP Components:**

- Storm Water Design Including Retention/Detention
- Site/Civil/Landscape



**FIRM INVOLVED WITH THIS PROJECT**

(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a. Triad Engineering, Inc.	Scott Depot, WV	Civil design firm

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Cynthia Manning, PE, LEED®AP	Project Manager	22	2.5

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

EDUCATION (Degree and Specialization)	CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Master of Engineering, Environmental Engineering; Old Dominion University Bachelor of Science, Ocean Engineering; U.S. Naval Academy	Professional Engineer: PA, VA

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Accreditations:** Leadership in Energy and Environmental Design (LEED 2.2) Accredited Professional by the U.S. Green Building Council  
**Certifications:** USACE Security Engineering Training Course; Defense Acquisition Workforce Improvement Act (DAWIA) Level III, U.S. Department of Defense (DoD) **Memberships:** Society of American Military Engineers (SAME); American Public Works Association (APWA); Yellow Belt, Lean Six Sigma; Society of Women Engineers (SWE) **Clearance:** Secret, U.S. Navy

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USPFO/DMVA Stryker Brigade Combat Team Facilities Task Order</b> Statewide in Pennsylvania	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
a. <b>Program Manager</b> – Overseeing STV’s A&E services for the transformation of the 56th Brigade, Pennsylvania Army National Guard program into a Stryker Brigade Combat Team. This program involves the design and construction of 12 new and renovated Readiness Centers and Field Maintenance Shops as well as the full design and post-design management for the Ammunition Supply Point at Fort Indiantown Gap. STV performs RFP development for design/build projects and construction management services. The program also includes ATFP measures and sustainable design to achieve LEED certification.		
<b>USACE Savannah District Brigade/Battalion Headquarters</b> Fort Stewart, GA	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
b. <b>Project Director</b> – Overseeing the design for a 3-story, 138,000-sf Brigade and Battalion Headquarters at Fort Stewart, GA. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The design is being developed utilizing Bentley BIM 3D software. Construction administration services are being provided. The facility will be LEED Silver certified and will comply with all ATFP requirements.		
<b>USACE Louisville District, Armed Forces Reserve Center (AFRC)</b> Scranton, PA	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
c. <b>Project Manager</b> – Overseeing the architectural and engineering design of a new \$25 million design-build armed forces reserve center, consisting of a 72,000-sf training center, an 8,000-sf vehicle maintenance facility, and a 45,000-sf heated storage building. The design is being developed utilizing Bentley BIM 3D software. Construction administration services are being provided. The campus is located on an existing strip mining site and had to comply with PADEP environmental requirements, ATFP requirements, and was designed and is being constructed to achieve LEED Silver certification.		
<b>USACE Louisville District, Armed Forces Reserve Center</b> Newark, DE	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
d. <b>Project Manager</b> – Overseeing design and post-design services for the \$15 million design-build of a new 400-member AFRC in Newark, DE. Ms. Manning is responsible for the delivery of services, including architectural and interior design, as well as civil, structural, mechanical, electrical, plumbing, and fire protection engineering. This AFRC includes a 2-story, 63,000-sf training center; a single-story, 8,600-sf organizational maintenance shop; and an unheated storage building that will support four U.S. Army Reserve (USAR) units in executing their support and training missions. The proposed AFRC will also serve two additional Delaware Army National Guard units. The facility meets ATFP requirements and was designed and is being constructed to achieve LEED Silver certification.		
<b>USACE Louisville District, Armed Forces Reserve Center</b> Lewisburg, PA	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
e. <b>Project Manager</b> – Overseeing design and post-design services for a \$17 million design-build project of a new 400-member AFRC in Lewisburg, PA. The design services include architectural and interior design, as well as civil, structural, mechanical, electrical, and plumbing and fire protection engineering. The AFRC consists of a 2-story, 73,000-sf training center and a single-story, 7,900-sf vehicle maintenance facility (VMF) in support of Army Reserve and National Guard units. The facility meets ATFP requirements and was designed and is being constructed to achieve LEED Silver certification.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Timothy Davidheiser, AIA, LEED®AP	Deputy Project Manager	23	21

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)**  
 --

**CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**  
 Registered Architect: DE

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Certifications:** USACE Security Engineering Training Course  
**Accreditations:** Leadership in Energy and Environmental Design (LEED) Accredited Professional by the U.S. Green Building Council

**RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	<b>PAARNG Indefinite Delivery/Indefinite Quantity Contract</b> <b>Stryker Brigade Combat Team Support Facilities, Various PA locations</b>	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
a.	<p><b>Assistant Project Manager/Project Architect</b> – Providing project management and architectural leadership in the preparation and presentation of the design-build bridging documents for the construction of the Pennsylvania Army National Guard (PAARNG) Stryker Brigade Combat Team (SBCT) support and training mission program. Services included obtaining NPDES permitting, and incorporation of sustainable design principles and ATFP criteria into the design. Mr. Davidheiser participated in design charrettes meetings to develop conceptual design documents based on the predetermined program requirements and the end user requests.</p>		
	<b>USACE Munitions/EOD Training Facility Design-Build</b> Fort Lee, VA	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
b.	<p><b>Project Manager</b> – Providing project oversight and project coordination for the design of a new, 2-story, 110,000-sf Munitions and Explosive Ordinance Disposal (EOD) Training Facility and a 1-story, 11,000-sf Robotics Training Building. A Basis of Design was developed and followed throughout the design. Design services included architectural and interior design, and civil, structural, mechanical, electrical, plumbing, and fire protection engineering. Construction documents, Specifications, and Design Analysis were provided. Construction administration services are being provided, including facilitation of shop drawing reviews, responses to RFIs, and as-builts documentation. The facility will meet the energy requirements to achieve LEED Silver Certification. The design also complies with ATFP standards.</p>		
	<b>PAARNG Indefinite Delivery/Indefinite Quantity Contract</b> <b>Fort Indiantown Gap, Ammunition Supply Point Upgrade, Annville, PA</b>	2007	2009
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
c.	<p><b>Project Manager</b> – Provided project oversight for the design of 12 new storage bunkers to increase capacity by 19,200 sf of new magazines. The project also included a new 3,200-sf Small Arms Ammunition Warehouse and a new 2,400-sf Administration Building with extensive access road development, utilities, and associated MEP and POV parking. Mr. Davidheiser managed the overall scope of the project, as well as the project budget, schedule and quality of the project. Architectural and Engineering services were provided. These services included pre-design, design, and construction administration services. Complete construction documents were provided. During construction, Mr. Davidheiser participated in preconstruction and progress meetings, performed review and approval of RFI's, shop drawings, test reports and product data. Mr. Davidheiser performed site construction inspections and participated in the "punch list" inspections; providing a written recommendation to the Client for the acceptance of the project.</p>		
	<b>USDA-APHIS New Fruit Fly Emergence Facility</b> Los Alamitos, CA	2007	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
d.	<p><b>Architectural Designer</b> – Evaluated the owner's scope, objectives, and budgetary capabilities and developed a Program of Requirements (POR) report for the New Emergence Facility for fruit flies in Los Alamitos, CA, as part of a 5-year task-order contract with the U.S. Department of Agriculture (USDA). The program involved compliance with California building codes. Mr. Davidheiser reviewed on-site conditions and processes in an effort to enhance the future design.</p>		
	<b>USDA-ARS National Veterinary Services Laboratories Carcass Disposal Program of Requirements (POR), Ames, IA</b>	2003	2004
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
e.	<p><b>Architectural Designer</b> – Provided architectural design services to develop a POR, and subsequent preparation of specifications, drawings, and construction cost estimating for the new 10,000-sf carcass processing facility located in a pre-engineered structure. Mr. Davidheiser worked closely with process requirements to maximize the building's usage, while complying with current codes and incorporating the corrosive chemicals element into the facilities design.</p>		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>James Vilbert, PE, LEED®AP, Senior VP</b>	<b>Principal-in-Charge</b>	34	12

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

<b>EDUCATION (Degree and Specialization)</b>	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b>
Master of Engineering, Electrical Engineering; Old Dominion University Bachelor of Science, Electrical Engineering; United States Naval Academy Master of Business Administration; Wharton School of Business, University of Pennsylvania	Professional Engineer: PA, MD, VT, MN, UT

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Accreditations:** Leadership in Energy and Environmental Design (LEED), Accredited Professional, U.S. Green Building Council  
**Memberships:** International Society for Pharmaceutical Engineering; National Council of Examiners for Engineering and Surveying

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USACE Norfolk District, Design-Build Fort Lee Munitions and EOD Complex, Fort Lee, VA</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
a. <b>Principal-in-Charge</b> – Providing project oversight design and post-design services for a \$23 million design-build project, which consists of a new 2-story, 110,000-sf munitions and explosive ordinance disposal (EOD) classroom building and a 1-story, 11,000-sf EOD training building at Training Area 5 (TA-5). STV is providing architectural and interior design, as well as civil, structural, mechanical, electrical, plumbing, and fire protection engineering. The buildings are designed to comply with the requirements of UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings, and the project is expected to achieve a LEED®-NC 2.2 Rating System Silver Certification. An integrated design approach was taken to meet the energy conservation requirements and achieve an energy use reduction of at least 30% below ASHRAE 90.1-2004 standards and to meet the requirements of the Energy Policy Act of 2005.		
<b>Stryker Combat Brigade Support Facilities, Task Order Contract</b> Various Locations, PA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
b. <b>Principal-in-Charge</b> – Responsible for the design of the Stryker Combat Brigade Support Facilities, including preparing bridging documents for new and renovated Readiness Centers, Field Maintenance Shops, and Ammunition Supply Points for the Pennsylvania Army and Air Force National Guard. This contract has involved 15 tasks. Estimated construction cost for the assigned tasks under this contract is approximately \$99 million.		
<b>USACE Louisville District Design-Build Armed Forces Reserve Centers (AFRCs), Lewisburg, PA; Scranton, PA; Newark, DE</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
c. <b>Principal-in-Charge</b> – Providing project oversight for design development through construction for three new Armed Forces Reserve Center design-build projects ranging in size from \$15 to \$25 million. The reserve centers include training centers, maintenance facilities, and storage buildings. The facilities will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005, and will comply with ATRP requirements.		
<b>USACE Savannah District Brigade/Battalion Headquarters Design-Build, Fort Stewart, GA</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
d. <b>Principal-in-Charge</b> – Providing project oversight for design of a three-story, 138,000-sf Brigade and Battalion Headquarters at Fort Stewart, GA. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The design is being developed utilizing Bentley BIM 3D software. The facility will meet the energy requirements for LEED Silver certification and will comply with all ATRP requirements.		
<b>USACE Louisville District, Combined Arms Collective Training Facility Design-Build, Fort Dix, NJ</b>	2008	2009
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
e. <b>Principal-in-Charge</b> – Responsible for STV's design portion of a design-build contract for the Combined Arms Collective Training Facility (CACTF) at Fort Dix, NJ. The new \$10.6 million facility consists of nine training and four support buildings along with associated site improvements under Phase 1 of the project.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
James Bannon, PE, LEED®AP	QA/QC Manager	37	37

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

EDUCATION (Degree and Specialization)	CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Electrical Engineering; Drexel University	Professional Engineer, Electrical: AR, CA, DC, DE, ID, MD, MA, MN, NJ, OH, PA, RI, VA

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
 Mr. Bannon is a key member of the STV quality management team. In this capacity, he executes a variety of duties including establishing quality standards and procedures, providing technical expertise, arranging and managing quality training, and providing consultation on quality matters.  
**Accreditations:** Leadership in Energy and Environmental Design (LEED) Accredited Professional, U.S. Green Building Council  
**Publications:** *The Military Engineer*, March-April 2003, "Countering CBR Attacks," (J. Bannon, T. Nevling)  
*Building Design and Construction Handbook*, 5th and 6th Edition, Electrical Systems Chapter Author  
**Membership:** IEEE; IEST; 7x24 Exchange, Delaware Valley Chapter

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USACE Design-Build Fort Lee Munitions and EOD Complex</b> Fort Lee, VA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
a. <b>Design Quality Control Manager</b> – Overseeing quality control for design and post-design services for a \$23 million design-build project, which consists of a new 2-story, 110,000-sf munitions and explosive ordinance disposal (EOD) classroom building and a 1-story, 11,000-sf EOD training building at Training Area 5 (TA-5). The buildings are designed to comply with the requirements of UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings, and the project is expected to achieve a LEED®-NC 2.2 Rating System Silver Certification. An integrated design approach was taken to meet the energy conservation requirements and achieve an energy use reduction of at least 30% below ASHRAE 90.1-2004 standards. Mr. Bannon is reviewing design plans and conducting overall quality control reviews.		
<b>Lockheed Martin Task Orders</b> Various locations	Ongoing	Various
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
b. <b>Design Quality Manager</b> – Performed all-discipline coordination checks for a wide variety of facilities projects. Recent examples include the Lockheed Martin Corporation Combat Information Center, Wallops Island, VA, and the Lockheed Martin Corporation PTB Building Area G High Bay Addition, Newtown, PA.		
<b>FAA Building 315 Explosive Storage Bunker and other Tasks, Wm. J. Hughes Technical Center, Atlantic City International Airport, NJ</b>	2008	Various
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
c. <b>Principal-in-Charge, QA/QC Manager</b> – Provided staff assignments and overall quality control for this Sole Source IDIQ at the William Hughes Technical Center, the nation's premier aviation R&D, and test and evaluation facility. Mr. Bannon directed all tasks, which involved mechanical, plumbing/fire protection, and electrical master planning for approximately 30 buildings, including the Building 315 Explosive Storage Bunker; study and design of a system for a glass-oak handrail and support system to correct excessive deflection and oscillation; expansion of a parking lot; and building additions and renovations.		
<b>NAVFAC Design/Build of Aircraft Acoustical Enclosure (AAE), Marine Corps Air Station, Beaufort, SC</b>	2008	2008
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
d. <b>Director of Facilities Operations</b> – Provided proposal review and approval, staff assignments and management, and product quality control for the site adaptation of a Navy AAE at Marine Corps Air Station (MCAS) Beaufort, SC. Following the Navy's normal method of product improvement, STV based this new AAE's design on the Navy's Standard AAE with the implementation of improvements developed during the recent construction of another AAE.		
<b>U.S. Army Controlled Humidity Storage Facility Design-Build</b> Fort Dix, NJ	2007	2008
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
e. <b>Chief of Electrical Engineers, QA/QC Manager</b> – Supervised the design of electrical portions of a new building for a design-build contract for a new 70,600-sf, single-story Controlled Humidity Storage Facility in Fort Dix, NJ. The project included structural design, HVAC and dehumidification, electrical systems, potable water and sewer, stormwater management, architectural and interior design, environmental compliance with area wetlands and Pinelands permit requirements, communication systems, and gas utilities.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Robert Darlington, AIA, LEED® AP</b>	<b>Architecture</b>	36	36

**FIRM NAME AND LOCATION (City and State)**  
STV, Douglassville, PA

<b>EDUCATION (Degree and Specialization)</b>	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b>
Bachelor of Architecture; Pennsylvania State University	Registered Architect: WV (#2424), AZ, CO, CT, DE, DC, FL, GA, HI, ID, IL, IA, KS, LA, ME, MD, MA, MI, MN, MS, NV, NJ, NY, NC, OH, PA, RI, TX, UT, VA, VT, Alberta and Ontario, Canada

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**

Mr. Darlington has 36 years of experience in all facets of architecture and project management, from planning and programming to construction inspection. His expertise encompasses planning and programming, equipment layout, exterior aesthetic treatment, interior design, and the execution of contract documents.

**Certifications/Accreditation:** Leadership in Energy and Environmental Design (LEED) Accredited Professional by the U.S. Green Building Council; National Council of Architectural Registration Boards (NCARB); American Institute of Architects (AIA)

**Memberships:** American Institute of Architects-National and Local; Pennsylvania Society of Architects; National Trust for Historic Preservation; National Council of Architectural Registration Board (NCARB); Society of Marketing Professional Services

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USACE Louisville District Design-Build Armed Forces Reserve Centers (AFRCs), Lewisburg, PA; Scranton, PA; Newark, DE</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
a. <b>Designer of Record</b> – Sealed drawings for three new Armed Forces Reserve Center design-build projects ranging in size from \$15 to \$25 million. The reserve centers include training centers, maintenance facilities, and storage buildings. The facilities will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005, and will comply with ATRP requirements.		
(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
<b>PA Army National Guard Stryker Brigade Combat Team Facilities Task Order Contract, various locations in Pennsylvania</b>	2007	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
b. <b>Chief Architect</b> – Managed and implemented the architectural portion of this indefinite delivery/indefinite quantity contract for architectural and engineering services at Stryker Readiness Centers and Field Maintenance Shops throughout Pennsylvania. The facilities will provide for SBCT training of troops and for maintenance and storage of military vehicles. STV has been planning, designing, and developing design-build bid documents for these facilities, which have included anti-terrorist force protection from threat analysis to site layout design, incorporating vehicle parking standoff distances, security checkpoints, and natural and man-made barriers.		
(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
<b>Susquehanna University New Science Building</b> Selinsgrove, PA	2010	2010
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
c. <b>Deputy Project Manager</b> for the complete architectural and engineering design of a new 81,000-sf science facility. The 3-story building, now the largest academic building on the campus, accommodates the Biology, Chemistry, and Earth and Environmental Sciences departments and includes teaching and faculty research labs, classrooms, lecture halls, seminar rooms, computer labs, a rooftop greenhouse, and lab support space. In addition to its teaching spaces, the building also includes shared spaces, such as faculty offices, prep space, storage, resource centers, and administrative areas. The building was designed to meet LEED® Silver certification criteria.		
(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
<b>Temple University Beury Hall Renovations</b> Philadelphia, PA	2008	2008
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
d. <b>Project Manager</b> – Provided project management services for the complex renovation of this 5-story, 174,700-sf science building, which contains classrooms, teaching laboratories, lecture halls, research laboratories, and ancillary space. The design and subsequent renovation of Beury Hall occurred in five phases. The \$30 million renovation encompassed programming, field surveying to develop as-built drawings of all the building systems on the ground through fourth floors and the roof, preparing conceptual designs, developing schematic design documents and design development and construction documents, and performing bid and construction administration phase services.		
(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
<b>Shire Pharmaceuticals Corporate Headquarters Fit-Out</b> Wayne, PA	2004	2005
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
e. <b>Chief Architect</b> – Provided architectural design supervision for the \$37 million design-build interior fit-out of 220,000 sf of office space, including executive suites, office areas, training area, conference rooms, cafeteria and private dining rooms, high-density records center, new security and building management systems, and data center. The project was completed in 10 months, from concept design to occupancy.		





**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Michel deTurck, AIA, LEED® AP</b>	<b>Architecture</b>	33	4

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

<b>EDUCATION (Degree and Specialization)</b>	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b>
Bachelor of Architecture; Bachelor of Science, Building Services; Rensselaer Polytechnic Institute	Registered Architect: PA, MD

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**

Mr. deTurck is an accomplished architect with more than 30 years of experience in the design and construction of educational, residential, commercial, transportation, and industrial facilities. As a previous principal and owner of an architectural firm, Mr. deTurck's expertise in architecture, planning, and interior design is demonstrated through hands-on involvement in all phases of project design, including technical and aesthetic quality assurance, as well as cost estimating and construction phase services.

**Accreditations:** Leadership in Energy and Environmental Design (LEED), Accredited Professional, U.S. Green Building Council; American Institute of Architects (AIA)

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USACE Savannah District Brigade/Battalion Headquarters</b> Fort Stewart, GA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
a. <b>Architect/Food Service Designer</b> – Providing architectural design development through construction services for a 3-story, 138,000-sf Brigade and Battalion Headquarters. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The design is being developed utilizing Bentley BIM 3D software. The facility will meet the energy requirements for LEED Silver certification and will comply with all AT/FP requirements. This project is a task under an existing Multiple Award Task Order Contract (MATOC).		
<b>USACE Design-Build Fort Lee Munitions and EOD Complex</b> Fort Lee, VA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
b. <b>Architect/Food Service Designer</b> – Providing architectural design development through construction services for a for a \$23 million design-build project, consisting of a new 2-story, 110,000-sf munitions and explosive ordinance disposal (EOD) classroom building and a 1-story, 11,000-sf EOD training building at Training Area 5. STV is providing architectural and interior design, as well as civil, structural, mechanical, electrical, plumbing, and fire protection engineering. The buildings are designed to comply with the requirements of UFC 4-010-01.		
<b>USACE Louisville District Scranton Armed Forces Reserve Center</b> Scranton, PA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
c. <b>Architect/Food Service Designer</b> – Providing architectural and food service design development through construction for an armed forces reserve center (AFRC), a \$25 million design-build consisting of a 72,000-sf training center, an 8,000-sf vehicle maintenance facility, and a 45,000-sf heated storage building. Support services include site improvements, paving, fencing, and extension of utilities. The facility will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with AT/FP requirements.		
<b>USACE Louisville District Newark Armed Forces Reserve Center</b> Newark, DE	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
d. <b>Architect/Food Service Designer</b> – Providing architectural and food service design development through construction for an armed forces reserve center (AFRC), for the \$15 million design-build of a new AFRC in Newark, DE. Intended to accommodate 400 personnel, the center encompasses a 63,000-sf training center, an 8,600-sf organizational maintenance shop, and an unheated storage building. The facility will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with AT/FP requirements.		
<b>Kutztown University Sharadin Arts Building</b> Kutztown, PA	2008	2008
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
e. <b>Project Manager</b> – Managed the addition to and renovation of the Sharadin Arts Building at Kutztown University, as part of an on-call contract with the university. The 40,000-sf expansion consolidates all visual arts programs into one building that includes spaces for specialized art teaching labs and studios for various disciplines. The project included phased construction, which did not impede any of the academic programs in the building, which allowed for occupancy in the fall semester of 2008.		



**RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Lori Burnley, ASID, LEED®AP	Interior Design	29	28

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)**  
 Associate of Science, Interior Design; Harcum Junior College

**CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**  
 American Society of Interior Designers (ASID)

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Certifications:** Leadership in Energy and Environmental Design (LEED), U.S. Green Building Council (USGBC)  
 Certified Interior Designer; National Council for Interior Design Qualification (NCIDQ)

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USACE Louisville District Three Design-Build Armed Forces Reserve Centers (AFRCs), Lewisburg, PA; Scranton, PA; and Newark, DE</b> (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE a. <b>Interior Designer</b> – Designing the interiors for three new Armed Forces Reserve Centers, ranging in construction costs from \$15 million to \$25 million. The AFRCs include facilities such as training centers, vehicle maintenance facilities, organizational maintenance shop, and heated or unheated storage. The structures will be of permanent construction with reinforced concrete foundations; concrete floor slabs; masonry structure with brick veneer and shingle; standing-seam, metal roofs; mechanical systems including air conditioning; and electrical systems. The facilities will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005, and will comply with ATFP requirements.	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>Clarion University New Dining Facility</b> Clarion, PA (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE b. <b>Interior Designer</b> – Providing interior design services for a new \$12 million, 27,000-sf, 500-seat dining hall that is slated to receive a Silver level LEED certification on the campus of Clarion University. The building will also contain a coffee shop and conference facilities.	2007	2009
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>Kutztown University Open-Ended Task Order Contract</b> Kutztown, PA (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE c. <b>Interior Designer</b> – Designed the interiors for a new \$23 million, 62,000-sf, two-story academic facility. The Academic Forum houses a variety of classrooms and configurations, all equipped with state-of-the-art audiovisual technology wired to each seat or completely wireless. Provided a comprehensive interior design package for the facility including finishes, color palettes, and furniture layout. Ms. Burnley also provided interior design services on other tasks including renovations and addition to the Sharadin Arts Building and renovations to the Administration Building.	Ongoing	Ongoing
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>Boeing V-22 Focus Factory Design-Build</b> Ridley Park, PA (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE d. <b>Lead Interior Designer</b> – Provided the interior design for the design-build conversion of an existing warehouse into a \$31 million, 171,000-sf production and support facility for full-rate production of the V-22 program. The new facility will also house a 2-story, 15,000-sf office and cafeteria area and 5,000 sf of additional ancillary space.	2004	2004
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>USACE Mobile District Task Order Contract</b> Fort Detrick, MD (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE e. <b>Interior Designer</b> – As part of a task order contract, provided an interior design program study and feasibility plan for the U.S. Army Medical Research and Materiel Command (MMRC) at Fort Detrick.	2004	2004
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Kori Campion, LEED®AP	Interior Design	2	2

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)** Bachelor of Science, Interior Design, Philadelphia University  
**CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Accreditation:** Leadership in Energy and Environmental Design (LEED 2.1), Accredited Professional, U.S. Green Building Council  
**Membership:** International Interior Design Association, Student Member

**RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
a.	<b>USACE Louisville, Lewisburg Armed Forces Reserve Center Design-Build, Lewisburg, PA</b>	Ongoing	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
	<i>Interior Designer</i> – Providing interior design for a new, \$17 million design-build AFRC, which includes a 73,000-sf training center and a 7,900-sf vehicle maintenance facility. Ms. Campion participated in the charrette meeting with the USACE, National Guard, Army Reserve, contractor, and other STV team members and presented the finish scheme and furniture layouts. She further developed the finish scheme after meeting with the users and made revisions at the users' request. She developed the complete Comprehensive Interior Design package, which included FF&E. She also provided construction administration services, reviewing submittals and RFIs.		
b.	<b>USACE Louisville, Newark Armed Forces Reserve Center Design-Build, Newark, DE</b>	Ongoing	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
	<i>Interior Designer</i> – Providing interior design for a new, \$15 million design-build AFRC. Intended to accommodate 400 personnel, the center encompasses a 63,000-sf training center, an 8,600-sf organizational maintenance shop, and an unheated storage building. Ms. Campion participated in the charrette meeting with the USACE, National Guard, Army Reserve, contractor, and other STV team members and presented the finish scheme and furniture layouts. She further developed the finish scheme after meeting with the users and made revisions at the users' request. She developed the complete Comprehensive Interior Design package, which included FF&E. She also provided construction administration services, reviewing submittals and RFIs.		
c.	<b>USACE Louisville, Scranton Armed Forces Reserve Center Design-Build, Scranton, PA</b>	Ongoing	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
	<i>Interior Designer</i> – Providing interior design for a new, \$25 million design-build AFRC, including a 72,000-sf training center, an 8,000-sf vehicle maintenance facility, and a 45,000-sf heated storage building. Ms. Campion participated in the charrette meeting with the USACE, National Guard, Army Reserve, contractor, and other STV team members and presented the finish scheme and furniture layouts. She further developed the finish scheme after meeting with the users and made revisions at the users' request. She developed the complete Comprehensive Interior Design package, which included FF&E. She also provided construction administration services, reviewing submittals and RFIs.		
d.	<b>USACE Norfolk District Fort Lee Munitions/ EOD Training Facilities Design-Build, Fort Lee, VA</b>	Ongoing	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
	<i>Interior Designer</i> – Providing interior design services for a \$23 million design-build project, which consists of a new 2-story, 110,000-sf munitions and explosive ordinance disposal (EOD) classroom building and a 1-story, 11,000-sf EOD training building at Training Area 5. Ms. Campion participated in the charrette meeting and presented the finish scheme and furniture layouts. She further developed the finish scheme after meeting with the users and made revisions at the users' request. She developed the complete Comprehensive Interior Design package, which included FF&E. She also provided construction administration services, reviewing submittals and RFIs.		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
L. Lee McCoy, Jr., PE	Civil/Site – Triad Project Manager	15	5

**FIRM NAME AND LOCATION (City and State)**  
 Triad Engineering  
 Scott Depot, WV

EDUCATION (Degree and Specialization)	CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science Civil Engineering; West Virginia University Technical, Montgomery, WV	Professional Engineer, Mechanical: WV, OH, KY

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Memberships:** American Society of Civil Engineers and National Society of Flood Plain Managers

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>Marshall Foundation</b> Huntington, WV	2010	2010
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
a. As project manager and lead designer, prepared construction documents for the construction of a 33,000-square-foot alumni center in Huntington, WV. This project included grading, drainage, roadway expansion, and parking lot design.		
<b>Devonshire Development</b> Scott Depot, WV	Ongoing	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
b. As project manager and lead engineer, is responsible for project design and construction administrative services for a large resort style mixed use residential development. The development consists of apartments, townhouses and condominiums, state-of-the-art 6500 sq ft clubhouse as well as swimming pools, Jacuzzis, sport courts, tot lots and dog exercise areas. Project includes grading, drainage, permitting, and parking lot design.		
<b>East Hills Professional Center</b> Huntington, WV	2009	2010
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
c. As project manager and lead designer, was responsible for the project design for the site development for commercial use of 12 acres. Interior and exterior of a 186,000 sq ft structure was completely remodeled as well as the redesign and improvement of site drainage and parking. Triad designed 5 large retaining walls to greatly increase on-site parking. Site features included concrete and asphalt paving, sidewalks, curb and gutter, site utility routing and drainage structures		
<b>Pendleton County Park</b> Ruddle, WV	2008	2009
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
d. As project manager and lead designer, was responsible for the project design for the site development for a park that included baseball fields, jousting field, parking facilities, exercise trails, and concession building. Site features included grading, drainage, roadway design, parking lot design, as well as all aspects of designing a large multi-use sports complex. Also handled sensitive flood plain issues and ensured site was approved for Corps of Engineers permits.		
<b>West Hills Development</b> Huntington, WV	Ongoing	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
e. As project manager and lead designer, was responsible for the project design for the site development for commercial use of 14 acres. Interior and exterior of a 210,000 sq ft structure was completely remodeled as well as the redesign and improvement of site drainage and parking. Triad designed 2 out parcel lots for future development. Site features included concrete and asphalt paving, sidewalks, curb and gutter, site utility routing, access roads, and drainage structures		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Jack Ramsey, PE</b>	<b>Civil/Site – Potable Water and Sanitary Sewer Design</b>	17	5

**FIRM NAME AND LOCATION (City and State)**  
 Triad Engineering  
 Scott Depot, WV

EDUCATION (Degree and Specialization)	CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science Civil Engineering; West Virginia University Technical, Montgomery, WV	Professional Engineer: WV, KY, VA

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Memberships:** American Society of Civil Engineers

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>Syracuse Racine Regional Sewer District</b> Racine, OH	2010	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
a. As project manager and lead designer, prepared the design for the Wastewater Treatment Plant Upgrade and Pump Station Rehabilitation project that consisted of rehabilitating the existing oxidation ditches and secondary clarifiers, replacing the existing sewage grinder, splitter box, return and waste sludge pump and controls, and sludge meter; installing a new belt filter press building and SCADA system as well as rehabilitating three existing collection system pump stations and replacing two others.		

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>Moorefield Regional Wastewater Collection System</b> Moorefield, WV	Ongoing	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
b. As project manager and lead designer, performed the design and permitting of the regional wastewater collection system project that includes installation of approximately 4,000 LF of 24-inch gravity sewer pipe and over 20,000 LF of 18-inch and 14-inch force main. This system will convey wastewater from all of Moorefield, the Pilgrim's Pride industrial facility and most of Hardy County to the new Regional WWTP.		

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>Green Valley Glenwood PSD</b> Glenwood, WV	2009	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
c. As project manager and lead designer, performed the design and permitting of the regional wastewater collection system project that includes installation of approximately 4,000 LF of 24-inch gravity sewer pipe and over 20,000 LF of 18-inch and 14-inch force main. This system will convey wastewater from all of Moorefield, the Pilgrim's Pride industrial facility and most of Hardy County to the new Regional WWTP.		

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>WV American Water</b> Snowshoe, WV	2008	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
d. As project manager and lead designer, performed the design and permitting of the regional wastewater collection system project that includes installation of approximately 4,000 LF of 24-inch gravity sewer pipe and over 20,000 LF of 18-inch and 14-inch force main. This system will convey wastewater from all of Moorefield, the Pilgrim's Pride industrial facility and most of Hardy County to the new Regional WWTP.		

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>Devonshire Development</b> Scott Depot, WV	Ongoing since 2008	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
e. As project manager and lead designer, performed the design and permitting of the water distribution system and sanitary sewer collection system for this large resort style multifamily, mixed use residential development.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Robert Griffith, PE</b>	<b>Structural</b>	40+	24

**FIRM NAME AND LOCATION (City and State)**  
STV, Douglassville, PA

<b>EDUCATION (Degree and Specialization)</b>	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b>
Master of Science, Structural Engineering; Master of Science, Mechanical Engineering; Bachelor of Science, Civil Engineering	Professional Engineer, Structural: <b>WV (#011865)</b> , PA, CA, CT, DE, IL, IN, KS, MD, NY, NC, OK, TX, VA

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
Mr. Griffith, Chief Structural Engineer, has more than 40 years of experience in various phases of structural engineering and applied mechanics for a variety of governmental, industrial, and commercial facilities. His experience includes project management, department management, project engineering on complex projects, detail design of complex structures, inspection and evaluation of structures, stress analysis, vibration analysis, and failure analysis. He has been involved with all phases of projects from initial concept and field investigation through design and startup.  
**Additional Coursework:** Seminar, Antiterrorism and Force Protection Design for Building Structures  
**Memberships:** American Society of Civil Engineers; American Concrete Institute; American Institute of Steel Construction; American Society of Mechanical Engineers; Society of American Military Engineers; American Welding Society

<b>RELEVANT PROJECTS</b>			
	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	<b>PAANG Stryker Brigade Combat Brigade Support Facilities Task Order Contract, Fort Indiantown Gap, PA</b>	2007	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
a.	<b>Structural Engineer</b> – Provided structural engineering and blast analysis on a task under this \$200 million program involving the design and construction multiple facilities throughout Pennsylvania to serve the 56 <sup>th</sup> Brigade of the Pennsylvania Army National Guard. In particular, Mr. Griffith performed blast analysis for new ammunition supply and storage facilities at Fort Indiantown Gap which will feature six ammunition bunkers and one small arms storage building. This installation also includes a combined arms collective training facility, a 15-building training site, and field maneuver observation facility.		
	<b>USACE Savannah District Brigade/Battalion Headquarters Fort Stewart, GA</b>	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
b.	<b>Chief Structural Engineer</b> – Reviewing the structural design for a 3-story, 138,000-sf Brigade and Battalion Headquarters at Fort Stewart, GA. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The design is being developed utilizing Bentley BIM 3D software. Mr. Griffith is reviewing structural concepts and criteria, and making certain that structural systems apply to the required criteria.		
	<b>Montgomery County Community College Advanced Technology Center, Blue Bell, PA</b>	2007	2007
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
c.	<b>Structural Engineer</b> – Provided structural engineering services for the 61,000-sf Advanced Technology Center. The \$18 million, 4-story facility accommodates five different divisions of the college and was designed to provide a collaborative learning environment. The ATC houses a presentation hall, coffee bar, interactive electronic reception area, biotechnology lab and associated support spaces, 11 Smart classrooms, 16 faculty offices, and a large conference room.		
	<b>USACE Philadelphia Dover Air Force Base C-17 Engine Storage Facility, Dover, DE</b>	2006	2010
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
d.	<b>Chief Structural Engineer</b> – Steered the development of the C-17 aircraft engine storage facility at Dover Air Force Base, from concept through early development Six to eight engines on trailers can be stored at the facility, which will also include a 10-ton building-mounted crane and an abutment with classroom, office, break area, bathroom facilities, communications closet, and mechanical room.		
	<b>Kutztown University Academic Forum Kutztown, PA</b>	2004	2006
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
e.	<b>Chief Structural Engineer</b> – Supervised structural engineering for a new 2-story, 50,000-sf facility on the Kutztown University Campus that houses classrooms and a new North Campus Food Service. The seven classrooms are designed in three different configurations: 85-chair tiered seating with tables, 175-chair tiered seating with tablet arms, and 200-chair tiered seating with tablet arms. All classrooms are equipped with either wired or wireless connections. Mr. Griffith supplied detailed reviews of structural concepts and criteria, and made certain that structural systems applied to the required criteria.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Scott Chambers, PE, LEED®AP</b>	<b>Structural</b>	14	13

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)**  
 MS and BS, Structural Engineering, Lehigh University

**CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**  
 Professional Engineer: PA, MD, MN

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
 Mr. Chambers is experienced in structural design for commercial, industrial, and educational facilities. His expertise covers a broad range of projects, including the design of new structures; retrofits to existing, older structure; all aspects of computer analysis and design; and onsite engineering services.

**Accreditation:** Leadership in Energy and Environmental Design (LEED), U.S. Green Building Council (USGBC).

**Training:** OSHA Process Safety Management (2000), and skilled in Building Information Modeling (BIM).

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USACE Louisville District Design-Build Armed Forces Reserve Center (AFRC), Newark, DE</b>	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
a. <b>Project Structural Engineer</b> – Providing structural design for a \$15 million design-build of a new 400-member Armed Forces Reserve Center, including a 63,000-sf Training Center, an 8,600-sf Organizational Maintenance Shop, and an unheated storage building. Responsible for design of all structural systems including foundation system, masonry bearing and shear walls and superstructure steel framing. The structures will be of permanent construction with reinforced concrete foundations, concrete floor slabs, masonry structure with brick veneer and shingle, and standing-seam, metal roofs. The facility will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with antiterrorism force protection (ATFP) requirements.		
<b>USACE Savannah District Design-Build Brigade/Battalion Headquarters, Fort Stewart, GA</b>	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
b. <b>QA/QC Reviewer</b> – Providing review of the structural design of a three-story, 138,000-sf Brigade and Battalion Headquarters at Fort Stewart, GA. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The design is being developed utilizing Bentley BIM 3D software. The facility will meet the energy requirements for LEED Silver certification and will comply with ATFP requirements.		
<b>Kutztown University Academic Forum Kutztown, PA</b>	2004	2006
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
c. <b>Project Engineer</b> – Provided structural engineering for a new 2-story, 50,000-sf facility on the Kutztown University Campus that houses a variety of classrooms along with the new North Campus Food Service; responsible for the design of all structural systems from concept design through construction administration. The seven classrooms are designed in three different configurations: 85-chair tiered seating with tables, 175-chair tiered seating with tablet arms, and 200-chair tiered seating with tablet arms. All classrooms will be equipped with state-of-the-art audio visual services with either wired or wireless connections.		
<b>Virginia Tech Center for the Arts Blacksburg, VA</b>	2013	2013
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
d. <b>Structural Engineer</b> – Overseeing the selection and design of all structural systems for the construction of two new facilities, as part of the university's art initiative. These facilities include a 1,300-seat proscenium theater with two elevated balconies and a 90-foot-tall fly tower, and a 3,000-sf collaborative performance lab. Mr. Chambers has managed the selection of components such as concrete foundations, elevated concrete structures, and structural steel systems. He is also in charge of the analysis and design of modifications to Shultz Hall, an existing 60,000-sf dining hall, in preparing it for multidisciplinary use as a part of the new program.		
<b>Kutztown University Sharadin Hall Renovation and Expansion Kutztown, PA</b>	2008	2008
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
e. <b>Structural Engineer</b> – Handled the structural design of foundations and superstructure for the addition and renovation of the Sharadin Arts Building as part of an on-call contract with the university. The design of the additions required detailing the interface at the existing facility, reinforcing the existing facility to support snow drift loads caused by the new additions and analysis of the existing facility structure to support new roof-top mechanical equipment.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Kevin Bomboy, PE, LEED® AP	Mechanical	27	26

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

<b>EDUCATION (Degree and Specialization)</b> Bachelor of Architectural Engineering; Pennsylvania State University	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b> Professional Engineer, Mechanical: <b>WV (#013654)</b> , CT, DC, DE, FL, GA, ID, IL, IA, ME, MA, MD, MN, NH, NJ, NY, OH, PA, RI, SC, TN, TX, NC, UT, VA, VT
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**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Accreditation:** Leadership in Energy and Environmental Design (LEED 2.1); Accredited Professional, U.S. Green Building Council  
**Memberships:** American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Institute of Environmental Sciences and Technology (IEST), American Electroplaters and Surface Finishers Society  
**Professional Conferences:** Attendance at Labs21 annual conferences

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>PAANG Stryker Brigade Combat Team Facilities Task Order Contract</b> Various locations, PA  (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE a. <b>Mechanical Engineer</b> – Responsible for the developing concepts for the HVAC equipment energy modeling imports for the calculation of energy savings to obtain proposed sustainable project rating (SPiRiT) credits as part of this task order contract to renovate and create new facilities for the Stryker Brigade Combat Team throughout Pennsylvania, including the new ammunition and supply facilities at Fort Indiantown Gap. Proposed HVAC systems include natural gas and fuel oil-fired boilers, split air-cooled air handling units, hot water heating systems, and ventilation and exhaust fans. Responsibilities also include providing design-build support services and developing RFP submittal documents.	Ongoing	Ongoing
<b>USACE Louisville District – Three Armed Forces Reserve Centers</b> Lewisburg, PA; Scranton, PA; Newark, DE  (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE b. <b>Mechanical QC Engineer</b> – Providing discipline checking for design development through construction for three new Armed Forces Reserve Center design-build projects ranging in size from \$15 to \$25 million. The reserve centers include training centers, maintenance facilities, and storage buildings. The facilities will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with antiterrorism force protection (ATFP) requirements.	2011	2011
<b>Montgomery County Community College Advanced Technology Center, Blue Bell, PA</b>  (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE c. <b>Project Engineer</b> – Provided mechanical engineering design services for the 61,000-sf Advanced Technology Center. The \$18 million, 4-story facility accommodates five different divisions of the college and was designed to provide a collaborative learning environment. The ATC houses a presentation hall, coffee bar, interactive electronic reception area, biotechnology lab and associated support spaces, 11 Smart classrooms, 16 faculty offices, and a large conference room.	2007	2007
<b>Susquehanna University New Science Center</b> Selingsgrove, PA  (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE d. <b>Project Engineer</b> – Provided mechanical engineering design for a new 81,000-sf, \$25 million multi-discipline science center located on the Susquehanna University campus. The building, expected to achieve LEED Silver, accommodates chemistry, biology, earth and environmental sciences together within a facility that promotes an interdisciplinary approach to education. The building utilizes green technologies such as high efficiency condensing type boilers. The building also includes heat recovery from exhaust air, variable volume exhaust stacks, and low flow fume hoods.	2010	2010
<b>Chevron Central Utility Plant and Utilidor</b> Fort Detrick, MD  (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE e. <b>Project Engineer</b> – Supplied the mechanical design oversight for the Central Utility Plant (CUP) and utilidor at Fort Detrick. The CUP is approximately 38,000 sf consisting of two separate structures; one building contains the boiler room, chiller room and office, and control room. The other structure houses the generator/UPS equipment. The utilidor includes one mile of buried 20-inch, 150-psig steam mains, with 8-inch condensate returns and 24-inch supply and return chilled water lines to provide services to new and future laboratories.	2008	2008





**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>John Gable, PE, LEED®AP</b>	<b>Mechanical</b>	9	3
<b>FIRM NAME AND LOCATION (City and State)</b>			
STV, Douglassville, PA			
<b>EDUCATION (Degree and Specialization)</b>		<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b>	
Bachelor of Architectural Engineering, Mechanical Engineering; Pennsylvania State University		Professional Engineer: PA (Mechanical)	
<b>OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)</b>			
Accreditations: Leadership in Energy and Environmental Design (LEED), Accredited Professional, U.S. Green Building Council			

RELEVANT PROJECTS			
	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
a.	<b>USACE Louisville, Armed Forces Reserve Center Design-Build</b> Newark, DE	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
	<b>Mechanical Engineer</b> – Performing load calculations, equipment selection, and system design, including duct and piping layouts for the \$15 million design-build of a new AFRC in Newark, DE. Intended to accommodate 400 personnel, the center encompasses a 63,000-sf training center, an 8,600-sf organizational maintenance shop, and an unheated storage building. Mr. Gable also performed energy modeling to document both EPACT compliance and LEED credits, as well as a life-cycle analysis to meet EPACT requirements.		
b.	<b>USACE Louisville, Armed Forces Reserve Center Design-Build</b> Lewisburg, PA	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
	<b>Mechanical Engineer</b> – Performing load calculations, equipment selection, and system design including duct and piping layouts for the design-build project of a new \$17 million AFRC in Lewisburg, PA. The facility includes a 73,000-sf training center and a 7,900-sf vehicle maintenance facility. Mr. Gable also performed energy modeling to document EPACT compliance and LEED credits, as well as a life-cycle cost analysis to meet EPACT requirements.		
c.	<b>USACE Louisville, Armed Forces Reserve Center Design-Build</b> Scranton, PA	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
	<b>Mechanical Engineer</b> – Providing load calculations, equipment selection, and system design including duct and piping layouts, for the design-build of a new \$25 million AFRC, including a 72,000-sf training center, an 8,000-sf vehicle maintenance facility, and a 45,000-sf heated storage building in Scranton, PA. Mr. Gable also performed energy modeling to document EPACT compliance and LEED credits, as well as a life-cycle cost analysis to meet EPACT requirements.		
d.	<b>USACE Savannah District Brigade/Battalion Headquarters</b> Fort Stewart, GA	2010	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
	<b>Mechanical Engineer</b> – Provided review of project requirements, initial code study, and complete mechanical concept design for a three-story, 138,000-sf Brigade and Battalion Headquarters at Fort Stewart. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The facility will meet the energy requirements for LEED Silver certification and will comply with all ATFP requirements		
e.	<b>Lockheed Martin Product Team Building (PTB) 351, Task Orders</b> Newtown, PA	2008	Ongoing
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
	<b>Mechanical Engineer</b> – Tasks performed for the Product Team Building 351 included: <ul style="list-style-type: none"> <li>Investigated complaints of overheating in a media-intense conference room. Mr. Gable provided the client with options for system modification and equipment additions to facilitate adequate cooling in the conference area. He prepared a final report that included a detailed assessment, recommendations, and cost estimates for all the options.</li> <li>Provided options for installing a redundant steam humidification boiler. Mr. Gable performed a field investigation and review of the load requirements, in order to develop options in a challenging location that included a lack of space in the existing boiler room and tight site conditions preventing building expansion in that area. He presented the options to the client, detailing ways an additional boiler could be added to the facility and cost estimates for each option.</li> <li>Investigated causes of temperature and humidity fluctuation issues in the antenna range test chamber and provided potential solutions. His final report included a detailed assessment of all issues, recommendations for corrective measures, and cost estimates for all options.</li> </ul>		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Kevin Brady, PE	Plumbing/Fire Protection	13	1

**FIRM NAME AND LOCATION** (*City and State*)  
 STV, Douglassville, PA

**EDUCATION** (*Degree and Specialization*)  
 Bachelor of Science, Engineering; Temple University

**CURRENT PROFESSIONAL REGISTRATION** (*State and Discipline*)  
 Professional Engineer: PA

**OTHER PROFESSIONAL QUALIFICATIONS** (*Publications, Organizations, Training, Awards, etc.*)  
**Memberships:** American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE); American Society of Plumbing Engineers (ASPE)

**RELEVANT PROJECTS**

	(1) TITLE AND LOCATION ( <i>City and State</i> )	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION ( <i>If applicable</i> )
a.	<b>USACE Louisville District, Armed Forces Reserve Center</b> Scranton, PA	2011	2011
	(3) BRIEF DESCRIPTION ( <i>Brief scope, size, cost, etc.</i> ) AND SPECIFIC ROLE		
	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM <b>Plumbing/Fire Protection Engineer</b> – Designing the plumbing and fire protection systems for a new \$23 million, 125,000-sf reserve center. Located on approximately 26 acres, the center will serve 1,000 members of the Pennsylvania Army National Guard. It includes a 2-story training center, a 1-story heated storage building, two unheated storage facilities, a vehicle maintenance facility, and stormwater management facilities. Mr. Brady is creating the design with BIM software. The center is being designed to achieve LEED Silver Certification.		
b.	<b>USACE Louisville District, Armed Forces Reserve Center</b> Lewisburg, PA	2011	2011
	(3) BRIEF DESCRIPTION ( <i>Brief scope, size, cost, etc.</i> ) AND SPECIFIC ROLE		
	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM <b>Plumbing/Fire Protection Engineer</b> – Reviewing the design of the domestic hot water plumbing system for a \$17 million, 80,900-sf design-build Armed Forces Reserve Center. Among the facilities that Mr. Brady is reviewing are the 50 showers within the training facility, as well as the full-service kitchen and dining facility. He also analyzed the piping design for a compressed air system in the vehicle maintenance facility and the plumbing for eye and safety wash stations, as well as an oil and water separating system. He designed the wet piping sprinkler fire protection system and campus diesel fire pump in compliance with NFPA and UFC requirements.		
c.	<b>USACE Savannah District, Brigade and Battalion Headquarters</b> Fort Stewart, GA	2011	2011
	(3) BRIEF DESCRIPTION ( <i>Brief scope, size, cost, etc.</i> ) AND SPECIFIC ROLE		
	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM <b>Plumbing/Fire Protection Engineer</b> – Using BIM software to produce and develop construction documents for plumbing and fire protection systems for the \$21 million brigade and battalion headquarters facility. The 138,000-sf facility, which is being designed to achieve LEED Silver certification, will house offices, conference rooms, and support areas. Mr. Brady is designing the 50 showers in the training facility, as well as the full-service kitchen and dining facility. He also analyzed the piping design for a compressed air system in the vehicle maintenance facility for the headquarters complex. He designed the wet piping sprinkler fire protection system in compliance with NFPA and UFC requirements.		
d.	<b>USACE Norfolk District, Munitions/EOD Training Facility and EOD Training Building at TA-5, Fort Lee, VA</b>	2011	2011
	(3) BRIEF DESCRIPTION ( <i>Brief scope, size, cost, etc.</i> ) AND SPECIFIC ROLE		
	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM <b>Plumbing/Fire Protection Engineer</b> – Supplying design development through construction documents of all plumbing and fire protection systems for a \$23 million project consisting of the construction of a 2-story, 110,000-sf munitions and explosive ordnance disposal (EOD) classroom building and a 1-story, 11,000-sf EOD training building at Training Area 5 (TA-5). The facility is being designed to achieve LEED Silver certification. Mr. Brady's plumbing design includes considerations for the domestic water supply, sanitary, storm, natural gas, and compressed air systems. His fire protection design includes wet piping sprinkler systems, in compliance with NFPA and UFC requirements.		
e.	<b>Greater Egg Harbor High School</b> Egg Harbor, NJ	2006	2007
	(3) BRIEF DESCRIPTION ( <i>Brief scope, size, cost, etc.</i> ) AND SPECIFIC ROLE		
	<input type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM <b>Lead Mechanical/Plumbing Engineer</b> – Led the mechanical, plumbing, and fire protection design specification for a new, 192,000-sf, 2-story \$80 million high school. Mr. Brady directed the design of the mechanical systems that included ground source heat pump and energy recovery systems. Included in his management of the plumbing system design was piping for six chemistry laboratories and acid waste systems for additional science laboratories. The design, which met anti-terrorism requirements, was completed on time.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Richard Snow, CPD, LEED®AP</b>	<b>Plumbing/Fire Protection</b>	34	32

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

EDUCATION (Degree and Specialization)	CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Associate Degree, Architectural Engineering; Pennsylvania State University	Certified in Plumbing Design (CPD) by the American Society of Plumbing Engineers

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Accreditation:** Leadership in Energy and Environmental Design (LEED) Accredited Professional,, U.S. Green Building Council  
**Additional Training:** American Society of Plumbing Engineers (ASPE) Advanced Work Zone Traffic Control  
**Memberships:** American Society of Plumbing Engineers; National Fire Protection Association; American Water Works Association

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USPFO for PA, DMVA Stryker Brigade Combat Team Facilities</b> Various Locations, PA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
a. <b>Plumbing/Piping/Fire Protection Engineer</b> – Provided supervision and quality checking for the plumbing and fire protection systems installation at various facilities for the 56th Brigade, Pennsylvania Army National Guard (PAANG) program to transform its mission to become a Stryker Brigade Combat Team. The program supporting this new mission involves the design and construction multiple facilities, including new or renovated Readiness Centers and Field Maintenance Shops. STV is assisting in planning, conceptual design, land development, permitting and the creation of design-build bidding documents.		
<b>USACE Louisville District Armed Forces Reserve Center (AFRC)</b> Newark, DE	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
b. <b>Lead Plumbing and Fire Protection Engineer</b> – Providing plumbing and fire protection engineering design development through construction for a \$15 million design-build of a new 400-member AFRC, including a 63,000-sf Training Center, an 8,600-sf Organizational Maintenance Shop, and an unheated storage building. The facility will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005, and will comply with antiterrorism force protection (ATFP) requirements.		
<b>USACE Louisville District Armed Forces Reserve Centers (AFRC)</b> Scranton, PA and Lewisburg, PA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
c. <b>Plumbing and Fire Protection Engineer/Technical Reviewer</b> – Providing independent technical review for plumbing and fire protection engineering design development through construction for design-builds of two new AFRCs, one for \$25 million, consisting of a 72,000-sf Training Center, an 8,000-sf Vehicle Maintenance Facility, and a 45,000-sf heated storage building; and another for \$17 million, including a 7,900-sf Vehicle Maintenance Facility and a 73,000-sf Training Center. Support services for both include site improvements, paving, fencing, and extension of utilities. The facilities will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005, and will comply with ATFP requirements.		
<b>USACE Savannah District Brigade/Battalion Headquarters Design-Build</b> , Fort Stewart, GA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
d. <b>Technical QA/QC Reviewer</b> – Supervising the plumbing and fire protection systems design and providing the technical design review and QA/QC for a three-story, 138,000-sf Brigade and Battalion Headquarters at Fort Stewart, GA. The \$21 million project includes administrative areas; operations areas; classrooms; and special use space for a SCIF, operations center, and network operations center. The facility will meet the energy requirements for LEED Silver certification and will comply with all ATFP requirements.		
<b>USACE Norfolk District Munitions/EOD Training Facility Design-Build</b> Fort Lee, VA	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
e. <b>Technical QA/QC Reviewer</b> – Supervising the plumbing and fire protection systems design and providing the technical design review and QA/QC for a \$23 million project consisting of the construction of a 2-story, 110,000-sf munitions and explosive ordinance disposal (EOD) classroom building and a 1-story, 11,000-sf EOD training building at Training Area 5 (TA-5). The facility is being designed to achieve LEED Silver certification. Plumbing and fire protection design considerations include the domestic water, sanitary, storm, natural gas, automatic sprinkler protection and compressed air systems.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Randall Hallman, PE, LEED®AP</b>	<b>Electrical</b>	26	26

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)**  
 Bachelor of Science, Electrical Engineering; Drexel University

**CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**  
 Professional Engineer, Electrical: **WV (#017670)**, VA, DC, PA, NJ, FL, GA, ID, IL, ME, MD, MI, NC, OK, TX, UT, VT

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Training/Certifications:** Leadership in Energy and Environmental Design (LEED), U.S. Green Building Council (USGBC); Project Management Training, Pennsylvania State University; Course in Power Quality: Issues, Design and Practices Course, Education Committee of IEEE; Course in Power System Design and Analysis Course, Educational Committee of IEEE; Course in Power Systems Protection Course, Educational Committee of IEEE; Course in Fire Alarm and Detection Systems, The Engineers' Club of Philadelphia

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<p>a. <b>USACE Louisville District, Armed Forces Reserve Center</b>                      Scranton, PA</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE  <b>Electrical Designer of Record</b> – Providing electrical engineering design for design development through construction for a \$25 million design-build of a new Armed Forces Reserve Center, consisting of a 72,000-sf training center, an 8,000-sf vehicle maintenance facility, and a 45,000-sf heated storage building. The facility will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with antiterrorism force protection (ATFP) requirements.</p>	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<p>b. <b>USACE Louisville District, Armed Forces Reserve Center</b>                      Lewisburg, PA</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE  <b>Electrical Designer of Record</b> – Providing electrical engineering design for design development through construction for a \$17 million design-build project of a new 400-member Armed Forces Reserve Center, including a 7,900-sf Vehicle Maintenance Facility and a 73,000-sf Training Center. The facility will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with ATFP requirements.</p>	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<p>c. <b>USACE Louisville District, Armed Forces Reserve Center</b>                      Newark, DE</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE  <b>Electrical Designer of Record</b> – Providing electrical engineering design for design development through construction for a \$15 million design-build of a new 400-member Armed Forces Reserve Center, including a 63,000-sf Training Center, an 8,600-sf Organizational Maintenance Shop, and an unheated storage building. The facility will meet the energy requirements for LEED Silver certification and for the Energy Policy Act of 2005, and will comply with ATFP requirements.</p>	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<p>d. <b>Stryker Combat Team Support Facilities Task Order Contract</b>                      Various locations</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE  <b>Project Electrical Engineer</b> – Provided programming support for the renovation of the PA Army National Guard Readiness Center consisting of investigation of the existing systems and planning for renovations to support the extension of the life of the Southampton Readiness Center and support of the changing mission of the assigned units. In addition, provided oversight and review of electrical design on all tasks under this task order contract.</p>	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<p>e. <b>Lockheed Martin Task Order Contract</b>                      Various locations</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE  <b>Task Manager</b> – Designing a 2,000-sf SCIF facility in a high-rise building in New York City. Mr. Hallman is building a design that takes into account the necessary work in preparing the space for the renovations, UPS power and distribution, SCIF construction detailing, communications systems, fire alarm system modification, lighting design, grounding, and security systems. Provided project management and electrical engineering for a site-wide perimeter security system for land and water side areas at a petroleum refining facility (confidential location) with extensive electrical distribution systems that includes access control and video motion detection networks. Oversaw electrical design support for a 6-kVA standby generator installation with modifications to existing switchgear and switchgear control system as part of the development of conceptual site plans for the construction of a sensitive compartmented information facility (SCIF) addition to Building D in Valley Forge, PA. Also involved in land development and permitting.</p>	Ongoing	Ongoing
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Robert Davidheiser</b>	<b>Electrical</b>	37	37

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)**      **CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**  
 High School Diploma      --

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
 Mr. Davidheiser has provided electrical design and construction support services for military, educational, laboratory, commercial, and transportation facility projects. His particular experience includes the design of interior and exterior lighting, power distribution, telecommunications, security, and fire alarm systems for new construction and renovations. Mr. Davidheiser is also proficient in AutoCAD.  
**Recent Coursework:** Grounding and Bonding; EPAct 2005; Lighting Control and Energy Codes; Emergency and Standby Loads; Seminar in Electrical Code, Analysis of Changes; NEC.

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USPFO for PA, PA Army National Guard Stryker Brigade Combat Team Support Facilities Task Order Contract</b> , various locations in Pennsylvania (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE a. <b>Senior Electrical Designer</b> – Performing site surveys of Pennsylvania Army National Guard (PAANG) sites in Chambersburg, Reading, Carlisle, Graterford, Hazelton, Southampton, and Easton, PA, as part of this task-order contract for the design and construction of Stryker Brigade readiness centers and field maintenance facilities. Mr. Davidheiser has made contact with the utility providers for all sites, and is creating request for proposals (RFP) documents for lighting, power, and signal systems.	2011	Various
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>USACE Louisville District, Design-Build Three Armed Forces Reserve Centers (AFRCs)</b> , Lewisburg, PA; Scranton, PA; Newark, DE (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE b. <b>Senior Electrical Designer</b> (with Electrical Project Engineer responsibilities at Lewisburg and Scranton) – Provided design and engineering for all lighting, power, fire alarm and security systems for three new Armed Forces Reserve Center design-build projects ranging in size from \$15 to \$25 million. The reserve centers include training centers, maintenance facilities, and storage buildings. The facilities will meet the energy requirements for LEED Silver Certification and for the Energy Policy Act of 2005, and will comply with ATFP requirements.	2011	2011
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>USACE Philadelphia District, New C-17 Engine Storage Facility</b> Dover AFB, Dover, DE (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE c. <b>Electrical Designer</b> – Provided electrical engineering for this 15,000-sf C-17 airplane engine storage facility at Dover Air Force Base in Dover, DE, including an overhead monorail crane system and supporting administrative area. Mr. Davidheiser provided design for lighting, power, fire alarm, telecommunications, mass notification, and lightning protection systems, as well as sitework.	2009	2010
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>Montgomery County Community College, Advanced Technology Center</b> , Blue Bell, PA (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE d. <b>Electrical Designer</b> – Provided electrical engineering for this new 61,000-sf technology center in Montgomery County, PA. The facility included classrooms, labs, a presentation hall, an information technology support area, offices, and miscellaneous support areas. The design included a power system with an underground tie-in to the existing 13.2-kV campus distribution system, an indoor substation with power distribution throughout, and a 275-kW emergency diesel generator and emergency power system.	2004	2007
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
<b>Reading Area Community College, Schmidt Training and Technology Center</b> , Reading, PA (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE e. <b>Electrical Designer</b> – Authored conceptual electrical engineering for a new 44,525-sf training and technology center at Reading Area Community College. The center included classrooms, meeting rooms with associated food service and dining facilities, support areas, and technical laboratories, including electronics, manufacturing, and mechanics.	2004	2006
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Sterling McClure, RCDD	Telecommunications	32	2.5

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

**EDUCATION (Degree and Specialization)** Bachelor of Science, Business Marketing, Temple University  
**CURRENT PROFESSIONAL REGISTRATION (State and Discipline)** Registered Communications Distribution Designer

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
 Mr. McClure is a telecommunications and electronics specialist with more than 30 years of experience in the design and integration of communications data, and security systems. He has managed the design and installation of complete telecommunication (telecom) systems, including video, voice data, audio/ visual, and security systems for a variety of government, educational, industrial, transportation, justice, and healthcare facilities. Mr. McClure has experience designing systems both inside plants (ISP) and outside plants (OSP), and is highly skilled at coordinating system designs with other engineering disciplines and architects.  
**Coursework:** Telecommunications Coursework, U.S. Air Force Community College; Technical courses, Communications Distribution; BICSI  
**Training/Certifications:** Octel Applications Specialist; Norstar/Meridian Product Specialist; Synoptics/Bay Networks Product Specialist; PDS Structured Communication System Certified, AT&T; Corning Fiber Optic Training; Telecommunications Infrastructure Certification, Office of Infrastructure Preparedness. **Professional Membership:** Building Industry Consulting Service International (BICSI)

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>a. USACE Louisville District, Armed Forces Reserve Center OSP/ISP Design, Scranton, PA</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
<b>Senior Telecommunications Designer</b> – Designed the voice, video, and data network cable infrastructure for construction of a \$25 million design-build AFRC that will serve 1,000 members of the U.S. Army Reserve and the Pennsylvania Army National Guard. The AFRC consists of a 2-story, 72,000-sf training center, a single-story, 45,000-sf heated storage building, two unheated storage buildings, and a single-story, 8,000-sf vehicle maintenance facility on a 25.62-acre site. The training center includes office, classroom, and meeting spaces; briefing rooms; distance learning center; support areas for soldiers and their families, including a learning center, library and other spaces. The facility will meet the energy requirements for LEED Silver certification, and will comply with ATFP requirements.		
<b>b. USACE Savannah District, Brigade and Battalion Headquarters OSP/ISP Design, Fort Stewart, GA</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
<b>Senior Telecommunications Designer</b> – Designing the voice, video, and data network cable infrastructure for construction of the Brigade and Battalion Headquarters in Fort Stewart. The \$21 million, 138,000-sf project includes the design-build of administrative areas, operations areas, classrooms, and special use space for a secure compartmentalized information facility (SCIF), an operations center, and a network operations center. The facility will meet energy requirements for LEED Silver certification, and will comply with ATFP requirements.		
<b>c. USACE Norfolk, Munitions/EOD and EOD Training Building OSP/ISP Design, Fort Lee, VA</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
<b>Senior Telecommunications Designer</b> – Designed the voice, video, and data network cable infrastructure for the construction of the Munitions/Explosive Ordinance Disposal (EOD) complex in Fort Lee, VA. The \$23 million design-build project consists of the construction of a new, 2-story, 110,000-sf munitions/EOD classroom building, and a 1-story, 11,000-sf EOD training building at Training Area 5. Mr. McClure designed the communications infrastructure to support a secret Internet protocol router network (SIPRNet). The facility was designed to meet the energy requirements for LEED Silver certification, and will comply with anti-terrorism force protection requirements (ATFP).		
<b>d. USDA-APHIS Task Order Contract, National Plant Germplasm Quarantine Center, Beltsville, MD</b>	2011	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
<b>Telecommunications Designer</b> – Designing the telecommunications infrastructure for the USDA-APHIS National Plant Germplasm Quarantine Center. The 30,000-sf facility, with an estimated construction cost between \$15 million and \$18 million, will be utilized as a teaching facility to pass on the identification and treatment methods to outside state and local agencies. Laboratories within the MDF can be upgraded with minimal work to become BSL-3 laboratory space to allow response to national emergency program requirements. Mr. McClure is designing the voice over Internet protocol, data transport, and electronic security systems, as well as the OSP/ISP cable infrastructure.		
<b>e. Lockheed Martin Office Spaces Fit-Out</b> Confidential location	2008	Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	
<b>Telecommunications Designer</b> – Identified telecommunications needs and performed a cost analysis for the fit-out of an office space in a confidential location. Mr. McClure also participated in the infrastructure planning.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
<b>Carl Mest</b>	<b>Cost Estimating</b>	27	27

**FIRM NAME AND LOCATION (City and State)**  
 STV, Douglassville, PA

<b>EDUCATION (Degree and Specialization)</b>	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b>
Coursework in Cost Estimating and Mechanical Engineering; Pennsylvania State University	

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Training:** M-CACES Gold Edition; Building Systems Design; BSD Cost Links/CM (C.O.E.s M32); BSD Cost Links/M-CACES for Windows; Building Systems Design; Computer Studies; PA Business Institute.  
**Membership:** American Association of Cost Engineers

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<b>USPFO for PA/DMVA Stryker Brigade Combat Team Facilities Task Order, Various locations, PA</b>	2011	2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM a. <b>Cost Estimator</b> – Providing cost estimating services for the transformation of the 56 <sup>th</sup> Brigade, Pennsylvania Army National Guard program into a Stryker Brigade Combat Team. The program supporting this new mission involves the design and construction of multiple facilities throughout Pennsylvania. These facilities include new or renovated Readiness Centers and Field Maintenance Shops. Cost estimating effort used the commercial version of M-CACES. Sites have included Chambersburg, Reading, Carlisle, Graterford, Easton, Coatesville, Hazleton, Kutztown, Southampton, and Fort Indiantown Gap.		
<b>USACE Philadelphia, C-17 Engine Storage Facility</b> Dover Air Force Base, Dover, DE	2008	2010
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM b. <b>Cost Estimator</b> – Performed cost estimating services for a C-17 aircraft engine storage facility at Dover Air Force Base. Six to eight engines on trailers will be stored at the facility, which will also include a 10-ton building-mounted crane and an abutment with classroom, office, break area, bathroom facilities, communications closet, and mechanical room.		
<b>USACE, New York District, Various Projects, U.S. Military Academy</b> West Point, NY	2005	2005
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM c. <b>Cost Estimator</b> for a variety of projects at the Academy, including a new, state-of-the-art, intercollegiate, indoor marksmanship facility on a fast-track basis, with a short 6-week turnaround required. STV prepared the feasibility study for the renovations, design development, and construction drawings phases. Other projects included a feasibility study and design for a new 12,000-sf, 2-story press box, and a crew sailing center.		
<b>FAA Technical Center Task Order Contract</b> Atlantic City, NJ	2008	2008
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM d. <b>Cost Estimator</b> – Provided cost estimates for various projects at the William Hughes Technical Center at the Atlantic City Airport as part of a \$2.1 million, 5-year contract with the Federal Aviation Administration (FAA). Mr. Mest estimated costs for additions and renovations to Building 277; explosives storage bunker additions at Building 315, the Transportation Security Laboratory; and various projects for the Technical Center's 20-year master plan.		
<b>USDA Animal and Plant Health Inspection Service (APHIS) Task Order Contract, Various locations</b>	2011	Various
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM e. <b>Cost Estimator</b> – Tasks have included HVAC feasibility study for a research facility at Otis Air National Guard Base, MA, including offices, laboratory, and inspection facilities, laboratory wastewater treatment facilities, system/facility design for treatment and disposal of hazardous wastes, environmental assessment, and permitting efforts, feasibility studies, and construction cost estimation. Design of a building in Rock Tavern, NY, including laboratories, animal holding facilities, production facilities for biological control of pests, biomedical incinerators, waste treatment systems, and utility systems. Provided cost estimates for several scenarios for the design and construction of a fruit fly emergence facility in Los Alamitos, CA and a \$1.9 million facility in Ames, IA, including offices, laboratory, and inspection facilities.		



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Steven A. Clark, PS	Survey Crew Coordinator/Party Chief	22	16

**FIRM NAME AND LOCATION (City and State)**  
 Triad Engineering  
 Scott Depot, WV

**EDUCATION (Degree and Specialization)**      **CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**  
 Various Surveying and Mapping Courses      Professional Surveyor Engineer: WV

**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Memberships:** WV Society of Professional Surveyors, Certified OSHA 40-hour Hazardous Waste Operator

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
<p><b>WVDOT Statewide Surveying Contract</b>                      Various Locations throughout West Virginia</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>a. Over the duration of this contract for surveying services, performed the duties of survey crew coordinator/ party chief for Triad Engineering. Supervised or performed various tasks including centerline stakeout, as-built surveys, and monthly quantity surveys on projects across the state of West Virginia for the West Virginia Department of Transportation.</p>	Ongoing since 2000  <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	N/A
<p><b>Dow Chemical Company</b>                      South Charleston, WV</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>b. Performed various surveys under multiple work orders over the past twelve years for Dow at the South Charleston Tech Center and the South Charleston facility. Projects have included a GPS control network and the yearly deformation survey of the Holtz Impoundment.</p>	Ongoing since 1994  <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	N/A
<p><b>Bayer Crop Science</b>                      Institute, WV</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>c. Over the past 12 years, Performed various survey projects under various work orders at the Institute facility. Projects have included volume surveys, various topographic surveys, monitoring well locations, boundary surveys and construction layout surveys. Performed a deformation/ monitoring survey on a weekly basis for two years to monitor movement in and around the MIC storage units. Performed a hydrographic survey on a one mile stretch of the Kanawha River adjacent to the facility as part of a shoreline stabilization/ docking port upgrade project.</p>	Ongoing since 1994  <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	N/A
<p><b>GE Silicones</b>                      Sistersville, WV</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>d. Completed various survey tasks under various work order at the Sistersville facility. Projects have included a bi-annual monitoring survey of the landfill on site, monitoring well locations, a GPS control network, topographic surveys, quantities surveys, and construction layout surveys.</p>	1993  <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	N/A
<p><b>Devonshire Development</b>                      Scott Depot, WV</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>e. Performed and supervised all surveying services for the project including all design topographic surveying and construction layout for this large resort style multifamily, mixed use residential development.</p>	2008 - Present  <input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM	Ongoing



**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Parviz J. Jalali, PE	Geotechnical Group Manager, Senior Engineer	35	30

**FIRM NAME AND LOCATION (City and State)**  
 Triad Engineering  
 Scott Depot, WV

<b>EDUCATION (Degree and Specialization)</b> B.S., Civil Engineering; West Virginia University Technical, Montgomery, WV	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b> Professional Engineer: WV
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**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Memberships:** American Society of Civil Engineers

**RELEVANT PROJECTS**

(1) TITLE AND LOCATION (City and State) <b>Corridor H, WVDOT</b> Randolph County, WV	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2005	CONSTRUCTION (If applicable) Ongoing
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE a. As senior geotechnical engineer, performed the geotechnical investigation of a geological study for the region, drilling a total of 274 roadway borings and 254 structure borings, full-time field inspection of the drilling activities, laboratory testing of the soil/rock samples, preparation of boring logs, cut slope/bench recommendations for the proposed cut areas, slope stability analyses/evaluation for all proposed fill areas, detailed foundation recommendations (shallow and/or deep) for abutment and piers for the six proposed bridges, and preparation of complete geotechnical reports for the mainline and bridges.		

(1) TITLE AND LOCATION (City and State) <b>Coalfields Expressway</b> Sophia, WV	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2006	CONSTRUCTION (If applicable) Ongoing
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE b. As senior geotechnical engineer, oversaw all geotechnical aspects of the project including developing a boring layout based on the project cross-sections provided by the client. His work included supervision of work of field inspectors during the subsurface investigation. He supervised the design of cut and fills slopes, performed settlement calculations for embankment fills, estimated shrink/swell factors for excavated materials, and tabulated probable sources of select embankment. After the original subsurface investigation and geotechnical report was completed, the WVDOT decided to extend the project 800 ft. in an attempt to balance borrow and waste. A recall boring list was developed in order to continue the project.		

(1) TITLE AND LOCATION (City and State) <b>King Coal Highway</b> Mercer County, WV	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2008	CONSTRUCTION (If applicable) Ongoing
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE c. As senior Geotechnical Engineer on this project, he oversaw the lead inspector as he worked in the field during the subsurface investigation and logging soil and rock. He designed and implemented cut and fill slopes, performed slope stability analyses on critical embankment fills, oversaw settlement calculations for embankment fills, estimated shrink/sell factors for excavated materials, and tabulated probable sources of select embankment. Supervised and approved all geotechnical reports for the project.		

(1) TITLE AND LOCATION (City and State) <b>West Virginia Route 9</b> Jefferson and Berkley Counties, WV	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 1998	CONSTRUCTION (If applicable) 2009
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE d. As the Senior Geotechnical Engineer Mr. Jalali supervised the inspectors and reviewed the logging of all soil and rock from bore holes and controlled the involved drill rigs. Oversaw the design and implementation of cut and fill slopes, slope stability analyses on critical embankment fills, the estimated shrink/sell factors for the excavated materials, and the tabulations of probable sources of select embankment.		

(1) TITLE AND LOCATION (City and State) <b>Devonshire Development</b> Scott Depot, WV	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES Ongoing since 2008	CONSTRUCTION (If applicable) Ongoing
<input checked="" type="checkbox"/> CHECK IF PROJECT PERFORMED WITH CURRENT FIRM		
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE e. As Senior Geotechnical Engineer, Mr. Jalali Developed and oversaw the drilling program for this large multifamily housing development. Mr. Jalali generated foundation design and site development parameters and recommendations for this project. The soils on this site consisted of highly expansive clays. Mr. Jalali developed a program to lime stabilize the soils for building and subgrade support.		

**RESUMES OF KEY PERSONNEL AVAILABLE FOR PROPOSED WORK**

NAME	ROLE IN THIS CONTRACT	YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Joseph Young, ASLA	Senior Landscape Architect	20	7

**FIRM NAME AND LOCATION (City and State)**  
 Triad Engineering  
 Scott Depot, WV

<b>EDUCATION (Degree and Specialization)</b> BSLA, Landscape Architecture	<b>CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</b> Registered Landscape Architect: WV, OH, KY
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**OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**  
**Memberships:** American Society of Landscape Architects, WV Recreation and Parks Association

**RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
a.	<b>Washing Nile Local School District</b> West Portsmouth, Ohio	2010	2010
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project consisted of site development for adding a middle school to an existing high school and elementary site. As lead landscape architect, designed a new circulation and parking system, placed building for appropriate sun orientation, designed pedestrian circulation around the site. Project also included utility design and an extensive storm water management system. Triad worked with a project team headed by the architect and owner, to develop a complete comprehensive set of construction documents. Client: Tanner Stone & Company Architects		
b.	<b>Devonshire Development</b> Scott Depot, WV	Ongoing since 2008	Ongoing
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE As lead landscape architect, is responsible for landscape architect features of project design for a large resort style mixed use residential development. The development consists of apartments, townhouses and condominiums, state-of-the-art 6500-square-foot clubhouse as well as swimming pools, Jacuzzis, sport courts, tot lots, and dog exercise areas. Project includes grading, drainage, permitting, and parking lot design.		
c.	<b>King's Daughters Medical Center – Seven Projects</b> Ashland, KY	2010	Ongoing
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Worked with a project team headed by the Architect and the owner, to develop complete comprehensive sets of construction drawings. As lead landscape architect, optimized the available property to improve vehicular and pedestrian access and flow. Parking facilities created pedestrian amenities including in some cases water features, pedestrian walkways, and extensive landscaping. Services provided by Triad included preparation of construction documents and details including site grading and drainage features, landscaping to compliment the architecture of the building and local and state permits.		
d.	<b>Thomas Hospital Clinical Pavilion</b> South Charleston, WV	2010	2010
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Teamed with Kreps and Zachwieja Architects / Consultants Inc. to design a proposed addition to Thomas Hospital. Services. The project included the preparation of a master plan, site civil / landscape construction documents, and construction administration. The design included a sunken dining plaza with an overhead wood trellis, concrete retaining walls with native sandstone veneer, storm drainage, extensive irrigated and landscape greenspace, and ADA parking area with an accessible route to the Hospital's main entrance. The design also included the integration of an existing Memorial Garden into the new greenspace.		
	<b>Clay Local School District</b> Clay Township, OH	2010	Ongoing
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project consisted of site development for adding a middle school to an existing high school and elementary site. As lead landscape architect, designed a new circulation and parking system, placed building for appropriate sun orientation, designed pedestrian circulation around the site. Project also included utility design and an extensive storm water management system. Triad worked with a project team headed by the architect and owner, to develop a complete comprehensive set of construction documents. Client: Tanner Stone & Company Architects		