

# EXPRESSION OF INTEREST

WEBSTER COUNTY

LANDFILL CLOSURE CAP

February 18, 2016



**Prepared For:**

Beth Collins  
Department of Administration  
Purchasing Division  
2019 Washington St. E.  
Charleston, Wv 25305  
Ph: 304.558.2157

**Prepared By:**

Triad Engineering Inc.  
10541 Teays Valley Road  
Scott Depot, West Virginia 25560  
Ph: 304.755.0721  
Fx: 304.755.1880

02/18/16 11:32:18  
WV Purchasing Division

**TRIAD**  
TRIAD ENGINEERING, INC.

◆ TRIAD Listens. Designs & Delivers™

[www.triadeng.com](http://www.triadeng.com)

February 18, 2016

Beth Collins  
Department of Administration  
Purchasing Division  
2019 Washington St. E.  
Charleston, WV 25305

**Subject:       EXPRESSION OF INTEREST – DEP160000013**  
**Statement of Qualifications**  
**Webster County Landfill Closure Cap**

Dear Ms. Collins:

Triad Engineering, Inc. (Triad) is pleased to present this Expression of Interest to provide Landfill Site Characterization, Closure Design, and Construction Inspection services for the Webster County Landfill. We have prepared this proposal in response to Request for Quotation No. DEP160000013 dated February 18, 2016. Herein, we have provided the following information:

- Our experience in landfill site characterization, assessment and design services.
- A description of our project team and how they will be organized to complete the work. Resumes of team members are also provided.
- Our approach to the project including an outline of project phases.
- A description of our internal project quality control and cost control systems.

We are confident that this information meets your needs at this time, and we look forward to a favorable review of our qualifications. If you have any questions or require any additional information, please do not hesitate to contact us.

Very truly yours,

**TRIAD ENGINEERING, INC.**

  
**Dave Meadows, PE, PS**  
**Chief Technical Officer**  
**Regional Manager**

  
**Lee McCoy, PE**  
**Civil Engineering Manager**

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

State of West Virginia  
 Centralized Expression of Interest  
 02 -- Architect/Engr

Proc Folder: 171220

Doc Description: Addendum 01 EOI: Webster County Landfill Closure Cap Design

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2016-01-26	2016-02-18 13:30:00	CEOI 0313 DEP1600000013	2

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Name, Address and Telephone Number:

Triad Engineering, Inc.  
 10541 Teays Valley Rd.  
 Scott Depot, WV 25560

**FOR INFORMATION CONTACT THE BUYER**

Beth Collins  
 (304) 558-2157  
 beth.a.collins@wv.gov

Signature X

FEIN # 550592364

DATE 2/18/2016

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

**ADDITIONAL INFORMATION:**

Addendum No. 01

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To publish answers to vendor submitted questions.
  2. To modify the bid opening date to February 18, 2016 at 1:30 PM, EST.
- No other changes.

The West Virginia Purchasing Division, for the Agency, the West Virginia Department of Environmental Protection, is soliciting Expressions of Interest for professional mapping and design services for the Webster County Landfill Closure Cap Design project located in Webster County, West Virginia, per the attached bid requirements and specifications.

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF ENVIRONMENTAL REMEDIATION 601 57TH ST SE CHARLESTON WV25304 US		ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue
1	Water testing services		

Comm Code	Manufacturer	Specification	Model #
81100000			

**Extended Description :**

Site Characterization Study, Leachate Management and Closure Cap Design for the Webster County Landfill per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.

**SCHEDULE OF EVENTS**

Line	Event	Event Date
1	Tech Question Submittal Deadline at 5:00 PM	2/18/16

<b>DEP160000013</b>	<b>Document Phase</b> Final	<b>Document Description</b> Addendum 01 EOI: Webster County Landfill Closure Cap Design	<b>Page 3</b> <b>of 3</b>
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**ADDITIONAL TERMS AND CONDITIONS**

See attached document(s) for additional Terms and Conditions

***Corporate History  
And  
Experience***

## CORPORATE HISTORY AND EXPERIENCE

Triad Engineering, Incorporated (Triad) is an **employee owned**, regional consulting firm based in West Virginia that provides professional services in the areas of civil, environmental, geotechnical engineering; site assessment; planning and landscape architecture; geology and hydrogeology; surveying and mapping; construction inspection; and related services. Our firm has provided services on many thousands of projects of varying size and complexity since its founding in Morgantown, West Virginia in 1975.

Through our 40 years of service in West Virginia and surrounding states, both the number and complexity of these projects have grown. Our clients include Federal and State governmental agencies, mining and industrial corporations, contractors, architects, engineers, attorneys, developers, and commercial organizations.

Facilities and equipment available to support our staff have continued to evolve through the years to adapt to the changing needs of the market.

Each of our offices contains computer facilities that are utilized for hydrogeological evaluations, risk



assessment, stability analyses, survey data reduction, mapping and site design. Our computer based drafting and reproduction facilities are used to develop detailed site plans, construction details, and other graphic documentation as required for our projects. Our Utilities Group possess all the necessary equipment to perform a thorough and comprehensive Sanitary Sewer Evaluation Study including Closed Circuit Television Camera Systems (remote control and cable driven), flow meters and smoke testing equipment.

Triad currently includes a staff of nearly 200 personnel located in seven offices: Hagerstown, Maryland; Pittsburgh, Pennsylvania; Ashburn and Winchester, Virginia; Athens, Ohio; and Morgantown and St. Albans (Scott Depot), West Virginia. Our personnel include chemical, civil, environmental, geotechnical and mining engineers, as well as geologists and hydro geologists, biologists, chemists, environmental scientists, planners, landscape architects, natural resource specialists, regulatory compliance specialists, permitting engineers, risk assessors and health and safety specialists.



Triad was previously selected by WVDEP to complete two, three-year LCAP closure design contracts, and was later selected by Quality Based Selection (QBS) methods for several other stand-alone landfill closure design contracts. Therefore, our staff is completely familiar with the work required under this contract. During our previous contract work with LCAP, Triad has successfully completed nine separate landfill projects similar or identical to this project. We are currently completing two additional projects. Because LCAP design projects are geotechnical oriented, our expertise in geotechnical engineering, geology and civil engineering design make us particularly well qualified to provide the requested services.

### LANDFILL PROJECT EXPERIENCE

Our experience and capabilities as a geotechnical engineering and earth-science firm brought about our development as a waste management design firm more than twenty years ago. Triad was providing a variety of geotechnical engineering and hydrogeological services related to the construction of synthetic and soil liners for one of our long term clients, Union Carbide Corporation (now Dow Chemical). Based on our performance on previous projects, they requested that we design and permit a new hazardous waste landfill for their Sistersville, West Virginia facility. Utilizing our in-house capabilities and expertise in geotechnical engineering, geology, drilling, material testing and civil engineering, we brought the project to completion on time and within budget. Triad completed all phases of the necessary hydrogeologic and borrow-soil investigations, as well as engineering design, permitting and regulatory agency liaison services. From that point forward, our firm continued to grow steadily in the direction of waste management design services.

Since that time, Triad has completed a variety of solid waste and hazardous waste landfill designs, upgrades and closures. The majority of this work has been performed for West Virginia landfills, and mandated by the requirements of 33CSR1. Most of our engineering work has also included full-time construction quality control (QC) inspection and final engineering certification of construction.



It is doubtful that any other West Virginia firm can demonstrate the depth and variety of landfill engineering and QC experience that Triad can bring to this project. With this extensive experience in design engineering, contract document preparation and QC inspection, we are expertly qualified to provide these services for proper closure and reclamation of the Webster County Landfill. **Appendix A** contains a listing of numerous landfill closure and other waste management projects completed by our firm.

## *Project Team & Project Approach*

## **PROJECT TEAM**

Triad currently maintains a staff of approximately 185 personnel. This includes civil, environmental, geotechnical and mining engineers, geologists and hydrogeologists, landscape architects, biologists, environmental scientists, and chemists. Our technical support and administrative staff includes designers, CADD technicians, surveyors, engineering technicians, drillers, construction inspectors and clerical personnel. The majority of our professional and technical staff has been with the company for many years. We pride ourselves in a very low turnover rate, which adds to continuity and enhances the level of productivity and experience afforded by our company.

Since our first foray into landfill design more than 25 years ago, Triad has developed a waste management design team which possesses a wide range of technical and regulatory expertise related to solid waste. Geologists, engineers, construction inspectors, environmental technicians, surveyors, designers and CADD technicians cooperate in the development of complete landfill project packages. Their work includes:

- Site Characterization Studies
- Facility siting
- Leachate Management
- Surveying and layout
- Construction management
- Design/construction alternatives
- Soils and geologic investigation
- Closure Cap Design
- Quality Assurance/Quality Control
- Engineering certification

Our geologists share a large body of knowledge and experience regarding the soil, rock and groundwater indigenous to West Virginia. They are particularly aware of the impact which geology and groundwater can have on the design, construction and closure of a waste management facility.



Our soils engineers, in cooperation with our materials testing laboratories, routinely assess the suitability of on-site soils for construction of low permeability hydraulic barriers and other closure cap components. Our technical staff cooperates with our clients and several regulatory agencies in the on-going development of new techniques for the design, testing and specification of low permeability barriers. We believe Triad is on the cutting edge of technology in this field. We utilize the methods developed by Dr. David Daniel at Drexel University to provide a compaction-moisture-permeability window for construction of the low permeability component layers required for composite liner and cap systems.

Our material testing laboratories are well-equipped to provide the testing needed to develop the "Daniel's window" for low permeability soil components. Triad continues to develop new and better laboratory test methods, and improves upon methods already developed by the US EPA and state regulatory agencies. Our laboratories routinely participate in certification programs administered by the US Army Corps of Engineers, American Society of Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO) and the West Virginia Department of Transportation (WVDOT).

Our firm maintains an experienced, well-trained staff of construction QC inspectors who work with our engineering staff and contractors in the field. They typically are present at landfill construction

sites on a full-time basis to ensure that the soil and synthetic liners and closure caps designed by our firm are constructed in accordance with the appropriate specifications.



Our surveying department also provides support to the design team, directing the layout and construction of base grades, checking liner component thicknesses, and checking grades and alignments on leachate collection piping and surface water drainage systems. They routinely perform annual topographic surveys of current landfill progress to determine compliance with required grades, permit limits, and to determine volume of filling.

Our design/drafting team utilizes electronically stored data from our survey crews, or from aerial photography, to generate three-dimensional computer models of our landfill projects. The use of three-dimensional CADD models allows our engineers to easily make changes to our design in response to client needs, regulatory agency comments or previously unknown site constraints. Performing our design in the three-dimensional system allows us to calculate cut and fill quantities, thereby ensuring that materials handling is kept to a minimum. Our CADD systems generate clear, easy-to-read drawings which help to assure more expeditious regulatory agency approval.

Triad has assembled a team of individuals with broad waste management experience to provide services under this contract. The proposed Project Team is assigned to our Scott Depot, WV office. The following persons will serve as members of the Project Team for the Webster County Landfill project:

Our principal in charge, **David Meadows** is a registered professional engineer and surveyor. Mr. Meadows brings over 40 years of leadership, design and project management experience to Triad Engineering. Mr. Meadows joined Triad in 2013 to provide management to the southwest region which includes the southern West Virginia area and the Athens, Ohio office. Prior to coming to Triad he served in a number of technical and leadership positions at the US Army Corps of Engineers, Huntington District. His expertise includes civil design, geotechnical engineering, construction management, surveying, environmental remediation and water resources engineering.

**Lee McCoy, PE**, our Project Manager and Civil Site Group Manager, is a registered professional engineer in West Virginia, Kentucky and Ohio. He has over 18 years of experience in civil site design which includes landfill design, site layout, grading, drainage, and development of storm water management plans. He directs a group of other engineers and technicians who also perform design work as well as develop plans and specifications for these projects. Mr. McCoy also works closely with and directs as needed inspectors and construction managers who observe the projects through the construction phase.

**Randy Moulton, PE** is currently our Chief Engineer. Mr. Moulton is responsible for corporate contract administration and overall quality control and technical quality assurance of projects undertaken by the company. Specific technical activities include preparation of geotechnical proposals, review and/or preparation of subsurface exploration programs, evaluation of geotechnical data and review and preparation of detailed geotechnical reports. Technical specialties also include design of deep foundations, in particular rock-socketed caissons, design of various types of retaining walls, evaluation of groundwater and seepage problems, and design of earth and earth-rock dams. Mr. Moulton has also been responsible for managing design of corrective measures at sanitary landfills under the Landfill Corrective Action Program (LCAP) in West Virginia and characterization and design of remedial measures for an old landfill in Virginia.

**Danny Lipscomb, PE** is currently the Geotechnical Services Manager and a Senior Engineer at the St. Albans branch of Triad. In this capacity, he has been involved in development and management of subsurface exploration projects and

development of geotechnical engineering reports providing recommendations based on field observations and laboratory results for bearing capacity, earthwork operations, earthen dam embankments, slope stability, flexible and rigid pavement design, lateral earth pressures, sinkhole remediation, geophysics (electrical resistivity and ground penetrating radar), and rock excavation. These projects have included roadway/bridges, freshwater dams, shopping centers, buildings, retaining walls, residential communities, water storage tanks, waste water treatment facilities, and structures for coal mining facilities.

**Heather Metz, LRS** is currently the Environmental Services Manager and Senior Environmental Scientist at the Scott Depot office of Triad. In this capacity, Ms. Metz has assisted the USEPA and WVDEP, OER by performing various site assessment tasks at numerous Superfund sites in West Virginia. Tasks have included performing Preliminary Assessments (PA), Site Inspections (SI), combined Preliminary Assessment Site Inspections (PA/SI), Expanded Site Inspections (ESI), and Site Inspection Reassessments (SIR) under CERCLA. Specific tasks have included performing regulatory file reviews, site reconnaissance's, Hazard Ranking System (HRS) site scoring using USEPA software, USEPA Contract Laboratory Program (CLP) data management using USEPA software, providing electronic laboratory data deliverables for the WVDEP in EQUIS® data management format, Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) generation, field sampling, and report preparation. Ms. Metz has also performed Phase I and Phase II environmental site assessment (ESA) investigations at commercial facilities and operating manufacturing plants. These tasks have included performing subsurface investigations, multi-media sampling, data analysis, and report generation. Ms. Metz also performs a variety of tasks for sites in the West Virginia Voluntary Remediation Program (VRP). Tasks have included preparation of VRP Applications, Agreements, Sampling and Analysis Plans, extensive site characterization activities, and report preparation.

**Jobe Hope** is currently the Field Technician Supervisor for the St. Albans office of Triad. In this capacity he oversees the field staff, by handling calls from technicians on technical matters, staffing and scheduling and serving as the branch RSO. Mr. Hope also handles and in house QA/QC, schedules training classes, keeps all records of inspections and calibrations. In addition, he also writes proposals for perspective jobs, assigns new jobs and lab work and writes all QC plans.

Resumes which provide detailed information regarding the education and experience of all individuals who will perform services under this contract are included in **Appendix B**.

## **PROJECT APPROACH**

Based on our current understanding of the work requirements for the Webster County Landfill and our past experience with several similar projects, we believe that the work can be subdivided into five phases. Work elements associated with each phase are discussed in more detail herein.

### **Surveying and Mapping**

Prior to beginning site assessment and engineering design, it will be necessary to have reliable and accurate mapping over the project area, including any potential borrow areas and areas where leachate storage or treatment may occur. Triad will team with our aerial photography subcontractor (Keddal Aerial Mapping) to determine appropriate ground control locations prior to flying the site.



Triad will then establish aerial mapping targets using GPS survey equipment and personnel from our Scott Depot WV office to minimize travel expenses. Our field crew will also verify the legal boundaries of the property, and these will also be shown on the base map.

After the site is flown, our subcontractor will provide mapping for field review and verification. After all field data is confirmed, final digital and hard copy files will be provided to Triad. These files will form the basis for our base mapping.

### **Site Characterization Study**

After accurate mapping is available, Triad will conduct a site reconnaissance visit in cooperation with the WVDEP project manager. During our site reconnaissance, we will examine and discuss the following features:

- Interim cap system
- Existing surface water drainage controls
- Potential leachate release areas
- Nearby receiving streams and other sensitive receptors
- Potential borrow areas
- Existing monitoring wells

Following our site visit, Triad will discuss our proposed site characterization plan with the WVDEP project manager and subsequently provide a written scope of work for approval.

Upon approval, Triad will mobilize drilling equipment from our Charleston, WV area office to conduct any subsurface investigation necessary to characterize waste limits, potential borrow soils, groundwater, and bedrock conditions at the site. Samples of groundwater from existing monitoring wells, samples from surface run-off channels, and samples from potential leachate seeps will be obtained for laboratory analysis. Laboratory testing will be completed by our subcontract analytical laboratory, Pace Analytical Services, Inc., a WVDEP certified laboratory.



Sufficient data will be obtained during the course of our site assessment to generate a report that will describe current conditions at the site and provide a proposed cost effective remedial approach. Our Site Characterization Report will include:

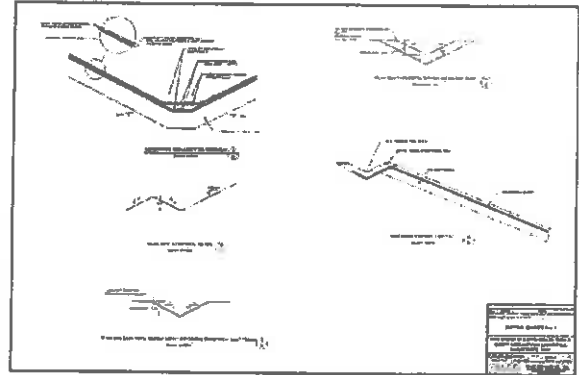
- Overall site map depicting relevant features
- Description of groundwater quality and flow patterns
- Description of site geology and soils
- Evaluation of existing cover soil
- Evaluation of available borrow soils, including quantity and quality
- Description of surface water drainage
- An evaluation of potential impacts to nearby surface water, groundwater, and other potential sensitive receptors
- Our recommended approach to final closure of the landfill

### **Design Engineering and Permitting**

After review and approval of our Site Characterization Report by WVDEP, Triad will begin preliminary engineering of a closure solution. We anticipate that submittals will be made to WVDEP at the 30% complete, 90% complete, and 100% complete stage of design. Our design package will generally include the following elements:



- Existing Conditions and Topography
- Survey Layout Plan
- Erosion and Sediment Control
- Base Grading Plan
- Final Grading Plan
- Closure Cap Details
- Surface and Stormwater Management Plan
- Sediment Control Structure Plans and Details
- Leachate Collection/Storage System Plans and Details
- Miscellaneous Details
- Supporting Calculations
- Construction Specifications



### **Construction Cost Estimate and Bidding**

Upon completion of final plans and specifications, the expected cost of the work will be estimated. This cost evaluation will be made using unit cost data from various sources (i.e. previous bids on similar projects, information solicited from material suppliers, Means unit costs, etc.). The final cost estimate will be discussed with the WVDEP project manager and, whenever necessary, revisions to the plans and specifications will be made to bring the estimated costs in line with the project budget.

After an estimated construction budget is established, Triad will assist WVDEP in the advertisement and bidding of the work. The Triad project manager and project engineer will attend the pre-bid meeting to show the job to prospective contractors, and will assist the WVDEP project manager with the review and analysis of bids.

### **Construction Quality Control Inspection**

Triad project team personnel and construction inspectors from the Scott Depot, WV office will make regular visits to the project site as appropriate and necessary during construction. Triad inspectors will conduct quality control tests at the frequency provided in the specifications and will evaluate the contractor's work for compliance with the specifications. The Triad design engineer will be available as necessary to visit the site with the WVDEP project manager to evaluate progress and/or to solve problems which may develop during the course of construction. We typically suggest bi-weekly progress meetings at the site to review work which has been completed to date, outline concerns or deficiencies

(if applicable), respond to questions from the Contractor, and receive information regarding submittals and schedule updates.

Upon completion of the construction, our engineer will conduct a final inspection with the WVDEP project manager and the contractor to develop a punch list as necessary to ensure that all elements of the project are completed in accordance with the plans and specifications.



### **PROJECT QUALITY CONTROL AND COST CONTROL SYSTEM**

Our project manager will be responsible for monitoring and controlling project schedule, budget and quality. Prior to beginning the project, Mr. McCoy will coordinate with the WVDEP project manager to prepare a Project Management Plan. The Project Management Plan document guides and records execution of the project from beginning to final completion. As work progresses, the project manager will evaluate progress on a weekly basis to compare actual project progress with the established work schedule. If these reviews indicate that a schedule problem is developing, the project manager will explore options for correcting the situation. If circumstances develop that will make it impossible to maintain the original schedule, the WVDEP project manager will be immediately informed of the situation and a mutually satisfactory schedule adjustment will be made.

Personnel time and expense charges are maintained and allocated to projects on a weekly basis. Using this data, together with knowledge of subcontractor costs, our project manager will also review project budget status on a weekly basis. This information is available at the project manager's desktop via our automated accounting and project management software. The percent of work completed will be compared to the percent of costs incurred in order to quickly identify any budget problems which may develop. If potential budget problems are identified, they will be evaluated by the project manager and the WVDEP project manager will be immediately informed of the problems and causes. If justified, a mutually agreeable budget revision will be prepared or the work scope will be revised to conform to the original budget, based on the nature of the problem.

Project meetings will be held at least weekly between the Triad project manager, the senior engineer, and other relevant staff as appropriate to generally review project schedule and budget, and also to review work product for completeness, accuracy, and conformance with the project requirements. Triad maintains a two-tiered quality review system. The first tier requires the staff person who

generates work to have their work product reviewed by a peer. Any revisions required by the peer review are completed prior to moving to the second tier. In the second tier review, a senior level technical person must review and sign off on the quality of all work.

Generally, senior review will be conducted by Lee McCoy, PE, for civil engineering work and Dave Meadows, PE, PS for geotechnical and site assessment work. However, other senior level staff may complete these reviews as necessary to maintain efficient work flow.



### **SUMMARY**

As indicated in this proposal and the accompanying CCQQ, Triad maintains the staff, equipment and other resources to complete the Webster County Landfill project completely in-house. Staff from our Scott Depot office, will perform the work so that we can minimize travel costs and more efficiently utilize the time allowed for the project.

We can also utilize technical strengths and experience housed in other Triad office locations to supplement expertise available in the Scott Depot, WV office. Technical oversight, including the review and editing of specifications and drawings, will be accomplished via our shared server folders, which provide company wide access to files stored there.

The attached **Appendix A - Landfill Project Experience**, illustrates our experience and ability to complete a wide variety of landfill projects, from initial design to site assessment and closure. We strongly believe that you will conclude Triad is one of the most capable and experienced landfill consulting firms in West Virginia.

*Appendix A*

## LANDFILL PROJECT EXPERIENCE

Project Name Location	Contact Phone No.	Services Provided
MARION COUNTY LANDFILL Farmington, WV	Mr. Paul Benedum (304) 368-2000	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
MORGAN COUNTY LANDFILL GREAT CAGAPON, WV	Mr. Mark Church (540) 665-5643	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
DONS DISPOSAL Charleston, WV	Mr. Clyde Bennett (304) 872-3800	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
CITY OF BUCKHANNON CLOSURE CAP Buckhannon, WV	Mr. Mark Church (540) 665-5643	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
CITY OF BUCKHANNON LEACHATE COLLECTION Buckhannon, WV	Mr. Mark Church (540) 665-5643	Leachate treatment feasibility study; Borrow soils investigation; Laboratory soils & permeability testing; Leachate sampling and testing; Site design; Leachate lift station design; Sewer design; Construction drawings & specifications; Construction cost estimate; Construction bid preparation and management
MCDOWELL COUNTY LANDFILL Roderfield, WV	Mr. Clyde Bennett (304) 872-3800	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
GRANT CO. LANDFILL Petersburg, WV	Mr. Mark Church (304) 872-3800	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
ERO LANDFILL Mason Co., WV	Mr. Clyde Bennett (304) 872-3800	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management; Monitoring well installation; Wetland treatment system design
MINGO CO. LANDFILL Mingo Co., WV	Mr. Clyde Bennett (304) 872-3800	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
NORTH LANDFILL Marietta, OH	Mr. Tim King (304) 747-3763	Closure Design: Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management

Project Name Location	Contact Phone No.	Services Provided
GOFF MOUNTAIN LANDFILL Institute, WV	Mr. Steve Graves (304) 767-6613	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
FREDERICK COUNTY CDD LANDFILL Winchester, VA	Mr. Harvey E. (Ed) Strawsnyder (540) 665-5643	Aerial photography and development of contour mapping; Geotechnical Investigation; Monitoring well installation; Construction drawings & specifications; Permit document preparation; Construction inspection of several cells
LOCAL SANITATION SERVICE Morehead, KY	Mr. Steve Hodges (606) 784-6544	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
FREDERICK COUNTY SANITARY LANDFILL Winchester, WV	Mr. Harvey E. (Ed) Strawsnyder (540) 665-5643	Geotechnical and hydrogeologic studies; Laboratory soils & permeability testing; Monitoring plan preparation; Groundwater sampling and testing; Monitoring well installation; Construction monitoring and testing of numerous cells
PRICHARD LANDFILL Prichard, WV	Mr. Rick Maynard (304) 648-5925	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
SYCAMORE LANDFILL Hurricane, WV	Mr. Charles A. Firth (304) 562-2611	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
NUMBER 1 LANDFILL Sistersville, WV	Ms. Tina Adams (304) 625-3211	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management; Monitoring well installation
HOLTZ IMPOUNDMENT So. Charleston, WV	Mr. Jerome Cibrak (304) 747-2987	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management; Monitoring well installation
NUMBER 3 LANDFILL Sistersville, WV	Ms. Tina Adams (304) 625-3211	Site feasibility study; Monitoring well installation and hydrogeologic studies; Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management Liner compatibility study
NUMBER 2 LANDFILL Sistersville, WV	Ms. Tina Adams (304) 625-3211	Engineering design; Synthetic and soil liner construction inspection; Permit document preparation; Aerial surveying and ground control; Construction cost estimate and construction bid document preparation; Monitoring well installation
RHONE-POULENC CLOSURES Institute, WV	Mr. George Kennedy (304) 747-6870	Closure design; Site investigation; Borrow material study; Surveying and topographic mapping; Lab testing; Construction inspection; Engineering certification; Annual hydrogeologic analysis
SOIL OPERABLE UNIT 1 Marietta, OH	Mr. Tim King (304) 747-3763	Construction oversight on behalf of owner on two-year construction project for closure of several superfund landfill units
SHENANDOAH COUNTY LANDFILL	Mr. Henry Mikus	Soil and hydrogeologic studies; Monitoring well installation; Laboratory soils & permeability testing; Permit documents; Subsidence

<b>Project Name Location</b>	<b>Contact Phone No.</b>	<b>Services Provided</b>
EXPANSION Woodstock, VA	(540) 984-8573	stabilization design
CHARLES PACE TIRE SITE Tunnelton, WV	Mr. Charlie Jordan (304) 558-0844	Review of soils & hydrogeological data; other siting information; and, preliminary plans & specifications
WV TIRE DISPOSAL Summersville, WV	Mr. Charlie Jordan (304) 558-0844	Review of soils & hydrogeological data; other siting information; and, preliminary plans & specifications
PRINCE WILLIAM COUNTY LANDFILL Prince William Co., VA	Mr. David E. Stinson (703) 471-6150	Soils and hydrogeologic studies; Laboratory soils & permeability testing; Monitoring well installation
EAST SETTLING BASIN CLOSURE Sistersville, WV	Mr. Okey Tucker (304) 625-3211	Borrow study; Materials testing; Soils QA/QC; Engineering certification
CHARLES CITY COUNTY REGIONAL LANDFILL Charles City, VA	Mr. John Brinson (404) 438-7770	Soil and hydrogeologic studies; Monitoring well design and installation; Laboratory soils & permeability testing
NORTHWESTERN LANDFILL Parkersburg, WV	Mr. Ron Levine (304) 428-0602	Construction inspection; Borrow study; On-going consultation; Clay liner QA/QC; Certification report; Lab testing
MEADOWHILL LANDFILL Clarksburg, WV	Mr. Dave Gallagher (304) 842-2784	Borrow study; Subsurface investigation; Lab testing; Synthetic and clay liner QA/QC; Certification report; Stability analysis
GALLIA COUNTY LANDFILL Gallipolis, OH	Mr. Tim Laraway (404) 513-2560	Surveying; Borrow study; Drainage structures design; Sediment pond upgrade design; QA/QC inspection
PAGE COUNTY LANDFILL Luray, VA	Mr. Ron Wilson (540) 743-4142	Geotechnical and hydrogeologic feasibility studies; Monitoring well installation; Groundwater sampling and testing
LOUDOUN COUNTY LANDFILL Leesburg, Virginia	Ms. Sharon Hodges (540) 777-0591	Construction monitoring and testing; Laboratory soils & permeability testing
PRINCE WILLIAM COUNTY CONSTRUCTION DEBRIS LANDFILL Prince William Co., VA	Mr. David E. Stinson (703) 471-6150	Soil investigation; Laboratory soils & permeability testing
SHENANDOAH COUNTY LANDFILL Woodstock, VA	Mr. Richard Chrisman (540) 984-8573	Soil and hydro-geologic studies; Monitoring well installation; Laboratory soils & permeability testing
PANIC POND RETROFIT Sistersville, WV	Mr. Okey Tucker (304) 652-3211	Borrow study; Synthetic liner QA/QC; Soils QA/QC; Field and lab permeability testing
EMERGENCY BASIN RETROFIT	Mr. Bob Dulaney	Borrow study; Synthetic liner QA/QC; Soils QA/QC; Field and lab permeability testing

Project Name Location	Contact Phone No.	Services Provided
Marietta, OH	(614) 374-1146	
PRESTON COUNTY LANDFILL Masontown, WV	Mr. Harold Ray (304) 864-6514	Laboratory soils & permeability testing; Permit preparation; QA/QC testing
BUCKHANNON LANDFILL Buckhannon, WV	Mr. Burl Smith (304) 472-1002	Hydrogeologic study; Monitoring well installation; Laboratory soils testing
GARRETT COUNTY LANDFILL Oakland, MD	Mr. Lee Thorne (301) 334-3988	Monitoring well installation; Laboratory soils & permeability testing; Soil & synthetic liner QA/QC
ROMNEY LANDFILL EXPANSION Romney, WV	Mr. Jay Jensen (304) 257-1221	Borrow studies; Laboratory soils & permeability testing; Geologic study



# ***Buckhannon Landfill Closure Buckhannon, West Virginia***

## **Project Description**

The project consisted of closure of the Buckhannon Landfill located near Buckhannon, West Virginia. Closure cap design including project specifications and QA / QC plan for this project was performed by Triad. Closure of the landfill included construction of a closure cap, leachate and gas collection layers and systems, and surface water collection, diversion, and management.

The closure cap consisted of 18 inches of intermediate cover soil material, geocomposite gas venting and leachate collection layers, 40 mil linear low density polyethylene (LLDPE) flexible membrane liner, and a 24 inch vegetative soil cover layer.



Services performed by Triad consisted of complete engineering design of all aspects of the cap system, followed by quality control inspection during placement of all components of the project, including earthen and geosynthetic materials for the closure cap, leachate and gas venting layers, leachate collection system, as well as the storm water collection, diversion, and management system. Triad also prepared a final report upon completion of the project including the engineer's certification statement.

## **CLIENT**

West Virginia Department of Environmental Protection

# ***Don's Disposal Landfill Closure Sissonville, West Virginia***

## **Project Description**

Triad provided full civil/environmental engineering services including the design of a closure cap and appurtenant surface and subsurface drainage features for the Don's Disposal landfill located near Sissonville West Virginia. The project sites consisted of approximately 30 acres. Triad coordinated with the owner's representatives to develop complete and comprehensive construction drawings, construction specifications, quality assurance and quality control plans, and design reports.



The intent of the proposed closure plan systems was to; minimize surface water infiltration, thereby minimizing generation of leachate, collect and remove any surface and/or subsurface leachate seepage, collect and remove gas generated during waste decomposition, and to minimize the potential for erosion of the closure cap by surface water run on/runoff.

The proposed closure cap components were selected

based on local availability of potential cap construction materials, logistics of construction, and cost. The proposed closure plans included stripping of the existing cover as necessary to remove vegetation, regrading waste to provide a configuration with a minimum of constructability issues, installation of a closure cap system consisting of; the installation of a leachate collection and removal system , storage, and loadout systems, passive gas vent layer collection and removal systems, drainage layer collection, the implementation of comprehensive storm water management plans, piezometer abandonment, and access roads.

Services provided by Triad consisted of, field surveying to generate a map of existing site and topographic features, geotechnical investigation to determine subsurface conditions to facilitate design of the closure cap systems, design of all site grading and drainage features, and preparation of West Virginia National Pollutant Discharge Elimination System (WVNPDES) permits. Special services for the West Virginia Department of Environmental Protection included negotiation with local utilities to expand service to the new facility.

## **CLIENT**

West Virginia Department of Environmental Protection

# ***McDowell County Landfill Closure McDowell County, West Virginia***

## **Project Description**

The project consisted of the construction for the closure of the McDowell County Landfill. The McDowell County Landfill is located on the waters of the Tug Fork of the Big Sandy River, in north central McDowell County, West Virginia. Closure cap design including project specifications and QA / QC plan for this project was performed by Triad. Closure of the landfill included construction of a closure cap, leachate and gas collection layers and systems, and surface water collection, diversion, and management.



The closure cap consisted of 18 inches of intermediate cover soil material, geocomposite gas venting and leachate collection layers, 40 mil linear low density polyethylene (LLDPE) flexible membrane liner, and a 24 inch vegetative soil cover layer.

Services performed by Triad consisted of quality assurance / quality control oversight during placement of all components of the project

including earthen and geosynthetic materials for the closure cap and leachate and gas venting layers, leachate collection system, and storm water collection, diversion, and management system. Triad also prepared a final completion report upon completion of the project including a construction certification statement.

## **CLIENT**

West Virginia Department of Environmental Protection

# ***Phase I West Closure Goff Mountain Landfill Bayer Crop Science Institute, West Virginia***

## **Project Description**

Bayer CropScience operates an industrial waste landfill, known as Goff Mountain Landfill near its plant in Institute, West Virginia. This landfill receives RCRA-hazardous industrial waste consisting primarily of filter cake from the plant wastewater treatment unit. The filter cake is transported to the landfill by truck where it is blended with clean clay soil and placed. Historically the landfill construction has progressed as a series of benches (or lifts) which were capped once available airspace was exhausted. In this case, exhaustion of the landfill's active airspace was expected sometime during the year 2004. Expecting the exhaustion of the landfill's airspace, the Owner made the decision to expand, necessitating the initial phase of a multi-phased expansion.



The Design Drawings, Technical Specifications, and Quality Assurance/Quality Control Plan were prepared by Triad Engineering, Inc. (Triad) of St. Albans, West Virginia. Construction Quality Assurance/Quality Control monitoring and materials evaluation were also performed by Triad. The construction of the Phase I Expansion consisted of installing a liner in the unlined portions of the western side of the landfill and closure of an interim capped area.

Services provided by Triad during the Phase I Expansion Project consisted of closure cap and liner design and permitting, quality assurance / quality control oversight during placement of all components of the project including all drainage features, fill placement and liner and closure cap construction. Triad also prepared a final completion report upon completion of the project including a construction certification statement.

## **CLIENT**

Bayer CropScience

# ***Phase IIA and IIB West Expansion Goff Mountain Landfill Bayer Crop Science Institute, West Virginia***

## **Project Description**

Bayer CropScience operates an industrial waste landfill, known as Goff Mountain Landfill near its plant in Institute, West Virginia. This landfill receives RCRA-hazardous industrial waste consisting primarily of filter cake from the plant wastewater treatment unit. The filter cake is transported to the landfill by truck where it is blended with clean clay soil and placed. Historically the landfill construction has progressed as a series of benches (or lifts) which were capped once available airspace was exhausted.



In this case, exhaustion of the landfill's active airspace was expected sometime during the year 2004. Expecting the exhaustion of the landfill's airspace, the Owner made the decision to expand, necessitating the implementation of phases of a multi-phased expansion.

The Design Drawings, Technical Specifications, and Quality Assurance/Quality Control Plan were prepared by Triad Engineering, Inc. (Triad) of St. Albans, West Virginia. Construction Quality Assurance/Quality Control monitoring and materials evaluation were also performed by Triad. The construction of the Phase IIA Expansion consisted of installing a liner in an unlined portion of the western side of the landfill to provide an additional storage.

Services provided by Triad during the Phase IIA & Phase IIB Expansion Project consisted of liner design and permitting, quality assurance / quality control oversight during placement of all components of the project including all drainage features, fill placement and liner component construction. Triad also prepared a final completion report upon completion of the project including a construction certification statement.

## **CLIENT**

Bayer CropScience

# ***Permit Compliance Repair Project Goff Mountain Landfill Bayer Crop Science Institute, West Virginia***

## **Project Description**

The Bayer Corporation operates an industrial waste landfill, known as Goff Mountain Landfill near its plant in Institute, West Virginia. This landfill receives RCRA-hazardous industrial waste consisting primarily of filter cake from the plant wastewater treatment unit. The filter cake is transported to the landfill by truck where it is blended with clean clay soil and placed. Historically the landfill construction has progressed as a series of benches (or lifts) which were capped once available airspace was exhausted. In this case, exhaustion of the landfill's active airspace was expected sometime during the year 2004. Expecting the exhaustion of the landfill's airspace, the Owner made the decision to expand, necessitating multiple expansion phases and increased activity. This increased activity resulted in making necessary repairs to the landfill and properly addressing waste and leachate seeps to remain in permit compliance.



The Design Drawings, Technical Specifications, and Quality Assurance/Quality Control Plan were prepared by Triad Engineering, Inc. (Triad) of St.

Albans, West Virginia. Construction Quality Assurance/Quality Control monitoring and materials evaluation were also performed by Triad. The repairs consisted of collecting and properly sealing seeping waste and leachate and repairing the access road.

Services provided by Triad during the Permit Compliance Repair Project consisted of design of drainage features and roadway repair areas, quality assurance / quality control oversight during placement of all components of the project including all drainage features, fill placement and road repair components. Triad also prepared a final completion report upon completion of the project including a construction certification statement.

## **CLIENT**

Bayer CropScience

# ***Hazardous Waste Disposal Study No. 2 Landfill Momentive Performance Materials Friendly, West Virginia***

## **Project Description**

Momentive Performance Materials (MPM) is a global leader in producing silicones and advanced materials. MPM is based in Waterford, New York but has several facilities throughout the world. The current facility in evaluation is located in Friendly, West Virginia. The facility currently has two landfills. The No. 1 Landfill has been closed for several years. The No. 2 Landfill is currently in operation. This landfill receives RCRA-hazardous industrial waste consisting primarily of sludge from the plant wastewater treatment unit. Due to nearly exhausting the permitted air space, Triad was asked to perform a study evaluating several options to expand the air space and provide an additional 10 years of sludge storage.



The options studied consisted of the following

- Design and Construction of an entirely new landfill
- Dewatering sludge in order to place in a manner to minimize air space use
- Removing all waste to an offsite disposal facility
- Expansion of the existing No. 2 landfill

The most feasible and cost effective option chosen was the expansion of the existing No. 2 Landfill.

Services provided by Triad during the Hazardous Waste Disposal Study consisted of performing research, collecting cost data, performing conceptual preliminary design, and generating cost estimates for each option. This information was presented to Momentive Performance Products in a formal report.

## **CLIENT**

Momentive Performance Products

# **No. 2 Landfill Expansion Project Momentive Performance Materials Friendly, West Virginia**

## **Project Description**

Momentive Performance Materials (MPM) is a global leader in producing silicones and advanced materials. MPM is based in Waterford, New York but has several facilities throughout the world. The current facility in evaluation is located in Friendly, West Virginia. The facility currently has two landfills. The No. 1 Landfill has been closed for several years. The No. 2 Landfill is currently in operation. This landfill receives RCRA-hazardous industrial waste consisting primarily of sludge from the plant wastewater treatment unit. Due to nearly exhausting the permitted air space, Triad was asked to perform a study evaluating several options to expand the air space and provide an additional 10 years of sludge storage. Based on the results of the study, it was decided to expand the existing landfill to gain the desired air space.



The Design Drawings, Technical Specifications, and Quality Assurance/Quality Control Plan were prepared by Triad Engineering, Inc. (Triad) of St. Albans, West Virginia.



Construction Quality Assurance/Quality Control monitoring and materials evaluation are also being performed by Triad. The construction of the Expansion is currently ongoing and consists of raising the crest of the existing earthen dam and adding berms and walls.

Services provided by Triad during the Expansion Project consisted design and permitting, quality assurance / quality control oversight during

placement of all components of the project including all drainage features, fill placement and liner component construction. Triad will prepare a final completion report upon completion of the project including a construction certification statement.

## **CLIENT**

**Momentive Performance Products**



*Appendix B*



**Education**

M.S., Civil Engineering  
(Geotechnical), 1981,  
Virginia Polytechnic  
Institute and State  
University, Blacksburg,  
Virginia

M.S., Civil Engineering,  
1987, West Virginia  
College of Graduate  
Studies, Charleston, WV

B.S., Civil Engineering,  
1974, West Virginia  
Institute of Technology,  
Montgomery, WV,  
Graduated Cum Laude.

**Professional Experience**  
41 Years

**Registrations &  
Licenses**

Registered Professional  
Engineer- WV  
Registered Professional  
Surveyor- WV

**Skills**

- Geotechnical Engineering
- Civil Engineering
- Environmental Assessments

**Highlights of Experience**

Mr. Meadows brings over 40 years of leadership, design, construction and project management experience to Triad Engineering. Mr. Meadows joined Triad in 2013 to provide management to the southwest region which includes the southern West Virginia area and the Athens, Ohio office. Mr. Meadows has recently been named Triad's Chief Technical Officer. In this capacity he helps with technical expertise, quality and risk management, operations management, leadership and business development.

Prior to coming to Triad he served in a number of technical and leadership positions at the US Army Corps of Engineers, Huntington District. His expertise includes civil design, geotechnical engineering, construction management, surveying, environmental remediation and water resources engineering.

**Relevant Project Experience**


***Triad Engineering, Scott Depot, WV***

Mr. Meadows has played an important role in maintaining the technical quality and management of the region, while being very active in business development. Besides managing all phases of operations for the Scott Depot, WV and Athens, OH offices, Mr. Meadows is responsible for management and planning of all civil engineering design projects; environmental assessments; surveying and mapping; water/wastewater engineering design projects; construction monitoring and testing operations; geotechnical investigation projects; and soils and concrete laboratory work in the region.

***US Army Corps of Engineers, Huntington, WV***

**Chief H&H and Technical Support Division, Great Lakes and Ohio River Dam Safety Production Center and Dam Safety Modification Mandatory Center of Expertise.** Mr. Meadows was responsible for developing and directing the Division's efforts to manage the regional execution of complex, non-routine, regional and inter-regional dam safety modifications, engineering assessments and risk and reliability analyses throughout the infrastructure capital stock portfolio of the U.S. Army Corps of Engineers. He primarily accomplished this mission through twelve senior technical staff (Hydraulic, Cost and Construction Engineers) who oversaw all complex technical aspects of modification work. He directed their work and provided them with strategic leadership, mentoring, coaching, counseling, team building, partnering, direction and management.

**Chief, Engineering and Construction Division.** Mr. Meadows was responsible to the District Commander for the Engineering and Construction functions associated with creating synergy between water resource development and the environment as it pertained to the Civil Works Program; responded to local, national, and global disasters; and provided full spectrum engineering and construction support to a geographic area comprising 45,000-square-miles. The district infrastructure includes 35 major flood control dams, nine locks and dam, and 29 major local flood protection projects. He provided technical, management, and strategic advice on engineering and construction matters. He directed a diverse staff of 215 team members engaged in all of the district's engineering design, construction, dam safety, levee safety, water management, flood damage reduction, navigation, flood proofing, and environmental enhancement, restoration and rehabilitation projects.



**Chief, Water Resources Engineering Branch, Engineering and Construction Division.** Mr. Meadows was responsible for planning, supervising and coordinating all hydrologic and hydraulic engineering, water control management and water quality activities of the Huntington District. These multiple discipline activities involved supervisory and program responsibility for studies, designs and reports through all stages of engineering investigations and planning, including preliminary examinations, surveys, review of surveys, urban studies, design reports and final construction plans and specifications for a wide variety of projects which included multiple-purpose projects for flood control, hydroelectric power development, navigation, water quality, and/or recreation, in various combinations, local flood protection projects, and channel improvement.

**In addition to the above positions, Mr. Meadows has served as the Chief, Environmental and Remediation Section, Construction Management and Field Support Branch, Chief, Civil Design Section, Design Branch, Chief Soils & HTRW Section, Geotechnical Branch.** He has also served as a Geotechnical Engineer, a Program Manager and a Hydraulic Engineer. During his career at the Corps he has worked on numerous projects such as the Yatesville Dam design and construction; West Columbus Floodwall, Williamson Central Business District Floodwall, Matewan Floodwall, Grundy Floodwall, Island Creek Flood Damage Reduction Project, Lower Mud Flood Damage Reduction Project and the Marlinton Flood Damage Reduction Project; R. C. Byrd, Winfield and Marmet Locks and Dam Replacement; Willow Island and Medahl hydropower additions; and the Bluestone, Zoar Levee, Dover, Bolivar, Beach City and Mohawk Dam Safety Modifications; and the Tom Jenkins Mineral Extraction. Mr. Meadows was responsible for the and engineering and construction management of the Summit Equipment Remediation, American Car and Foundry Remediation, West Virginia Ordnance Works Remediation and Operations & Maintenance, Dolly Sods, and the PBOW Remediation and Operations & Maintenance; and the Zoar Levee Emergency

Repairs. Directly responsible for the development of Flood-proofing Guide Plans and Specifications that resulted in numerous savings and adopted across the USACE.



#### Education

West Virginia University  
BS, Civil Engineering  
MS, Civil Engineering  
(Geotechnical)

Professional Experience  
37 years

#### Registrations

- P.E. Pennsylvania
- P.E. Virginia
- P.E. Maryland
- P.E. West Virginia
- P.E. Ohio
- P.E. Illinois
- P.E. North Carolina
- NCEES Record

#### Skills Highlights

- Geotechnical Analysis & Reporting
- Construction Materials Testing & Inspections
- Rock-socketed Caisson Design
- Groundwater & Seepage
- Earth and Rock Dams
- Landfills

#### Highlights of Experience

Mr. Moulton is a Principal Engineer for Triad Engineering, Inc., and in this capacity, Mr. Moulton is responsible for corporate contract administration, risk management and overall quality control and technical quality assurance of projects undertaken by the company. Specific technical activities include preparation of geotechnical proposals, review and/or preparation of subsurface exploration programs, evaluation of geotechnical data and review and preparation of detailed geotechnical reports. Mr. Moulton has also been responsible for managing design of corrective measures at three sanitary landfills under the Landfill Corrective Action Program (LCAP) in West Virginia and characterization and design of remedial measures for an old landfill in Virginia.

#### Relevant Project Experience

##### **Winchester Medical Center, Winchester, VA**

As Principal Engineer, responsible for preparation and/or review of numerous proposals and detailed reports for geotechnical investigations at this growing regional hospital. Activities involve meeting with facilities design and construction management personnel, interaction with architectural firm and construction management firm, review of all technical data and evaluation of foundation construction alternatives. The new hospital was completed in 1990, and new facilities which have been added since then, including an imaging center, a same day surgi-center, an additional day care center, two 3-story medical office buildings, several operating rooms, an expanded emergency department and a 4-story parking garage. Worked closely with the structural engineer on the parking garage project to develop reinforced strip footings designed using modulus of subgrade reaction in lieu of drilled piers, saving over \$100,000 in foundation construction costs.

##### **New Shenandoah County Solid Waste Landfill, Shenandoah County, VA**

As Principal Engineer, served as the project manager for detailed geotechnical investigation of an area for construction of a new sanitary landfill situated in karst geologic terrain. Field explorations included test pits, conventional test borings, seismic refraction surveying, microgravity surveying and air-track probes to explore anomalies detected by geophysical methods. The work also included design of preventative reinforcement measures for specific areas underlain by solutioning channels and seams so that the double liner system would remain intact in the event of subsidence. This was the first sanitary landfill proposed in a documented karst setting to be approved for construction by the Commonwealth of Virginia Department of Environmental Quality (DEQ).

##### **Stafford County Public Schools (SCPS), Stafford County, VA**

Since 1993, served as Contract Manager and Principal Engineer for numerous new schools under three different open-ended contracts negotiated using the Qualifications Based Selection (QBS) process. Responsibilities have included preparation of task order proposals and fee estimates, development of subsurface exploration programs, review of field and laboratory data, preparation and review of geotechnical reports and general quality assurance supervision for construction monitoring and testing projects involving new schools and additions to existing schools. Serves as the primary TRIAD contact with the Supervisor for Design and Construction of SCPS.

##### **Frederick County Public Schools, Frederick County, VA**

Since 1991, served as Contract and Project Manager for geotechnical investigations for new schools, additions to existing schools and a new transportation facility. Facilities have included six new elementary schools, one new middle school and two new high schools constructed since 1991. Also responsible for management of quality assurance inspection and testing services for several of these new schools.

**VDOT – Virginia Route 262 Bridges B609, B613, & B614, Augusta County, VA**  
Principal Engineer and Project Manager for geotechnical evaluation and recommendations for three bridges along proposed Route 262 in Augusta County. Included special evaluation due to presence of existing sinkhole near one of the proposed abutments.

**VDOT – Virginia Route 3, Culpeper, VA**

Project Manager for survey layout services during construction phase of Route 3 widening project.

**VDOT – U.S. Highway 29, Warrenton, VA**

Project Manager for survey layout services of construction phase of Highway 29 widening.

**VDOT – U.S. Highway 15, Madison County, VA**

Project Manager for survey layout services for construction phase of Highway 15 in Madison County.

**VDOT – U.S. Highway 522, Frederick County, VA**

Project Manager for survey layout services for construction phase of project.

**Silver Lake Dam, Frederick County, VA**

Prime designer for a privately owned 40-foot high earth dam which was replacing an older unsafe structure. The project involved constructing the new dam approximately 800 feet downstream of the old dam and abandoning the old dam by excavating a controlled breach. Features of the new dam included a principal spillway system with an oversized riser to control the pool level more effectively during nuisance storms and an emergency spillway routed through a box culvert and discharging via a grouted riprap channel. The box culvert was required to facilitate construction of a private access road across the top of the dam. TRIAD handled all permitting activities with several agencies of the Commonwealth of Virginia and the U.S. Army Corps of Engineers. Triad also prepared complete bidding and contract documents and conducted construction monitoring and testing services.

**Mary Babb Randolph Cancer Center, Morgantown, WV**

Senior Engineer for geotechnical investigation of a multi-story cancer research and treatment facility located immediately adjacent to West Virginia University Hospital and Medical Center. Evaluations included deep excavations for construction of two levels underground and making use of moderate capacity spread footings constructed on weathered rock.

**Chestnut Ridge Psychiatric Care Facility, Morgantown, WV**

Senior Engineer for geotechnical investigation of a site for a two-story psychiatric care facility. Special considerations included treatment of excavation of basement level into pyritic shale. Recommended use of bituminous waterproofing of exposed shale to limit movement of water and air and compressible material behind basement walls to accommodate some swell and limit lateral displacement associated with these swelling shales.

**National Research Center for Coal and Energy, Morgantown, WV**

Senior Engineer for geotechnical investigation of a site for construction of this new multi-story research facility underlain by expansive (pyritic) shale. These materials caused severe damage to the older adjacent engineering sciences building. Accordingly, innovative foundation design approach was required to reduce the potential for heave and associated structural distress. Final foundations consisted of drilled piers (caissons) with post-tensioned rock anchors stressed to apply a foundation pressure roughly twice the anticipated maximum heave pressure



**Education**

*BS, Civil Engineering,  
West Virginia Institute of  
Technology*

**Professional Experience**

18 Years

**Registrations &  
Licenses**

- Professional Engineer, WV, KY & OH

**Skills**

- Civil Engineering
- Transportation Engineering
- Site Development
- Planning and Surveying

**Highlights of Experience**

Mr. McCoy is currently the Department Manager for our Civil/Transportation Design Section and a Project Manager for the St. Albans office of Triad. In this capacity, he is responsible for the oversight of our civil engineering staff as well as the technical and management aspects of civil design and transportation projects within the office. Mr. McCoy has designed and managed projects in numerous disciplines including civil, structural and transportation engineering, site development, planning and surveying. These projects have included streets/highways, bridges, retail/commercial site preparation, airports, parking lots, buildings, retaining walls/foundations, sanitary structures, as well as recreational facilities. Duties included field surveying, drawings and specification preparation, design, design drafting, construction inspection, quality control testing, shop drawing review, project management, contract administration and report preparation.

**Relevant Project Experience**

**Federal Express Ground Distribution Center – Cross Lanes, WV**

As Project Manager and Lead Designer, Mr. McCoy prepared construction documents for the development and construction of a 10 acre site to accommodate a distribution center and associated parking and access drives. This project included grading, drainage, detention, roadway expansion, parking lot design, utility design including water and sanitary sewer, water quality design as well as many other aspects.

**Commerce Park – Huntington, WV**

As Project Manager and Lead Engineer, Mr. McCoy, is responsible for the project design and construction administrative services for a large use development located in Huntington, WV. This development consists of affordable housing apartments, flex space warehousing and office space. This project includes grading, drainage, stormwater management, permitting, parking lot design, as well as many other aspects.

**Amazon Call Center – Huntington, WV**


As Project Manager and Lead Designer, Mr. McCoy prepared construction documents for the construction of a 70,000 square foot call center with 9 acres of parking in Huntington, WV. This facility houses over 800 customer service employees. This project includes grading, drainage, detention, roadway expansion, parking lot design, utility design including water and sanitary sewer, water quality design as well as many other aspects.

**DirectTV Call Center – Huntington, WV**

As Project Manager and Lead Designer, Mr. McCoy prepared construction documents for the construction of a call center just outside Huntington, WV. This facility houses DirecTV's customer service employees. This project includes grading, drainage, detention, roadway expansion, parking lot design, utility design including water and sanitary sewer, as well as many other aspects.

**Devonshire Development, Scott Depot, WV**

As Project Manager and Lead Engineer, Mr. McCoy, is responsible for the project design and construction administrative services for a large resort style mix use residential development located in Scott Depot, WV. This 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. This project includes grading, drainage, permitting, parking lot design, as well as many other aspects.

**Logan Embankment Failure Repair – Logan, WV**

As Project manager and Lead Civil Designer, Mr. McCoy prepared construction documents for the repair of 4 landslides within the City of Logan. Project coordination was with the city and FEMA as the slides were attributed to local storm runoff. These landslides posed both access issues as well as safety issues to residents. The slides were encroaching on a structure in one case, access to the McCoy-Hatfield recreational trail, and were encroaching on city streets rendering them dangerously narrow with nearly vertical drop offs. Repairs varied from drilled pile walls to soil nailing. The repairs were designed to stabilize the slides and restore city streets to pre-slide conditions.

**Bayer CropScience – Institute, WV**

As Project manager and Lead Civil Designer, Mr. McCoy prepared construction documents for the expansion for Bayer CropScience's Hazardous Waste Landfill in Institute, WV. The project included grading, drainage and the design of landfill liner and closure features including both earthen and synthetic liners and drainage features.

**William Sharpe Hospital Expansion– Weston, WV**

As Project Manager and Lead Civil Designer, Mr. McCoy prepared construction documents for site infrastructure for a 50 bed expansion to the existing William Sharpe Hospital Expansion. This project includes grading, drainage, detention, roadway expansion, parking lot design, utilities as well as many other aspects.

**King's Daughters Medical Center – Various Locations in KY and OH**

As Project Manager and Lead Designer, Mr. McCoy prepared construction documents for the construction of numerous medical office buildings throughout Ohio and Kentucky. These projects include grading, drainage, detention, roadway expansion, parking lot design, utilities as well as many other aspects. Following is a list of more specific project locations:

**Sheetz Store, Eisenhower Drive, Beckley, WV**

As Project Manager and Lead Designer, Mr. McCoy prepared construction documents for the construction of a gas station/convenience store in Beckley, WV. This project includes grading, drainage, detention, roadway expansion, parking lot design, water quality design as well as many other aspects.



**Education**

*BA. Chemistry WVU  
BS. Civil Engineering,  
West Virginia University  
Institute of Technology*

**Professional Experience**  
5 Years

**Registrations &  
Licenses**  
Professional Engineer in  
Training

**Skills**

- Civil Engineering
- Hydrologic and Hydraulic Analysis and Design
- Erosion and Sediment Control Plans
- Stormwater Management

**Highlights of Experience**

Mr. Criniti is responsible for Staff Support of civil and surveying projects. He has participated in the design and management of numerous projects. These projects have included retail/commercial site preparation, airports, parking lots, buildings, retaining walls, foundations, sanitary structures, as well as boundary and topographic and photogrammetric surveys. Duties have included hydrologic and hydraulic analysis and design, erosion and sediment control plans, storm water management, field surveying, preparation of construction and as-built drawings, project specifications and preparation of various permit applications. Mr. Criniti also performs construction management, construction inspection, quality control testing, shop drawing review, project management, contract administration, and report preparation. He performs engineering calculations, studies, plans, reports and data analysis, all under the supervision of a licensed engineer. Mr. Criniti assists in the coordinating of construction projects including conducting pre-bid, pre-construction and progress meetings, schedule review and pay request review and approval. He also assists in conducting interim and final inspections of construction projects to determine compliance with applicable laws, regulations, and specifications.

**Relevant Project Experience**

**Washington Nile, Clay Local School District and Portsmouth Athletic Complex, Various locations in Ohio**

As a Staff Engineer, Mr. Criniti has been involved in and is responsible for the drainage design and permitting for these projects. In this capacity he has to coordinate with the project architect, local municipalities, the ODOT and the project developer. Work on these projects included, utility routing, storm drainage design, storm water management design and preparation of ODOT encroachment permit applications, health department permit application and NPDES permit application for handling surface water during construction. Mr. Criniti is also responsible for performing construction admin on this project consisting of site inspections, pay application review and approval and construction schedule monitoring.


**Tolsia Athletic Fields, Fort Gay, West Virginia**

As a Staff Engineer, Mr. Criniti has been involved in and is responsible for the drainage design and permitting for this project. In this capacity he has to coordinate with the project architect, local municipalities, the WVDOH and the project developer. Work on this project included, utility routing, storm drainage design, storm water management design and preparation of WVDOH encroachment permit applications, health department permit application and NPDES permit application for handling surface water during construction. Mr. Criniti was responsible for performing construction admin on this project consisting of site inspections, pay application review and approval and construction schedule monitoring.

**Oak Hill high School Baseball and Softball Complex, Oak Hill, Ohio**

As a Staff Engineer, Mr. Criniti has been involved in and is responsible for the drainage design and permitting for this project. In this capacity he has to coordinate with the project architect, local municipalities, state regulatory agencies and the project developer. The project involved the planning, and design and preparation of construction documents for a baseball field, softball field,





tennis open green space, parking areas and an extensive underground storm water detention system, synthetic turf baseball infield, and irrigation for both facilities.

**City National Bank – Construction Administration Services, WV**

This project consists of a state wide contract to provide construction administration services for City National Bank on bank loans for commercial construction projects. On this project Mr. Criniti is responsible for performing periodic job site inspections of work progress, reviewing contractor pay requests, monitoring project schedules as they pertain to percent completion and pay requests, and conducting periodic progress meetings.

**Devonshire Housing Development, Scott Depot, WV**

As a Staff Engineer, Mr. Criniti has been involved in and is responsible for site development design and permitting for various portions of this large residential development. In this capacity he has to coordinate with the project architect, local municipalities, the WVDOH and the project developer. Work on these projects includes building pad positioning and elevation, access road layout including grading design, parking lot layout, utility routing, storm drainage feature layout and design. Permitting work on these projects includes WVDOH encroachment permitting, health department permitting and NPDES permitting for handling surface water during construction. Mr. Criniti is also responsible for attending and conducting project meetings with the project contractor, the developer and associated agency.

**King's Daughters Medical Center – Various Locations in KY and OH**

As a Staff Engineer, Mr. Criniti has been involved in and is responsible for the drainage design for this project. Mr. Criniti assisted the projected manager in the preparation of construction documents for the construction of numerous medical office buildings throughout Ohio and Kentucky. These projects include grading, drainage, detention, roadway expansion, parking lot design, utilities as well as many other aspects.

**BB&T Facility Beckley, WV**

As a Staff Engineer, Mr. Criniti has been involved in and is responsible for the drainage design and permitting for this branch bank facility. In this capacity he has to coordinate with the project architect, local municipalities, the WVDOH and the project developer. Work on this project included, utility routing, storm drainage design, storm water management design and preparation of WVDOH encroachment permit applications, health department permit application and NPDES permit application for handling surface water during construction. Mr. Criniti is also responsible for performing construction admin on this project consisting of site inspections, pay application review and approval and construction schedule monitoring.



#### Education

Fairmont State College,  
WV, BS, Civil Engineering

Professional Experience  
11 Years

#### Registrations & Licenses

- Registered Professional Engineer, WV

#### Skills

- Geotechnical Evaluations
- Energy Sector
- Environmental Assessments
- Permitting
- Construction Materials Testing and Inspections

#### Highlights of Experience

Mr. Lipscomb is currently a Project Engineer at the St. Albans branch of TRIAD. In this capacity, he has been involved in development and management of subsurface exploration projects and development of geotechnical engineering reports providing recommendations based on field observations and laboratory results for bearing capacity, earthwork operations, earthen dam embankments, slope stability, flexible and rigid pavement design, lateral earth pressures, sinkhole remediation, geophysics (electrical resistivity and ground penetrating radar), and rock excavation. These projects have included freshwater dams, shopping centers, roadway/bridges, buildings, retaining walls, residential communities, water storage tanks, waste water treatment facilities, and structures for coal mining facilities. Duties included assignment of laboratory testing, visual inspection of soil/rock specimens, geophysics, and earthen embankment evaluation. Mr. Lipscomb has additional experience in areas relating to civil site design, hydrologic and hydraulic design, grading plans, water line plans, sewer line plans, hydraulic calculations, storage tank sizing, booster station design, roadway layout and design, storm water management plans, technical specifications, environmental and regulatory permitting, blast monitoring, and construction quality control.

#### Relevant Project Experience

##### Subsurface and Foundation Investigations (WV, VA, MD, KY, and OH)

Mr. Lipscomb has performed subsurface and foundation investigations for various private business and industrial firms. The projects consisted of performing subsurface investigations and analysis and recommending appropriate foundation types based on the results of the subsurface investigation. The projects also involved estimating potential settlement, delineating potential subsurface problems, and providing related recommendations regarding the geotechnical aspects of the projects. A geotechnical report was prepared and provided to the client for each project. Mr. Lipscomb has also designed foundation systems for buildings and other structures.

##### Dominion Transmission, Inc. (Chelyan, West Virginia)


As project engineer, Mr. Lipscomb processed information gathered during drilling activities and developed a report of subsurface exploration to aid in the design of a horizontal directional drilling project under the Kanawha River in Kanawha County, West Virginia. This included providing rock core unconfined compression test results, and performing a review of rock core samples to observe their Mohs Scale of Mineral Hardness values. Regional geologic information was also given to aid in the project's design.

##### United Coal Company (Crab Orchard, West Virginia)

As project engineer, Mr. Lipscomb performed geotechnical analysis of the site subsurface conditions and provided foundation recommendations for new coal preparation plant components planned to improve an existing facility. New coal preparation plant components included in the project consisted of a main coal preparation plant building, a raw coal reclaim tunnel, raw and clean coal stock piles (including stacker tubes), a loadout unit, and a refuse bin. Mr. Lipscomb recommended the use of cast-in-place concrete caissons for the majority of the proposed components due to underlying fill of unknown origin and variable content. Cast-in-place concrete caisson design parameters were provided for each of the proposed components, and spread foundation design parameters were provided for the refuse bin as an alternative to cast-in-place concrete caissons.

##### Putnam County Schools (Putnam County, West Virginia)

Mr. Lipscomb served as the project engineer for the subsurface exploration at multiple Putnam County School projects. His responsibilities on the projects included scheduling and coordination of



drilling activities, oversight of assignment for laboratory analysis of soil samples collected during drilling activities, developing boring logs, performing estimated settlement calculations, developing foundation recommendations, and composing a report of subsurface exploration for the individual projects.

**Water Distribution System Upgrades (Boone, Wayne, Berkley, Lincoln, and Logan Counties, West Virginia)**

Mr. Lipscomb has served as the project engineer for the detailed design of over 30 miles of water line extensions and associated appurtenances, including the preparation of construction drawings, water storage tank sizing and design, booster station design, hydraulic calculations, technical specifications, cost estimates, contractor's bid documents, review and recommendation of contractor's bids, and review of shop drawings.

**Civil/Site Design Projects (West Virginia, and Virginia)**

Mr. Lipscomb has civil/site design experience related to the development of grading plans, cut/fill analysis, utility design/layout, hydrological analysis, hydraulic evaluations of open channel flow systems, storm sewer design, stormwater retention/detention design, sediment control structure design, preparation of permit applications, and consulting with clients, architects, regulatory agencies, and municipalities.



**Education**

West Virginia State  
College

**Professional Experience**

24 years

**Registrations**

- WVDOH Certifies  
Tech Training  
Classes –  
Compaction,  
Aggregate, Portland  
Cement and  
Bituminous Concrete
- Troxler 8 Hour Nuke  
Safety and Operation
- Troxler Radiation  
Safety Officer  
Training
- 40 OSHA Training
- MSHA Impoundment  
Inspector Training  
ACI Training and  
Classes
- USACOE –  
Contractor QC  
Training
- WVDOT/DOH  
Compaction Inspector
- WVDOT/DOH  
Portland Cement  
Inspector

**Highlights of Experience**

Mr. Hope is currently the Field Technician Supervisor for the St. Albans office of TRIAD. In this capacity he oversees the field staff, by handling calls from technicians on technical matters, staffing and scheduling and serving as the branch RSO. Mr. Hope also handles and in house QA/QC, schedules training classes, keeps all records of inspections and calibrations. In addition, he also writes proposals for perspective jobs, assigns new jobs and lab work and writes all QC plans.

**Relevant Project Experience**

**Marshall University Football Stadium, Huntington, WV**

Duties included the Testing and Sampling of site concrete. Testing of utility line backfill for compaction. The testing of structural steel and light foundation connections for proper bolt torque.

**Sixth Street Bridge, Huntington, WV**

Duties included Testing and Sampling of all West Virginia Department of Highways (WVDOH) classes of concrete. The monitoring thickness and testing of both fills and backfills for compaction. The sampling and testing of the river water for clarity during construction. Maintaining Quality Control Charts.

**Georgia Pacific Plant, Mount Hope, West Virginia**

Duties included Testing and Sampling of all concrete. Testing and monitoring lift thickness of tills. Collection of new proctor samples when material changes occurred. Utilization of an onsite lab to cure and break the test cylinders at proper intervals. Reporting of all information.

**King's Daughter Medical Center Addition, Ashland, Kentucky**

Duties included the Testing and Inspection of auger cast pile foundation instillation. Testing and Sampling of site concrete.

**American Electric Power's North Charleston Service Center, Charleston, WV**

Duties included the Testing and Sampling of site concrete, Testing and Monitoring of fill and backfill placement. The shipping of test samples to AEP lab and the receiving and recording of the test data. Inspection of plumbing crews including instillation of work. Backfill of utility trenches. Inspection of testing the lines. Inspection of concrete finishers work. Filling out of AEP's daily log sheets.

**RCB Locks and Dam, Apple Grove, West Virginia**

Duties included site concrete Testing and Sampling. The testing of fill placement by sandcone method. Collection and determination of usability of site fill materials. Utilized onsite lab for gradation/sieve analysis.

**Endocrine Disruptor Study, Potomac, Ohio, Monongahela and Kanawha Rivers**

Duties included the Sampling and Collection of raw river water to be tested by EPA and WV DEP for Endocrine Disruptors. The labeling and shipping of the samples to the testing labs. Photographic locations for the report and document river levels and clarity.

**Commerce Park and West Pea Ridge Bridges, Huntington, West Virginia**

Duties included the sampling and testing of all classes of WVDOH concrete. Testing and monitoring of lift thicknesses of fills and backfills. The collection of aggregate samples.

- WVDOT/DOH  
Aggregate Inspector
- WVDOT/DOH  
Bituminous Inspector
- ACI – Grade I Field  
Tech
- ACI – Grade I Lab  
Tech
- 40 OSHA  
HAZWAPER  
Certification
- MSHA –Certified  
Impoundment  
Inspector
- MSHA –Above  
Ground Hazard  
Trained
- US Army COE –  
Construction QC  
Manager for  
Contractors
- PCI Level I and IIF-  
Number  
Measurement/Floor  
flatness
- Pervious Concrete  
Technician
- Licensed Asbestos  
Inspector, WV

**Route 10 Overpass Overlay, Chapmanville, West Virginia**

Duties included the sampling and testing of the latex modified concrete for the overlay. Including the making of chloride perm samples.



**Education**

BS Environmental  
Science, Marshall  
University, WV

**Professional Experience**

15 Years

**Registrations &  
Licenses**

- Licensed Remediation Specialist, No. [REDACTED] West Virginia
- Monitoring Well Driller Certification No. WV00400, West Virginia
- OSHA HAZWOPER 40 Hour Training/8 Hour Update (current)
- OSHA 8 Hour Supervisor Certification

**Skills**

- Due Diligence
- CERCLA
- Hazard Ranking System (HRS)
- Environmental Assessments
- Permitting

**Highlights of Experience**

Ms. Metz is currently the Environmental Services Manager and Senior Environmental Scientist at the Scott Depot office of Triad. Ms. Metz is responsible for the personnel management of the Environmental Services Group as well as the technical quality and management control of all Environmental projects in the southwest region. Additionally, Ms. Metz is a Licensed Remediation Specialist (LRS) and performs a variety of tasks for sites in the West Virginia Voluntary Remediation Program (VRP).

**Relevant Project Experience**

**Branch, Banking & Trust (BB&T)**, multiple locations, WV, OH, KY, PA, VA, MD  
As a National Account Manager, manages Phase I environmental site assessment (ESA), Phase II ESAs, and Transaction Screen investigations for BB&T at various commercial, industrial, and residential properties in West Virginia, Ohio, Kentucky, Pennsylvania, Virginia, and Maryland.

**West Virginia Brownfields Assistance Center, Huntington, WV**

As Program Manager, implemented the WVDEP Statewide Petroleum Brownfield Assessment grant program. Tasks include acting as liaison between the Brownfields Assistance Center, WVDEP and the USEPA, conducting Phase I ESAs, preparing site assessment work plans, conducting Phase II ESAs, preparing reports, monitoring budgets, and managing field activities.

**City of Huntington, Huntington, WV**

As Project Manager, implementing the City of Huntington Hazardous Brownfields Assessment Grant program. Tasks include completing an inventory of candidate sites, preparing site assessment work plans, acting as liaison between The City and USEPA, conducting Phase I ESAs, conducting Phase II ESAs, preparing reports, reporting status to The City and USEPA, monitoring budgets, managing field activities, and managing community outreach efforts.

**Fayette County Commission, Fayetteville, WV**

As Project Manager, implemented the County-Wide Hazardous Brownfields Assessment Grant program. Performed oversight for Phase I ESAs and asbestos inspections at 50 properties located throughout the County. Negotiated right of access agreements, monitored budgets and managed field activities.

**Huntington Alloys Corporation, Huntington, WV**

As Field Scientist, assisted in performing a metal translator study and water effects ration (WER) study as part of a variance request before the WV Environmental Quality Board. Tasks included collecting samples during storm events directly downstream of the culvert portion of Pats Branch below the Outfall 001 discharge.

**Marshall University, Joan C. Edwards School of Medicine, Huntington, WV**

As Project Manager and Environmental Scientist, performed various tasks under the WV VRP. Responsibilities included preparation of the Sampling and Analysis Plan, performing subsurface soil and groundwater investigations, data analysis, and report preparation. In addition, researched, designed, and implemented a soil gas vapor field investigation to investigate potential migration of VOCs, methane, and hydrogen sulfide from an abandoned, former MSW landfill underlying a portion of the site.

**NISource Corporate Services Company, various locations, eastern KY**

As Environmental Scientist, prepared Remediation Completion Reports for the Kentucky Department of Environmental Protection for the characterization and remediation activities performed at 141 former mercury measuring stations located in southeastern Kentucky. Responsibilities included interpretation of field and laboratory data, nonhazardous and hazardous waste disposal manifests, and reporting activities.

**Rahall Transportation Property, Huntington, WV**

As Project Manager and Environmental Scientist, performed various site characterization and remediation tasks utilizing WVDEP Brownfield grant funding. The site was historically operated as a railroad right of way maintenance facility and was the location of a 22,000 gallon coal tar light oil spill. Responsibilities included regulatory file reviews, sampling and analysis plan preparation, multi-media sampling, excavation oversight, and report preparation.

**Strait's Cleaners & Coin Laundry, Charleston, WV**

As Project Manager and Environmental Scientist, performed a Phase I ESA, Phase II ESA, and various tasks under the WV VRP at the former dry cleaner and laundromat facility. Tasks included preparation of the VRP Application, VRP Agreement, Sampling and Analysis Plan, subsurface investigation, multi-media sampling, source removal, and final report preparation. Based on the WV VRP re-opener prepared an area wide groundwater use restriction.

**Turnpike Ford, Huntington, WV**

As Project Manager and Environmental Scientist, performed site characterization activities under the LUST program. In addition to the Phase I ESA, performed direct-push subsurface investigations, multi-media sampling, analytical data evaluation and interpretation, reporting, and LNAPL recovery.

**West Virginia Department of Environmental Protection, multiple locations, WV**

As Program Manager, responsible for performing various assessment tasks at USEPA Superfund sites in West Virginia. Tasks have included performing Preliminary Assessments, Site Inspections, Combined Preliminary Assessment/Site Inspections, Expanded Site Inspection, and Site Inspection Reassessments under CERCLA. Specific tasks have included performing regulatory file reviews, site reconnaissance's, Hazard Ranking System (HRS) site scoring using USEPA software, USEPA Contract Laboratory Program (CLP) data management using USEPA software, providing electronic laboratory data deliverables for the WVDEP in EQulS@ data management format, Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) generation, field sampling, and report preparation. These tanks have been performed at over 50 Superfund sites throughout West Virginia.

**West Virginia Department of Environmental Protection, Charleston, WV**

As Program Manager, implemented the WVDEP Statewide Hazardous Brownfield Assessment Grant program. Tasks include preparing site assessment work plans, acting as liaison between WVDEP and USEPA, conducting Phase I ESAs, conducting Phase II ESAs, preparing reports, reporting status to WVDEP and USEPA, monitoring budgets, managing field activities, and managing community outreach.

**West Virginia Division of Highways, multiple locations, WV**

As Program Manager and LRS, responsible for field activities and report preparation for WVDOH properties in the LUST, WV VRP, and UECA programs of WVDEP. Site characterization tasks have include subsurface investigations to determine the extent of contamination, multi-media sampling, groundwater monitoring well and recovery well installation. Prepares and/or provides oversight during data evaluation, prepares remedial action work plans and final reports. Responsible for project personnel selection, overall project and technical quality, budget and schedule management.



**Education**

BS. Geology, Morehead State, KY

**Professional Experience**  
25 Years

**Registrations & Licenses**

- Licensed Remediation Specialist No. [REDACTED]
- Monitoring Well Driller Certification No. WV00405, West Virginia
- Monitoring Well Driller Certification No. [REDACTED] Kentucky
- OSHA HAZWOPER 40 Hour Training
- OSHA HAZWOPER 8 Hour Update (Current)
- West Virginia UST Worker Class B
- West Virginia UST Class A/B Operator Training

**Highlights of Experience**

Mr. Wright is currently a Project Geologist-Licensed Remediation Specialist with Triad's Scott Depot, West Virginia office. In this capacity, he is responsible for designing and implementing technical investigations, which include Phase I and II, Brownfields, Voluntary Remediation Program (VRP), Uniform Environmental Covenants Act (UECA), Leaking Underground Storage Tank (LUST), and Superfund environmental site assessments. Assessment activities include installation of direct-push technology and auger drill rig borings and monitoring wells, as well as collection of soil, groundwater, soil vapor, surface water, and sediment samples. In addition, Mr. Wright develops sampling and analysis plans, evaluates environmental data, and prepares reports and documents.

**Relevant Project Experience**

**Ashland Branded Marketing, Inc., Ohio, Kentucky and West Virginia**

As Project Manager, supervised underground storage tank (UST) system removals and closure activities at 10-20 sites. Removed and cleaned USTs at each site. Excavated and disposed of any contaminated soils and completed site restoration activities. Installed groundwater monitoring wells, collected soil and groundwater samples and prepared site assessment reports.

**American Electric Power, Cabin Creek Substation, WV**

As Project Geologist, performed quarterly sampling of groundwater monitoring wells as part of the ongoing remediation of the property. As the LRS, prepared the LUST/UECA Application, Agreement and Sampling and Analysis Plan.

**British Petroleum, Lima, OH**

As Project Geologist, installed vapor monitoring wells at a hazardous waste landfill.

**Columbia Gas Transmission Corp., Various States**

Project Manager on a natural gas transmission project that characterized and remediated several sites contaminated by PCBs, and/or pipeline liquids. Also served as field activities coordinator and characterization team member. Additional duties included client relations, field cost accounting, field equipment/supplies management, site health and safety and QA/QC of final reports. As a direct push technology rig operator, collected soil and groundwater samples during performance of environmental site assessments at compressor stations, production facilities, and decommissioned facilities.

**Chesapeake Energy Corporation, Egan, Tennessee**

As a project Geologist, provided oversight for oil recovery from a ruptured oil well pipeline. Supervised installation of underflow dams, oil recovery and placement of absorbent materials.

**Chevron USA, Inc., KY and WV**

As Project Manager, responsible for LUST assessment and remediation at 10-20 operating retail and bulk petroleum facilities. Tasks included installation of groundwater monitoring wells, quarterly groundwater sampling, LNAPL collection, conducting environmental site assessments, installation of remediation systems. Finally, prepared scopes of work and cost estimates and prepared various reports for submittal to the proper state regulatory agency.



## Skills

- Designing and Implementing Technical Investigations
- Underground Storage Tanks
- Installation Direct Push Technology
- Sampling and Analysis Plans

### **CSX Real Property, Inc., Wheeling, WV**

As Project Geologist at this site, conducted an environmental site assessment at this former commercial facility in preparation for future site development.

### **Dominion Transmission, Inc., Hastings, West Virginia**

As a LRS, prepared the VRP Application and Sampling and Analysis Plan. Conducted the site assessment which included monitoring well installation, soil, groundwater, sediment and surface water sampling. Prepared the Site Characterization Report. As a project Geologist, collected groundwater samples for quarterly monitoring. Provided oversight for LNAPL recovery.

### **Dominion Transmission, Inc., Weston, West Virginia**

As a project Geologist, provided oversight for LNAPL recovery. Installed LNAPL recovery trenches.

### **Dow Chemical Corporation, Charleston, West Virginia**

As a direct push technology rig operator, collected soil, groundwater and soil vapor samples during performance of environmental site assessments at production facilities, landfills and decommissioned facilities.

### **GE Aircraft Engines, Cincinnati, OH**

As Project Geologist at this site, conducted an environmental site assessment which included monitoring well installation, soil and groundwater sampling.

### **Kentucky Department of Environmental Protection, Various Facilities, KY**

As a direct push technology rig operator, collected soil, groundwater and soil vapor samples during performance of environmental site assessments at municipal and orphan landfills.

### **Super America/Speedway, Inc., Various states**

As a direct push technology rig operator collected soil, groundwater and vapor sampling during performance of environmental site assessments. As Project Manager, responsible for LUST assessment and remediation at 10-20 operating retail and bulk petroleum facilities. Tasks included installation of groundwater monitoring wells, quarterly groundwater sampling, LNAPL collection, conducting environmental site assessments, installation of remediation systems. Finally, prepared scopes of work and cost estimates and prepared various reports for submittal to the proper state regulatory agency.

### **West Virginia Division of Highways, Mineral Wells, WV**

As a LRS, prepared the LUST/UECA Application, Agreement and Sampling and Analysis Plan. Conducted the site assessment which included monitoring well installation, soil, groundwater, sediment and soil vapor sampling. Prepared the Site Characterization Report. Conducted oversight of contaminated soil removal.

### **West Virginia Division of Highways, Various Sites throughout WV**

As a LRS, prepared Site Characterization Reports, Remedial Action Work Plans, Final Reports, Land Use Covenants for petroleum contaminated VRP sites.

### **West Virginia Division of Highways, Various Sites throughout WV**

As a Project Geologist, conducted oversight of UST removals and prepared closure assessment reports.

### **West Virginia Department of Environmental Protection, South Charleston, WV**

As a direct push technology rig operator collected soil and sediment samples during performance of an environmental site assessment at an abandoned landfill.

***Appendix C***

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION CONSULTANT QUALIFICATION QUESTIONNAIRE					
PROJECT NAME Webster Landfill Closure Cap		DATE (DAY, MONTH, YEAR) February 18, 2016		FEIN 550592364	
1. FIRM NAME Triad Engineering, Inc.		2. HOME OFFICE BUSINESS ADDRESS 10541 Teays Valley Road Scott Depot, WV 25560		3. FORMER FIRM NAME Triad Engineering, Inc.	
4. HOME OFFICE TELEPHONE  304-755-0721		5. ESTABLISHED (YEAR)  1975		6. TYPE OWNERSHIP INDIVIDUAL, CORPORATION, PARTNERSHIP, JOINT-VENTURE	
				6A. WV REGISTERED DBE (DISAVANTAGED BUSINESS ENTERPRISE)  YES            NO	
7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (Landfill Design) PERSONNEL EACH OFFICE 10541 Teays Valley Road, Scott Depot, WV 25560 / (304) 755-0721 / Dave Meadows, PE, PS - Regional Manager / 06					
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Thomas Ali, P.E. - CEO 412.257.1325 Tina McPhail, CFO 304.755.0721 Dave Meadows, P.E. CTO, Regional Manager 304.755.0721			8a. NAME, TITLE, & TELEPHONE NUMBER-OTHER PRINCIPALS		
9. NUMBER OF PERSONNEL BY DISPLINE (Bold Lettering Indicates Minimum Design Team Members) Detailed information On Team To Be Included					
14 ADMINSIRATIVE		ECOLOGISTS		2 LANDSCAPE	
_ ARCHITECTS		_ ECONOMISTS		_ STRUCTURAL	
_ BIOLOGIST		_ ELECTRICAL		ARCHITECTS	
8 CADD OPERATORS		ENGINEERS		_ MECHANICAL	
_ CHEMICAL ENGINEERS		8 ENVIRONMENTALISTS		ENGINEERS	
23 CIVIL ENGINEERS		_ ESTIMATORS		_ MINING	
50 CONSTRUCTION		14 GEOLOGIST		ENGINEERS	
_ INSPECTORS		_ HISTORIANS		_ PHOTOGRAMMETRISTS	
7 DESIGNERS		2 HYDROLOGISTS		_ PLANNERS:	
_ DRAFTSMEN				URBAN/REGIONAL	
				1 SANITARY	
				ENGINEERS	
				17 SIOLS ENGINEERS	
				_ SPECIFICATION	
				WRITERS	
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>7</u>					
*RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.					
10. If submittal is by joint venture, list participating firms & outline specific areas of responsibility (including administrative, technical, & financial) for each firm. Each participating firm must complete a "Consultant Confidential Qualification Questionnaire".					



12. A. Is your firm experienced in (Solid Waste Landfill Closure Design)?  
**YES Description and Number of Projects:** Triad has provided engineering and related services required for the successful completion of over 40 landfill projects over the last 25 years including Solid Waste Landfill Closure Design.

NO

B. Is your firm experienced in Solid Waste landfill site characterization assessment and evaluation?  
**YES Description and Number of Projects:** A large portion ( approximately 30 of our landfill projects required Solid Waste Landfill Site characterization assessment and evaluation.

NO

C. Is your firm experienced in landfill closure construction inspection?  
**YES Description and Number of Projects:** Triad has performed construction inspection and materials testing on over 40 landfill projects over the last 25 years. Materials testing and inspection included both soils and synthetic liner and drainage materials.

NO

D. Is your firm experienced in Aerial Photography and the Development of Contour Mapping?  
**YES Description and Number of Projects:** Triad typically subcontracts the aerial photography. However, Triad lays out the targets in the field and conducts the survey for establishment of horizontal and vertical control used to develop the final contour mapping. It is estimated that we have completed several hundred of these types of mapping projects since the inception of the firm in 1975.

NO

E. Is your firm experienced in evaluating ground water contamination, such as may be associated with landfills?  
**YES Description and Number of Projects:** Our Environmental Engineers, Geologists, Licensed Remediation Specialists have investigated and evaluated ground water contamination on hundreds of sites since the inception of the firm in 1975.

NO

F. Is your firm experienced in Landfill Closure cost estimating?  
**YES Description and Number of Projects:** Our engineers and designers are responsible for generating an engineering cost estimate on all of our design projects. Triad has performed cost estimating on the majority of our 40 plus landfill projects since 1990.

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (describe project) (Furnish Complete data but keep to essentials)			
NAME& TITLE (Last, first, Middle Int.)	YEARS OR EXPERIENCE		
	YEARS OF LANDFILL DESIGN EXPERIENCE:	YEARS OF GROUNDWATER AND HYDROLOGY EXPERIENCE:	YEARS OF CIVIL, GEOTECHNICAL ENGINEERING EXPERIENCE:
Meadows, David F., PE, PS Regional Manager, CTO	5	40	40
<p><b>Brief Explanation of Responsibilities:</b>            Mr. Meadows will serve as principal in charge. Mr. Meadows brings over 40 years of leadership, design and project management experience to Triad Engineering. Mr. Meadows joined Triad in 2013 to provide management to the southwest region which includes the southern West Virginia area and the Athens, Ohio office. Prior to coming to Triad he served in a number of technical and leadership positions at the US Army Corps of Engineers, Huntington District. His expertise includes civil design, geotechnical engineering, construction management, surveying, environmental remediation and water resources engineering.</p>			
<p><b>EDUCATION (DEGREE, YEAR, SPECIALIZATION)</b>            Bachelor of Science, Civil Engineering, West Virginia Institute of Technology 1974            Masters of Science, General Engineering, WV College of Graduate Studies 1981            Masters of Engineering, Geotechnical Engineering, Virginia Polytechnic Institute &amp; State University 1987</p>			
<p><b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>            S.A.M.E., ASCE, United States Society on Dams, WV Association of Land Surveyors</p>		<p><b>REGISTRATION (Type, Year, State)</b>            Registered Professional Engineer, 1980, West Virginia            Registered Professional Surveyor, 1996, West Virginia</p>	
13a. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (name type of design or work) (Furnish complete data but keep to essentials)			
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL DESIGN EXPERIENCE	YEARS OF GROUNDWATER AND HYDROLOGY EXPERIENCE	YEARS OF EXPERIENCE CIVIL, GEOTECHNICAL ENGINEERING EXPERIENCE:
Randy L. Moulton, PE Chief Engineer	25	37	37
<p><b>Brief Explanation of Responsibilities:</b>            As Principal Engineer for Triad Engineering, Inc., Mr. Moulton is responsible for corporate contract administration and overall quality control and technical quality assurance of projects undertaken by the company. Mr. Moulton has also been responsible for managing design of corrective measures at sanitary landfills under the Landfill Corrective Action Program (LCAP) in West Virginia and characterization and design of remedial measures for an old landfill in Virginia.</p>			
<p><b>EDUCATION (Degree, Year, Specialization)</b>            MS, Civil Engineering (Geotechnical) West Virginia University, Morgantown, WV, 1980            BS, Civil Engineering West Virginia University, Morgantown, WV, 1976            Accounting Courses (15 hours) Lord Fairfax Comm. Coll., Middletown, VA, 2001-2003</p>			
<p><b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b>            ASFE, ASCE</p>		<p><b>REGISTRATION (Type, Year, State)</b>            Registered Professional Engineer            WV, VA, MD, PA, NC</p>	

13b. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE QA/QC (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL DESIGN EXPERIENCE :	YEARS OF EXPERIENCE LANDFILL QA/QC EXPERIENCE :	YEARS OR CIVIL, GEOTECHNICAL ENGINEERING EXPERIENCE
McCoy, Larry L., Jr., P.E. Civil Department Manager/ Senior Engineer	5	5	19
Brief Explanation of Responsibilities: Mr. McCoy is the responsible engineer for numerous projects including civil site, utilities, roadways, and landfill design. Mr. McCoy has performed design and QA/QC supervision tasks related to these projects which have included: closure cap design and liner design. Mr. McCoy also served as project manager on these and several related projects.			
EDUCATION (Degree, Year, Specialization) BS/ 1996/ Civil Engineering			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS  ASCE		REGISTRATION (Type, Year, State) Registered Professional Engineer/2001/ WV Registered Professional Engineer/2007/ Ohio Registered Professional Engineer/2008/ Kentucky	
13c. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES REPOSIBLE FOR HEAVY EARTH WORK CONSTRUCTION PROJECTS (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle int.)	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL RELATED EXPERIENCE:	YEARS OF HEAVY EARTH CONSTRUCTION EXPERIENCE:	YEARS OF GEOTECHNICAL ENGINEERING EXPERIENCE:
Daniel H. Lipscomb, PE Geotechnical Engineering Manager	5	13	13
Brief Explanation of Responsibilities Mr. Lipscomb has formulated and implemented subsurface investigations on landfills, roadway/bridges, and structures for coal mining facilities. Mr. Lipscomb's responsibilities include development and implementation of subsurface programs, analysis of subsurface conditions and preparation of final reports including conclusions and recommendations based on subsurface conditions and proposed site use.			
EDUCATION (Degree, Year, Specialization) BSCE/ 2002/ Civil Engineering			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS WVSPE ASCE		REGISTRATION (Type, Year, State)  Registered Professional Engineer/2008/ WV	

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE THIS PROJECT (name project)

## Equipment Listing

### Drilling Equipment:

Track Mounted Rigs	3 - CME 55
All Terrain Drill Rigs	3 - CME 550 C
Truck Mounted Rigs	1 - CME 45C
Skid Mounted Rigs	1 - Diedrich D25
Transport Vehicles	2 - Peterbilt Tandem Axle Tiltbeds 1 - Peterbilt 378 Rollback 1 - Peterbilt 379L Road Tractor 1 - Peterbilt 379 Flatbed Tractor 1 - Ford F550 Water Truck 10 - 4WD ¾ Ton Support Trucks 1 - Pontoon Boat 1 - Barge 1 - John Boat
Portable Drilling Equipment	1 - Motorized Cathead/Tripos Unit 2 - Handheld Sampling Equipment

Miscellaneous equipment includes Dutch cone Penetrometer, Mobile Grout Pump (Chem-Grout), Steam Jenny (Whitco), Steam Jenny (Hotsy), 600 CFM Air Compressor (Sullair), various size utility trailers.

Protective Clothing & Equipment-Complying with EPA & OSHA Regulations Air Purifying Respirators & Supplied Air Respirators

### Drilling Tools:

- Hollow Stem Augers (2 ¼" I.D., 3 ¼" I.D., 4 ¼" I.D., 6 ¼" I.D.)
- Continuous Flight Augers
- NQ2 Core Equipment
- AW Core Equipment
- Pressure Testing Equipment
- Water Pumps, Trucks and Tanks
- Shelby-Tube Samplers (2", 3" and 5" Diameter)
- Split-Spoon Samplers (2" and 3" Diameter)
- CME Continuous 5.0' Length Samplers



- Longyear Casing Advancer (HQ)
- Downhole Hammer

**Laboratory Equipment:**

- Triaxial Compression Machine
- Manual Proctor Devices (standard and modified)
- Automatic Proctor Hammer
- Turbidimeter
- Hydrometer
- pH Tester (soil & water)
- Electronic Scales
- Unconfined Compression Machine
- Atterberg Limits Devices
- California Bearing Ratio Devices
- Electrical Resistivity Devices
- Specific Gravity Devices (soils & aggregates)
- 2000 Degree Fahrenheit Oven
- Permeability Cells & Panels
- Consolidometers
  - Electronic Manometers
  - Concrete Compressive Strength Equipment
  - Aggregate Shakers
  - Sieve Shakers
  - Sample Splitters
  - Unit Weight Buckets
  - Slake Durability Machine
  - Gradation Sieves
  - L.A. Abrasion Test Equipment
  - Soiltest Loading Devices
  - Sodium Sulfate Soundness Test Equipment
  - Asphalt Test Equipment
  - Relative Density Determination Device

## Field Testing Equipment:

### Soil

- Nuclear Moisture/Density Gauges
- Sand Cone Equipment
- Support Compaction Testing Equipment
- Digitilt Slope Indicator
- Pocket Penetrometers
- Hand Augers
- Static Cone Penetrometers

### Concrete

- Air Meters (pressure & volumetric)
- Slump Cones & Accessories
- Windsor Probes
- Rebound Hammers
- Concrete Core Drills & Accessories
- Concrete Slab Profiler

### Water

- Pressure Transducer / Data Logger & Associated Software
- pH Meters
- Turbidity Meters
- Iron Test Kits
- Dissolved Oxygen Meter
- Water Test Kits

### Structural Steel, Bolt, and Paint

- Torque Wrenches
- Magnetice Gauges
- Tooke Gauges
- Wet File Gauges
- Sling Psychrometers
- Dye Test Kits

### **Environmental Testing**

- OVA Meters (Trace Gas Analyzer by Flame Ionization)
- HNU Meters (Trace Gas Analyzer by Photoionization)
- Air-Stripping Unit for Water Treatment
- LEL/Oxygen Meter
- Draeger Pump and Assorted Tubes
- pH/ Conductivity/ Temperature Meters
- Hammer Drill and Associated Sampling Equipment

### **Field Laboratory Trailer**

- Equipped as Required for Specific Projects

### **Surveying and Mapping Equipment**

- Total Station Survey Instruments (Topcon, Lietz, Hewlett Packard, various models, 25 total)
- Wild T2 Precise Theodolite
- 2 Trimble 4000ssi Total Station GPS Recievers  
L1/ L2 dual frequency capability  
OTF (On The Fly) Initialization  
1.0MB static memory
- 2 Compact L1/ L2 frequency GPS Antenna w/ detachable geodetic groundplane
- 1 Pacific Crest 35w Data Transmitter
- 1 Pacific Crest 2w Data Reciever
- Trimble GPSurvey Software (v2.30b)
- Trimble TRIMNET Software (v92.11c)
- Dell Dimension XPS-D333 Computer w/ Dell Trinitron Monitor
- CTX – 300 MHz Laptop Computer
- Toshiba – 200 MHz Laptop Computer
- Thodolites (Dietzgen, 2 total)
- Engineer's Transits
- Data Collectors (SMJ – Construction V, HP 48 GX, Topcon, Leitz, various models, 20 total)

- Wild N3 Precise Level
- Automatic Levels (Lietz, Pentax, Wild, various models, 25 total)
- Planimeters (4)
- Various Lengths of Engineer Chains, Precision Leveling Rods
- 12 ft. Boat with Trolling Motor
- Pontoon Boat

## Computer Equipment:

### Software

- MicroStation J
- MicroStation SE
- MicroStation V8 – (2) Network Administered
- Bentley View (41) Network Administered
- InRoads v8.3 – Network Administered
  - InRoads Bridge
  - InRoads Site
  - InRoads Storm & Sanitary
  - InRoads Survey
- AutoCAD Civil 3D 2015 – (7) Network Administered
- Site SelectCAD Package
- SurvCADD 2000 (2)
- Corel WordPerfect 2000 (21)
- Corel WordPerfect 2002 (20)
- Microsoft Office 97 Professional (21)
- Microsoft Office 2000 Premium (3)
- Microsoft Office XP Professional (8)
- Microsoft Office Professional 2003 (9)
- Microsoft Windows 98SE (21)
- Microsoft Windows 2000 Professional (3)
- Microsoft Windows XP Professional (17)
- Adobe Photoshop 7 (2)

- Adobe PageMaker 7 (2)
- Adobe Acrobat 6 Pro (21)
- Adobe PageMill (2)
- Adobe Illustrator 7 (2)
- Adobe InDesign 2 (2)
- Adobe GoLive 6 (2)
- Macromedia Studio MX (2)
- PCSTABL6/STED – Slope Stability
- UTEXAS2 – Slope Stability
- COGOPC+ - Surveying and Mapping
- CONTOUR+ - Surveying and Mapping
- HEC1 – Flood Hydrograph Package
- HEC2 – Water Surface Profiles
- DAMS2 – SCS Structure Site Analysis
- PONDPACK – Urban Hydrology and Detention Pond Design
- GEOPRO – Geotechnical Engineering Software
- LPILE Plus 4.0 for Windows – Pile Design
- SHAFT 4.0 for Windows – Caisson Design
- HELPMODEL – Hydrologic Evaluation of Landfill Performance
- FLOWMASTER 7.0 - Network Administered Pipe and Ditch Sizing
- WaterCAD for AutoCAD – 6.5 – Network Administered
- StormCAD for Windows
- CULVERTMASTER – Culvert Design and Analysis
- EXXON I – Pavement and Subbase Thickness Design
- Trimble GPSurvey Software (v2.30b)
- Trimble TRIMNET Software (v92.11c)
- Q & A Database
- Peachtree Accounting (time & billing)
- Protrax Axium accounting
- Laboratory Test Data Reduction Programs

- GeoSystems – Geotech Engineering Materials Testing
- gINT 6 – (7)
- Lotus 123 Spreadsheet
  
- HWY – Asphalt Pavement Thickness for Streets and Overlays
- HWLOAD – Asphalt Pavement Thickness for Heavy Wheel Loads
- Government Forms Software '98 (SF 254/255)
- Deed Plotter for Windows
- HEC-HMS
- HEC-RAS
- HEC-Storm Sewers
- Hydraflow Hydrographs
- Hydraflow Storm Sewers
- CP-4 Asphalt
- Server Software
  - Windows 2000 Professional Server
  - Microsoft Exchange 2000 Server
  - Symantec Anti-virus Server
  - Symantec Mail Security AVF filter for MS Exchange
  - Symantec Web Security
  - Veritas Backup Exec 9.1 for Windows Servers
  - TripLite Power Alert

### **Hardware**

- PIII (400MHz – 1 GHz), 21 Stations total, up to 40GB Hard Drives
- P4 (1 GHz – 2 GHz) (14)
- P4 (2 GHz – 3.4 GHz) (5)
- Notebook Computers (6)
- Digital Cameras (3)
- Printers
  - HP CP6015x

- KM 350
- KM 600
- KM C353
- Plotters
  - HP DesignJet 1050C
  - HP DesignJet 4020 PS
- Fax Machines
  - HP 3100
  - Brother MFC4600
- Copiers
  - KM 350
  - KM 600
  - KM C353
- Firewall
  - Cisco PIX 506E Security Appliance
- Compaq Proliant ML370 G2 Server
- TripLite UPS

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD ASSOCIATED WITH OR RELATING TO LANDFILL CLOSURE OR CONSTRUCTION.				
PROJECT NAME,TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESOPNSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
No. 2 Landfill Expansion Friendly, WV	Momentive Performance Products 3500 S. State Route 2, Friendly, WV 26146	Full expansion design, surveying and QA/QC during construction	1.8 million	50
West End Landfill Closure, Goff Mountain Landfill Institute, WV	Bayer Crop Science RR 25 Institute, WV 25112	Full expansion design, surveying and QA/QC during construction	2 million	75
AST Inspection and Certification	WVDEP, LCAP 601 57 <sup>th</sup> Street Charleston, WV 25304	Above Ground Storage Tank Inspection and Certification	\$131,110.00 Engineering Fee	25
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS:	
#3			\$3.8 Million	





17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Marion County Landfill, Marion County, WV	WVDEP, LCAP 601 57 <sup>th</sup> Street Charleston, WV 25304		2014	Yes
Richardson Branch Complex Raleigh County, WV	WVDEP – AML&R 601 57 <sup>th</sup> Street Charleston, WV 25304		2012	100%
Goff Mountain Landfill Phase I West Closure Institute, WV	Bayer Crop Science RR 25 Institute, WV 25112		2013	Yes
Richardson Branch Complex Raleigh County, WV	WVDEP – AML&R 601 57 <sup>th</sup> Street Charleston, WV 25304		2012	Yes
Coaldale Refuse & Portals McDowell County, WV	WVDEP – AML&R 601 57 <sup>th</sup> Street Charleston, WV 25304		2010	Yes
Mullens Portals Project Wyoming County, WV	WVDEP – AML&R 601 57 <sup>th</sup> Street Charleston, WV 25304		2011	Yes
Water System Improvements Camden On Gauley, WV	Town of Camden on Gauley Mayor Avenue Camden on Gauley, WV 26208	2,000,000.00	2014	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS IN WHICH YOUR FIRM HAS BEEN A SUBCONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK WHICH YOUR FIRM WAS RESPONSIBLE) LIST 5 TO 7.

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
502 Junction Substation, Mt. Morris, PA & PREXY Substation, Cannonsburg, PA	Allegheny Energy Service Co. 800 Cabin Hill Dr., Greensburg, PA 15601		2011	Yes	Allegheny Energy Service Co.
Longview Power Plant Monongalia County, WV	GenPower Holdings, L.P. 1040 Great Plain Ave., Needham, MA 02492		2010	No	GenPower Holdings, L.P.
Raleigh Street Extension Berkeley County, WV	WVDOT / DOH 1900 Kanawha Blvd., East Charleston, WV 25305		2010	Yes	WVDOT / DOH
Nuttallburg Mine Complex, New River Gorge, WV	National Park Service PO Box 246 Glen Jean, WV 25846		2010	Yes	National Park Service
Sawmill Village Snowshoe, WV	Snowshoe Mountain Resort 10 Snowshoe Drive Snowshoe, WV 26209		2010	Yes	Snowshoe Mountain Resort

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the WV Department of Environmental Protection.

Triad Engineering, Incorporated (TRIAD) is a full service engineering firm specializing in the areas of geotechnical, civil and mining engineering and design, environmental assessment, surveying and mapping, construction monitoring, subsurface exploration, and laboratory testing, among other earth science disciplines. Our current work force includes civil, geotechnical engineers, environmental scientists, geologists, hydrologists, surveyors, trained Computer Added Design Drafting (CADD) draftsmen, field and laboratory technicians, drillers and support personnel.

TRIAD was founded in Morgantown, West Virginia (WV) in 1975 by three principals who molded the firm based on their belief that if the highest standards were maintained throughout all aspects of the company, they would earn their clients' respect, therefore ensuring the firm's continued growth. Today, TRIAD has a staff of 185 full-time employees and seven office locations in WV, Pennsylvania, Ohio, Maryland and Virginia. By providing an array of competent services, using modern equipment, and maintaining a well-trained professional staff, TRIAD has maintained the founders' philosophies and proven that customer satisfaction results in good relationships and repeat business.

Furthermore, TRIAD is an employee-owned company with an active Board of Directors. Current Officers and Board Members are:

- Chief Executive Officer (CEO) – Tom Ali, PE
- Chief Engineer – Randy Moulton, PE
- Chief Marketing Officer (CMO) – Rob Mooney
- Chief Technical Officer (CTO) – Dave Meadows
- Brad Reynolds, PE
- Keith Hutzell
- Nick Wolf
- Bill Ernestes
- David Cutlip (Outside Director)
- Chad Brinkley (Outside Director)

We are extremely proud of our performance under past contracts, including those we have held with the WVDEP. As of this date, 9 LCAP projects have been undertaken by TRIAD. The vast majority of these projects have been successfully completed on time and within the proposed cost estimate. As always, TRIAD will commit the necessary resources to meet the needs of this project.

20. The foregoing is a statement of facts

Signature: \_\_\_\_\_

Title: Regional Manager, CTO

Printed

Name: David F. Meadows, PS, PE

Date: February 18, 2016

*Appendix D*

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**MANDATE:** Under W. Va. Code §5A-3-10a, 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: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. 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.

**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.

**"Employer default"** means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

**"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.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Triad Engineering, Inc.

Authorized Signature: \_\_\_\_\_

Date: 2/18/2016

State of West Virginia

County of Putnam, to-wit:

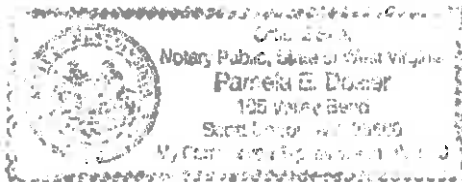
Taken, subscribed, and sworn to before me this 18 day of February, 2016.

My Commission expires March 10, 2019.

**AFFIX SEAL HERE**


NOTARY PUBLIC

Barbara E. Doser



**CERTIFICATION AND SIGNATURE PAGE**

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Triad Engineering, Inc.  
(Company)  
  
CTO & Regional Manager  
(Authorized Signature) (Representative Name, Title)

304-755-0721 304-755-1880  
(Phone Number) (Fax Number) (Date)

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: DEP1600000013**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further 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.

Triad Engineering, Inc.

Company



Authorized Signature

2/18/2016

Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012



## State of West Virginia

# VENDOR PREFERENCE CERTIFICATE

Certification and application\* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,  
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,  
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. **Application is made for 5% vendor preference for the reason checked:**  
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**  
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**  
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**  
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

**Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.**

Bidder: Triad Engineering, Inc.

Signed: 

Date: 2/18/2016

Title: Chief Technical Officer, Regional Manager

## OUR SERVICES

- ◆ Civil Engineering
- ◆ Geotechnical Engineering
- ◆ Environmental Services
- ◆ Survey and Mapping
- ◆ Landscape Architecture
- ◆ Mine Permitting
- ◆ Construction Monitoring
- ◆ Drilling and Sampling
- ◆ Laboratory Testing



### PENNSYLVANIA

500 Bursca Drive, Suite 504  
Bridgeville, PA 15017  
(412) 257-1325

### MARYLAND

1075-D Sherman Avenue  
Hagerstown, MD 21740  
(301) 797-6400

### VIRGINIA

200 Aviation Drive  
Winchester, VA 22602  
(540) 667-9300

21641 Beaumeade Circle  
Suite 300  
Ashburn, VA 20147  
(703) 729-3456

### WEST VIRGINIA

1097 Chaplin Road  
Morgantown, WV 26501  
(304) 296-2562

10541 Teays Valley Road  
Scott Depot, WV 25560  
(304) 755-0721

### OHIO

1005 East State Street  
Suite 10  
Athens, Ohio 45701  
(740) 249-4304

**TRIAD**  
TRIAD ENGINEERING, INC.

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