

Expression of Interest

Webster County Landfill Closure Cap

October 17, 2017



Prepared for:

Brittany E. Ingraham
Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305
P: 304.558.2157

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October 17, 2017

Brittany Ingraham
Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305

Subject: EXPRESSION OF INTEREST – 0313 DEP1800000002
Statement of Qualifications
Webster County Landfill Closure Cap

Dear Ms. Ingraham:

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 Expression of Interest No. DEP1800000002 dated September 14, 2017. 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: 364606

Doc Description: EOI: Webster County Landfill Closure Cap Design

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2017-09-14	2017-10-17 13:30:00	CEOI 0313 DEP1800000002	1

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:

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham
 (304) 558-2157
 brittany.e.ingraham@wv.gov

Signature X

FEIN #

DATE

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

ADDITIONAL INFORMATION:

Expression of Interest

The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, The Department of Environmental Protection, from qualified firms to provide architectural/engineering services to provide necessary engineering, and other related professional services to design and specify for construction as well as provide construction contract administration, for Webster County Landfill Closure Cap Design, per the bid requirements, specifications, terms and conditions as attached hereto.

*Online submissions of Expressions of Interest are Prohibited.

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	EOI: Webster County Landfill		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :

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

DEP180000002	Document Phase Final	Document Description EOI: Webster County Landfill Closure Cap Design	Page 3 of 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

Company Background

Triad Engineering, Inc. (Triad) is a regional consulting firm based in West Virginia that provides professional services in the areas of civil, environmental, mining, geotechnical and chemical 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 over 42 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 Department 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.

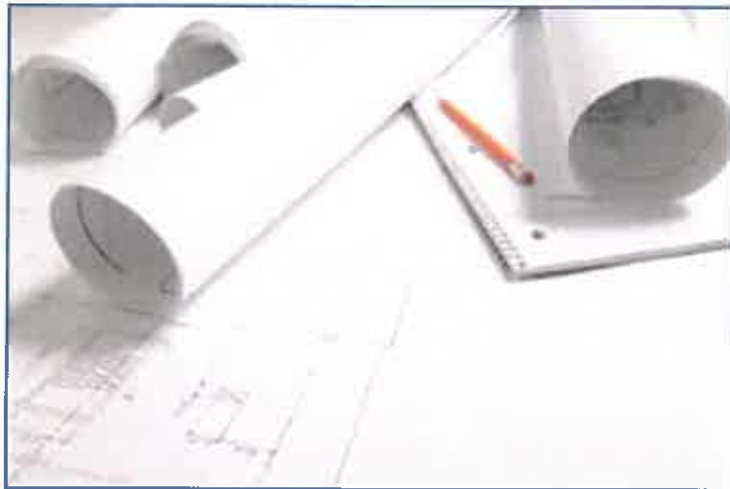


Triad currently includes a staff of approximately 185 personnel located in seven offices: Hagerstown, Maryland; Pittsburgh, Pennsylvania; Ashburn and Winchester, Virginia; Athens, Ohio; and Morgantown and Scott Depot, West Virginia. Our personnel include chemical, civil, environmental, geotechnical and 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

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 Meadow, PE, PS** 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:

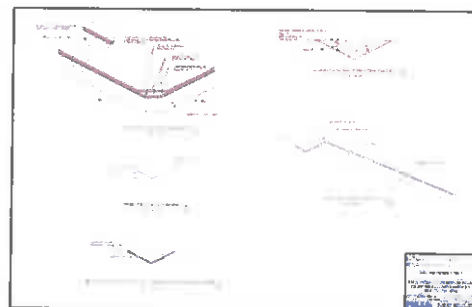
- Overall site map depicting relevant features
- Description of groundwater quality and flow patterns
- Description of site geology and soils
- Evaluation of existing cover soil
- Evaluation of available borrow soils, including quantity and quality
- Description of surface water drainage
- An evaluation 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.



Project Management Plan

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

CLIENT:

West Virginia Department
of Environmental
Protection

PROJECT TYPE:

Landfill Closure

TRIAD SERVICES:

- Engineering Design
- Quality Control
Inspection
- Stormwater
Management

OVERVIEW

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

PROJECT TYPE:

Landfill Closure

TRIAD SERVICES:

- Surveying
- Geotechnical Investigation
- Engineering Design

OVERVIEW

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:
Bayer CropScience

PROJECT TYPE:
Landfill

TRIAD SERVICES:

- Permitting
- Quality Assurance
- Quality Control
- Engineering Design

OVERVIEW

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:

West Virginia Department
of Environmental
Protection

PROJECT TYPE:

Landfill Closure

TRIAD SERVICES:

- Quality Assurance
- Quality Control
- Stormwater Management

OVERVIEW

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:
Momentive Performance
Products

PROJECT TYPE:
Landfill Expansion

- TRIAD SERVICES:**
- Design and Permitting
 - Quality Assurance
 - Quality Control

OVERVIEW

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

PROJECT TYPE:
Landfill

TRIAD SERVICES:

- Cost Data Collection
- Conceptual Design
- Cost Estimates

OVERVIEW

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:
Bayer CropScience

PROJECT TYPE:
Landfill

TRIAD SERVICES:

- Quality Assurance
- Quality Control
- Engineering Design

OVERVIEW

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

PROJECT TYPE:
Landfill

TRIAD SERVICES:

- Permitting
- Quality Assurance
- Quality Control
- Engineering Design

OVERVIEW

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.

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

PROFESSIONAL AFFILIATIONS
WV Society of Professional
Surveyors
National Society of Professional
Surveyors

SKILLS

- Geotechnical Engineering
- Engineering Management
- Surveying
- 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 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 Institute of
Technology, WV
BS, Civil Engineering

PROFESSIONAL EXPERIENCE 19
Years

REGISTRATIONS & LICENSES

- Registered 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.

DirecTV 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

West Virginia University, WV
BA, Business Administration

West Virginia State University,
WV
Associates Degree,
Mathematics

PROFESSIONAL EXPERIENCE
26 Years

SKILLS

- Funding Assistance
- Facilitates between Client and Funding Agency
- Project Status Reports
- Rate Analyses
- Asset Management Plans

HIGHLIGHTS OF EXPERIENCE

Ms. Grimm is a Project Manager for the Utility Group in the Scott Depot, WV office. Ms. Grimm has over 26 years of project management and funding experience. She is responsible for funding acquisition assistance to clients for water and wastewater projects, facilitating communication between Triad's clients and funding agencies, processing and tracking draw down of funds, supporting senior level engineers on impact of project costs to utility charges, preparation of status reports and facilitating and attending community meetings. Ms. Grimm also works with senior level engineers in preparation of asset management plans and utility rate analyses for clients.

RELEVANT PROJECT EXPERIENCE

West Virginia Department of Environmental Protection – Charleston, WV

Ms. Grimm has 26 years of experience as a project manager and Community Development Specialist II with the WV Department of Environmental Protection (WVDEP) Clean Water State Revolving Fund Program. In this capacity, she reviewed grant/loan applications for compliance, cost and accuracy in such areas as financial documentation, public notification, civil rights, engineering contract review, professional contract review, federal and state compliance, etc. She also provided recommendations for grant/loan applications with highest need priority. Other responsibilities in this position consisted of the review of supporting invoices and recommendations for monthly payment reimbursement requests, allowable project extension approvals and final payment and closure of loan reimbursements. She also monitored monthly contracts for the local administration of state and federal grants/loans to assure funds were properly spent and appropriate records maintained. She was also responsible for preparing monthly project progress reports. She investigated infrastructure development needs through meetings with state, regional and local governmental officials, community leaders, and private sector parties. She provided local officials and contractor's guidelines in establishing files, financial records systems, record keeping and retention, purchasing procedures, audit requirements and reporting requirements, both federal and state related. She also participated in local workshops and meetings to advise local officials and other interested parties of programs and educated officials in grant/loan application procedures and grant/loan administration.



EDUCATION

West Virginia University
BA, Chemistry

West Virginia Institute of
Technology
BS, Civil Engineering

PROFESSIONAL EXPERIENCE
5 Years

REGISTRATIONS & LICENSES

- Professional Engineer, WV

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

Ohio State University, OH
BS, MS Civil Engineering

PROFESSIONAL EXPERIENCE 19
Years

REGISTRATIONS & LICENSES

- Registered Professional Engineer (WV & OH)

SKILLS

- Stormwater Conveyance
- Wastewater Treatment
- Water Distribution Systems
- Stormwater Pollution Control

HIGHLIGHTS OF EXPERIENCE

Mr. Yandrich is currently a Project Engineer for the Triad Engineering Utilities Group in the Athens, Ohio office. Mr. Yandrich has participated in review, development, and state and local permitting of a wide variety of projects including water, wastewater, "green" roof, structural, and electrical/renewable energy for various sites throughout Southeast Ohio, Kentucky, and West Virginia. Mr. Yandrich's educational background includes environmental engineering, ecological engineering, civil engineering, wastewater collection and treatment, storm water conveyance, water distribution systems, storm water pollution control, stream restoration, and wetland design and restoration. Mr. Yandrich has managed various construction projects including water, wastewater, structural, and electrical/renewable energy. His duties include project scheduling, coordination, budget management, client interaction, and project team coordination. In addition to the above mentioned activities, Mr. Yandrich also prepares proposals and estimates on larger, long term projects. Mr. Yandrich's duties have included hydrologic and hydraulic analysis and design, storm water management, drawing and specification preparation, construction inspection, shop drawing review, permitting, and report preparation and review. Mr. Yandrich completes engineering calculations, studies, plans, reports, and data analysis. Mr. Yandrich coordinates construction projects and conducts interim and final inspections of construction projects to determine compliance with applicable laws, regulations, and specifications.

RELEVANT PROJECT EXPERIENCE

Village of Woodsfield, Ohio Water System

This project includes the design and specification for retrofitting an existing lime-settling basin with automatic scrapers for labor reduction, the design of a booster station to enable sales of potable water to a neighboring water system through an existing water main, and the replacement and extension of an existing 2" water line with a 6" line to provide improved service and fire protection to residents. Mr. Yandrich was also responsible for writing the Village's preliminary engineering report to enable funding acquisition.

Village of Jewett, Ohio Water System Improvements

This project consisted of the design and specification of equipment for the ultimate replacement of the Village's aging water treatment plant, entire distribution system, and water storage tanks. The project also entails the construction of a new source water well. Mr. Yandrich was also responsible for writing the Village's preliminary engineering report.

Village of Amesville, Ohio Water System Improvements

This project involves the construction of a new water treatment facility and a new water storage tank in order to replace the existing 55-year old facility. Mr. Yandrich is responsible for writing the preliminary engineering report, as well as for the design and specification of equipment to effectively treat the existing source of ground water. A new tank will replace the aging water storage tank. Mr. Yandrich is also responsible for the design of a new access road, structure to house the new treatment system, small wastewater treatment facility, a new source water well, and overall treatment system security.

City of Toronto, Ohio Water System Improvements

This project consisted of extensive replacement of aging cast-iron waterline in multiple areas of the City, as well as the construction of a new loop to improve water pressure and to serve an existing industrial facility. Mr. Yandrich was responsible for construction management and post-construction activities, including contractor payment, day-to-day reviews of construction progress, monthly progress meetings, and construction drawing updates and modifications.

Town of Mason, WV, Wastewater Treatment Plant Upgrades

This project consisted of the design and specification of an extended aeration plant rebuild, including headworks, primary aeration, and clarifiers. The project also consisted of the design of a new lift station and force main, and collection system improvements for I&I reduction. Mr. Yandrich was also responsible for the specification of a new maintenance garage at the facility.

For each of the following projects, Mr. Yandrich was responsible for permit application review, detailed plan and specifications review, hydraulic and capacity calculations, design review and recommendation, and permit recommendation and issuance. Mr. Yandrich also performed site evaluations and inspections to ensure compliance with all applicable rules and regulations.

Mason County E Corp, Meigs County, Ohio

Temporary holding tank and wetland-based wastewater treatment system.

DLD One, LLC, Jefferson County, Ohio

Sanitary sewer extension for a new Wall Mart Center.

Various on-site systems including: Holiness Church Center, Clearview Primitives, Liberty Life Church, Gheen Equipment Rental, Guernsey County Sportsman for Conservation Club, North Star Metals, Porter Freewill Baptist Church, Stark Truss Company, Guernsey County Deputies F.O.P., Latham Limestone, Ludlow Township/Little Muskingum Development Corp., Apex Environmental LLC, Larry Mitchel Trucking Garage, McQuinn LTD, Valley Hospice, DESCO Federal Credit Union, Multiple Counties, Southeast Ohio

These on-site systems included low pressure, mound, traditional leach, and holding tanks.

Norfolk Southern Railway Company, Scioto County, Ohio

This project consisted of modifying one primary settling pond into two parallel ponds with concrete bottom for easy cleaning. Mr. Yandrich reviewed all environmental permitting applications, detailed plans, and performed hydraulics calculations in order to determine project effectiveness.

Apex Sanitary Landfill, Jefferson County, Ohio

The project utilized a proprietary "SCAT" system and low pressure distribution to serve a new office building at a landfill.

Village of Wintersville, Jefferson County, Ohio

Sanitary sewer replacement at the Beechwood Area/Rt43 Floyd Easement area.

Barbers Hollow WWTP, Jefferson County, Ohio

The project consisted of new Influent screens for the Barber's Hollow WWTP.

Jefferson County Joint Vocational School, Jefferson County, Ohio

Sanitary sewer extension to the Jefferson County "M".

Wheelersburg Local School District, Scioto County, Ohio

Sanitary sewer extension for a new K-12 School

M & J Industries, LLC, Scioto County, Ohio

A new grinder pump station with a discharge to the Southern Ohio Correctional POTW

City of Portsmouth Lawson Run WWTP, Scioto County, Ohio

Conversion of the plant's old anaerobic sludge digestion system to ATTAD process.

GENPRO, LLC (Mission Pointe Sub), Jefferson County, Ohio

Sanitary sewer extension for new condominiums to the existing city of Steubenville wastewater collection system.



EDUCATION

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

PROFESSIONAL EXPERIENCE 37
Years

REGISTRATIONS & LICENSES

- 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 [REDACTED]

SKILLS

- 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 surgical 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

Fairmont State College, WV
BS, Civil Engineering

PROFESSIONAL EXPERIENCE
13 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

Marshall University, WV
BS, Environmental Science

PROFESSIONAL EXPERIENCE
15 Years

REGISTRATIONS & LICENSES

- Licensed Remediation Specialist, No. 269, 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 EQUIS® 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

Morehead State, KY
BS, Geology

PROFESSIONAL EXPERIENCE

25 Years

REGISTRATIONS & LICENSES

- Licensed Remediation Specialist, No. [REDACTED]
- Monitoring Well Driller Certification, No. [REDACTED] 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

SKILLS

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

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, Eagan, 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.

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.



EDUCATION
West Virginia State College

PROFESSIONAL EXPERIENCE
27 Years

REGISTRATIONS & LICENSES

- WVDCH Certifies Tech Training Classes—Compaction, Aggregate, Portland Cement and Bituminous Concrete
- Trovar 8 Hour Nuke Safety and Operation
- Trovar Radiation Safety Officer Training
- 40 OSHA Training
- MSHA Impoundment Inspector Training AQ Training and Classes
- USACOE—Contractor QC Training
- WVDOT/DCH Compaction Inspector
- WVDOT/DCH Portland Cement Inspector
- WVDOT/DCH Bituminous Inspector
- ACI—Grade I Field Tech
- ACI—Grade I Lab Tech
- 40 OSHA HASWOPER Certification

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 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 (WVDCH) 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 fills. 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's 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.

REGISTRATIONS & LICENSES
(CONT.)

- MSHA—Certified Impoundment Inspector
- MSHA—Above Ground Hazard Trained
- US Army COE—Construction OC Manager for Contractors
- PCI Level I and II—Number Measurement/Floor Flatness
- Previous Concrete Technician
- Licensed Asbestos Inspector WV

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.

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.

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CONSULTANT QUALIFICATION QUESTIONNAIRE**

PROJECT NAME Webster Landfill Closure Cap		DATE (DAY, MONTH, YEAR) October 10, 2017		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 Brad Reynolds, P.E. - CEO 301.797.6400 Dave Meadows, P.E. CTO, Regional Manager 304.755.0721 Randy L. Moulton, PE - Chief Engineer			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	STRUCTURAL		
ARCHITECTS	ECONOMISTS	ARCHITECTS	ENGINEERS		
BIOLOGIST	ELECTRICAL	MECHANICAL	13 SURVEYORS		
8 CADD OPERATORS	ENGINEERS	ENGINEERS			
CHEMICAL ENGINEERS	8 ENVIRONMENTALISTS	MINING	21 OTHER		
23 CIVIL ENGINEERS	ESTIMATORS	ENGINEERS			
45 CONSTRUCTION	14 GEOLOGIST	PHOTOGRAMMETRISTS			
INSPECTORS	HISTORIANS	PLANNERS:	175 TOTAL		
7 DESIGNERS	2 HYDROLOGISTS	URBAN/REGIONAL	PERSONNEL		
DRAFTSMEN		1 SANITARY			
		ENGINEERS			
		17 SIOLS ENGINEERS			
		SPECIFICATION			
		WRITERS			
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>6</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".					
10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES N/A <input type="checkbox"/> NO					

11. OUTSIDE KEY CONSULTANTS/ SUB-CONSULTANTS ANTICIPATED TO BE USED.		
NAME AND ADDRESS: Keddal Aerial Mapping 1121 Boyce Rd, Suite 3100 Pittsburgh, PA 15241	SPECIALTY: Aerial Photogrammetry	WORKED WITH BEFORE XYES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO

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	44	44

Brief Explanation of Responsibilities:

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.

EDUCATION (DEGREE, YEAR, SPECIALIZATION)			
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 & State University 1987			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:		REGISTRATION (Type, Year, State)	
S.A.M.E., ASCE, United States Society on Dams, WV Association of Land Surveyors		Registered Professional Engineer, 1980, West Virginia	
		Registered Professional Surveyor, 1996, West Virginia	
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.) Randy L. Moulton, PE Chief Engineer	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL DESIGN EXPERIENCE	YEARS OF GROUNDWATER AND HYDROLOGY EXPERIENCE	YEARS OF EXPERIENCE CIVIL, GEOTECHNICAL ENGINEERING EXPERIENCE:
	25	38	38
Brief Explanation of Responsibilities:			
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.			
EDUCATION (Degree, Year, Specialization)			
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			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	
ASFE, ASCE		Registered Professional Engineer WV, VA, MD, PA, NC	

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.) McCoy, Larry L., Jr., P.E. Civil Department Manager/ Senior Engineer	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL DESIGN EXPERIENCE :	YEARS OF EXPERIENCE LANDFILL QA/QC EXPERIENCE :	YEARS OR CIVIL, GEOTECHNICAL ENGINEERING EXPERIENCE
	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 REponsible FOR HEAVY EARTH WORK CONSTRUCTION PROJECTS (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle int.) Daniel H. Lipscomb, PE Geotechnical Engineering Manager	YEARS OF EXPERIENCE		
	YEARS OF LANDFILL RELATED EXPERIENCE:	YEARS OF HEAVY EARTH CONSTRUCTION EXPERIENCE:	YEARS OF GEOTECHNICAL ENGINEERING EXPERIENCE:
	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	2 - CME 55 1 - CME 45c
All Terrain Drill Rigs	2 - CME 550 C 1 - CME 55
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 $\frac{3}{4}$ Ton Support Trucks
 1 - Pontoon Boat
 1 - Barge
 1 - John Boat

Portable Drilling Equipment 1 - Motorized Cathead/Tripod 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 $\frac{1}{4}$ " I.D., 3 $\frac{1}{4}$ " I.D., 4 $\frac{1}{4}$ " I.D., 6 $\frac{1}{4}$ " I.D.)
- Continuous Flight Augers
- NQ2 Core Equipment
- AW Core Equipment
- PQ 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
- Magnetic 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 totall)
- 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 RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
None Currently				
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS:	

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS RELATING TO LANDFILL CLOSURE AND CONSTRUCTION.				
PROJECT NAME, TYPE, AND LOCATION	NATURE OF FIRM'S RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST:
None Currently				

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 th Street Charleston, WV 25304		2017	Yes
Richardson Branch Complex Raleigh County, WV	WVDEP -- AML&R 601 57 th Street Charleston, WV 25304		2012	Yes
Goff Mountain	Bayer Crop Science			

Landfill Phase I West Closure Institute, WV	RR 25 Institute, WV 25112		2013	Yes
No. 2 Landfill Expansion	Momentive Performance Products Friendly, WV		2016	Yes
WVDEP LCAP AST Inspection and Certificaton, Various, WV	WVDEP Charleston, WV		2016	N/A
Town of Mason Water System Improvements Phase II	Town of Mason, WV		2017	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
Corridor H, Kerens to Parsons, Randolph and Tucker Counties, WV, Drilling,	WVDOH Charleston	\$3,000,000.00 Fee	2016	No	Michael Baker International
I-84 Upgrade, Drilling, Lackawanna County, PA	PennDOT Harrisburg, PA	\$220,000.00 Fee	2017	No	American Geotechnical and Environmental Services
East Beckley Bypass, Section 5, Geotechnical Investigation, Beckley, WV	WVDOH Charleston, WV		2013	No	L.A. Gates Company
Wexford Village Phase II Site Grading	Cathcart Development		2014	Yes	Wiseman Excavation

Wampum Bridge Drilling Wampum, PA	PennDOT		2016	No	MS Consultants
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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) – Brad Reynolds, PE
- Chief Engineer – Randy Moulton, PE
- Chief Technical Officer (CTO) – Dave Meadows
- Allan Kennedy
- Lee McCoy
- Nick Wolf
- Bill Ernstes
- 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

Date: October 11, 2017

Signature: _____

David F. Meadows

Title: Regional Manager, CTO


Printed

Name: David F. Meadows, PS, PE

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Name, Title)	David F. Meadows, PE, PS, Regional Manager, Chief Technical Officer
(Printed Name and Title)	10541 Teays Valley Road, Scott Depot, WV 25560
(Address)	304-755-0721 / 304-755-1880
(Phone Number) / (Fax Number)	dmeadowsw@triadeng.com
(email address)	

CERTIFICATION AND SIGNATURE: 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)

(Authorized Signature) (Representative Name, Title)

David F. Meadows, PE, PS, Regional Manager, Chief Technical Officer
(Printed Name and Title of Authorized Representative)

10/10/17
(Date)

304-755-0731 / 304-755-1880
(Phone Number) (Fax Number)

**ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:**

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 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

10/10/17

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

Contracting business entity: Triad Engineering, Inc.

Address: 10541 Teays Valley Road, Scott Depot, WV 25560

Contracting business entity's authorized agent: David F. Meadows, PE, PS,

Address: 10541 Teays Valley Road, Scott Depot, WV 25560

Number or title of contract: _____

Type or description of contract: _____

Governmental agency awarding contract: _____

Names of each interested Party to the contract known or reasonably anticipated by the contracting business entity (attach additional pages if necessary):

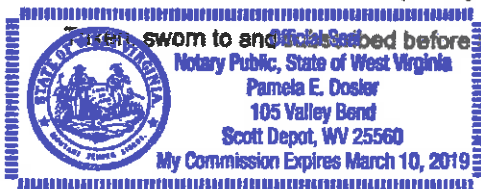
Signature: [Handwritten Signature] Date Signed: 10-9-17

Check here if this is a Supplemental Disclosure.

Verification

State of West Virginia, County of Putnam

I, DAVID F. MEADOWS, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledges that the Disclosure herein is being made under oath and under the penalty of perjury.



sworn to and subscribed before me this 9th day of October, 2017

[Handwritten Signature]
Notary Public's Signature

To be completed by State Agency:

Date Received by State Agency: _____

Date submitted to Ethics Commission: _____

Governmental agency submitting Disclosure: _____

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL OTHER CONTRACTS: 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 employees' 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: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, 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: [Signature] Date: 10/10/17

State of West Virginia

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 10th day of October, 2017

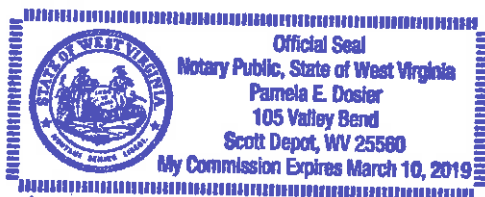
My Commission expires March 10, 2019

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature]

Purchasing Affidavit (Revised 07/07/2017)



OUR SERVICES

- ◆ Civil Engineering
- ◆ Geotechnical Engineering
- ◆ Environmental Services
- ◆ Surveying 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, WV 22602
(540) 667-9300

46040 Center Oak Plaza
Suite 180
Sterling, VA 20166
(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, OH 45701
(740) 249-4304

TRIAD
TRIAD ENGINEERING, INC.

◆ TRIAD Listens, Designs & Delivers.™

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