



December 12, 2017

Ms. Angela W. Negley  
West Virginia Division of Natural Resources  
Property & Procurement Office  
324 4<sup>th</sup> Avenue  
South Charleston, West Virginia 25303-1228

RE: Expression of Interest for West Virginia Division of Natural Resources (WVDNR)  
Modifications and Repairs of Six (6) Dams  
Potesta Project No. 0101-17-0450

Dear Ms. Negley:

Potesta & Associates, Inc. (POTESTA) is pleased to submit three copies of our Expression of Interest (EOI) and a CD with a PDF of the EOI for professional engineering services to provide architectural/engineering services for modifications/repairs to Upper Deckers Creek Dams #3 and #7, Fairfax Pond Dam, Rollins Lake Dams #1 and #2, and Turkey Run Dam. This EOI contains information regarding our firm's capabilities, prior experience and staff qualifications.

POTESTA is well qualified to assist the WVDNR with the modifications and repairs of the six (6) dams in Preston and Jackson Counties, West Virginia and other related work necessary to bring them into compliance with Dam Safety Regulations or to remove them from the jurisdiction. We have the experienced staff and facilities to perform all the anticipated tasks required for dam related projects in-house, included are surveyors, engineers (geotechnical and hydrologists), designers, and construction inspectors. We are familiar with Dam Safety guidelines and requirements pertaining to construction, modification, and/or dam removal.

Why hire Potesta & Associates, Inc?

- POTESTA has complete in-house environmental science and engineering service capabilities, including surveying, geotechnical services, hydraulic and hydrologic analysis, civil/site design, permitting, and construction administration and monitoring.
- Mr. Ronald R. Potesta, President, is a former director of the WVDNR and has extensive knowledge of the operation and expectations of the agency.
- We are a West Virginia owned and operated firm.

**POTESTA & ASSOCIATES, INC.**

Charleston, West Virginia • Morgantown, West Virginia • Winchester, Virginia • Cambridge, Ohio

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- Proven record of design and construction administration for various municipal and private projects located in several counties of West Virginia.
- Work is completed within schedule and budget.

We look forward to serving the WVDNR and working together to provide a plan for modifications or repairs to the six (6) dams to bring them into compliance with Dam Safety Regulations. Should you have any questions, please call and we can discuss our experience and capabilities in further detail.

Sincerely,

POTESTA & ASSOCIATES, INC.



Dana L. Burns, P.E.  
Vice President

DLB/kjt

Enclosures



# EXPRESSION OF INTEREST



**A/E Services for Modifications/Repairs of Six (6) Dams**  
*Preston and Jackson Counties, West Virginia*

**DNR180000005**

**December 13, 2017**



## **CHARLESTON**

7012 MacCorkle Avenue, SE  
Charleston, WV 25304  
(304) 342-1400

## **MORGANTOWN**

125 Lakeview Drive  
Morgantown, WV 26508  
(304) 225-2245

## **WINCHESTER**

15 South Braddock Street  
Winchester, VA 22601  
(540) 450-0180

*Project Number: 0101-17-0450*

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# Expression of Interest

## EXECUTIVE SUMMARY

The West Virginia Division of Natural Resources, Wildlife Resources Section (DNR) is seeking services of an engineering firm to plan for the necessary modifications and/or repairs to the Upper Deckers Creek #3 and #7 Dam, Fairfax Pond Dam, Rollins Lake #1 and #2 Dam, and Turkey Run Dam (DAMS) located in Preston and Jackson Counties, West Virginia.

Improvements and/or repairs are necessary at the DAMS to comply with current Dam Safety Requirements, as portions of dams, including impact basins, spillways, and outlet work, deteriorate over time. The rehabilitation is necessary to maintain the present level of flood control benefits, comply with current safety standards and in some instances provide water supply and recreational opportunities.



Potesta & Associates, Inc. (POTESTA) is well qualified to assist the DNR with dam related engineering and construction projects. Our engineers (civil, geotechnical and hydrologists), surveyors, designers, and construction inspectors are familiar with Dam Safety guidelines and requirements pertaining to construction, modification, and/or dam removal. POTESTA's experienced staff can perform all of the anticipated tasks required for the projects in-house. In addition to the engineering services, POTESTA is exceptionally well-positioned to offer environmental consulting and regulatory permitting services, which will be necessary for these types of projects.

Mr. Dana Burns, PE, PS, Vice President conducted site visits in Jackson County and Mr. Dave Sharp, PE, Branch Manager of the Morgantown Office, visited the dams in Preston County and met with DNR personnel to further understand the goals/objectives of the DNR. The scope of the repairs will be developed upon award of the contract, however POTESTA is poised to address the following issues, if they arise:

- Erosion
- Sedimentation
- Water Quality
- Groundwater
- Floodplain Management
- Wetlands and Streams
- Riparian Areas
- Fish and Wildlife Habitat
- Water Supply
- Public Health and Safety
- Recreation



POTESTA has the ability to complete every facet of the project from beginning to end, from the preliminary study through final design and construction observation/management.

We look forward to continuing to serve the WVDNR and complete the design repairs necessary to bring the DAMS into compliance with the Dam Safety Requirements. Our commitment is to provide quality service, rapid response and project completion, and to exceed your expectations for services performed under this project. We believe the track record of our professionals demonstrates our ability and commitment.

# Expression of Interest

## CORPORATE SUMMARY



### HISTORY

POTESTA was founded in 1997 as a full service engineering and environmental consulting firm headquartered in Charleston, West Virginia. We have now expanded to a diverse staff of 86 experienced engineers, scientists, and support personnel with branch offices in Morgantown, West Virginia, and Winchester, Virginia. Our clients include mining, manufacturing and chemical companies; utility companies; waste management companies; K-12 schools/colleges/universities; land developers; attorneys; financial institutions; insurance companies; local, state and federal agencies; construction companies and architects.



### SERVICES

- Air Permitting
- Biological and Toxicological
- CADD/GIS
- Civil Engineering and Design
- Construction Monitoring
- Environmental Site Assessment
- Geotechnical Engineering
- Groundwater
- Hydrology and Hydraulics
- Landfills and Solid Waste
- Litigation Support
- Mining
- Occupational Safety and Health
- Oil and Natural Gas Consulting
- Permitting
- Remediation
- Roadway Engineering
- Sampling
- Site Design
- Storage Tanks
- Surveying and Mapping
- Water and Wastewater
- Water Quality
- Wetlands

### STAFF PROFILE

POTESTA's staff is committed to delivering innovative, cost-effective solutions to meet our client's complex requirements.

Total Staff: 81

10	Admin/Accounting	4	Geotechnical Engineers
1	Aqua Culturist	1	GIS Specialist
2	Aquatic Ecologists	1	Horticulturalist
6	Biologists	1	Information Technologist
7	CADD	1	Mechanical Engineers
16	Civil Engineers	2	Mining Engineers
1	Economist	7	Surveyors
5	Environmental Scientists	11	Technicians
2	Fish & Wildlife Specialists	1	Toxicologist
1	Geologists	1	Health and Safety



# Expression of Interest

## CORPORATE SUMMARY



### MANAGEMENT AND PERSONNEL EXPERTISE

Our firm is managed by two principals driving POTESTA forward with their experience and emphasis on exceeding expectations. Ronald R. Potesta, President, is a former Director of the West Virginia Division of Natural Resources during a period when the agency had over 700 full-time employees and supervised several offices, including Regulatory Affairs. Dana L. Burns, P.E., Vice President, has more than 38 years experience with civil, geotechnical, mining, and environmental engineering projects.



Ronald R. Potesta

POTESTA has a team of qualified engineers, scientists, and support personnel and will work under Project Manager, Mr. Christopher Grose, L.R.S. Mr. Grose has over 26 years experience in geotechnical engineering related to subsurface exploration studies, soil and rock slope design, landslide causation studies, foundation system design, surface/subsurface hydrogeology, ground subsidence, contaminant transport and groundwater flow modeling. Mr. Grose has worked on similar projects involving sediment removal, stormwater management plans, and remedial design. He will be responsible for the geotechnical and geological aspects of the investigations for and the design and construction of the repairs of the dams, as well as the review and assessment of the existing dams.



Dana L. Burns, P.E., P.S.

Staff certifications and/or degrees applicable to this project are included in **Appendix A**.

Certification	Number of Employees	Breakdown by Employee
Professional Engineers (PE)	14	Robert Ammirato (WV) Dana Burns (WV, IL) Chad Griffith (WV) Mark Kiser (WV, SC) Joe Knechtel (VA, WV) Sam Ludlow (WV) Terry Moran (WV, VA) Everett Mulkeen (WV) Mark Sankoff (WV) Angela Pugh (WV) Dave Sharp (WV, OH, PA, KY, MD) Jarrett Smith (WV) Pat Taylor (WV) Patrick Ward (WV)
Engineering Interns (EIT)	2	Tim Rice Jeremi Stawovy
Professional Surveyors (PS)	3	Dana Burns (WV) Victor Dawson (WV, NC, SC) Mark Sankoff (WV)
Surveyor-in-Training (SIT)	2	Ryan Bennett Brad Starkey
WV Licensed Remediation Specialists (LRS)	5	Mindy Armstead Dave Corsaro Chris Grose Mark Kiser Dennis Litwinowicz

## Expression of Interest

### QUALIFICATIONS



Civil engineering is an area of particular expertise at POTESTA. Our engineering staff has a broad background related to civil engineering disciplines, such as development of grading plans, stormwater management, water/wastewater treatment, utility/infrastructure design and dam/impoundment design. POTESTA takes prides in our ability to provide our clients with innovative and concise engineering design packages that will allow more of the client's money to be spent on actual construction rather than engineering design fees. Our capabilities for dam design, rehabilitation, and modification services include:

- **Surveying Services** – Includes mapping development, location of existing infrastructure, property acquisitions or transfers (i.e., right-of-ways), construction layout, measurement of construction quantities, etc. Surveys completed by POTESTA are performed by or under the direction of a one of our three licensed professional surveyors.
- **Geotechnical Services** – Includes subsurface explorations, foundation design recommendations, slope stability analysis, and retaining wall design. POTESTA field engineers and geologists are familiar with the latest technologies to assist in the collection and analysis of soil and rock samples. Our knowledge of the proper procedures and familiarity with local conditions allow office and field personnel to adjust the investigation if any unanticipated field conditions are encountered.
- **Hydraulic and Hydrologic Analysis** – Includes pond and dam design, floodplain management, dam break analysis, stormwater management, rainfall and flow data collection, and hydrology surveys, etc. Our staff not only understands the technical details, but is very experienced in working with the various state, federal, and local regulatory agencies. We know the level of detail they require and can obtain the necessary approvals in a timely manner.
- **Sediment Removal (Dredging)** – Includes field reconnaissance, dredging plan, water quality monitoring, permitting, sediment disposal design, and construction management. The key component to the successful implementation of any dredging project is to establish a cost-effective operation that addresses the needs and avoids/minimizes adverse impacts to environmental resources.
- **Construction Contract Administration** – Includes survey layout, construction management, construction monitoring, record drawings and preparation, and bid evaluation assistance. POTESTA maintains a database with bidding results from recent construction projects. This information allows our designers to develop accurate estimates of probable construction costs based on recent bids from local contractors. We pride ourselves on the accuracy of our cost estimates to be within an acceptable range of actual bid results obtained for projects. We routinely provide resident project representatives (RPRs) during construction to serve as the "eyes and ears" on behalf of the Owner to document the progress of the Contractor, observe and document the construction activities, and prepare record drawings.
- **Permitting** – Includes environmental site assessment, environmental impact statements, stormwater management permits, wetland delineation and mitigation permits, groundwater protection plans, spill prevention, control and countermeasure plans, floodplain management studies and permits, and emergency action. Our staff not only understands the technical details, but is very experienced in working with the various state, federal, and local regulatory agencies. We know the level of detail they require and can obtain the necessary approvals in a timely manner.



Additional information on the primary service areas for this project is included in **Appendix B**.



## PROJECT APPROACH



### **GOAL/OBJECTIVE 1: REVIEW EXISTING PLANS– COMMUNICATE WITH OWNER**

POTESTA personnel made a site visit to the DAMS in December to meet to understand the primary issue(s) to be addressed by this project. Once the contract is awarded, POTESTA will revisit the DAMS to gather additional information and further the dialogue with onsite personnel. From this effort, we anticipate preparing our detailed scope of services. POTESTA will work with WVDNR to develop a successful team approach to the project. Frequent communication will be made with the WVDNR and other design professionals to review the completed activities and obtain input for the design process.



### **GOAL/OBJECTIVE 2: DESIGN SERVICES**

POTESTA will proceed with the final design and preparation of project specifications for the project once WVDNR has reviewed the preliminary design and we have received comments on the same, and the necessary funding has been obtained. The design can be flexible and POTESTA will adjust the design accordingly as the situation and/or funding may dictate.



On one of the properties, Fairfax Pond, POTESTA was able to speak with DNR personnel and will take the following issue into design consideration:

- We do understand the dam was not originally a water control structure, but designed as a haul road for coal property. It does not have a standpipe type spillway nor an emergency spillway, and may consist of coal mine spoil material. The dam has had issues for a several years and out of compliance. From our understanding of the issues, it may be possible to alter the elevation of the top of the dam to bring it down to a level that is not regulated by the WVDEP Dam Safety regulations.

Construction drawings and specifications will be prepared for WVDNR and regulatory review and approval prior to advertisement and bidding. POTESTA will prepare a preliminary estimate of probable construction cost broken down by major work items. We routinely track bid tabulations available from entities such as the West Virginia Division of Highways and the Contractors Association of West Virginia so that we have ready "access" to up-to-date unit prices. Separate estimates will be made for each facility. The preliminary estimate will be submitted with a draft submittal of the drawings and specifications. A final estimate of probable construction cost will be prepared and submitted with the draft drawings. The final estimate will be used for evaluation of project costs and subsequent contractor bids.



POTESTA can complete applications for necessary permits and approvals such as NPDES stormwater construction registration, NEPA compliance, U.S. Army Corps of Engineers permit, Public Land Corporation

### PROJECT APPROACH



#### **GOAL/OBJECTIVE 2: DESIGN SERVICES (CONT.)**

stream activity permit, West Virginia Division of Highways occupancy permits, etc.

POTESTA will prepare a construction bid form and required bidding (i.e., contract) documents, and will assist the Agency in the appropriate procedures regarding advertisement and procurement of bids. POTESTA will also help present the project at public meetings, and assist with the pre-bid conference for contractors. Upon receipt of bids, POTESTA will aid the Agency in evaluation of the bids for cost, completeness and qualifications.



#### **GOAL/OBJECTIVE 3: CONSTRUCTION CONTRACT ADMINISTRATION SERVICES**

Our staff is experienced with soil compaction and concrete testing, preparation of daily field logs/weekly construction summary reports, pipe installation procedures, in-situ re-lining of leaking pipes, and the photographic documentation of construction.

After bid evaluation and contractor selection by the Agency, POTESTA proposes to complete the following construction administration and observation tasks during construction. The scope of services described below is based in part on terms and requirements of the *Standard General Conditions of the Construction Contract*, prepared by the Engineers Joint Contract Documents Committee, which has been used for other projects and is assumed to be used as the basis of the contract between the Agency and the contractor.



- Review contract documents, particularly items that were not prepared by POTESTA, such as the agreement, general conditions, supplementary conditions, specification special conditions, and engineering specifications.
- Review, meet, comment on and accept contractor's preliminary (and subsequent adjustments to) progress schedule, preliminary schedule of shop drawing and sample submittals, and preliminary schedule of values (for progress payments).
- Attend pre-construction conference.
- Review underground facilities not shown on contract documents to determine potential changes to contract documents.
- Review substitutes and "or equal" items, and issue written acceptance/denials.
- Review and approve shop drawings and samples (if required), including review of revised shop drawings if necessary.
- Review contractor work plan, if required by specification special conditions.
- Attend progress meetings and as needed meetings.

## PROJECT APPROACH



### **GOAL/OBJECTIVE 3: CONSTRUCTION CONTRACT ADMINISTRATION SERVICES (CONT.)**

- Issue written clarifications or interpretations of the requirements of the contract documents, including issuance of additional specifications and drawings.
- Provide a nearly full-time representative to observe construction for compliance with the contract documents, and observe testing by the contractor and record results on appropriate forms.
- Prepare weekly reports summarizing construction activities.
- Prepare change orders for the work, including issuance of additional specifications and drawings, if necessary.
- Review contractor invoices (i.e., Applications for Payment) and issue written recommendations for payment or denial.
- Issue Certificate of Substantial Completion to the Agency, as typically required by the contract documents.
- Provide record drawings showing "as-built" features.



# Expression of Interest

## SIMILAR EXPERIENCE

Examples of similar past projects completed by POTESTA include:

Project Name	Location of Project	Project Manager	Type of Project/ Goal	Tasks
Lake Washington	Wood County, West Virginia	Dana Burns, P.E. <i>President</i> <a href="mailto:dlburns@potesta.com">dlburns@potesta.com</a> (304) 342-1400	Expert witness testimony/ determine impact to lake resulting from construction of US Route 50	<ul style="list-style-type: none"> <li>• Survey grid/soundings/sampling to obtain sludge samples</li> <li>• Evaluated options to remove sediment and selected to dredge sediment volume</li> <li>• Dewatering area to dry sludge</li> <li>• FOIA request/file review</li> <li>• Met with client representatives</li> <li>• Visited the site to conduct visual observation to identify deficiencies and potential hazards</li> <li>• Prepared and submitted dam inspection reports</li> </ul>
*Lake Siri	Morgan County, West Virginia	Mark Kiser, P.E., L.R.S. <i>Chief Engineer</i> <a href="mailto:dmkiser@potesta.com">dmkiser@potesta.com</a> (304) 342-1400	Dam inspection/ prepare and submit dam inspection reports	<ul style="list-style-type: none"> <li>• Preliminary evaluation report</li> <li>• Design of rock fill dam</li> <li>• Preparation of permits</li> <li>• Preparation of bidding documents</li> <li>• Contract administration and construction monitoring services</li> <li>• Quarterly inspections and reports required WVDEP</li> <li>• FOIA request/file review</li> <li>• Met with representatives</li> <li>• Visited the site to conduct visual observation</li> <li>• Prepared and submitted dam inspection reports</li> </ul>
*Piney Creek Dam	Surveyor, West Virginia	Dana Burns, P.E. <i>President</i> <a href="mailto:dlburns@potesta.com">dlburns@potesta.com</a> (304) 342-1400	Construction of new dam/design and oversee construction for new dam	<ul style="list-style-type: none"> <li>• Annual/biannual inspections and professional engineer certification</li> <li>• Preparation of permit modifications</li> <li>• Regular updates to Monitoring and Emergency Warning Plan</li> <li>• Letter reports to WVDEP</li> <li>• Preparation of engineering plans for various projects</li> <li>• Piezometer readings</li> <li>• Surveying services</li> <li>• Construction monitoring</li> <li>• Floodplain coordinator contact/site visit</li> <li>• Review survey data to establish cross sections</li> <li>• Hydraulic calculations</li> <li>• Preparation of letter report</li> </ul>
*Sleepy Hollow Subdivision Dam	Berkeley County, West Virginia	Joe Knechtel, P.E. <i>Branch Manager</i> <a href="mailto:kjknechtel@potesta.com">kjknechtel@potesta.com</a> (540) 450-0180	Dam inspection/ prepare and submit dam inspection reports	<ul style="list-style-type: none"> <li>• Field reconnaissance for dredging and disposal areas</li> <li>• Complete Section 404 Permit</li> <li>• Evaluate options for dredging</li> <li>• Design of sediment disposal area</li> <li>• Review and make recommendations on current old silt dam design</li> </ul>
*Holz, Upper Ward, Lower Ward Impoundment	South Charleston, West Virginia	Jarrett Smith, P.E. <i>Senior Engineer</i> <a href="mailto:jmsmith@potesta.com">jmsmith@potesta.com</a> (304) 342-1400	Retained since 2005 to provide a variety of services	
Scott Lake-Privately Owned Dam	Randolph County, West Virginia	Pat Taylor, P.E. <i>Senior Engineer</i> <a href="mailto:pataylor@potesta.com">pataylor@potesta.com</a> (304) 342-1400	Dam break analysis	
*Pikewood Golf Course Irrigation Impoundment	Reedsville, West Virginia	Dave Sharp, P.E. <i>Branch Manager</i> <a href="mailto:dsharp@potesta.com">dsharp@potesta.com</a> (304) 225-2245	Severe sedimentation of lake	

\*Additional details in *Appendix C*.

# Expression of Interest

## SIMILAR EXPERIENCE



Examples of similar past projects completed by POTESTA include (cont.):

Project Name	Location of Project	Project Manager	Type of Project/ Goal	Tasks
Morgantown Utility Board's Burroughs Run/Poponoe Run	Monongalia County, West Virginia	Dave Sharp, P.E. <i>Branch Manager</i> <a href="mailto:dsharp@potesta.com">dsharp@potesta.com</a>  (304) 225-2245	Ease flooding and stream bank erosion and reduce water quality degradation	<ul style="list-style-type: none"> <li>• Surveying services</li> <li>• Ground survey features, visible property corners, and storm and sanitary inverts were gathered for storm and sewer layout information</li> </ul>
LP Mineral, LLC	Marion and Monongalia Counties, West Virginia	John R. Spencer <i>Chief Engineering Associate</i> <a href="mailto:jrspencer@potesta.com">jrspencer@potesta.com</a>  (304) 342-1400	Impoundment/Dam Inspections	<ul style="list-style-type: none"> <li>• Quarterly/annual drainage structure, spoil disposal area, and MSHA Impoundment inspections and professional engineer certification</li> <li>• Preparation of new permit applications</li> <li>• Preparation of permit modifications, renewals, and reissuance's</li> <li>• Annual updates to Monitoring and Emergency Warning Plans</li> <li>• Surveying services</li> <li>• Monthly WVDEP water monitoring and reporting</li> </ul>
*Kanawha Eagle Slurry Impoundment	Winifrede, West Virginia	Dana Burns, P.E. <i>President</i> <a href="mailto:dilburns@potesta.com">dilburns@potesta.com</a> (304) 342-1400	Permit modifications for existing coarse/ fine coal refuse impoundment	<ul style="list-style-type: none"> <li>• Development of phasing plan for future development of the impoundment</li> <li>• Stability analysis and future staging of the dam</li> <li>• Regular updates to the hazard plan for facility</li> <li>• Permit preparation</li> </ul>

\*Additional details in **Appendix C**.



*Lake Siri Dam,  
Morgan County, West Virginia*

## Expression of Interest

### STATE CONTRACT EXPERIENCE



POTESTA has been working with the WVDEP, WVDOH, WVDOT, WVDHHR, and WVDNR since 1997 and Mr. Ronald R. Potesta, President of POTESTA and a former director of the West Virginia Department of Natural Resources, has the technical knowledge and expertise to be an asset on this project. Mr. Dana Burns, Vice President of POTESTA, has served as principal-in-charge or project manager on three open-end contracts for WVDEP, AML from 1986 through 1997 totaling over 65 projects. In addition, Mr. Burns has served as the principal-in-charge for numerous other WVDEP, AML projects since 2003. POTESTA has assembled a team that has historically served state agencies on numerous projects around the State of West Virginia. In fact, our staff has 150+ years' experience working on contracts with the State of West Virginia, including:

- **West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation:** Design and bidding phase services for reclamation for abandoned mine lands projects throughout West Virginia since 2002.
- **West Virginia Department of Environmental Protection, Office of Waste Management:** Design, bidding and construction phase services for 8 landfill repair and closure projects in both Northern and Southern West Virginia since 1997.
- **West Virginia Division of Highways (WVDOH), Engineering Division:** (a) Asbestos inspection sampling services and report preparation, and development of contract documents for asbestos removal and disposal projects throughout West Virginia since 2002, (b) open-end agreement with the WVDOH for two years to provide natural resource services for NEPA compliance, (c) master service agreements to provide engineering services related to highway, bridge, and miscellaneous projects, (d) two master service agreements to provide surveying services, (e) engineering services as part of design-build for 3 1/2 miles of the upgrade of Interstate 64 from 4 – 6 lanes, (f) geotechnical, surveying, and civil site design associated with widening Jefferson Road for 1 1/2 miles, and (g) maintenance of six year agreement to provide environmental assessment and remediation services.
- **West Virginia Division of Natural Resources:** Site grading, utilities, etc. for handicap accessible cabins and state parks, and restoration of 78 miles of North Bend Rail Trail.
- **West Virginia Department of Transportation, Materials Control, Soils and Testing Division:** Five-year agreement for geotechnical services throughout the State of West Virginia.
- **West Virginia Department of Health and Human Resources, Office of Environmental Health Services, Source Water Assessment and Protection Program:** Three contracts for Source Water Protection Plan services for 100+ communities throughout Southern, Northern, and Eastern West Virginia from 2002 to 2004 and 2009 to 2012.



*North Bend Rail Trail*



*North Bridgeport Bypass*

## Expression of Interest

### STAFF QUALIFICATIONS



POTESTA can provide all of the services required for this project in-house using existing staff. Our large, experienced staff allows us to respond quickly, provide flexibility, and will provide opportunity for high level input from our in-house experts on a project of this size and nature.

**Mr. Dana L. Burns, P.E.**, Vice President at POTESTA, will serve as principal-in-charge for this project. Mr. Burns has served as the principal-in-charge for all of POTESTA's contracts for engineering services with the State of West Virginia, including those with the West Virginia Department of Transportation, West Virginia Department of Environmental Protection, West Virginia Department of Health and Human Resources, and WVDNR. As such, he understands the resources it takes to complete a project for the State of West Virginia, as well as the requirements of not just the purchasing agency but also those of the West Virginia Department of Administration. Mr. Burns' experience includes over 38 years of civil and environmental engineering and related projects including stormwater management plan and dredging construction projects.

**Mr. Christopher A. Grose, LRS**, Senior Engineering Associate at POTESTA, has degrees in civil engineering and geological engineering and has over 25 years of experience. He will serve as Project Manager for the rehabilitation and/or modifications of DAMS. His areas of expertise include geological/geotechnical explorations, surface and subsurface hydrology and hydrogeology, and foundation design. Mr. Grose's experience includes the design and evaluation of geotechnical explorations related to earth retention structures, slope stability and engineered fill construction. Mr. Grose has participated in the geotechnical explorations/evaluations for many projects for POTESTA.

**Mr. David B. Sharp, P.E.**, Senior Engineer and Branch Manager for POTESTA's Morgantown office, has over 22 years experience in civil and environmental projects, with an emphasis in the geotechnical engineering. Responsibilities have included projects involving civil/site design, geotechnical design, solid waste management facility design including geosynthetic applications, hydrologic and hydraulic design, transportation/highway projects including geotechnical and right-of-way plans, and municipal water and wastewater projects.

**Mr. D. Mark Kiser, P.E.**, Chief Engineer, has over 34 years experience in civil engineering, with particular emphasis on design and construction administration. He has been involved in the evaluation, design, and construction of dozens of ponds and impoundments for surface mining operations, abandoned mine land (AML) reclamation projects, and industrial and municipal solid waste landfills. Activities relating to these projects have included embankment design, hydrologic and hydraulic analysis, principal and emergency spillway design, etc. Mr. Kiser has successfully managed various design and construction projects totaling tens of millions of dollars. He will serve as a "backup" project manager and will provide quality assurance/quality control via a "constructability" review.

**Mr. Jarrett M. Smith, P.E.**, Senior Engineer, has over 16 years experience in civil engineering, with particular emphasis in geotechnical, hydrology/hydraulics and dam inspection, design and modifications. Mr. Smith is currently the Project Manager for an ongoing project since 2005 to provide a variety of services on three DOW surface impoundments located in South Charleston, West Virginia. Lower Ward is reclaimed with a portion of the site currently used as a paved parking lot for the Kanawha Valley Community & Technical College. The Upper Ward Impoundment is a freshwater impoundment and the Holz Impoundment is utilized for fly ash disposal. This work has included inspection, permit modifications, reports to the WVDEP Dam Safety Section, engineering plans, surveying, and construction monitoring.

POTESTA's project managers will be supported by a team of engineers, scientists, surveyors, hydrologists, geologist/hydrogeologists, biologists, CADD operators, and other support personnel from POTESTA's staff.

Resumes of the key personnel are presented in **Appendix D**.

## Expression of Interest

### MANAGEMENT PLAN



#### **PROCEDURE FOR COMMUNICATION WITH OWNER**

Mr. Dana Burns, P.E., as POTESTA's principal-in-charge he will be responsible for contract management (administration) and shall coordinate and direct all aspects of the project. Day-to-day project activities for this project will be performed under the direction of our project manager, Mr. Christopher A. Grose, L.R.S. **Mr. Grose will be the point of contact to allow clear communication with the WVDNR.** A written proposal, including a detailed scope of services and an associated manhour and cost estimate, will then be prepared and submitted to WVDNR for review. The project manager will review the proposal with the WVDNR, including a task-by-task discussion of work items and the related costs. Upon the WVDNR's approval of the proposal, the project manager will arrange for the start of project activities. The principal-in-charge will provide the project manager the required staff necessary to complete the project activities, will review the project budget and schedule during performance of the project, and will provide a final QA/QC review of the documents prior to submittal to the WVDNR. The project manager will develop a detailed step-by-step project work plan so that the project activities are completed in a correct manner, within budget, and on time. POTESTA will be available to conduct weekly status reports which may include weekly meetings, memos, or telephone calls with the WVDNR's project manager as required.

#### **STAFFING PLAN**

POTESTA's proposed project organizational chart, including key staff is contained in **Appendix E**. Services will be performed at POTESTA's Charleston, West Virginia office. We stand ready to commit the personnel and resources required to complete this project in a timely, technically sound, and cost-efficient manner. POTESTA's large staff size will allow us to work on this project on an accelerated schedule if necessary.

#### **REQUIRED DOCUMENTS**

**Appendix F** contains the executed Disclosure of Interested Parties to Contracts, DNR180000005 Solicitation Form, Certification and Signature Page, Subcontractor List Submission, Purchasing Affidavit, Addendum Acknowledgement Form.

#### **PROJECT BUDGET CONTROL**

The project manager will be responsible for monitoring the project budget and keeping the principal-in-charge informed of its status. The project manager will develop a work plan based on hourly rates and tasks to complete the project. POTESTA's staff enters time into POTESTA's InFocus accounting system on a daily and/or weekly basis. POTESTA's project manager can access InFocus at any time, thus allowing a real-time control of project costs.

#### **PROJECT SCHEDULE CONTROL**

Direct responsibility for schedule control lies with the project manager. Initially, the project manager will review schedule requirements to see how they can be achieved given the anticipated scope of work and develop a work plan. As the project progresses, the project manager will monitor progress and compare it with the established schedule on a weekly basis keeping the principal-in-charge aware of the schedule's status. In this manner, the principal-in-charge can make staff adjustments to allow the project manager to maintain the project schedule. If circumstances develop that could impact the project schedule, the project manager will contact the WVDNR's project manager to develop a mutually acceptable adjustment to the schedule and/or work plan.



# Expression of Interest

## INSURANCE REQUIREMENTS

We carry a full line of insurance coverage, including general liability, errors and omissions, and workers' compensation. We also have and follow a stringent internal quality control system designed to provide our clients with quality products. We believe the quality of our work is best exemplified by approximately 85 percent of our workload coming from repeat clients. We have won seven Gold Awards in the American Council of Engineering Companies - West Virginia Chapter's engineering excellence awards competition. In 2016, POTESTA was the recipient of the Safety Achievement Award from the Contractor's Association of West Virginia.



John Spencer, Safety Director

Client#: 1114469 POTEBASS

**ACORD™ CERTIFICATE OF LIABILITY INSURANCE** DATE (MM/DD/YYYY)  
3/03/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> USI Ins Svcs Co. Charleston 1 Hillcrest Drive East Charleston, WV 25311 304 347-0811	<b>CONTACT NAME:</b> Brenda Samples <b>PHONE No.:</b> 304-347-0066 <b>FAX (A/C. No.):</b> 304-347-0805 <b>E-MAIL ADDRESS:</b> brenda.samples@usi.biz														
<b>INSURED</b> Potesta & Associates, Inc. 7012 MacCorkle Avenue SE Charleston, WV 25304	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">INSURER(S) AFFORDING COVERAGE</th> <th style="text-align: left;">NAIC #</th> </tr> <tr> <td>INSURER A: Travelers Indemnity Co. of Amer</td> <td>25666</td> </tr> <tr> <td>INSURER B: Travelers Property Co. of</td> <td>26674</td> </tr> <tr> <td>INSURER C: Farmington Casualty Company</td> <td>41483</td> </tr> <tr> <td>INSURER D: Lexington Insurance Company</td> <td>19437</td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Travelers Indemnity Co. of Amer	25666	INSURER B: Travelers Property Co. of	26674	INSURER C: Farmington Casualty Company	41483	INSURER D: Lexington Insurance Company	19437	INSURER E:		INSURER F:	
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INSURER F:															

**COVERAGES** **CERTIFICATE NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **REVISION NUMBER:**

LINE	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFF. DATE (MM/DD/YYYY)	POLICY EXP. DATE (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> BVPD GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO. SECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER	6308476376	03/07/2016	03/07/2017	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Per occurrence) \$300,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMPROP AGG \$2,000,000
B	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	BA8G476339	03/07/2016	03/07/2017	COMBINED SINGLE LIMIT (Per accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE COV. RETENTION \$	CUP8G476376	03/07/2016	03/07/2017	EACH OCCURRENCE \$9,000,000 AGGREGATE \$9,000,000
C	WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE/OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	UB8G568811	03/07/2016	03/07/2017	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
D	Professional Pollution	028174922	03/07/2016	03/07/2017	\$8,000,000 \$8,000,000 \$25,000 Deductible

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
 Evidence of Coverage for operations usual to Engineers and Environmental Consultants.

<b>CERTIFICATE HOLDER</b> Potesta & Associates, Inc. 7012 MacCorkle Ave., SE Charleston, WV 25304	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
--	--

## Expression of Interest

### REFERENCES



POTESTA is providing references from past and current clients. Our references can attest to POTESTA's professionalism, experience and expertise, and ability to deliver engineering consulting services in an accurate, efficient, and cost-effective manner.

#### **WEST VIRGINIA BUREAU FOR PUBLIC HEALTH**

Office of Environmental Health Services

Mr. Scott Rodeheaver

350 Capitol Street, Room 313

Charleston, West Virginia 25301-3713

Phone: (304) 356-4270

Fax: (304) 558-4322

#### **WEST VIRGINIA DEPARTMENT OF TRANSPORTATION**

Division of Highways

Mr. David E. Cramer, PE

State Capitol Complex

Building 5, Room 110

1900 Kanawha Boulevard, East

Charleston, West Virginia 25305-0430

Phone: (304) 558-3505

Fax: (304) 558-1004

#### **WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

Mr. Nick Estes

601 57th Street, SE

Charleston, West Virginia 25304

Phone: (304) 926-0499

Fax: (304) 926-0458







STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

To all to whom these presents shall come, Greeting

Know Ye That The State Board of Registration for Professional Engineers, of the State of West Virginia, reposing special confidence in the Intelligence, Integrity, and Discretion of

Dana L. Burns

DOES, IN PURSUANCE OF AUTHORITY VESTED IN IT

by law, hereby certify that he, having submitted satisfactory evidence of his ability and experience, is a

REGISTERED PROFESSIONAL ENGINEER

Registration Number 9859

to hold and use such title, in the practice of his profession, subject to the conditions prescribed by law.



Given under the hand and the Seal of the Board, at the Capitol, in the City of Charleston this 17th day of Sept. in the year of our Lord One Thousand Nine Hundred and Eighty Five and of the State the One Hundred Twenty-Second

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

Secretary  
Frank Gaddy

By  
Maurice A. Jackson

Robert S. Scott President  
Kenneth H. Meenan

# The State of West Virginia



STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

To all to whom these presents shall come, Greeting

Know Ye That The State Board of Registration for Professional Engineers, of the State of West Virginia, reposing special confidence in the Intelligence, Integrity and Discretion of

**David B. Sharp**

Does, in PURSUANCE OF AUTHORITY VESTED IN IT

by law, hereby certify that he having submitted satisfactory evidence of his ability and experience, is a

**REGISTERED PROFESSIONAL ENGINEER**

Registration Number 14157

To hold and use such title in the practice of his profession, subject to the conditions prescribed by law.



Given under the hand and the seal of the Board at the Capitol in the City of Charleston this 25th day of July in the year of our Lord One Thousand Nine Hundred and Ninety-nine and of the State the One Hundred Thirty-sixth.

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*Handwritten signatures and dates:*  
 [Signature] 1932  
 [Signature] 1932



STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

To all to whom these presents shall come Greeting  
"Know Ye" That The State Board of Registration for Professional Engineers  
of the State of West Virginia, reposing special confidence in  
the Intelligence, Integrity and Discretion of

Jarrett M. Smith

DOES IN PURSUANCE OF AUTHORITY VESTED IN IT  
by law hereby certify that he having submitted  
satisfactory evidence of his ability and experience is a

REGISTERED PROFESSIONAL ENGINEER

Registration Number 17537

To Hold and use such title in the practice of his profession,  
subject to the conditions prescribed by law.



Given under the hand of the  
Seal of the Board at the Capitol in the  
City of Charleston,  
This 20th day of December  
in the year of our Lord 2007  
and of the State  
the One Hundred Forty-Fourth

Members of the Board

James D. Thomas Jr.

Richard E. Dwyer

Blayne S. Estep

William E. Dwyer

[Signature]

# WEST VIRGINIA UNIVERSITY



THE COLLEGE OF ENGINEERING  
KNOW ALL PERSONS BY THESE PRESENTS  
THAT THE WEST VIRGINIA BOARD OF REGENTS  
UPON THE RECOMMENDATION OF THE FACULTY  
HAS CONFERRED UPON

DAVID MARK KISER

THE DEGREE OF  
BACHELOR OF SCIENCE IN CIVIL ENGINEERING  
SUMMA CUM LAUDE

WITH ALL THE RIGHTS, HONORS AND PRIVILEGES THEREUNTO  
APPERTAINING. WITNESS THE SEAL OF THE UNIVERSITY  
AND THE SIGNATURES OF ITS DULY AUTHORIZED OFFICERS  
HEREUNTO AFFIXED THIS THIRTEENTH DAY OF  
MAY, NINETEEN HUNDRED EIGHTY-FOUR

*E. Andrew Lee*  
\_\_\_\_\_  
PRESIDENT OF THE UNIVERSITY

*Robert H. Spunckel*  
\_\_\_\_\_  
PRESIDENT, WEST VIRGINIA BOARD OF REGENTS

*Austin J. Tompkins*  
\_\_\_\_\_  
DEAN OF THE COLLEGE

*William L. Simmons*  
\_\_\_\_\_  
CHANCELLOR, WEST VIRGINIA BOARD OF REGENTS





# POTESTA & ASSOCIATES, INC.

## *Surveying and Mapping*

Our surveyors are experienced in many aspects of surveying such as topographic mapping, boundary surveys (rural/farms, city lots, and subdivisions), ALTA surveys, control surveys, flood certificate surveys, well location surveys, construction surveys for layout of work, record drawings, and quantity measurements. Related areas include courthouse research, preparation of right-of-way plans, and verification of property owners. Potesta & Associates, Inc. (POTESTA) has licensed professional surveyors registered in West Virginia, North Carolina, South Carolina, Ohio, Virginia, and Pennsylvania. Their total combined surveying experience comes to well over 50 years.

POTESTA's surveyors use state-of-the-art equipment such as Topcon total stations, Trimble R-8 GNSS, and SMI data collectors with SMI software. Autodesk Civil 3D reduction and design software is used.

POTESTA is equipped with modern surveying instruments, allowing efficient data processing and accurate gathering of field information. Total station instruments equipped with data collectors are utilized for complete field-to-office automation allowing for high levels of productivity in the field. The latest versions of software are then used to process survey data and create drawings or required end products. These products can be supplied to our clients in AutoCAD and/or Microstation format.

Small topographic mapping projects can be completed in-house using the aforementioned process. Larger projects are better suited for mapping using aerial photography.

POTESTA can provide the necessary surveying required for establishing ground control for aerial mapping. As a quality control measure, aerial mapping is field checked for accuracy by surveying cross sections or random points.



Surveys completed by POTESTA are performed by or under the direction of a professional licensed surveyor. Surveys and mapping are completed to the standards outlined by the National Map Standards, as well as other applicable quality standards.

Our staff is experienced in global positioning surveys (GPS). GPS equipment, Trimble R-8 GNSS, and existing base stations are among POTESTA's surveying tools. Based upon the site location and ultimate use of the survey information, a recommendation is made to the client as to whether or not traditional survey or GPS is most applicable to their project.



**POTESTA & ASSOCIATES, INC.**

7012 MacCorkle Avenue, SE, Charleston, West Virginia 25304

Phone: (304) 342-1400 • Fax: (304) 343-9031 • [www.potesta.com](http://www.potesta.com)

Regional Offices: Morgantown, WV and Winchester, VA

# POTESTA & ASSOCIATES, INC.

## Geotechnical Engineering

Potesta & Associates, Inc.'s (POTESTA) engineers and geologists have extensive experience related to the geotechnical engineering and geological disciplines. These areas include subsurface explorations, monitoring well and piezometer installations, foundation design recommendations, slope stability analysis, retaining walls, and remedial designs as they relate to construction, mining, waste disposal, environmental remediation, and other projects.

### SUBSURFACE EXPLORATIONS

POTESTA's diverse staff of engineers and geologists is experienced in the many different facets of subsurface explorations. Our usual procedure is to attend an initial meeting with the client to establish requirements and expectations, conduct a preliminary site reconnaissance, and develop a recommended exploration program for your review and approval. Supplemental information from the local area is then obtained from readily available sources to assist the engineer or geologist in making final recommendations.



POTESTA can provide field engineers and geologists who are knowledgeable using the latest technologies to assist in collecting and analyzing samples. Our knowledge of the proper procedures and familiarity with local conditions allows office

and field personnel to adjust the exploration plan if unanticipated field conditions are found.

Our staff is familiar with the following items which can be associated with subsurface exploration:

- Drilling and Rock Coring Techniques (augers, rotary bits, Geoprobe™, etc.)
- Sample Collection Methods (split spoons, shelly tubes, Geoprobe™ sleeves, etc.)
- Classification and Logging of Soil and Rock Samples
- Monitoring Well and Piezometer Installation

### SLOPE STABILITY ANALYSIS AND REMEDIAL DESIGN

Slope stability is often a major concern during the design and construction phases of many projects, especially those located in the Appalachian terrain. POTESTA's engineers are familiar with the various methods utilized to predict slope stability and are capable of performing the related analyses. Slope stability is critical for many projects such as analysis of existing or proposed soil embankments, rock fills, dam analysis and design, landfill design and operation, assessing the causation of slope failure, and designing remedial measures. Analyses can involve circular or sliding block methods, interface friction angles, and estimation of the strength parameters of the soil or rock. Slope stability analyses are performed on one of the most technologically advanced computer programs available and can be modified using site specific data.

POTESTA's engineers can also develop preventive measures during initial project design or recommendations to repair slope failures. Based upon the project circumstances, our engineers will consider various remedial measures such as regrading the site to obtain more suitable conditions, management of groundwater, and design of retaining structures. Our staff is familiar with a wide variety



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of retaining structures, including gabion baskets, soldier beam and lagging walls, sheet piles, reinforced concrete and reinforced earth slopes.



### **FOUNDATION DESIGN RECOMMENDATIONS**

POTESTA's staff has experience with various types of foundations and will recommend the appropriate type of foundation given the anticipated application and site conditions. The different types of foundations with which our staff is familiar are spread and strip footings, steel piles, auger-cast concrete piles, drilled piers, and reinforced mats.

Preliminary foundation design recommendations and cost analyses are commonly performed during the initial phases of a project to assist in determining project feasibility. As project planning progresses, the preliminary alternatives will be revised into a final recommendation which can then be incorporated into the project's construction documents or developed as an independent package for presentation to the contractor.

The final recommendation can include construction drawings, technical specifications, recommendations for allowable bearing capacity, engineer's construction cost estimate, and contractor's bid sheet.



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# POTESTA & ASSOCIATES, INC.

## *Hydrology and Hydraulics Design*

Our engineers have extensive experience in the application of hydrology and hydraulic principles to the design of real world systems. These applications include:

- Drainage Structure Sizing
  - Stream Relocations
  - Culverts
  - Channels
- Pond and Dam Design
  - Sediment Ponds and Basins
  - Spillways
  - Design/Rehabilitation
  - Slurry Impoundments
  - Lagoons
  - Dams
- Detention and Retention Systems
  - Ponds
  - Pipes
  - Underground Bladders
- Stormwater Management System Design
- Floodplain Management Permits/Approval
- Floodway Studies
  - FEMA (Federal Emergency Management Agency)
  - NFIP (National Flood Insurance Program)
  - Flood Elevation Surveys/Certifications
  - Flood Routing
- Dam Break Analysis
- Hydrology Surveys
- Stream Gauging
- Rainfall and Flow Data Collection
- Stormwater Drainage System Design
- Pressure Pipe Systems
- Stream Restoration Plans
- Natural Stream Channel Design/Restoration
- Expert Witness Testimony

To complete these types of applications, our engineers, scientists, and surveyors work jointly to develop an effective and economical solution to your situation. Their analyses use widely accepted computer models.



Potesta & Associates, Inc. typically uses the following computer modeling programs:

- HEC-RAS
- HEC-HMS
- TR-20/TR-55
- StormCAD
- CulvertMaster
- FlowMaster
- PondPack
- CORMIX

We have provided these services to a wide variety of public and private sector clients. Our staff not only understands the technical details, but is very experienced in working with the various state, federal, and local regulatory agencies. We know the level of detail they require and can obtain the necessary approvals in a timely manner.



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Potesta & Associates, Inc. (POTESTA) provides construction monitoring and construction management services to assist clients in achieving regulatory and contractual compliance, to document that contractor activities are in compliance with design requirements, and to serve as an extension of clients' staff. POTESTA can provide full-time or part-time field services utilizing one or more engineers or technicians.

Regulatory compliance is often best documented by providing full-time construction monitoring services for a construction project. POTESTA can assist clients in observation of construction activities and documenting compliance. Our typical involvement in such projects includes:

- Conducting a pre-construction review of design and contract documents to identify potential problem areas, and consultation with the owner or client to develop strategies or procedures to avoid anticipated problems.
- Assistance in contractor selection. POTESTA can recommend construction contractors who specialize in the type of work associated with the project and can assist in bid evaluation by reviewing proposed quantities, unit costs, lump sum costs, and any proposed exceptions or qualifiers for the project. POTESTA can conduct pre-bid conferences to help contractors understand project requirements. We can also conduct pre-construction conferences prior to the start of the project to help establish lines of communication, review detailed plans, discuss testing requirements and establish proper reporting procedures.
- POTESTA can provide surveying for construction layout, measurement for payment quantities, and documentation of as-built conditions. Survey results are downloaded to form computer-aided drafting (CAD) drawings allowing the efficient preparation of record drawings and any subsequent evaluations required.
- Construction monitoring can include field testing to document compliance such as field density tests, concrete testing, sampling of materials for laboratory analysis, and documentation of site conditions and work performed on a daily basis or as required.
- Preparation of summary of construction reports, including photographs, videotape documentation, test results, daily construction logs, industrial hygiene monitoring, and other documentation as may be required by the client.
- Preparation of certifications as may be required.



# POTESTA & ASSOCIATES, INC.

## Permitting Services

Potesta & Associates, Inc. (POTESTA) offers its clients exceptional expertise and experience when it comes to the permitting process, including all phases of application preparation, negotiations, modifications, compliance and renewal at all levels of government. Our permit services cover air, mining (coal and quarries), water and waste disposal permits.

### AIR

Our firm offers complete air permitting and consulting services to assist industry in complying with today's complex air quality regulations. Our staff has experience in identifying, characterizing and permitting air pollution sources for a variety of industries, including:

- Coating Operations
- Petroleum and Petrochemical Operations
- Chemical Manufacturing
- Manufacturing Facilities
- Mining
- Quarries
- Natural Gas Compressor Stations
- Electric Utilities

Our air quality experts have comprehensive knowledge of federal, state and local regulations, as well as experience in complex Title V applications. Our services include identification of potential air pollution sources, development of control strategies, preparation of permit applications, emissions inventories, compliance audits and regulatory liaison.

At both the state and federal levels, we help clients interpret and comply with air regulations, including the New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAPS). We can suggest emissions control strategies to meet both current and anticipated regulations, including BACT, MACT and LAER.

### MINING

In recent years, mining permits have become increasingly complex, requiring diverse expertise in mining techniques, engineering, environmental regulations, benthic studies, hydrogeology and hydrology. Our staff has broad experience in providing innovative solutions to various mining problems.



Although the objective of a permit application is to receive agency approval in a timely manner, the client does not benefit if the application does not allow for effective operations. We work with our clients to ensure that your operational needs are met while allowing for essential flexibility. Several members of our staff have mining industry experience, and they understand the requirements vital to an effective operation.

From the beginning of the permit process, POTESTA involves the reviewing agency to allow its concerns to be addressed prior to submittal of the application. Often, this reduces the amount of review comments and revisions which could slow the approval process. Our thorough knowledge of the various phases and requirements of the permitting process, coupled with our technical



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Regional Offices: Morgantown, WV and Winchester, VA

expertise, may facilitate the approval of permits that are operation based and thus more acceptable to you.

Our staff members have the knowledge and expertise to develop modification submittals that are timely and cost effective. We can also expedite permit renewal applications with minimal input from our busy clients.

## **WATER**

The Clean Water Act regulates the discharge of pollutants into surface water through the National Pollutant Discharge Elimination System (NPDES). POTESTA has extensive experience in water permitting projects, including industrial and municipal wastewater and storm water discharges.

Perhaps the most important aspect of the permitting process is determining the approach most beneficial to the client. Our personnel are familiar with both state and federal permitting strategies and can provide capable guidance for appropriate and applicable permits for a project.

Our staff specializes in reviewing facility wastewater flows and recommending methods of minimizing or eliminating these discharges. Our knowledge of alternatives for wastewater management can save clients money and potential liability.

We can help the client decide which type of permit coverage is required for a given project. Also, with our thorough understanding of state and federal wastewater permitting, we have been able to renegotiate numerous draft permits to achieve more acceptable requirements.

POTESTA can prepare a draft NPDES permit for submission to the appropriate agency. This gives the client more input regarding the permit requirements. Our personnel are experienced in permit writing and will work closely with agency staff to ensure that the permit meets both regulatory requirements and the needs of our clients.

## **WASTE**

POTESTA is highly knowledgeable of the challenges faced in receiving a permit to allow proper disposal and/or use of your waste products. Our staff has experience with municipal and industrial solid waste and construction demolition waste and hazardous waste. They have designed landfills, transfer stations, recycling facilities, closure plans and corrective action plans.

We have experience in:

- Bioremediation
- Resource Recovery
- Sludge Handling/Stabilization
- Utilization of Coal Combustion By-products
- Construction Monitoring/Management

Our staff of civil, geotechnical, environmental and mining engineers; geologists; hydrogeologists; biologists and surveyors strives to obtain the maximum flexibility for your facility, whether it is a new operation, the modification of an existing facility, or a permit renewal. Regulatory liaison assistance is a key component in our efforts.



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# POTESTA & ASSOCIATES, INC.

## Civil Engineering and Design

Potesta & Associates, Inc. (POTESTA) helps clients evaluate and plan projects by completing the following types of preliminary evaluations and analyses.

- Phase I Environmental Site Assessments
- Floodplain Determination
- Geotechnical Explorations Including Soil, Bedrock, and Groundwater Characterization
- Foundation Recommendations
- Monitoring Well Systems and Site Characterization Plans
- Boundary, Topographical and Photogrammetric Surveys
- Utility Planning
- Earthwork Evaluations Including Volume Analysis
- Opinion of Probable Costs/Engineer's Construction Cost Estimates

Once the project has been determined feasible, POTESTA's design professionals complete preliminary and final designs. Frequent communication is made with the client and any other design professionals to review completed activities and obtain input for the design process. Our goal is to provide our services to achieve or exceed our clients' expectations.

Our design services include:

- Erosion and Sediment Control Plans
- Earth Retaining Structures Design
- Geometric Site Layout
- Grading and Drainage Plans, Including Excavation and Fill Optimization
- Access Road Design
- Hydraulic Structure Design
- Water and Sewer Design
- Slope Stability Analysis
- Subsurface Drainage System Design
- Construction Drawings, Specifications and Contract Document Preparation

POTESTA offers experienced environmental engineers and scientists to prepare applications for various environmental permits that may be required. These services include:

- Stormwater Management Permit/Erosion and Sediment Control Plans
- Office of Air Quality Permit to Construct
- Wetland Delineation and Permits
- National Pollutant Discharge Elimination System (NPDES) Permits
- Floodplain Management Permits
- Groundwater Protection Plans
- Spill Prevention, Control and Countermeasure Plans
- Environmental Site Assessments
- Environmental Impact Statements

POTESTA routinely provides professional services throughout construction of our projects. These services include survey layout, construction management, construction monitoring, record drawing preparation, and bid evaluation assistance.



**POTESTA & ASSOCIATES, INC.**

7012 MacCorkle Avenue, SE, Charleston, West Virginia 25304  
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Regional Offices: Morgantown, WV and Winchester, VA





# DAM INSPECTIONS FOR COOLFONT (LAKE SIRI) DAM

## *Coolfont Resort*

*Berkeley Springs, Morgan County, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by Coolfont Resort to perform a dam inspection for the Coolfont (Lake Siri) Dam near Berkeley Springs, Morgan County, West Virginia. Lake Siri is a large recreational lake at the Coolfont Resort. The Lake Siri Dam is an earth fill embankment that has dam height of approximately 23 feet and has a maximum capacity of 301 acre-feet that impounds Sir John Run, a tributary of the Potomac River.

POTESTA's services included:

- Submitted Freedom of Information Act (FOIA) request to the West Virginia Department of Environmental Protection Dam Safety Section (Dam Safety), and performed file reviews to obtain copies of past inspection reports, drawings and other pertinent information available in order to obtain a better understanding of the dam.
- Met with client's representatives familiar with the dam, to obtain additional information pertaining to the operation, maintenance, and history of the dam.
- Visited the site to conduct visual observation of the Dam's crest, upstream/downstream embankment slopes, abutment areas, and principal and emergency spillway structures to identify deficiencies and potential hazards.

POTESTA then prepared and submitted dam inspection reports in accordance with the Dam Safety Regulations. The report included visual observations made during the site visit, photographs, our opinions and conclusions relative to the condition of the dam, recommendations for correcting deficiencies and suggestions for future maintenance of the dam, and an engineer's certification statement.



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*Project Abstract*

# **PINEY CREEK DAM**

## **Raleigh County Recreation Authority**

### ***Lake Fitzpatrick Park - Surveyor, West Virginia***

Potesta & Associates, Inc. (POTESTA) was retained by the Raleigh County Recreation Authority to design and oversee construction for a new dam on Piney Creek adjacent to Lake Fitzpatrick Park in Raleigh County, West Virginia. A previously existing dam on the creek had been washed out by flooding. The purpose of the dam on the creek was to impound water to an elevation which would allow flow from the creek to pass through an inlet pipe which fed nearby Lake Fitzpatrick. Lake Fitzpatrick has a very small water shed and therefore has difficulty maintaining normal pool elevation. When the original dam on Piney Creek washed out, the pool level subsequently dropped in Lake Fitzpatrick. The following is a list of services provided:

- ▶ Development of a preliminary evaluation report which provided several alternatives for methods of providing inflow to Lake Fitzpatrick.
- ▶ Design of a rock fill dam with a crest length of approximately 40 feet and an average height of 10 feet. The design included generating construction drawings and specifications.
- ▶ Preparation of permits including a Corps of Engineers 404 Nationwide permit and a Public Lands Corporation Stream Activity Permit.
- ▶ Preparation of bidding documents, including bid quantity list, conducted pre-bid meeting, and assisted the Raleigh County Development Authority with award of the successful bid.
- ▶ Contract administration and Construction Monitoring services.
- ▶ Quarterly inspections and reports required by WVDEP (also for both facilities).



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# DAM INSPECTIONS FOR SLEEPY HOLLOW SUBDIVISION DAM

*Sleepy Hollow Lot Owner Association, Inc.  
Berkeley County, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by Sleepy Hollow Lot Owner Association, Inc. to perform several dam inspection intervals for the Sleepy Hollow Dam located in the Sleepy Hollow Subdivision in Berkeley County, West Virginia. Sleepy Hollow Subdivision is a 73-unit family housing development. The Sleepy Hollow Subdivision Dam is an earth fill embankment that impounds Cherry Creek, a tributary of the Potomac River.



The dam is 42 feet tall, has a surface area at normal pool elevation of approximately 7.3 acres, and impounds a maximum water volume of 93.2 acre-feet.

POTESTA's services included:

- Submitted Freedom of Information Act (FOIA) request to the West Virginia Department of Environmental Protection Dam Safety Section (Dam Safety), and performed file reviews to obtain copies of past inspection reports, drawings and other pertinent information available in order to obtain a better understanding of the dam.
- Met with Sleepy Hollow Lot Owner Association, Inc. representatives familiar with the dam, to obtain additional information pertaining to the operation, maintenance, and history of the dam.
- Visited the site to conduct visual observation of the Dam's crest, upstream/downstream embankment slopes, abutment areas, and principal and emergency spillway structures to identify deficiencies and potential hazards.

POTESTA then prepared and submitted dam inspection reports in accordance with the Dam Safety Regulations that included visual observations made during the site visit, photographs, our opinions and conclusions relative to the condition of the dam, and an engineer's verification statement certification.



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# HOLZ IMPOUNDMENT UPPER WARD IMPOUNDMENT LOWER WARD IMPOUNDMENT

*The Dow Chemical Company  
South Charleston, West Virginia*

Potesta & Associates, Inc. (POTESTA) has been retained by The Dow Chemical Company (DOW) since 2005 to provide a variety of services on three DOW surface impoundments located in South Charleston, West Virginia. Lower Ward is reclaimed with a portion of the site currently used as a paved parking lot for the Kanawha Valley Community & Technical College. The Upper Ward Impoundment is a freshwater impoundment and the Holz Impoundment is utilized for fly ash disposal.

The following is a list of services provided by POTESTA:

- Annual/biannual inspections and professional engineer certification required by the West Virginia Department of Environmental Protection (WVDEP), Dam Safety Section.
- Preparation of permit modifications that are required as a result of changes required for the facility.
- Regular updates to the Monitoring and Emergency Warning Plan.
- Letter reports to the WVDEP, Dam Safety Section.
- Preparation of engineering plans for various projects, such as trash rack replacement, security systems, pipeline replacement and pipeline re-routing.
- Piezometer readings.
- Surveying services.
- Construction monitoring.



POTESTA has also provided DOW with other engineering, remediation, and environmental services. These include water and well sampling, soil/rubble risk assessment, geotechnical services, containment certifications, and pipeline permitting and design.



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# POND #3 IRRIGATION IMPOUNDMENT

*Pikewood National Golf Course  
Reedsville, West Virginia*

Potesta & Associates, Inc. (POTESTA) was retained by the Pikewood National Golf Course to review the conditions of their irrigation impoundment as it pertained to the West Virginia Dam Safety Regulations. The impoundment was originally intended by its Owner to not meet the minimum requirements of a dam; however, after construction had been completed, it was determined that the height of the embankment plus the volume of storage did in fact qualify as a regulated dam according to the West Virginia Department of Environmental Protection (WVDEP). Pikewood asked POTESTA to provide the documentation and information necessary to meet the minimum standards and to obtain the necessary Dam Safety Permit from the agency.

POTESTA performed the following services to obtain approval from the WVDEP:

- POTESTA completed a subsurface exploration of the embankment. Soil samples were collected and piezometers installed to allow measurement of the phreatic surface. Laboratory testing was performed to determine the strength characteristics of the soil.
- A stability analysis was completed to determine that the minimum factors of safety were obtained for global stability.
- It was necessary to modify the emergency spillway to accommodate the necessary design storm; therefore, POTESTA performed hydraulic calculations to design a box culvert and associated spillway channel. The box culvert was necessary to allow for a road to cross the top of the embankment. Permanent synthetic lining was necessary in the channel due to the large velocities and shear strengths resulting from steep grades.
- POTESTA performed a dam break analysis of the structure to determine if downstream properties would be adversely impacted if a catastrophic failure were to occur.
- POTESTA developed a maintenance plan and inspection schedule for the impoundment.

After POTESTA completed their services, a dam safety permit application was assembled and submitted to the WVDEP, who reviewed and approved the impoundment as a certified Class 3 Dam. POTESTA continues to assist the Pikewood National Golf Course in meeting their inspection and maintenance requirements.



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# GENERAL CONSULTING SERVICES

*Kanawha Eagle, LLC  
Winifrede, West Virginia*

Kanawha Eagle, LLC operates a deep mine complex in eastern Kanawha County. Potesta & Associates, Inc. (POTESTA) has provided a wide variety of engineering services to assist in their day-to-day and long-term operations. Among the many services that have been provided are:

- Surveying.
- Design of new decant system including WVDEP and MSHA approvals.
- Redesign of Stages 6 and 7 of the slurry impoundment.
- Assistance with slurry injection permit.
- Compaction tests on the coarse coal refuse placement in both the slurry impoundment and the side hill embankment.
- Foundation recommendations for a new conveyor belt line and coal storage silos.
- Weekly inspections of the impoundment and preparation of quarterly reports.
- Performance of an environmental/reclamation liability assessment, including evaluation of abandoned mine lands (pre-1977 mining) on the property.
- Construction monitoring during rehabilitation of emergency spillway.
- Assistance with a permit modification including drainage calculations.
- Preparation and annual update of Emergency Response Plan.
- Modification of underdrain system.
- Ownership and control change for a river loadout.



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## **EDUCATION**

- M.S. Civil Engineering, 1979  
West Virginia University
- B.S. Civil Engineering, 1978  
West Virginia University

## **EMPLOYMENT HISTORY**

- 1997-Present Potesta & Associates, Inc.  
1994-1997 Terradon  
1979-1994 GAI Consultants, Inc.  
1978-1979 West Virginia University  
1976-1977 West Virginia Department of Highways  
(summers)

## **PROFESSIONAL REGISTRATIONS**

- Professional Engineer – West Virginia, Illinois
- Professional Surveyor – West Virginia

## **PROFESSIONAL CERTIFICATIONS**

40-Hour Health and Safety Training

## **SERVICE ON BOARDS AND COMMISSIONS**

- Environmental/Technical Committee member – West Virginia Coal Association
- Environmental Committee member – Kentucky Coal Association

- Past Board of Directors member and current Waste Team Chairman on the Environmental Safety and Health Committee – West Virginia Manufacturers Association
- Environmental and Safety Committee member – Independent Oil and Gas Association of West Virginia
- Environmental Committee member – West Virginia Oil and Natural Gas Association
- Past President – West Virginia Society of Professional Engineers, Professional Engineers in Private Practice
- Past President and past Board of Directors member – American Council of Engineering Companies West Virginia Chapter
- Past Chairman of Transportation Committee – American Council of Engineering Companies West Virginia Chapter
- Past Board of Directors member – Society of American Military Engineers Huntington Post
- Member Committee D-18 on Soil and Rock – American Society for Testing and Materials (ASTM)

## **PROFESSIONAL AFFILIATIONS**

- American Society of Civil Engineers
- National Society of Professional Engineers
- WV Society of Professional Surveyors

## **AREAS OF SPECIALIZATION**

Management of design and permitting of civil, environmental, geotechnical, and mining engineering projects. Siting, design, and permitting of industrial and municipal waste disposal sites; reclamation of abandoned mine lands; and development of stormwater management plans and groundwater sampling programs. Environmental/reclamation liability assessments. Development of site plans for commercial and industrial facilities including hydrologic and hydraulic analyses. Expert witness testimony. Directs engineering division including day-to-day operation of headquarters and three branch offices concerning staffing, coordination, training, business development; and overall management of technical and support staff.

## PROFESSIONAL EXPERIENCE

### Civil/Site Design

Utility extension, site grading plans, stormwater management, roadway design, and permitting for site development:

- Residential subdivisions
- Commercial developments

University of Charleston – Principal-in-Charge for the following projects:

- Development of topographic mapping of campus
- Evaluation of storm sewer system
- Civil site services – UC Pharmacy School, New Hall, Middle Hall, and Brotherton Hall
- Design of new campus entrance roadway

Marshall University – Principal-in-Charge for the following projects:

- 400 bed housing project
- Biotechnology Center
- Fifth Avenue parking and 6<sup>th</sup> Avenue parking facility
- Jomie Jazz Center
- Childcare Center
- Mid-Ohio Valley Center
- Campus landscape master use plan
- Campus improvements project
- MU Graduate College South Charleston campus
- Student Center and Henderson Center
- Bookstore addition
- University Heights

Glennville State University – Principal-in-Charge for the following projects:

- Student Residence Hall
- Athletic Convocation Center and Forestry/Survey Class Center

West Virginia University – Principal-in-Charge for a sidewalk repair project located near Allen Hall on the Evansdale Campus in Morgantown, West Virginia.

The Villages at Coolfont – Principal-in-Charge to provide environmental and engineering consulting services for the redevelopment of the Coolfont Recreation property in

Morgan County, West Virginia to create a second home community with high-end amenities:

- Phase I Environmental Site Assessment
- American Land Title Association (ALTA) boundary and property survey of 997 acres
- Completed an assessment of the facility's sanitary sewer wastewater treatment plant to facilitate acquisition of the property.
- Participated in week long planning charette with client, land planners, and other design consultants to assess characteristics of property, identify opportunities and constraints, obtain input from local residents and businesses, and develop design guidelines.
- Land use plan including 1,300 homes, a village center, spa, expansion of an existing lake, a proposed second lake, walking/hiking/biking trails, and the necessary infrastructure.
- Civil engineering design for potable water and wastewater treatment facilities.
- Selected source well locations, drilled 3 source test wells, and completed field testing and permitting.
- Designed 300 gallon per minute potable water treatment plant.
- Designed 2- 316,000-gallon water storage tanks and 75,000 LF of distribution system.
- Completed the design and permitting for a 448,000-gallon per day membrane bioreactor wastewater treatment plant, including the design of a 70,000 LF collection system.
- Assisted with permitting required for the development of the new lake and upgrades/expansion of the existing lake (included were Section 404 individual permit and Section 401 water quality certification).
- Prepared roadway and stormwater management plans, including typical pavement sections, road profiles, geometric layout plan, culvert and drop inlet sizing, drainage conveyance pipe and channel profiles, and miscellaneous stormwater management details.

City of Charleston – Inspection and preparation of rehabilitation design for Parking Garage No. 1.

Tucker County Industrial Park – Principal-in-Charge for the design which included water and sewer lines, stormwater management design, roadway design, pavement design, site grading plan, master plan, and geotechnical exploration/foundation recommendations.

Principal-in-Charge for site grading plans, stormwater management system, site surveying, roadway/parking lot design, wetland delineation/mitigation, and construction monitoring for the 400,000-square foot Coldwater Creek distribution center in Parkersburg, West Virginia.

Principal-in-Charge for the civil/site design for the new Sissonville Middle School in Kanawha County, West Virginia. Project included site grading plan with more than 230,000 cubic yards of earthwork to obtain 20 acres of level ground for a 74,000-square foot school, football field, soccer field, baseball field, access roadways, and parking areas. Project included utility designs for water service and sanitary and sewer. Stormwater collection systems and erosion and sediment control plan/permit completed.

Principal-in-Charge for civil/site design for new Riverview High School and Bradshaw Elementary School in McDowell County, West Virginia. Project included 2,500 linear feet of relocated WV Route 80, relocation of 1,200 feet of Oozley Branch, and site work (grading, stormwater drainage, geotechnical recommendations, sanitary sewer, water, and electrical services) to serve the two schools. Project design included site survey, geotechnical exploration, foundation recommendations, design of excavation slopes, layout of schools, parking areas and athletic fields, utility design, roadway relocations plans, and stream relocations plans. Responsible for the design and preparation of contract bid documents (specifications and drawings) for civil/site work. POTESTA served as a subconsultant to ZMM on this project.

Principal-in-Charge for civil/site design and permitting associated with the construction of three synthetic fuel pellet plants in McDowell County, Nicholas County, and Kanawha County, West Virginia. Project included developing synthetic fuel manufacturing facilities on inactive surface mining sites. Services included subsurface exploration, foundation recommendations, grading plans, stormwater management plans, preparation of permit applications, and construction monitoring for site grading and foundation construction. The McDowell County site included a water source study to identify and select water sources for the manufacturing process. The three plants had a construction cost of \$25 million. Project was a design/build arrangement with POTESTA working directly for the owner.

Carmeuse Lime & Stone – Principal-in-Charge of engineering and environmental services for the expansion of current quarry operations at Winchester quarry in Winchester, Virginia. The expansion includes the addition of two new vertical lime kilns and associated equipment, increasing their current aggregate crushing operation, and expanding their rail system to allow for increased shipping of product.

- Design included grading, stormwater management, and an access road crossing for a rail loop encircling the lime kilns and aggregate crushing areas with rail spurs for loading and unloading of product to connect to two mainline rail carriers.
- The total project track length consists of approximately 29,000 linear feet of rail.
- The design of the rail expansion includes trackside ditches, culverts, stormwater management systems, gas line relocations and crossings, rail crossings, and internal plant roadways, as well as grading for the expanded aggregate plant and lime kilns.
- Additional designs included civil/site services for a new office building and design of the sanitary water treatment system for this building.
- Acquired the necessary approvals to construct this project, such as approvals from local planning and zoning, inspections, health departments, and state governments such as Virginia Department of Transportation, Department of Environmental Quality (DEQ) and Department of Mining and Mineral Extraction (DMME).
- Conducted wetland delineations, developed reports, and completed applications to the Norfolk District (Northern Virginia field office) of the United States Army Corps of Engineers (USACE).

Development of specifications for a sand mound treatment system in the U.S. Air Training Center near Pittsburgh, Pennsylvania.

#### Water Lines, Water Storage Tanks, and Water Treatment Plants

New extensions and replacement of existing lines:

- Cassity Fork Water Supply Extension Project – Randolph County, WV (Project Manager)
- Godby Branch Water Supply Extension Project – Logan County, WV (Project Manager)
- Beaver Creek Water Supply Extension – Upshur County, WV (Project Manager)

- Buff Creek/Trace Fork – Putnam County, WV (Principal-in-Charge)
- Route 60 – Putnam County, WV (Principal-in-Charge)
- Boone County PSD numerous extensions – Boone County, WV (Principal-in-Charge)

West Virginia American Water Company – Principal-in-Charge for construction administration/monitoring for Poca River Water Line Extension Project, Cabell County Water Line Extension Project, Contract No. 7, Spite Road Water Line Extension Project, and Fisher Ridge Water Line Extension Project. Work included construction monitoring, preparation of weekly reports, review of contractor submittals, review of contractor invoices, and preparation of records drawings for 100,000+ linear feet of water line extensions.

City of Philippi – Principal-in-Charge for municipal water system upgrade project. Work included design of two replacement booster stations, two new water storage tanks, new pumps for an existing booster station, a 1,500-foot water line extension, and telemetry systems. Drawings, specifications, and a cost estimate were prepared.

West Virginia American Water Company – Principal-in-Charge for Residuals Handling Facility project at the 32 MGD Kanawha Valley Water Treatment Plant, including coordination design consultant. Design included sludge pumping station, 950,000-gallon reinforced concrete gravity thickener, two belt filter presses, chemical feed systems, plate settler, and associated control and piping. Work included preparing design concept, surveying, subsurface exploration, preparation of drawings, specifications, cost estimate and permit applications, conductance of pre-bid public relations meeting, evaluation of bids, construction observation, review of contractor submittals, review of change order requests, and review of contractor invoices.

West Virginia American Water Company – Principal-in-Charge for evaluation of Town of Pineville water treatment plant and water distribution system, including observation of system during site visit, records review, discussions with regulatory officials, and issuance of findings in a report.

Tucker County Development Authority – Principal-in-Charge for design of approximately 10,000 feet of water line and sewer line to serve an industrial park, including a lift station. Drawings, specifications, and a cost estimate

were prepared. Also performed construction administration services.

West Virginia Bureau for Public Health – Principal-in-Charge for services associated with Source Water Assessment Protection Plans (SWAPP) for 38 public water systems throughout West Virginia. Services provided included windshield surveys to identify and locate (via GPS) potential contaminant sources (PCS's), review of regulatory databases, entering data into Access database, and preparation of summary reports.

City of Philippi – Principal-in-Charge for relocation of water lines due to proposed roadway. Relocation included approximately 4,000 feet of 1-inch to 12-inch diameter pipe, fire hydrants, meters, and valves. Prepared construction drawings, specifications, and quantities.

West Virginia American Water Company – Principal-in-Charge for hydraulic analysis for water supply extensions (total of 23 miles) in Cabell County, West Virginia, including line sizing and design of booster station and PRVs.

Management of design, permitting, and construction monitoring of more than 40 miles of new waterline serving rural communities in southern West Virginia.

West Virginia Department of Abandoned Mine Lands – Detailed design and preparation of construction drawings, specifications, contractor's bid sheet, and engineer's cost estimate for six-mile water line extension including fire protection. Project included 90,000-gallon water tank, booster station, and pressure relief valves. Extension tied into Norton Harding Jimtown PSD System and served town of Cassity in Randolph County.

West Virginia Department of Abandoned Mine Lands – Detailed design and preparation of construction drawings, specifications, contractor's bid sheet, and engineer's cost estimate for a half-mile water line extension to serve Beaver Creek near Junior in Randolph County.

West Virginia Department of Abandoned Mine Lands – Management of four Phase II water studies and five Phase I water studies to determine if water supplies had been affected by coal mining. Work included resident interviews, mine map searches, area reconnaissance, obtaining water samples, reviewing water analysis data, preparing conceptual designs and associated costs and preparation of summary report.

### Sewer Lines and WWTPs

Washington County Industrial Development Agency – Design of a holding tank and ventilation system vault near Houston, Pennsylvania.

West Virginia American Water Company – Principal-in-Charge for evaluation of wastewater collections systems and treatment plants for two municipalities (Oak Hill and White Sulphur Springs) in West Virginia. Included were site visits to observe system, discussions with system operators and regulatory officials, records review, compilation of DMR data and issuance of findings in reports.

### Geotechnical

Subsurface exploration, evaluation, and design of remedial measure for landslides:

- Soldier beam and lagging retaining walls
- Gabion walls
- Grade/drain/compact in-place
- Geo-grid reinforcement with grade/drain/compact in-place

Plasma Processing Corporation – Management of subsurface exploration and preparation of soils report near Ravenswood, West Virginia.

West Virginia University – Principal-in-Charge for the following projects:

- WVU Intermodal Parking Garage on the Medical Center Campus – geotechnical and civil engineering
- WVU Engineering Building – geotechnical evaluation

Principal-in-Charge for Williamson Landslide Project involving an abandoned mine land site. Geotechnical exploration and design of 480-foot long soldier beam and lagging retaining wall with tiebacks to support loose mine spoil backfill along the edge of a previously mined area with steep terrain. Project was required to protect an existing 125-bed nursing home facility.

### Landfills/Solid Waste/Waste Disposal

Design and permitting of new landfills and development of cell closure plans:

### Municipal Landfills –

- West Virginia Solid Waste Management Board/Monongalia County Sanitary Landfill – Morgantown, WV
- North Folk Landfill – Wheeling, West Virginia
- Disposal Service, Inc. Landfill – Hurricane, WV
- Sycamore Landfill, Inc. – Hurricane, WV
- City of Charleston Landfill – Charleston, WV
- Mingo County Landfill – Mingo County, WV
- Omar Landfill – Omar, WV
- Pocahontas County Landfill – Marlinton, WV
- HAM Sanitary Landfill – Peterstown, WV
- Kanawha- Western Landfill – Cross Lanes, WV
- S&S Landfill – West Milford, WV
- Brooke County Landfill – Brooke County, WV
- Wetzel County Landfill – Wetzel County, WV
- WVDEP's Landfill Closure Assistance Program
  - Montgomery Sanitary Landfill – Montgomery, WV
  - Wyoming County Sanitary Landfill – Pineville, WV
  - Jackson County Sanitary Landfill – Ripley, WV
  - City of Moundsville Landfill – Charleston, WV

### Industrial Solid Waste (Fly Ash, Bottom Ash, Scrubber Sludge) –

- Mobay Hazardous Waste Landfill – Natrium, WV
- American Cyanamid (4 projects) – Willow Island, WV
- Client confidential – Parkersburg, WV
- Monsanto Company (multiple projects) – Nitro, WV
- Harrison Power Station – Haywood, WV
- Fort Martin Power Station – Morgantown, WV
- Mount Storm Power Station – Mount Storm, WV
- Keystone Power Station – Elderton, PA
- New Castle Power Station – New Castle, PA
- Conemaugh Power Station – New Florence, PA
- Alcoa Corporation – Newsburg, IN
- Portsmouth Power Station – Portsmouth, VA
- F.B. Culley Power Station – Newburgh, IN
- Hatfield Power Station – Masontown, PA
- Armstrong Power Station – Armstrong County, PA
- Cheswick Power Station – Springdale, PA

Design, permitting, economic analyses, and preparation of construction bid documents for coal ash/refuse sites including HDPE and PVC liner systems:

- Virginia Electric and Power Company
  - Portsmouth Power Station ash pond to dry fill conversion project
  - Mount Storm Interim Ash Site
- Pennsylvania Electric Company

- Keystone Coal Ash/Coal Refuse Site
- Allegheny Power Station
- Hatfield Ash Site

WVDEP Office of Waste Management – Development construction drawings, technical specifications, contractor's bid sheet and engineer's cost estimate for closure of Montgomery Sanitary Landfill. Work included leachate collection system, cap and double walled leachate tank.

WVDEP Office of Waste Management – Development of construction drawings, technical specifications, contractor's bid sheet, and engineer's cost estimate for final closure of the Wyoming County Landfill. Work included site assessment, double walled leachate tank, pump station, and connection of leachate line to Center Public Service District sanitary sewer.

WVDEP Office of Waste Management – Development of interim closure plans including leachate collection system, adequacy of groundwater monitoring wells and soil cover for the Jackson County Landfill and the City of Moundsville Landfill.

WV Solid Waste Management Board's Monongalia County Sanitary Landfill – Management of three liner expansions, borrow area determination, minor permit modifications, 1.6 MG double-lined leachate pond design, construction monitoring, and investigation of future alternatives.

Disposal Services, Inc. – Evaluation of landfill expansion and leachate minimization. Preparation of permit application for Phase I Cell 3 and Phase II including drawings, specifications, and CQA manual. Preparation of construction drawings for Phase I Cell 3 Stage I and management of construction monitoring. Preparation of erosion and sedimentation control plan, soldier beam and lagging retaining wall, gabion basket retaining wall, and assistance on FERC permit to relocate gas line in Hurricane, West Virginia.

S&S Landfill – Preparation of Landfill Expansion Revisions, permit revisions, and permit negotiation. Detailed review of hydrogeology and groundwater flow regime. Management of QA/QC for landfill expansion including clay/synthetic liner system, double walled leachate tank, sedimentation pond, drainage channels, and associated facilities in Harrison County, West Virginia.

Pocahontas County Solid Waste Authority – Management of miscellaneous services including preliminary closure plan, evaluation of leachate treatment alternatives, repair of tear in synthetic liner, preparation of annual reports, and surveying for Pocahontas County Landfill in Marlinton, West Virginia.

Kanawha County Solid Waste Authority – Investigation of potential landfill fire at Kanawha Western Landfill. Detailed geologic and hydrologic studies, monitoring well installation, and preparation of associated sections of landfill permits.

- North Fork Landfill – Wheeling, WV
- Sycamore Landfill – Hurricane, WV

Rhone-Poulenc Ag Company – Management of non-hazardous industrial landfill design project involving design report, technical specifications, construction drawings, QA/QC manual, operation manual, permit application, and environmental assessment. Included meetings with EPA Region 3 and WV Division of Natural Resources. Also, three site selection studies. Complete geologic and hydrogeologic investigations including installation of monitoring wells.

Tennessee Valley Authority – Economic analyses of wet versus dry disposal processes, including conveyor belts, trucks, and sluicing by pipe for fly ash and bottom ash.

Pennsylvania Electric Company – Evaluation of natural and synthetic liner systems for coal ash/coal refuse sites. Preparation of permit applications for the New Castle ash site and Mitchell scrubber sludge disposal site:

- Pennsylvania Power Company
- Allegheny Power System

Coordinator of the compilation of data for a RCRA Part B permit application for a hazardous waste transfer facility in Parkersburg, West Virginia including SPCC plan.

Sludge sampling programs at the Institute, West Virginia plant of Union Carbide Corporation and the Tri-State Terminal of Ashland Petroleum Company.

Siting studies, including environmental impacts and economic analyses, for industrial waste and coal ash/refuse sites:

- Peabody Coal Company – slurry impoundment

- Rhone Poulenc Ag Company – 3 sites for industrial landfill
- Virginia Electric and Power Company – Mt. Storm Power Station
- Southern Indiana Gas and Electric Company – 4 sites at F.B. Culley Station
- Alcoa Generating Corporation – 7 sites at Warrick Station

American Cyanamid Company – Management of QA/QC monitoring program for the first RCRA industrial waste impoundment in EPA Region 3. Composite liner system consisted of 3-foot soil-bentonite liner and two 60-mil HDPE synthetic liners separated by HDPE drainage net. Provided on-site testing laboratory. Daily and weekly project reports were provided. Prepared summary report and necessary “certifications” for submittal to WV Division of Natural Resources and EPA in Willow Island, West Virginia.

American Cyanamid Company – Management of QA/QC monitoring program for a stormwater retention basin consisting of 3’ soil bentonite liner with concrete overlay. Daily, weekly, and project summary reports were prepared in Willow Island, West Virginia.

American Cyanamid Company – Preparation of plans, specifications, and permit application for the closure of an industrial waste disposal site. The capping system included geogrid to assist in supporting the overlying HDPE liner and soil cap in Willow Island, West Virginia. Electric Power Research Institute – Preparation of the Coal Ash Disposal Manual and various manuals for the High Volume/Low Technology Fly Ash Utilization Program.

Electric Power Research Institute – Development of a computer program that provides a detailed cost estimate for a coal ash disposal area.

Rhone Poulenc Ag Company – Evaluation of settling characteristics for an emergency fly ash disposal pond and design of associated modifications at a plant in Institute, West Virginia.

American Cyanamid Company – Management of QA/QC monitoring for a closure of a 3-acre hazardous waste disposal area with sludge stabilization and an HDPE cap. Provided an on-site testing laboratory, daily and weekly project reports, a summary report, and agency required certifications in Willow Island, West Virginia.

American Cyanamid Company – Management of QA/QC monitoring for the stabilization and capping of 10-acre hazardous waste equalization basin in Willow Island, West Virginia.

Rhone Poulenc Ag Company – Sampling/sounding of two basins containing sludge from secondary biological treatment of industrial wastewater and subsequent determination of sludge quantities.

Development of alternative truck transportation cost schemes:

- Industrial and Hazardous Waste Management Study – Allegheny County, PA
- Holcomb, KA Power Station – Sunflower Electric Cooperative
- Portsmouth Station remote ash structural fill – Virginia Electric and Power Company

#### Roadway Design

Principal-in-Charge for design of new entrance roadway to the University of Charleston and the utility extension, surveying, and general civil engineering for a 440-bed dormitory. Project was a design/build.

West Virginia Divisions of Highways – Inspection of bridge and highway construction.

Managed numerous industrial access roads. Roadways were designed for the private sector. Design was coordinated with and approved by the West Virginia Division of Highways and roadways were accepted into the state transportation system.

- ZMM Architects – Relocation of State Route 80 for construction of new elementary and high schools at Bradshaw in McDowell County, WV
- Jackson County Development Authority and Double C Enterprises – Industrial park access road and County Route upgrade in Kenna, WV
- Roane County Economic Development Authority – National Industrial Lumber access road in Amma, WV
- Tucker County Development Authority – Tucker County Industrial Park access road in Davis, WV
- Wood County Development Authority – Luigino’s access road in Parkersburg, WV
- University of Charleston – Design of new entrance road to University of Charleston and redesign of

MacCorkle Avenue (State Route 61) intersection/turn lanes in Charleston, WV

- N-Visions Architects – Entrance road, bus loop, and emergency exit roadway for new Sissonville Middle School in Sissonville, WV
- Entrance road and bus loop for Trap Hill Middle School in Raleigh County, WV

WV Division of Highways – Managed environmental permitting, surveying, and design of four-lane 1.25-mile North Bridgeport Connector Road from Interstate 79 Jerry Dove Interchange to Benedum Airport in Bridgeport, West Virginia.

WV Division of Highways under open-end agreements for:

- Landslides and slope stability projects
- Surveying
- Asbestos services

WV Division of Highways – Managed geotechnical, environmental, right-of-way, and survey work performed as a subconsultant for various projects:

- King Coal Highway (section near Pineville, WV)
- Sharon Heights Connector
- Eldora and Enterprise Connector
- Dundon Bridge
- Martha Truss Bridge
- Martha Concrete Girder Bridge
- Upgrade of three bridges on Interstate 81
- Corridor H (section near Kerns, WV)
- Corridor D (section near Washington, WV)

#### Oil and Gas

Columbia Gas Transmission Corporation – Management of consulting services for environmental report preparation and FERC permit applications for various natural gas pipeline projects.

Principal-in-Charge of well pad design, access road layout, landslide remediation design, evaluation of water supply sources and distribution systems, design of water treatment systems, impoundment design, stormwater management plans, permitting, AST inspections, surveying, and SPCC Plans for various major gas clients in the Marcellus and Utica formations.

- Stone Energy

- EQT
- Chesapeake
- Gastar
- NiSource

#### Storage Tanks

Principal-in-Charge of the registration, preparation of spill prevention response plans, and inspection of aboveground storage tanks (ASTs) for over 500 ASTs for numerous clients, including:

- NiSource
- Rubberlite
- CI Thornburg
- Tetra Technologies
- CAMC
- Interstate Hardwood
- Central Supply

Closure of aboveground storage tanks, including preparation of documentation for regulatory agency and sample acquisition and analyses:

- Rhone-Poulenc Ag Company – Institute, WV
- American Cyanamid Company – Willow Island, WV

Investigation of contamination from underground storage tanks and hydrocarbon spills. Included preparation of necessary regulatory forms, sample acquisition and analyses, and meeting with regulatory agency.

- West Virginia Division of Natural Resources – various projects under Master Agreement
- Goldman Associates
- Vandalia Mining Company
- Marshall University

#### Mining

Peabody Coal Company – Evaluation of potential stream flow attributed to long-wall deep mining subsidence in minimal overburden areas in southern West Virginia. Responsibilities included the review of mine maps, stream reconnaissance studies, and the establishment of three in-stream V-notch weirs. The weirs were monitored and maintained during a seasonal study period to generate direct flow measurements. The WVDEP also prepared a study for the site that was reviewed, and comments prepared for the results.



Principal-in-Charge on numerous Independent Third-Party Audits at sites for various coal producers. Independent Third-Party Reviews of mines/complexes were undertaken with a thorough review to assess compliance of the operation to various federal statutes and equivalent to state laws. Specific areas of review included are generally determined by the needs of the client or the requirements of governmental agencies and have included an assessment of the client's compliance with the following:

- Clean Air Act
- Clean Water Act
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substance Control Act
- Comprehensive Environmental Response, Compensation and Liability Act
- Emergency Planning and Community Right to Know Act
- Federal Insecticide, Fungicide and Rodenticide Act
- Oil Pollution Act
- Mine Safety and Health Administration
- Surface Mining and Reclamation Act
- National Pollution Discharge Elimination System
- Others as required

Development of reclamation plans for over 70 projects including landslides, mine fires, acid mine drainage, mine subsidence, refuse piles, water supply systems, and asbestos abatement. Projects were completed for West Virginia Division of Energy, West Virginia Division of Environmental Protection, Virginia Abandoned Mine Lands, and Ohio Department of Natural Resources and include the following:

- Duncan Hill Subsidence
- Beckley Subsidence
- Jonben (Haga) Subsidence
- Holden (Padgett) Subsidence
- Gray and Iaquina Subsidence
- St. John's Road Subsidence
- Route 19/28 Subsidence
- Mt. Hope Subsidence
- Huffman Street Subsidence
- Morgantown Airport Drainage/Subsidence
- Fairmont East Subsidence
- Fairmont IV Subsidence
- Cheyenne Sales Company Reclamation
- Little Whitestick Refuse
- Crany Mine Dump

- Morgan Mine Fire
- MacArthur Phase 2 Subsidence
- Lake Lynn Complex
- MacArthur Mine Subsidence
- East Lynn II
- Flipping Hollow Complex
- Sundial (Hatfield) Refuse Piles
- Mill Creek Refuse Pile
- John's Branch Coal Refuse Dam
- Jessop Highway #10
- Lando (Edwards) Drainage
- Taylorville (Cantrell) Drainage
- Borderland (Matney) Portals
- Peach Ridge Complex
- Measle Fork Refuse
- Georges Creek Portals
- Putney Impoundment
- Kopperston (John's Branch) Refuse Emergency
- Marmet (Wells Drive) Landslide Emergency
- Marmet (Clark) Drainage
- Pringle Run #2
- Mountain Run Refuse and Portals
- Fairmont East Mine Drainage
- May Portal (Virginia Abandoned Mine Lands)
- Williamson (Hatfield) Landslide
- Georges Creek (Lucas) Rockslide
- Rachel Refuse
- Grass Run Refuse
- Allen Sheridan Hazardous Facility (asbestos)
- Elk City- Century- Volga Phase I/II Water Study
- Camp Mohonegan Regrade
- Comfort Run Coal Company (asbestos)
- Allen AMD
- Cora Mine Drainage No. II
- Covey Creek Mine Fire
- Vivian Refuse Pile
- Summerlee Refuse Pile (won 1996 southern reclamation award)
- Kimball Refuse Pile (won 1995 southern reclamation award)
- Hampden (Smith) Landslide
- Bear Run Refuse (won 1994 Ducks Unlimited award)
- Charleston (Ratcliffe) Landslide
- Garrison Complex
- Mulberry Fork (Stover) Landslide
- Courtright Highwall
- Belle Landslide
- Minden Drilling
- Kitchen/Gibson Landslide
- High Coal Tipple

- Omar Refuse Pile (won reclamation of the year award)
- Logan Drainage
- Switzer Adams/Robinson Drainage
- Follansbee Drainage
- Hawkins AMD
- Vargo Drainage
- Duck Creek Landslide
- Kistler Mine Fire
- Turner Douglas Complex
- Buffalo Creek No. 5 Refuse
- Dawmont Mine Facility
- Helen (Lewis) Refuse
- Upshur 10/15 Drainage
- Webster County Water Studies
- Jaeger Water Feasibility Study
- Burnwell, Standard, and Collinsdale Water Line Extension
- Clay-Roane PSD Water Feasibility Study
- Burnsville PSD Water Feasibility Study
- Brandonville/Pisgah Water Feasibility Study
- Cuzzart/4-H Water Feasibility Study
- Hudson/Mt. Nebo Water Feasibility Study
- Phase I Water Studies Brooke and Fayette Counties
  - Gauley River PSD – Belva
  - Hammond PSD – Wellsburg
  - New Haven Chamber of Commerce – Hico
- Mill Creek Regional Water Project Phase II Water Study (Boone, Lincoln, and Logan Counties)
- Godby Branch Phase II Water Study
- Madison Street Portals/Fairview Route 218 Portals
- Putnam County Phase I Water Studies
  - Heizer Creek
  - Manila Creek
- Boone County Phase I Water Studies
  - Jeffrey Area – Jeffery, Hewett Creek, Seacoal
  - Ottawa Area – Ottawa, Greenview, Missouri Fork, Meadow Fork, Aleshire Branch, Dent Fork, Mike's Fork
- Phase II Water Feasibility Studies
  - Logan County – Cow Creek, Crooked Creek, Upper Rum Creek
- Phase I Water Studies for Logan County
  - Pecks Mill – Godby Heights Communities
  - Cow Creek – Sarah Ann – Crystal Blocks Communities
  - Upper Rum Creek Community
  - Clothier Community
  - Crooked Creek Community
  - Godby Branch
  - Whitman Creek – Holden Project
- Beaver Creek Waterline Extension: Phase II Water Project

- Cassity Fork Water Supply Extension: Phase II Water Project

Subsurface explorations, subsidence monitoring, review of a coal reserve analysis, site plans, preblast/presubsidence surveys, hydrologic analyses, preparation of mining permits, and design and permitting of coal slurry impoundments for coal mining companies in West Virginia, Virginia, Kentucky, Ohio, and Maryland.

- Peabody Coal Company
- Eastern Associated Coal Company
- Southern Ohio Coal Company
- Island Creek Corporation
- Massey Coal Services
- Appalachian Mining, Inc.
- Oneida Coal Company
- Old Ben Coal Company
- Mettiki Coal Company
- Shafer Brothers Coal Co.
- LP Minerals

Management of fly ash utilization permits for various coal companies:

- Rawl Sales, Inc.
- Elk Run Coal Company
- Appalachian Mining, Inc.
- Peerless Eagle Coal Company

Managed subsurface investigation, foundation design, and development of mine stabilization program for NASA's Independent Verification and Validation Center in Fairmont, West Virginia.

Monongahela Power Company – Development of fly ash flowable fill specification for submittal to WV Division of Highways in Fairmont, West Virginia.

Computer modeling of groundwater movement of contaminants resulting from underground coal gasification.

### NPDES Industrial/Municipal Permitting

Completed National Pollutant Discharge Elimination System (NPDES) renewal permitting and associated agency negotiations for several facilities.

Plasma Processing Corporation – Management of numerous projects in Ravenswood, West Virginia including:

- Subsurface exploration and preparation of soils report
- NPDES Permit
- Development of sampling program for Plasma to follow in obtaining samples for NPDES Stormwater Analyses
- Development of hazardous waste operations manual
- Acquisition of WV Air Pollution Commission permits
- Environmental audit of facility operations

### Hydrology and Hydraulics

City of Charleston – Hydrologic and hydraulic analyses of South Ruffner Watershed. Project analyzed various storm events and presented conceptual recommendations to reduce effects of these storms.

U.S. Army Corps of Engineers, Jacksonville District – Determination of watershed areas along the Suwannee River Basin.

### Groundwater

Dilley's Mill – Principal-in-Charge for review of regional groundwater information for a summer Boy Scout camp facility to locate and construct a replacement drinking water well for the facility. Responsibilities included the development and review of existing facility usage, determination of the location and depth of the proposed water well and design of the well to meet with the requirements of the State of West Virginia Department of Health standards. Design of sewage collection system and synthetic lined sewage treatment lagoon including permitting.

Groundwater sampling programs:

- Herr's Island – Urban Redevelopment Authority of Pittsburgh
- Robertshaw Controls in New Stanton, PA
- New Castle Power Station

- Pennsylvania Power Company
- Portsmouth Power Station
- Virginia Electric and Power Company
- Rhone Poulenc Ag Company – Institute, WV

Management of pump tests:

- Peabody Coal Company – Bim, WV
- Southern Ohio Coal Company – Meigs County, OH
- Rhone-Poulenc Ag Company – Institute, WV

Rhone Poulenc Ag Company – Development of specification manual for conducting soil and groundwater sampling programs. Manual detailed decontamination methods and proper handling/disposal methods in Institute, West Virginia.

### Air Pollution/Air Services

Principal-in-Charge for internal and external methane gas monitoring at nursing home facility in Boone County, West Virginia.

Urban Redevelopment Authority of Pittsburgh – Preliminary and detailed air pollution modeling for Pittsburgh's convention center complex and for the Washington Heights development.

Eastern Associated Coal Corporation – Management of certified emission statements for 11 coal preparation plants and air emission inventories for 8 coal preparation plants for submittal to the West Virginia Office of Air Quality.

Nicholson Construction Company – Operation permit from West Virginia Air Pollution Control Commission for cement/grout portable batch plant for mine subsidence control project in Follansbee, West Virginia.

### Stream/Wetland Delineation, Permitting and Mitigation

Columbia Gas Transmission Corporation – Management of stream stabilization and restoration plan for segment of East Fork of Queer Creek in Hocking County, Ohio.

### Environmental Assessments/Impact Statements

Management of numerous environmental assessments for property transactions:

- Arch Coal – Multiple WV Tracts ESA (60,500 acres)

- Massey Coal Services – Red Cedar Surface Mine (850 acres)
- Duke Energy – Chicopee Environmental Audit (6,000 acres)
- Pittston Coal Management Group – Phase I ESA (6,000 acres)
- Massey Coal Co. – Hampton Site, Spruce Laurel (130 acres)
- Eastern Associated/Peabody Coal – Phase I ESA (1,035 acres)
- Eastern Associated Coal – Environmental Due Diligence for Active and Closed Operations in KY and WV (100,000 acres)
- Peabody Coal – Multi-state Environmental Audit in WY, CO, NM, AZ, Western KY, IN, IL (250,000+ acres)
- Peabody Coal – Environmental Due Diligence for Properties in IL and IN (150,000+ acres)
- AMVEST Mineral Services – Phase I ESA (8,000 acres)
- Peabody Energy Corp. – Phase I ESA on Putnam Property (1,036 acres)
- Arch Coal – Environmental Compliance Audit in KY, WV, and VA (150,000+ acres)
- Massey – Consolidated Coal Co. Holden Complex (5,500 acres)
- Massey – Environmental/Reclamation Liability Assessment for Northland Resources (150 acres)
- Peabody Coal – Phase I ESA for Imperial Coal and Turner Properties (5,400 acres)
- Peabody Group – Environmental/Reclamation Liabilities for Kanawha Eagle, LLC Permits in Boone and Kanawha Counties, WV (350 acres)

Principal-in-charge for the Coalfields Industrial Site Survey performed for the West Virginia Development Office. Study identified and evaluated more than 1,000 former and current mining sites for use as industrial sites. McDowell County was one of six included in the study. The study considered accessibility, utility status and distance of required extensions, topography, site size, etc.

West Virginia Division of Highways – Coordination of Environmental Impact Statement for Route 19 upgrade from Summersville to Interstate 79 in Braxton County and New River Parkway from Sandstone Falls on I-64 to near Athens on I-77.

# CHRISTOPHER A. GROSE, L.R.S.

Senior Engineering Associate



## EDUCATION

- M.S. Geological Engineering, 1990  
University of Missouri-Rolla
- B.S. Civil Engineering, 1988  
West Virginia Institute of Technology

## EMPLOYMENT HISTORY

- 1997-Present Potesta & Associates, Inc.  
1994-1997 Terradon Corporation  
1990-1994 GAI Consultants, Inc.  
1989-1990 University of Missouri-Rolla  
1989 Triad Engineering Consultants  
(summer)  
1988 West Virginia Institute of Technology  
1983-1988 Clint Bryan & Associates Architects  
(summers)

## PROFESSIONAL REGISTRATIONS

Licensed Remediation Specialist – West Virginia

## PROFESSIONAL CERTIFICATIONS

- Hazardous Waste Site Operations and Superfund Worker Protection Training
- American Red Cross Standard First Aid and CPR
- Troxler Moisture-Density Gauge

## PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- Association of Engineering Geologists
- Society of America Military Engineers

## AREAS OF SPECIALIZATION

Geological/Geotechnical engineering related to subsurface exploration studies, soil and rock slope design, landslide causation studies, foundation system design, surface/subsurface hydrogeology, ground subsidence, contaminant transport and groundwater flow modeling. Planning, design, and permitting of natural gas production well pads and access roads. Geological study of hazardous waste remediation sites, CERCLA/SARA, RI, and FS report compilation, geological and geotechnical aspects of siting and design of municipal and industrial waste landfills.

## PROFESSIONAL EXPERIENCE

### Civil/Site Design

Civil/Site design included slope stability of both cut and fill slopes in soil and rock for various well production pads in northeastern West Virginia associated with natural gas production in the Marcellus well field. Work consisted of the management of a design engineering team including ground survey crews to development site topographic base mapping, coordination with client regarding land ownership, access roadway alignments, site drainage control, and number/location of production wells. Additional work also included gathering and midstream transmission pipeline locations. The scope of services for these projects also included the preparation of permit documents and attachments for submittal to the WV Department of Environmental Protection-Office of Oil and Gas.

- Stone Energy Corporation
  - Higgins East pad and road
  - Higgins West pad and road
  - Conley Well pad, road, and access bridge
  - Mills-Wetzel No. 3 pad and road
  - Hunter/Pethel well pad
  - Talkington-nice pad and road
  - Bowyers well pad and road
- Viking Oil & Gas
  - United Disciples of Christ well pad

Geotechnical

Completion of numerous subsurface exploration studies for active soil slope landslide failures associated with the development of natural gas production well pads and access roads. Work included the layout, surveying, and logging of subsurface borings to determine the depth and extent of the slope failures. Following collection of soil/rock samples, materials were tested for characteristic and strength properties. Following testing efforts, the failed slopes were modeled using computer based slope stability design models to determine a stable configuration including the addition of rock buttresses, toe keys, underdrains, mid-slope keys, etc. Final stabilization plans were then prepared for the client allowing bidding and selection of a repair and stabilization contractor to perform the work.

- Stone Energy Corporation
  - Mills-Wetzel No. 2 well pad landslide repair
  - Potoczny well pad landslide repair
  - Mills-Wetzel access road landslide repair
  - Pribble Tank landslide repair
  - Haines Branch pipeline landslide repair
- Columbia Pipeline Group (TransCanada Pipeline)
  - SM8 pipeline landslide repair
  - SM80 Loop pipeline landslide repair
- Chesapeake Energy Corporation – R. Baker well pad landslide causation study
- TransEnergy Corporation – Dewhurst well pad landslide repair
- Reserve Oil & Gas – Reed No. 1 well pad access road landslide repair

West Virginia Division of Highways – Geotechnical engineer on geotechnical/landslide master services agreement for on-call services for a three-year period.

Geotechnical engineer for various bridge and highway projects including:

- North Bridgeport Bypass
- McDowell County Schools
- Corridor H
- Dundon Bridge
- Sulphur Springs Bridge Replacement
- Smith Creek Bridge
- Martha Truss Bridge
- Martha Concrete Girder Bridge Replacement
- Dry Run Interchange
- I-81 Upgrade
- Platinum Drive

- Kenna Ridge Business Industrial Park/Access Road

Forensic study, expert testimony, and legal support related to the failure of numerous soil/rock slopes throughout West Virginia. This work included extensive review of relevant project case documents, site reconnaissance visits, interviews with project personnel, and deposition testimony.

Lynn Elementary School – Technical insight and recommendations to attorneys representing an adjacent property owner related to the contributing factors related to the formation and continued failure of an excavated soil slope. The toe of the slope was excavated during the site development of the proposed elementary school site in Lynn, West Virginia.

Crichton & Crichton – Landslide formed along a wooded hillside below a residential driveway on Pleasant Lane in Wood County, West Virginia. The slope failure was noted during a substantial leak in an existing water main. The work included a review of case documents, interviews with various residents (plaintiffs in the case) and the development of supporting causation theory for the formation of the landslide. The work also includes the development of repair alternatives and associated construction estimates to be considered during the dispute hearing between the plaintiff and defendants.

Chesapeake Appalachia/Law Office of Jeffrey Mahal (R. Baker Natural Gas Production) – Provided technical study and file review of case documents related to the grading contractor's construction work efforts to prepare a well pad for the installation of a series of horizontal gas production wells in Marshall County, West Virginia. The work included the removal of soil and rock from and existing hilltop. The resulting material was placed or wasted in series of three side hill fills along the edges of the resulting well pad. All three of these fills experienced progressive and ongoing failures following the construction effort. Reviewed design documents, construction records, and details related to several repair attempts to result in the development of a professional opinion related to the various factors contributing to the multiple slope failures.

Nationwide Trial Division/Khan & Wheeler (Ross v. WVAW Landslide Case) – Provided professional opinion related to the formation of a slope failure along the Elk River immediately behind several commercial and residential homes near the Town of Elkview, West

Virginia. The initial landslide occurred immediately following a main waterline break along the front of the structures. The regressive and prolonged failure continued over several weeks and ultimately damaged a gravity sanitary line as well as several of the structures. Work included an extensive review of several years of case records provided for the case including a review of existing utility maintenance records, historic climatologic data, river stage information and depositional testimony from many of the affected parties. A summary of profession opinion report was prepared describing a number of factors including lack of maintenance storm culverts in the area as well as an increase of saturation along the slope from the failed water main as the cause of the slide. It was determined that several of the structures were supported on previously placed fill material which was placed along the river bank in the early 1900's in conjunction with the initial roadway construction. This coupled with the lack of maintenance and presence of deteriorated drainage culverts likely contributed to the slope failure. The initial installation of this fill material was determined through an extensive study of the historic topographic mapping of the area.

Responsible for development of geotechnical and geological recommendations as well as development of stabilization designs for many failed soil/rock slopes in West Virginia. This work included initial site reconnaissance visits, development of a subsurface exploration study and materials testing program, evaluation of stabilization alternatives, and construction plan preparation.

Travelers Insurance/City of Charleston – Project included a subsurface exploration study, engineering design, and global stability evaluation of a failed soil slope in a residential neighborhood on Bona Vista Drive for the City of Charleston, West Virginia. The slide was caused by a water main break along an existing residential neighborhood paved roadway. The recommended slope stabilization method was to install a soldier beam and lagging retaining wall along an existing paved roadway (supporting the buried utilities) with the remainder of the failed slope below being removed and replaced with compacted soil backfill.

Stone Energy Pribble Tank – Work included the exploration and study of a failed soil/weathered rock slope which was loaded through the placement of fill near the top of the slope to provide adequate area for the construction of 2- 2,400,000-gallon water storage tanks in

New Martinsville, West Virginia. Shortly following the installation of the tanks, a large section of the hillside failed leaving one of the tank foundation partially unsupported. Following the subsurface exploration and drilling work, a stabilization plan was developed which included the removal of the failed soil mass (>50,000 CY) followed by the replacement of compacted soil material behind a large toe key and buttress. The repair also included surface diversion drainage ditches and numerous bond benches along the underlying rock line which were fitted with under drains to collect subsurface seepage.

NiSource/Columbia Gas Pipeline Group SM-80 Loop Gas Transmission Line – Development of a subsurface exploration and drilling plan to determine the extent and depth of a soil and weathered rock slope failure which threatened the performance and stability of a 30-inch high pressure natural gas transmission line in Kanawha County, West Virginia. The slide location was remote and situated along a steep hillside. The stabilization plan recommended the use of soil nail technology due to the remote location and rather inaccessible nature of the location. This repair and stabilization technique allowed for the insitu repair of the failed slope without extensive excavation and backfill which was deemed difficult and would have required more land disturbance resulting in additional slope stability concerns.

EQT Rockport #7244 Natural Gas Storage Well Pad – Project involved the assessment and repair recommendations for a section of failed fill slope immediately below existing and active natural gas storage well near the community of Rockport in Jackson County, West Virginia. The failed slope was caused by improper surface drainage control along the pad and access road. The stabilization plan included the excavation and removal of the failed slope following “shut-in” of the storage well. The upper failure scarp was situated immediately adjacent the well head which was protected during the stabilization work. Following installation of a rock toe buttress and key way, the failed soil material was amended using lime to reduce the moisture content which was required to achieve the recommended in place density during placement and compaction. Following the regrading effort, the slope was trimmed and seeded followed by the grading a several diversion and collection ditched to control runoff from the upper portion of the hillside below the well pad.

City of Charleston – Geotechnical assessment and development of regrading construction plans for the repair

of a failed soil slope below Grandview Drive for the City of Charleston, West Virginia. The slope failure occurred between two adjacent residential structures and encompassed a sanitary sewer main as well as a storm drainage pipe receiving storm drainage from Grandview Drive. The stabilization plan involved the removal of the failed mass beginning at the toe of the slope and then working progressively upslope to result in a stabilized and regraded slope surface. The work required the removal of all failed material to the underlying rock surface and included the installation of a shot rock toe buttress which was installed along a natural topographic bench near the toe. Following completion of the work the affected utilities were installed either below the fill material or outside the regraded slide area.

Greer Industries Cheat River Quarry Haulroad – Project included the development of stabilization and repair recommendations for a failed soil slope which impacted a critical haulroad utilized by the quarry operator to move raw shot rock material from the quarry to the crusher at the aggregate plant in Rowlesburg, West Virginia. The landslide occurred as a result of the failure of a cross drainage culvert in the haulroad. The failed soil mass was removed to the underlying bedrock and following installation of a stone toe buttress and toe key, the material was blended with aggregate material from the plant and placed in compacted lifts. The underlying rock surface was excavated to result in a series of “bond benches” allowing for the installation of underdrains below the compacted fill to collect groundwater and seepage from the underlying rock. This prevented saturation of the fill material.

Responsible for the design, management, and inspection of a geotechnical investigation of a proposed five-mile rail extension located in Nicholas County, West Virginia. Investigation included study and design of planned rock cuts, and track foundation materials.

General Services Administration – Site evaluation, including continuous HNU scanning of collected soil samples and installation of piezometers for two proposed sites near Charleston, West Virginia.

West Virginia Department of Environmental Protection – Foundation design for a proposed 1,000,000-gallon potable water storage tank and valve pit near Cassidy, West Virginia.

Rhone Poulenc Ag Company – Subsurface sample collection, resistivity measurements, explosivity measurements, and decontamination procedures for an organic contamination study at Institute, West Virginia.

Preparation of foundation investigations for several large structures including a parking garage and student housing complex at Marshall University in Huntington, West Virginia. Tasks included development of subsurface exploration program, soils/rock sampling, testing program, and preparation of a final geotechnical report.

#### Abandoned Mine Lands

WVDEP Abandoned Mine Lands and Reclamation – Preparation of Phase I and II water studies throughout the state of West Virginia. Work items included interview of area residents to determine major quality and quantity problems, field and records research to determine the location of known pre-law mining activity (which could potentially affect groundwater quality), collection of groundwater samples, and design of water distribution facilities.

WVDEP Abandoned Mine Lands and Reclamation – Subsurface investigation to determine the extent of a landslide for Courtright Highwall AML Project in Bridgeport, West Virginia. Field surveying was completed to establish topographic mapping and control, and subsequent design of landslide repair alternatives. Design ultimately selected included a reinforced slope using stabilizing grid. Landslide contained 400,000 cubic yards of material.

WVDEP Abandoned Mine Lands and Reclamation – Subsurface investigation, surveying, and design for reclamation of a large coal refuse pile and two mine entries for Vivian Refuse Pile AML Project in Vivian, West Virginia. Plans, specifications, cost estimate, coal refuse reprocessing evaluation, and supporting documents for regrading over 150,000 cubic yards of refuse, surface water control, mine seals, and riprap toe protection were completed.

WVDEP Abandoned Mine Lands and Reclamation – Subsurface investigation, surveying, and design for reclamation of three coal refuse piles and six mine entries for Kimball Refuse Pile AML Project in Kimball, West Virginia. Design included replacement of a water well and related supply piping for the Town of Kimball. Completed preparation of plans, specifications, cost



estimate, coal refuse reprocessing report, permit for new well, and other supporting documents for reclaiming this large site with over ½ million cubic yards of regarding.

WVDEP Abandoned Mine Lands and Reclamation – Project Engineer for the Mulberry (Stover) AML Landslide Project in Fayette County, West Virginia. Work included a difficult subsurface investigation, design of a remediation of landslide associated with abandoned mines, and preparation of plans and specifications for a reclamation project.

WVDEP Abandoned Mine Lands and Reclamation – Project Engineer for assessment of the Covey Creek Mine Fire AML Project Boone County, West Virginia. Work included subsurface investigation and temperature assessments inside an abandoned burning deep mine.

#### Oil and Gas

Columbia Gas Transmission Corporation – Design of stream relocation plans including preparation and coordination of applicable environmental permits. The relocation was required due to an adjacent gas pipeline near the stream.

Columbia Gas Transmission Corporation – Preparation of several spill prevention control and countermeasure plans for gas storage well sites in Pennsylvania and West Virginia.

#### Mining

West Virginia Division of Environmental Protection – Engineering evaluations, including collection and analysis of core samples, for possible subsidence-related fracturing of several areas potentially affected by mining subsidence.

Peabody Coal Company – Subsidence evaluation and slope monitoring, using extensometers and tilt plates located on the slope face, of a 60-foot road cut experiencing subsidence-induced fracturing near Kopperston, West Virginia.

Mingo Logan Coal Company – Completion of formal subsidence control plan for a proposed 14,000-acre long-wall mining operation at the Mountaineer Mine in Wharncliff, West Virginia.

Peabody Coal Company – Evaluation of potential stream flow attributed to long-wall deep mining subsidence in minimal overburden areas in southern West Virginia. Responsibilities included the review of mine maps, stream reconnaissance studies, and the establishment of three in-stream V-notch weirs. The weirs were monitored and maintained during a seasonal study period to generate direct flow measurements. The WVDEP also prepared a study for the site that was reviewed, and comments prepared for the results.

West Virginia Department of Highways – Evaluation of subsurface conditions including both soil and rock to provide geotechnical recommendations related to potential bridge abutment foundation systems near Martinsburg, West Virginia. Alternatives included both shallow and deep foundations. Deep foundations were required at several abutments due to voids encountered in limestone bedrock.

Evaluation of numerous failed soil fill slopes to determine probable failure mechanisms in order to develop remediation alternatives. Responsible for the development of regrading plans which included subsurface drains, benching schemes, and toe buttresses.

Completion of several environmental assessments for coal properties. Work included emphasis on both environmental and reclamation liabilities associated with pre-and post SMCRA sites on the properties.

- Massey Coal Services, Inc.
- Eastern Associated Coal Corporation

West Virginia Department of Environmental Protection – Engineering design of several wetland habitat areas relating to the effective remediation of a coal refuse disposal site in Glenville, West Virginia.

Preparation of several Article 3 surface mining permit applications for various West Virginia coal companies:

- Eastern Associated Coal Corporation – Proposed deep mine using longwall mining techniques in Boone County, WV, located in the Eagle coal seam.
- Hobet Mining, Inc. – Deep mine using conventional mining techniques near Madison in Boone County, WV. Located in the No. 2 Gas (Campbell's Creek) coal seam.

- Rum Creek Coal Sales – Deep mine using conventional mining techniques near Logan in Logan County, WV. Located in the Alma coal seam.
- Eastern Associated Coal Corporation – Surface mine mountain top removal techniques near Twilight in Boone County, WV. Located in the Coalburg and Lower Kittanning seams.

**Landfills/Solid Waste/Waste Disposal**

WVDEP Closure Assistance Program – Design of final landfill closure for abandoned solid waste facility. Design included diversion and collection channels, cap design, leachate collection system, and 150,000-gallon leachate storage tank in Montgomery, West Virginia.

American Cyanamid – Engineering design for the closure of a chemical waste landfill in Parkersburg, West Virginia. Completion of a settlement analysis to determine the expected consolidation of waste during dewatering. Cover design incorporated a composite liner system with synthetic drains. The cap utilized synthetic reinforcement to minimize consolidation-induced stresses on the synthetic liner.

West Virginia Department of Environmental Protection – Responsible for the development and design of several interim or maintenance related items associated with drainage at the Monongalia County Landfill in Morgantown, West Virginia. Included the design and upgrade of both new and existing channels, diversions to berms to minimize surface water infiltration and minimizing the amount of leachate generation.

American Cyanamid – Permit completion for closure of a chemical sludge impoundment near Parkersburg, West Virginia. Analysis of existing monitoring well configuration.

Design, management, and project oversight during construction for the closure of a 7-acre biological sludge pond in Nitro, West Virginia. Preliminary design studies included the completion of batch tests to evaluate stabilization materials. Also handled the development and submittal of several permits associated with the project including erosion and sediment control plan, Army Corps of Engineers permit, and a wetlands investigation and nationwide 404 permit.

Development of closure design for a 14-acre inactive waste water treatment pond in Nitro, West Virginia.

Responsibilities included evaluation of sludge stabilization technologies, types of reagent and mixing ratios to achieve the required in-place strengths. Conducted contractor interviews with the owner, as well as providing assistance to the owner during preparation of the construction contract. During construction, conducted weekly safety meetings on-site with the contractor. This project was also expanded to provide stabilization of a 1.5-acre digester basin adjacent to 14-acre pond. The original contract was extended to cover stabilization of this pond. Stabilization efforts included submittal of an Army Corps of Engineers' nationwide permit to stabilize the bank of the Kanawha River and application of a West Virginia NPDES General Stormwater Construction Permit.

North Fork Landfill – Permit completion for a new municipal landfill, including design and construction of monitoring wells to monitor several aquifers in Wheeling, West Virginia.

Sycamore Landfill – Part I permit completion, design, and implementation of a drilling program, including evaluation of an existing monitoring well configuration. Testing of existing site soils for sources of suitable liner material.

Rhone Poulenc Ag Company – Completion of several Part I Solid Waste Facility permits including the design and implementation of drilling programs, formal geological studies, hydrogeological analysis of proposed sites, and locations and development of upgradient and downgradient groundwater monitoring wells. Design, construction, and development of seven monitoring wells for a proposed 13-acre industrial waste disposal facility near Institute, West Virginia.

**Storage Tanks**

West Virginia Division of Natural Resources – Underground storage tank contamination study in Jesse, West Virginia. Delineation of a subsurface hydrocarbon contamination plume as well as possible flow direction to determine potential receptors.

**Groundwater**

Operation and maintenance of several groundwater remediation systems including pump and treat and sparge systems for a large chemical manufacturer in Nitro, West Virginia. The pump and treat technology is designed to

recover kerosene in one instance and TCE in another. Both systems are safety oriented and are fully automatic. The sparge system is a study/field test to determine the impact that oxygen injection will have on the degradation of phenolic compounds existing in the groundwater.

Columbia Gas Transmission Corporation – Evaluation of numerous groundwater monitoring wells to determine the direction of migration and the feasibility of utilizing them in a planned pump and treat recovery system. The site was an active compressor facility located in Eastern Kentucky.

Design and completion of several geological and hydrologic investigations to determine nature and direction of groundwater flow associated with proposed limestone quarry sites in Nitro, West Virginia. The sites were all associated with Karst terrain and dual permeability systems and primarily fractured flow regimes. Studies included the deployment of drilling equipment to install groundwater monitoring wells.

Measurement of stratified in-site permeability of rock strata in NX boreholes in Hurricane, West Virginia. The permeability measurements were reviewed and evaluated to develop groundwater monitoring systems associated with both existing and proposed municipal landfill disposal facilities.

Rhone Poulenc Ag Company – Analysis and study of elevated levels of organic constituents and elevated pH values in existing monitoring wells. Study to determine if well construction techniques or development procedures contributed to the presence of these constituents.

Dilley's Mill – Review of regional groundwater information for a summer Boy Scout camp facility to locate and construct a replacement drinking water well for the facility. Responsibilities included the development and review of existing facility usage, determination of the location and depth of the proposed water well and design of the well to meet with the requirements of the State of West Virginia Department of Health standards.

Union Carbide Corporation – Design and completion of several monitoring wells to monitor an abandoned fly ash disposal area. Included hydrologic analysis of site geology to determine major aquifers present in the area.

Completion of several groundwater contamination studies in West Virginia. Contaminants included diesel fuel, gasoline, chlorobenzene and benzene. Studies included field exploration utilizing various methods including air and mud rotary drilling. Responsible for the setup, calibration, and analysis of groundwater computer models to lend insight into the flow regimes and dispersion characteristics of the potentially affected areas.

Preparation of Phase I, II, and III water studies throughout the state of West Virginia for the West Virginia Division of Environmental Protection, AML section. Work items included interview of area residents to determine major quality and quantity problems, field and records research to determine the location of known pre-law mining activity, which could potentially affect groundwater quality, collection of groundwater samples, and design of water distribution facilities.

#### ESAs (Phase I and II)

Responsible for the design and implementation of drilling and sampling programs for several Phase I and Phase II environmental assessments.

# DAVID B. SHARP, P.E.

Branch Manager



## EDUCATION

- M.S. Civil Engineering, 1995  
West Virginia University
- B.S. Civil Engineering, 1993  
West Virginia University

## EMPLOYMENT HISTORY

- 2003-Present Potesta & Associates, Inc.  
2000-2003 CTL Engineering, Inc.  
1997-2000 Potesta & Associates, Inc.  
1994-1997 Terradon Corporation

## PROFESSIONAL REGISTRATIONS

Professional Engineer – West Virginia, Pennsylvania, Maryland, Ohio, and Kentucky

## AREAS OF SPECIALIZATION

Involved with many aspects of civil engineering with a special interest in the geotechnical/environmental aspects. Responsibilities have included projects involving Civil Site Design; Geotechnical Design; Solid Waste Management Facility Design, including geosynthetic applications; hydrologic and hydraulic design; transportation/highway projects, including geotechnical and right-of-way plans; and municipal water and wastewater projects.

## PROFESSIONAL EXPERIENCE

### Geotechnical

Engineer responsible for performing subsurface investigations, preparation of geotechnical reports, coordinating laboratory analysis programs, providing recommendations for lateral earth pressures, bearing capacities, modulus of subgrade reactions, settlements, and construction specifications for multi-story structures. Foundations considered have included steel H-piles, auger-cast piles, drilled piers, spread footings, and mat foundations.

- Family Dollar Store – Berkeley Springs, WV
- Rubbermaid Distribution Center Addition – Winchester, VA
- WVU Transportation Center/Parking Garage – Morgantown, WV
- 4 West Water Treatment Plant – Greene County, PA
- CA Ventures (9 story student housing building) – Morgantown, WV
- Copper Beech Student Housing (included 31 buildings, parking areas, and 11,250 linear feet of retaining walls) – Morgantown, WV
- Sunnyside Commons Student Housing (included three multi-story buildings, parking, and 43,000 sq. ft. of retaining walls) – Morgantown, WV
- WVU Engineering Building East Addition – Morgantown, WV
- Potomac State College Admissions Building Addition – Mineral County, WV
- Glenville State College Health & Sciences Building – Gilmer County, WV
- Glenville State College Residence Hall – Gilmer County, WV
- Christy Street Office Building – Morgantown, WV
- Harry Green Nissan Dealership Building Addition – Harrison County, WV
- Elkins Dodge Dealership – Randolph County, WV
- Sam's Club Fueling Station – Clarksburg, WV
- Wal-Mart Fueling Station – Connellsville, PA
- Cheat Lake Elementary School Building Addition – Monongalia County, WV
- Churchill Village Housing Project – Monongalia County, WV
- R.E. Michael HVAC Commercial Building – Monongalia County, WV

- West Run Student Housing (including 16 buildings, parking areas, and 50,000 sq. ft. of retaining walls) – Morgantown, WV
- Fairmont Federal Credit Union – Bridgeport, WV
- Morgantown Waterfront Marina – Morgantown, WV
- Residence Inn – Morgantown, WV
- Suncrest Executive Office Plaza and Parking and Garage – Morgantown, WV
- WVU Research Park – Morgantown, WV
- View at the Park Apartment Complex – Morgantown, WV
- Marriott Hotel – Morgantown, WV
- Bucks Tavern – Morgantown, WV
- Stouts Run United Methodist Church Addition – Parkersburg, WV
- Fairfield Inn Hotel – Fairmont, WV
- Wendy's Restaurant – Morgantown, WV
- Sunoco Service Station – Robinson Township, PA
- St. Stephens Baptist Church – Morgantown, WV
- Islamic Center – South Charleston, WV
- Oak Hill Public Library – Oak Hill, OH
- Westside High School – Oceana, WV
- WVARNG Readiness Center – Summersville, WV
- Student Housing Facility, Parking Garage, Library/Information Center, Student Center Addition, Jomie Jazz Center, and Child Care Center for Marshall University – Huntington, WV
- U.S. Equipment Distributors – Huntington, WV
- PC WV #2 and #3, Pace Carbon Fuels – Summersville and Eckman, WV
- WVU Luxury Box for Mountaineer Field – Morgantown, WV
- Marshall University Mid-Ohio Valley Center – Point Pleasant, WV
- Arbor Terrace Assisted Living Facility – Charleston and Huntington, WV
- Pocahontas County PSD Wastewater Treatment Plant – Snowshoe, WV
- Monongalia General Hospital Expansion and Access Road – Morgantown, WV
- Kasson Elementary/Middle School Repair Project – Kasson, WV
- North Marion Vocational/Technical Center School Repair Project, Marion, County, WV
- Monongalia County Public Office Building – Morgantown, WV
- Numerous Cell Phone Towers in WV, PA, and MD
- Numerous Natural Gas Compressor Stations Pads and Additions
  - EQT – Logansport Compressor Station Addition in Wetzel County, WV
  - EQT – Plasma Compressor Station Pad in Monroe County, OH
  - EQT – Corona Compressor Station Pad in Wetzel County, WV
  - EQT – Gemini Compressor Station Geotechnical Feasibility in Marion County, WV
  - EQT – Gemini Interconnect Pad in Marion County, WV
  - Basic Systems, Inc. – Waynesburg Compressor Station Addition in Greene County, PA
  - Basic Systems, Inc. – Gettysburg Compressor Station Addition in Adams County, PA
  - Basic Systems, Inc. – Greencastle Compressor Station Addition in Franklin County, PA
  - Basic Systems, Inc. – Files Creek Compressor Station Addition in Randolph County, WV
  - Basic Systems, Inc. – Smithfield Compressor Station Addition in Wetzel County, WV
  - Dominion Transmission – Crayne Compressor Station in Greene County, PA
- Numerous Marcellus Well Pad Sites – Northern WV
  - Stone Energy – Mills Wetzel #3 Well Pad in Wetzel County, WV
  - Stone Energy – Conley Well Pad in Wetzel County, WV
  - Stone Energy - Langmyer Pad in Wetzel County, WV
  - Mountaineer Keystone – Mackey-Wolfe Well Pad in Barbour County, WV
  - Chesapeake Energy – Rayle Coal Co. Well Pad in Ohio County, WV
  - Chesapeake Energy – Sew Trust Well Pad in Ohio County, WV
- Numerous residential geotechnical projects in Charleston and Morgantown, WV
- Geotechnical Recommendations for Natural Gas Transmission Lines including Horizontal Directional Drilling projects
  - EQT Midstream H-310 Coal Refuse Area in Monroe County, OH
  - EQT Midstream, Harrison County HDD in Harrison County, WV
  - EQT Midstream, Ohio River HDD in Wetzel County, WV and Monroe County, OH

Responsible for the coordination of subsurface investigation, laboratory testing program, slope stability analysis and preparation design documents associated with the repair of landslide at various site throughout West Virginia. Representative designs have included soldier beam and lagging retaining walls, gabion basket retaining walls, segmental block retaining walls, rock toe keys and buttresses, and drainage improvements. The following provides a list of representative projects:

- Bowser Street Landslide Repair - Town of Granville – Monongalia County, WV
- Marshall Portal Access Road Landslide Repair – Greene County, PA
- Weekley Well Pad Landslide Repair – Wetzel County, WV
- Shupbach Ridge Road Landslide Repair – Wetzel County, WV
- Mills Wetzel # 2 Well Pad Landslide Repair – Wetzel County, WV
- Mills Wetzel #2 Road Landslide Repair – Wetzel County, WV
- Potts Well Pad Landslide Repair (2 separate landslides) – Wetzel County, WV
- Haynes Branch Gas Line Landslide Repair – Wetzel County, WV
- Decker's Creek Mine Stockpile Area Landslide Repair – Preston County, WV
- Wentz Freshwater Impoundment Embankment Stability Repair – Barbour County, WV
- Columbia Gas Transmission – Well #7331 Slide Repair, Elkview, WV
- Cline Tower Landslide- Winfield, WV
- Wellford Tower Landslide – Clendenin, WV
- Massie Ridge Tower Landslide – Camp Creek, WV
- Fisher Landslide – Elkview, WV
- Kennawa Landslide – Charleston, WV
- Burlew Landslide – Charleston, WV
- Lee Landslide – South Charleston, WV
- Fairmont North Tower Landslide – Fairmont, WV
- 6<sup>th</sup> Street Tower Landslide – Huntington, WV
- Joyce Landslide – Chesapeake, OH
- WVAML Tupper's Creek Emergency Landslide – Tupper's Creek, WV
- Schmidt Landslide – Gallipolis, OH
- Disposal Service, Inc. Landslide – Hurricane, WV
- Wellston High School Landslide Repair – Wellston, OH
- Pribble Tank Landslide Repair – New Martinsville, WV
- Potokczny Well Pad Landslide Repair – Marion County, WV
- Ridgepoint Landslide Repair – Morgantown, WV

Involved with the layout of the boring plan, staking borings in the field, preparation of the boring contract documents, soliciting bids, awarding drilling contracts, monitoring of drilling operations, coordination of laboratory testing programs, preparation of boring diagrams, and preparation of subsurface exploration report foundation

recommendations and slope reviews for various West Virginia Department of Transportation Projects:

- Platinum Drive Urban Connector – Bridgeport, WV
- Segment of WV State Route 2 – Moundsville, WV
- Segment of National Road – Wheeling, WV
- Segment of North Bridgeport Bypass – Bridgeport, WV
- Corridor H, Section IV – Davis, WV
- Sulphur Springs Bridge – Hundred, WV
- Dry Run Interchange – Martinsburg, WV
- Interstate 81 Hainsville, Bessemer & Tuscorora Creek Bridges – Martinsburg, WV
- County Route 24 Bridge Replacement – Jackson, County, WV
- County Route 3 Temporary Bridge – Jackson County, WV
- County Route 56 Temporary Bridge – Wetzel County, WV
- County Route 28 Bridge Replacement – Ritchie County, WV
- County Route 3 Temporary Bridge Replacement – Roane County, WV

Expert Witness

Served as an Expert Witness in numerous cases involving geotechnical, earthwork construction, and/or drainage issues. Many of these cases involved a review of available information, development of professional opinions, issuance of an expert report, depositions, and expert testimony.

- JKLM Energy, LLC et. al. vs. Big Level Wind, LLC, John Hancock Life Insurance et. al. Court of Common Places of Potter County, Pennsylvania No. 86 CD 2017 – Construction, geotech and civil site design associated with gas well pads.
- Wilkins, Scott v. R&R Holdings, Civil Action 15-c-295 – Flooding and drainage
- Larry Rine, et al. v. Chesapeake Appalachia, LLC. Robinson & McElwee, Civil Action No. 5:11-CV-4 – Landslide on Natural Gas Well Pad
- Bisacca v. Pennsylvania Department of Transportation. Thomas J. Dempsey, Attorney at Law – Earthwork Construction Practices
- Sven Verlinden and Lisa Verlinden v. Morgantown Utility Board, et al. Shuman, McCuskey & Slicer, PLLC – Civil Action No. 11-C-573, Combined Sewer Flooding
- Russell D. Kitchen and Suzanne G. Kitchen v.

- Morgantown Utility Board. Shuman, McCuskey & Slicer, PLLC – Civil Action No. 11-C-745, Combined Sewer Flooding
- Darin O. Arnold and Sarif J. Arnold v. Morgantown Utility Board. Shuman, McCuskey & Slicer, PLLC – Civil Action No. 11-C-749, Combined Sewer Flooding
- Rider v. Fairmont Homes, LLC., Flaherty, Sensabaugh & Bonasso, PLLC – Claim No. 1012802, Landslide and Residential Construction Issues
- Thomas A. Logston and Joanne C. Logston v. Charles E. Kolb d/b/a Kolb Excavating, A. D. Baker Homes, Inc., and Alan D. Baker, Bowles, Rice, McDavid, Graff & Love – Civil Action No. 10-C-116, Landslide Resulting in Property Damage
- LJH, Inc. v. Quadruple S. Farms, LLC and Four-S-Development, Bowles Rice LLP – Civil Action No. 09-C-438, Rockfall and Commercial Construction Practices
- Mingo County Airport Authority Claim Against Appalachian Paving & Aggregate, Inc., Robinson McElwee, PLLC – Earthwork and Construction Related Issues
- Colaianni Construction, Inc. Claim for Cost Recovery Against Koker Drilling at the Wetzel County Hospital, Wellness Center Addition, Spillman, Thomas, & Battle – Retaining Wall Failure Resulting in Building Damage
- Hilling Enterprises, LLC et al. v. Midtown Motors, Inc. et al. – Civil Action No. 13-C-308, Landslide Causing Property Damage
- Stan-Corp. v. Scott Properties, LLC. et al., Bowles Rice LLC – Landslide Impacting Roadway and Property
- Stephen C. Fish et al. v. McCloy Construction et al., Bowles Rice, LLP – Civil Action 03-C-3050, Structure Foundation Settlement
- Industrial Machine v. American Geotech. Bowles Rice, LLP – Civil Case 02-C-115, Subsurface Exploration and Geotechnical Design
- Pell, Robert K., et al. v. SAMOA, LLC, et al., Claim No.010510386236: - Drainage Related Claim

Civil/Site Design

Project Manager/Engineer on numerous projects involving most aspects of site development. Involvement has included civil/site design, geotechnical aspects, hydrology/hydraulics, permitting, erosion/sediment control/ permitting, etc.:

- University Place Parking Garage – Morgantown, WV
- Sunnyside Commons Student Housing Project (included 5 multi-story buildings, 268 parking spaces, and 43,000 sq. ft. of retaining walls) – Morgantown, WV
- Coombs Farm Residential Development – Morgantown, WV
- Morgan Point Residential Subdivision – Morgantown, WV
- Town of Granville Boat Ramp Project – Granville, WV
- West Run Student Housing – 1,000 bed student housing project, Morgantown, WV
- Copper Beech Student Housing – 1,000 bed student housing project, Morgantown, WV
- Summit at Cheat Lake Residential Development – Morgantown, WV
- Summit at Greystone Residential Development – Morgantown, WV
- Sleepy Hollow Residential Development – Morgantown, WV
- Shiloh Residential Development – Morgantown, WV
- Summerfield Residential Development – Morgantown, WV
- Mayfield Estates Residential Development – Morgantown, WV
- Cheat Landing Residential Development – Morgantown, WV
- Churchhill Village Complex – Morgantown, WV
- Trinity Christian School Football Field – Morgantown, WV
- Morgantown Technical Services Industrial Expansion – Mt. Morris, PA
- WVU Beechhurst Parking Lot – Morgantown, WV
- Numerous Marcellus Well Pad Sites for Various Clients – Northern WV

Construction Monitoring

Project Manager/Engineer involved with and/or responsible for construction observation/testing on numerous construction projects. These projects routinely involved earthwork testing utilizing a nuclear density gauge and other test methods during earthwork placement and compaction. Many projects also included concrete testing including slump, compressive strength, air entrainment and/or floor flatness testing. The following is a summary of projects involving construction observation and testing:

- Sunnyside Commons Student Housing Project

- Morgantown, WV
- Family Dollar Store, Smithfield, PA
- University Place Parking Garage - Morgantown, WV
- Church Hill Village Housing Project - Morgantown, WV
- Mills Wetzel #3 Well Pad, Wetzel County, WV
- Shupbach Ridge Road Landslide Repair, Wetzel County, WV
- Potts Landslide Repairs - Wetzel County, WV
- Pribble Tank Landslide Repair - Wetzel County, WV
- Potokczny Landslide Repair - Marion County, WV
- Tucker County Industrial Park - Tucker County, WV
- Pocahontas County Landfill Cell 3 Expansion - Pocahontas County, WV
- Disposal Services Landfill Expansion Area - Hurricane, WV
- Platinum Drive Urban Connector Landslide Repair - Bridgeport, WV
- Trinity Christian School Football Field - Morgantown, WV
- Kasson Elementary/Middle School Pyrite Remediation Project - Barbour County, WV
- City of Philippi Water Improvement Project - Barbour County, WV
- Mackey Wolfe Well Pad - Barbour County, WV
- Morgantown Technical Services Expansion - Mt. Morris, West Virginia
- Lakin Correctional Center - Wood County, WV
- Western Regional Jail - Cabell County, WV
- Merrick Creek Farm Commercial Development - Cabell County, WV

Served as the Manager responsible for equipping and staffing a fully operational soils and concrete material testing laboratory to be used in support of construction observation projects. The laboratory became validated by the U.S. Army Corps of Engineers to perform approximately 45 ASTM test methods will under Mr. Sharp's direct supervision. Representative test methods included standard and modified proctors, Atterburg limits, grain size determination, aggregate sieve analysis, specific gravity, organic matter, lightweight particles, soil classification, compressive strength, and moisture content determinations. Establishment of the laboratory also included the preparation of a site-specific quality systems manual in accordance with ASTM guidelines.

Sewer Lines and WWTPs

Project Manager/Engineer on numerous public utility projects such as sanitary sewer collection/treatment, as well as combined sewer/storm water improvements:

- Town of Marlinton CSO project
- City of Buckhannon Sanitary Sewer Extension
- City of Glenville Infiltration/Inflow Study for Sanitary System
- Pocahontas County PSD Geotechnical and Environmental Permitting Services for Wastewater Improvement Project

Water Lines, Water Storage Tanks, and Water Treatment Plants

Project Manager/Engineer on numerous public utility projects involving potable water supply. The projects oftentimes not only included the technical design but also included assistance with funding applications, preparation of technical specifications and construction documents, assistance with bidding documents, and construction observation/administration.

- City of Wellsburg Water Improvement Project (plant upgrade and line extension)
- City of Glenville Water Improvement Project
- Preston County PSD #2 Howesville Water Improvement Project
- City of Philippi Water Improvement Project
- City of Philippi Water Tank Upgrade Project
- Town of Mill Creek Water Improvement Project
- Town of Marlinton Water Plant Assessment
- Town of Huttonsville Water System Assessment
- Preston County PSD #2 Water Improvement Project

Morgantown Utility Board - Provide expert witness services on a routine basis.



**D. MARK KISER, P.E., L.R.S.**  
*Chief Engineer, Licensed Remediation Specialist*



### **EDUCATION**

B.S. Civil Engineering, 1984  
West Virginia University

### **EMPLOYMENT HISTORY**

1997-Present Potesta & Associates, Inc.  
1995-1997 Terradon Corporation  
1984-1995 GAI Consultants

### **PROFESSIONAL REGISTRATION**

Professional Engineer – West Virginia, South Carolina  
Licensed Remediation Specialist – West Virginia

### **PROFESSIONAL CERTIFICATION**

Hazardous Waste Site Operations and Superfund

Worker Protection Training, 40-Hour Training

Supervisory Training and Annual Refreshers

Troxler Nuclear Densometer Certification

### **SERVICE ON BOARDS AND COMMISSIONS**

Commissioner – Sissonville Public Service District

### **AREAS OF SPECIALIZATION**

Environmental assessments, environmental sampling and remedial programs, conceptual and final designs for chemical, utility, and municipal solid waste disposal sites, including liner systems, leachate management systems, stormwater management systems, operational plans and capping/closure systems, abandoned mine land reclamation projects, sludge stabilization and basin/pond closure projects, environmental permitting, hydrologic and hydraulic analyses, quality assurance/quality control monitoring.

### **PROFESSIONAL EXPERIENCE**

#### Civil/ Site Design

Ridgeline, Inc./Cabela's – Retained by developer and Cabela's to provide civil engineering design services for a new Cabela's store in Charleston, West Virginia.

- ALTA survey
- Subsurface exploration
- Grading plan including balanced cut and fill for the building pad, parking fields, and access roads.
- Stormwater collection system design including curb inlets, catch basins, and culverts.
- Pavement design.
- Utility extension designs including sanitary sewer, potable water, fire service, natural gas, underground electric, underground telephone, and underground cable television.
- Permitting services
- Support for local approvals including approval from Charleston Municipal Planning Commission as a Development of Significant Impact, and building permit to allow construction to begin.
- MM-109 permit to allow for connection of the store's new roadway with the existing public roadway.

Fieldcrest Subdivision – Project manager/engineer for development of a nine-lot subdivision in Charleston, West Virginia. Design and permitting/regulatory approvals for infrastructure, including new street, sanitary sewer main, water main, stormwater, electric, telephone, cable, and natural gas. Preparation of drawings/specifications for necessary governmental agency approvals and for solicitation of bids. Inspection and certification of completed sanitary sewer system.

Connell Pointe Subdivision – Project manager/engineer for development of an eleven-lot subdivision in Charleston, West Virginia. Design and permitting/regulatory approvals for infrastructure, including new street, sanitary sewer main, water main, natural gas service, stormwater, electric, telephone, and cable. Preparation of drawings/specifications for governmental agency approvals and for solicitation of bids. Inspection and certification for completed sanitary sewer systems.

Conner Drive Townhouses – Project manager/engineer for development of 13 townhouse lots just outside of Charleston, West Virginia. Planning, surveying, design, and regulatory approvals for infrastructure, including new street, stormwater management system, sanitary sewer main, water main, electric, natural gas, telephone, and cable.

Gettysburg Subdivision – Project manager/engineer for an 18-lot subdivision located in Kanawha County, West Virginia. Design, surveying, and regulatory approvals for infrastructure, including new street, sanitary sewer main, water main, stormwater management system, electric, natural gas, telephone, and cable. Preparation of drawings/specifications for solicitation of bids. Inspection and certification of the sanitary sewer collection system and pump station.

Yorktowne Subdivision – Project engineer for development and construction phase services for a 50-lot subdivision in Charleston, West Virginia. Design of streets, lots, stormwater management systems, sanitary sewer mains and pump stations, water mains, underground electric, natural gas, telephone, and cable.

City of Charleston – Feasibility study for the replacement of the CSX Ramp in Charleston, West Virginia.

Villages at Coolfont – Project manager for project in Morgan County, West Virginia, which included planning, engineering, and permitting associated with developing a second home community on 1,000 acres near Berkeley Springs, West Virginia. Project included:

- Potable water supply source (wells), treatment plant, storage and distribution system
- 0.44 MGD MBR wastewater treatment plant and sanitary sewer collection system
- Community roadways and storm sewer systems

- Detailed plans for the water and wastewater treatment plants and the distribution allocation system serving the first 124 homes
- Permits were obtained for the water and wastewater plants

Project engineer for development of Suncrest Subdivision in Charleston, West Virginia. Project included engineering and permitting for a new residential subdivision including roadway, underground electric, telephone, cable, water, sanitary sewer and storm water. Sanitary sewer system was designed, constructed, and monitored under the terms of an alternate mainline extension agreement with the Charleston Sanitary Board.

Business and Industrial Development Corporation – Preparation of Utility Extension and Roadway Paving Plans for Southridge Centre - Phase 2 area. Project included preparation of bidding/construction drawings to provide natural gas, water, sanitary sewer, telephone, and cable television serving four commercial lots and a 50-lot proposed subdivision. All utilities were underground. The length of the project was approximately ½ mile. The project also included roadway paving and stormwater drainage.

Development of a conceptual development plan for a mixed use industrial park. The evaluation included developing preliminary alignments for two access roadways including earthwork requirements, drainage, subbase, and paving with preliminary cost estimates. Total length of road was over 5 miles. The evaluation also included preliminary layout of water and sewer service for a proposed 400-acre development.

Plasma Processing Corporation – Preparation of permit to construct and site development plan for a secondary aluminum processing facility startup in Jackson County, West Virginia.

Utility relocation plans required for site development, waterline, and sewer construction projects. Projects included determination of utility locations by records review, utility contacts, and surveying. Designs were prepared including locations, details, and pavement replacement. Design also included obtaining approvals from West Virginia Division of Highways and the owners of the utilities.

Abandoned Mine Lands

West Virginia Division of Environmental Protection Abandoned Mine Lands (WVDEP AML) Reclamation – Project engineer/project manager for open-end contract from 1988 through 1995. Continued after 1995 with AML projects for WVDEP AML including reclamation designs, preparation of plans, specifications, bid documents, and permitting. Projects included:

- Duncan Hill No. 1 and No. 2 Subsidence
- Urso Subsidence
- Jonben Subsidence
- Doug Gray Subsidence
- Turner Douglas Complex
- Omar Refuse Piles (project won reclamation of the year award)
- Bear Run Refuse (project won 1994 Ducks Unlimited award)
- Kimble Refuse Pile (project won 1995 southern reclamation award)
- Vivian Refuse Pile
- Summerlee Refuse Pile
- Godby Branch Water Extension
- Williamson (Elias) Landslide
- Lefthand Fork Burning Refuse
- Belle Landslide
- Harris Acid Mine Drainage
- Numerous Phase I and Phase II Water Quality Studies/Survey
- Williamson (Hatfield) Landslide
- Taylorville (Cantrell) Drainage
- Sundial Refuse
- Sundial (Hatfield) Refuse Piles
- St. John's Road Subsidence
- Rachel Refuse
- Putney Impoundment
- Pringle Run No. 2
- Peach Ridge Complex
- Mountain Run Refuse and Portals
- Mill Creek Refuse Pile
- Measle Fork Refuse
- Marmet (Wells Drive) Landslide
- Marmet (Clark) Drainage
- MacArthur Mine Subsidence
- MacArthur Phase 2 Subsidence
- Little Whitestick Refuse
- Lando (Edwards) Drainage
- Kopperston (John's Branch) Refuse
- John's Branch Coal Refuse Dam (Kopperston)
- Jessop Highway #10

- High Coal Tipple
- Harris AMD
- Gray and Iaquina Subsidence
- Grass Run Refuse
- Godby Branch Waterline Extension
- Georges Creek Portals
- Georges Creek (Lucas) Rockslide
- Garrison Complex
- Flipping Hollow Complex
- Fairmont East Mine Drainage
- East Lynn II
- Crany Mine Dump
- Courtright Highwall
- Cora Mine Drainage No. II
- Charleston (Ratcliffe) Landslide
- Cassity Fork Waterline Extension
- Camp Mohonegan Regrade
- Buffalo Creek No. 5 Refuse
- Borderland (Matney) Portals
- Beckley Subsidence
- Allen AMD

WVDEP-AML – Detailed design and preparation of construction drawings, specifications, contractor's bid sheet, and engineer's cost estimate for a half-mile water line extension to serve Beaver Creek near Junior in Randolph County.

WVDEP-AML – Management of four Phase II water studies and five Phase I water studies to determine if water supplies had been affected by coal mining. Work included resident interviews, mine map searches, area reconnaissance, obtaining water samples, reviewing water analysis data, preparing conceptual designs and associated costs and preparation of summary report.

Subsurface investigation, surveying coal refuse reprocessing evaluation and report, and design of reclamation plan to stabilize and approximately 15-acre refuse pile at Buffalo Creek No. 5 in Marion County, West Virginia. Developed plans, specifications, cost estimate, and calculations brief for drainage control and regrading plan.

Subsurface investigation, surveying and design for reclamation of three coal refuse piles and six mine entries. Design included replacement of a water well and related supply piping for the Town of Kimball. Completed preparation of plans, specifications, cost estimate, coal refuse report, West Virginia Department of Health permit for new well, and other supporting documents for

reclaiming this large site with over ½ million cubic yards of regrading.

Subsurface investigation, surveying, coal refuse reprocessing evaluation, water quality monitoring, and design of a reclamation plan for a coal refuse pile, unreclaimed highwalls, and slurry and water treatment ponds in Lewis County, West Virginia. Plans, specifications, cost estimates, and calculations brief were completed for the project.

#### Environmental Assessments/Impact Statements

Rhone-Poulenc AG Company – Management and oversight of environmental assessment to identify any liabilities or soil/water degradation for a proposed industrial solid waste landfill. Investigation included drilling, sampling, monitoring well sampling, site reconnaissance, and historic records research to establish baseline soils and groundwater conditions. Results presented in a report.

West Virginia Division of Highways – Environmental Assessment for a 1.25-mile proposed four-lane divided highway in Bridgeport, West Virginia.

West Virginia Division of Highways – Environmental Impact Statement (EIS) for proposed Route 19 upgrade from Summersville, West Virginia to Interstate 79 in Braxton County, West Virginia. Project included evaluation of three alternatives over approximately 25-mile length. Responsibilities included hazardous waste section collection of general data used by other scientists, field reviews, and public meeting participation.

Assessment of environmental and reclamation liabilities associated with over 40 surface mine permits in western Virginia. Evaluation included PCB concerns, reclamation costs, underground and aboveground storage tanks, and acid mine drainage.

Massey Coal Service, Inc. – Assessment of environmental liabilities associated with a large tract of property including over 25 permitted mines and a coal preparation plant. Investigation included a review of permits and requirements, past environmental compliance record, walkover of each site, and development of estimated reclamation costs for each site. Report prepared to document results of the liability assessment.

Completion of environmental assessments and a preliminary design report for two inactive commercial solid waste disposal landfills located in Kanawha and Wyoming County, West Virginia. The environmental assessment included completion of a groundwater user's survey for residents located within ½ mile of each facility, drilling shallow groundwater monitoring wells to monitor flow along the soil/bedrock interface downgradient of each landfill, an extensive geotechnical soils/rock investigation, assessment of each facilities compliance with the solid waste management rules, and developing recommendations for a preliminary closure plan.

#### Mining

Eastern Associated Coal Corporation – Coal ash utilization study including five mining operations and four coal ash sources in Virginia and West Virginia. Study evaluated both surface and underground beneficial uses of ash to neutralize acidic drainage.

Project manager/engineer for the preparation of coal ash utilization permits for West Virginia mining operations. Permits included placing ash in the embankment of refuse disposal sites and placing ash with spoil backfill.

- Elk Run Coal Company
- Appalachian Mining, Inc.
- Peerless Eagle Coal Company
- Rawl Sales and Processing Company

Pace Carbon Fuels, LLC. – Consulting and permitting for the development of seven coal-based synthetic fuel manufacturing plants in West Virginia, Indiana, Kentucky, and Illinois. Project included obtaining pre-construction and operating permits for air, water and mining for the manufacturing plants and the feedstock coal recovery operations. Assignments included permit application preparation, assistance in locating and evaluating coal feedstock sites, construction monitoring, Phase 1 environmental site assessments, and other miscellaneous engineering consulting functions.

Pennsylvania Electric Company – Yearly construction designs for lined coal ash and coal refuse disposal sites at the Keystone and Conemaugh power stations, including a synthetic liner system, groundwater and surface-water control, leachate collection, landfill development, and haul road design. Construction quantity and cost

estimates and development of IBM-PC software for evaluating the storage capacity of the disposal sites.

Landfills/Solid Waste/Waste Disposal

DuPont Washington Works – Project Manager responsible for design, preparation of construction documents, and construction documents, and construction quality assurance monitoring for a 6.2-acre expansion of a piggyback of a leachate collection system at an industrial waste landfill.

Eastern Environmental Services, Inc. – Project engineer/project manager for finalizing a permit application for the S&S Landfill near Clarksburg, West Virginia. Components of the plan included a detailed staging and closure plan to comply with sediment control and leachate storage requirements. Successfully represented the landfill in a permit appeal hearing before the Water Resources Board. Prepared two construction/bid packages for constructing the initial 10 acres of the landfill.

Cytec Industries – Quality assurance/quality control monitoring for closure of a 10-acre SWMU containing biological treatment sludge. The contents of the basin were stabilized by mechanical mixing. Activities included supervision of testing, data evaluation, and a revised interim grading and drainage plan. Report and certification provided for WVDEP-OWM.

Cytec Industries – Closure plan and permit application for closure of a 5-acre industrial waste landfill. Steep slopes over a portion of the landfill necessitated the design of an innovative cap system and leachate collection system. Project also included closure and capping of a small pit containing tar residue.

Responsible for detailed hydrogeologic investigation and preparation of a major portion of the WVDEP Part A Solid Waste Disposal Permit Application for the Northfork Landfill near Wheeling, West Virginia. Project included field reconnaissance and mapping of existing site conditions, rock corings, test pits, laboratory analysis of soils for potential construction materials, installation of four monitoring wells, and the corresponding analysis and evaluation of data for completing the Part A Application.

Responsible for hydrogeologic investigation and preparation of the WVDEP Part A Solid Waste Disposal Permit Application for the Sycamore Scenic Landfill in

Putnam County, West Virginia. Work included coring, test pit, and laboratory analysis of soils; review of existing groundwater data; and analysis and evaluation of data for completing the Part A Application.

Project Manager responsible for construction quality assurance monitoring for three landfill expansions at Brooke County Sanitary Landfill, including 6.5 acres of composite liner.

Project Manager responsible for construction quality assurance monitoring for 0.8-acre composite liner expansion at Wetzel County Landfill.

Project Manager/Project Engineer for design of composite liner system expansion, design and construction quality assurance for a 2-acre final landfill cap, and design of a new access road serving Pocahontas County Landfill.

Chambers Development Company – Preparation of solid waste disposal permit applications for the Monroeville Landfill, Monroeville, Pennsylvania, and the Southern Alleghenies Landfill, Cambria County, Pennsylvania, both of which include a double synthetic liner system combined with a drainage net leak detection system to conform to Pennsylvania DER regulations.

Project manager/engineer for the West Virginia Division of Environmental Protection's landfill closure assistance program for 1997 through 2002. Responsible for conceptual design, field investigation, construction drawings, specifications, permit applications, etc., for the following projects:

- Wyoming County Landfill
- Jackson County Landfill
- Kanawha Western Landfill
- Monongalia County Sanitary Landfill
- Fayette County Landfill
- Fleming Sanitary Landfill

QA/QC monitoring oversight for a municipal waste landfill in Tazwell County, Virginia.

Design; preparation of drawings, technical specifications, and contract/bid documents; construction monitoring; air monitoring; sludge sampling and analysis; review and approval of a detailed health and safety plan; permitting; and other miscellaneous engineering services for the stabilization and closure of a 3-acre sludge basin and a 1-acre sludge pond. The project included management of a

pilot-scale demonstration, procurement of stabilization reagents from multiple providers, and development of an adjacent soil borrow area.

Design; preparation of drawings, technical specifications, contractor's bid sheet, engineer's cost estimate, contract, and cap acceptability evaluation; evaluation of contractor bids, and construction monitoring associated with the capping and closure of a 2.5-acre cell of an industrial waste landfill facility. Cap included a multi-layer geocomposite system to minimize infiltration and the production and leachate to improve the areas groundwater quality.

Final design and preparation of construction drawings, detailed technical specifications, and engineer's construction cost estimate for the construction of a 1.9-million-gallon double-lined pond and 5 acres of a landfill liner system. This project included development of an ultimate facility layout plan, a two-year detailed development plan, and construction monitoring. Project also included negotiations with regulatory agency to obtain approval of the permit.

Response to regulatory agency review comments and redesign of a pond liner system and piggyback landfill liner system for a 20-acre landfill in West Virginia.

DuPont Environmental Remediation Services – Consulting regarding the design of a final cover/cap for an industrial waste landfill located in West Virginia.

West Virginia Public Service Commission – Site reconnaissance, development of alternative capping/closure systems, and preparation of engineer's cost estimates for the closure of two West Virginia municipal waste landfills in support of rate making testimony and hearings.

American Cyanamid Company – Project manager/engineer for independent quality assurance/quality control monitoring associated with closure of a three-acre SWMU consisting of a waste impoundment. Project included construction of an earthen buttress to improve slope stability, in-place waste stabilization using fly ash and kiln dust, and construction of a RCRA cap. Responsible for field design revisions to overcome problems, conformance testing, and preparation of certifications and a summary report. Project included sampling and analysis of raw and stabilized sludge.

American Cyanamid Company – Coordination of field activities associated with construction monitoring and laboratory testing for RCRA hazardous waste impoundment (the first permitted and constructed in EPA Region III) in Willow Island, West Virginia, including earth moving, construction of a soil-bentonite liner, monitoring of three, sealed double-ring infiltrometers, and construction of an HDPE double-lined impoundment.

Pennsylvania Electric Company – Field (construction) monitoring for development of a residual waste landfill including compaction testing for heavy earth moving, synthetic (PVC) liner installation, concrete testing, and other miscellaneous testing.

Virginia Power Company – Consultant for site development and construction of a fly ash disposal facility including a review of site operations, developing a maintenance program, compaction testing and review, and problem shooting.

Rhone-Poulenc Ag Company – Design and permitting for a proposed industrial solid waste landfill. Project included complete hydrogeologic evaluation including several borings and installation of seven monitoring wells; documentation of soils, geology, water quality and hydrogeology; detailed site design of leachate ponds, liner system, storm water collection system, access road, and capping/closure system. Multi-volume permit application prepared including Operations Manual, Quality Assurance/Quality Control Plan, Technical Specifications, Permit Application, and Design Drawings.

Rhone-Poulenc Ag Company – Leachate Minimization Study for a RCRA Hazardous Waste Landfill. Project included assessment of existing landfill operation and recommendations to reduce quantity of contaminated runoff from over 8 million gallons per year (MGY) to between 2 and 3 MGY. Detailed staging and operating plan, storm water management plan, and cost estimates prepared.

American Cyanamid Company – Closure plan and permit application for closure of a three-acre surface impoundment containing sludge and tar. Stability concerns for an existing embankment containing the waste lead to the development of a lightweight cap. Subsurface investigation and field surveying completed. Closure application as required by the West Virginia Division of Environmental Protection provided.

Soundings and sampling of three basins containing sludge. Two basins contained sludge from secondary biological treatment of industrial wastewater. One basin contained petroleum product sludges. Sludge quantities determined from soundings and cross sections prepared. Samples obtained for laboratory analysis to characterize wastes.

- Rhone-Poulenc Ag Company
- Ashland Petroleum Company

Monongalia County Sanitary Landfill – Engineer responsible for expansions, planning, and upgrades for the Monongalia County Sanitary Landfill from 1990 through 1992. Activities included:

- Three expansions (seven acres total) of the landfill liner and leachate collection system, including grading, groundwater collection drains, landfill liner system and leachate drains, protective cover, and surface drainage control
- Construction monitoring
- Certification of landfill expansions
- Construction of a 1.6-million-gallon leachate storage basin, including clay liner, double synthetic liner, synthetic drainage layer, protective cover, and drainage control devices
- Annual landfill volume reports, including surveyed cross sections
- Two borrow area investigations to identify clay liner sources
- Feasibility study for expansion and continued operation of the facility
- Final closure plan for the facility including a multi-layered cap and drainage control plan

Rhone-Poulenc AG Company – Evaluation of an emergency fly ash pond for a chemical plant in Institute, West Virginia. Recommendations, including conceptual design drawings and an engineer's cost estimate, to increase the settling efficiency of the pond. Special design elements, including a polymer feed system, submerged manifold pipe, splitter dike, and an overflow weir.

Hampton-Clarke, Inc. – Project Manager for Independent Quality Assurance Testing (IQAT) services for removal of contaminated soils and placing clean soil backfill at the site of a former cullet pile disposal area.

### Stormwater

Expert witness for plaintiff damaged as a result of flooding caused by lack of maintenance at a culvert system in Westoreland, Wayne County, West Virginia.

Stormwater drainage plans for site development projects including pre- and post- development discharges, design of sediment control devices, preparation of stormwater general permit application, and consulting for numerous construction projects in West Virginia.

Evaluation of stormwater drainage system (culverts and channels) to alleviate flooding problems for a church in Kanawha County, West Virginia. Project included computer modeling to identify culvert capacities and to identify repair options.

Expert retained to support a property owner damaged as a result of flooding caused by downstream obstructions. Reviewed regulatory agency files, conducted site inspections, evaluated possible remedial measures, and provided support in anticipation of litigation.

Expert witness for plaintiff damaged as a result of flooding from upstream construction. Visited site to observe problem areas, reviewed construction practices/procedures, reviewed regulatory permits, and provided testimony as to the cause of flooding.

Developed stormwater management plans, including calculation of peak runoff rates, storm volumes, and design of stormwater management devices including culverts, ditches, sumps, ponds, principal pipe spillways, and emergency spillways for the following projects:

- Site development projects including commercial, retail, and industrial sites ranging from ¼ acre to more than 100 acres.
- Abandoned mine lands reclamation projects, including landslides, refuse piles, slurry ponds, and subsidence control projects.
- Commercial and industrial waste landfill projects.
- Roadway design projects.
- Other projects involving the disturbance of the ground surface.

Water Lines, Water Storage Tanks, and Water Treatment Plants

WVDEP-AML – Detailed design and preparation of construction drawings, specifications, contractor's bid sheet, and engineer's cost estimate for six-mile water line extension including fire protection. Included in project were 90,000-gallon water tank, booster station, and pressure relief valves. Extension tied into Norton Harding Jimtown PSD System and served town of Cassity in Randolph County.

Design for waterline extension projects including preparation of construction drawings, specifications, and engineer's cost estimates for the West Virginia Division of Environmental Protection, Office of Abandoned Mine Lands and Reclamation.

- Cassity Fork Waterline
- Beaver Creek Waterline Extension
- Godby Branch Waterline Extension

Design, preparation of construction drawings, preparation of permit applications, and other related activities for the construction of waterline projects. Line sizes ranged from 16 inches to 2 inches. Materials of construction included polyvinyl chloride and ductile iron pipe. Drawings included planimetric maps, topographic maps, and aerial photograph formats to depict proposed construction. Permit applications included Bureau of Public Health, Public lands Corporation Stream Activity Permits, Division of Highways Occupancy Permits, and General Storm Water NPDES Construction.

- Cabell County 2000 Project, 23 miles of new waterline construction, West Virginia American Water Company (WVAWC)
- Poca River Road Waterline Extension, 13 miles of new waterline construction, WVAWC
- Route 60 Contract 3 Waterline Extension, 3 miles of new waterline construction, WVAWC
- Buff Creek/Trace Fork Waterline Extension, 6 miles of new waterline construction, WVAWC
- Route 60 Contract 4 Waterline Extension, 2 miles of new waterline construction, WVAWC
- Yorktowne Subdivision, 3,000 linear feet of waterline serving a 50-lot subdivision.

ESAs (Phase I and II)

Numerous Phase I Environmental Site Assessments including reclamation liability assessments for mining and industrial properties in West Virginia and Kentucky. Projects typically focused on solid waste disposal practices, potential acid mine drainage discharges, underground storage tank status, areas of hydrocarbon soil contamination, PCB transformer concerns, and other environmental liabilities.

Phase II environmental site assessment for an abandoned mining complex located in Fayette County, West Virginia. The new owners wished to identify any liabilities and determine approximate clean-up costs for negotiations with the previous owners. The areas evaluated included two aerial tram head houses, a drum storage area, truck maintenance garage, mine machinery repair shop, two commercial properties, a lamp house, and other storage areas. Numerous areas of petroleum hydrocarbon contamination were identified, and the extent of contamination documented. An on-site laboratory was used to expedite testing and establishing the boundary of areas requiring remediation. The results of the investigation were summarized in a report, including a detailed description of sampling and laboratory analysis methods, drawings showing sample locations, laboratory results, estimated volumes of contaminated soils, and recommendations for cleanup.

West Virginia Regional Jail and Correctional Facility Authority – Phase I Environmental Site Assessment to document potential liability for a tract being considered for a regional jail site in Kanawha County, West Virginia. Activities included historic records search, interviews, site reconnaissance and preparation of a report documenting the findings.

DiMucci Development – Phase I Environmental Site Assessment for property proposed for development as a strip mall.

The Multicare Companies, Inc. – Completion of eight Phase I Environmental Site Assessments for nursing and rehabilitation care facilities in West Virginia.

Virginia Electric Power Company – Assistance with site design and engineer's construction cost estimate for the remedial design of a CERCLIS waste disposal facility.



Phase I environmental site assessments for feedstock recovery sites associated with three coal-based synthetic fuel manufacturing plants. The feedstock recovery sites included numerous coal waste slurry impoundments, dry refuse piles, and mixed refuse disposal areas. Assessments focused on potential acid mine drainage problems, former waste disposal areas, and other mining-related environmental liabilities. A report was prepared detailing the findings for each site.

#### Storage Tanks

Columbia Gas Transmission – Project manager for completion of over 350 AST Registrations, Inspections/Certifications, and site-specific Spill Prevention Response Plans for 40 facilities.

- Followed the Aboveground Storage Tank Act §22-30 Title 47 Interpretive Rule Series 62 and the Draft Emergency Rule additionally conferring with the West Virginia Department of Environmental Protection (WVDEP) to establish accurate classification and compliance.
- Met all regulatory deadlines.
- Reviewed comprehensive electronic documentation comprising of completed inspection sheets, photographs, detailed deficiencies.
- Provided recommendations and schedule for abatement for deficient secondary containment structures.

Rhone-Poulenc AG Company – Geotechnical and environmental investigation for two proposed above-ground reinforced concrete tanks to serve as secondary wastewater treatment unit. Investigation included soil drilling, sampling, laboratory analysis for engineering properties, and analysis for contamination. Field survey completed to locate existing structures. Report prepared outlining soils/geology, environmental concerns and foundation recommendations.

Closure of 13 aboveground RCRA storage tanks. Closure services included review of agency approved closure plan to determine compliance items, visual inspection of tank interiors and earthen containment berm areas, review of rinsate analyses, review of soils testing analysis from berm areas, and preparation of closure documentation and certification.

- Rhone-Poulenc AG Company
- American Cyanamid Company

Cannelton, Inc. – Abandoned underground storage tank investigation including sampling of tank contents, geoprobe investigation, and field and laboratory analysis of soil samples.

#### Sewer Lines and WWTPs

Project manager/project engineer for the Fleming Landfill Sanitary Sewer Extension project in Kanawha County, West Virginia. Project included design, permitting, construction monitoring, and certification of 9,900 linear feet of gravity and force main sanitary sewer, a new duplex pump station, and rehabilitation/upgrade of an existing pump station. The construction contract was over \$1 million. The completed sewer extension was turned over from the West Virginia Department of Environmental Protection to the Sissonville Public Service District for ownership and operations.

Project engineer for sanitary sewer system including 8-inch gravity sewer, pump station, and force main sewer serving the Gettysburg Subdivision in Charleston, West Virginia. Project included an alternate mainline extension agreement with Charleston Sanitary Board, construction monitoring, surveying, road design and subdivision plans.

Project manager/engineer for an industrial wastewater sewer extension. Project included design engineering, permitting, and construction monitoring associated with a 5 million gallon, double-lined storage impoundment, duplex pump station with 70 horsepower pumps, and 5,200 linear feet of force main sewer in Monongalia County, West Virginia.

Design, permitting and construction monitoring associated with a 138,000-gallon double containment storage tank, duplex pump station, and force main piping associated with closure of the Jackson County Sanitary Landfill near Ripley, West Virginia.

#### Oil and Gas

Columbia Gas Transmission Corp – Project Manager for in-house consulting services provided for environmental reports and permit applications for natural gas pipeline transmission projects.

Columbia Gas Transmission – Field reconnaissance of approximately 16 miles of pipeline route, preparation of erosion and sediment control measures, and preparation of stream crossing permits for the NJET project.

*Spill Prevention, Control & Countermeasure Plans*

Union Carbide Corporation, South Charleston Plant – Audit of chemical manufacturing plant to determine compliance with the facility Spill Prevention Control and Countermeasures (SPCC) plan. Project included review of SPCC plan prepared by facility staff, on-site inspection of over 50 storage areas to ascertain compliance with the SPCC plan and pertinent regulations, preparation of a list of observed deficiencies, and certification of the SPCC plan by a professional engineer.

*Stream/Wetland Delineation, Permitting, and Mitigation*

Columbia Gas Transmission Corp – Design of stream stabilization and restoration plan for a section of East Fork of Queer Creek in Hocking County, Ohio. Project included obtaining 401/404 certification and preparation of a detailed construction plan.

# JARRETT M. SMITH, P.E.

Senior Engineer



Project responsibilities include civil site design, hydrologic and hydraulic design, grading plans, water line plans, sewer line plans, roadway layout, utility design, and development of technical specifications, preliminary cost estimates, schedule and budget tracking.

## PROFESSIONAL EXPERIENCE

### Civil/Site Design

Development of grading plans, cut/fill analysis, utility design/layout, engineer's cost estimates, preparation of permit applications, consulting with clients, architects, regulatory agencies, and municipalities. Detailed design, preparation of construction drawings, technical specifications, cost estimate, contractor's bid documents, review and recommendation of contractor's bids, and review of shop drawings.

- West Virginia Water Development Authority Office
- Pison Development – 10 apartment complex projects
- Double C Enterprise – Kenna Ridge Business Park
- Tricor Development – Hurricane Market Place Parcels A and B
- Green Eagle Development – four residential site development projects
- Ervin Development – Woodstock commercial site development project
- MDG Development – Oakland subdivision
- Tucker County Industrial Park – water and sewer line expansion
- ZMM – Bradshaw High School project
- Dunlap Builders – West Run Student Housing
- Allegheny Energy Supply's Fort Martin Power Station – fly ash landfill expansion project

## EDUCATION

- B.S. Civil Engineering, 2002  
West Virginia University Institute of Technology
- A.S. General Science, 2000  
West Virginia University

## EMPLOYMENT HISTORY

- 2003-Present Potesta & Associates, Inc.  
2001-2002 WV Dept of Transportation District 3-  
Design/Field Inspector

## PROFESSIONAL REGISTRATIONS

Professional Engineer – West Virginia

## SERVICE ON BOARDS AND COMMISSIONS

WV Society of Professional Engineers Board Member

## AREAS OF SPECIALIZATION

Management and oversight of civil engineering projects with services related to the surveying, geotechnical exploration, planning, design, permitting, and construction monitoring. Projects categories include oil and gas pipeline permitting, oil and gas well pads, residential, commercial, and industrial development, stormwater management facilities, and solid waste landfills.

### Flood Studies/Stormwater Management

Floodplain Management – Tasks included development of hydraulic modeling of watersheds for existing and proposed conditions using HEC-RAS and HEC-HMS to determine flood levels and the impact on the properties of local residents, oversight of surveying and mapping development. Project's scope included fill within the Special Flood Hazard Areas (SFHA), residential and commercial development within SFHA, obtaining the original computer model of floodplain data from the United States Army Corps of Engineers (USACE), and coordination with local floodplain manager, FEMA, and USACE. Preparation of permit application packages for

FEMA's LOMA, CLOMR-F, and LOMR application submittals.

- Pison Development – Mineral Manor, Knollview Village Apartments, Willow Tree Apartments, Crestview Apartments
- Copper Beech – townhouse development project
- Jo's Globe Distribution – expansion project
- Blue Ridge Builders – Cheat Landing Development
- Hamlin United Methodist Church – Revised Floodway project
- Columbia Pipeline Group – Clendenin Low Water Crossing

Stormwater Management Design – Tasks include hydrological analysis, hydraulic evaluations of open and closed channel flow systems, storm sewer design, velocity dissipation analysis and design, stormwater retention/detention design, water quality analysis and design, and sediment control structure design. Programs utilized during projects included Haestad Method Programs and SedCad Software.

- Echo, Inc. – Tupper's Creek site development
- Pison Development – six projects
- Kenna Ridge Business Park
- Hurricane Market Place
- Woodstock – commercial site development
- Green Eagle – three projects
- O-N Mineral – process pond
- RJ Recycling, LLC – Riverside Yard sediment/oil control ponds
- Dunlap Builders, Inc. – West Run Student Housing project

#### Sewer Lines/WWTPs

Sewer/water distribution and collection system design and upgrades – Tasks included hydraulic calculations, storage tank sizing, pump station design, layout and selection of water/sewer line extensions, preparation of design drawings, specifications, and engineer's cost estimates.

- Tucker County Industrial Park
- City of Philippi, Barbour County
- ZMM – Bradshaw High School project
- Boone County PSD – Tic Toc Tire Sewer

#### Oil and Gas

Project manager over numerous production and gathering line projects amongst various clients that include development of well pad layout and design, alignment sheets, hydrologic and hydrology analysis, floodplain analysis and permitting, stormwater design, geotechnical exploration and recommendations, and cost estimates. Each completed project includes understanding of local, county, and state regulations, and coordination with the various agencies. Also at the request of client have been asked to perform secondary and tertiary reviews of other consultants work for quality assurance and regulatory compliance.

- Columbia Pipeline Group
- Columbia Gas Transmission, LLC
- EQT Production Company
- EQT Gathering, LLC
- EQT Midstream Partner, LP
- Mountain Valley Pipeline, LLC
- NiSource, Inc.
- Stone Energy Corporation
- TransCanada Corporation

#### Landfills/Solid Waste/Waste Disposal

Responsible for detailed hydrogeologic investigation and preparation of a major portion of the WVDEP Part A Solid Waste Disposal Permit Application for the Northfork Landfill near Wheeling, West Virginia. Project included field reconnaissance and mapping of existing site conditions, rock corings, test pits, laboratory analysis of soils for potential construction materials, installation of four monitoring wells, and the corresponding analysis and evaluation of data for completing the Part A Application.

Responsible for hydrogeologic investigation and preparation of the WVDEP Part A Solid Waste Disposal Permit Application for the Sycamore Scenic Landfill in Putnam County, West Virginia. Work included coring, test pit, and laboratory analysis of soils; review of existing groundwater data; and analysis and evaluation of data for completing the Part A Application.

West Virginia Division of Environmental Protection's Landfill Closure Assistance Program (WVDEP LCAP) (2010-current) –Responsible for project oversight, budget monitoring, conceptual design, field investigation, construction drawings, specifications, permit applications, etc.

Tasks for the projects include design; preparation of drawings, technical specifications, and contract/bid documents; construction monitoring; air monitoring; sludge sampling and analysis; review and approval of a detailed health and safety plan; permitting; development of waste and borrow sites, and other miscellaneous engineering services related to the stabilization and closure of these landfills.

- Fleming Landfill
- Kingwood Landfill
- South Charleston Landfill

WVDEP LCAP – Project Manager of a Feasibility Study for Leachate Treatment/Discharge for existing landfills for the WVDEP LCAP program. This project was to understand if existing closed landfills have the potential to have on-site treatment and discharge into local water sources.

#### NPDES Industrial/Municipal Permitting

Armstrong, Mineral Wool Plant – Project Manager for project in Millwood, West Virginia. Project required obtainment of NPDES Construction Stormwater Permit, NPDES Industrial Permit, Evaluation of POTW discharge, Pretreatment Permit, 401/404 permitting, bi-monthly stormwater management verification, SPCC Plan, Direct Discharge NPDES requiring background water sampling. Also included bi-weekly scheduling and budget updates to the Armstrong Team.

Development of NPDES Construction Stormwater Permits for any site larger than one acre in size including preparations of permit application, Stormwater Pollution Prevention Plans, and Erosion and Sediment Control Plans.

#### Spill Prevention, Control & Countermeasure Plans

WV Paving Company – Project for the development of SPCC Plans for 19 existing facilities. Tasks included organization and oversight of field crews, review of field data. Review of draft plans. Certification of final SPCC Plans, along with budget and schedule tracking and updates.

#### ESAs (Phase I and II)

Environmental site assessments, including record searches and field investigations for numerous sites in West

Virginia. Specialization in large acreage tracts, including coal properties. Typical acreages have ranged from 1,000 to 65,000 acres, and include assessment of acid mine drainage and properties including mine portals, mine shops, and coal preparation plants.

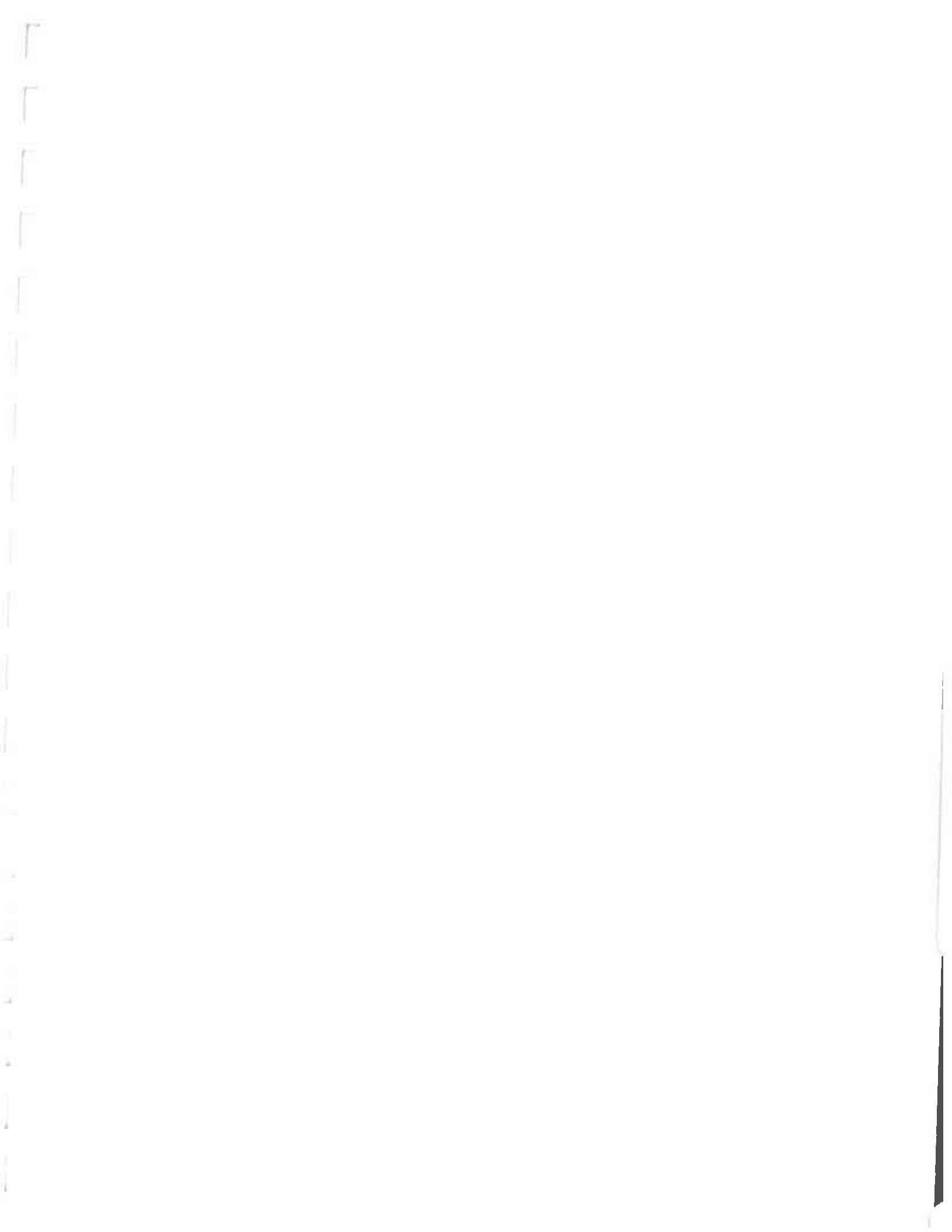
- 17,500-Acre mining property in Fayette County, WV
- 43,000-Acre mining property in Kanawha/Clay Counties, WV

#### Hazardous Waste/RCRA/Corrective Action

Typical scope of work of projects included the development of detailed site-specific quality assurance/quality control plans, health and safety plans, and review of analytical data.

Created digital mapping with Arcview GIS 3.2a™ software and created contour/concentration maps using Surfer 8.0™ software for use in evaluation and remediation purposes for a RCRA Corrective Action site located along the Kanawha River.

Supervisor and operator of Earthsoft's EQUIS database projects. Managed large amounts of analytical data related to a RCRA Corrective Action Facility, utilizing Earthsoft's Environmental Quality Information Systems (EQUIS). Tasks included coordination amount various laboratories on the format and quality of the electronic data deliverables (EDDs) received. Importing and merging of received EDDs for use in warehousing and qualifying analytical data within EquIS Chemistry™ for site assessments, risk assessments, site characterization, and remediation projects. Performed data review and validation in accordance to quantifiable sections of the EPA Functional Guidelines and CLP programs using EarthSoft's Data Qualification Module™ (DQM). Managed environmental geology data and created geologic cross-sections, contours, solid modeling, boring logs, and reports using EquIS Geology™ RockWorks99™, and logPlot98™, and Surfer 8.0™. Presented multi-data crosstab reports using EquIS CrossTab Report Writer interface. Built multiple layer maps, contaminant maps, and query-specific analytical data presentation through EquIS Arcview Interface.









West Virginia Ethics Commission  
**Disclosure of Interested Parties to Contracts**

(Required by W. Va. Code § 6D-1-2)

Contracting Business Entity: Potesta & Associates, Inc. Address: 7012 MacCorkle Avenue, SE  
Charleston, WV 25304

Authorized Agent: Dana L. Burns Address: Same as Above

Contract Number: DNR1800000005 Contract Description: Modifications/Repairs of Six Dams

Governmental agency awarding contract: West Virginia Department of Environmental Protection

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

1. Subcontractors or other entities performing work or service under the Contract

Check here if none, otherwise list entity/individual names below.

2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)

Check here if none, otherwise list entity/individual names below.

Ron Potesta  
Dana Burns

3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)

Check here if none, otherwise list entity/individual names below.

Signature: Dana L. Burns

Date Signed: 12/11/17

**Notary Verification**

State of West Virginia, County of Kanawha:

I, Dana L. Burns, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 11<sup>th</sup> day of December, 2017

Rhonda L. Henson  
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  
Expression of Interest  
Architect/Engr

Procurement Folder : 393240

Document Description : Addendum No.1 A/E Services-Modifications/Repairs of Six Dams

Procurement Type : Agency Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No		Version	Phase
2017-12-05	2017-12-13 13:30:00	AEOI	0310 DNR1800000005	2	Final

SUBMIT RESPONSES TO:	VENDOR
BID RESPONSE DIVISION OF NATURAL RESOURCES PROPERTY & PROCUREMENT OFFICE 324 4TH AVE SOUTH CHARLESTON WV 25303-1228 US	Vendor Name, Address and Telephone Potesta & Associates, Inc. 7012 MacCorkle Avenue, SE Charleston, WV 25304

FOR INFORMATION CONTACT THE BUYER

Angela W Negley  
(304) 558-3397  
angela.w.negley@wv.gov

Signature X *Dana L Burns*

FEIN # 31-1509066

DATE 12/11/17

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

**ADDITIONAL INFORMATION:**

Addendum No.01 is issued to publish and distribute the attached information to the Vendor Community.

\*\*\*\*\*  
Expression of Interest

A&E Services for Modifications/Repairs of Six(6) Dams

The West Virginia Division of Natural Resources (WVDNR) is soliciting AEOI responses from qualified firms to provide architectural / engineering services contract for modifications/repairs to Upper Deckers Creek Dams #3 and #7, Fairfax Pond Dam, Rollins Lake Dam s #1 and #2, and Turkey Run Dam, per the attached bid requirements, specifications and terms & conditions.

BUYER TO		SHIP TO	
DIVISION OF NATURAL RESOURCES PARKS & RECREATION-PEM SECTION 324 4TH AVE SOUTH CHARLESTON WV25305 US		STATE OF WEST VIRGINIA JOBSITE - SEE SPECIFICATIONS No City WV 99999 US	

Line	Commodity Line Description	Qty	Unit Issue
1	Civil engineering		

Commodity Code	Manufacturer	Model #	Specification
81101500			

**Extended Description**

A/E design services and contract administration for modification and repairs to six dams.

**SCHEDULE OF EVENTS**

Line	Event	Event Date
1	Technical Question Deadline 9am	2017-11-29

<b>DNR1800000005</b>	<b>Document Phase</b> Final	<b>Document Description</b> Addendum No.1 A/E Services-Modifications/Repairs of Six Dams	<b>Page 3</b> of 3
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**ADDITIONAL TERMS AND CONDITIONS**

See attached document(s) for additional Terms and Conditions

**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.

*Dana L. Burns*  
(Name, Title)  
Dana L. Burns, PE, Vice President  
(Printed Name and Title)  
7012 MacCorkle Avenue, SE, Charleston, WV 25304  
(Address)  
304-342-1400/304-343-9031  
(Phone Number) / (Fax Number)  
dlburns@potesta.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.

Potesta & Associates, Inc.  
(Company)

*Dana L. Burns*  
(Authorized Signature) (Representative Name, Title)

Dana L. Burns, PE, Vice President  
(Printed Name and Title of Authorized Representative)

12/11/17  
(Date)

304-342-1400/304-343-9031  
(Phone Number) (Fax Number)



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

**"Related party"** means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (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: Potesta & Associates, Inc.

Authorized Signature: *Dana L. Burns*

Date: 12/14/17

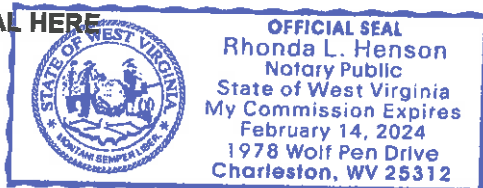
State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 11<sup>th</sup> day of December, 2017.

My Commission expires February 14, 2024

AFFIX SEAL HERE



NOTARY PUBLIC *Rhonda L. Henson*

Purchasing Affidavit (Revised 07/07/2017)

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:

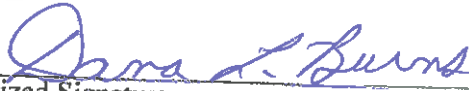
(Check the box next to each addendum received)

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

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Potesta & Associates, Inc.

Company



Authorized Signature

12/14/17

Date

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