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

State of West Virginia
Centralized Expression of Interest
Architect/Engr

RECEIVED
08/12/21 10:53:51
WV Purchasing Division

Proc Folder: 886901
Doc Description: EOI Green Infrastructure
Proc Type: Central Purchase Order

Reason for Modification:
Addendum #1 issued to publish agency responses to all vendor quesitons.

Date Issued	Solicitation Closes	Solicitation No	Version
2021-08-09	2021-08-12 13:30	CEOI 0313 DEP2200000001	2

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code:
Vendor Name : Potesta & Associates, Inc.
Address : 7012
Street : MacCorkle Avenue, SE
City : Charleston
State : West Virginia **Country :** U.S. **Zip :** 25304
Principal Contact : Dana L. Burns, P.E., P.S., Vice President
Vendor Contact Phone: 304-342-1400 **Extension:**

FOR INFORMATION CONTACT THE BUYER
Joseph E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

Vendor Signature X Dana L. Burns **FEIN#** 31-1509066 **DATE** August 11, 2021

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

ADDITIONAL INFORMATION

The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for the West Virginia Department of Environmental Protection ("WVDEP"), from qualified firms to provide architectural/engineering services ("Vendors") as defined herein.
The mission or purpose of the project for which bids are being solicited is to provide Green Infrastructure (GI) education, workshops, and conceptual plans for one small community in the Lower New River Watershed in southern West Virginia.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION DIV OF WASTE AND WATER MGT 601 57TH ST SE CHARLESTON WV 25304 US	ENVIRONMENTAL PROTECTION DIVISION OF WATER AND WASTE MGT 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Professional engineering services		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description:
Professional engineering services

SCHEDULE OF EVENTS

Line	Event	Event Date

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, P.E., P.S., Vice President

(Name, Title)

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

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

Potesta & Associates, Inc.

(Company)

Dana L. Burns

(Authorized Signature) (Representative Name, Title)

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

(Printed Name and Title of Authorized Representative)

August 11, 2021

(Date)

(304) 342-1400

(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI 0313 DEP2200000001

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)

- [x] Addendum No. 1
- [ ] Addendum No. 2
- [ ] Addendum No. 3
- [ ] Addendum No. 4
- [ ] Addendum No. 5
- [ ] Addendum No. 6
- [ ] Addendum No. 7
- [ ] Addendum No. 8
- [ ] Addendum No. 9
- [ ] 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

August 11, 2021

Date

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

SOLICITATION NUMBER: CEOI 0313 DEP2100000001
Addendum Number: No.01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[ ] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[✓] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

Addendum issued to publish and distribute the attached documentation to the vendor community.

1. Publish agency responses to all vendor submitted questions.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

RFI: Questions from vendors for CEOI DEP22*01 Green Infrastructure

Q.1. My first question refers to the general application submission. Must the submission solely be completed on the associated forms found in *Attachment A "WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION GREEN INFRASTRUCTURE VENDOR QUALIFICATION QUESTIONNAIRE* (see attached) OR Can the information be provided in a narrative proposal developed by the vendor? OR Is a combination of both preferred?

A.

It can be provided in a narrative as long as it is numbered and arranged in the exact same order as the questionnaire so we can easily determine how all items have been addressed.

Q.2. My next question refers to an item on Page 12 of the EOI, under Section 3.2 Project Goals. Can you provide an example of "*electronic resources available for direct attention to this project*" Is this referring to GIS software, virtual meeting platforms, AutoCad drawing software?

A.

Yes, those examples are correct. What electronic tools do you have to facilitate the work we are asking for under this EOI.

Q.3. My final question refers to an item on Page 16 of the EOI, under section 4.3 "Evaluation and Award Process": It discusses estimated costs of $250,000 and more. Does WVDEP have an estimate as to what the expected award amount will be?

A.

We expect this award to be less than $80K.

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

(Required by *W. Va. Code* § 6D-1-2)

Name of Contracting Business Entity: Potesta & Associates, Inc.

Address: 7012 MacCorkle Avenue, SE, Charleston, WV 25304

Name of Authorized Agent: Dana L. Burns, P.E., P.S. **Address:** same as above

Contract Number: CEOI 0313 DEP2200000001 **Contract Description:** Green Infrastructure in Southern WV

Governmental agency awarding contract: WVDEP Division of Waste and Water Management

☐ **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.
   Ronald 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: August 11, 2021

Notary Verification

State of West Virginia, County of Kanawha:

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 day of August, 2021.

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: _____

OFFICIAL SEAL
Rhonda L. Henson
Notary Public
State of West Virginia
My Commission Expires
February 14, 2024
1978 Wolf Pen Drive
Charleston, WV 25312

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 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 exceed 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: Dina L. Burns Date: August 11, 2021

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 11 day of August, 2021.

My Commission expires February 14, 2024.

AFFIX SEAL HERE

OFFICIAL SEAL
Rhonda L. Henson
Notary Public
State of West Virginia
My Commission Expires
February 14, 2024
1978 Wolf Pen Drive
Charleston, WV 25312

NOTARY PUBLIC Rhonda L. Henson

STATEMENT OF QUALIFICATIONS

PREPARED FOR:

West Virginia Department of Environmental Protection
Green Infrastructure in Southern WV
CEOI 0313 DEP2200000001

POTESTA
Engineers and Environmental Consultants

FEIN:
31-1509066 August 11, 2021

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: 0101-21-0241

POTESTA
Engineers and Environmental Consultants

TRANSMITTAL MEMO

7012 MacCorkle Avenue, SE, Charleston, WV 25304 P Phone: (304) 342-1400 P Fax: (304) 343-9031

To: West Virginia Purchasing Division
2019 Washington Street East
Charleston, West Virginia 25305-0130

Date: August 12, 2021
Project No.: 0101-21-0241

Sent Via: ☐ Mail ☐ Federal Express ☐ United Parcel Service
☒ Hand Carried ☐ Other: _____

Quantity	Description
1	EOI Green Infrastructure CEOI 0313 DEP2200000001

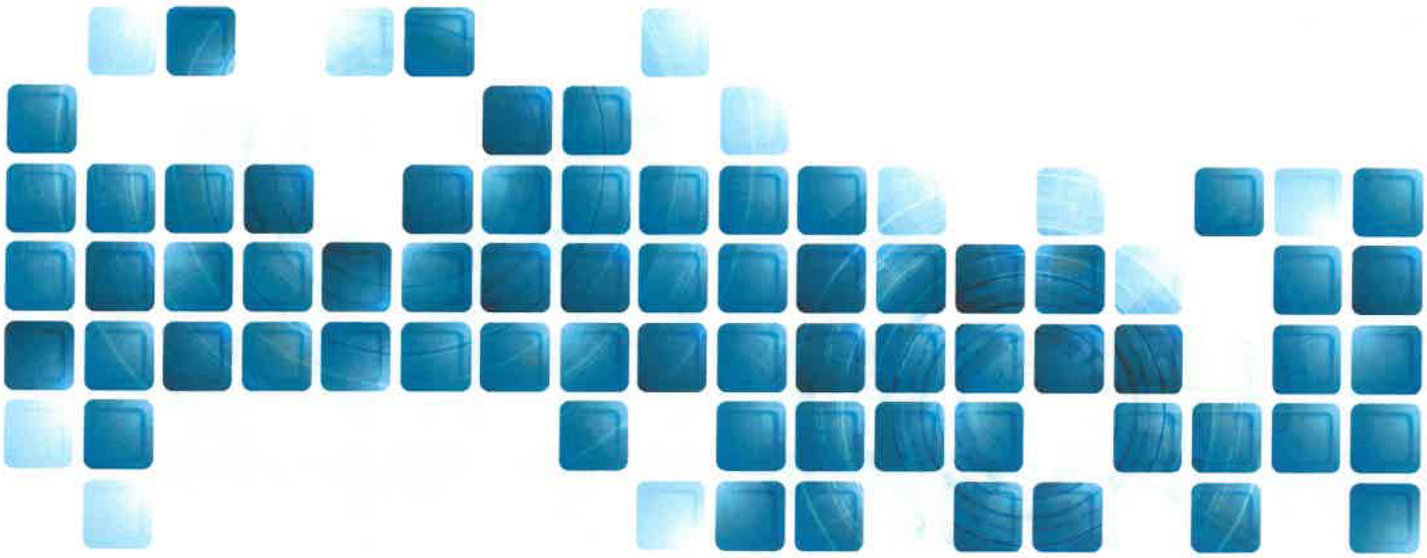
Remarks:

By: Jarrett Smith/kjt

c: _____

TABLE OF CONTENTS

Appendices



STATEMENT OF QUALIFICATIONS

EXECUTIVE SUMMARY

Potesta & Associates, Inc. (POTESTA) is pleased to submit a Statement of Qualifications with the opportunity to provide engineering services to the West Virginia Department of Environmental Protection (WVDEP) for Green Infrastructure (GI) education, workshops, and conceptual plans for one small community in the Lower New River Watershed in Southern West Virginia. Specific tasks include an educational workshop, GI assessment, and development of GI concept plan for one selected small community. POTESTA is experienced in designing solutions for stormwater and the use of green infrastructure to achieve environmental, social, and economic benefits for communities.

POTESTA has comprehensive experience in stormwater runoff reduction:

- **Surveying**—gathering information relevant to create an existing conditions map of the project site
- **Water management design (green infrastructure)**—plant or soil systems, porous pavements, rain gardens, and bioswales
- **Preservation and restoration of natural areas**—stream, forests, and wetlands
- **Preparation of detailed drawings**
- **Generating construction-level design drawings**—site grading plan, erosion and sediment control plan, stormwater plan, and supplementary detailed drawings
- **Utility relocations and coordination of private utility locating services**
- **Environmental clearances**—federal and state regulatory permitting and compliances

POTESTA understands the importance of green infrastructure in reducing stormwater runoff and localized flooding. Not only does it improve water quality, but also protects West Virginia's natural and rural landscapes and enhances community safety and quality of life.

The Lower New River Watershed in Southern West Virginia is home to seven cities and towns, three state parks, two wildlife management areas, and one national river. The land is rugged and mountainous terrain with a biologically diverse habitat.

For this project to be successful, the community must be engaged to understand, participate and support the environmental benefits of green infrastructure as a clean water solution.

POTESTA has a significant body of work serving both small and large municipalities throughout West Virginia. POTESTA will work with the WVDEP, the Southern Basin Coordinator, New River Clean Water Alliance, community leaders, local government employees, and other stakeholders to educate, propose and design cost-effective, innovative, green infrastructure projects in the selected community in the Lower New River Watershed in Southern West Virginia.

POTESTA has assembled a team that has historically served WVDEP on multiple projects. In addition, POTESTA has served as Engineer-of-Record for several conservation districts providing engineering and environmental services, including dam evaluation, mussel survey, and debris control. POTESTA believes in the conservation of West Virginia's soil, land, and water resources. Our large engineering staff combined with POTESTA's environmental staff including aquatic ecologists, aquatic biologists, and scientists experienced with the conservation of the ecological and cultural geography of West Virginia.

POTESTA takes great pride in serving the communities in which we live and play.

STATEMENT OF QUALIFICATIONS

CORPORATE PROFILE

FIRM INFORMATION

1. Potesta & Associates, Inc.
2. 7012 MacCorkle Avenue, SE, Charleston, West Virginia 25304
3. n/a
4. (304) 342-1400
5. 1997
6. Corporation
7. 7012 MacCorkle Avenue, SE, Charleston, West Virginia 25304
   (304) 342-1400
   Mr. Dana L. Burns, P.E., P.S., Vice President
   23 Engineers (including 13 Professional Engineers)

LEADERSHIP

8. Our firm is managed by two principals driving POTESTA forward with their experience and emphasis on exceeding expectations.


Ronald R. Potesta

Ronald R. Potesta, President, has served as the Director and Deputy Director of West Virginia's Department of Natural Resources (WVDNR) which, during his tenure, housed all of the environmental regulatory programs. The agency at that time encompassed state environmental regulatory programs, wildlife management and law enforcement.


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

Dana L. Burns, P.E., P.S., Vice President, has more than 40 years' experience with civil, geotechnical, mining and environmental engineering projects. He has been the Principal-in-Charge on numerous stormwater projects completed for municipalities, public service districts, utility providers, residential and commercial developers, universities/colleges, and manufacturing facilities.

9. **TOTAL STAFF: 74**

16	Civil Engineers
13	Construction Technicians
4	Geotechnical Engineers
1	Geologist
6	CADD Operators/Draftsmen
6	Surveyors
1	Mechanical Engineer
2	Aquatic Ecologists
4	Biologists
10	Administrative Personnel
1	Fish and Wildlife Specialist
1	GIS Specialist
2	Environmental Scientists
1	Horticulturalist
1	Toxicologist
1	Economist
1	Aqua Culturalist
1	Information Technologist
2	Chemical Engineers

10. No additional employees are required to fulfill the requirement of this contract.
11. n/a

TECHNICAL EXPERTISE

12. A. GI INFRASTRUCTURE WORKSHOPS AND GI ASSESSMENT SITE VISITS

POTESTA understands the principles, applications, and policies of green infrastructure. Our knowledge and experience can translate into a workshop to introduce green infrastructure through its types, benefits, principles, applications, and policies. For green infrastructure projects to succeed, public participation is vital. POTESTA is experienced in community outreach and overcoming community engagement barriers.

POTESTA was retained by the Town of Ceredo to develop, update, and help implement their Municipal Separate Storm Sewer System (MS4) Program regulated by the WVDEP for the National Pollutant Discharge Elimination System (NPDES) General Permit program, which included a school outreach training module to educate elementary school children on the importance of storm water protection. POTESTA also built a training module to assist with the Town of Ceredo's required annual staff training.

Town of Ceredo

POTESTA's services included:

- **Completed the Site Registration Application (SRA)**
- **Updated the Town of Ceredo's existing Stormwater Management Ordinance which was noted as deficient by WVDEP. Included was implementing new Illicit Discharge Detection and Elimination, Construction Site Runoff and New/Re-development requirements**
- **Completed a first year annual report**
- **Prepared a Storm Water Pollution Prevention Plan (PPP) for municipal facilities**
- **Developed a comprehensive Stormwater Management and Erosion Plan Review Checklist for New Development and Re-development Projects which also serves as contractor training**
- **Generated 20 newspaper articles to be used over five years to educate the public on storm water protection**
- **Performed a baseline telephone survey to measure town residents' knowledge on storm water protection prior to release of the newspaper articles**
- **Conducted initial field reconnaissance to identify and document locations with stream bank erosion for potential future mitigation projects**
- **Led the first school outreach training session**
- **Conducted the first staff training session, including 50+ page PowerPoint presentation detailing the Stormwater Management Program, Stormwater Management Ordinance, and PPP**

POTESTA methodology to implement a GI workshop and site visit:

- **Selection of community for project**—work with the WVDEP to review questionnaire responses and assist in the selection of a community for this project.
- **Workshop**—once the community is selected and appropriate stakeholders are identified, POTESTA will work with the WVDEP to identify a suitable location for the workshop, develop an agenda, and invitation flyer. POTESTA will provide information on the basics and benefits of GI, low impact development, and green streets.
- **Site visit**—perform field visits to potential sites by engineering and environmental staff to better understand the overall project and conditions, assess GI concepts, and obtain input from the stakeholders. Observations of potential sites will include, drainage area, flooding hazards, initial estimates of stormwater volume to be captured, utilities, right-of-way, ownership and other vital information. After initial assessments, the list will be narrowed down and prioritized to the most likely and most cost-effective sites to recommend for green infrastructure concepts.

TECHNICAL EXPERTISE

12. B. DEVELOPMENT OF GI CONCEPT PLANS

Civil engineering is a primary area of expertise and experience at POTESTA. Our engineering staff has a broad background related to the vast field of civil engineering, including utility/infrastructure design, roadway design, development of grading plans, and storm water management. Our diverse staff of engineers, geologists, and scientists is routinely involved in these types of projects and work to support the project teams assigned to these projects on a daily basis to achieve a completed project that meets the client's expectations.

POTESTA was retained by Carl M. Freeman Communities to provide environmental and engineering consulting services in conjunction with the redevelopment of the Coolfont Recreation property in Morgan County, West Virginia. Coolfont included a lodge, lake, spa, chalets, and other recreational facilities developed in the 1960s. Carl M. Freeman Associates acquired the Coolfont resort and other adjacent properties with the plan to create a second home community with high-end amenities.

POTESTA participated in a week-long planning charette with Carl M. Freeman Associates, land planners, and other design consultants in order to assess the characteristics of the property, identify opportunities, and constraints for development, obtain input from local residents and businesses, and develop design guidelines for the project. At the end of the charette, a land use plan was presented 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.

POTESTA's methodology to develop GI concept plan:

- **Preliminary evaluation and analyses**—include Phase I Environmental Site Assessments, floodplain determination, geotechnical explorations, foundation recommendations, surveying, GIS mapping, utility planning, earthwork evaluations, potential pollutant load reductions, and Opinion of Probable Costs/ Engineer's Construction Cost Estimate
- **Draft report**—will be based on previous site visits and will address community background, stakeholder workshop summary, site tour summary, key community issues related to GI, opportunities to advance GI as identified by the stakeholders, site prioritization for concept designs, concept designs, pollutant load reductions associated with the designs, and next steps.
- **Final report**—report will be finalized after review by WVDEP and the local government involved from the community.

TECHNICAL EXPERTISE

12. C. DEVELOPMENT OF GI INFRASTRUCTURE DESIGNS AND OTHER SERVICES

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.

DESIGN SERVICES

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

PERMITTING

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

POTESTA completed grading plan development, geotechnical design, and coordination/design of required utility relocations/services for the Charleston Area Alliance. POTESTA's services were provided under a design team which was managed by Andropogon Landscape Architecture in Philadelphia, Pennsylvania. POTESTA worked with both the City of Charleston and the West Virginia Division of Highways to prepare design plans for the construction of an approximately 1-acre greenspace area to be constructed near the corner of Leon Sullivan Way and Washington Street in Charleston, West Virginia. The plan called for the installation of several terraced retaining walls, a recalculating stream feature and a reflection pool. Additional requirements included surface treatments such as stone pavers, concrete walkways and site lighting.

Plans for the water feature included the collection of storm water runoff from an adjacent commercial building roof. This water was collected and routed into a buried cistern system which was designed by POTESTA to provide a water source for the recirculation to feed the water feature constructed at the site. POTESTA also worked with the landscape architecture firm to provide geotechnical design recommendations related to several retaining walls which were incorporated into the design.

POTESTA prepared both design plans and specifications for this project and was also involved in the bidding and permitting phases of the project.

TECHNICAL EXPERTISE

12. C. DEVELOPMENT OF GI INFRASTRUCTURE DESIGNS AND OTHER SERVICES

POTESTA provides stormwater management and permitting 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.

STORMWATER MANAGEMENT

- Green Infrastructure (plant/soil systems, porous pavement, rain garden, and bioswales)
- Hydraulic Conveyance Structure Design (Culverts, Channels, Drop Inlets, etc.)
- Stormwater Retention/Detention Pond Design
- Stormwater Pond Modeling
- Floodplain Identification and Management Strategies
- Hydrologic and Hydraulic Analysis and Evaluations and Modeling
- Construction Monitoring
- Surveying
- Permitting and Regulatory Liaison

STORMWATER PERMITTING

- WVDEP Stormwater Construction NPDES Permit
- WVDOH MM-109
- Stormwater Pollution Prevention Plan (SWPPP) Preparation and Modification
- Ground Water Protection Plan (GPP) Preparation and Modification
- Erosion and Sediment Control Plan (ESCP) Preparation
- Stormwater Discharge Water Quality Sampling and Training
- Agency Negotiation and Liaison Services
- Permit Compliance Services
- Construction and Erosion & Sediment Control Plan Related Inspection Services

TECHNICAL EXPERTISE

12. C. DEVELOPMENT OF GI INFRASTRUCTURE DESIGNS AND OTHER SERVICES

POTESTA's engineers have extensive experience in the application of hydrology and hydraulic principles to the design of real world systems.

HYDROLOGY AND HYDRAULIC APPLICATIONS

- **Drainage structure sizing**—stream relocations, culverts, and channels
- **Pond and dam design**—sediment ponds and basins, spillways, design/rehabilitation, slurry impoundments, lagoons and dams
- **Pump station design**
- **Detention and retention systems**—ponds, pipes, and underground bladders
- **Stormwater management system design**
- **Floodplain management permits/approval**
- **Floodway studies**—FEMA, NFIP, flood elevation surveys/certifications, and 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**

POTESTA has 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.

TECHNICAL EXPERTISE

12. C. DEVELOPMENT OF GI INFRASTRUCTURE DESIGNS AND OTHER SERVICES

WETLANDS

POTESTA has a qualified staff of scientists and engineers who are trained and experienced in the identification and permitting of wetlands, the mitigation of displaced wetlands and the design of constructed wetlands.

- **Investigation**—examined for presence of wetland indicators, including specific hydrology, soils, and vegetation
- **Delineation**—in accordance with the US Army Corps of Engineers Wetlands Delineation Manual and appropriate regional supplement manual
- **Permitting**—Section 404 of the CWA, water quality certification
- **Mitigation and Design**—mitigation under state and federal standards, preparation of an appropriate mitigation offer and negotiate with state and federal authorities for approval

STREAM RESTORATION

POTESTA'S professional staff of aquatic ecologists, aquatic biologists, and engineers work collectively to complete various stream assessment and restoration projects for a variety of private and public sector clients. Our scientists and staff have worked with clients to provide very detailed stream restoration/ rehabilitation plans that include in-stream structure/habitat improvements, channel realignment and/or bank stabilization, as well as less labor-intensive plans that may only require minor bank stabilization and buffer zone establishment.

- **Preliminary Studies**—evaluation of physical habitat, both in-stream and within the riparian corridor, and assessment of the existing water quality and biological community
- **Stream Assessment/Classification and Conceptual Design**—intensive site assessment and development of conceptual and preliminary plans, obtain preliminary approvals of the site and proposed restoration from the appropriate regulatory agencies
- **Stream Restoration Plans**—utilization of preliminary design concepts and field data to create stream restoration plans, including proposed channel dimensions
- **Construction/Post Construction Monitoring**—evaluation of performance standards and reporting to the appropriate regulatory agency, including both in-stream and riparian evaluation to assess bank stability, as well as survival of bank/riparian plantings and aquatic surveys (algal, benthic macroinvertebrate and fisheries)

TECHNICAL EXPERTISE

12. C. DEVELOPMENT OF GI INFRASTRUCTURE DESIGNS AND OTHER SERVICES

POTESTA's methodology for development of green infrastructure project designs, construction documents, cost estimates, permitting, and development of GI BMP maintenance plans:

- **Preliminary design**—prepare and submit a preliminary design for WVDEP and local government from the community. Once reviewed and POTESTA has received comments on the same, we will proceed with the final design.
- **Final design**—the design can be flexible and POTESTA will adjust the design accordingly as the situation and/or funding may dictate.
- **Construction drawings and specifications**—prepare and submit for regulatory funding agency and WVDEP and local community government review and approval prior to advertisement and bidding.
- **Construction cost estimate**—prepare a preliminary opinion of probable construction cost broken down by major work items. The preliminary opinion of probable construction cost will be submitted with the draft submittal of the drawings and specifications. A final opinion of probable construction cost will be prepared and submitted with the draft drawings. The final opinion will be used for evaluation of project costs and subsequent contractor bids. Generally, a ten percent construction cost contingency is added to the final opinion of probable construction cost to pay for unforeseen issues during construction.
- **Permitting**—several permits and/or permit modifications may be required for this proposed project.
- **Bidding documents preparation/bidding assistance**—prepare a construction bid form and required bidding (i.e., contract) documents, and will assist WVDEP and local community government 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 WVDEP and local community government in evaluation of the bids for cost, completeness and qualifications.
- **Construction administration/observation**—after bid evaluation and contractor selection, POTESTA proposes to complete construction administration and observation tasks during construction. Services include (based in part on terms and requirements of the *Standard General Conditions of the Construction Contract* prepared by the Engineers Joint Contract Documents Committee):

  ⇒ Review of contract documents
  ⇒ Review/meet/comment/accept contractor's preliminary schedule
  ⇒ Attend pre-construction conference
  ⇒ Review underground facilities not shown on contract documents
  ⇒ Review and approve shop drawings and samples
  ⇒ Review substitutes and "or equal" items and issue written acceptance/denials
  ⇒ Review contractor work plan
  ⇒ Attend progress meeting
  ⇒ Issue written clarifications or interpretations of the requirement of the contract documents
  ⇒ Provide a nearly full-time representative to observe construction for compliance with contract documents, observe testing by the contractor, and record results on appropriate forms
  ⇒ Prepare weekly reports summarizing construction activities
  ⇒ Prepare change orders for the work
  ⇒ Review contractor invoices
  ⇒ Issue Certificate of Substantial Completion
  ⇒ Provide record drawings showing "as-built" features

Our project management staff has managed hundreds of projects and understands what it takes to bring ideas to fruition through cost-effective and often innovative designs. We take pride in our ability to work with our clients from the conceptual idea through the construction process, which is the most critical part of the project.

TECHNICAL EXPERTISE

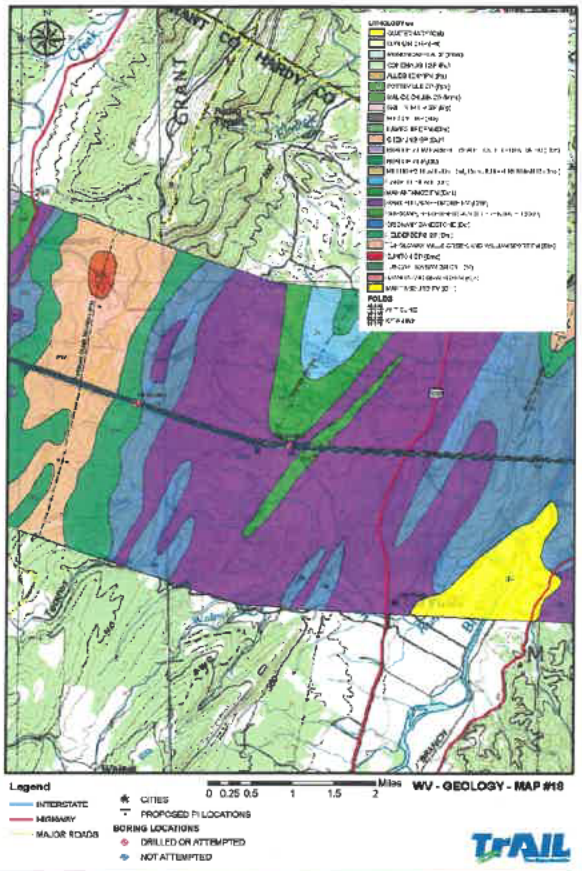
12. D. GREEN INFRASTRUCTURE IN KARST

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.

POTESTA's staff is very familiar with terrain ranging from plateaus to mountains. West Virginia encompasses rugged and mountainous terrain, which presents unique challenges and hazards to mitigate threats. Karst topography covers much of the state and includes terrains featuring steep slopes, poor soils, underground streams, cave springs, and sinkholes. Our vast experience in our region has resulted in innovative approaches to the various challenges that the topography and geology present.

POTESTA staff work diligently to avoid environmentally sensitive areas and experienced in developing construction and operation plans designed specifically for karst areas.

POTESTA was contracted by Kleinfelder to perform a subsurface investigation for the TrAIL (Trans-Allegheny Interstate Electrical Transmission Line) Transmission Project which ran from Canonsburg, Pennsylvania through West Virginia and terminated in Herndon, Virginia. This project was pursued through a cooperative agreement between Allegheny Energy and Dominion. The line measured approximately 185 miles in length. This geotechnical study was completed to evaluate karst topography, undermined areas and potential landslide prone areas.



This project involved two geotechnical phases. The initial phase was to evaluate karst topography, undermined areas and potential landslide prone areas while the second phase of the geotechnical exploration was a detailed exploration of the critical structural tower locations. The initial phase included the advancement of approximately 100 individual subsurface borings.

POTESTA also prepared a GIS informational database to indicate regional geology and areas of concern along the alignment including slide prone areas, existing undermining, reclaimed surface mining areas, as well as karst topography areas.

TECHNICAL EXPERTISE

12. D. GREEN INFRASTRUCTURE IN KARST

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.

POTESTA's methodology used to design a GI project in karst:

SUBSURFACE EXPLORATIONS

- Attend an initial meeting with the client
- Conduct preliminary site reconnaissance
- Develop a recommended exploration program

SLOPE STABILITY ANALYSIS AND REMEDIAL DESIGN

- Utilize various methods to predict slope stability
- 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—circular or sliding block methods, interface friction angles, and estimate of the strength parameters of the soil or rock
- Develop preventive measures during initial project design or recommendations for to repair slope failures
- Consider various remedial measure—regarding the site to obtain more suitable conditions, management of groundwater, and design of retaining structures
- Consider various remedial measure—regarding the site to obtain more suitable conditions, management of groundwater, and design of retaining structures
- Familiar with wide variety of retaining structures—gabion baskets, soldier beam and lagging walls, sheet piles, reinforced concrete and reinforced earth slopes

FOUNDATION DESIGN RECOMMENDATIONS

- Experience with various types of foundations and will recommend the appropriate type of foundation given the anticipated application and site conditions
- Foundations—spread and strip footings, steel piles, auger-cast concrete piles, drilled piers, and reinforced mats
- Preliminary foundation design recommendations and cost analyses
- Preliminary alternatives for final recommendation
- Construction documents
- Final recommendation—construction drawings, technical specifications, recommendations for allowable bearing capacity, engineer's construction cost estimate, and contractor's bid sheet

TECHNICAL EXPERTISE

12. E. FUNDING FOR GI

Funding public projects in West Virginia can sometimes be complex and grueling. POTESTA's staff is highly experienced with federal, state and local funding programs and their requirements. Our staff has an unique and important experience with funding in West Virginia. The work relations developed over the years with POTESTA staff and the public funding staff are critical to bring the projects to fruition. Our staff is particularly experienced in projects funded by United States Department of Housing and Urban Development (HUD, i.e., Small Cities Block Grants), United States Department of Agriculture, Rural Utility Services (RUS), United States Office of Surface Mining (OSM), administered by the West Virginia Department of Environmental Protection Abandoned Mine Lands (AML), congressional offices, United States Army Corps of Engineers (USACE), West Virginia Infrastructure and Jobs Development Council (WVIJDC), WV Department of Environmental Protection's Clean Water Treatment Revolving Fund, WV Bureau for Public Health's Drinking Water Treatment Revolving Fund, West Virginia Development Office, and United States Department of Commerce - Economic Development Administration. POTESTA professionals have also been trained and received the WVIJDC Engineering and Administration Certification.

POTESTA obtained a Master Agreement with the Town of Marlinton (Town) to provide various improvements to the Town's existing sanitary sewer/storm sewer collection system to reduce infiltration/inflow and improve existing poor drainage conditions.

POTESTA's professional services included:

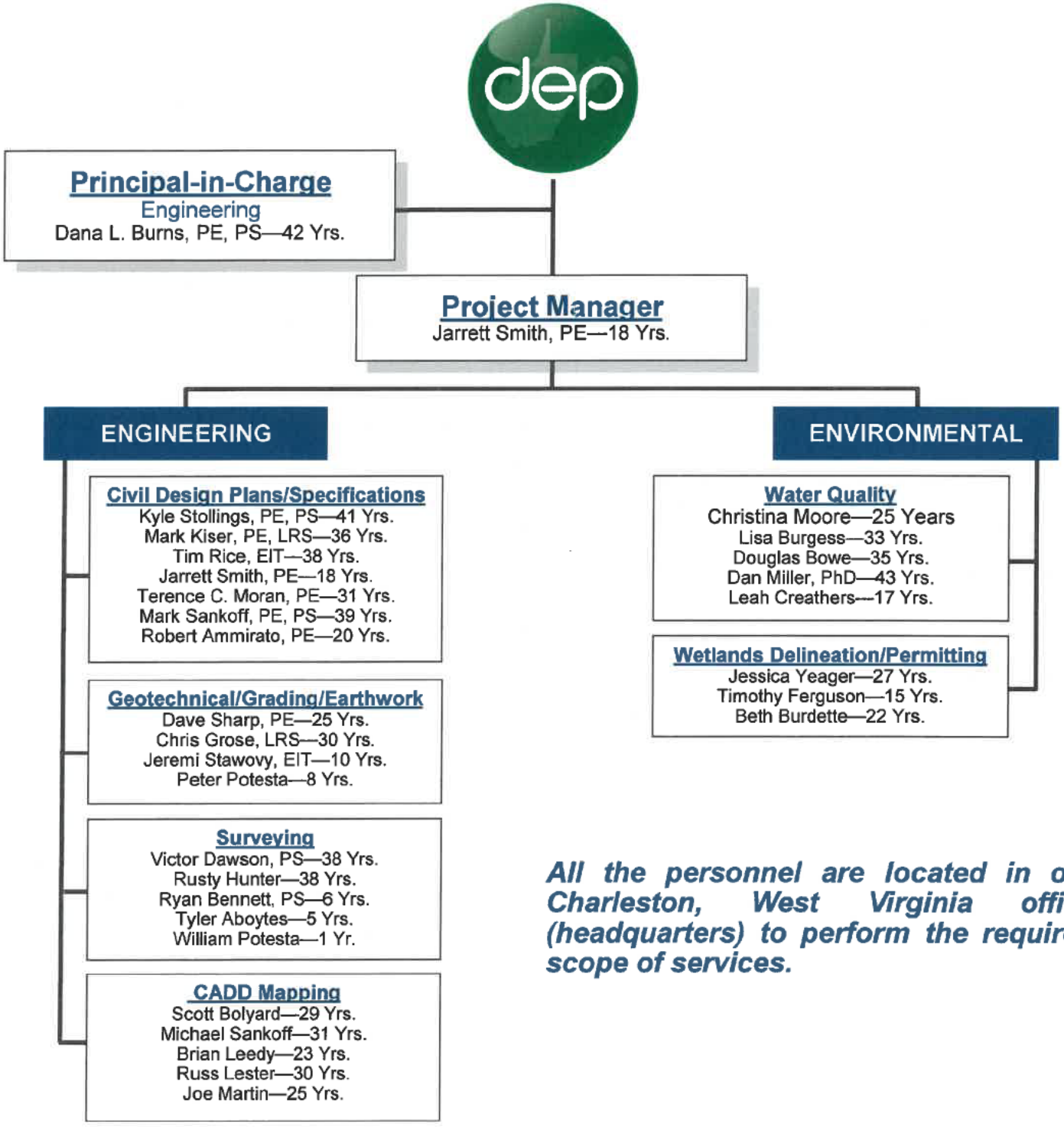
- **Conceptual map for proposed CSO improvement project**
- **Worked with representatives of the WVDEP, Clean Water State Revolving Fund program to discuss the eligibility of funding**
- **Development of a Long-Term Control Plan**
- **Smoke testing and camera work as necessary to document the connection between some of the storm water drop inlets and the existing sanitary sewer collection lines located within the areas of the proposed combined sewer improvement project**
- **Preliminary Engineering Report, including a preliminary estimate of probable construction cost**

POTESTA's methodology to identify and apply for GI funding:

- **Once WVDEP and local community government have reviewed and approved the preliminary report and associated construction, POTESTA will assist the parties, as necessary to obtain the funding to complete the project.**
- **Estimates of probable construction cost, broken down by typical pay items and estimates of total project cost will be prepared.**
- **It should be noted that POTESTA's staff keep the latest bid tabs from other projects that are bid across the state in order to provide accurate project costs.**

PROPOSED STAFFING PLAN

13. PROJECT TEAM ORGANIZATIONAL CHART



All the personnel are located in our Charleston, West Virginia office (headquarters) to perform the required scope of services.

PROPOSED STAFFING PLAN

13. KEY PERSONNEL

POTESTA has committed the following key personnel to the needs of the project. ***Appendix A*** includes resumes of proposed key personnel and applicable certifications.

Mr. Ronald Potesta's, President, key technical responsibility is the management of air and water projects and complex environmental compliance issues. Mr. Potesta served as the Director and Deputy Director of WVDNR which, during his tenure, had 700 full-time employees and encompassed the state environmental regulatory programs, wildlife management and law enforcement. Mr. Potesta will provide guidance to the project team as needed.

Mr. Dana Burns, P.E., P.S., Vice President, will serve as **Principal-in-Charge** and is highly experienced in the management of design and permitting of civil, geotechnical and environmental engineering projects including development of stormwater management and groundwater sampling plans, development of site plans for commercial, residential, and industrial facilities, including hydrologic and hydraulic analyses, utility extensions, and permitting. Mr. Burns, P.E., P.E., directs the engineering division on day-to-day operations concerning staffing, coordination, training, business development and overall management of technical and support staff. He is a registered Professional Engineer in West Virginia.

Mr. Jarrett M. Smith, P.E., Senior Engineer, has experience in civil and site design with emphasis in stormwater management, floodplain management, hydraulic analysis, landfill hydrologic analysis, erosion and sediment control, wastewater treatment, computer modeling associated with hydrology and hydraulics, geotechnical, and construction observation. Mr. Smith, P.E. has worked on a vast majority of POTESTA's utility projects and will serve as **Project Manager**. He is a registered Professional Engineer in West Virginia.

Mr. W. Kyle Stollings, P.E, P.S., Senior Engineer, has extensive experience in mining and civil engineering, surveying, and Public Works construction/administration. He is a registered Professional Engineer in West Virginia. Previous professional work history includes:

- Director of Maintenance Division for WVDOH—Working statewide in Maintenance and Operations Management including disaster recovery working with FEMA (snow, flood, fire), oversight of over 6,800 bridges, approximately 36,000 miles of roadway, materials and services contracts, heavy haul permits, public and media relations, interaction with state and federal agencies, legislators, and Congressional Representatives.
- Regional Project Manager for WVDOH—Project engineering/construction for Districts 1, 2, and 3.
- Unit Leader/Hydraulics Engineer for WVDOH Hydraulics and Section 404 Permit Unit—Supervise the creation of the new unit to upgrade DOH compliance with the Clean Water Act, NEPA, Sections 404 and 401 permitting and other environmental regulations.
- Construction Troubleshooter for WVDOH—Construction and fabrication problems.
- City Engineer for Charleston, West Virginia—Project development and constructions—landslides, drainage, landfill, roads/streets, bridges, parks, parking buildings, and other urban infrastructure.

Mr. D. Mark Kiser, P.E., Chief Engineer, has profound civil engineering experience ranging from utility extensions, replacement repairs, street and roadway construction, stormwater management, regulatory permitting and compliance, environmental compliance and permitting. Mr. Kiser has worked within many local jurisdictions to meet various local ordinances and codes. Mr. Kiser routinely serves clients in a project manager role and supervises other POTESTA professional staff and support personnel. Mr. Kiser is focused on client satisfaction and providing expert advice to assist clients. Mr. Kiser has completed 100's of stormwater projects. He is a registered Professional Engineer in West Virginia.

Mr. Mark A. Sankoff, P.E., P.S., Chief Engineer, has extensive experience with water engineering. As the past Director of Engineering at West Virginia American Water, he served as project manager for numerous

PROPOSED STAFFING PLAN

13. KEY PERSONNEL

water and wastewater projects, including the Kanawha County 2000 Water Project, installing over additional 100 miles of water main, six tanks and six boosters serving over 1,700 families. Mr. Sankoff's experience with sewer projects include the design and construction of sewer stations, pump stations, force mains, and sewer collection systems. He has also been responsible for the design, plans, specifications, regulatory approval, bidding and bond sale, and construction management of wastewater treatment plants. He is a registered Professional Engineer in West Virginia. He is the current Project Manager for the Town of Addison Stormwater Project.

Mr. James T. A. Keenan's, E.I., Engineer, focus is on civil engineering projects related to surveying, geotechnical exploration, planning, design, permitting, and construction monitoring. His project responsibilities include civil/site design, hydrologic and hydraulic analysis/design, flood studies, development of technical specifications, and preliminary cost estimates.

Mr. Christopher A. Grose, L.R.S., Senior Engineering Associate, has degrees in civil engineering and geological engineering and has over 29 years of experience in 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. Victor Dawson, P.S., Surveying Supervisor, has more than 39 years of survey experience with extensive experience in performing and managing field surveys. His experience includes ground control surveys; field editing of topographic mapping; stakeout of borings, reference points, and right of ways; creation of topographic mapping from field survey; utility locations; as built and record surveys; flood elevation surveys; ALTA surveys; boundary surveys; and other related items. Mr. Dawson has been involved in the majority of WVDOH roadway and bridge survey projects on which POTESTA has provided surveying services for the last 24 years.

Ms. Jessica Yeager, M.S., Senior Scientist, is an aquatic biologist and toxicologist with decades of experience in evaluating the effects of anthropogenic activities on aquatic communities. She reviews and prepares environmental assessments, biological assessments and other environmental impact studies, as well as environmental permits for energy and industrial clients. Ms. Yeager is proficient in incorporation of GIS in project development and has worked as a project manager for T&E and SHPO coordination/ consultation. Other specialties include:

- **Developing impact assessments for planned disturbances and accidental releases**
- **Establishing and implementing recovery plans for streams and rivers**
- **Supervising the field personnel conducting impact assessments**
- **Designing benthic macroinvertebrate and fish studies for permitting needs**
- **Biological assessments of federally threatened and endangered species**
- **Advising clients on issues pertaining to the Endangered Species Act, CWA, and NEPA**

Mr. Timothy Ferguson, MS, Senior Scientist, has vast experience in environmental compliance and permitting and has served as project manager for numerous projects. He specializes in stream and wetland identification and delineation, mitigation development and planning, and permitting with the following agencies: USACE, WVDEP, WVDNR, West Virginia State Historical Preservation Office (SHPO), United States Fish and Wildlife Service and United States Environmental Protection Agency.

Ms. Beth Burdette's, M.S., Senior Scientist, areas of specialization include biological assessments, permitting, and plant ecology/taxonomy. Her experience includes agency consultation, USACE 404/WVDEP

PROPOSED STAFFING PLAN

13. KEY PERSONNEL

401 and waters of the state permitting, WVDPEP NPDES Construction storm water permitting and SWPPP preparation, and stream activity permitting. Detailed project responsibilities include:

- **Benthic macroinvertebrate surveys**
- **Fish surveys**
- **Habitat characterization/assessment**
- **Surface water quality/chemistry sampling**
- **Database management**
- **Groundwater and drinking water surveys and sampling**
- **Preparing and managing state and federal regulatory permits/renewals modifications**—Section 7 Threatened and Endangered Species, Section 106 State Historic Preservation Office Consultation, 404 permits, stream activity permitting, water and waste permits, NPDES permits, and MS4 general permits

PROJECT MANAGEMENT PLAN

CONTACT INFORMATION

POTESTA's principal-in-charge, **Mr. Dana L. Burns, P.E., P.S., Vice President,** will be responsible for contract management (administration) and shall coordinate and direct all aspects of the project.

Mr. Dana L. Burns, P.E., P.S.
Vice President
7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304
(304) 342-1400
dlburns@potesta.com

Day-to-day project activities for this project will be performed under the direction of our project manager, **Mr. Jarrett Smith, P.E., Project Manager**. The project manager will develop a detailed step-by-step project work plan, so that the project activities are completed in a correct manner, on-budget, and on-time.

Mr. Jarrett Smith, P.E.
Senior Engineer
7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304
(304) 342-1400
jmsmith@potesta.com

We look forward to continuing to serve WVDEP. Our staff has an abundance of experience with drainage improvement and stormwater management system projects throughout the region and will make our experienced personnel immediately available for this project. Our commitment is to provide quality service, rapid response and project completion, and to exceed your expectations for services performed under this project.

CAPACITY CONSIDERATIONS

POTESTA's experienced and capable staff of 74 allows us to respond quickly and complete projects in a timely manner. POTESTA's current workload is such that we can immediately provide the committed staff to work on assignments under this project. POTESTA has been working with West Virginia agencies since 1997 and thus understands the level of detail and expectations required for this type of project.

POTESTA was praised by the West Virginia Division of Highways on the Rand Drainage Preliminary Investigation and Engineering Study for compliance with schedules and completing project tasks at an excelled time frame.

PAST PERFORMANCE

Cost Control

The project manager is responsible for monitoring the project budget and keeping the principal-in-charge informed of its status. POTESTA's staff enters time into POTESTA's InFocus computer system on a daily and/or weekly basis. POTESTA's project managers can access InFocus at any time, thus allowing real-time

PROJECT MANAGEMENT PLAN

PAST PERFORMANCE

daily basis. Thus we can, in effect, keep track of the total project costs on a weekly basis. Our subcontractors commonly invoice at monthly intervals and there is seldom a discrepancy between our field representative's pay items and our subcontractor's invoice.

Quality of Work

Submittals to the WVDEP are reviewed and commented on by the project manager and the principal-in-charge prior to submittal to the WVDEP. POTESTA utilizes standardized Quality Assurance/Quality Control (QA/QC) practices such as consistency checks, color coding of checked copies/calculations, and review of method of measurements versus quantity tallies to insure QA/QC expectations are met. Over 85 percent of our business is from past clients which we believe is the result of providing a quality product.

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. 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 make it impossible to maintain the project schedule, the project manager will contact the WVDEP project manager to develop a mutually acceptable adjustment to the schedule and/or work plan.

GEOGRAPHIC LOCATION

POTESTA will complete the work under this contract in our Charleston, West Virginia office which is staffed entirely with West Virginia residents. POTESTA's staff is very familiar with the regulatory structure and process of the State and have acquired years of combined environmental/permitting/design experience, resulting in innovative approaches to the various challenges that the topography and geology of this State present. Our close proximity to WVDEP's Charleston office will allow the project to be completed in a timely, economical manner, as well as provide WVDEP with easy access to us.

REQUIRED DOCUMENTS

Appendix B contains the following documents:

- Signed Expression of Interest Forms
- Designated Contact and Certification and Signature Page
- Addendum Acknowledgement Form
- Disclosure of Interested Parties Form
- Purchasing Affidavit Form

SOFTWARE AND EQUIPMENT

14. SOFTWARE AND EQUIPMENT AVAILABLE TO COMPLETE GI PROJECT

- HEC-HMS
- Culvert Master
- Flow Master
- HEC-RAS
- PCSWMM
- ArcView 10.6 Spatial Analyst Software
- Autodesk Civil CD
- TR-55
- Access Database

CURRENT PROJECTS

15. PROJECTS FIRM PRESENTLY INVOLVED IN

Client	Project
Town of Addison **Addison, West Virginia**	Storm Sewer Replacement/Extension Project
Huntington Sanitary Board **Huntington, West Virginia**	Evaluation of stormwater problems and replacements, rehabilitation of stormwater pump stations, 2 new stormwater pump stations, location of stormwater system, asset management plan
Park Place Development **South Charleston, West Virginia**	Drainage—1,850 feet, 96-inc diameter steel reinforced polyethylene pipe, 2 precast concrete junction boxes, 2,100 FT of CPP (48" to 24" diameter), 1,200 FT including drop inlets draining U.S. Route 60 widening, and over 4,000 FT of 42" and 48" diameter CPP draining public streets with the final development for 80-acre commercial retail development
Perkins Eastman Architects DPC **Huntington, West Virginia**	Engineering services for the proposed new structure to house the Lewis College of Business and Brad D. Smith Schools of Business at Marshall University. Anticipated services include civil engineering, property survey and site utility mapping, geotechnical engineering, environmental/hazmat, and traffic/parking analysis and transportation engineering
Cocoa Bean Realty **Wood County, West Virginia**	Environmental consulting services, including Section 401 and 404 Clean Water Act Permitting for proposed bank stabilization project along the Ohio River
WVDNR **West Virginia**	Evaluate and develop lead management plans and facility improvement recommendations for the agency's 29 currently active public shooting ranges.
WVDNR **Wirt County, West Virginia**	Engineering services for the upgrade of the former Palestine Fish Hatchery facility
Confidential	Sampling and analyses for legal advice concerning options for securing and maintaining permit and licenses for natural gas pipeline system
Hino Motors **Parkersburg, West Virginia**	General environmental consulting for various applicable regulatory programs, shower test discharge sampling plan and sampling
WVDOH **West Virginia**	District-specific slide inspection services for District Three and District Six
Hardy County Rural Development Authority **Moorefield, West Virginia**	Engineering services in conjunction with preliminary engineering and preparation of a U.S. Economic Development Administration (EDA) grant application for the development of the John Wayne Crites Business/ Industrial Park located along Corridor H (U.S. Route 48)
Confidential Energy Company	Solar Project—engineering, regulatory, environmental guidance, Phase I ESA, SPCC Plan, Section 404 permitting, NEPA compliance, siting certificate, Section 401 certification, NPDES permitting, stream activity application, natural heritage database, local permitting, surveying, stormwater management, E&S, grading, utility design, and site design

16. n/a

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

MS4 GENERAL PERMIT PROGRAM

Town of Ceredo
Ceredo, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the Town of Ceredo to develop, update, and help implement their Municipal Separate Storm Sewer System (MS4) Program regulated by the West Virginia Department of Environmental Protection (WVDEP) for the National Pollutant Discharge Elimination System (NPDES) General Permit program.

POTESTA's services included:

- Completed the Site Registration Application (SRA).
- Updated the Town of Ceredo's existing Stormwater Management Ordinance which was noted as deficient by WVDEP. Included was implementing new Illicit Discharge Detection and Elimination, Construction Site Runoff and New/Re-development requirements.
- Completed a first year annual report.
- Prepared a Storm Water Pollution Prevention Plan (PPP) for municipal facilities.
- Developed a comprehensive Stormwater Management and Erosion Plan Review Checklist for New Development and Re-development Projects which also serves as contractor training.
- Generated 20 newspaper articles to be used over five years to educate the public on storm water protection.
- Performed a baseline telephone survey to measure town residents' knowledge on storm water protection prior to release of the newspaper articles.
- Conducted initial field reconnaissance to identify and document locations with stream bank erosion for potential future mitigation projects.
- Created a school outreach training module to educate elementary school children on the importance of storm water protection, and led the first school outreach training session.
- Built a training module to assist with the Town of Ceredo's required annual staff training and conducted the first staff training session. Deliverables included a 50+ page PowerPoint presentation detailing the Stormwater Management Program, Stormwater Management Ordinance, and PPP.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

STORM WATER SYSTEM IMPROVEMENT

Town of Marlinton
Pocahontas County, West Virginia

Potesta & Associates, Inc. (POTESTA) obtained a Master Agreement with the Town of Marlinton (Town) to provide various improvements to the Town's existing sanitary sewer/storm sewer collection system to reduce infiltration/inflow and improve existing poor drainage conditions.

POTESTA's professional services included:

- Conceptual map for proposed CSO improvement project.
- Worked with representatives of the West Virginia Department of Environmental Protection, Clean Water State Revolving Fund program to discuss the eligibility of funding.
- Development of a Long-Term Control Plan.
- Smoke testing and camera work as necessary to document the connection between some of the storm water drop inlets and the existing sanitary sewer collection lines located within the areas of the proposed combined sewer improvement project.
- Preliminary Engineering Report, including a preliminary estimate of probable construction cost.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

WWTP LAGOON DECOMMISSION AND SINKHOLE REMEDIATION PROJECT

County Commission of Jefferson County
Jefferson County, West Virginia

Potesta & Associates, Inc. (POTESTA) provided professional engineering and permitting services for a waste water treatment plant (WWTP) lagoon decommissioning, sinkhole remediation, and drainage swale design in the Bardane Industrial Park in Jefferson County, West Virginia.

Specifically, POTESTA's scope of services included working with the Commission and the West Virginia Department of Environmental Protection (WVDEP) for decommissioning the lagoon; wetland determination; developing a topographic survey; designing a mitigation plan for the sinkhole; designing a drainage swale through the lagoon; developing engineering drawings and specifications; acquiring a National Pollutant Discharge Elimination System Construction Storm Water Management permit; and obtaining required local state approvals through the Commission, WVDEP and the West Virginia Division of Highways. POTESTA was responsible for developing construction drawings and technical specifications, bidding the project, meeting and corresponding with contractors, and assisting in the selection of the contractor, as well as being the administer of construction management. POTESTA also provided construction management assistance and provided construction stakeout.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

VOLUNTARY REMEDIATION PROJECT

Huntington Sanitary Board
Huntington, West Virginia

The Huntington Sanitary Board (HSB) operates a sewage treatment facility for the City of Huntington, West Virginia, that contains an out-of-service ash pond that the HSB wishes to close in compliance with applicable state regulations. To achieve that end, the site was entered into the West Virginia Voluntary Remediation and Redevelopment Act (VRRA) program.

The ash pond was established in the 1960s. Chemicals of potential concern at the site consisted of metals, semi-volatile organic compounds, volatile organic compounds, polychlorinated biphenyls (PBCs), herbicides, and pesticides.

The environmental assessment of the ash pond site was conducted by Potesta & Associates, Inc. (POTESTA) through the collection and analyses of soil, groundwater, sediment, and surface water samples to assess the various site media.

The project's Licensed Remediation Specialist (LRS) reviewed the laboratory analytical results to establish the contaminants of concern (COCs) at the site. The data were screened against applicable criteria by medium as established by the VRRA.

The assessment concluded no significant risks are present for industrial/commercial receptors.

No significant ecological receptors were identified on the site and no further ecological evaluation is required.

No additional assessment or remediation of the ash pond site was required.

The site was issued a Certificate of Completion by the West Virginia Department of Environmental Protection and continues to operate as the primary sewage treatment facility for the City of Huntington.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

COMMUNITY OF RAND DRAINAGE PIE STUDY

West Virginia Division of Highways
Rand, Kanawha County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by the West Virginia Division of Highways (WVDOH) to complete a Drainage Preliminary Investigation and Engineering (PIE) study of the stormwater collection and drainage system in the City of Rand in Kanawha County, West Virginia. The project area includes the area bounded by Athens Avenue (County Route 60/80) to the north, Midland Drive (County Route 60/12) to the east, Marshall Avenue (County Route 60/87) to the south, and the Kanawha River to the west.

The project area is unincorporated residential and experiencing flooding and water back up during rain events.

POTESTA's engineering services for this project include the following:

- Data collection and inventory of the existing stormwater collection and drainage system.
  - Review of existing maps, construction plans, specifications, and historic documents related to the project area.
  - Research property information, including easements, rights-of-way, and historic maps.
  - Perform dye tracing and video inspection of storm sewers.
  - Locate, survey, and map buried and overhead electric, gas, water, and telecommunications lines within the WVDOH rights-of-way in the study area.
  - Produce topographic mapping of the project area with stormwater system, utilties, and public right-of-way shown.
  - Identify and provide info on blocked stormwater pipes to be addressed by DOH maintenance.
- Evaluation of existing site and three alternatives.
  - Perform hydrologic and hydraulic flow analysis of the existing system.
  - Evaluate three options for a stormwater management system, including two gravity flow systems and a pumping system.
- Prepare Drainage PIE Study Report with findings and recommendations.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

HUNTINGTON SANITARY BOARD WASTE WATER TREATMENT PLANTS AND ASSISTANCE WITH VARIOUS SERVICES

Huntington Sanitary Board
Huntington, West Virginia

POTESTA currently has a general agreement with the Huntington Sanitary Board (HSB) to perform services related to the Board's implementation of their Long-Term Control Plan, Water Treatment Plant Modernization Plan, and Storm Water Management Utility Establishment/Operation. This agreement has been comprised of multiple work orders for improvement of Huntington's combined sewer system.

Currently, POTESTA has concluded or is in the process of the following work:

- Design and construction services for new regional septage receiving and a vacuum truck disposal, pump station, septage receiver ("the beast") and roadway.
- Management of preparation of wastewater treatment plant sludge incinerator failure analysis and preparation of cost study to replace incinerator including measures to meet new Clean Air Act standards for sludge incinerators.
- Environmental remediation of fly ash lagoon through West Virginia Voluntary Remediation Program and design of Bioretention Basin at WWTP for treatment of stormwater fitting "green" project criteria.

- Evaluation of the mixing zone for the wastewater treatment plant discharge into the Ohio River through computer analysis. Based on the analysis, it was determined that the effluent line required a diffuser to allow for adequate mixing at the discharge.

COMPLETED PROJECTS

17. COMPLETED WITHIN LAST 5 YEARS

HUNTINGTON SANITARY BOARD
WASTE WATER TREATMENT PLANTS AND
ASSISTANCE WITH VARIOUS SERVICES
PAGE 2

- Design and construction services of a new HDPE effluent line, diffuser, and air chamber located in the Ohio River to replace 50-year-old existing effluent line which failed due to excessive weight of fill placed on its corrugated metal pipe.
- Design of chlorine room relocation to centralized location within waste water treatment plant to provide a more direct chlorine feed route to contact tank and a more secure area to address chlorine leakage.
- Preparation of preliminary engineering of $75 million capital projects including waste water treatment plant work to support HSB rate increase. Analysis included cost estimate and schedule for the following:
  - New office/laboratory building.
  - Headwork replacement (including screening and grit removal system).
  - New anaerobic digestion system.
  - New scrubber/chlorine removal systems of chlorine room.
  - Primary and secondary scrubber, cover and drive replacement work.
  - Replacement of primary clarifier sludge removal system.
  - Replacement of aerator blow system including moving blowers from centralized building to each active sludge basin.
- Assistance to the HSB regarding the CSO long-term control plan's implementation schedule.
- Preparation of Asset Management Plan including system wide Conditions Assessment Protocol (CAP).

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

UPDATE OF SOURCE WATER PROTECTION PLAN

Region VI Planning & Development Council
Various Locations, West Virginia

The Source Water Protection Act (contained in West Virginia Senate Bill 373) and Legislative Rule 64CSR3 require Source Water Providers (SWPs) to update their Source Water Protection Plans in response to the January 9, 2014 Freedom Industries chemical leak which contaminated the drinking water for approximately 300,000 West Virginia residents. Potesta & Associates, Inc. (POTESTA) was retained by the Region VI Planning & Development Council to prepare Source Water Protection Plans for eight SWPs in northern West Virginia.

Included in our scope of services was:

- Reviewing reports previously prepared by the West Virginia Department of Health and Human Resources (WVDHHR) and/or the SWPs.
- Meeting with each SWP to identify source water concerns, develop management strategies, create a communication and monitoring plan, and update education and outreach strategies.
- Forming a source water protection team to allow for local review of the source water protection plans, including review by local government, emergency planning, and health department officials, as well as business owners and residents.
- Developing GIS-based mapping of the Source Water Protection Area (SWPA) and Potential Sources of Significant Contamination (PSSC).
- Prioritizing PSSCs and developing actionable management strategies to reduce the associated risks.
- Leading source water protection plan meetings and public meetings for plan development.
- Presenting the Source Water Protection Plan at a public forum (e.g., town council, board meeting, etc.) and answering questions on the plan.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

SOURCE WATER PROTECTION PLAN UPDATE: ENGINEERING STUDY FOR CONTINGENCY PLANNING FOR SEVEN SOURCE WATER PROVIDERS

Regional Intergovernmental Council
South Charleston, West Virginia

The Source Water Protection Act contained in West Virginia Senate Bill 373 and Legislative Rule 64CSR3 require Source Water Providers (SWP) to update their Source Water Protection Plan in response to the January 9, 2014 Freedom Industries chemical leak which contaminated the drinking water for approximately 300,000 West Virginia residents. Potesta & Associates, Inc. (POTESTA) was retained by the Regional Intergovernmental Council in South Charleston to prepare an Engineering Study for Contingency Planning, which is a component required in the Updated Source Water Assessment and Protection Plan Report, for seven SWPs.

The Engineering Study for Contingency Planning examines and analyzes the technical and economic feasibility of each of the following options to provide continued safe and reliable public water service in the event the SWP's primary source of supply is no longer available (i.e., single source analysis). POTESTA utilized a feasibility matrix provided by the West Virginia Department of Health and Human Resources to rank alternative source water options listed below based on economic, technical and environmental criteria:

1. Backup Intake or well from a substantially different location or water source.
2. Construction of raw or treated water storage capacity to provide at least two days of system storage based on the plant's maximum level of production experienced within the past year.
3. Creation or construction of operational interconnection(s) with another SWP to receive its water from a different source.
4. Creation or construction of alternative source water options.

In addition to the single source analysis, POTESTA examined existing water system information to assist SWPs with contingency planning including the SWP's ability to: isolate or divert contaminated water, switch to an alternative water source or surface water intake, close its water supply (including estimating maximum duration of closure based on existing storage capacity), implement an early warning monitoring system, operate during a power outage, assess unaccounted for water, and meet future water supply demands. Results were summarized in a report and POTESTA presented the final report at a public meeting for each SWP.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

UNDERGROUND UTILITY LOCATION PROJECT WEST VIRGINIA ARMY NATIONAL GUARD CAMP DAWSON FACILITY

ZMM Architects and Engineers
Kingwood, Preston County, West Virginia

Potesta & Associates, Inc. (POTESTA) performed private utility locations, surveying, and engineering services for the existing utilities within an approximate area of 150 acres at the West Virginia Army National Guard's (WVARNG) Camp Dawson facility in Kingwood, Preston County, West Virginia. The project consisted of locating the existing aboveground/underground utilities and providing construction documents to assist with relocating the existing above ground utilities to underground.

Initially POTESTA met with the WVARNG to review existing mapping and utility plans for the facility. POTESTA then utilized a subcontractor to provide private utility locating services using geophysical methods including Electromagnetic (EM) scanning and Ground Penetrating Radar (GPR) for the underground electric, water, communications, storm sewers, sanitary sewers, and gas lines. Simultaneously, POTESTA's survey crews located flags from the underground utility locations as well as locations of above ground utilities and appurtenances. Following data collection, POTESTA prepared an existing utility map showing the location of verified existing aboveground and underground utilities.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

DAVIS & ELKINS COLLEGE MYLES PLAZA

Mills Group, LLC
Elkins, Randolph County, West Virginia

Potesta & Associates, Inc. (POTESTA) was retained by Mills Group, LLC for engineering consulting services associated with the proposed Myles Plaza at Davis & Elkins College in Elkins, Randolph County, West Virginia. The project included renovations of the area around and adjacent to Robbins Chapel to include parking lots, new sidewalks, hardscapes, and green spaces. The project also included a new featured entry to Hermanson Campus Center, as well as a roof extension between Hermanson Campus Center, Harper-McNeeley Auditorium, and Myles Center for the Arts.

POTESTA's engineering and geotechnical services for this project included the following:

- Providing geotechnical recommendations regarding the suitability of the site for construction of the proposed plaza and roof structure.
- Coordinating private utility locating services using geophysical methods including electromagnetic scanning and ground penetrating radar. These services provide the horizontal designation of buried utilities.
- Utilization of topographic mapping and site surveys prepared by POTESTA to generate construction-level design drawings including a site grading plan, demolition plan, erosion and sediment control plan, stormwater plan, and supplementary detail drawings.
- Sizing and locations of the storm water collection system including, but not limited to, drop inlets, buried pipes, and discharge protection.
- Preparation of detail drawings for drop inlets, pipe profiles, trench details, sidewalk details, pavement sections (with stone base and pavement thicknesses), curbs, and erosion and sediment control details.

COMPLETED PROJECTS

17. **COMPLETED WITHIN LAST 5 YEARS**

TELECOMMUNICATION TOWERS MOUNTAIN STATE BROADBAND EXPRESSWAY

Upshur County Development Authority
Buckhannon, West Virginia (Towers Located Statewide)

Potesta & Associates, Inc. (POTESTA) was retained by the Upshur County Development Authority (UCDA) to provide engineering, surveying, environmental consulting, and construction administration services to implement the Mountain State Broadband Expressway Project – a $12.5 Million West Virginia Department of Environmental Protection Abandoned Mine Lands (WVDEP AML) Pilot Grant project focused on developing telecommunication towers throughout the State of West Virginia to enhance broadband availability. The project is currently underway, and the professional services offered by POTESTA on this project include the following: completing the environmental assessment, NEPA process, and agency consultation; civil/site design; preparation of all necessary permit applications; preparation of construction plans, specifications, and bidding documents; assistance during bidding; construction administration services; and construction inspection services.

The project includes as many as 16 "back-bone" towers, and as many as 80 "support" towers throughout West Virginia. The "back-bone" towers are referenced as the standard self-supporting tower that typically reaches heights of 200 to 300 feet while the "support" towers are much smaller (less than 150 feet in height) and require a much smaller footprint for the tower compound.

A more detailed list of tasks provided to UCDA by POTESTA includes:

- Plat of Survey (Pad Site, Access Road, and Utility Easement)
- Topographic/Site Survey
- Environmental Assessment and NEPA Process
- Geotechnical Investigation and Recommendations
- FAA Tower Height Hazard Determination
- FCC ASR Application
- Section 106 Consultation/Environmental Clearances
- WVDOH MM-109 Permit
- WVDEP – NOI Storm Water Registration
- Civil/Site Design (Grading, Utility Design, Stormwater Management, Etc.)
- Bid Package, Contract Documents, and Assistance During the Bidding Process
- Project Management/Monthly Meetings

18. n/a

ADDITIONAL RESOURCES

19. TMDL QUALIFICATIONS

POTESTA has extensive experience calculating the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. We have worked with multiple clients on a long-term basis providing consulting services related to 303-d and total maximum daily load (TMDL) issues.

POTESTA's consulting services related to TMDL includes:

- **Baseline water quality sampling and analysis**
- **Background water quality sampling and analysis**
- **Metals translator sampling and analysis**
- **Water chemistry studies**
- **Mixing zone verification sampling and analysis**
- **Use attainability analysis**
- **Expert testimony**

In many cases, site-specific water studies can be used to demonstrate that discharges are not harming the aquatic environment.

20. STATEMENT OF FACTS

Signature: Dana L. Burns

Printed Name: Dana L. Burns, P.E., P.S

Title: Vice President

Date: August 11, 2021

REFERENCES

Ms. Shelley W. Porter P.E.
Engineering Manager, West Virginia American Water Company
1600 Pennsylvania Avenue
Charleston, West Virginia 25302
(304) 340-2974
shelley.porter@amwater.com

Mr. Tim Chapman
Manager, Elk Valley PSD
100 Bream Street
Elkview, WV 25071
(304) 965-1676
timevpsd@suddenlinkmail.com

Mr. Toby Waller
Chairman, Boone County PSD
109 Town Square
Danville, West Virginia 25053
(304) 369-2622
tobywaller@gmail.com

Mr. Bob DeRiggi
Chairman, Kingwood Water Works
313 Tunnelton Street
Kingwood, WV 26537
(304) 288-0070
bderiggi@jdsigns.com

Ms. Mallie J. Combs
Executive Director, Hardy County Rural Development Authority
PO Box 209
Moorefield, WV 26836
(304) 530-3047
mjcombs@hardynet.com

Mr. Jim Rorrer
Vice Chair of all Committees
555 Seventh Avenue
Huntington, West Virginia 25701
(304) 696-4437
jrorrer@huntingtonsb.com

RONALD R. POTESTA
President

EDUCATION

M.S. Economics, concentration in Mineral Economics, Econometrics, and Microeconomics
West Virginia University

B.S. Business Administration
West Virginia University

SERVICE ON BOARDS AND COMMISSIONS

- Past Chairman and current Commissioner, Ohio River Valley Water Sanitation Commission
- Past Chairman and current Member, Board of Trustees, The West Virginia Nature Conservancy
- Member of the West Virginia Land & Mineral Owners Board of Directors
- Past Chairman, The Greater Kanawha Valley Foundation

ADMINISTRATIVE EXPERIENCE

President of Potesta & Associates, Inc., a full-service engineering, design, and environmental consulting company with offices in Charleston and Morgantown, West Virginia, and Winchester, Virginia. In this position, he guides the professional staff of skilled engineers and scientists with his knowledge of federal and environmental regulatory and statutory schemes.

PROFESSIONAL EXPERIENCE

Prior to forming Potesta & Associates, Inc.

1989-1997 – President of an environmental and engineering consulting company, which he formed in 1989. Under his guidance, the company grew into a full-service environmental consulting, design, and construction company with a staff of over 50 professional and support personnel.

1985-1988 – Director of the West Virginia Department of Natural Resources, an agency with an annual budget of $23 million and 700 full-time employees. The office of Director included supervision of Water Resource and Waste Management Division, Land and Real Estate Office, Office of Regulatory Affairs, Conservation, Education, and Litter Control, Public Information Office, and Wonderful West Virginia Magazine. He also served as Chairman on the State Emergency Response Commission and the Title III organization mandated by the federal Superfund Amendments and Reauthorization Act.

1984-1985 – Deputy Director of the West Virginia Department of Natural Resources, responsible for overseeing environmental regulatory programs described under Director's position and for the supervision of programs associated with the West Virginia Surface Coal Mining and Reclamation Act.

1981-1984 – Marketing Director of the West Virginia Coal Development Authority, responsible for promotion of West Virginia coal in both domestic and export markets requiring expertise in coal reserves, coal quality, transportation networks, and market demands.

DANA L. BURNS, P.E., P.S.
Vice President

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 AFFLIATIONS

- 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 6th 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

Glenville 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 weeklong 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.

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 storages 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 statues 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 Insectide, 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 Iaquinta 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
- Iaeger 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.

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.

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

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 [redacted]

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

By

Secretary

Robert B. Scott President

JARRETT M. SMITH, P.E.
Senior Engineer

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.

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

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 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

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 larges 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.

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

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 [redacted]

"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

W. KYLE STOLLINGS, P.E., P.S.

Senior Engineer

EDUCATION

AASHTO National Transportation Leadership Institute, 2010
Indiana University

B.S. Civil Engineering, 1989
West Virginia Institute of Technology

B.S. Engineering of Mines, 1980
West Virginia University

EMPLOYMENT HISTORY

2018-Present	Potesta & Associates, Inc.
2018	TRC Companies, Incorporated
1999-2017	West Virginia Department of Transportation, Division of Highways
1998-1999	Engineering Design Group
1989-1998	City of Charleston, West Virginia
1987-1989	Self-Employed – Mining and Construction
1986-1987	Peabody Coal Company
1983-1986	Self-Employed – Mining Consultant
1980-1983	ARMCO, Inc.

PROFESSIONAL REGISTRATIONS

- Professional Engineer – West Virginia
- Professional Surveyor – West Virginia

AREAS OF SPECIALIZATION

Mining and civil engineering, surveying and Public Works construction and administration. Experience in underground coal mining, broad spectrum urban engineering/construction/administration, highways project engineering/construction, disaster recovery, public and media relations, and interaction with state and federal agencies, legislators, and Congressional Representatives.

PROFESSIONAL EXPERIENCE

Roadway Design

West Virginia Department of Transportation, Division of Highways – Division Director for the oversight of policy and procedures and the Maintenance Management System for DOH Operations and Maintenance. Management of several administrative sections and associated programs with approximately 50 staff:

- Bridge Evaluation Section - Primary work is administering the National Bridge Inspection Standards (NBIS) Program including oversight of the District Bridge Departments' compliance. Implemented an inspection QA/QC program that FHWA recommends to other DOT Bridge Programs. Implemented InspectTech database software for inspection reporting. Implemented Element Level inspection and reporting. Oversize Hauling Permit Unit for heavy trucks.
- Asset Management Section
- WVDOH Pavement Management System
- Transportation Asset Management Plan – Assisted with scoping through consultant selection, scope includes development of a Bridge Asset Management System.
- Resource Management Section - Procurement contracts, Encroachment Permits and Bonds administration and database.
- Operations Section: Buildings and Grounds Program, Core Maintenance Program, Disaster Recovery Coordination (FEMA and FHWA-ER), Oil and Gas Policy and Bond Agreements working two engineers and two clerical staff to monitor well drilling and pipeline activities.
- WVDOH Oil and Gas Policy – assisted the State Highway Engineer in writing and interpreting policy and rules for managing oil and gas industry activities on the state highway system.
- WVDOH Voting Member of the AASHTO Subcommittee on Maintenance, 2013-2017
- WVDOH representative on the Clear Roads Winter Maintenance Research Group 2011-2015
- WVDOH representative on AASHTO Snow and Ice Cooperative Program (SICOP) 2016-2017

West Virginia Department of Transportation, Division of Highways, Engineering Division – Regional Project Manager working with DOH Districts 1, 2, and 3 monitored design project scope, schedules, and budgets. Reviewed plans for construction means and methods before PS&E.

West Virginia Department of Transportation, Division of Highways, Engineering Division, Technical Section, Hydraulics and Section 404 Permit Unit – Unit Leader to supervise the creation and staffing of this new unit to

upgrade DOH compliance with the Clean Water Act, NEPA, Sections 404 and 401 Permitting and other environmental regulations while providing technical resources for hydraulic evaluations and design of stream and wetland mitigation projects. Scoped and supervised the first stage of a complete update of the DOH Hydraulics and Drainage Manual.

West Virginia Department of Transportation, Division of Highways, Engineering Division, Technical Section – Construction Troubleshooter working with the DOH Contract Administration Division on construction and fabrication problems with latitude to expedite solutions. As Hydraulics Engineer, justified the creation of a Hydraulics and Permit Unit within the Technical Section.

As City Engineer for the City of Charleston:

- Managed office of 5 - 8 staff with 2 engineers and $4 to $17 Million annually in project development and construction: landslides, drainage, city landfill, roads and streets, bridges, parks, parking buildings and other urban infrastructure.
- Conceived the design that allowed the City to build and keep a solid waste landfill that is still operating. At construction in 1993, this was the largest public works project in City history at an initial construction cost of approximately 17 million dollars.

Coordinated daily assignments and inspection services of 12-14 inspectors in the construction of four bridges and approximately 14.5 miles of Limited Access Highway for US 35 Design-Build Upgrades Projects in Putnam and Mason Counties, West Virginia.

- Reviewed and approved Inspector's Daily Reports
- Regular field review of work in progress
- Frequently provided interpretation of WVDOH Standard Specifications and Project Plans for the inspectors and contractors
- Made recommendations for plan changes and improvements.

Mining

Mine surveying, mine construction, boundary surveying, and residential construction.

Peabody Coal Company – Section foreman on Robinhood No. 9 Mine in Twilight, West Virginia. Supervised coal production crews and underground construction and general labor crews.

Mine surveying, mapping, and permitting for small mining operations across four counties in West Virginia.

ARMCO, Inc.:

- Section Foreman – Sundial No. 10A and Hardwood Mine
- Industrial Engineer – Sundial Subdivision (500 employees producing 1,000,000 plus clean tons per year)
- Supervised coal production crews and underground construction and general labor crews.
- Longwall, continuous miner sections, mainline track haulage, conveyor haulage, and battery haulage

The State of West Virginia

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

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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

Willie K. Stollings

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 [redacted]

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 26th day of July in the year of our Lord One Thousand Nine Hundred and Ninety and of the State the One Hundred Twenty seventh

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

By

Secretary Kenneth H. Means

Frank L. Teddy President

Robert B. Scott

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
- 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.

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.

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.

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 M. Kiser

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 [redacted]

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 15th day of March in the year of our Lord One Thousand Nine Hundred and Ninety and of the State the One Hundred Twenty sixth.

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

By

Kenneth H. Means, Secretary

Frank V. Tabby, President

MARK A. SANKOFF, P.E., P.S.

Chief Engineer

EDUCATION

B.S. Civil Engineering, 1982
West Virginia University

EMPLOYMENT HISTORY

2011-Present	Potesta & Associates, Inc.
1991-2011	West Virginia American Water
1988-1991	Dunn Engineers, Inc.
1982-1988	Kelley, Gidley, Blair & Wolfe, Inc.

PROFESSIONAL REGISTRATIONS

- Professional Engineer – West Virginia
- Professional Surveyor – West Virginia

PROFESSIONAL AFFILIATIONS

- American Water Works Association
- National Society of Professional Engineers

AREAS OF SPECIALIZATION

Water including design of water mains, water storage tanks, booster stations, pressure reducing stations, advanced metering infrastructure – (AMI) and Automated Meter Reading – (AMR) systems. Extensive knowledge in water distribution systems operation and maintenance.

PROFESSIONAL EXPERIENCE

Water Lines, Water Storage Tanks, and Water Treatment Plants

Confidential Coal Company – Onsite water management, reuse and disposal project; services included construction of 8,500 gallon per minute combination high pressure pump/pressure reducing station, controlling a 14 mile 26" HDPE pipe, an 8,500 gallon per minute pressure sustaining valve station, energy dissipation structure, river outfall and SCADA system.

Responsible for engineering at West Virginia American Water (WVAW):

- Supervising an engineering staff of eight, working in conjunction with other departments at WVAW.
- Developing and prioritizing multiple capital projects while developing and managing the multi-million capital budget for West Virginia. Budgeting includes developing and creating large investment projects, multiple public private partnerships and several acquisitions.
- Involved in multiple operational issues/projects including non-revenue water reduction, comprehensive planning studies including interconnection studies to combine operations to increase efficiencies.
- Worked on the automation of Bluestone Water plant which is intended to be the first one shift automated and unattended surface water treatment plant in West Virginia.
- Design of multiple pressure reducing stations and booster stations.
- Overseeing a $1.5+ million per year tank painting program.
- Managed tank painting program, which included evaluating, prioritizing, draining and refilling tanks, tank inspections, preparation of contract documents, bidding, bid evaluations, contract awards, scheduling, taking tanks out of service while maintaining uninterrupted service to customers.
- Responsible for over 300 tanks in the largest water system in West Virginia.

Responsible for the Fayette AMI project, a $4.3 million-dollar meter replacement/automation project to automate almost 12,000 water meters in Fayette County, West Virginia. This project was part of an EPA Green Project and the project was successfully publically bid using a

performance specification using stimulus money. Methods were developed to economically work through terrain issues as it related to radio signals to develop a successful project. The project successfully incorporated acoustic listening devices to monitor the distribution system at night to reduce non-revenue water in the Fayette water system.

City of Glenville – Project Manager for the study, design, bidding, and construction phase services for project involving upgrades and construction monitoring to their existing potable treatment and water distribution system.

Town of Mills Creek – Project Manager for the design, permitting, preparation of construction plans, specs, and bidding documents, and construction administration/observation services for the construction of two backwash ponds behind the existing water treatment plant.

Responsible for the project management to complete the WVAW building complex at 1600 Pennsylvania Avenue, Charleston, West Virginia. Provided oversight of the building complex for all operation and maintenance items, as well as liaison with the leasees.

Project Manager of the Kanawha Valley to Montgomery Interconnection Project design which included over 20 miles of 20-inch to 12-inch water mains, two relay booster stations, one storage tank, Kanawha River Crossing, railroad crossings, two pressure reducing stations and radio telemetry.

Project Manager for the EPA IDSE disinfection project to develop the computer water models for the Charleston and Huntington water systems which calibrated the two largest water distribution systems in West Virginia.

Project Manager for the Kanawha County IDB Water Project 2000 which served 33 areas and brought water to over 1,740 families. The total project cost of over $22 million included over 100 miles of water mains, five boosters and six water storage tanks of various sizes. Oversaw the design work of six consultants, including acquiring the rights-of-way, the bidding of 12 water main contracts, and the construction of those contracts with five consultants handling five contractors, while managing the bidding and construction of the above boosters and water storage tanks.

Prepared specifications and plans for numerous water main extensions, water storage tanks, boosters and hydro pneumatic booster stations and pressure regulating stations including site work, other utilities, and property acquisition, including bidding, project and construction management.

Parcoal Project, Webster County, consisting of 8-inch water main extension and a 160,000-gallon water storage tank using an ARC Grant.

Southridge Development Project consisting of 16-inch water main extension to serve the Southridge Development on Corridor G.

Responsible for the 55-person department that maintained the Kanawha Valley water distribution system, which repaired an average of 1,500 main breaks per year up to 30-inch PCCP:

- Responsible for providing new water services – the department made an average of 850 taps per year
- Oversaw the leak survey effort to reduce unaccounted for water – developed a system to check night flow in systems using existing telemetry to determine leakage and direct efforts to maximize finding and fixing those leaks
- Coordinated the small diameter main replacement program which averaged over one million dollars per year
- Comprehensive supervisory experience between union and non-union personnel – responsible for five supervisors
- Assisted in union negotiations – developing a process to equalize overtime within the distribution department. Worked with the Manager to develop 24-hour coverage shifts to provide better customer service and reduce O&M costs, including a 12-hour shift schedule using four foremen to provide round the clock coverage
- Served as the liaison with Kanawha County Commission and KCRDA on new water projects to serve un-served areas

Oversaw the completion of the construction of the Consolidated Office Complex for WVAW's corporate headquarters in Charleston in 1997 to 1999.

Kanawha County Water Main Extension Project consisting of waterlines, booster, a 200,000-gallon water storage tank, and four pressure-regulating stations for the Campbells Creek area of Kanawha Valley.

Quarry Creek Subdivision consisting of vertical turbine booster station and a 330,000-gallon water storage tank, with an elevated storage tank bid option and water lines.

Kellys Creek Project consisting of 16-inch water main extension, booster station, and water storage tank along Route 60 using WVDEP, AML funding.

Little Sandy, Aarons Fork and Edens Fork Projects. Construction of water mains, a booster station and a 160,000-gallon storage tank utilizing two Small Cities Block Grants with KCDRA.

Summers-Mercer Water Project included design of an 8-inch water main to Hinton and a 24-inch water main from the new Bluestone plant to Princeton, including the pressure reducing stations along with the 300,000-gallon water storage tank near Pipestem.

Designed and constructed multiple small water main extensions, working with developers, customers and small contractors to serve new subdivisions and unserved areas.

Sewer Lines and WWTPs

Project Manager for the replacement of the Wastewater Treatment Plant at Point Pleasant, West Virginia. This included being responsible for design, plans, specifications, regulatory approval, bidding and bond sale, and construction management.

Inspection of wastewater collection systems, writing Operation and Maintenance Manuals, Facility Plans, and Grant Applications for various clients.

Project Manager for the Big Sandy Sewer Public Service District Vacuum System Project, which included the design and construction of three vacuum sewer stations, two sewage pump stations, a 9-mile force main, and the vacuum sewer collection system. Responsibilities of the above involved the preparations of engineering contracts, planning reports, plans and specifications, bid documents, operation and maintenance manuals, and change orders for state and federally funded wastewater and water projects. The process involved cost-effective analysis, public relations, technical writing, and public speaking.

Project Engineer for the Logan Wastewater Interceptor Project, the Town of Barboursville Lagoon Improvements, and the Philippi Wastewater Project including a new Oxidation Ditch Plant, renovation of an existing pump station, sewer main replacement design, and construction. Experience included designing wastewater treatment plants, sludge handling facilities including belt filter presses, wastewater collectors and pumping systems, site developments, access roads, and combined sewer overflow (CSO) facilities.

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

Mark A. Sankoff

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 [redacted]

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 21st day of February in the year of our Lord One Thousand Nine Hundred and Eighty-Nine and of the State the One Hundred Twenty-Fifth.

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

By

Secretary — Frank H. Gaddy, President

Kenneth H. Means — Robert B. Scott

JAMES T. A. KEENAN, E.I.
Engineer

EDUCATION

B.S. Civil Engineering, 2018
West Virginia University Institute of Technology

EMPLOYMENT HISTORY

2018-Present	Potesta & Associates, Inc.
2017	New River Engineering, Inc. (summer)
2015	Doss Engineering, Inc. (summer)

PROFESSIONAL CERTIFICATIONS

- Engineering Intern – West Virginia
- WV Office of MHS&T Class 07 Surface Coal Miner

AREAS OF SPECIALIZATION

Civil engineering projects with services related to surveying, geotechnical exploration, planning, design, permitting, and construction monitoring. Projects categories include oil and gas, civil site design, geotechnical studies, and flood studies.

Project responsibilities include civil site design, hydrologic and hydraulic design/analysis, development of technical specifications, and preliminary cost estimates.

PROFESSIONAL EXPERIENCE

Oil and Gas

Mountain Valley Pipeline, LLC:

- Performed erosion and sediment control inspections along the pipeline right-of-way and access roads.
- Redesign of erosion and sediment controls at recurring problem areas.
- Coordinated daily operations of in-house inspection team with pipeline environmental inspectors/crews.
- Performed various floodplain studies for major stream crossings along the pipeline for floodplain permitting.
- Designed sediment traps for recurring problem areas to fortify existing erosion and sediment controls.

EQM Gathering OPCO, LLC:

- Assisted in the development of SWPPPs for multiple pipeline access roads and prepared NPDES permits.
- Performed a flood study for the repair of a roadway culvert along a pipeline access road.
- Assisted in permit management and updates for various access roads and laydown yards.
- Designed multiple ditch lines for pipeline access roads to satisfy NPDES permit requirements.

Civil/Site Design

Charleston Auto, Inc. – Designed infiltration swale for a proposed towing facility to satisfy MS4 requirements and assisted in site layout of stormwater conveyance lines.

Huntington Municipal Development Authority – Designed a stormwater retention pond to satisfy runoff retention requirements for a commercial business park.

Seneca Hills Subdivision – Assisted in the development of a preliminary engineering report and cost estimate for stormwater management issues at a residential subdivision.

Geotechnical

South Charleston Fly-Ash Pond – Performed differential settlement calculations based on subsurface borings for a proposed commercial site.

Kanawha County Board of Education, Herbert Hoover High School – Prepared boring logs for various bore sites to determine subsurface conditions for a proposed school complex.

Flood Studies

The Sportsman Campground – Performed a flood study on the New River at an existing campground for the permitting of parking lot fill areas and a deck structure.

Sissonville PSD – Performed a flood study for permitting the construction of a proposed wastewater screen building on a floodplain.

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 deign models to determine a stabile 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.

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 files 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 a 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 collected 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 in-situ 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 because 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.

Roadway Design

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

Hardy County Rural Development Authority – Engineering services for the study, design, and preparation of construction contract plans, related documents, and construction oversight services for an industrial access road for the Baker Business Park District.

Roane County Development Authority – Site development construction documents for National Industrial Wholesale Lumber located in Roane County's industrial park.

ZMM – Site design and engineering for a new elementary school and new high school in Bradshaw, West Virginia on the site of an existing elementary school.

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.

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 or 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.

VICTOR M. DAWSON, P.S.

Professional Surveyor

EDUCATION

A.S. Land Surveying
Glenville State College

EMPLOYMENT HISTORY

1998-Present	Potesta & Associates, Inc.
1993-1998	Dunn Engineers
1988-1993	Woolpert Consultants
1986-1988	W. K. Dickson and Company
1986	Clary-Miller and Associates
1985-1986	William F. Knight Land Surveying
1984-1985	Morris Exploration Company
1983-1984	William F. Knight Land Surveying
1981-1983	Columbia Gas Transmission Company

PROFESSIONAL REGISTRATIONS

Registered Land Surveyor – North Carolina, South Carolina, and West Virginia

PROFESSIONAL AFFILIATIONS

- North Carolina Society of Land Surveyors
- South Carolina Society of Land Surveyors
- American Congress on Surveying and Mapping
- West Virginia Society of Professional Surveyors, Board of Directors, Greater Kanawha Valley Chapter, 2012-present

AREAS OF SPECIALIZATION

Expert Witness/Case Preparation, Accident Surveys, ground control, construction stakeout, topographic mapping, boundary and property surveys including ALTA/NSPS surveys, As-built drawings, and quantity measurements. Related areas include courthouse research, location/verification of utilities, preparation of right-of-way plans, and verification of property owners.

PROFESSIONAL EXPERIENCE

Surveying

Transportation:

- Merritt's Creek Connector Road, WVDOT – Preliminary route survey of four-lane roadway. Crew Chief/Project Manager for work that included courthouse research, property owner questionnaires, stake proposed centerline, tie to properties, set and reference construction control points in Barboursville, West Virginia.
- Benton's Ferry Bridge Replacement, WVDOH – Chief/Project Manager for work that included topo survey of project area, property owner questionnaires, tie to property lines, river cross sections, stake and reference centerline and construction control points in Fairmont, West Virginia.
- Corridor H, WVDOH, Section 16 – Project Manager for route/location/design survey in Elkins, West Virginia.
- Tablers Station, WVDOH – Project Manager/Crew Chief for route/location/design survey in Berkeley County, West Virginia.
- North Bridgeport Connector Road, WVDOH – Crew Chief/Project Manager for work that included GPS control survey of project area, preliminary route survey of centerline, tie to property lines, stake and reference centerline and construction control points, courthouse research, property owner questionnaires in North Bridgeport, West Virginia.
- Corridor H, WVDOH, Section 15 – Crew Chief/Project Manager for work that included courthouse research, property owner questionnaires, GPS control of project area, preliminary route survey of centerline, tie to property lines, stake and reference centerline and construction control points in Elkins, West Virginia.

- Corridor D, WVDOH, Martown Section – Crew Chief/Project Manager for work that included courthouse research, property owner questionnaires, GPS control of project area, preliminary route survey of centerline, tie to property lines, stake and reference centerline and construction control points in Parkersburg, West Virginia.
- Martha Truss Bridge Replacement, WVDOH – Crew Chief/Project Manager for work that included topo survey of project area, property owner questionnaires, tie to property lines, river cross sections, stake and reference centerline and construction control points in Milton, West Virginia.
- Martha Girder Bridge Replacement, WVDOH – Crew Chief/Project Manager for work that included topo survey of project area, property owner questionnaires, tie to property lines, river cross sections, stake and reference centerline and construction control points in Milton, West Virginia.
- Smith Bridge – Project Manager for work that included topo survey of project area, property owner questionnaires, tie to property lines, river cross sections, stake and reference centerline and construction control points in Wetzel County, West Virginia.
- Opaquen Bridge, WVDOH – Project Manager for work included topo survey of project area, property owner questionnaires, tie to property lines, river cross sections, stake and reference centerline and construction control points in Wetzel County, West Virginia.
- King Coal Highway, WVDOH – Project Manager for work that included courthouse research, property owner questionnaires, GPS control of project area, preliminary route survey of centerline, tie to property lines, stake and reference centerline and construction control points in Mingo County, West Virginia.
- Sharon Heights Connector Road, WVDOH – Project Manager for work that included courthouse research, property owner questionnaires, GPS control of project area, preliminary route survey of centerline, tie to property lines, stake and reference centerline and construction control points in Mingo County, West Virginia.
- Kanawha Turnpike, WVDOH, Charleston – Project Manager for work that included courthouse research, property owner questionnaires, GPS control of project area, preliminary route survey of centerline, tie to property lines, stake and reference centerline and construction control points in Charleston, West Virginia.
- East Huntington Bridge, WVDOH – Crew Chief/Surveying Supervisor for work that included annual bridge inspection survey of cable stay bridge over the Ohio River in Huntington, West Virginia.
- Corridor H, WVDOT, Section 16 – Project Manager/Crew Chief for preliminary route/design survey in Elkins, West Virginia.
- VDOT – Route 265 in Danville, Virginia.
- NCDOT – NC 218 hydraulics in Wilkesboro, North Carolina.
- NCDOT – B-1277 Bridge hydraulics in Marion, North Carolina.
- NCDOT – NC 1318 Bridge in Taylorsville, North Carolina.
- NCDOT – Charlotte Outerloop Drainage in Charlotte, North Carolina.
- NCDOT – NC 90 Drainage in Charlotte, North Carolina.
- Crew Chief for Sardis Monroe Intersection Widening in Charlotte, North Carolina.
- WVDOT – Crew Chief for Corridor G in Charleston, West Virginia.
- Florida DOT – Crew Chief for Dame's Point Bridge in Jacksonville, Florida.
- Corps of Engineers – Crew Chief/Quality Control Representative for St. George Harbor in St. George Island, Alaska.

Ground Control:

- Peabody Coal – Project Manager for ground control for 20 square miles of mapping in Putnam and Mason Counties, West Virginia.
- Crew Chief/Project Manager for Belmont Community Development in Charlotte, North Carolina.
- Crew Chief/Project Manager for Asheville Regional Airport in Asheville, North Carolina.
- Lenoir Rhyne College – Crew Chief for aerial photo control in Hickory, North Carolina.
- Crew Chief for Wilkinson Boulevard aerial photo control in Charlotte, West Virginia.
- Crew Chief for Park Road aerial photo control in Charlotte, North Carolina.
- Crew Chief for Beatties Ford Road aerial photo control in Charlotte, North Carolina.
- Crew Chief/Project Manager for Freedom Park aerial photo control in Charlotte, North Carolina.
- Crew Chief for ERM Ground Control Survey in Aberdeen, North Carolina.

Utilities:

- Cogentrix Energy – Surveying Supervisor for work included GPS control survey of project area, boundary survey of 292 acres, topographic survey of 177 acres for site construction, courthouse research in Marshall County, West Virginia.
- Big Sandy Peaker Plant, Constellation Power – Crew Chief/Surveying Supervisor for work that included GPS control survey of project area, boundary and topographic of 42 acres, boundary and route survey for 1 mile of transmission lines, construction stakeout in Cabell County, West Virginia.
- Paintsville Power Plant, Energy Services – Survey Supervisor for work that included control and topographic survey of a 180-acre site for proposed power plant in Paintsville, Kentucky.
- Greenbrier Pipeline, Dominion – Survey Supervisor for work that included control and preliminary route survey of a 264-mile pipeline running from Corton, West Virginia to Raleigh, North Carolina.
- Upshur County Power Plant, Dominion – Survey Supervisor for work that included control survey and construction survey of a 170-acre power plant in Upshur County, West Virginia.
- Nextel - Crew Chief/Survey Supervisor for cellular telephone tower sites for work that included courthouse research, boundary and topographic survey for 86 tower locations in West Virginia, Kentucky, and Ohio.
- Crew Chief/Project Manager for Little Sugar Creek Channel Improvements in Mecklenburg County, North Carolina.
- Crew Chief/Project Manager for Charlotte Stormwater Management in Charlotte, North Carolina.
- Crew Chief for Boy Scout Camp in Mecklenburg County, North Carolina.
- Crew Chief for Manchester Creek HEC Study for Rock Hill, South Carolina.
- Crew Chief Thermoco-Welco Water and Sewer in Kings Mountain, North Carolina.
- Crew Chief for proposed sewer route survey in Spencer, North Carolina.
- Moores Chapel, McIntyre East and West Plant Road, Hampton Park, Charlotte-Mecklenburg Utility Department in Charlotte, North Carolina.
- Crew Chief for Charlotte-Mecklenburg Utility Department in Charlotte, North Carolina.
- West Virginia American Water Company – Crew Chief/Survey supervisor for boundary survey for 180 water tank sites throughout West Virginia.
- Crew Chief for Chester Waterline Extension in Chester, South Carolina.
- Crew Chief for Lancaster Sewer Extension in Lancaster, South Carolina.
- Crew Chief for Marshville Sewer in Marshville, North Carolina.
- Crew Chief for Sewer Route Survey for Norwood in Norwood, North Carolina.
- Crew Chief for Lenoir Water and Sewer Extension in Lenoir, North Carolina.
- Crew Chief for Kings Mountain Route 75 Waterline Extension in Kings Mountain, North Carolina.
- Project Manager for route survey/seismic survey for SM-80 gas pipeline in Cross Lanes, West Virginia

Office, Business, Industrial:

- Walmart – Construction layout for parking, roadways, curb and gutter, and utilities for new store in Barboursville, West Virginia.
- River Ridge – Construction layout for new church building, parking and utilities in Charleston, West Virginia.
- National Lumber Plant – Chief/Survey Supervisor for boundary and topographic survey, construction stakeout for plant site in Roane County, West Virginia.
- Buckskin Council Boy Scout Camp, Boys Scouts of America – Survey Supervisor for topographic survey and construction stakeout for new water and sewer system in Pocahontas County, West Virginia.
- Hampton-Clarke, Philips Lighting Company – Crew Chief/Survey Supervisor for boundary and topographic survey, construction stakeout for cullet pile of hazardous waste site in Fairmont, West Virginia.
- BIDCO – Boundary and topographic survey for several parcels in the development, also stakeout of spec building and parking lots in Kanawha County, West Virginia.
- Crew Chief for Bojangles on Sam Furr Road in Charlotte, North Carolina.
- Crew Chief/Project Manager for Lowe's of Pineville, North Carolina.
- Crew Chief/Project Manager for Firestone Fibers and Textiles in Kings Mountain, North Carolina.
- Crew Chief/Project Manager for Rural Hills in Mecklenburg County, North Carolina.

- Crew Chief/Project Manager for Huntersville Business Park in Huntersville, North Carolina.
- Crew Chief for TransWest Office Building in Charlotte, North Carolina.
- Crew Chief/Project Manager for Chatham Properties in Charlotte, North Carolina.
- Crew Chief/Project Manager for WTVI Transmitter Tower in Charlotte, North Carolina.
- Crew Chief/Project Manager for Greenbrier Business Park in Charlotte, North Carolina.
- Crew Chief/Project Manager for Dickerson Carolina, Inc. in Charlotte, North Carolina.
- Crew Chief for Oakboro Industrial Park in Oakboro, North Carolina.
- Crew Chief for Baxter Medical Warehouse in Charlotte, North Carolina.
- Crew Chief/Project Manager in TechPark Business Center in Rock Hill, South Carolina.
- Crew Chief for Coffey Creek II and III in Charlotte, North Carolina.
- Crew Chief for Red Fez Club in Lake Wylie, South Carolina.
- Crew Chief for Hickory Grove Business Park in Charlotte, North Carolina.
- Crew Chief for Minit Lube in Charlotte, North Carolina.
- Crew Chief for Crescent Gateway in Belmont, North Carolina.
- Crew Chief for Roto Rooter in Charlotte, North Carolina.

Construction Stakeout:

- Charleston Federal Building – Crew Chief/Project Manager for staked foundation, anchor bolts, interior and exterior wall lines in Charleston, West Virginia.
- Courthouse Parking Building – Crew Chief for staked foundation and wall lines in Charleston, West Virginia.

Boundary & ALTA/NSPS Surveys:

- E.I. DuPont – Project Manager of all property owned by E.I. DuPont in the state of West Virginia totaling over 3, 927 acres.
- Coolfont Resort – Project Manager for boundary survey on 920 acres in Morgan County, West Virginia.
- Pison Development – Crew Chief/Project Manager for ALTA survey and construction layout for six housing developments in Kanawha, Mason, Randolph, and Ritchie Counties, West Virginia.
- Charleston Housing Authority – Crew Chief/Project Manager for ALTA survey for 4 housing projects located in City of Charleston in Kanawha County, West Virginia.
- Emmanuel Baptist Church – Crew Chief/Project Manager for church in Charleston, West Virginia.
- Coldwater Creek – Crew Chief/Project Manager for ALTA survey of 38-acre distribution site in Mineral Wells, Wood County, West Virginia.
- Big Sandy Peaker Plant, Constellation Energy – Crew Chief/Project Manager ALTA survey of 42-acre plant site and 1 mile of transmission lines in Cabell County, West Virginia.

Expert Witness/Case Preparation/Accident Surveys:

- Flowe Construction v. Woolpett Consultants – Rutherford County Airport in Rutherford, North Carolina.
- Sizemore v. Carte – Boundary dispute in Clay County, West Virginia.
- Boundary dispute for case preparation over placement of gas well in Putnam County, West Virginia.
- Columbia Gas – Case preparation over a gas release and spill from a gas storage well in Sissonville, West Virginia.
- Boundary location settlement to determine location of property line due to a tree falling resulting in death in Nicholas County, West Virginia.
- Three-dimensional survey of a pallet crusher and survey a piece of machinery and surrounding structures in a case resulting in a loss of legs in Parkersburg, Wood County, West Virginia.
- Conducted boundary survey and mapping for court documents over a disputed right-of-way through a piece of property to an adjoining tract in Pinch, West Virginia.
- Three-dimensional survey of Huntington Bank parking garage to help determine cause of building collapse resulting in multiple deaths.

Hazardous Waste/Disposal Facilities:

- Winfield ACF Site, ACF/Corps of Engineers – Work included boundary, topographic, construction layout and sample point layout of 15 acres along the Kanawha River. This project had over 12,000 sample

points laid out on a 3' grid in Winfield, West Virginia.

- Fike/Artel Superfund Site, DeMaximus – Surveying Supervisor for work that included boundary, topographic and sample layout for the cleanup and monitoring of the Fike/Artel Site and surrounding properties in Nitro, West Virginia.
- Phillips Lighting, Fairmont Site, Hampton Clark – Surveying Supervisor for work that included boundary, topographic, structure location and sample layout of the Phillips Lighting glass collect pile and surrounding areas along the Monongahela River in Fairmont, West Virginia.
- Poor Charlie and Company, Riverside Site; Poor Charlie, Sattes Site; Poor Charlie, Cramer Metals Site – Surveying Supervisor for work that included boundary, topographic, location and boring stakeout of various VERA sites and adjoining properties in Glasgow, Nitro and Parkersburg, West Virginia.
- Elkem Metals Disposal Facility, Elkem Metals – Surveying Supervisor for work that included control network, boundary, topographic surveys, and yearly volume reports in Alloy, West Virginia.
- Solutia – Surveying Supervisor for work that included boundary, topographic and location Surveys for various projects, disposal facility caps, charcoal filtering systems, and monitoring well control network throughout the site and adjoining properties in Nitro, West Virginia.
- Nicholas County Landfill – Surveying Supervisor for work included control network, boundary and topographic surveys for expansion of cells and yearly volume reports in Summersville, West Virginia.
- Pocahontas County Landfill – Surveying Supervisor for work that included control network, boundary and topographic surveys for expansion cells and yearly volume reports in Pocahontas County Landfill in Pocahontas County, West Virginia.
- Fleming Landfill, WVDEP – Surveyor Supervisor for work that included boundary and topographic surveys, along with control network and baseline stakeout for landfill closure in Sissonville, West Virginia.
- Cunard Landfill, WVDEP – Survey Supervisor for work that included topographic and construction layout for landfill closure in Fayetteville, West Virginia.
- City of Charleston Landfill – Construction layout for new waste cells in Charleston, West Virginia.
- Putnam County Landfill – Construction layout for new waste cells in Hurricane, West Virginia.
- Berkeley County Landfill – Crew Chief/Project Manager for construction layout for closure.
- Hampshire County Landfill – Crew Chief/Project Manager for construction layout for closure.
- Mingo County Landfill, J & B Contracting – Survey Supervisor for work that included topographic and construction layout for landfill closure in Mingo County, West Virginia.
- Mercer County Landfill, Jimmy Dunn – Survey Supervisor for work that included topographic and construction layout for landfill closure in Mercer County, West Virginia.

Parks and Recreation:

- Crew Chief/Project Manager for Freedom Park in Charlotte, North Carolina.
- Crew Chief/Project Manager for Mallard Creek Park in Charlotte, North Carolina.
- Crew Chief for York Park in York, South Carolina.
- Crew Chief for Hargett Park in Rock Hill, South Carolina.
- Crew Chief for York Road Renaissance Park in Charlotte, North Carolina.
- Crew Chief for Lockrain Subdivision and Golf Course in Orange Park, Florida.
- Crew Chief for Amelia Island Golf Course in Amelia Island, Florida.

Aviation:

- Yeager Airport – Stake out P.A.P.I. lights for Runway 15 in Charleston, West Virginia.
- Summersville Airport – Crew Chief/Project Manager for topographic and tree location for glide path in Summersville, West Virginia.
- Rutherford County Airport – Rutherford, North Carolina.
- Seymour Johnson Air Force Base – Goldsboro, North Carolina.
- Statesville Regional Airport – Statesville, North Carolina.
- Asheville Regional Airport – Asheville, North Carolina.
- Anderson County Airport – Anderson County, South Carolina.

Motel:

- Crew Chief for Knights Inn Motels in Statesville, Asheville, Gastonia, and Charlotte, North Carolina.

- Crew Chief for Fairfield Inn Motel in Charlotte, North Carolina.

Coal Mines:

Kanawha Eagle Mine – Crew Chief/Survey Supervisor for work that included topographic and construction staking of refuse impoundments, drainage runoff ponds, and stake clearing limits of new mine face in Kanawha County, West Virginia.

Housing and Subdivision:

Yorktowne Subdivision – Crew Chief/Survey Supervisor for work that included boundary survey of exterior tract, construction stakeout of roads and utilities, stake boundaries of lots in Kanawha County, West Virginia.

The Pointe at Northgate – Project Manager for topographic and construction layout for subdivision.

Crew Chief/Project Manager for Woodside Falls Subdivision in Pineville, North Carolina.

Stonegate Subdivision – Crew Chief/Survey Supervisor for work that included boundary survey of exterior tract, construction stakeout of roads and utilities, stake boundaries of lots in Putnam County, West Virginia.

Crew Chief/Project Manager for Amberwood Subdivision in Charlotte, North Carolina.

Crew Chief for Thompson Plantation in Charlotte, North Carolina.

Crew Chief for Wells Crossing Apartments in Orange Park, Florida.

Crew Chief for Park Lake Apartments in Charlotte, North Carolina.

Crew Chief for Lakes of Mayport Apartments in Mayport, Florida.

Crew Chief for Cross Creek Apartments in Charlotte, North Carolina.

Military:

Crew Chief for Seymour Johnson Air Force Base, United States Air Force in Goldsboro, North Carolina.

St. George Harbor, U.S. Corps of Engineers –Contractor Quality Control Representative in St. George Island, Alaska.

Crew Chief for Camp Butner, United States Army in Durham, North Carolina.

Streetscapes:

Crew Chief for Idlewild Road in Charlotte, North Carolina.

Crew Chief/Project Manager for Florida Street in Charleston, West Virginia.

Crew Chief for Streetscape Mapping Project in Charlotte, North Carolina.

Crew Chief for Rock Hill Gateway in Rock Hill, South Carolina.

Crew Chief for boundary/topographic plans for Crescent Gateway Project in Belmont, North Carolina.

Colleges/Universities/Schools:

University of Charleston – Crew Chief/Survey Supervisor for work that included boundary survey of several parcels of land for student housing and parking lot in Charleston, West Virginia.

Marshall University – Survey Supervisor for work that included boundary and location survey of research complex in Charleston, West Virginia.

Marshall University – Crew Chief/Survey Supervisor for work that included courthouse research, boundary and topographic survey of several city blocks for student housing and parking buildings in Huntington, West Virginia.

University of Charleston – Crew Chief/Project Manager for stakeout of new pharmacy school building in Charleston, West Virginia.

Blackwell Field – Crew Chief/Project Manager for stakeout of sports complex for University of Charleston in Charleston, West Virginia.

Ivydale Elementary School – Crew Chief/Project Manager for boundary survey for disputed property line in Clay, West Virginia.

Big Otter Elementary School – Crew Chief/Project Manager for boundary survey for new school in Clay County, West Virginia.

Landfills/Abandoned Mine Lands:

WVDEP AML – Crew Chief/Project Manager for control/topographic survey for Sundial Project.

Jackson County Landfill – Crew Chief/Project Manager for work that included GPS control survey, boundary and topographic survey, construction stakeout for landfill closure in Jackson County, West Virginia.

Nicholas County Landfill – Survey Supervisor for work that included boundary and topographic surveys for biannually reports in Nicholas County Landfill in Nicholas County, West Virginia.

Pocahontas County Landfill – Survey Supervisor for work that included boundary and topographic surveys for biannual reports and construction stakeout in Pocahontas County, West Virginia.

Mercer County Landfill – Crew Chief/Survey Supervisor for work that included GPS control survey, boundary and topographic survey, construction stakeout for landfill closure in Mercer County, West Virginia.

2022 WEST VIRGINIA PROFESSIONAL SURVEYOR 2022

The West Virginia Board of Professional Surveyors certifies that the individual listed below is a PROFESSIONAL SURVEYOR who has qualified for a license under Chapter 30, Article 13A, Code of West Virginia, and has met the requirements for license renewal for the period ending June 30, 2022

VICTOR M. DAWSON
P.S. [redacted]

Board Members
Sefton Stewart, PS, Chairman
Tom Rayburn,PS,Secretary
Gary Facemyer, PC, PS
Lantz Rankin, PS
Douglas McElwee, Esq.

Issued
07/01/2021

Expires
06/30/2022

Executive Director
Amber Shawver Legg

2022

State of West Virginia
Board of Professional Surveyors

VICTOR M. DAWSON
P.S.LIC. [redacted]

Is a PROFESSIONAL SURVEYOR who has qualified for a license under Chapter 30, Article 13A, Code of West Virginia, and has met the requirements for license renewal for the period ending June 30, 2022

Expires:
06/30/2022

State of West Virginia
Board of Professional Surveyors
1124 Smith Street. Suite B127C
Charleston, WV 25301

Phone (304) 558-0350
Fax (304) 558-0352

Website: www.wvbps.wv.gov
Email: wvbps@wv.gov

JESSICA L. YEAGER
Senior Scientist

EDUCATION

M.S. Biology (Emphasis in Aquatic Ecology and Toxicology
Virginia Polytechnic Institute and State University

B.S. Biology/Chemistry
Fairmont State College

EMPLOYMENT HISTORY

2000-Present	Potesta & Associates, Inc.
1998-2000	Biological Monitoring, Inc.
1995-1998	Virginia Tech
1994-1995	Center for Environmental and Hazardous Materials Studies

PROFESSIONAL CERTIFICATIONS

- Certified Hydric Soil Investigator
- Certified Wetland Botanist
- Certified Wetland Delineator
- Certified Wetland Hydrologist
- State of West Virginia Office of Miners' Health, Safety & Training Class 32 Safety Sensitive Personnel

TRAINING/RELEVANT COURSE WORK

- River Morphology and Applications, Wildland Hydrology
- Applied Fluvial Geomorphology, Wildland Hydrology
- Methods for Stream Assessment and Analysis, WVU
- Introduction to Natural Stream Channel Design, WVU
- Advanced Stream Design, WVU
- Fluvial Geomorphology, WVU
- Developing Wetland Water Budgets, Swamp School

PROFESSIONAL AFFILIATIONS

- Society of Freshwater Scientist
- Society of Environmental Toxicology and Chemistry

AREAS OF SPECIALIZATION

Clean Water Act (CWA) permitting, compliance, including water pollution control permitting and regulatory compliance, stream and wetland delineation, and permitting (including mitigation), state water quality regulations, threatened and endangered species compliance, cultural and historic resource coordination, development of large scale environmental risk assessments, environmental assessments, biological assessments, environmental impact studies and other National Environmental Policy Act (NEPA) documents (noise, cumulative impacts, aesthetics), development of biological studies, toxicity evaluations, and preparation of environmental documents for non-environmental regulatory agencies, including the Public Service Commission.

PROFESSIONAL EXPERIENCE

Stream/Wetland Delineation, Permitting, and Mitigation

Served as project manager and senior scientist for multiple CWA permitting tasks covering Section 401, 402, and 404 compliances.

Prepared permit packages for stream and wetland impacts for United States Army Corps of Engineers individual and general Department of the Army authorizations, State (401) Water Quality Certification, and Public Lands Corporations.

Supervised and assisted in the preparation of mitigation plans and associated restoration plans, as well as environmental information documents for large scale surface disturbances.

Prepared large adaptive management plans that are compliant with Department of the Interior (DOI) recommendations.

Supervised and prepared projects that determine stream status (perennial, intermittent, or ephemeral) utilizing benthic and stream channel indicators (wetland and stream delineations) in West Virginia, Kentucky, Virginia, and Maryland. Projects have included the determination of jurisdictional streams and wetlands in atypical field conditions, as well as after-the-fact stream/wetland impacts utilizing site specific data as well as interpretation of historical data using ArcGIS.

Acted as an agent for applicants during negotiations with agency personnel. Typically, issues addressed are associated with impact determination and NEPA compliance (cultural resources, threatened and endangered species, land use, cumulative impacts, and aesthetics.)

Familiar with most Federal protocols utilized for the assessment of impacts to "waters of the U.S." Prepared the banking documents (prospectus, banking instrument, etc.) for the first mitigation banking program for stream and wetland credits in West Virginia.

Supervise, evaluate and report mitigation success using applicable performance standards for CWA Section 404 permitting.

Oil and Gas

Responsible for managing large scale Clean Water Act Projects associated with Marcellus Shale Production (well sites, well lines, and gathering lines) including field crew scheduling and coordination, stream/wetland delineation reporting, agency consultation, coordination of archaeological and bat/mussel surveys, and USACE 404 permitting. Responsible for managing pipeline projects where the role was environmental review or providing environmental permitting. Play role in agency interactions and litigation support.

NPDES Industrial/Municipal Permitting

Worked as part of a permitting team that prepared new, modified, and renewed (reissued) National Permit Discharge Elimination System (NPDES) permits for various clients in the energy and commercial sectors. Specific areas include water monitoring and narrative criteria applications, toxicity (standard bioassays, as well toxic identification studies), aquatic ecosystem protection, biological studies, watershed hydrology, water quality, groundwater and surface water inventories, long-term flow studies, site specific water quality criteria and or variances, mixing zones, database management and adaptive management plans.

Responsible for managing and/or preparing State and Federal Regulatory Permits/Renewals/Modifications, including: Section 7 Threatened and Endangered Species USFWS and WVDNR Consultation, Section 106 State Historic Preservation Office Consultation, United States Army Corps of Engineers 404 Permits, West Virginia Division of Natural Resources - Office of Land and Streams Stream Activity Permits, and Individual State 401 Water Quality Certification. Work includes permitting and supporting documentation for wasteload allocation, Industrial NPDES Permit Applications/Permit Renewals, General WV/NPDES Storm Water Permit Applications/Permit Renewals, sampling plans, Groundwater Protection Plans (GPP), Storm Water Pollution Prevention Plans (SW3P), and Municipal Separate Storm Sewer System (MS4) General Permits.

Surface Water Sampling

Supervised multiple water quality monitoring programs. Projects have included oversight and management of sampling teams for pre-construction baseline, routine and special study water quality monitoring projects including non-traditional monitoring techniques such as sediment respiration. Many of the projects have included a database management and compliance component.

Mining

Worked as part of a permitting team (for various clients) that prepares new mining permits, as well as modification and renewals. Specific areas include land use, parks and historic lands information, fish and wildlife information including threatened/endangered species, water quality data, drainage information, NPDES permits, and narrative criteria applications.

Completed studies to address notice of violation (NOV) orders for accidental discharges into waters by mining companies including assessments of fish kills and the extent of black-water discharges as well as routine non-compliance issues. Act as representative for company in board hearings to address violations.

Risk Assessment

Completed large scale risk assessment in watersheds in Kentucky, West Virginia, and Virginia for associated with impacts to waters. Assessments included the use of biological monitoring (fish and benthic macroinvertebrates (including mussels)), acute and chronic toxicity testing, sediment toxicity testing, juvenile mussel toxicity testing, entrainment studies, water quality monitoring, water quality modeling, and specialized sediment sampling which included both physical and chemical characterizations. These projects have required large scale data integration, database management with an ArcGIS component.

Threatened/Endangered Species

Completed biological assessments for mussel species in the Kanawha and Gauley Rivers, as well as a document similar to a biological assessment for the Big Sandy River watershed. Completed biological assessments for bat species in West Virginia for various clients. Prepared appropriate documentation for Section 7 consultations with the United States Fish and Wildlife Service for various regulated entities.

Environmental Assessments/Impact Statements

Preparation and submittal of environmental information documents submitted to regulatory agencies for the development of the agencies environmental assessments. Topics addressed included: fish and wildlife resources; surface and groundwater, endangered species, noise, viewshed and aesthetics, traffic, floodplains, conservation, flooding, navigation, recreation, safety, environmental justice, socioeconomics, and other general environmental concerns. Development of alternative analyses including: a federal highways project which required a supplemental EIS; several large-scale mining operations whose alternatives included various mining methodologies (underground mining, highwall mining, etc.) as well as post mining land uses. Prepared and submitted environmental assessments for federal regulatory agencies as third-party contractor. Prepared, reviewed and commented on Draft Environmental Impact Statements and for various federal agencies as third-party contractor. Completed assessments for federal agencies to determine the need for supplemental environmental documents.

Regulatory and Litigation Support

Provided testimony as both a factual witness and expert witness in federal court and before the West Virginia Environmental Quality Board. Testimony included site conditions, evaluation of reasonable potential, water quality issues, mitigation, and stream structure and function. Negotiated with state and federal agencies regarding fines for non-compliance. This includes completing large scale after-the-fact delineations and associated reporting for Section 308 and 309 Orders, negotiating mitigation, and evaluating and assessing NPDES compliance issues. Compliance issues include discharge monitoring reports, non-compliance notices, toxicity, and narrative guidance concerns.

Additional litigation work has included work performed for meeting specialized permitting requirements, like those for the Public Service Commission. This work has included testimony regarding studies for wind energy development and its impact on birds and threatened and endangered species.

Work for energy development has included applications for the Public Service Commission, completed for clients with the assistance of an attorney. Studies and documents have included: noise studies, landscape scale land use analysis, viewshed analysis, surface and groundwater studies, species consultations, delineations, coordination of contractors for consultations, and packaging of the applications.

Biological Studies and Sampling

Responsible for managing and reporting biological surveys using State and federal protocols for permitting and compliance. Responsible for the development, managing, and reporting of special studies including functional assessment studies, algal studies, vegetative studies, wetland macroinvertebrate studies, avian studies, bat studies, benthic macroinvertebrate studies, mussel surveys, fish surveys and specialized trout surveys. Responsible for managing and reporting biological toxicity evaluations using standard testing species, as well as specialized studies like those completed using juvenile mussels and larval fish for selenium deformities.

Completed an evaluation of the physical, chemical, and biological effects of acid mine drainage from abandoned mine lands in Virginia. Work included bioassays, biological monitoring, chemical monitoring, physical habitat evaluations, and functional assessments of the biological communities including algal community structure. Prepared documents for the use of acid mine drainage remediation for mitigation purposes.

Benthics

Completed benthic sampling for 18+ years. Capable of identifying most benthic macroinvertebrates at the genus level. Completed aquatic entomology coursework under Dr. R. Voschell at Virginia Tech.

TIMOTHY R. FERGUSON
Senior Scientist

EDUCATION

M.S. Environmental Science, 2010
Marshall University

B.S. Environmental Biology, 2006
Marshall University

EMPLOYMENT HISTORY

2006-Present	Potesta & Associates, Inc.
2013	In-House Consultant EQT
2014	In-House Consultant Columbia Gas

PROFESSIONAL CERTIFICATIONS

- 3.3 Continuing Education Units for Wetland Delineation – Olentangy Wetland Research Park at Ohio State University
- April 2012 – Applied Fluvial Geomorphology NCTC (Rosgen)
- April 2012 – River Morphology and Applications NCTC (Rosgen)

AREAS OF SPECIALIZATION

Permitting, compliance, collection, identification and analysis of biological data for research via habitat, electrofishing surveys, water sampling, and chemistry analysis. Environmental reporting and permitting. Wetland and stream identification and delineation.

PROFESSIONAL EXPERIENCE

Stream/Wetland Delineation, Permitting, and Mitigation

Served as project manager for environmental permitting for large scale oil and gas projects including roadway improvements, pipeline maintenance and construction, well pad development and other associated projects for the industry. Leads and trains staffing in field work and preparing environmental applications.

Supervised and conducted numerous wetland identifications and delineations for private companies throughout West Virginia, Virginia, Ohio, and Pennsylvania. Work included identification, delineations, and verification process with the United States Army Corps of Engineers (USACE), wetland reporting, permitting, and mitigation.

Met on-site with USACE, West Virginia Department of Environmental Protection for wetland verifications with governmental agencies.

Completed stream and wetland delineations for the construction of Highline Transmission Projects in Pennsylvania, West Virginia, Maryland, and Virginia. Worked with contractors to limit stream and wetland impacts as much as possible.

Supervised and completed stream and wetland delineations for oil and gas companies, including pipeline right-of-way and well layout locations.

Supervised and prepared and submitted numerous USACE Section 404 Applications and WVDEP 401 Applications. Obtained numerous 401 and 404 Permits for various types of projects.

Prepared numerous and stream and wetland reports pertaining to oil and gas industry.

Prepared and analyzed field data for state and federal permit applications.

Responsible for Section 7 Consultation of Endangered Species Act, Section 106 Consultation of the National Historic Preservation Act and Section 404 of the Federal Clean Water Act for numerous projects throughout West Virginia. Work includes field reconnaissance and assessment and report writing.

Experienced in consulting with USACE on Nationwide Permits and Individual Permits.

Experienced in completing the West Virginia Stream and Wetland Valuation Metric calculator for mitigation projects.

Conducted after-the-fact delineations with the U.S. Environmental Protection Agency.

Mining

Authored sections of mining permit applications and environmental information documents.

Surface Water Sampling

Conducted surface and groundwater sampling.

GIS

Analyzed longitudinal and cross-sectional data associated with stream profiles.

Acquired skills in operation of GPS equipment.

Oil and Gas

Managed environmental permitting for large scale roadway improvement project across 10 counties throughout West Virginia.

Permitted hundreds of natural gas well pads, pipelines and access road upgrades.

Biological and Sampling

Conducted electrofishing surveys with species identification.

Collected water samples and performed chemical analysis with various instruments.

Conducted benthic macroinvertebrate surveys utilizing procedures described in the USEPA's Rapid Bioassessment Protocol (RBP).

Performed habitat and stream assessments utilizing the standard EPA RBP in freshwater ecosystems.

SARAH BETH BURDETTE
Senior Scientist

EDUCATION

M.S. Plant Ecology/Biological Sciences, 2002
Marshall University

B.S. Environmental Biology, 1999
Marshall University

EMPLOYMENT HISTORY

2018-Present	Potesta & Associates, Inc.
2017-2018	Alliance Consulting, Inc.
2001-2017	Potesta & Associates, Inc.
1999-2001	Marshall University, Biology Department

PROFESSIONAL CERTIFICATIONS

- Certified Wetland Botanist
- State of West Virginia Office of Miners' Health, Safety & Training Class 32 Safety Sensitive Personnel

TRAINING/RELEVANT COURSE WORK

- October 2014 – SWAMP School Certified Wetlands Botanist Course
- 2014 – Safelands USA Course
- April 2012 – SWAMP School Wetland Delineation Certificate of Training
- January 2008 – Environmental Management System Workshop, WVDEP and National Pollution Prevention Roundtable
- July 2006 – Project Management Bootcamp, PSMJ Resources

ABSTRACTS, PRESENTATIONS, AND MANUSCRIPTS

May, J. D., S. B. Burdette, F. S. Gilliam, and M. B. Adams. 2005. Interspecific divergence in foliar nutrient dynamics and stem growth in a temperate forest in response to chronic nitrogen inputs. ***Canadian Journal of Forest Research***, 35: 1023-1030.

AREAS OF SPECIALIZATION

Project and Data Management, Biological Assessments, Permitting, Plant Ecology/Taxonomy.

PROFESSIONAL EXPERIENCE

Oil and Gas

Responsible for managing and conducting tasks associated with multiple small and/or large-scale Marcellus Shale oil and gas development projects (400+) in West Virginia (well sites, well lines, water lines, and gathering lines) including:

- Field crew/secretarial/engineering staff scheduling and coordination
- Stream/wetland delineations and reporting
- Agency consultation and agency/subconsultant liaison, including coordination of archaeological and bat/mussel surveys
- USACE 404/WVDEP 401 and waters of the state permitting
- WVDEP NPDES Construction storm water permitting and SWPPP preparation
- WVDNR Office of Land and Streams, Stream Activity permitting and fish spawn waiver requests.

In-house consulting and environmental project management for client well line group. In-house consulting and environmental coordinator for client production group. Responsibilities included:

- Consultant scheduling and management (delineation and permitting requests/report and permit documentation review

- Land/construction/permit meeting and conference call participation for well line/water/production groups
- Well Line Pre-Notice of Termination site verification visits/NOT submittals/NOT agency site visits
- Project priority/status tracking and file maintenance.

Assist with mitigation and monitoring requirements/reporting/agency visits and site release facilitation.

Biological Studies and Sampling

Responsible for managing and/or conducting multiple small and large-scale biological/environmental studies utilizing USEPA Rapid Bioassessment, EMAP, and/or state agency protocols including benthic macroinvertebrate surveys (West Virginia, Maryland, and Pennsylvania), fish surveys, habitat characterization/assessment, surface water quality/chemistry sampling, database management including QA/QC procedures, statistical and graphical data analysis, and reporting.

Responsible for managing a large-scale Biological Monitoring and Assessment Project associated with a watershed fish kill including field crew scheduling and coordination, agency consultation, benthic macroinvertebrate surveys, periphyton and seston sampling, water quality/chemistry monitoring and sampling, fish community surveys, visual watershed monitoring, algal cell count sampling, database management, and data analysis/ reporting, and client/attorney liaison.

Responsible for managing and preparing Site Specific Water Quality Criteria and/or Variance Application Package Projects (Selenium and Chlorides) including development of work plans, fish/benthic and/or water quality surveys, research, data analysis, and reporting, drinking water surveys, preparation of application packages, and environmental staff field scheduling.

Responsible for conducting groundwater and drinking water surveys and sampling.

NPDES Industrial/Municipal Permitting

Responsible for managing and/or preparing State and Federal Regulatory Permits/Renewals/Modifications, including Section 7 Threatened and Endangered Species USFWS and WVDNR Consultation, Section 106 State Historic Preservation Office Consultation, United States Army Corps of Engineers, 404 Permits, West Virginia Division of Natural Resources, Office of Land and Streams, Stream Activity Permits, and West Virginia Department of Environmental Protection (WVDEP), Division of Water and Waste Permits and Supporting Documents such as Wasteload Allocation Applications, Industrial NPDES Permit Applications/Permit Renewals, General WV/NPDES Storm Water Permit Applications/Permit Renewals, Sampling Plans, Groundwater Protection Plans (GPP), Storm Water Pollution Prevention Plans (SW3P), Concentrated Animal Feeding Operation (CAFO) Permit Applications, and Municipal Separate Storm Sewer System (MS4) General Permits.

Virginia Department of Environmental Quality (VDEQ) Permits and Supporting Documents, such as Virginia Pollutant Discharge Elimination System (VPDES) Permit Applications/Permit Renewals, General WV/NPDES Storm Water Permit Applications/Permit Renewals, and Storm Water Pollution Prevention Plans.

Pennsylvania Department of Environmental Protection (PADEP) Permits and Supporting Documents, such as Industrial NPDES Permit Applications/Permit Renewals, General NPDES Storm Water Permit Applications/Permit Renewals, and Storm Water Pollution Prevention Plans.

Mining

Preparation of West Virginia Department of Environmental Protection, Division of Mining and Reclamation Permits, including MR-19A Permit Transfers and MR-19 Operator Assignments.

Responsible for managing and preparing United States Department of Homeland Security, Chemical Security Assessment Tool documents, including Top Screen and Site Security Plan.

ESAs (Phase I and II)

Responsible for the Preparation of Phase I ESA and Phase II Compliance Plans.