



West Virginia Purchasing Division

2019 Washington Street, East
Charleston, WV 25305
Telephone: 304-558-2306
General Fax: 304-558-6026
Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at wvOASIS.gov. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at WVPurchasing.gov with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 1

List View

General Information | [Contact](#) | [Default Values](#) | [Discount](#) | [Document Information](#) | [Clarification Request](#)

Procurement Folder: 918801

SO Doc Code: CEOI

Procurement Type: Central Purchase Order

SO Dept: 0313

Vendor ID: 000000201753

SO Doc ID: DEP2200000004

Legal Name: ALPHA ASSOCIATES INC

Published Date: 8/18/21

Alias/DBA:

Close Date: 9/16/21

Total Bid: \$0.00

Close Time: 13:30

Response Date: 09/16/2021

Status: Closed

Response Time: 11:07

Solicitation Description: EOI - 2021 Design Group C Projects

Responded By User ID: JStemple

Total of Header Attachments: 1

First Name: Joanna

Total of All Attachments: 1

Last Name: Stemple

Email: joanna.stemple@thinkal

Phone: 3042968216



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

**State of West Virginia
 Solicitation Response**

Proc Folder: 918801
Solicitation Description: EOI - 2021 Design Group C Projects
Proc Type: Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2021-09-16 13:30	SR 0313 ESR09162100000001918	1

VENDOR
 000000201753
 ALPHA ASSOCIATES INC

Solicitation Number: CEOI 0313 DEP2200000004
Total Bid: 0
Response Date: 2021-09-16
Response Time: 11:07:36
Comments:

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

Vendor Signature X **FEIN#** **DATE**

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	EOI Engineering Design Services - Flatbush Highwall				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments:

Extended Description:

*Dates of Service are estimated for bidding purposes only.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	EOI Engineering Design Services - Fords Run Drainage				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments:

Extended Description:

*Dates of Service are estimated for bidding purposes only.



Architectural/Engineering Services

CEIO 0313 DEP 2200000004

2021 DESIGN

GROUP C PROJECTS

Public Notice Dates: August 18, 2021
Submission Date: September 16, 2021



CONTACT

Address

Richard Colebank, President & COO
Alpha Associates, Incorporated
209 Prairie Ave.
Morgantown, WV 26501

Phone & Fax

Phone: 304-296-8216
Fax: 304-296-8216

Online

Email: rick.colebank@thinkALPHAfirst.com

Website: www.thinkALPHAfirst.com



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

Proc Folder: 918801			Reason for Modification:
Doc Description: EOI - 2021 Design Group C Projects			
Proc Type: Central Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-08-18	2021-09-16 13:30	CEOI 0313 DEP2200000004	1

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code:

Vendor Name : Alpha Associates, Incorporated

Address : 209 Prairie Avenue

Street :

City : Morgantown

State : West Virginia **Country :** USA **Zip :** 26501

Principal Contact : Richard A. Colebank

Vendor Contact Phone: 304-296-8216 **Extension:** 102

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

Vendor Signature X  **FEIN#** 550516286 **DATE** 9/15/21

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.

Richard A. Colebank, President & COO

(Name, Title)



(Printed Name and Title)

209 Prairie Ave. Morgantown, WV 26501

(Address)

304-296-8216/304-296-8245

(Phone Number) / (Fax Number)

rick.colebank@thinkalphafirst.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.

Alpha Associates, Incorporated

(Company)



(Authorized Signature) (Representative Name, Title)

Richard A. Colebank, President & COO

(Printed Name and Title of Authorized Representative)

9/15/21

(Date)

304-296-8216/304-296-8245

(Phone Number) (Fax Number)

West Virginia Ethics Commission
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Alpha Associates, Inc. Address: 209 Prairie Ave
Morgantown, WV 26501

Name of Authorized Agent: Richard A. Colebank Address: _____

Contract Number: CEIO 0313 DEP 2200000004 Contract Description: 2021 Design Group C Projects

Governmental agency awarding contract: West Virginia Department of Environmental Protection

Check here if this is a Supplemental Disclosure

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

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

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

Tetra Tech

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.

Richard A. Colebank

Richard W. Klein

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.

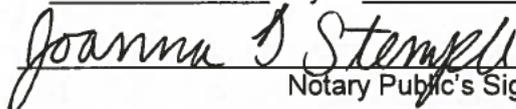
Signature:  Date Signed: 9/15/21

Notary Verification

State of West Virginia, County of Monongalia:

I, Richard A. Colebank, 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 15 day of September, 21.


Notary Public's Signature

To be completed by State Agency:

Date Received by State Agency: _____

Date submitted to Ethics Commission: _____

Governmental agency submitting Disclosure: _____



STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

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

DEFINITIONS:

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

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

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

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Alpha Associates, Inc.

Authorized Signature: *[Handwritten Signature]* Date: 9/15/21

State of West Virginia

County of Monongalia, to-wit:

Taken, subscribed, and sworn to before me this 15 day of September, 2021.

My Commission expires September 25, 2025.

AFFIX SEAL HERE

NOTARY PUBLIC *Joanna D. Stempel*

Purchasing Affidavit (Revised 01/19/2018)



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SECTION C

PROJECT MANAGEMENT

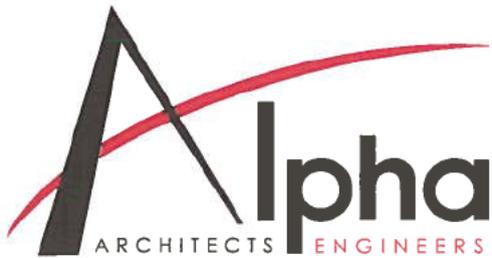
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September 16, 2021

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

RE: Engineering Design Services for 2021 Design Group C Projects

Dear Mr. Hager,

Alpha Associates, Incorporated is pleased to submit this Proposal to provide engineering services for the DEP 2021 Design Group C Projects, which include, the Flatbush Highwall project and the Fords Runs Drainage project. The Alpha's successful history with road stabilization projects and our experienced team make us the perfect partnering firm for the WVDEP.

Project Understanding

The WVDEP is looking for a consultant to provide engineering design services for their 2021 Group C Projects. The A/E firm will be responsible for the design of the following: site and geotechnical investigations; access or accesses required; geotechnical investigation and analyses; landslide stabilization(s); hydrologic and hydraulic analyses; clear and grub affected areas; regrade as necessary; design installation of drainage channels, underdrains, and/or other controls to safely convey water off-site, condition and revegetate all disturbed areas; and obtain required permits as determined at the Pre-Design Meeting. For each project the selected consultant will develop construction plans and technical specifications to stabilize the landslide, and design new drainage features and structures, design plans and develop specification to control any associated water with the site, design plans and specifications for limits of disturbance, storm water control and erosion and sediment prevention, and design plans and develop specifications for all conditions encountered on the project sites. We have performed numerous similar type projects for other state agencies, including the WVDOH, over the years.

Project Team

Our staff includes structural and civil engineers, construction administrators, and support staff. From the President to the support staff, the Alpha team is committed to providing you with a quality completed project in a timely manner. Alpha has the knowledge and understanding in design and

construction to complete this project seamlessly from the initial project inspections to the development of plans and the selections of cost effective options. Any geotechnical work required will be performed by Tetra Tech, Inc. The Alpha team will be your expert for this project.

Summary

Thank you for the opportunity to submit this proposal. Alpha is committed to providing the WVDEP with a dedicated team of highly qualified personnel to successfully complete a project that is on time and within budget once again. Please contact me at (304)296-8216 extension 102 if you have any questions or wish to further discuss our qualifications.

Sincerely,

ALPHA ASSOCIATES, INCORPORATED



Richard A. Colebank, PE, PS
President and COO
rick.colebank@thinkalphafirst.com

WELCOME TO ALPHA ASSOCIATES, INC.

FIRM PROFILE

Contract Role: Prime

Architect & Engineer

Address

209 Prairie Ave
Morgantown, West Virginia 26501

535 West King Street
Martinsburg, West Virginia 25401

Number of Employees

22

Principals

Richard A. Colebank, PE, PS; President & COO
Richard W. Klein, PE, PS; Chairman & CEO
Charles B. Luttrell, PE; Senior Principal
Charles B. Branch, PE; Senior Principal
Matthew T. Echard, PE; Principal

Services

Architectural Design
Civil Engineering
Structural Engineering
Surveying
Interior Design
Landscape Architecture





TETRA TECH

Overview

ENGINEERING SERVICES: GEOTECHNICAL

Tetra Tech
102 Leeway Street
Morgantown, WV 26505

P:304.599.0771
F:304.212.2396
www.TetraTech.com

Tetra Tech is a full-service consulting and engineering firm with a substantial global presence. We help our clients conceptualize and execute innovative solutions to their most difficult problems. Tetra Tech is well positioned to meet the evolving challenges of our clients by moving with the speed of a 20-person office with the resources of a billion dollar company.

From front-end science and planning to design, construction management, and operations, Tetra Tech's global service network is facilitated by our Initiatives program. In addition to coordinating resources for specific markets, the Initiative program provides best-in-class experts with worldwide project experience. They deliver a high level of integrated services for the full project life-cycle in six service areas: water, environment, infrastructure, resource management, energy, and international development.

Our Government Services Group (GSG) provides consulting and engineering services worldwide for a broad range of U.S. government clients (federal, state, and local) and all activities with development agencies. Services include water and waste management, environmental restoration, international development, sustainable infrastructure design, and a broad range of civil infrastructure design for facilities, transportation, and regional and local development. ENR magazine ranks Tetra Tech a national and international leader in several markets.

Geographic Reach

Tetra Tech has offices and operational infrastructure throughout the United States, Canada, and abroad. With 20,000 associates in more than 450 offices in more than 120 countries on seven continents, Tetra Tech's technical knowledge and hands-on site work is broad and deep. Our staff is supported by a uniform administrative and management system that project teams can access immediately to ensure work is completed effectively.

HILL AND ROAD SLIP EXPERIENCE.

- Route 33, Upshur County
- Hillcrest Road. Marion County
- Sycamore Road, Marion County
- Brink Road, Marion County
- Deckers Creek Rail Trail , Monongalia County
- Fort Martin, Monongalia County
- US 340, Jefferson County
- Rockley Road, Monongalia County
- CR 21, Monongalia County



ACID MINE DRAINAGE EXPERIENCE

Alpha Associates has provided design services for multiple passive acid mine drainage treatment systems. These have generally implemented the West Virginia Water Research Institute's conceptual analyses and included surveying, design, permitting, contract document preparation, bidding services, and limited construction administration services for the following:

Morgan Run – DeAntonis Site for the Friends of the Cheat (FOC). This project has been constructed and is successfully treating AMD. The treatment system consists of a steel slag leach bed to raise the pH of fresh water, two (2) settling ponds to allow the AMD and treated fresh water to mix and settle, and open limestone channels. Construction cost - approximately \$115,000.

Lambert Run – Site 5 – Allen Meadows Property for the Guardians of the West Fork Watershed. This project has been constructed and is successfully treating AMD. The treatment system consists of an open limestone channel with baffles designed to increase the oxygen content of the AMD, a settling pond to allow metals to drop out, and approximately 1 acre of constructed wetlands to polish the treated effluent. Construction cost - approximately \$150,000.

Middle Fork of Greens Run - Phase 1 for the Friends of the Cheat (FOC). This project has been constructed and treating AMD with limited success due to leakage problems at two (2) ponds that were constructed on and along an existing, previously-disturbed surface mine area. The treatment system consists of a fresh water pond to collect, store, and release fresh water at a controlled rate, a steel slag leach bed to raise the pH of fresh water, a pond to collect, store, and release AMD at a controlled rate, and swale to mix the AMD and the fresh water from the steel slag leach bed. Construction cost - approximately \$255,000.

Sovern Run 62 and Bishoff – Hudson Road for the Friends of the Cheat (FOC). This project has been constructed and is successfully treating AMD. The treatment systems consist of two (2) steel slag leach beds to raise the pH of fresh water, multiple settling ponds to allow the AMD and treated fresh water to mix and settle, open limestone channels, and constructed wetlands. Construction cost - approximately \$200,000.

Smooth Rock Lick Sites 1, 2, and 3 - for the Buckhannon River Watershed Association (BRWA). This project has been constructed and is successfully treating AMD. The treatment systems consist of limestone leach beds, a settling pond, open limestone channels, and limestone/steel slag ditch checks. Construction cost - approximately \$270,000.

Allen Conner/Messenger Site on Glade Run - for the Friends of the Cheat (FOC). This project has been constructed and is successfully treating AMD. The treatment system consists of three (3) limestone leach with automated solar-powered flushing devices and open limestone channels. Construction cost - approximately \$280,000.

North Fork of Greens Run - Dinkenburger Road for the Friends of the Cheat (FOC). This project has been constructed and is successfully treating AMD. The treatment system consists of one (1) limestone leach with an automated solar-powered flushing device as well as an open limestone channel with baffles to increase the oxygen content of the treated AMD and to allow the metals to drop out. Construction cost - approximately \$150,000.

Lambert Run – Site 6 – Gwinn Portals for the Guardians of the West Fork Watershed. This project has been constructed and is successfully treating AMD. The treatment system consists of a collection unit with a siphon to convey the AMD under a creek crossing at velocities that will reduce deposition of metals in the line as well as increase the oxygen content of the AMD and constructed wetlands to polish the treated effluent. Construction cost - approximately \$180,000.



ROUTE 33/ROUTE 50 REPAIRS

Clarksburg, WV; 2018

Alpha provided the design, and preparation of contract plans and related documents for the paving and slip repair project in Harrison County, West Virginia. This project begins at the intersection of US 19 and Route 33 and continues approximately 5.77 miles on Route 33 to US Route 50.

The project will include paving along the entire route described above and will include the repair of two slips. Slip one is approximately 130 feet in length and slip two is approximately 60 feet in length. It is anticipated both slips will be repaired utilizing pile and lagging retaining walls.

At a Glance:

CLIENT: WVDOH District 4
LOCATION: Clarksburg, WV
COMPLETION DATE: 2018
SIZE: 5.77 Miles
COST: \$118,000

Project Contact:

Donald Williams, PE
2460 Murphys Run Rd
Clarksburg, WV 26330
301-842-1500



CR 21 SLIP REPAIRS

Blacksville, WV; 2018

This project consisted of surveying and core boring for a slip repair project in Monongalia County, West Virginia. This project included the repair of two slips on CR 21.

Slip one is approximately 48 feet in length and slip two is approximately 320 feet in length. The scope of work on this project is limited to providing a site survey for the slip areas and core boring.

At a Glance:

CLIENT: WVDOT District 4
LOCATION: Blacksville, WV
COMPLETION DATE: 2018
SIZE: 368 ft (combined)
COST: \$27,000

Project Contact:

Donald Williams, PE
2460 Murphys Run Rd
Clarksburg, WV 26330
301-842-1500



DECKERS CREEK RAIL TRAIL

Sabraton, WV; 2015

Alpha Associates, Inc provide design services for a slip on the Deckers Creek Rail Trail located in Sabraton, West Virginia. The construction phase of this project is anticipated to start in Spring of 2020.

This project involves the construction of a

- Gabion retaining wall
- Replacement of the affected portion of the Deckers Creek Trail
- Improving site drainage conditions

At a Glance:

CLIENT: Monongahela Conservation District
LOCATION: Sabraton, WV
COMPLETION DATE: Summer 2020
SIZE: TBD
COST: \$162,000

Project Contact:

Don Headley
201 Scott Ave.
Morgantown, WV 26508
304-876-3322



MOUNTAINEER MIDDLE SCHOOL SITE IMPROVEMENTS

Morgantown, WV; 2020

Alpha Associates provided surveying, civil engineering and construction administration services for the Mountaineer Middle School Site Improvement Project.

With the prior elimination of the bus loop, Mountaineer Middle School was in need of a comprehensive pedestrian and vehicular site circulation plan. Alpha prepared a plan to accommodate school buses and parent vehicles, with a priority on student safety. The plan separated buses and cars to provide a more efficient site circulation plan which allowed smoother, safer operations during the busy student pick-up time at school day's end.

Alpha's civil engineering components included:

- Traffic analysis
- Site layout and grading
- ADA accessibility
- Storm drainage design

At a Glance:

CLIENT: Monongalia County Schools
LOCATION: Morgantown, WV
COMPLETION DATE: Summer 2020
CONSTRUCTION COST: \$400,000

Project Contact:

Dr. Eddie Campbell
Superintendent
13 South High Street
Morgantown, WV 26501
304-291-9210



SLIDE MITIGATION



FEATURES

- Slide Mitigations (Engineering Design and Construction Oversight) - PA, OH and WV
- Subsurface Explorations
- Stability Assessments
- Plans and/or Memos for Engineered Repaired plans
- Desktop Reviews of Public domain Records (historic and current)

PROJECT DESCRIPTION

Tetra Tech has and is actively engaged in numerous slide mitigation engineering plans and assessments for various clients throughout West Virginia, Pennsylvania, Ohio. Tetra Tech staff performs desktop reviews of Public Domain Records (historic and current) prior to onsite visits to evaluate the current conditions to support in determining the potential cause. During site visits our staff will take necessary samples or will initiate a more robust exploratory program if deemed necessary. Our staff includes experts in slope stability and slide mitigation efforts, with experience in engineering and design of slide mitigation and construction oversight.

Additionally, Tetra Tech is well-versed in mitigation techniques such as using special ground cover, erosion control mat, (ECM/ECB), granular drains & stabilization trenches, rock / riprap berms and buttresses, Geocells – sloped or Stacked, Gabion Baskets and Reno Mattresses, Articulated Concrete Block (ACB), Geosynthetic-Reinforcement, Soil Nail Reinforcement, Anchored Reaction Blocks, In-Situ Ground Improvements (e.g. Stone Columns & Geopiers), and Soldier Pile (driven or drilled) & Timber Lagging Retaining Walls.



Additionally, Tetra Tech's experience includes slope stability analyses and the design of the most practical stabilization methods to determine the best approach to move forward.

STATEMENT OF QUALIFICATIONS.

Alpha Associates, Incorporated is a West Virginia-based architectural and engineering design firm that provides services in the areas of architectural design, interior design, construction administration, civil engineering, structural engineering, landscape design, project management, and surveying. Our clients benefit from our unique combination of extensive design and construction experience, advanced technological tools, dedicated principals and highly skilled staff members.

Since 1969, Alpha has provided architectural and engineering design services for numerous roadway projects, including hill and landslide projects for various clients. We knowledgeable in the requirements and procedures for any size project. In this proposal, you will find examples that showcase the Alpha Team's exceptional project experience.

Alpha's philosophy has always been to provide exemplary services for fair fees. We have always believed that the best way to succeed as a business is to go above and beyond the basic requirements of our contracts and do everything necessary to successfully complete the given project. What is best for the client is inevitably best for us too.

Everyone at Alpha, from the President to the administrative staff, all work towards the goal of completing successful projects. Our principals are involved with projects from the earliest stages right through final completion and beyond. They will consistently update you on your project by using effective communication tools to manage the projects and all the involved parties. Our skilled staff of twenty two (22) architects, engineers, surveyors and administrative personnel all work diligently towards producing drawings and specifications that will deliver our clients successful projects, completed on time and within budget.

Alpha has thrived for over 51 years because we are a professional organization dedicated to providing superior architectural and engineering design services to our clients. While our staff is large enough to handle any size project, we are also small enough to give each and every one of our projects the individual attention to detail that will make them successful projects for our clients.

THINK ALPHA FIRST.

STAFF PLANNING

TO BE ASSIGNED TO YOUR PROJECT.

All work to be performed for the West Virginia Department of Environmental Protection will be managed out of Alpha's Morgantown office. In addition to your dedicated Project Team, Alpha's staff of 22 includes engineers, architects, architectural designers, technicians, and support staff that are available to assist with any potential project need. Included in the Alpha Team will be Tetra Tech, who will provide any environmental and geotechnical



Richard A. Colebank, P.E., P.S.
President & COO
Principal In Charge



Charles Branch, P.E.
Senior Principal
Civil Engineer



Charles Luttrell, P.E.
Senior Principal
Structural Engineer



Matthew Echard, P.E.
Principal
Structural Engineer



Brad Casdorff, P.E., P.S.
Civil Engineer



Matthew Ridgway, P.E.
Project Manager,
Geotechnical Engineer
Tetra Tech

MEET ALPHA'S TEAM.

MANAGERS

Richard W. Klein
PE, PS
Chairman & CEO

Richard A. Colebank
PE, PS
President & COO

ARCHITECTURE

Rebecca Key
AIA-LEEP-AP
Director of
Architecture

Casey Smith
AIA Assoc.
Architectural Designer

Todd Lewis
AIA Assoc.
Architectural Technician

Gabrielle Dixon
Architectural
Technician

Alex Hail
Construction
Administration

CIVIL ENGINEERING

Charles Branch
PE, Senior Principal
Senior Civil Engineer

Bradley Casdorff
PE, PS
Civil Engineer

Tom Simpson
PE
Civil Engineer

David Costello Jr.
PS
Manager of Surveying

Julie Frazee
Engineering Technician

Kevin McCung
Engineering Technician

Terry Higgins
Field Representative

Barbara Kerns
Survey Crew

Tyler Collins
Survey Crew

STRUCTURAL ENGINEERING

Charles Luttrell
PE, Senior Principal
Structural Engineer

Matthew Echard
PE, Principal
Structural Engineer

Cody Antoon
Engineering Technician

OFFICE ADMINISTRATION

Heather Fox
Business Manager

Joanna Stemple
Marketing Coordinator

Kim Coomler
Administrative Assistant

CAPACITY & SOFTWARE.

OUR CAPABILITIES

Alpha Associates, Incorporated is prepared to commit staff and resources to the WV DEP 2021 Design Group C Projects. Alpha has the qualified and experienced personnel, administrative support, along with the production equipment and resources to ensure the successful completion of this project. We are confident in our ability to provide the DEP with a committed and dependable design team. Our multidisciplinary design team is prepared to meet and exceed the expectations of the State by committing any resources necessary to meet the project schedule.

USING THE LATEST SOFTWARE

The project team incorporates the latest computer and software capabilities required to complete the working drawings and specifications for this project. Our cost accounting system is top-of-the-line and we have the ability to differentiate fees according to task. We have secure e-mail and internet capability to allow efficient transfer of information between Alpha and the client. We currently have the latest editions of the following software:

- AutoCAD 22
 - REVIT (Editions up to 2022)
 - Civil 3D
 - RISA 3D
 - RISA Floor
 - RISA Foundation
 - MathCAD
 - DJI Phantom 4 RTK Drone
 - Autodesk Suite
 - Enercalc
 - AutoTURN
 - TopCon GR5 GPS System
 - TopCon Total Station with Reflectorless Capabilities
 - Carlson Surveyor & Data Collector
-

SCHEDULE AND BUDGET.

Alpha Associates, Incorporated has an excellent track record of producing projects on time and within the Owner's budget. Many A/E firms can claim the same successes, but the determining factor is the tools the firms utilize to achieve the budgets, both in regard to funds and time. Alpha utilizes a number of tools, both traditional and modern to exceed our clients' expectations.

A project schedule is a dynamic, ever changing entity. Your project schedule depends on many factors including:

- Preferred construction method
- Changes to project scope
- Unique construction elements

The Alpha Team has an excellent track record of meeting project design deadlines. Alpha recently completed construction on a project in Morgantown that went from design to completion in just over 12 months. This project was completed for a private developer and had a construction cost in excess of \$20 million.

Successful project management depends upon consensus regarding work efforts, milestones and goals. The team has found that the development of detailed work plans, which delineate tasks and deliverables for each project phase, in concert with the client and full project team, is the most effective means of establishing expectations about efforts required by the respective disciplines. In addition to guiding the efforts of the design team, the work plan sets forth specific time frames and decision points for Owner and user reviews, comments and approvals.

Developing an overall project schedule is a critical task that must take into account many factors: building type, owner's desire for occupancy, scope of work and level of documentation, whether contract(s) is bid or negotiated, available fee, and prior experiences on similar projects. Characteristic of the client, its organization, or the involvement of a construction manager and his responsibility for document review must also be considered.

This starts with a kick-off meeting which establishes ground rules, responsibilities, and line of communication. We have found that a team visioning session is a great way to get everyone started off on the right track. Determining a project schedule is a task that must be done with all parties involved in the process. Once the design process begins, a very detailed, realistic project schedule can be developed and communicated to all involved.

In a world where "time is money", the schedule of a project is almost as important as controlling the cost. Alpha also works diligently to control the budget of a project. The best way to control the cost of a project is to avoid the "scope creep" that can occur.

Alpha's in house cost estimators, combined with an excellent relationship with contractors throughout the area, will provide the client with the most accurate estimates of probable construction cost.

Tetra Tech's Geohazards Group



Geohazards and Geophysics Team

The Tetra Tech Geohazards Group develops unique and innovative client solutions using state-of-the-industry integrated site characterization, geohazards analysis, and 3D site modeling. The Geophysics Team specializes in high-resolution 3D seismic and gravity imaging for various applications including detection of mine voids, subsurface karst imaging, fracture and fault mapping, hydrological and environmental applications, mining applications, structural monitoring, earthquake engineering inputs, and ground motion prediction. Key members of the group have considerable experience in geologic interpretation of seismic data, integrated geologic modeling, fault characterization, seismic hazard assessment and modeling, electromagnetics, electrical resistivity, gravity, and 3D modeling of data and interpreted results.

Our proprietary high-resolution 3D imaging provides unparalleled imaging of subsurface conditions, which means more accurate site characterizations, better understanding of risk, and more accurate construction estimates

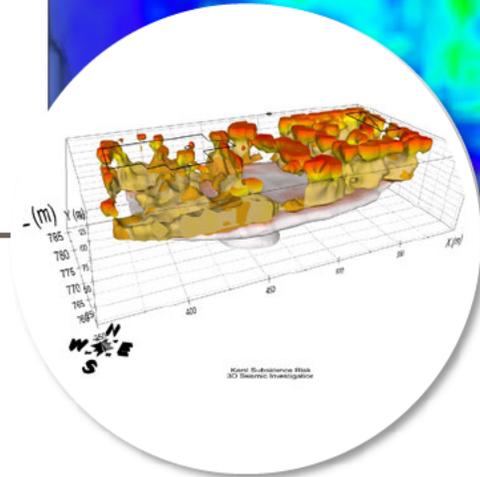
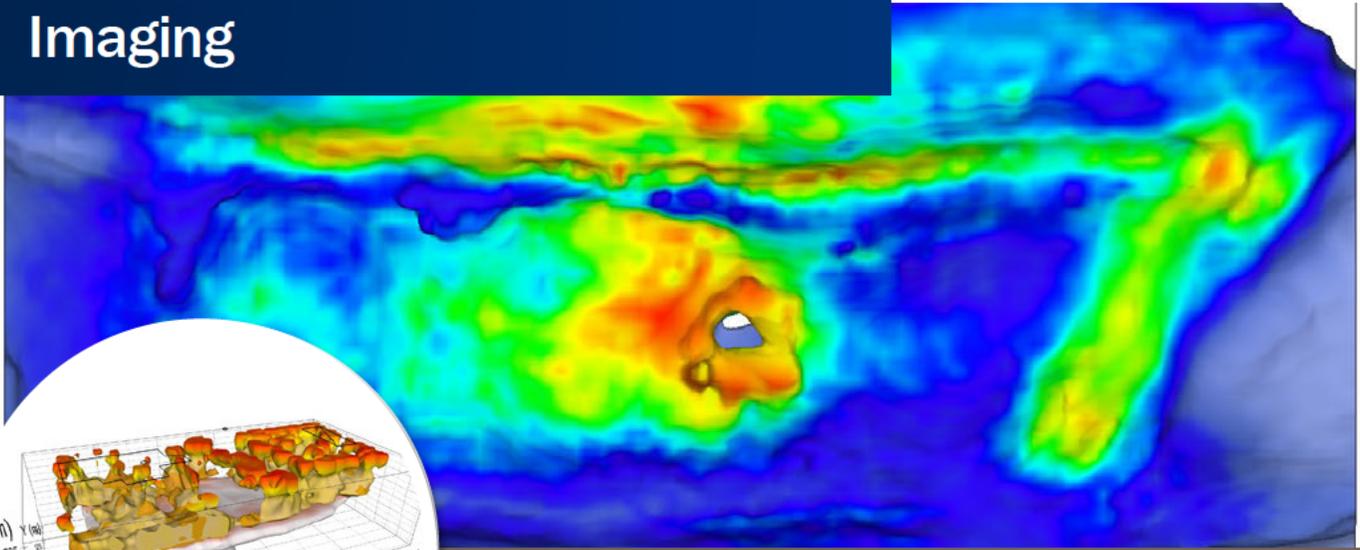
Site Investigation & Characterization

- 3D Seismic Karst Mapping
- Abandoned Underground Mines
- Infrastructure Risk Evaluations
- Levee Characterization
- Transmission Corridors
- Liquefaction Susceptibility
- Foundation Characterization
- Paleoflood/Tsunami Modeling
- Onshore, Transition Zone and Marine Seismic Imaging
- HDD Alignments

Compliance & Monitoring

- Seismic Hazard Assessment
- Ground Motions
- Neotectonics and Paleoseismology
- Dam Foundations
- FERC pipeline required geophysics (electrical resistivity for cathode protection, HDD crossings, etc.)
- Remote seismicity monitoring (new Oklahoma O&G regulations, California geothermal regulations)
- Focused subsidence monitoring
- Regional subsidence monitoring

3D High Resolution Seismic Imaging



Proprietary High-Resolution 3D Seismic Imaging

The Tetra Tech Geohazards Group uses state-of-the-industry seismic acquisition equipment and proprietary high-resolution acquisition design and post-processing algorithms and workflows to obtain seamless near-surface to depth imaging. This approach has demonstrated recent success in imaging open air- and water-filled mine voids at abandoned mine sites and along proposed HDD alignments and open karst under proposed industrial facilities. The approach provides a cost-effective way to identify borehole targets at subsurface anomalies and provides inputs to engineer remediation approaches. High-Res 3D seismic imaging applications also include fracture and fault mapping, hydrological and environmental, mining, structural monitoring, earthquake engineering inputs, and ground motion prediction. Key members of the group have considerable experience in geologic interpretation of seismic data, integrated geologic modeling, fault characterization, integrated borehole analysis, and probabilistic analysis methods.

Our proprietary high-resolution 3D seismic imaging provides unparalleled imaging of subsurface conditions, which means more accurate site characterizations, better understanding of risk, and more accurate construction estimates

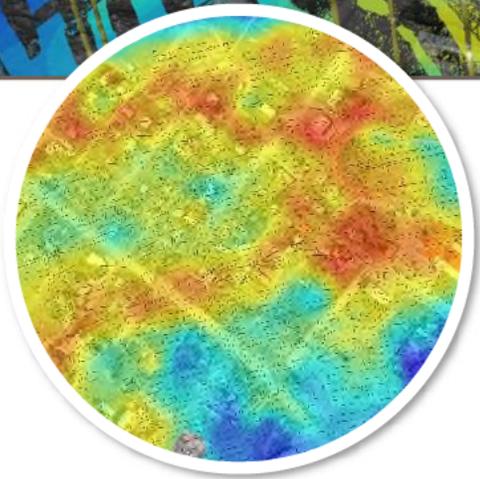
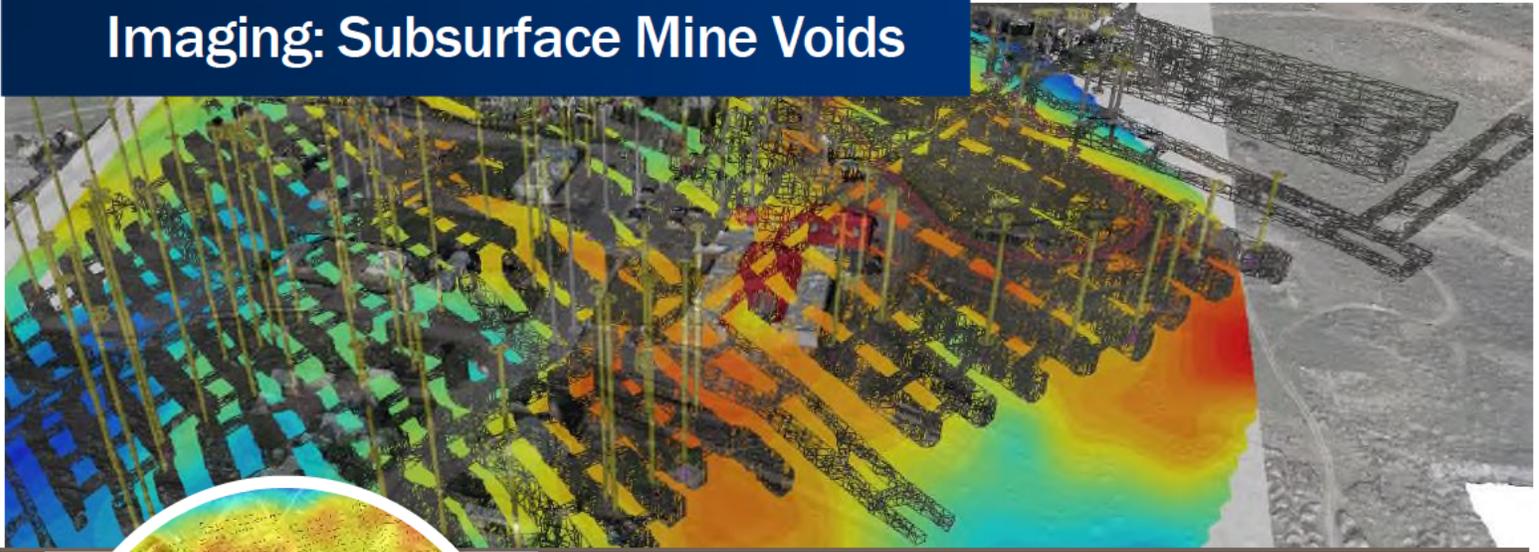
3D Seismic Applications

- 3D Seismic Karst Mapping
- Abandoned Underground Mines
- Infrastructure Risk Evaluations
- Levee Characterization
- Transmission Corridors
- Liquefaction Susceptibility
- Foundation Characterization
- Transition Zone and Marine Seismic Imaging
- HDD Alignments
- Fault Characterization / Neotectonics
- Structural Resonance / FEM

Compliance & Monitoring

- Seismic Hazard Assessment
- Ground Motions
- Neotectonics and Paleoseismology
- Dam Foundations
- FERC Pipeline Required Hazard Assessments for Fault Crossings
- Remote seismicity monitoring (new Oklahoma O&G regulations, California geothermal regulations)
- Structural Subsidence Monitoring

Microgravity Geophysical Imaging: Subsurface Mine Voids



Microgravity Geophysical Imaging for Identifying Subsurface Coal Mine Voids

The Tetra Tech Geohazards Group uses state-of-the-industry gravimetry equipment with proprietary forward-modeling algorithms for calibrated data acquisition design and proprietary post-processing algorithms for subsurface geophysical gravity imaging. This approach has demonstrated recent success in mapping water-filled voids at an abandoned mine site that underlies a >600-acre town. These methods provided a cost-effective and non-invasive way to screen the subsurface beneath the entire populated area—including houses, the fire station, and Elementary School—that overlies open and actively subsiding coal mine workings. The cutting-edge methods were able to identify open voids and rubble zones, which were subsequently targeted and confirmed by boreholes, efficiently setting the stage for grouting, remediation, and mitigation of future subsidence risk. This project demonstrated success in defining targeted remediation locations within a large, populated area, and the results could potentially protect life and losses to property and infrastructure.

Our proprietary high-resolution microgravity imaging provides unparalleled imaging of subsurface conditions, which means more accurate site characterizations, better understanding of risk, more precise remediation targets, and more accurate estimates of remediation costs.

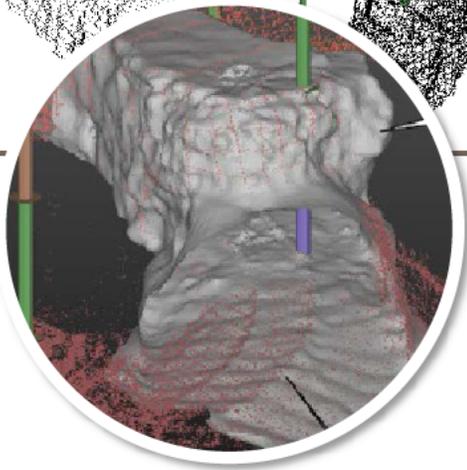
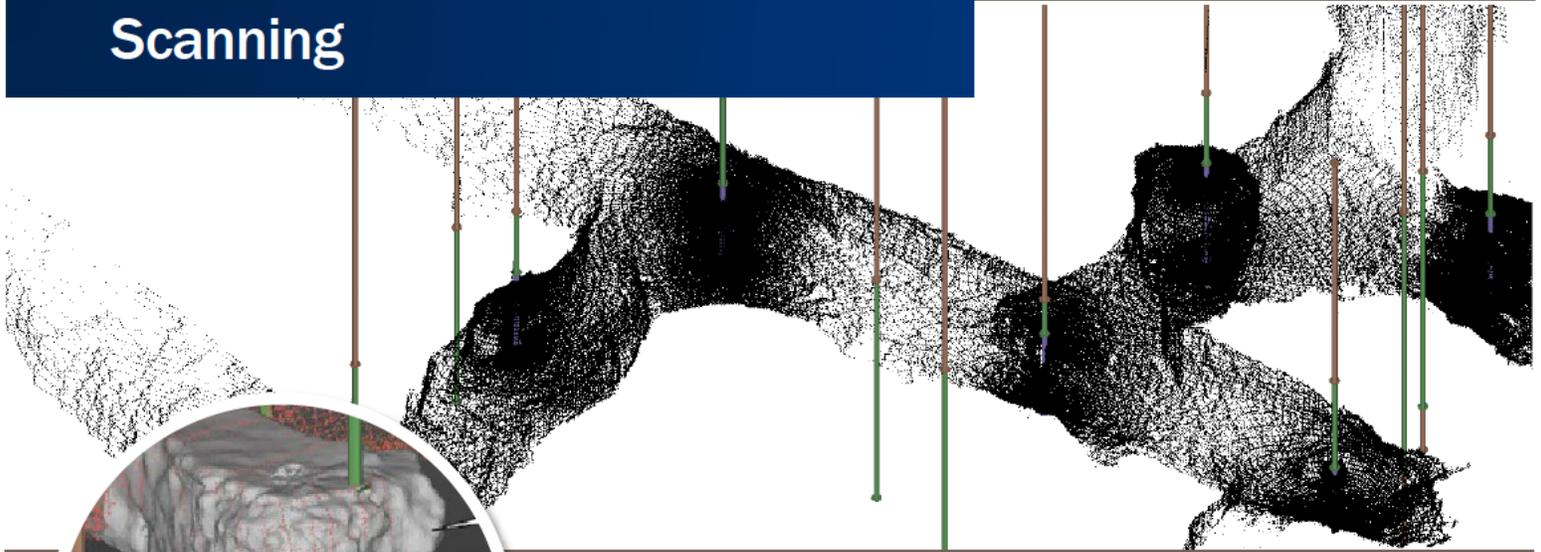
Compliance & Monitoring

- Grouting Remediation to Protect Property and Infrastructure
- Prevent Ongoing Subsidence and Related Potential Loss of Life and Property Damages
- Mitigate Risks by Screening Known Abandoned Mine Workings
- Target Remediation Boreholes
- Verify and Quantify Success of Grouting and Other Remediation

Microgravity Geophysical Survey Applications

- Mine Void Mapping
- Karst Imaging for Remediation and Pre-Construction Assessment and Mitigation
- Targeting of Extraction/Injection Wells
- Subsidence Risk Evaluation
- Fault Zone Characterization and Imaging
- Geothermal and Hydrogeologic Characterization
- 3D Site Modeling

Subsurface Void Detection and Scanning



Void Detection and Scanning

The Tetra Tech Geohazards Group uses state-of-the-industry seismic acquisition for subsurface void detection applications. This approach has demonstrated recent success in imaging open air- and water-filled mine voids and karst features at abandoned mine sites, along proposed HDD alignments, and open karst under proposed industrial facilities. The approach provides a cost-effective way to identify borehole targets at subsurface anomalies. Once the subsurface void network is accessed through a borehole, borehole scanning systems are deployed down a wireline for high-precision void scanning. The void scan data measure the volume and orientation of the subsurface network, including tunnel intersections, collapse and rubble zones, and karst networks. This integrated approach provides value for engineering appropriate remediation approaches, grout volumes, or excavation and backfill.

Our proprietary high-resolution 3D seismic imaging provides targeted imaging of subsurface conditions, followed by high-precision void scanning, which means more accurate site characterizations, better understanding of risk, and more accurate construction or remediation estimates

Void Detection and Scanning

- 3D Seismic Karst Voids
- Abandoned Underground Mines
- Levee Characterization
- Transmission Corridors
- Foundation Characterization
- HDD Alignments
- Subsurface Remediation Engineering Inputs
- Post-Remediation Quality Assessments
- Hazardous or Inaccessible Confined Space Scanning

Compliance & Monitoring

- Subsidence Hazard Assessment
- Subsidence Prevention
- Prevent Loss of Life and Property
- Dam Foundation and Drain Scanning
- Mine Shaft Scanning



RICHARD A. COLEBANK

PE, PS; PRESIDENT & COO

☎ 304-296-8216 | 800-640-8216

✉ rick.colebank@thinkalphafirst.com

EMPLOYMENT HISTORY

1985-Current | Alpha Associates, Inc.
1983-1985 | Charles Townes & Associates, P.C.
1983 | US Army Corps of Engineers

EDUCATION

West Virginia University
Masters of Business Administration; 1999
Bachelor- Civil Engineering; 1982

QUALIFICATIONS

License: Professional Engineer: West Virginia, Maryland, Pennsylvania, Virginia
Professional Surveyor: West Virginia
Certified Private Pilot

AFFILIATIONS

Former NSPE/PEPP Governor of WV
American Red Cross- State Board
University High School Foundation; Charter Member; President
Morgantown Area Chamber of Commerce; Past Chairman
WVU College of Civil and Environmental Engineering Visiting Committee
WVU College of Business and Economics MBA Advisory Committee

SUMMARY

Mr. Colebank is President and Chief Operating Officer at Alpha. He has been with Alpha Associates, Inc. since 1985. He began his career with Alpha as a staff engineer and progressed through the ranks from Project Manager to his current position. Mr. Colebank has worked with diverse clients such as WVU, City of Morgantown, WVDOH, WVU Foundation, and the Morgantown Municipal Airport, as well as numerous other public and private clients. Since 1988, Mr. Colebank has been the Principal-In-Charge of the Civil Engineering projects developed by Alpha. In his current capacity, Mr. Colebank provides financial and administrative guidance for the day to day operations of the company while continuing to manage projects.

PROFILE

Broad-based responsibilities in the following areas:

- Project Management
- Business Operations and Financial Management
- Quality Assurance/Quality Control
- Civil Engineering Project Management and Design
- New Business Development
- Expert Testimony and Investigation

PROFESSIONAL HIGHLIGHTS

Project Principal:

- Morgantown Municipal Airport Access Road; Morgantown, WV
- Mon General Access Road; Morgantown, WV
- WVU Reedsville Farm Redevelopment; Reedsville, WV
- Monongalia General Hospital Access Road; Morgantown, WV
- WVDOH Martinsburg Train Station Corridor Streetscape; Martinsburg, WV
- WV State Office Building; Parkersburg, WV
- College of Physical Activity & Sports Science; Morgantown, WV
- WVDOH Open End Engineering Contract; WV
- WVDOH Deckers Creek Pedestrian Bridge; Morgantown, WV
- Clarksburg State Office Building; Clarksburg, WV
- Jane Lew Truck Stop; Jane Lew, WV
- Grant County Bank Addition & Renovation; Petersburg, WV
- South Berkeley Fire Station; Inwood, WV



CHARLES B. BRANCH

PE; SENIOR PRINCIPAL & CIVIL ENGINEER

☎ 304-296-8216 | 800-640-8216

✉ chuck.branch@thinkalphafirst.com

EMPLOYMENT HISTORY

1992-Current | Alpha Associates, Inc.

1988-1992 | Reimer, Muegge, & Associates, Inc.

EDUCATION

West Virginia University
Bachelor- Civil Engineering; 2000

Fairmont State College
Bachelor- Architectural Engineering
Technology; 1988

QUALIFICATIONS

License: Professional Engineer;
West Virginia

AFFILIATIONS

WV Society of Professional Engineers
National Society of Professional Engineers

SUMMARY

As Chief Engineer for site development and planning projects, Mr. Branch is a vital part of the design process at Alpha. His involvement spans from strictly civil engineering projects, to the design of large scale educational projects and medical facilities. Mr. Branch acts as peer review for young engineers in the firm on issues ranging from storm water management to site design. Mr. Branch is also involved in commercial and residential development design, roadway and bridge design and utilities layout.

PROFILE

Broad-based responsibilities in the following areas:

- Highway Design
- Municipal Engineering
- Wastewater Collection
- Storm Sewer System Design
- Storm Water Management
- Site Engineering
- Project Management

PROFESSIONAL HIGHLIGHTS

Civil Engineer/Project Manager:

- Jane Lew Truck Stop; Jane Lew, WV
- Clarksburg State Office Building; Clarksburg, WV
- WVU Reedsville Farm Redevelopment; Morgantown, WV
- Freedom Automotive Group Dealerships; Morgantown, WV
- Freedom Kia; Clarksburg, WV
- WVU Parking Lot 81 Renovations; Morgantown, WV
- WVU Doll's Run Burn Room; Morgantown, WV
- WVU Alumni Center Parking Lot; Morgantown, WV
- WVU Alumni Center Storm Water Management; Morgantown, WV
- WVU Health Sciences Center Eastern Division; Martinsburg, WV
- WVDOH Martinsburg Train Station Corridor Streetscape; Martinsburg, WV
- WVDOH I-77 Welcome Center; Williamstown, WV
- WV Medal of Honor Recipients Plaza; Hazleton, WV
- Lewis County High School Bridge; Weston, WV
- Wyoming County Route 10 Relocation; Wyoming County, WV
- Fairmont Federal Credit Union; Bridgeport, WV
- Queen St Underpass; Martinsburg, WV
- Martinsburg Little League Fields; Martinsburg, WV



BRADLEY CASDORPH

PE,PS; CIVIL ENGINEER

☎ 304-296-8216 | 800-640-8216

✉ brad.casdorph@thinkalphafirst.com

EMPLOYMENT HISTORY

2004-Current | Alpha Associates, Inc.
1979-2004 | Triad Engineering, Inc.

EDUCATION

West Virginia University
Masters- Soil Conditions and
Foundation Design; 1982
Bachelor- Civil Engineering; 1979

QUALIFICATIONS

License: Professional Engineer: West Virginia
Professional Surveyor: West Virginia
Certified Private Pilot
Certified FAA Part 107 Remote Pilot

AFFILIATIONS

WV Society of Professional Engineers
National Society of Professional Engineers
WVSPS- Mountain Regional Chapter; President
Aircraft Owners and Pilots Association; Member

SUMMARY

Mr. Casdorff joined the Alpha Associates, Inc. team in 2004 and currently works as a project engineer in the Morgantown office. He has 36 years of professional experience with roadway design, storm sewer design, airport airside renovation and design, storm water management including conveyance and detention, environmental permitting, project administration supervision and inspection, as well as boundary and construction surveying.

PROFILE

Broad-based responsibilities in the following areas:

- Airport Planning and Design
- Highway Design
- Hydraulic and Hydrology Studies
- Site Plan Development
- Land Surveying , including the use of Aerial Drone Technology

PROFESSIONAL HIGHLIGHTS

Civil Engineering:

- WVDOH Arnettsville Bridge Replacement; Monongalia County, WV
- WV DOH Open Engineering Open End Contract; WV
- WVDOH Deckers Creek Pedestrian Bridge; Morgantown, WV
- Freedom Automotive Three Dealerships; Morgantown, WV
- Freedom Kia Clarksburg; Clarksburg, WV
- Morgantown Municipal Airport Access Road; Morgantown, WV
- Mon General Hospital Access Road; Morgantown, WV
- WVU - Lot 81 Parking Area Improvements; Morgantown, WV
- McKee Crossing - 120 Acre Subdivision; Martinsburg, WV
- WVU Reedsville Farm Redevelopment; Reedsville, WV
- Mon General Hospital - East Parking Area; Morgantown, WV
- Jane Lew Truck Stop; Jane Lew, WV
- Point Marion Borough; Point Marion, PA
- Clarksburg State Office Building; Clarksburg, WV
- WVU College of Physical Activity & Sports Sciences; Morgantown, WV
- VA Parking Lot SWM; Shepherdstown, WV
- Arcland RV Parking Lot SWM; Charles Town, WV

Surveying:

- WVDOH Arnettsville Bridge Replacement; Monongalia County, WV
- Morgantown Municipal Airport Access Road; Morgantown, WV
- Mon General Hospital Access Road; Morgantown, WV
- Freedom Automotive Three Dealerships; Morgantown, WV
- Freedom Kia Clarksburg; Clarksburg, WV



CHARLES B. LUTTRELL

PE; SR. PRINCIPAL & STRUCTURAL ENGINEER

☎ 304-296-8216 | 800-640-8216

✉ charlie.luttrell@thinkalphafirst.com

EMPLOYMENT HISTORY

1996-Current | Alpha Associates, Inc.
1995-1996 | Larry D. Luttrell, PE, PhD
1991-1994 | West Virginia University
1990-1991 | WVU Constructed Facilities Center

EDUCATION

West Virginia University
Masters- Structural Engineering; 1995
Bachelor- Civil Engineering; 1993

QUALIFICATIONS

License: Professional Engineer: West Virginia,
Pennsylvania

AFFILIATIONS

WV Society of Professional Engineers
National Society of Professional Engineers
Chi Epsilon; Member
American Concrete Institute; Member

RESEARCH EXPERIENCE

Cold Formed Steel Deck Research
Fastener Failures
Edge Conditions/Failures
Buttressed Overlap Shear Failures

Composite Cold Formed Steel and
Concrete Deck
Line Load Behavior/Failures
Concentrated Load Behavior/Failures
Web Crippling
Punch Failures

SUMMARY

Mr. Luttrell has worked with Alpha Associates, Inc. since 1996. He is the chief structural engineer on all projects at Alpha. Before coming to Alpha, Mr. Luttrell's graduate work resulted in several contributions to the cold-formed steel deck industry. His new method of analysis for non-uniform loads on composite concrete and cold formed steel decks has been made a permanent part of the Steel Deck Institute's design manual. Mr. Luttrell also worked on projects that involved pre-stressed timber bridge research with WVU Constructed Facilities Center. Since coming to Alpha, Mr. Luttrell has had significant involvement in the effort to begin utilizing modern composite materials in practical bridge applications.

PROFILE

Broad-based responsibilities in the following areas:

- Project Management
- Business Operations and Financial Management
- Quality Assurance/Quality Control
- Civil Engineering Project Management and Design
- New Business Development
- Expert Testimony and Investigation

PROFESSIONAL HIGHLIGHTS

Structural Engineer:
Freedom Automotive Group 3 Dealerships; Morgantown, WV
Hazel Ruby McQuain Equine Education & Resource Center; WVU
WVDOH Arnettsville Replacement Bridge; Morgantown, WV
Clarksburg State Office Building; Clarksburg, WV
Grant County Bank Addition & Renovation; Petersburg, WV
South Berkeley Fire Station; Inwood, WV
Alumni Center Structural Framing and Foundation; WVU
Engineering Science Building, East Wing Addition; WVU
Hazel Ruby McQuain Amphitheater Roof; Morgantown, WV
Shepherd University Pedestrian Underpass; Shepherdstown, WV
Washington High School; Charles Town, WV
WVU Coliseum Structural Inspection; Morgantown, WV
Alderson Broaddus College, Rex Pyles Arena Deck; Phillipi, WV
Monongalia County Sheriff's Building; Morgantown, WV
South High Street Bridge; Morgantown, WV
Ices Ferry Bridge; Morgantown, WV
Matthews Foundry Structural Evaluation; Martinsburg, WV
Martinsburg Little League Fields; Martinsburg, WV
Martinsburg WWTP; Martinsburg, WV
Queen St. Underpass; Martinsburg, WV
Winchester & Western RR Rt. 11 Bridge; Martinsburg, WV



MATTHEW T. ECHARD

PE; PRINCIPAL & STRUCTURAL ENGINEER

☎ 304-296-8216 | 800-640-8216

✉ matthew.echard@thinkalphafirst.com

EMPLOYMENT HISTORY

2016-Current | Alpha Associates, Inc.
2010-2015 | Echard ingenieurBüro
2006-2009 | Buro Happold Consulting Engineers
2003-2006 | RISA Technologies, Inc.
2000-2003 | Zaldastani Associates, Inc.

EDUCATION

Massachusetts Institute of Technology
Masters- Engineering & Environmental
Mechanics, 2002

West Virginia University
Bachelors of Science- Civil Engineering,
2000

QUALIFICATIONS

License: Professional Engineer:
West Virginia, California

California OES SAP Evaluator

AFFILIATIONS

American Concrete Institute (ACI)
American Institute of Steel Construction (AISC)
American Society of Civil Engineers (ASCE)
American Wood Council (AWC)

PUBLICATIONS

Echard, M. and Tonis, D. Convergent Design
Methodology for Bio-Science Labs:
Architectonic and Performative Structural
Considerations Using the Geilinger Composite
Column Solution. Proceedings of ICSA2010-
First International Conference on Structures
and Architecture Guimaraes, Portugal, July
2010, Taylor & Francis.

Echard, M. Structural Analysis and Design
Within a BIM Framework. EAEC 10- East
Asia Structural Conference, Bangkok,
Thailand, August 2006.

SUMMARY

Mr. Echard joined Alpha Associates, Inc. in early 2016 with a strong belief that his clients deserve intelligent, performance-based and value-oriented solutions. Drawing on experience working across in the United States, Europe, and the Middle-East, Mr. Echard returned to West Virginia to provide world-class service in a historically undeserved region while making positive contributions to the future growth of his home state. Mr. Echard places a large value on the collaborative work process. Believing that a building's form and function are derived from many contexts, Mr. Echard's office is located in the corporate office in Morgantown, WV. Mr. Echard also volunteers as the Chairman of the Gilmer County Unsafe Buildings and Lands Enforcement Authority.

PROFILE

Broad-based responsibilities in the following areas:

- Structural Engineering
- Structural Forensics
- Project Management

PROFESSIONAL HIGHLIGHTS

Project Manager & Structural Engineer:

- WVU Creative Arts Center Performance Access; Morgantown, WV
- WVU Aero/Combustion Lab Mezzanine; Morgantown, WV
- WVU Athletics Tennis Scoreboard; Morgantown, WV
- WVU Athletics Coliseum Scoreboard & Speakers; Morgantown, WV
- WVU CAFEE Building Addition; Morgantown, WV
- WVU Colson Hall, Admission & Records Access; Morgantown, WV
- WVU ESB Chiller Lines; Morgantown, WV
- WVU ESB Roof Fall Protection; Morgantown, WV
- WVU Health Sciences Center - Phase 1B HVAC; Morgantown, WV
- WVU Hodges Hall Renovation; Morgantown, WV
- WVU J.W. Ruby Research Farm; Reedsville, WV
- WVU Law School Precast Evaluation; Morgantown, WV
- WVU Mountainlair Façade Water Infiltration; Morgantown, WV
- WVU Mountainlair Gridiron Assessment; Morgantown, WV
- WVU Mountainlair Plaza Structural Assessment; Morgantown, WV
- WVU Stewart Hall MEP Upgrades; Morgantown, WV
- Westover Goodwill Structural Design; Morgantown, WV
- Weyerhaeuser Roof Evaluation; Heaters, WV
- Martinsburg Queen Street Underpass; Martinsburg, WV
- City Hall Façade Rehab; Morgantown, WV
- Metropolitan Theatre Roof; Morgantown, WV

EXPERIENCE SUMMARY

Mr. Ridgway has diverse experience assisting clients with management, project management, engineering and managing the design and construction of complex projects. He has a proven history as a geotechnical engineer performing and overseeing tasks including preliminary site investigations, engineering analysis and design and construction oversight while maintaining cost-savings initiatives. Mr. Ridgway is an effective communicator and has effectively overseen and managed several projects with multiple stakeholders who share different interest. He successfully deals with complex issues in a highly stressful and ever-changing environments. Mr. Ridgway has worked in a wide variety of both public and private sector projects and is able to use this diversity of experience to provide new and creative solutions to complex problems. Mr. Ridgway will ensure that project teams have the resources and support needed to not only meet but exceed expectations

RELEVANT EXPERIENCE

SITE DEVELOPMENT

Geotechnical Engineer; Multiple Clients, New York. Prepared site investigation plans and conducted engineering analysis and calculations for the support system of multiple solar array sites ranging in size up to 40 acres. Sites included access roads, generation equipment, battery pads and solar panels.

Project Manager; Confidential Client, West Virginia. Managed the geotechnical aspects of the development of over 1000 acres for a private client in West Virginia. This project consisted of substantial field investigation, the exploration of underground mines for potential subsidence, preparation of recommendations for the remediation of surface mines, reinforced steeped slopes and several fill slopes in excess of 200 feet.

Project Manager; Multiple Clients, Multiple Locations. Managed the creation of geotechnical recommendations for the site construction of single and multi-level buildings for over 30 projects in West Virginia, Ohio and Pennsylvania. Mostly in the retail and healthcare business, the buildings ranged from 3,000 to 120,000 square feet. Work included the creation and oversight of geotechnical investigation, laboratory testing, and preparation of recommendations and reporting. Specific projects required the remediation of different difficulties such as expansive clays, pyrites, karst, in-tact coal, and mine spoils.

Project Manager; Confidential Client, West Virginia. Managed the geotechnical aspects of the development of a 20 acres site for the creation of a competitive track and aquatic facility West Virginia. This project consisted of field investigation, remediation of deep mine spoils in excess of 80' and deep fills. This project also had restrictive settlement tolerances of $\frac{1}{4}$ ".

GEOSTRUCTURES AND DEEP FOUNDATIONS

Project Manager; Building Foundation Design; U.S. Department of Energy; West Virginia. Managed the geotechnical investigation and deep foundation design for this site to support a multistory structure in Morgantown, WV. This project consisted of designing foundations to transfer abnormally high columns loads over 40 feet of soft clays.

Project Manager; Dock Piling Design; U.S. Coast Guard; Pennsylvania. Managed the geotechnical investigation and design for this site in Sewickley, PA. This project consisted of the design of a 35 foot cantilevered support for a floating dock.

Project Manager; Retaining Wall Design; Allegheny County; Maryland. Managed the geotechnical investigation and design for this site along in Allegheny County, Maryland. Investigation included locating borings on an active slip of coal refuse for the purposes of designing a retaining wall of approximately 15 feet in height and 176 feet in length. Calculated forces on the wall and analyzed for design and selection of beams

EDUCATION

BS, Civil Engineering,
West Virginia University, 2013

BS, Mining Engineering,
West Virginia University, 2013

AREA OF EXPERTISE

Geotechnical/Mining
Engineering

Instrumentation

Mine Site Reclamation

Slope Stability

Deep Foundation

Land/Site Development

Forensic Investigation

Geostructures

LICENSE

Professional Engineer: (CO, KY
MD,MO,NC,NJ, PA,SC,UT VA,
WV and WY)

OFFICE

Morgantown, WV

YEARS OF EXPERIENCE

9

YEARS WITHIN FIRM

2

CONTACT

matthew.ridgway@tetrattech.com

for a pile and lagging wall using LPILE. Complete stability analysis using Slope/W and RocScience Slide software

Project Manager – Retaining Wall Design; City of Morgantown; West Virginia. Managed the geotechnical investigation and design for this site along in the city of Morgantown, West Virginia. Investigation included locating borings on an active slip for the purposes of designing a retaining wall of approximately 20 feet in height and 155 feet in length. Calculated forces on the wall and analyzed for design and selection of beams for a pile and lagging wall using LPILE. Complete stability analysis using Slope/W and RocScience Slide software.

Project Manager; Retaining Wall Design; West Virginia Department of Highways; West Virginia. Managed the geotechnical investigation and design for multiple sites in West Virginia. Investigation included locating borings on an active slip for the purposes of designing a retaining wall. Calculated forces on the wall and analyzed for design and selection of beams for a pile and lagging wall using LPILE. Complete stability analysis using Slope/W and RocScience Slide software.

Project Engineer; Abutment Wall Design; West Virginia Department of Highways; West Virginia. Performed calculations and design for bridge abutments walls and pier foundations.

Project Manager; Caisson Foundation; West Virginia Univ. Hospitals; West Virginia. Managed geotechnical investigation, laboratory testing and performed design and reporting for caissons to support an air-handler unit adjacent to an existing building.

Project Manager; Micropile Foundation; Confidential; West Virginia. Managed geotechnical investigation, laboratory testing and performed design and reporting for a micropile group. Micropiles were needed to support a sensitive area of a structure that had undergone differential settlement.

SLOPE STABILITY, SLIDE INVESTIGATION AND MITIGATION

Project Engineer; Slide Mitigation; Confidential Client; West Virginia. Performed investigation on an active slide along an active railway. Completed stability analyses and repair recommendations.

Project Manager; Slip Repair; Confidential Client; Pennsylvania. Conducted the field investigation into the location and cause of an 80-foot tall slope failure adjacent to a stream in north-central Pennsylvania. Performed stability analyses and prepared construction drawings for mitigation and repair.

Project Manager; Slip Repair; Confidential Client; Pennsylvania. Completed field investigation and prepared permits, conducted stability analysis and prepared construction drawings for a 70-foot high slope failure adjacent to a stream in northeastern Pennsylvania

Project Engineer; Pipeline Slope Failure Remediation; Confidential Clients; Pennsylvania and West Virginia. Conducted over 30 field evaluations and investigations of slope failures along pipeline right of ways and on well pad sites. On selected sites conducted stability analysis and oversaw field repairs.

Project Engineer; Reinforced Steepened Slope; West Virginia Department of Highways; West Virginia. Performed design and stability analysis for a fifty-foot-tall 1500-foot-long reinforced steepened slope.

Project Manager; Slip Repair; Confidential Client; Pennsylvania. Completed field investigation and prepared permits, conducted stability analysis and prepared construction drawings for a 20-foot-high slope failure caused by stream erosion of the toe in northeastern Pennsylvania.

Project Manager; High Wall Stability; Confidential Client; Pennsylvania. Performed field investigation of existing bedrock to create a 50-foot-tall highwall adjacent to a property boundary in Williamsport, Pennsylvania. Design plans included a falling rock retention system.

Project Manager; Slip Repair; Confidential Client; Pennsylvania. Conducted the field investigation into the location and cause of a 40 foot tall slope failure in Washington Pennsylvania. Performed stability analyses and prepared construction drawings for mitigation and repair.

Project Manager; Retaining Wall Design; West Virginia Department of Highways; West Virginia. Managed the geotechnical investigation and design for this site along in Harrison County, West Virginia. Investigation included locating borings on an active slip for the purposes of designing a retaining wall of approximately 25 feet in height and 30 feet in length. Calculated forces on the wall and analyzed for design and selection of beams for a pile and lagging wall using LPILE. Complete stability analysis using Slope/W and RocScience Slide software.

OIL AND GAS

Project Engineer; Well Pad Complex; Confidential Client; Marshall County, West Virginia. Managed the geotechnical aspect of a well pad complex that included five well pads, two impoundments and several ancillary sites. The project consisted of several fill slopes in excess of 70 feet in height, Reinforced steepened slope design and soil-improvement.

Project Engineer; Impoundment; Confidential Client; Ohio. Assisted with the design recommendations and oversaw field inspection of Ohio's first frac waste impoundment. This project developed approximately 30 acres into an impoundment with a fill slope of a fill slope in excess of 60 feet.

Project Engineer; Compressor Station; Confidential Client; West Virginia. Managed and performed all work related to the geotechnical aspects of the development of an approximately 20-acre compressor station site in West Virginia. This site included several fill slopes in excess of 110 feet and contained multiple reinforced steepened slopes. Performed both bearing capacity and settlement analysis for this project.

EXPERIENCE SUMMARY

Mr. Wright specializes in exploratory drill inspection, geotechnical engineering design, foundation construction monitoring, and pressure injection grouting. During his career, he has inspected exploratory drilling projects and logged samples in Kentucky, Maryland, New Mexico, Ohio, Pennsylvania, Texas, Virginia, and West Virginia. Mr. Wright has experience inspecting earthwork construction including natural gas well pad builds, earthen embankments, access roads, and slope remediation. Additionally, he is experienced with foundation pressure grouting of both low and high mobility grouts. Mr. Wright has supported with the installation of pile foundation systems and has performed compression, tension, and lateral load tests on piles of various diameters and lengths. Mr. Wright has monitored the installation and stressing of approximately 100 rock anchors for slide remediation and foundation uplift resistance applications.

RELEVANT EXPERIENCE
PILE FOUNDATIONS
United State Army Core of Engineers (USACE)

- Kentucky Lock Downstream Excavation (June 2021 to July 2021)
 - Drill inspector for 40-pipe piles that were installed to provide sliding/shear resistance for dewatering on the land side of the cellular cofferdam.

Penn State University

- PSU West Parking Garage (February 2020)
 - Project support for the foundation of a multi-level parking garage which consisted of the installation of 740 micro-piles varying in depth and diameter.

Amtrak

- Harrisburg, PA Amtrak Station (June 2019 to July 2019)
 - Project support for the installation of 185 micro-piles for the foundation of a new train platform.

Mylan Park/West Virginia University

- WVU Aquatic Center (March 2018 to April 2018)
 - Inspector for the installation of 88 micro-piles for the diving well of the competition pool.

Education (Linked Style) [Tt Callout Heading]

ME, Geotechnics, Missouri University of Science and Technology, 2020

BS, Civil Engineering, West Virginia University, 2017

Area of Expertise

Geotechnical Engineering
 Deep Foundations
 Geostructures
 Pressure Injection Grouting
 Load Testing
 Soil and Rock Sampling

Registrations/ Affiliations

Professional Engineer: KY

Training/Certifications

PennDOT Drill Inspector: #431-18

OSHA 10 HR

Office

Morgantown, WV

Years of Experience

4

Years within firm

1

Contact

Jack.Wright@TetraTech.com

Christopher Lewis, PE

Sr. Geotechnical Specialist

EXPERIENCE SUMMARY

Mr. Lewis has a multi-disciplined background in geotechnical & structural engineering, engineering mechanics and mining. He leads and executes complex, multi-disciplined projects for specialty & heavy construction contractors, partner A/E firms, industrial clients, and energy & mining clients. He is recognized for:

- accomplishments remedying problem ground conditions, unstable soil & rock slopes, and other geo-hazards;
- engineering & design of earth dams, waste disposal impoundments, specialty & traditional geo-structures, and deeply buried plastic pipes;
- meeting challenges on major inland waterway projects (navigational locks & dams, bridge crossings, flood protection structures); and
- contributions to engineering manuals of practice, value-engineering assessments, specialized technical review, and forensic investigations.

A sampling of Mr. Lewis's experience follows.

RELEVANT EXPERIENCE

Technical PM for Geotechnical Aspects of Access Roads, Compressor Stations, and Interconnect Station – Select Segments of MVP Project, WV.

- Geotechnical Site Investigations, Testing Programs; and Reports
- Alternatives evaluations for Access Rd and Station Pad development
- Recommendations for Civil site development and Geotechnical design
- Final design of Mechanically-Reinforced Soil Slopes (RSS up to 57-foot high), Soil Nailed & Rock Bolted cut slopes, and cantilevered and anchored Post & Panel Retaining Walls
- Estimates of construction costs, preparation of construction/bid documents, and bid-phase assistance

Lead Geotechnical Engineer - Specialty Geotechnical Services for Bridge Pier Cofferdams, Construction Causeways, and Deep Foundations – KY, OH, PA, WV.

- New SR 0173 Bridge - French Creek, PA
- New Ironton-Russell Bridge – Ohio River, KY, OH
- New Hulton Bridge – Allegheny River, PA
- WV Route 20, Lilly Bridge Replacement Project – Bluestone River, WV
- New Main Street Bridge – Columbus, OH

Island Creek Flood Protection Project, Logan, WV - USACE, Huntington District – Specialty Design Services.

- Value-Engineering Design of combined Anchored Post & Panel Flood Walls-Bridge Abutments.
- Design of remedial scour protection system.
- Expert Services to correct piping issues and anchor system concerns.

Alternatives Analysis for Bulkhead Wall – Gulf Coast Port, TX.

Technical evaluation of alternatives for Bulkhead Wall development, including:

EDUCATION

M.S., Civil Engineering
Virginia Tech, 1985

B.S., Civil Engineering,
Clarkson University, 1983

Specialized Studies in
Structural Geology & Soil
Mechanics - City University of
London, UK, Aug - Dec 1981

REGISTRATIONS/ AFFILIATIONS

Professional Engineer:
AL FL GA KY LA MA MD MI
NC NJ OH PA TN WV

American Society of Civil
Engineers (ASCE)

Association of State Dam
Safety Officials (ASDSO)

U.S. Society on Dams (USSD)

PROFESSIONAL PRACTICE

Tetra Tech, Inc.

Lewis Consulting Group, LLC

D'Appolonia Engineering, Inc.

YEARS OF EXPERIENCE

30+ years

Geo-Hazards: Expansive Soils,
Metastable Deposits, Pyritic Rock,
Karst, Landslides, Mine Subsidence

Earth-Structure Interaction

Earth & Waste Disposal Dams

Specialty Geotech Construction,
Ground Improvement

Specialized Technical Review,
Value-Engineering, RCAs, Expert
Services

Inland Waterway Structures (Dams,
Lock & Guide Walls, Cofferdams)

Upstream Construction Over
CCR & Tailings Impoundments

Seismic Evaluations and
Liquefaction Assessments

Flood Routing, Hydrodynamic
Modeling, Scour

EXPERIENCE SUMMARY

Mr. Fellin is the geotechnical department manager for Tetra Tech's Missoula office. He has over 31 years of experience in geotechnical, transportation, and civil engineering, conducting field subsurface investigations and engineering foundation design of buildings, towers, bridges and culverts; pavement design; and field construction inspection for drilled shaft, pile, and roadway subgrade preparation. Design methodologies for pavement engineering projects include mechanistic pavement design and back calculating subgrade resilient modulus using falling weight deflectometer data. Mr. Fellin has worked extensively on federal and state highway projects, providing geotechnical analysis and design of bridge, culvert, and building foundations; retaining walls; landslides; and cut-and-fill slopes and has performed pavement design for both high and low volume highways. Mr. Fellin provides settlement estimates for pile and earth foundations, axial and lateral pile capacities for drilled shafts and piles, slope stability analysis, and foundation stabilization recommendations for both private and state projects.

RELEVANT EXPERIENCE

FLEXIBLE AND RIGID PAVEMENTS

Lower Miller Creek Road, Missoula, Montana. For WGM Group, provided geotechnical services for design and rehabilitation/reconstruction of 2-mile city street in Missoula that included very poor subgrade conditions and significantly variable asphalt thicknesses and conditions. Included drilling geotechnical borings as well as coring and evaluating the asphalt layer. (2020)

Specification Development, Missoula, Montana. For WGM Group, provided geotechnical and construction materials testing consultation and services during the development of the revised City of Missoula Public Works Manual. Provided revised specifications and memos for; pavement design, hot and cold weather asphalt and concrete construction, warm mix asphalt design and placement, and utilization of recycled materials in pavement construction. (2020)

Highway 93 Widening, Whitefish, Montana. For WGM Group, provided geotechnical services, including drilling two borings, for design and reconstruction/widening for 1 mile of roadway in area with soft subgrade and bedrock. Developed recommendations for multiple alternative pavement sections. (2019-2020)

Milk River North Experimental Pavement Sections – MDT – Nashua, MT. As Pavements Engineer, coordinated complete rehabilitation for 1.5 miles of City of Nashua streets, as well as 2 miles of MDT Highway bypass around Nashua. Performed complete geotechnical investigation. Worked with MDT to develop experimental research pavement sections, including; full-depth reclamation, full-depth reclamation with base stabilization, and traditional construction. Designed project special provisions for the experimental sections, and oversaw construction and consulted with contractor and MDT during in-place stabilization process. (2016-20)

Front Street Storm Drain and Pavement Investigation, Helena, Montana. As Pavements Engineer, coordinated geotechnical investigation along Front Street to address aging utility infrastructure and streetscape improvements between Neill Avenue and Lyndale Avenue, 0.3 miles. Prepared pavement alternatives for rehabilitation. Consulted with KLJ during preparation of project documents. (2017)

Value Engineering Study, 10-mile Highway Segment, Glendive, Montana. As Pavements Engineer, worked for one week on Value Engineering Study with team of 10, including Federal Highway Administration and the Montana Department of Transportation. Personally came up with three pavement engineering innovative alternatives that resulted in cost savings of on the order of \$2M to \$3M over the original design alternative. Worked with design

EDUCATION

BS & MS, Civil & Transportation Engineering, Oregon State University, 1992-1993

BS, Construction Engineering Technology (Construction Materials), Montana State University, 1989

REGISTRATIONS/ AFFILIATIONS

Professional Engineer: Montana (██████████), NV, MO, KY

OFFICE

Missoula, MT

YEARS OF EXPERIENCE

31

YEARS WITH FIRM

21

EXPERIENCE SUMMARY

Mr. Dierking has over 18 years of geotechnical engineering experience conducting field investigations and foundation analysis and design for public and private projects. His duties at Tetra Tech include project management, proposal preparation, coordinating field investigations, and preparing geotechnical reports. Mr. Dierking has completed extensive slope stability analyses for a wide variety of projects, including cut slopes and embankments, existing landslide mitigation, landfill seismic stability, and geohazard programs. He has also performed downhole inclinometer surveys and slope stability inspections at numerous sites. He has worked on numerous federal and state infrastructure projects, providing geotechnical analysis and design recommendations for bridge and building foundations, retaining walls, cut slopes, fill sections, asphalt and concrete pavement sections, settlement estimates, axial and lateral pile and shaft analysis, and foundation stabilization recommendations. Mr. Dierking has completed many geophysical surveys, geological field-mapping, and is proficient with many geotechnical modeling and analysis software packages. Mr. Dierking has also provided geotechnical and construction materials laboratory testing, construction materials testing and inspection services, and engineering inspection and observation during construction phases.

RELEVANT EXPERIENCE

SLOPE STABILITY

Hillview Crossing, Missoula, Montana. As Senior Geotechnical Engineer, performed geotechnical investigation of a proposed 68-unit townhome development located on existing natural slopes utilizing an all-terrain drill rig and review of site piezometer data. Prepared slope stability models including the proposed townhome construction to provide design and construction recommendations for the slopes and drainage. (2019)

Rock Creek Resources, Inc. (RCR), Rock Creek Mine, Sanders County, Montana. As Project Geotechnical Engineer, performed desktop review of preliminary plans and on-site field reconnaissance for preliminary roadway design evaluation for the Rock Creek Mine project. The roadway design consists of access road improvements between Hwy 200 and the proposed mine adit, including; widening and re-alignment, new cut and fill slopes, retaining walls, utility trench installation, drainage, sediment reduction, and culvert installation. Tetra Tech evaluated site geology, seismic site classification, existing bridge, roadway, and culvert conditions, existing and proposed cut and fill slopes, proposed retaining walls, existing drainage, and provided general opinions and recommendations for roadway improvement design and construction, including a geotechnical investigation plan. (2017-2018)

I-90 Rockfall Mitigation – West of Drexel, Mineral County, Montana. As Geotechnical Engineer, performed geotechnical investigation and engineering on this MDT design-build project along I-90 west of Drexel, Montana. Project consisted of design and construction of rockfall mitigation at three cut slopes along I-90 between miles posts 6 and 25. Performed site geotechnical reconnaissance using high-rope access techniques to gather geomechanical

EDUCATION

BS, Geological Engineering,
Montana Tech, 2002

REGISTRATIONS

Professional Engineer:
Montana (██████████, 2007);
Washington (██████████, 2009);
Idaho (██████████, 2011),
Minnesota (██████████, 2013);
North Dakota (██████████, 2014)
Kansas (██████████, 2018)
Mississippi (#██████████, 2019)
Wisconsin (██████████, 2019)
South Dakota (██████████, 2019)

CONTINUING EDUCATION

40-hour OSHA HAZWOPER,
2003

Radiological Safety/ Nuclear
Densometer Gauge Operation,
2004

Cone Penetration Testing for
Geotechnical Investigations
(short course), 2005

GRLWEAP Web Workshop (8
hr short course), May 2010

Project Management Level 2
Training, July 2012

OSHA 30-hour Outreach
Training for the Construction
Industry, September 2013

Soil and Rock Slope Stability,
ASCE short course, November
2015

Ground Modification Methods,
FHWA short course, November
2017

OFFICE

Missoula, Montana

YEARS OF EXPERIENCE

18

YEARS WITH FIRM

18

data, bedrock and soil samples, and a seismic refraction survey to characterize subsurface conditions. Assist in developing rockfall mitigation alternatives and design, including rock and soil slope stability analysis. (2013-2014)

USFS, Road 100 MP22.7 Slide, Idaho County, Idaho. As Geotechnical Engineer, performed geotechnical investigation and slope stability analysis for an active landslide above Lolo Creek that has damaged NFSR 100 rendering the route impassable. Tetra Tech conducted a geotechnical investigation at the landslide area to determine subsurface stratigraphy, perform a slope stability analysis, and to present geotechnical considerations including preliminary alternatives for slope mitigation. Slope mitigation options included; slope re-grading, key trench construction, and ground anchors and bearing blocks. (2014)

USFS, Selway Site 1 Slide Repair, Magruder Corridor Road, Idaho. As Geotechnical Engineer, performed a seismic refraction survey and site investigation for an approximately 100-foot wide failure area along a Forest Service road through a narrow, steep-walled canyon along the Selway River. The failure area was experiencing progressive erosional failure for several years, requiring annual re-grading. Included seismic refraction data collection and analysis to determine depth to bedrock and gabion wall analysis and design to repair the roadway and provide long-term erosion protection. Preparation of geotechnical report including discussion of seismic refraction investigation and recommendations for gabion wall construction. (2012)

USFS, Magruder Corridor Road Slide Repair, Idaho County, Idaho. As Geotechnical Engineer, performed a slope stability analysis and provided recommendations for slope stabilization and roadway re-construction for roadway slide approximately 50 to 60 feet wide. Developed recommendations for constructing and anchoring gabion wall on bedrock layer, and developed project special provisions and cross sections for inclusion into project documents. The existing slope had an approximate 1H:1V to 1.25H1V slope angle extending downslope towards the streambed. (2012)

USFS, Grangeville-Salmon Road Slide Repair, Grangeville, Idaho. As Geotechnical Engineer, performed a geotechnical investigation for an approximately 120-foot wide slide mass within a county road across steep mountainous terrain. The slide mass was experiencing progressive downslope movement for 10 to 20 years, requiring annual pavement patch and re-grading. Developed a model of the existing slope profile and subsurface geology to identify failure modes, model sensitivity, and evaluate the slope factor of safety. Included incorporating structural reinforcement elements to evaluate mitigation alternatives to prevent future slope movement. Preparation of geotechnical report including discussion of slope stability analyses and possible mitigation alternatives, including recommendation of the USFS adopted 'Deep Patch' method consisting of road overexcavation and reconstruction with geogrid. (2010-2011)

US Army Corps of Engineers and Millennium Challenge Corporation, Wright-Taft-Sulat Road, Samar Island, Philippines. As Geotechnical Engineer, performed slope stability analyses, mitigation design, and review for over 30 landslides in mountainous terrain and tropical environment along this 82km long road re-construction project for the US Army Corps of Engineers and Millennium Challenge Corporation. Analyses included evaluating existing conditions and field data, developing models for evaluation and analysis of existing and proposed conditions, providing recommendations for mitigation, and developing plans and specifications for construction. Mitigation alternatives included slope trimming and benching, surface drainage and vegetation improvements, MSE slopes and walls, concrete and gabion walls, tie-backs, ground anchors, micropiles, rock bolts and soil nails, and rockfall mesh and fencing (2011-2013).

GEOHAZARDS

Enbridge Pipelines, Geohazard Program – Desktop Studies, Field Assessments, and Detailed Slope Monitoring, Great Lakes Region. As Lead Geotechnical Engineer, performed desktop studies for geohazard identification and database for landslide areas, slope crossings, karst, subsidence, and seismic hazards, performed field assessments, detailed geotechnical mapping, and slope monitoring along Enbridge pipeline routes at critical slope crossing locations with slope instability risk. Collected field data and detailed observations on mobile tablets, including; slope geometry, geology, vegetation, surface water, instability features, site photos, depth of cover, and detailed mapping of slope features and topography. Installation of survey monitoring pins at several locations for ongoing movement monitoring. Performed preliminary slope stability and regression analyses to predict slope movement relative to pipeline and developed preliminary recommendations for mitigation alternatives (2014-present)

Belle Fourche Pipeline, Little Missouri Badlands Region, Geohazard Assessment and Field Verification, North Dakota. As Project Geotechnical Engineer for desktop study to develop geohazard identification and rating

Mr. Joseph Troxell, P.E. is a project manager and senior geotechnical engineer. His fields of work include geotechnical engineering, in particular for earth dams, levees, and off-channel reservoirs. In addition, he has experience with the investigation and remediation of landslides. He has extensive experience in the evaluation of abandoned mine lands, including subsidence, highwalls, portals, and shafts. He has experience with administration of large construction projects, both as an agent of the owner and as the design engineer. Construction related work has included alternative dispute resolution and expert witness opinions. Notable projects include the largest composite liner system in the world, covering 640 acres, for the John R. Douitt Upground Reservoir.

TETRA TECH PROJECT EXPERIENCE

ODNR Final Design of Long Lake Dam Replacement, Ohio Department of Natural Resources, Akron, Ohio (2015-2018)

Civil Engineer as part of the Owner-Agent team for the dam replacement project. Mr. Troxell completed a peer review of the construction documents and design report, participated in interviews with the two apparent low bidders, assisted in preparing change orders to modify the cofferdam during construction, as assisted in overall construction management of the project.

ODNR Final Design of North Reservoir Dam Improvements, Ohio Department of Natural Resources, Akron, Ohio (2015-Ongoing)

Civil Engineer for improvements to the North Reservoir Dam. Mr. Troxell worked on this project both as part of the Owner-Agent team, reviewing design reports. With TetraTech, Mr. Troxell is competing the Internal Technical Review for the 100% plans and specifications.

ODNR Forked Run Dam Rehabilitation, Ohio Department of Natural Resources, Akron, Ohio (2019-Ongoing)

Senior Geotechnical Engineer for the planning and design of Forked Run Dam. The dam is presently unable to safely pass the PMF. The study will identify alternatives to safely pass the PMF and address other dam safety concerns. A set of design documents will be produced for the construction of Interim Risk Reduction Measures (IRRM).

PREVIOUS PROJECT EXPERIENCE

Dow Lake Dam Improvements, Ohio Department of Natural Resources, Athens, Ohio (2011-2016)

Civil Engineer and Project Manager for the emergency response, design services, development of construction documents, and construction services. Dow Lake Dam had several sloughs on the downstream face, which had slide but then remained stable. In 2011, Park staff observed additional movement. The

EDUCATION

BS Civil Engineering, Pennsylvania State University (1994)

REGISTRATION/CERTIFICATION

Professional Engineer, Civil: OH License No. [REDACTED] (2001)

PROFESSIONAL AFFILIATION

Association of State Dam Safety Officials

YEARS OF EXPERIENCE

26 Years

YEARS WITH TETRA TECH

<1 Year

OFFICE LOCATION

Gahanna, Ohio

AREAS OF EXPERTISE

- Dams and Levee Design
- Geotechnical Engineering
- Landslide Remediation
- Abandoned Mine Subsidence
- Construction Administration

emergency response included subsurface investigation and installation of piezometers. The project was designed as a downstream raising, which included internal drainage to address seepage issues. Additionally, improvements were made to the primary spillway orifice and lake drain.

ODNR Owner Agent Services Ohio Department of Natural Resources, Statewide, Ohio (2011-2016)

Civil Engineer and Project Manager as part of the Owner-Agent team for ODNR. Work included services for heavy civil projects – dams, shorewalls, breakwaters, and marinas. Provided peer reviews of preliminary and final design reports and construction documents; coordinated with ODNR and 4 consultants to update the Class I Dam EAPs and OMIs to new templates; assisted with construction observation and dispute resolution; participated in mediation sessions for construction claims; and assisted ODNR in the transition to the OFCC contracts for construction. Work included the peer review of design reports, alternatives engineering reports, and construction documents. In addition, provided construction services, including dispute resolution, on a variety of projects. As part of this work, was involved in Buckeye Lake Dam Improvements, and several dams at Portage Lakes State Park.

Mad River Dam Improvements, City of Dayton, Ohio, (2019-2020).

Project manager and civil engineer for the evaluation of a rockfill lowhead dam that had a partial collapse in the center of the structure. The dam is a Class IV structure under Ohio Dam Safety rules. The dam was originally built in 1932, with rockfill and cast-in-place concrete cap. In 1985, there was a partial failure in the center section, which was repaired and sheet-piling was installed on the upstream face of the dam. In 2018, the center section again began to fail, and continued to deteriorate. Specific work included the evaluation of the alternatives to repair or replace the existing structure, along with the design of emergency repairs.

John R. Douth Upground Reservoir, City of Columbus, Ohio (2010-2015).

Project manager for design and construction for a 900 billion gallon reservoir regulated as a Class I Dam in Ohio. Due to the site geology, limestone bedrock near karst features, overlain by granular deposits, an innovative design was developed. The embankments have a maximum height of 45-feet and were constructed with earthfill excavated from on-site and incorporated internal drainage. Due to the concern of high heads over potential karst features, the largest composite liner system in the world was constructed across the floor of the reservoir, which then tied into the inboard toe of the embankment. By having the liner system essentially flat, interface shear issues were not an issue. The floor of the reservoir was constructed below the groundwater table and required an active dewatering system. Construction included 8 million cubic yards of earthwork and 640 acres of composite liner.

Furl Williams Reservoir, City of Lima, Ohio (2008-2013).

Project manager and civil engineer for the design and construction of a 560 million gallon reservoir, regulated as a Class I Dam in Ohio. Additionally, fish habitat was included in the design of the system to allow for recreational fishing in the future. Due to the relatively flat topography of the site, surface drainage around the site was difficult to manage and required large storm sewer systems at relatively flat grades. During construction, up to 12 field technicians were on-site to complete testing. Over the project, over 2,500 density tests were completed on over 4 million cubic yards of earthwork. The project also included the design and construction of wetland mitigation on the project site, and negotiation with adjacent landowners to construct stream mitigation off-site.

Cannon Drive Levee, the Ohio State University, Columbus, Ohio (2015-2020).

Project manager and lead geotechnical engineer for the design of a new levee system designed to the 500 year river stage. Phase I was delivered by General Contracting. The site geology, a near-surface clay cap underlain by up to 80 feet of granular soils with a large cobble and boulder fraction, made construction of a positive cutoff below the levee impractical. Due to the challenges of the urban infrastructure, including the presence of high voltage underground

EXPERIENCE SUMMARY

Mr. DiFatta has design experience in traditional & specialty geotechnical structures, including retaining walls (RC, MSEW, S&L/P&P), reinforced earth (RSS, soil nailing, ground anchors), river causeways, cofferdams and deep foundations. His experience also encompasses subsurface exploration and investigation, structural design applied to geo-structures, seepage and stability analyses, erosion and sediment control design, and periodical dam safety compliance inspections. Additionally, Mr. DiFatta has experience in the design of earth & coal refuse dams and impoundments.

RELEVANT EXPERIENCE

ENGINEERING AND DESIGN

Geotechnical Design of Earth Retaining Systems for Development of Compressor Stations, Interconnect Station, Access Roads and Pipeline Corridors – Segments of the Mountain Valley Pipeline (MVP) Project, WV.

- Soil Nailing and Rock bolting systems
- Mechanically-Reinforced Soil Slope (RSS up to 57-feet high)
- Cantilevered Post & Panel Retaining Walls
- Characterization of Material Properties
- Slope Stability Analyses
- Estimate of construction costs, preparation of construction/bid documents, and bid-phase assistance
- Project and Certifying Engineer for all five (5) compressor and interconnect stations

Geohazard Assessments for Major Pipeline Projects – OH, PA, WV

- Reconnaissance for Problem Ground Conditions Along Development Corridors - Landslides, Karst Features, Mine Subsidence, Surface Water and Groundwater Control Issues, Expansive Soils & Rock, etc.
- Construction Phase Investigation of Encountered Hazards (e.g., landslides, UG mines, highwalls, karst sinkholes, groundwater control issues), and Directional Drilling Challenges in Problem Ground
- Field Assessment of Probable Causes
- Engineering & Design of Corrective Actions

Reinforced Concrete (RC) Cantilever spillway walls, Muleshoe Reservoir Dam-Hollidaysburg, PA. Performed the analyses and design for right and left RC spillway walls and also, assisted in the writing of the MathCAD program utilized to more optimally design the spillway walls. Also, performed calculations to evaluate a hydraulic valve house with a single door opening and concrete slab-style roof to be constructed with 8-inch concrete block, reinforced grout-filled (CMU).

Wisecarver Reservoir Dam – Jefferson, PA. Assisted with the engineering & design of the planned Roller Compacted Concrete (RCC) downstream slope buttress and overflow protection system for the Wisecarver Reservoir Dam. Also, performed inspections of the RC emergency spillway channel, sill, and associated retaining walls to determine necessary scope of concrete repairs and improvements, and identify possible voids beneath the spillway slab, and assisted with other field investigations

Emsworth BC Left and Right Abutment Wall Stabilization, Ohio River – USACE, Pittsburgh District. Developed loading diagrams and performed the structural design for stabilization plans encompassing new wall alternatives (reinforced concrete cantilever, concrete gravity, and master pile/combination walls) and hybrid stabilization systems (mechanically stabilized earth, micropiles, rock anchors) for the Emsworth

EDUCATION

B.S. Civil Engineering,
University of South Carolina,
2008

AST in CADD, Triangle Tech,
2001

AREA OF EXPERTISE

Geotechnical

REGISTRATIONS/ AFFILIATIONS

Professional Engineer: AL, KY,
NJ, OH, PA, TN, VA, WV

American Society of Civil
Engineers – Pittsburgh Section

TRAINING/CERTIFICATIONS

MSHA Impoundment Inspection
Certification, 2011

Certified ACI Concrete Field
Testing Technician, Grade I,
Expires 3/2020

MSHA Part 48 Surface Miner
Safety Training (24-Hour), 2009

Troxler Certified Nuclear Gauge
Operator, 2009

Confined Space Entry, 2003

OFFICE

Monroeville, PA

YEARS OF EXPERIENCE

12

YEARS WITHIN FIRM

5

CONTACT

eric.difatta@tetratech.com

Back Channel Dam left and right abutment walls. Applied graphical and numerical analysis techniques to define the loading diagrams for the existing abutment walls and the alternative stabilization plans.

Prairie State Power Plant – Marissa, Illinois. Performed the geotechnical analyses and structural design for a soil nail wall excavation support system for an Unloading Pit. The temporary soil nail wall was to be for a period of approximately two (2) months. A proposed load (crane) was considered as a dead load and was analyzed to be placed 15 feet away from edge of excavation and located directly at edge of excavation. The primary software used for the geotechnical analyses was SLIDE.

Mine Complex, Greene County – PA. Performed the geotechnical analyses and structural design for an approximate 15-foot high Reinforced Concrete (RC) Cantilever wall for containment of a raw coal stockpile adjacent to a stream. The wall was designed for a D10 dozer surcharge loading. Also, performed slope stability analyses to evaluate the positioning of the retaining wall near the top of the stream bank. MathCAD and SLIDE software and structural analysis spreadsheets were employed for the design.

Bridge Pier Cofferdams & Construction Causeway – Brayman Construction Corp. – Various Projects Designed and Evaluated temporary shoring river causeways and cofferdams that were subject to scour and base seepage for bridge pier and abutment replacements. Provided contractor with design and construction plans for shoring systems and coordinated with the contractor to use salvaged material.

Mine Complex, Greene County - PA Designed and evaluated a Post & Panel Retaining Wall with rock anchors, below an existing coal bin to allow for the construction of a new plant surge bin. The wall had to be designed to allow little to no movement due to the vibration of the existing bin located directly above the proposed wall. The wall heights analyzed ranged from 10-feet to 55-feet, with and without anchors.

FirstEnergy Corp, Hatfield's Ferry CCB Landfill, Greene County - PA Designed and evaluated a reinforced concrete vault to be placed in the existing landfill slope to facilitate cleaning of the leachate conveyance piping system. The vaults were designed to contain a sump area, where the pipes were through. The wall heights analyzed on the vault ranged from 12-feet to 15-feet, with a sloped backfill.

DAM SAFETY INSPECTIONS

Periodic Dam Safety Inspection – Bailey Central Mine Complex; CONSOL Pennsylvania Coal Company, LLC Greene County, PA; 2011 to Present Performed periodic safety inspections on high hazard dams associated with a large mining operation. Evaluated instrumentation data and prepared, sign and seal reports for State and Federal documents regarding current conditions and necessary remediation of deficient conditions for fourteen (14) dams. Coordinated with owner and contractor to remedy deficient conditions maintain safety compliance.

Periodic Dam Safety Inspection – Various Ponds in Alabama; 2020 to Present Performed periodic safety inspections on dams associated with mining operations in Alabama. Evaluated the structures and prepared, sign and seal reports for State and Federal documents regarding current conditions and necessary remediation of deficient conditions for up to eight (8) dams. Coordinated with owner and contractor to remedy deficient conditions maintain safety compliance.

SUBSURFACE EXPLORATION & INSTRUMENTATION

Geotechnical Investigations, Various Clients, Various Locations

- Developed drilling plans, depth of drilling and sampling procedures.
- Assisted in the supervision of exploratory subsurface drilling, pressure testing and test pitting investigation.
- Collected and logged soil and rock samples to be prepared for testing.
- Analyzed laboratory data reports to develop site soil and rock design parameters and assisted in the preparation for geotechnical recommendations for foundation designs.
- Supervised the installation of standpipe piezometers in coal refuse and earthen dam. Performed construction monitoring and quality control duties during the piezometer installation.

MINE REFUSE DISPOSAL/TAILING IMPOUNDMENTS

IP Harmar Holding, LLC – Harmar Slurry Impoundment; Allegheny County, PA; 2018 to Present Certifying Engineer, Performed H&H calculation for of an existing slurry impoundment to obtain a low hazard classification for post-abandonment structure. The abandonment plan consisted of leaving a remnant pond in place with a contributory area of approximately 103 acres with a low-flow outlet system.

FirstEnergy Generation, LLC – Hatfield CCB Landfill Property Ash Slide Remediation; Greene Count, Pennsylvania 2019. Project Engineer responsible for remediation and restoration associated with cleanup and stabilization of an Ash Slide with coordination with PADEP Bureaus of Residual Waste, Water Quality Management, and Waterway and Wetlands. Responsibilities included designing an engineered slope design and performing slope stability analysis, sampling and analysis of the ash for property characterization, construction support and Construction Certification Report. Was certificating engineer

Mr. Nix is a Senior Geotechnical Engineer and program manager with Tetra Tech. He has extensive experience with water resource and flood control projects, including dam and levee designs and evaluations, dam and levee inspections, levee certifications, subsurface investigations, and instrumentation system designs. His work has also included geotechnical explorations, analyses and recommendations for locks and dams, large bridges, roadway alignments, landside repairs and other large civil works projects. Several projects have included embankment or floodwall construction over very soft or organic soils using specialized ground improvement techniques. Pete has worked with a variety of clients, including the USACE, ODNR, IDNR, ODOT, MDOT, INDOT, North East Ohio Regional Sewer District, American Electric Power, FirstEnergy, municipalities, counties, and conservancy districts across the Midwest. He has been involved in geotechnical engineering projects for the Detroit, Louisville, Chicago, Huntington and Pittsburgh Districts of the USACE. He has also worked on numerous geotechnical task order contracts with ODOT Districts and ODOT's Office of Geotechnical Engineering.

PROJECT EXPERIENCE

Final Design of North Reservoir Dam Improvements, Ohio Department of Natural Resources, Akron, OH (2016-Ongoing): Mr. Nix serves as the Project Manager and Lead Geotechnical engineer for this large project with ODNR. North Reservoir Dam is a state-owned, high hazard dam located in Summit County Ohio. The work consists of the preparation of the final design for the project which includes the construction plans, specifications, and cost estimates for the preferred alternative solution to correct a severe spillway deficiency. Due to development very near the downstream toe of the embankment, a new overtopping structure will be constructed in the lake just upstream of the existing embankment. Modifications to the spillway and outlet works will also be performed.

Muskingum River Locks & Dam #7 Emergency Repair, The Ohio Department of Natural Resources, McConnelsville, OH (2015-2015):

Project Manager and Lead Geotechnical Engineer. The project involved an emergency repair to a low head dam in McConnelsville, Ohio to repair a dam failure. The existing structure consists of sheet pile cells capped with concrete that have failed at several locations. Tetra Tech developed a stabilization solution that consisted of a rock fill buttress on the downstream side of the current dam and grouting the interiors of the remaining sheet pile cells. Tasks included preparing construction documents (drawings, specifications, engineer's cost estimate) for the project and assisting the Department with construction bidding services.

Long Lake Gate Replacement – Portage Lakes State Park, Ohio Department of Natural Resources – Division of Engineering (2015-2017): Project Manager and Lead Geotechnical Engineer. The project consisted of the investigation, preliminary design, and final design of a new gate structure to replace an 80-year old gate that was in very poor condition. The previous gate was a 105-foot long concrete structure supported on timber piles. Six slide gates were provided to control flows. The investigation consisted of the survey and subsurface exploration for the new gate. The Preliminary Design consisted of the development of alternatives, preliminary structural and

EDUCATION

BS Civil Engineering, Ohio State University (1984)

REGISTRATION/CERTIFICATION

Professional Engineer, Civil: OH, License No. [REDACTED] (1989)

Professional Engineer, Civil: MI, License No. [REDACTED] (1998)

Professional Engineer, Civil: CO, License No. [REDACTED] (2016)

PROFESSIONAL AFFILIATION

Association of State Dam Safety Officials

United States Society of Dams

YEARS OF EXPERIENCE

36 Years

YEARS WITH TETRA TECH

10 Years

OFFICE LOCATION

Gahanna, OH

AREAS OF EXPERTISE

Dam and Levee Designs and Evaluations

Dam and Levee Inspections

Levee Certifications

Subsurface Investigations

Instrumentation System Designs

geotechnical evaluations and designs, the preparation of construction cost estimates, and the selection of a preferred alternative. Final Design consisted of the final plans, specifications and construction cost estimate for the gate replacement.

Tuscarawas River LPP Levee System Report, USACE Huntington District, Massillon, OH (2010): Project Engineer. FEMA certification of a USACE designed and locally operated local protection project. The deliverable was a report that will be used by the USACE in their submission to FEMA that documents the condition of the levee and certifies portions of the project that are capable of adequately providing the protection from the base flood (100-year) event. Portions of the project required remedial measures prior to certification, this report also documented these deficiencies. Pete also presented an outbrief on the report findings to the District's Levee Safety Officer.

Massillon Levee Certification, USACE Huntington District, Massillon, OH (2009-2011): Lead Geotechnical Engineer responsible for performing an engineering analysis of the Massillon Levee in support of obtaining Federal Emergency Management Agency levee certification requirements as outlined in 44 CFR 65.10 and detailed in National Flood Insurance Program. Project tasks included, data collection and review, topographic mapping, site reconnaissance visit, geotechnical assessment, engineering assessment, O&M plan, independent technical review, and levee certification report.

Grand Lake Saint Mary's Controls, The Ohio Department of Natural Resources (2012-2013): Project Manager and Lead Geotechnical Engineer. The project involves modification to the existing gate controls on the principal spillway at Grand Lake Saint Mary. ODNR is modifying the gate structure with automatic gate controls based on a downstream water level sensor. Tasks include coordination with electrical and mechanical consultants to design the gate controls and sensor equipment and preparing plans and specifications.

Spillway Design Project – Viva Naughton Dam, PacifiCorps (2017-2019): Geotechnical Project Manager. Mr. Nix served as the geotechnical lead engineer for this project, which consists of constructing a new labyrinth spillway to replace the existing emergency spillway. Mr. Nix was responsible for developing the boring and laboratory programs in accordance with FERC guidelines. Geotechnical recommendations for the project will include bearing capacities, sliding coefficients, and the design of the seepage cutoff and collection system.

Emergency Embankment Repairs – Spring Creek Dam, Colorado Parks and Wildlife (2017): Senior Geotechnical Engineer. This high-hazard project has been plagued by significant seepage at the downstream toe since it was constructed in the 1980's. During an inspection of the project, it was noticed that the source of the seepage was an inlet (an old borrow area) that curved around the left abutment. Sinkholes or vertical fractures were present in the bottom of this inlet that allowed seepage to flow down the left abutment where it was exiting near the downstream toe. The solution for the seepage was a saddle dike constructed across the entrance to the inlet to prevent the reservoir from reaching these sinkholes or vertical fractures.

Upper Berryessa Creek Flood Risk Management Project, I-680 TO Calaveras Boulevard, Santa Clara, California (2016): Senior Geotechnical Engineer. Project consisted of the improvements to Berryessa Creek to reduce flood risks during storm events. The geotechnical work on the project included a phased subsurface exploration that consisted of both CPT borings and SPT borings. The geotechnical evaluations performed for the work included seepage and stability analyses of the proposed channel improvements, as well as foundation and seepage evaluations for the floodwalls on the project.



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

Richard A. Colebank

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 23rd day of Feb. in the year of our Lord One Thousand Nine Hundred and Eighty-Eight and of the State the One Hundred Twenty-Fourth.

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

Frank Gaddy

Secretary
Kenneth H. Means

By
Moses P. Jickel President
Robert B. Scott



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

Charles B. Branch

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 18th day of February in the year of our Lord 2002 and of the State the One Hundred Thirty-Eighth

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

[Signature]

By Frank D. Goddy

[Signature]

[Signature]

[Signature]



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

Bradley H. Casdorff

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 29th day of December
in the year of our Lord 2005
and of the State
the One Hundred Forty-Second

Members of the Board

Leland J. Thomas, Jr. Richard E. Dlyns
Bhajan S. Shuja William E. Viersen



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

Matthew T. Echard

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 17th day of August
in the year of our Lord 2012
and of the State
the One Hundred Forty-Ninth

Members of the Board

Loren D. Thomas, Jr.

Richard E. Dlyna

Bhajan S. Saha

William E. Verson

[Signature]

The Board of Architects



of West Virginia.

No. [REDACTED]

This Certifies that Rebecca Jean Key of Baltimore
in the State of Maryland, having successfully passed an examination
before the Board of Architects of the State of West Virginia, and being
otherwise qualified, is hereby authorized to practice Architecture in all its
branches in the State of West Virginia.



Witness the signatures of the President, and Secretary of the Board of
Architects of West Virginia, and the seal of said Board, this 26th
day of September 1994

Will E. [Signature] President.
E. [Signature] Secretary.



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

Charles B. Luttrell

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 28th day of July in the year of our Lord One Thousand Nine Hundred and Ninety-nine and of the State the One Hundred Thirty-sixth.

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

Handwritten signatures: [Signature 1], [Signature 2], [Signature 3], [Signature 4]

CERTIFICATE OF *Authorization*

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

*The West Virginia State Board of Registration for Professional Engineers
having verified the person in responsible charge is registered in
West Virginia as a professional engineer for the noted firm, hereby certifies*

ALPHA ASSOCIATES, INC.

C00012-00

Engineer in Responsible Charge: RICHARD A. COLEBANK - WV PE 010346

*has complied with section §30-13-17 of the West Virginia Code governing
the issuance of a Certificate of Authorization. The Board hereby notifies you of its
certification with issuance of this Certification of Authorization for the period of:*

January 1, 2020 - December 31, 2021

providing for the practice of engineering services in the State of West Virginia.

IF YOU ARE REQUIRED TO REGISTER WITH THE SECRETARY OF STATE'S OFFICE,
PLEASE SUBMIT THIS CERTIFICATE WITH YOUR APPLICATION.



IN TESTIMONY WHEREOF, THE WEST VIRGINIA STATE BOARD OF
REGISTRATION FOR PROFESSIONAL ENGINEERS HAS ISSUED THIS COA
UNDER ITS SEAL, AND SIGNED BY THE PRESIDENT OF SAID BOARD.

BOARD PRESIDENT

HEAR FROM OUR CLIENTS.



J. Paul Walden
West Virginia University

Alpha Associates have a proven record of customer satisfaction and successful client delivery with our organization. We would be confident in our recommendation in support of Alpha.



Robert Hammel
Former Director
Morgantown Municipal Airport

Every aspect and detail of [Alpha's] planning, coordination, and completed projects have been exceptional and outstanding in every regard.

References

Brad Leslie
WV Parks and Recreation
Division of Natural Resources
324 4th Avenue
South Charleston, WV 25303
304-558-2764

Bill Clark, Executive Director
Region 9 Planning & Development Council
400 West Stephen St Suite 301
Martinsburg, WV 25401
(304)-263-1743

David Hildreth
State of West Virginia
1409 Greenbrier Street
Charleston, WV 25305

Dirar Ahmad
West Virginia Division of
Highways
Building 5
1900 Kanawha Blvd., East
Charleston, WV 25305-0430
304-558-2830

Damien Davis, City Engineer
City of Morgantown
389 Spruce Street
Morgantown, WV 26505
304-284-7412

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

Attachment "A"

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
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1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
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4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP Individual Corporation Partnership Joint-Venture	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES NO
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7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS
---	--

9. PERSONNEL BY DISCIPLINE

<ul style="list-style-type: none"> — ADMINISTRATIVE — ARCHITECTS — BIOLOGIST — CADD OPERATORS — CHEMICAL ENGINEERS — CIVIL ENGINEERS — CONSTRUCTION INSPECTORS — DESIGNERS — DRAFTSMEN 	<ul style="list-style-type: none"> — ECOLOGISTS — ECONOMISTS — ELECTRICAL ENGINEERS — ENVIRONMENTALISTS — ESTIMATORS — GEOLOGISTS — HISTORIANS — HYDROLOGISTS 	<ul style="list-style-type: none"> — LANDSCAPE ARCHITECTS — MECHANICAL ENGINEERS — MINING ENGINEERS — PHOTOGRAMMETRISTS — PLANNERS: URBAN/REGIONAL — SANITARY ENGINEERS — SOILS ENGINEERS — SPECIFICATION WRITERS 	<ul style="list-style-type: none"> — STRUCTURAL ENGINEERS — SURVEYORS — TRAFFIC ENGINEERS — OTHER — TOTAL PERSONNEL
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TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: _____

***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? YES NO

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Qualification Questionnaire".

NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No

12. A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: _____

NO

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: _____

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: _____

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects: _____

NO

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: _____

NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: _____

NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: 9-Morgan Run AMD, Lambert Run Site 5, Middle Fork of Greens Run, Sovern Run 62 and Bishoff, Smooth Rock Lick Sites 1,2 and 3 , Allen Conner/Messenger Site of Glade Run, North Fork of Greens Run, Lambert Run Site 6, Morgantown Municipal Airport Access Road Mitigation Plan

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Colebank, Richard A.	27	27	27

Brief Explanation of Responsibilities
Project Principal- Responsible for overall management of the project.

EDUCATION (Degree, Year, Specialization)
MS/99/Business Administration
BS/82/Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Council of Engineering Companies - WV	PE: 1988-WV, 1998-PA, 1998-VA, 2002-MD PS: 1995-WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Klein, Richard W.	21	21	21

Brief Explanation of Responsibilities
Consultation- Project Review and QA/QC.

EDUCATION (Degree, Year, Specialization)
MS/1987/Business Administration
BS/1973/Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
West Virginia Society of Professional Engineers American Society of Civil Engineers National Society of Professional Engineers	PE: 1978-WV, 1978-MD PS: 1995-WV

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Branch, Charles	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 18	YEARS OF AML RELATED DESIGN EXPERIENCE: 18	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 18

Brief Explanation of Responsibilities

Project Manager/Design Engineer- Produce Civil Engineering Design and Production for the project.

EDUCATION (Degree, Year, Specialization)
BS/1988/Architectural Engineering Technology
BS/2000/Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State) PE: 2001-WV
--	--

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Luttrell, Charles B.	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 16	YEARS OF AML RELATED DESIGN EXPERIENCE: 16	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 16

Brief Explanation of Responsibilities

Structural Engineer- Provide design for any required structural elements in the project.

EDUCATION (Degree, Year, Specialization)
MS/1995/Structural Engineering
BS/1993/Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS West Virginia Society of Professional Engineers National Society of Professional Engineers Chi Epsilon American Concrete Institute	REGISTRATION (Type, Year, State) PE: 1999-WV
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15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	
Freemansburg Arch Bridge Weston, WV	West Virginia Division of Highways 1900 Kanawha Blvd. East Room A-722 Charleston, WV 25303	CIVIL & STRUCTURAL ENGINEERING	N/A	35% D
Cokeley Campground Harrisville, WV	Division of Natural Resources Parks & Recreation 324 4th Avenue South Charleston, WV 25305	CIVIL ENGINEERING	\$300,000	100% I 0% Co
VA Warehouse Kearneysville, WV	Department of Veteran's Affairs 300 Foxcroft Ave Martinsburg, WV	CIVIL ENGINEERING	\$2,766,000	95% D 0% Co
Hydrapulper Building Fairmont, WV	ND Paper Fairmont, WV	STRUCTURAL ENGINEERING	N/A	100% I 95% Co
Martinsburg Roundhouse Martinsburg, WV	Roundhouse Authority PO Box 3084 Martinsburg, WV 25402	ARCHITECTURAL DESIGN CIVIL & STRUCTURAL ENGINEERING	\$500,000	100% I 98% Co
Martinsburg Train Station Corridor Martinsburg, WV	City of Martinsburg 232 N. Queen Street Martinsburg, WV 25401	CIVIL ENGINEERING	\$800,000	100% I 0% Co
WVDOH-D4 Rivesville- Mon. +1	WVDOH 1900 Kanawha Blvd., East Bldg. 5, Room 109 Charleston, WV	CIVIL ENGINEERING	\$750,000	100% I
WVDOH-D4 Sycamore Road	WVDOH 1900 Kanawha Blvd., East Bldg. 5, Room 109 Charleston, WV	CIVIL ENGINEERING	\$800,000	100% I
WVDOH-D4 Lemley Street	WVDOH 1900 Kanawha Blvd., East Bldg. 5, Room 109 Charleston, WV	CIVIL ENGINEERING	\$250,000	100% I

<p>Martinsburg Roundhouse Martinsburg, WV</p>	<p>WVDOH 1900 Kanawha Blvd., East Bldg. 5, Room 109 Charleston, WV</p>	<p>CIVIL ENGINEERING</p>	<p>\$379,000</p>	<p>100% I 98% C</p>
<p>Canaan Valley Tube Conveyor Davis, WV</p>	<p>Regency WV Canaan Valley Resort 230 Main Lodge Rd Davis, WV 26260</p>	<p>CIVIL & STRUCTURAL ENGINEERING</p>	<p>\$2,000,000</p>	<p>22% D</p>
<p>RV Resort Park Fairmont, WV</p>	<p>NYM Developers 126 Miller Lane Waynesburg, PA 15370</p>	<p>CIVIL ENGINEERING</p>	<p>\$1,500,000</p>	<p>50% D</p>
<p>Charles Town George Street Charlestown, WV</p>	<p>City of Charles Town 101 E Washington Street Charles Town, WV 25414</p>	<p>CIVIL ENGINEERING</p>	<p>\$100,000</p>	<p>30% D</p>
<p>Stonewall Resort Utility Extension Roanoke, WV</p>	<p>McCabe Henley 940 Resort Drive Roanoke, WV 26447</p>	<p>CIVIL ENGINEERING</p>	<p>\$400,000</p>	<p>90% D</p>
<p>Wyoming County Courthouse Elevator ADA Upgrades Pineville, WV</p>	<p>Wyoming County Commission PO Box 376 Pineville, WV 24874</p>	<p>ARCHITECTURAL DESIGN</p>	<p>N/A</p>	<p>10% D</p>
<p>TOTAL NUMBER OF PROJECTS:14</p>			<p>TOTAL ESTIMATED CONSTRUCTION COSTS :</p>	

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Clarksburg State Office Building Clarksburg, WV	State of West Virginia 10 Hale Street, 3 rd Floor Charleston, WV 25301	\$26,000,000	2016	Yes
Martinsburg Wastewater Treatment Plant Martinsburg, WV	City of Martinsburg 232 N Queen St. Martinsburg, WV 25401	\$45,000,000	2017	Yes
Grant County Bank Petersburg, WV	Grant County Bank 3 N Main Street Petersburg, WV 26847	\$2,200,000	2017	Yes
South Berkeley Fire Station Martinsburg, WV	Berkeley County Fire Service Board 400 West Stephen Street, Suite A- 05 Martinsburg, WV 25401	\$2,200,000	2017	Yes
Freedom Automotive Dealerships Morgantown, Wv	MWD, LLC 696 Fairmont Road Westover, WV 26501	\$13,000,000	2017	Yes
Morgantown AMD Project Morgantown, WV	City of Morgantown 100 Spruce Street Morgantown, WV 26505	\$650,000	2017	Yes

Westover Goodwill Morgantown, WV	City Neon 1095 Chaplin Hill Road Morgantown, WV 26501	N/A	2017	Yes
WVU Reedsville Farm Redevelopment Early Site Package Reedsville, WV	West Virginia University PO Box 6572 Morgantown, WV 26506	\$2,500,000	2017	Yes
Jane Lew Truck Stop Jane Lew, WV	1000 Hackers Creek Rd Jane Lew, WV 26378	\$2,500,000	2017	Yes
Elkins Coal and Coke Building Masontown, WV	Friends of Cheat 119 South Price Street Suite 206 Kingwood, WV 26537	\$200,000	2019	Yes
Arnettsville Bridge Arnettsville, WV	WVDOH 1900 Kanawha Blvd. East Charleston, WV 25305	\$2,000,000	2019	Yes
Decker's Creek Pedestrian Bridge Morgantown, WV	City of Morgantown 100 Spruce Street Morgantown, WV	\$300,000	2019	Yes
Tygart Lake Parking & Boating Access Tygart Lake, WV	Division of Natural Resources Parks & Recreation 324 4th Avenue South Charleston, WV 25305	N/A	2019	Yes
Mike Wood Honda Westover, WV	MWD, LLC 696 Fairmont Road Westover, WV 26501	\$6,000,000	2019	Yes
Martinsburg GSA/VA Martinsburg, WV	Ken Lowe 223 Lowe Dr.	\$1,000,000	2019	Yes
Jane Lew Truck Stop Jane Lew, WV	100 Hackers Creek Road Jane Lew, WV 26378	\$2,500,000	2020	Yes

Point Marion Water Treatment Point Marion, PA	Borough of Point Marion 426 Morgantown Street Point Marion, PA 15474	\$200,000	2020	Yes
Northern West Virginia Rail Trail Kingwood, WV	Friends of Cheat 119 South Price Street Suite 206 Kingwood, WV 26537	\$600,000	2020	Yes
Building 25 Façade Parkersburg, WV	State of West Virginia 1900 Kanawha Blvd East Charleston, WV 25305	\$2,766,000	2020	Yes
Rainelle Streetscape Rainelle, WV	City of Rainelle 201 Kanawha Blvd Rainelle, WV 25692	\$600,000	2020	Yes
Rainelle Recreation Trails Rainelle, WV	City of Rainelle 201 Kanawha Blvd Rainelle, WV 25692	\$100,000	2020	Yes

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

20. The foregoing is a statement of facts.

Signature: *Richard A. Alebank*

Title: *Pres. & COO*

Date: *9-14-21*

Printed Name: *Richard A. Alebank*

AML and RELATED PROJECT EXPERIENCE MATRIX																				
PROJECT	Exp. Basis C=Corp. P=Personnel *	Additional Info Provided in Section (a) **	PROJECT EXPERIENCE REQUIREMENTS														PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional			
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/Re- placement	Construction Inspection/Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Richard Colebank	Chuck Branch	Brad Casdorff
Morgan Run AMD	C		x			x					x	x	x	x		x		M		
Lambert Run Site 5	C		x			x					x	x	x	x		x		M		
Middle Fork of Greens Run	C		x			x					x	x	x	x		x		M		
Sovern Run 62 and Bishoff	C		x			x					x	x	x	x		x		M		
Smooth Rock Lick Sites 1,2 and 3	C		x			x					x	x	x	x		x		M		
Allen Conner/Messenger Site of Glade Run	C		x			x					x	x	x	x		x		M		
North Fork of Greens Run	C		x			x					x	x	x	x		x		M		
Lambert Run Site 6	C		x			x					x	x	x	x		x		M		
Morgantown Municipal Airport Access Road Mitigation Plan	C		x	x		x		x			x	x	x	x		x		M/P		

* List whether project experience is corporate or personnel based or both.
 ** Use this area to provide specific sections or pages if needed for reference.
 *** List Primary Design personnel and their functional capacity for the projects listed.