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Header @ 1

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

Procurement Folder: 1717189

Procurement Type: Central Purchase Order

Vendor ID: 000000206512

Legal Name: TERRADON CORPORATION

Alias/DBA:

Total Bid: \$0.00

Response Date: 08/19/2025

Response Time: 13:48

Responded By User ID: aasbury1

First Name: Ashley

Last Name: Asbury

Email: ashley.sodosky@terraron.co

Phone: 3047558291

SO Doc Code: CE01

SO Dept: 0313

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Status: Closed

Solicitation Description: AML - EO1 Pre-Qualification for Consultants

Total of Header Attachments: 1

Total of All Attachments: 1



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: 1717189
Solicitation Description: AML - EOI Pre-Qualification for Consultants
Proc Type: Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2025-08-20 13:30	SR 0313 ESR08192500000001133	1

VENDOR
000000206512
TERRADON CORPORATION

Solicitation Number: CEOI 0313 DEP2600000001
Total Bid: 0
Response Date: 2025-08-19
Response Time: 13:48:14
Comments:

FOR INFORMATION CONTACT THE BUYER
Joseph (Josh) 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				0.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Qualifications Submittal

Extended Description:
EOI Engineering Design Services



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

Proc Folder: 1717189			Reason for Modification:
Doc Description: AML - EOI Pre-Qualification for Consultants			
Proc Type: Central Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2025-08-01	2025-08-20 13:30	CEOI 0313 DEP2600000001	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 : TERRADON Corporation
Address :409 Jacobson Drive
Street :
City : Poca
State : West Virginia **Country :** US **Zip :** 25159
Principal Contact : Ryan Wheeler, VP Business Development
Vendor Contact Phone: 304-755-8291 **Extension:**

FOR INFORMATION CONTACT THE BUYER

Joseph (Josh) E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

Vendor
Signature X *Ryan Wheeler*

FEIN#55-0687626

DATE 08/15/2025

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

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: _____

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

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

Addendum Numbers Received:

(Check the box next to each addendum received)

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

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

TERRADON Corporation

Company

Ryan Wheeler

Authorized Signature

08/14/2025

Date

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



www.terraddon.com

Corporate:
PO Box 519
Nitro, WV 25143
304-755-8291

August 20, 2025

Subject: AML EOI Pre-Qualification for Consultants

Attn: Josh Hager, Buyer
Solicitation No.: CEOR 0313 DEP2600000001
Bid Opening Date: 08-20-2025 Bid Opening Time: 13:30
Department of Administration, Purchasing Division
Fax Number: 304-558-3970

Selection Committee:

TERRADON Corporation is pleased to submit our Statement of Qualifications for the West Virginia Department of Environmental Protection's Abandoned Mine Lands (AML) EOI Pre-Qualification for Consultants. As West Virginia's largest woman-owned engineering firm, TERRADON offers over three decades of statewide experience delivering innovative, cost-effective, and environmentally responsible reclamation solutions.

All projects under this prequalification will be managed by Will Thornton, PE, PS, Vice President of Engineering, who brings more than 35 years of experience leading AML design, permitting, and construction oversight throughout West Virginia. Our multidisciplinary in-house team integrates engineering, surveying, environmental, and geotechnical expertise, ensuring seamless coordination from concept through construction completion.

We are committed to supporting WVDEP's mission to restore abandoned mine lands, safeguard public health and safety, and enhance environmental quality. Our proven track record on similar AML projects demonstrates our ability to meet aggressive schedules, navigate complex permitting processes, and deliver durable, site-specific designs.

Thank you for your consideration of our qualifications. We look forward to continuing our partnership with WVDEP and contributing to the success of the AML program.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ryan Wheeler".

Ryan Wheeler, VP of Business Development

STATEMENT OF QUALIFICATIONS

WVDEP AML EOI PRE-QUALIFICATION FOR CONSULTANTS

Statewide, WV

Submitted By

TERRADON Corporation
409 Jacobson Drive
Poca, WV 25159
304-755-8291

Point of Contact

Will Thornton, PE, PS
VP of Engineering
will.thornton@terraddon.com
304-729-9164

Submitted To

Attn: Josh Hager, Buyer
Solicitation No.: CEOR 0313 DEP2600000001
Bid Opening Date: 08-20-2025
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Department of Administration, Purchasing Division
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TABLE OF CONTENTS

→ Professional Qualifications	Page 1
→ Staff Qualifications	Page 8
→ Similar Project Experience	Page 22
→ References	Page 30
→ Anticipated Concepts & Proposed Methods of Approach	Page 31
→ Certificates of Authorization	
→ AML Consultant Qualification Questionnaire (CQQ)	
→ AML & Related Project Experience Matrix (RPEM)	

FIRM INTRODUCTION



TERRADON Corporation is a leading provider of engineering, surveying, environmental, and geotechnical services with over 30 years of experience serving West Virginia and the Appalachian region. Our multidisciplinary team includes licensed engineers, landscape architects, surveyors, and environmental scientists who work collaboratively to provide fully integrated project delivery. This in-house approach allows us to seamlessly transition from design and permitting to construction oversight and compliance.

TERRADON is experienced in managing projects funded through a variety of state and federal programs. We assist clients in navigating agency requirements and ensuring compliance with applicable regulations, including NEPA, Section 404/401, and ADA accessibility standards. Our familiarity with WVDEP, USACE, and SHPO coordination processes adds value and efficiency to environmentally sensitive and publicly funded initiatives.

TERRADON's corporate culture promotes innovation and progressive thinking. Project leaders strive to sustain customers through a wide-range of engineering offerings. TERRADON employees understand the purpose behind their services and work to cultivate lasting relationships with clients through honest, hard work.



36+

Years of operations

5+

**Offices in the
Appalachian Region**

TERRADON is the largest, woman-owned engineering firm in West Virginia and is a certified Women's Business Enterprise.

85+

Employees

AML ENGINEERING



TERRADON's engineers, geologists, environmental specialists and planners are well-versed in designing Abandoned Mine Land (AML) reclamation and Acid Mine Drainage (AMD) treatment solutions. TERRADON understands the complex impacts mine drainage and abandoned mines have left on our environment. TERRADON is particularly suited to design engineering within the mountainous areas of West Virginia and the Appalachian Region.

Our geotechnical engineers are qualified to evaluate and remediate landslides, impoundment stability, mine subsidence, highwall hazards and other AML problems. Our AML and environmental professionals have the expertise required to assess watersheds, design active and passive treatment facilities and restore streams impacted by AMD. Our AML specialists and geologists study and make recommendations for soil amendments to restore vegetative growth in former mining areas. TERRADON has the expertise to remediate water supply and quality issues, and design new or replacement water supply lines waterlines impacted by mining activities.

TERRADON has extensive experience in both wet and dry mine seals, with or without bat gates. TERRADON has experience with all facets of drainage associated with the majority of projects we have completed over the years, from acid mine drainage to basic conveyance of water from problem areas via channels, ditches and pipes. Our years of experience with AML problem areas, coupled with our quick response time to WVDEP/AML needs, makes TERRADON an excellent fit for any project.

TERRADON's solutions are unique for site-specification characteristics, and are tailored for our clients depending on each projects needs. TERRADON offers a full-service approach from review and concept phases through construction, implementation and operational phases.

Services

- Mine Portal Reclamation
- Drainage Controls
- Erosion & Sediment Control
- Coal Refuse Reclamation
- Slope Stabilization
- Landslide Repairs
- Structure Demolition Plans
- Geotechnical Evaluation
- Environmental Assessments
- Hydrologic & Hydraulic Analyses

GEOTECHNICAL ENGINEERING



Services

- Test Borings
- Test Pit Excavations
- Geophysical Data
- Hand Sampling Methods
- Drone Monitoring
- Monitoring Well and Piezometer Installation
- Soil & Rock Logging Sampling
- Landslide Analysis
- Remedial Landslide
- Stability Analysis
- Retaining Structures
- Foundation Design
- Buttressing and Regrading
- Subsurface Drainage
- Structural Corrections
- Retaining Walls
- MSE & Gravity Walls
- H-Piles and Lagging

TERRADON offers some of the most experienced staff in the region for local geotechnical expertise. This team of experts brings a distinctive, specialized understanding of the difficult soil and groundwater conditions found in the Ohio Valley and Appalachian Regions of the United States.

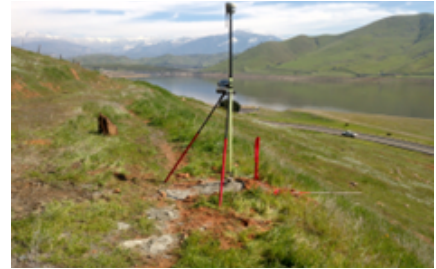
The Geotechnical group has provided investigations associated with slip repairs, landslide analysis and remedial design, earthen dams, mining, waste disposal, new building construction, cell and high mast towers, landfill permitting and cap design, flexible/rigid pavement design, and environmental remediation.

TERRADON Corporation has provided design, analysis, and construction inspection on more than 300 slip repair projects across the Appalachian Region. TERRADON is well versed in providing test boring services to slip projects and also provides other methods of slip analysis and design. TERRADON is qualified to provide Ground Penetrating Radar (GPR) and Resistivity testing to evaluate landslides and ascertain information such as: potential failure surface, mapping bedrock, locating subsurface voids, determining the amount of displacement, subsurface anomalies, locating groundwater, and determining stratigraphy layering.

TERRADON personnel are also experienced in various hand sampling techniques such as hand auguring, dynamic and static cone penetrometer tests, and hand dug test holes. These sampling and testing techniques are beneficial for determining subsurface stratigraphy, locating groundwater, collecting soil samples for laboratory analysis, locating failure surface, and determining the landslides boundary.

Additionally, TERRADON's surveyors are experienced in the use of drone and/or thermal imagery to characterize aspects or quantify landslides. The use of drone imagery is beneficial in mapping landslides in rough terrain, where the drone images can be utilized in the creating of a ground surface profile in-lieu of traditional survey techniques. The use of drone can allow the determinations of local geomorphology to assess the risk of future landslides.

SURVEY & MAPPING



TERRADON has been a leader in West Virginia and the surrounding region for the land surveying industry since 1989. The team has developed an extensive resume of successful surveying and mapping projects performed for a diverse group of repeat private and public sector clients. TERRADON's experienced staff of licensed professional surveyors and mappers bring expertise and proficiency to every project task.

The company is committed to staying ahead of the industry's pace by investing in state-of-the-art equipment and technology. That commitment enables TERRADON to overcome unique and challenging project conditions or obstacles and efficiently provide the most accurate and complete information available to clients. TERRADON has a long history of providing design and construction survey services for numerous transportation projects. Efficient and accurate results are ensured by prioritizing the use of modern technology, including state of the art GPS and robotic total stations, with the latest design software.

TERRADON maintains full-time Professional Surveyors on staff. The firm services projects through the use of in-house field survey crews who are backed by corporate staff members, including an experienced team of CAD designers. TERRADON's transportation survey group is experienced in preparing highway right-of-way plans, including courthouse research and right of way questionnaires, and writing legal descriptions for right of way take parcels, temporary construction easements and permanent drainage easements.

Services

- Boundary Surveys
- Control Surveys
- ALTA/NSPS Surveys
- As-built Surveys
- Deformation/Monitoring Surveys
- Utility Survey & Mapping
- Construction Staking
- Hydrographic Surveys
- Geodetic Surveys
- Ground Penetrating Radar (GPR)
- 3-D Terrestrial Scanning
- FEMA Flood Certificates
- Design Level Base Mapping
- Topographic and Planimetric Survey Mapping
- Transportation Corridor Mapping
- Right-of-Way Mapping
- Highway Right of Way Plan Development
- Major and Minor Subdivision Plans
- GIS Mapping
- Drone 3-D Mapping
- Photogrammetric Mapping
- Dam Instrumentation Surveys

CONSTRUCTION TESTING & INSPECTION



TERRADON Corporation delivers a comprehensive range of field services, excelling in construction testing and inspection, laboratory testing, construction management, and administration. TERRADON's extensive capabilities ensure high-quality results and efficient project delivery across various construction sectors.

TERRADON Corporation excels in providing comprehensive construction inspection and testing services, setting itself apart from competitors with its broad range of specialized offerings and commitment to excellence. The firm's services are crucial for ensuring compliance with project design specifications and regulatory standards across various types of construction projects, including utility, highway, and commercial ventures. TERRADON's expertise encompasses materials testing and construction monitoring.

TERRADON's team of technicians are certified by the American Concrete Institute (ACI) and the West Virginia Department of Highways, reflecting their proficiency in key areas such as concrete, asphalt, compaction, soils, and aggregate testing. These certifications underscore their capability to handle complex projects and adhere to high industry standards. TERRADON prioritizes efficient field work by applying the most cost-effective methodologies to complete the project. This includes expedited reporting, efficient and accurate monitoring, and effective and continual communication between the project team. Our goal is to provide the most accurate testing and inspection services at a pace that keeps your project moving forward to ensure on-time and on-budget results.

The company's team also includes specialized inspectors in environmental, geotechnical, and geological fields. This multidisciplinary approach allows TERRADON to address a wide range of project needs. Their dedication to quality, regulatory compliance, and client satisfaction positions them as a leading choice in the industry for reliable and thorough construction support.

TERRADON provides robust construction management and administrative support, facilitating efficient project execution from inception to completion. By integrating advanced testing capabilities with expert construction management, TERRADON Corporation ensures superior quality control, project efficiency, and successful outcomes for a wide range of construction projects.

ENVIRONMENTAL SERVICES



Our team has a commitment to the Ohio Valley and Appalachian regions that goes far beyond our jobs. It is where we work, where we live, and where we play. It is where our family and friends are, it's home. That's why our team at TERRADON sees our environmental services as critical to both preservation and responsible development. Every project has the potential to impact ecological resources and our surrounding environment. Our accomplished team at TERRADON provides unparalleled environmental services and understands the risks, procedures, and regulatory standards involved in managing environmental resources. A team that knows the urgency of conducting the proper studies to protect natural resources, wetlands, and ecology around your project while keeping it on schedule, and within budget.

The experience of our team provides us the ability to address environmental issues. Our environmental team draws on credentials in chemical engineering, chemistry, civil engineering, environmental sciences, landscape architecture, geology, and geotechnical engineering to help manage complex issues. From permitting to site assessment and reporting, our team is well-versed in federal and state requirements. Our team provides education and assistance, not just for the permitting process, but for the overall concept to construction of a project. Client communication and transparency ensure that project stakeholders are constantly in-the-know, while our years of building relationships with federal and local agencies help ensure smooth, timely and sound timelines. In the end, this makes TERRADON a regional leader in environmentally responsible projects.

Services

- Environmental Site Assessments (ESA)
- Phase I ESA
- Phase II ESA
- NEPA EA
- Environmental Audits
- NEPA Compliance
- Hazardous Waste
- Wastewater
- Stormwater
- Groundwater
- Air Permitting
- Wetland Delineation
- Aquatic Resource Mitigation
- Tier II Reporting
- Asbestos and Lead Inspection
- Underground Storage Tanks
- Impoundment Stabilization and Closure
- 401 and 404 Permitting
- Turbidity Monitoring
- Risk Management Plans
- Emergency Response Plans
- SPCC Planning
- BMP Planning
- Land Restoration and Brownfields
- Environmental Sciences

TRANSPORTATION ENGINEERING



TERRADON's Roadway and Bridge Design group is one of the most respected in the region. The department is well-known for its structural design capabilities and expert knowledge in bridge rehabilitation and new designs. Whether the job requires project planning, preliminary engineering studies or detailed roadway design, TERRADON maintains the resources needed to successfully complete transportation projects. Success on each project is achieved by using advanced technology to produce innovative, pragmatic design. TERRADON engineers are among leading professionals experienced in an array of transportation and quality & assurance measuring services.

TERRADON's certified staff is trained to work under unique and changing task orders and to maintain quality work to clientele that creates a maintained respected relationship between TERRADON and it's client. TERRADON provides a diverse staff of professionals capable of providing project planning and preliminary engineering services, as well as final roadway and bridge designs (plans, specifications, and estimates). The firm's transportation engineers and technicians apply the latest technology to innovative, award-winning projects. TERRADON's transportation staff has a wide range of experience that includes preparing maintenance of traffic plans, signing and pavement marking plans, utility coordination, drainage design, and right-of-way plans.

TERRADON's Transportation sector has enjoyed a long-standing relationship with several states' Departments of Transportation including the WVDOT. TERRADON has performed successful engineering design for the agency for more than 20 years. The group is led by an experienced transportation engineer and includes veteran staff with demonstrated experience. TERRADON routinely works on transportation projects, including survey, right-of-way, utilities, and specification design and review with WVDOT personnel. Additionally, TERRADON has been recognized for outstanding engineering work on several occasions with engineering excellence nominations and awards.

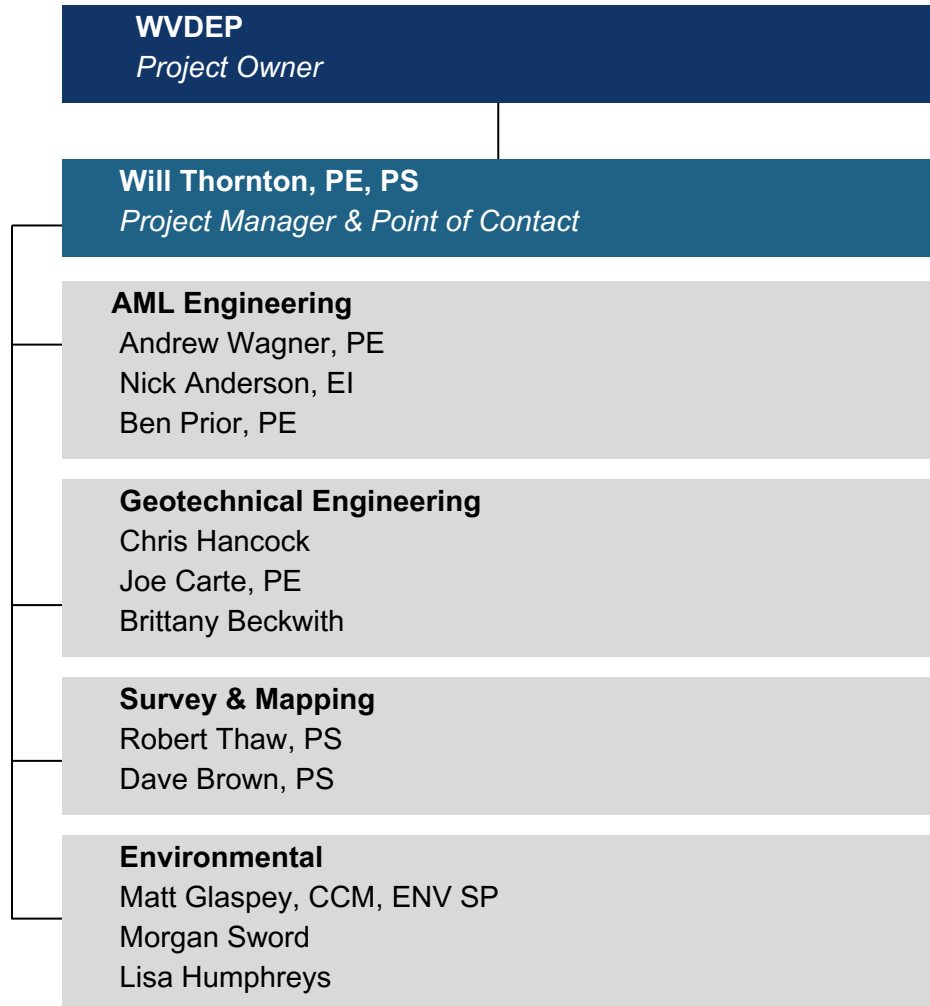
Services

- Structural Engineering
- Bridge Design
- Roadway Planning & Review
- Structural Planning & Review
- Roadway Design
- Maintenance of Traffic
- Bridge & Structural Inspections
- Right of Way Plans
- Corridor Studies
- Intersection Improvements
- Sidewalk Replacement
- Trails & Trailhead Design

PROJECT TEAM ORGANIZATION



TERRADON





WILL THORNTON, PE, PS

VP of Engineering

Years Experience | 35 Years

Years With Firm | 11 Years

Education

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

Registrations

Professional Engineer
(PE): WV 1994,
#12364; VA 2000,
#65227; OH 1999,
#35591

Professional Surveyor
(PS): WV, 1996, #1642

Affiliations

American Society of
Civil Engineers (ASCE)

Past President, WV
ASCE & Charleston
Branch ASCE

Appointments

Fayette Institute of
Technology,
Engineering Program
Advisory Board

Fayette Trail Coalition,
Board of Directors

City of Montgomery,
City Engineer and
Member Sanitary Board

City of Smithers, City
Engineer and Member
Building Committee

Town of Glasgow, Town
Engineer and Member
Housing Board

Thornton is an experienced Department Manager, project manager and design engineer for civil engineering design projects. Thornton has more than 35 years of experience with engineering firm in West Virginia, including three years with a construction firm performing major concrete paving projects in the region. Thornton also provided consultant review for the WVDOT, Division of Highways. The major design projects with which he has been involved included roadway design, bridge design and rehabilitation, drainage design, site design, trail design, permitting, property surveys, Right-of-Way Services, maintenance of traffic and construction administration and oversight. He provides analysis and design on the construction and rehabilitation of a variety of infrastructure utilities (Water, wastewater and storm water), including streets, drainage, sidewalks, buildings, and traffic and other safety improvements.

Project Experience

AML Gilliam Refuse Pile, McDowell County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering design included highwall reclamation, existing refuse pile reclamation, three (3) wet seals on draining portals, rip-rap diversion channels, 1,955 linear feet of access road and three (3) culverts, and plans to dismantle existing abandoned structures.

AML Indian Creek (Dillon) Portals, Boone County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering services included the design of four (4) wet seals for dangerous impoundments, four (4) dry seals, four (4) bat gates, 430 LF of access road, dewatering and regrading a surface water impoundment, splash pads, temporary stream crossings, structure demolition of a 100' tall abandoned smokestack, drainage controls, and E&S BMPS. Wagner performed project coordination for the design team.

AML Crumpler (Scott) Draining Portal, McDowell County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. The project scope was to provide engineering services for design of remediation measures, including creation of a new drainage control channel, excavation of an existing draining portal and construction of a wet seal on same, installation and repair of a ditch lining along a residential property that regularly floods due to the portal discharge, and utilization of erosion and sediment control best management practices.

AML Drews Creek Dangerous Impoundment, Raleigh County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering services provided included creating a dewatering plan for the mine, which ultimately involved horizontal boring and dewatering through geotubes, as well as design of all E&S.



ANDREW WAGNER, PE

Project Engineer

Years Experience | 7 Years

Years With Firm | 7 Years

Education

B.S. Mining
Engineering, Virginia
Polytechnic Institute &
State University,
Blacksburg, VA, 2013

Registrations

Registered Professional
Engineer:
West Virginia #25661

Certifications

Corrosion Mitigation for
Reinforced Structures

Bentley Accredited
MicroStation
Professional

Bentley Accredited
Road Designer

Andrew Wagner is a Project Engineer at TERRADON Corporation. Wagner is responsible for design on civil and highway projects. Wagner has a background in mine engineering as well as oil and gas drilling and completions operations management and has served as a drill site manager in the Gulf of Mexico while with another firm. Wagner has experience in highway design, PROWAG-compliant streetscape design, drainage design, site grading, and abandoned mine reclamation, and has provided relevant services on various projects throughout West Virginia. Wagner fulfills CAD management & administrative duties, implementing CAD Standards for MicroStation and OpenRoads projects and serving as the Engineering Group SME on OpenRoads Designer.

Project Experience

AML Crany Mine Dump Phase II, Wyoming County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering design services included regrading ditches to carry water to drainage control channels, installation and repair of existing ditch lining, replacement of three (3) compromised underdrains, site-wide regrading of slide and erosion areas, and utilization of erosion and sediment control BMPs. Wagner performed project coordination for the design team. Wagner managed the QC process for the project. Wagner performed quality control for the plans, specifications, and cost estimate. Wagner determined feasibility of waste earthwork site. Wagner directed composition of and performed quality control for the NPDES Construction Stormwater permit, as well as WVDOH MM-109 Right-of-Way encroachment permit.

AML Algoma Refuse & Portals. McDowell County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering services included the design of multiple wet seals and dry seals for abandoned mine portals on the site, removal and disposal of abandoned structures, regrading and reclamation of six (6) refuse piles, reclamation of clogged stream lands, and design of erosion and sediment control BMPs on the site. Wagner performed project coordination for the design team. Wagner managed the QC process for the project. Wagner performed quality control for the plans, specifications, and cost estimate.

AML Greenbrier Hollow Refuse Phase II. McDowell County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering services included the design of sixteen (16) wet seals for dangerous impoundments, highwall regrading, structure demolition, refuse pile regrading, drainage design, and E&S BMPs. Wagner performed project coordination for the design team. Wagner managed the QC process for the project. Wagner performed quality control for the plans, specifications, and cost estimate.



NICHOLAS ANDERSON, EI

Engineering Designer

Years Experience | 2 Years

Years With Firm | 2 Years

Education

B.S. Civil Engineering,
West Virginia Institute
of Technology, 2023

Registrations

Registered Professional
Engineer (PE): WV,
2018, (#23358)

Certifications

OSHA 10

Adult and Child First
Aid/CPR CertID –
01FBIES

Confined Space
Trained

Fall Protection Trained

Nicholas Anderson is a transportation designer for TERRADON Corporation. Nicholas provides engineering design services on various projects ranging from abandoned mine reclamation to bridge inspections and drainage design. Nicholas has performed various tasks from drafting & design in MicroStation, AutoCAD, and Civil 3D to preparing calculations for ditch flow and excavation quantities to using hydraulic modeling software.

Project Experience

Abandoned Mine Land (AML) Projects, West Virginia

Designer for multiple projects sites across southern WV. Projects consisted of drainage calculations and ditch design to safely carry runoff away from draining mine portals and refuse piles. Nicholas also performed earthwork calculations and design on these projects as well as preparing NPDES permit documents and drafting in Civil 3D. Nicholas prepared specifications and cost estimates for these project sites as well.

AML Drews Creek Dangerous Impoundment. Raleigh County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. Engineering services provided included creating a dewatering plan for the mine, which ultimately involved horizontal boring and dewatering through geotubes, as well as design of all E&S BMPs.

AML Crumpler (Scott) Draining Portal. McDowell County, WV

The project scope included providing engineering, survey, environmental, and geotechnical services for abandoned mine land remediation. The project scope was to provide engineering services for design of remediation measures, including creation of a new drainage control channel, excavation of an existing draining portal and construction of a wet seal on same, installation and repair of a ditch lining along a residential property that regularly floods due to the portal discharge, and utilization of erosion and sediment control best management practices.

Greenbrier Street Underpass & Bridge Design, Kanawha County, WV

Designer and inspector for these projects. Nicholas was part of the inspection team for these bridges and inspected substructures and decks of both bridges and prepared MicroStation drawing of deficiencies in the bridges. Nicholas wrote the Rehabilitation Recommendation report for Greenbrier Underpass which detailed the deficiencies and recommendations for repair as well as a cost estimate for repairs.

WV Route 2 Design Build, Proctor to Kent, WV

Designer on WV 2 Design Build project from Proctor to Kent, WV. Project involved teaming up with A.L.L. Construction as a design-build team to upgrade existing WV-2 (two-lane arterial) to a realigned four lane arterial and design drainage conveyances to divert water from the future WV-2 re-alignment project area directly to the Ohio River. Nicholas performed earthwork calculations and quantities for sediment basins.



BEN PRIOR, PE

Project Engineer

Years Experience | 21 Years

Years With Firm | 7 Years

Education

B.S. Civil Engineering,
West Virginia Institute
of Technology, 2011

Registrations

Registered Professional
Engineer (PE): WV,
2018, (#23358)

Certifications

NHI Safety Inspection
of In-Service Bridges for
Professional Engineers

NHI Fracture Critical
Inspection Techniques
for Steel Bridges,

OSHA 10

Adult and Child First
Aid/CPR CertID –
01FBIES

Confined Space
Trained

Fall Protection Trained

Ben Prior is a structural engineer at TERRADON Corporation. Mr. Prior is responsible for a variety of tasks for civil engineering projects. He inspects, evaluates, designs and coordinates installation of structural systems. Additionally, he is a Team Leader on bridge inspections.

Project Experience

Coal Mine Element Inspection, Coal Mine, Raleigh County, WV

Coal Mine Infrastructure Inspection consisted of the inspection of ladders, structural elements of a surge bin, and the tower of a mine shaft elevator.

311 Bridge Rehabilitation, WVDOH, Greenbrier County, WV

311 Bridge Rehabilitation consisted of the following; concrete deck replacement with lightweight concrete to achieve desired load rating using “Traditional” deck design, converting the abutments to semi-integral, and an adjustment to the normal cross-slope. Prior was part of the structural design team assisting with deck design and designing connection dowels for seismic loading per AASHTO.

Health Care Facility Renovation Inspection, Fayette County, WV

Health Care Facility Renovation Inspection consisted of weld inspections ‘special inspection’ of welds used in the attachment of steel rods and angles used to modify open web steel joists’ and joist girders’ webs and chords.

Industrial Plant Louvre Installation Design, Kanawha County, WV

Industrial Plant Louvre Installation Design consisted of the design of a frame that attached to the existing roof and would house louvres for ventilation. Due to contractor’s preference for no welding, the connections were all bolted and required blind bolts in some instances.

Anchors for Solar Canopy, Danhill Construction, Charleston, WV

The design of a post-installed anchoring system for 40,000 sf and 600 kW solar canopy consisted of coordinating with the solar canopy frame designer to achieve a desirable system. The design considered local effects from wind, seismic, and gravity. It also considered global effects to the structure as a whole. Before construction could begin, Mr. Prior evaluated the parking garage for various construction equipment loadings. Additionally, Mr. Prior worked with contractor to amend anchor locations due to construction issues.

Rt 60 Roadway Design Study Chelyan to Montgomery, Kanawha County, WV

The Route 60 Design Study, following WVDOH guidance, divided approximately 12 miles of highway into 3 sections, with each section containing multiple study sites. A total of twelve sites were studied. Improvements studied included a roadway realignment, adding turning lanes, and slope stabilization. For each alternate at each site, roadway geometry, right-of-way impacts, environmental impacts, earthwork volumes, construction cost, etc. were assessed in order to recommend a preferred alternate



JOE CARTE, PE

Senior Geotechnical Engineer

Years Experience | 41 Years

Years With Firm | 7 Years

Education

B.S. Mining
Engineering, WV
Institute of Technology,
1982

Registrations

Registered Professional
Engineer (PE):
West Virginia, 1993
(#12025)
Ohio, 1995 (#E-59221)
Kentucky, 1995
(#18103)
Virginia, 2022 (#62908)

Mr. Carte's role at TERRADON Corporation is to provide senior-level review, training, and assist with the day-to-day tasks and geotechnical decisions. Joe brings 40+ years of diverse geotechnical experience and is a registered Civil Engineer. Mr. Carte has provided heavy foundation design for bridges, towers, and tanks throughout his career. Some of Joe's accomplishments at TERRADON were to initiate a geotechnical department and was co-inventor of a soil bolting system (patented) for correcting landslides. Mr. Carte's experience as the Geotechnical Group Leader at both TERRADON and WVDOH gives him insights into the statewide geology, various design guidelines, and with LRFD and various Building Codes.

Project Experience

Abandoned Mine Lands (AML) Projects, Southern, WV

Provided senior level oversight for four (4) AML geotechnical investigations in southern WV. This work included the installation of piezometers in mine voids.

Go-Mart Development Projects, Statewide, WV

Provided senior level review of geotechnical investigations for five (5) Go-Mart stores and fueling stations. One store involved an impressive soil nail wall.

Wellsburg Bridge & WV Route 2 Roadway Improvement Project, Brooke, WV

Ohio River Bridge crossing and over 2 miles of roadway realignment, \$131M. Reviewed preliminary geotechnical investigations and reports for roads and bridges. Attended confidential WVDOH meetings with bidders where geotechnical landslide repair alternatives were discussed, and based on risk-informed assessments, the WVDOH either approved or disapproved the alternates. Developed unique criteria for the project specifications and reviewed design for compliance with the criteria.

US Route 35 New Highway Project, Putnam & Mason Counties, WV

Responsible for reviewed preliminary geotechnical investigations and of geotechnical data reports for roads and bridges. Developed and design-build criteria for the project specifications. Reviewed final geotechnical designs for multi-mile sections over a 9-year period. Performed geotechnical investigations of problems that occurred during construction and provided remedies.

Almost Heaven Hot Tub Facility, Greenbrier, WV

Assisted with the subsurface investigation, laboratory investigation, and foundation recommendations for a manufacturing facility expansion.

Martinsburg Airport Taxiway, Berkeley County, WV

Assisted with the subsurface and laboratory investigations and pavement design for the airport's new taxiway additions/extension.



CHRIS HANCOCK

Geotechnical Engineering Lead

Years Experience | 41 Years

Years With Firm | 7 Years

Education

B.S. Civil Engineering –
Geotechnical
Emphasis, West
Virginia Institute of
Technology, 2015

Certifications

OSHA 10 Hour
Construction

Christopher Hancock is a Geotechnical Engineering Lead at TERRADON. This role involves cost proposal preparation, client coordination, project management, and staff management / training. Chris's skills and abilities include AutoCAD, foundation design, designs using Geosynthetic Materials, MSE wall design, and groundwater and seepage control. Additionally, the geotechnical services provided by TERRADON involve working with large project teams to deliver a successful project. Chris is proficient in various software programs related to scientific study, including Civil3D.

Project Experience

WVDEP AML Projects, Boone, McDowell, Raleigh, and Wyoming Counties, WV
Geotechnical Project Manager. Performed investigations for AML remediation projects. Installed piezometers and assessed groundwater and stability. Issued stabilization recommendations for embankments and impoundments. Delivered design support documentation.

Huntington Tri-State Airport Runway Improvements – Cabell County, WV

TERRADON provided engineering services as part of a design-build team, \$10M; to develop and evaluate geotechnical repair alternatives for an existing pond which was to be removed along with repairing a landslide. Analyzed existing slope conditions with GEO 5 specialty software and designed an 80' plus tall earthen embankment along with filling the pond with approximately 50' of engineered fill. Performed geotechnical material testing on undisturbed samples to determine consolidation potential via one-dimensional consolidation testing. Analyzed settlement of the embankment and engineered fill using GEO 5 specialty software along with laboratory data, boring information, site mapping, and geotechnical mapping. Completed design documentation reports and site civil design and layout for the project along with construction plans and specifications.

Clendenin Flood Relief, Kanawha County, WV

Served as an on-site geotechnical drilling representative during subsurface investigation for two replacement bridges and eleven retaining walls after the summer flood of 2016. Performed: visual classification on rock and soil, sample collection, mapping boring locations, creating boring logs, laboratory testing, and coordinating with drill teams. Provided CAD support to the design team and senior CAD technicians during the design of the structures.

Axton Solar Array – New Solar Array Facility, Axton, VA

Supported development of a 546-acre solar facility including modules, transformers, a substation, and access roads. Supervised drilling operations, classified soils and bedrock, and coordinated sampling and lab testing. Evaluated subsurface data to support design of foundations and infrastructure. Contributed to engineering recommendations aligned with project demands. Assisted in compiling detailed documentation summarizing findings, conclusions, and recommendations.



BRITTANY BECKWITH

Geotechnical Project Manager

Years Experience | 7 Years

Years With Firm | 7 Years

Education

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

Certifications

OSHA 10 Hour
Construction

OSHA 30 Hour
Construction

Brittany Beckwith is a highly experienced Geotechnical Project Manager with many years of experience in planning, executing, and overseeing geotechnical investigations. She specializes in generating, researching, and refining geotechnical reports while effectively analyzing complex and challenging geotechnical cases. With expertise in evaluating earth materials, assessing risks, and addressing geotechnical challenges for major construction projects, Beckwith ensures optimal project outcomes. She is proficient in CAD software and various diagnostic tools, leveraging her strong analytical skills and meticulous attention to detail to uphold the highest standards of quality and efficiency. Additionally, she excels in collaborating with engineering teams to streamline processes and enhance overall project performance.

Project Experience

WVDEP AML Projects, Boone, McDowell, Raleigh, and Wyoming Counties, WV

Geotechnical Project Designer. Performed investigations for AML remediation projects. Installed piezometers and assessed groundwater and stability. Issued stabilization recommendations for embankments and impoundments. Delivered design support documentation.

Huntington Tri-State Airport Runway Improvements – Cabell County, WV

TERRADON provided engineering services as part of a design-build team, \$10M; to develop and evaluate geotechnical repair alternatives for an existing pond which was to be removed along with repairing a landslide. Analyzed existing slope conditions with GEO 5 specialty software and designed an 80' plus tall earthen embankment along with filling the pond with approximately 50' of engineered fill. Performed geotechnical material testing on undisturbed samples to determine consolidation potential via one-dimensional consolidation testing. Analyzed settlement of the embankment and engineered fill using GEO 5 specialty software along with laboratory data, boring information, site mapping, and geotechnical mapping. Completed design documentation reports and site civil design and layout for the project along with construction plans and specifications.

Clendenin Flood Relief, Kanawha County, WV

Served as an on-site geotechnical drilling representative during subsurface investigation for two replacement bridges and eleven retaining walls after the summer flood of 2016. Performed: visual classification on rock and soil, sample collection, mapping boring locations, creating boring logs, laboratory testing, and coordinating with drill teams. Provided CAD support to the design team and senior CAD technicians during the design of the structures.



JASON ASBURY, CESSWI, TRETENO

VP of Field Services

Years Experience | 22 Years

Years With Firm | 14 Years

Education

B.S. Landscape
Architecture, West
Virginia University,
2004

Certifications

ACI Concrete Field-
Testing Technician –
Grade I

WVDOH Level V
Transportation
Engineering Technician
TRETENO

WVDOH Asphalt Field
& Compaction
Technician; Aggregate
Sampler Technician;
Portland Cement
Concrete Inspector

APNGA Nuclear Gauge
Safety & USDOT
Hazmat

Certified Erosion
Sediment Storm Water
Inspector (CESSWI)

38 Hour USACE
Wetland Delineation

30 Hour OSHA

40 Hour OSHA
HAZWOPER

OSHA Confined Space
Entry Trained

OPEC SafeLandUSA

Jason Asbury is the Vice President of the Field Services Department at TERRADON. Asbury leads TERRADON's Field Services Department, managing a high-performing team of construction inspection professionals across complex infrastructure and development projects throughout the Ohio Valley and Appalachian regions. With over 20 years of experience in construction and consulting, Asbury is a trusted expert in delivering quality assurance, quality control, and construction testing services that consistently exceed industry standards and client expectations. Asbury oversees the complete lifecycle of field services operations—from pre-construction planning through site execution and project closeout. Asbury is also responsible for the operational management of TERRADON's Washington, PA office.

Project Experience

Indian Creek ATV Resort, Boone County, West Virginia

Served as Regulatory Coordinator and Project Manager, responsible for regulatory compliance and environmental coordination for a 34-acre commercial development project in Boone County, West Virginia. Oversaw field survey teams conducting wetland delineations in accordance with U.S. Army Corps of Engineers (USACE) methodology, including the identification of soil, vegetation, and hydrologic indicators, and the flagging of wetland boundaries for survey and reporting. Prepared detailed reports of field findings for submission to USACE. Responsible for securing applicable Nationwide Permits, Office of Land and Stream Permits, and coordinating Phase I Environmental Site Assessments.

Multiple Mine Reclamation Sites, West Virginia

Field Services Manager and Construction QA/QC technician responsible for observing and documenting any and all progress on the site. Scheduling field services and inspection personnel to the project, monitoring, and review of reports, and overall client management throughout. The projects involves working with environmental staff from WV and going on mine reclamation sites to observe/ analyze material. Testing performed onsite was compaction and soil analysis in the laboratory etc. Along with job coordination with project managers, superintendent, contractors, and site engineers.

West Virginia American Water, West Virginia Statewide

Served as Quality Assurance/Quality Control Manager on 59 waterline projects across the state of West Virginia. Managed a team of three full-time inspectors dedicated to ongoing water line construction projects. Oversaw all aspects of field inspection operations, ensuring compliance with quality standards and client expectations. Responsibilities included reviewing as-built drawings, coordinating the collection and delivery of GIS data to the West Virginia American Water GIS Department, and facilitating the resolution of construction-related conflicts and disputes. Provided additional construction support services as requested by the client to maintain project efficiency and integrity.



TYLER BAILEY, TRETNO

Construction Inspection Manager

Years Experience | 22 Years

Years With Firm | 14 Years

Education

B.S. Landscape
Architecture, West
Virginia University,
2018

Certifications

WVDOH Level IV
Transportation
Engineering Technician
– Senior (TRETSR)
(#3198)

OSHA 10 Hour
Construction

First Aid, CPR & AED
Certified

ACI Concrete Field-
Testing Technician-
Grade 1

WVDOH PCC
Inspector; Soil and
Aggregate Compaction
Technician; Asphalt
Field and Compaction
Technician; Aggregate
Technician; Aggregate
Sampling

APNGA RSO
Certification

APNGA Nuclear Gauge
Safety & USDOT
Hazmat

Tyler Bailey is a Field Services Project Manager, Construction Manager, Laboratory Supervisor, and Construction Inspector for TERRADON Corporation. Bailey is responsible for scheduling over 25 field service technicians and inspection personnel to projects, monitoring, and review of reports, and overall client management throughout West Virginia and Virginia Region. He also provides quality control testing and inspection for oil & gas, environmental, commercial, and residential construction projects throughout the Appalachian Region. He interfaces with site owners (public and private) and contractors through onsite meetings and offsite meetings to complete construction testing and inspection projects. Bailey is responsible for monitoring contractor's work for conformance to the design plans, specifications and general permit requirements; experience tracking daily quantities, completing daily inspection reports, reviewing payment requisitions and maintaining field sketchbooks and as-built drawings.

Project Experience

Multiple Mine Reclamation Sites, West Virginia

Field Services Project Manager and Construction QA/QC technician responsible for observing and documenting any and all progress on the site. Scheduling field services and inspection personnel to the project, monitoring, and review of reports, and overall client management throughout. The projects involves working with environmental staff from WV and going on mine reclamation sites to observe/ analyze material. Testing performed onsite was compaction and soil analysis in the laboratory etc. Along with job coordination with project managers, superintendent, contractors, and site engineers.

WVDOT John Nash Boulevard Widening, Wyoming/Mercer County, WV

Construction QA/QC technician responsible for bridge way approach including compaction testing for a newly built bridge along with concrete testing for multiple bridge decks.

Wastewater Treatment Plant Tank Installation/ Utility Relocation, Covington, VA

Field Services Project Manager and Construction QA/QC technician responsible for observing and documenting any and all progress on the site. Scheduling field services and inspection personnel to the project, monitoring, and review of reports, and overall client management throughout. The project consists of installing 2 large above ground tanks and relocating underground utilities, consisting of mass fill and excavation operations, grading, waterline, storm, and sanitary sewer installation, testing being performed onsite are compaction/ proof rolls, concrete testing, rebar inspections, steel inspections, asphalt testing, laboratory specimen breaks for compressive strength, monitoring contractor's work for conformance to the design plans, specifications, and general permit requirements, tracking daily quantities, completing daily inspection reports. Along with job coordination with project managers, superintendent, contractors, and site engineers.



MATT GLASPEY, ENV. SP., CCM

VP of Environmental & Construction Management

Years Experience | 22 Years

Years With Firm | 14 Years

Education

B.S. Landscape Architecture, West Virginia University, 2002

Certifications

Certified Construction Manager, CCM #13701, obtained in 2019

Envision Sustainability Professional, ENV SP #29234, obtained in 2019

OSHA 30 Hour Certification

OSHA 10 Hour Certification

American Red Cross Adult First Aid/CPR/AED

Affiliations

Construction Management Associate of America, National Capital Chapter, 2018-Current

Matt Glaspey is the Vice President of Environmental Services and Construction Management at TERRADON Corporation. Glaspey serves as an Environmental Agency Coordinator, acting as regulatory liaison/coordinator, he provides critical project support for specialized permitting and erosion and sediment control planning, as well as wetland assessment/ delineation projects and Section 404/401 permitting. Additionally, Glaspey is experienced in conducting, supervising and evaluating construction monitoring, testing and reporting activities including scheduling, oversight, and deficiency reporting. Glaspey is well-versed in creating and reading engineering drawing, CAD files, and GIS information. He offers nearly more than 20 years of project design and management experience. In prior roles at TERRADON, Glaspey was responsible for developing site plans, grading plans, landscape plans, utility plans, site detailing, permitting and specifications.

Project Experience

Indian Creek ATV Resort, Boone County, WV

Served as Project Manager for permitting and environmental services for approximately 34-acre commercial development located in Boone County, West Virginia. Task included overseeing field survey teams assessing the subject property for wetland indicators (soil, plants, and hydrology) in accordance with US Army Corps of Engineers methodology, flagging wetland boundaries for survey and preparation of reports with detailed field activities and findings for USACE. Also was responsible for determining and obtaining appropriate Nationwide permits as well as obtaining Office of Land and Stream permit, Phase 1 Environmental Site Assessment, as well as section 7 and 106 consultation, in addition to coordinating with West Virginia Department of Environmental Protection Office of Abandoned Mine Lands to ensure the successful completion of all required environmental site assessments necessary to fulfill the requirements of the National Environmental Policy Act for the evaluation of the subject property.

West Virginia Department of Environmental Protection (WVDEP) Permitting, Statewide, WV

Glaspey has guided over 100 projects through the West Virginia Department of Environmental Protection permit process. Projects include K-12 schools, higher education, parks, athletic facilities, recreation facilities, municipal buildings, and manufacturing facilities. Permits include, but are not limited to, Stormwater Construction permits, Multi-Sector General permits, Notice of Terminations, Industrial Permits, and Air Quality Permits.

Private Oil & Gas Company, Statewide, WV

Serves as Project Manager for Environmental Technicians providing third party environmental inspection of erosion and sedimentation control and NPDES permit requirements. Reviews regularly scheduled inspection reports, coordinates inspection schedules and coordinates NPDES permit handover to Contractor. Regularly works with the Environmental Technicians, Contractors and Owner to ensure repairs of noted deficiencies are implemented in a timely manner.



MORGAN SWORD

Senior Environmental Consultant

Years Experience | 7 Years

Years With Firm | 7 Years

Education

B.S. Environmental Science, Marshall University, 2018

B.S. Natural Resources & Recreation Management, Marshall University, 2018

Certifications

OSHA 10 Hour

OSHA HAZWOPER 40 Hour

West Virginia Asbestos Inspector

West Virginia Asbestos Management Planner

Kentucky Asbestos Management Planner

Ohio Asbestos Hazard Evaluation Specialist

Morgan Sword is a Senior Environmental Consultant at TERRADON Corporation with a background in watershed assessments and environmental monitoring. Sword is experienced in: Writing & conducting full NEPA Environmental Assessments, NEPA Compliance, WVVRP Consultation, QAPP, HASP, Site Characterizations, Site Assessment Work Plans, Remedial Action Work Plans, Phase I (100+), Phase II, and Phase III ESAs, Environmental Due Diligence, SWPPP, Groundwater Monitoring-Sampling/Modeling, AST Closures, UST Removal, Remediation, Environmental Soil Sampling, GIS Analysis & Survey, Stream and Wetland Delineations, USACE Section 404 and WVDEP 401 permitting with associated Compensatory Mitigation Concepts and Alternative Analysis, Spill Prevention/Best Management Practices, Asbestos Inspection and Management Planning, Environmental Auditing, and project oversight.

Project Experience

Indian Creek ATV Resort, Peytona, WV

Project was construction of an ATV Resort for the Hatfield-McCoy Trails. Scope included a NEPA Environmental Assessment for funding provided by WVDEP Abandoned Mine Lands Economic Revitalization (AMLER) Program, geotechnical drilling, Stream and Wetland Delineation, and Section 404 Permitting. Sword provided technical assistance with the NEPA Environmental Assessment.

Algoma Refuse, Algoma, WV

Project was remediation of abandoned mine land. Scope included a NEPA Environmental Assessment for funding provided by WVDEP Abandoned Mine Lands Economic Revitalization (AMLER) Program, Stream and Wetland Delineation, and Section 404 Permitting. Sword s provided technical assistance with the NEPA Environmental Assessment, Stream and Wetland Delineation, and Section 404 Permitting.

Crany Mine Dump, Crany, WV

Project was remediation of abandoned mine land. Scope included a NEPA Environmental Assessment for funding provided by WVDEP Abandoned Mine Lands Economic Revitalization (AMLER) Program, Stream and Wetland Delineation, and Section 404 Permitting. Sword provided technical assistance with the NEPA Environmental Assessment, Stream and Wetland Delineation, and Section 404 Permitting.

Crumpler Draining Portal, Crumpler, WV

Project was remediation of abandoned mine land. Scope included a NEPA Environmental Assessment for funding provided by WVDEP Abandoned Mine Lands Economic Revitalization (AMLER) Program, Stream and Wetland Delineation, and Section 404 Permitting. Sword provided technical assistance with the NEPA Environmental Assessment, Stream and Wetland Delineation, and Section 404 Permitting.



ROBERT THAW, PS

VP of Survey

Years Experience | 45 Years

Years With Firm | 31 Years

Education

A.S. Survey
Technology, West
Virginia Institute of
Technology, 1982

B.S. Civil Engineering
Technology, West
Virginia Institute of
Technology, 1985

Registrations

Professional Land
Surveyor (PLS):
West Virginia, 1991,
#965

Robert Thaw serves as head of TERRADON's Survey and Mapping department. He organizes and supervises survey crews, reviews project plans, and creates base mapping for various projects including noise barriers, interchanges, connectors, bypasses, sidewalks, bike paths, and bridges. Thaw oversees all TERRADON survey activities, including preparation of Right-Of-Way plans; the development of GPS static networks for aerial mapping in the design of roadways; identification of existing utilities and property lines; base image development and control placement for construction projects; and drafting of legal descriptions for ROW parcels. He provides strategic guidance and maintains rigorous quality assurance standards across a comprehensive range of surveying services, including Base Mapping for design, Boundary/Cadastral Surveys, ALTA/NSPS Surveys, and land-based LiDAR surveys, Hydrographic, Photogrammetric, and Route Surveys, along with GPS/GIS integration, instrumentation surveys, and construction surveys, Utility, and Quantity Surveys while ensuring all operations adhere to industry standards and regulatory requirements. His role encompasses strategic planning and maintaining technical excellence across all surveying operations.

Project Experience

WVDOH Lincoln County Slips, Lincoln County, WV

Project Manager. Project included survey and mapping services for the West Virginia Department of Transportation, Division of Highways, for multiple slips in Lincoln County, WV. The project included Tripod based LiDAR and conventional survey methods to produce an engineering design survey to aid in the design of retaining walls and slope stabilization for the West Virginia Department of Highways. Thirteen sites required topographic surveys. We chose Tripod based LiDAR for the sites that had difficult accessibility, and safety concerns. TERRADON utilized Trimble GPS units with OPUS processing for our primary control, then used a LEICA TS 15 P-1 to set control closer to the site. A Topcon GLS-2000, pulse technology scanner was used for the survey. In the office, the point cloud was registered and filtered, so break lines could be created and exported into Civil 3D. Above ground and underground utilities were surveyed utilizing conventional robotic total station. The scan data and conventional data were fused together to produce vector mapping used for the stability design. As Project Manager, Thaw was responsible for acting as liaison between the client and project managers. Thaw was responsible for project data, documentation, budgeting and management tasks.

West Virginia International Yeager Airport, Charleston, WV

TERRADON provided instrumentation monitoring services for the EMAS wall at West Virginia International Yeager Airport, establishing a control network for long-term structural monitoring. The work included setting new control points, surveying existing monitoring points, and using high-precision equipment to ensure horizontal and vertical accuracy within 0.015 feet. Thaw coordinated the survey and provided quality assurance on the survey data, and managed the budget.



DAVE BROWN, PS

Survey Project Manager

Years Experience | 33 Years

Years With Firm | 25 Years

Education

B.S. Civil Engineering
Technology / Surveying
(West Virginia Institute
of Technology (1996)

Registrations

Professional Land
Surveyor (PLS):
WV, 2003 (#2066) TN,
2008 (#2685)
KY, 2020 (#4344)

Certifications

NOAA's National
Geodetic Survey OPUS
Projects Manager's
Training (2021)

Dave Brown is a Professional Land Surveyor and Survey Project Manager, experienced in various survey and mapping projects throughout the region. Dave is a member of West Virginia Society of Professional Surveyors. Brown's responsibilities include survey project management, GPS networks, control surveys, subdivision design, development of highway Right-of-Way Plans, boundary solutions, reporting and documenting, courthouse research, drafting, construction staking, survey data reduction, survey reports, and preparation of surveying cost estimates and proposals.

Project Experience

WVDOH Lincoln County Slips, Lincoln County, WV

Professional Land Surveyor Lead. Provided survey and mapping services for the West Virginia Department of Transportation, Division of Highways, for multiple slips in Lincoln County, WV. The project included Tripod based LiDAR and conventional survey methods to produce an engineering design survey to aid in the design of retaining walls and slope stabilization for the West Virginia Department of Highways. Thirteen sites required topographic surveys.

USACE Portsmouth Flood Wall Topographical Survey, Portsmouth, OH

TERRADON prepared a topographic design survey of the floodwall/levee and surrounding area, including recovery of existing control monuments, establishing new control monuments, topographic mapping, existing utility location, and 3D terrestrial scan of the exterior an existing sanitary sewer pump station. Responsibilities included performing topographic surveys, drafting of existing condition CAD drawing, final survey report and assembling deliverables. Dave Brown, as Professional Surveyor Lead prepared the topographic design survey and report of survey.

WVDOH Veterans Memorial Bridge – Brooke County, WV

TERRADON conducted a comprehensive survey as part of the 2024 hands-on routine inspection of the approximate 1,650 foot long cable stay bridge which spans the Ohio River, including control recovery, elevation surveys, and monitoring of key bridge components. Dave Brown, as Professional Surveyor Lead provided survey coordination, processed all survey data and prepared the Report of Survey with comparisons to previous observations.

AMTRAK ADA Stations Program (ADASP) Alderson and Hinton, WV

TERRADON provided survey support for ADA upgrades at existing train stations located at Alderson and Hinton, WV. Project included verification of existing control and construction staking. Dave Brown, as Professional Surveyor Lead developed and reviewed stakeout for ADA improvements for this project.

USACE, Bluestone Lake Boundary Survey, Hinton, WV

Professional Land Surveyor Lead. Project included the boundary survey project at USACE Bluestone Lake property to recover 52 boundary monuments spanning approximately 11,765 feet from corner 200-8 to 205A-4.

→ SIMILAR PROJECT EXPERIENCE

AML Algoma Refuse & Portals *McDowell County, WV*

The Algoma Refuse and Portals project consists of abandoned mine land remediation near the Hatfield-McCoy Trail System in Algoma, McDowell County, West Virginia. The problem areas to be remediated consist of multiple collapsed draining and partially open mine portals, multiple partially standing structures, and six areas of abandoned coal refuse piles. All of these AML resources pose a threat to health & safety of visitors to the trail system and the community of Algoma. The WVDEP's goals with the project are to mitigate these hazardous conditions by constructing drainage controls, stabilizing/reclaiming the exposed refuse piles, installing proper mine portal seals, and dismantling the structures.

TERRADON provided comprehensive engineering services for the design of wet and dry seals, stabilization of the exposed refuse piles, removal of abandoned structures, stream debris clearing, and erosion and sediment control. TERRADON designed remediations for the site and produced contract plans, details, specifications, and a construction cost estimate for the same.

TERRADON established local survey control, located six (6) portals, located bore hole locations above the portals, located numerous abandoned structures, foundations, walls, and piers, and surveyed all access roads to same. Access roads to all six (6) refuse piles were surveyed, including intersections and stream crossings.

Thirty-two (32) geotechnical borings were performed. The borings were utilized for subsurface investigation, including slope stability analysis for refuse piles, and piezometer installation for investigating impounded mine water at the draining portals. A geotechnical analysis and letter report summarizing the findings of the subsurface investigation was provided. Environmental services included agency coordination, water sampling and water quality analysis, a Phase I Bat Assessment, and NEPA EA document preparation.

The total site area impacted by reclamation activities is approximately 40 acres. The estimated duration for construction of the project is twelve (12) months. This work supports WVDEP's objective to eliminate hazards and improve stream quality. TERRADON delivered an integrated design solution that addressed both public safety and environmental restoration. Challenges included complex terrain and active drainage features. Community benefits include safer land use and improved hydrology.



Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$646,285

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Nick Anderson
Matt Glaspey
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE

AML Crany Mine Dump Phase II *Wyoming County, WV*

The Crany Mine Dump – Phase II project in Wyoming County targets stability improvements on a previously reclaimed 10-acre refuse site. Since reclamation was completed in 2019, the refuse pile has had multiple slope failures as a result of underdrain failure, the grouted riprap ditch has failed, and ATV activity has contributed to erosion on the slopes. The WVDEP's goal with this project is to repair the drainage and stabilize the site to prevent further erosion and slips.

To accomplish the WVDEP's goals, TERRADON's scope of Engineering services included providing contract plans, details, specifications, and a construction cost estimate. TERRADON provided these with a design to regrade and repair the erosion and slide areas, replace the failed underdrains, and reconstruct approximately 1814 ft of the failed drainage channel using a grout-filled fabric lining. BMPs for erosion and sediment control were included in the design to stabilize areas disturbed by construction. TERRADON secured the NPDES Construction Stormwater permit for the project.

Survey services were performed to establish local survey control, to partially topo all benches, to topo the five areas of slide, and to survey erosion regrading, the slip area in the north-easterly corner of the site, and the ATV tracks running down the fall line of the refuse pile. Geotechnical services performed include a subsurface investigation (three (3) borings drilled), stability analysis of the slip zones, and delivery of a Geotechnical Analysis and Letter Report. Environmental services performed for the project include Agency Coordination, Water Quality Analysis, and NEPA EA document preparation.

The project size (disturbed area) is approximately 11.01 acres. Construction is estimated to take six (6) months.

The objective was to correct inadequate past reclamation and protect downstream resources. TERRADON's approach included site-wide assessments and remediation strategies. Challenges included unstable terrain and constrained drainage paths. The completed project improves safety and site resilience of the land against erosion, thereby protecting downstream aquatic resources and ensuring long-term stability of the refuse pile.



Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$371,841

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Nick Anderson
Matt Glaspey
Morgan Sword
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE



AML Crumpler (Scott) Draining Portal *McDowell County, WV*

The Crumpler (Scott) Draining Portal project in McDowell County, WV, was initiated after a 2020 complaint from local resident Gary Scott regarding uncontrolled mine drainage from a collapsed portal upslope from his home. The drainage entered his garage and backyard, crossed the county road creating icy conditions, and caused flooding in his basement. WVDEP's goal is to eliminate these hazards by installing drainage controls and a wet seal.

TERRADON's scope includes designing a drainage control channel, excavating the collapsed portal, installing a wet seal, repairing ditch linings, and implementing sediment control BMPs. Survey services will provide local control and drainage channel mapping, while Geotechnical will conduct borings and install a piezometer. Environmental services include agency coordination, water quality sampling, and NEPA EA preparation. Construction inspection will follow during the estimated 13-week build.

Covering roughly one acre, the project addresses flooding, drainage, and safety hazards in Crumpler. Challenges include legacy infrastructure conflicts, constrained site topography, and proximity to residential property. Upon completion, it will improve safety, drainage control, and environmental protection for the community.

Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$222,477

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Matt Glaspey
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE



Drews Creek Dangerous Impoundment *Raleigh County, WV*

The Drews Creek Dangerous Impoundment project in Raleigh County, WV, addresses a failed wet mine seal at an abandoned Eagle Seam deep mine impounding an estimated 50 million gallons of water. Due to high head pressure at the portal, a traditional dewatering approach risked an uncontrolled blowout.

TERRADON provided survey, geotechnical, engineering, and environmental services. Work included establishing survey control, subsurface investigation, installing piezometers, and developing a safe horizontal drilling plan for dewatering and wet seal construction. Plans, specifications, erosion control measures, and cost estimates were prepared, along with securing Right of Entry and NPDES permitting. Environmental tasks included water quality sampling, agency coordination, and NEPA documentation.

The 1.6-acre, six-month project will reduce flood risk, protect downstream resources, and restore proper drainage, improving both safety and environmental compliance. TERRADON will provide construction inspection during the build phase.

Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$190,578

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Matt Glaspey
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE



Gilliam Refuse Pile *McDowell County, WV*

The Gilliam Refuse Pile project in McDowell County, WV, remediates a 6.5-acre coal refuse pile and associated dangerous impoundments posing risks of erosion, flooding, fire, and public injury. Hazards included steep unstable slopes obstructing a stream, collapsed mine entries discharging water, a failing 500-foot highwall, deteriorating piers, combustible waste, and unsafe ATV and foot traffic. WVDEP's goals were to install drainage controls, regrade the highwall and pile, seal mine entries, remove structures and waste, and revegetate disturbed areas.

TERRADON provided engineering, survey, geotechnical, and environmental services, including site design, contract documents, drainage and erosion control plans, surveying mine portals and access roads, drilling boreholes with stability analysis, and water quality sampling with NEPA documentation. Construction inspection will follow during the six-month reclamation of the 12-acre site.

The project will reduce erosion, impoundment failures, fire risk, and water contamination while improving safety and restoring environmental stability for the surrounding community.

Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$357,959

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Nick Anderson
Matt Glaspey
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE



Greenbrier Hollow Refuse (Phase II) *McDowell County, WV*

The Greenbrier Hollow Refuse (Phase II) project in McDowell County, WV, reclaims a 3-acre refuse pile, bench area, dangerous impoundments, abandoned mine portals, and a 200-foot section of 50-foot-high un-reclaimed highwall. Hazards included unstable slopes, erosion, high fire risk, deteriorating structures, and unsafe public access near the Hatfield-McCoy Trail. WVDEP's goals were to eliminate these risks through drainage controls, mine seals, highwall backfilling, structure removal, regrading, and stream restoration.

TERRADON provided engineering, survey, geotechnical, and environmental services, including designs for 18 wet seals, 3 dry seals, stabilized diversion channels, and subsurface drainage; demolition plans; topographic surveys; nine borings with stability analysis; and four piezometer installations. Environmental tasks included water quality analysis, bat assessments, and NEPA documentation.

The 26-acre, 12-month project will stabilize hazardous features, reduce sedimentation, and enhance both public safety and environmental integrity.

Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$556,558

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Mike Boothe
Matt Glaspey
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE



Indian Creek (Dillon) Portals *Boone County, WV*

The Indian Creek (Dillon) Portals project in Boone County, WV, addresses open and draining mine portals, a 100-foot smokestack, and a ½-acre impoundment—hazards to public health, safety, and the environment in an area slated for Hatfield-McCoy ATV Trail expansion. WVDEP’s goals were to seal portals, reclaim the impoundment, and remove unsafe structures.

TERRADON provided engineering, survey, geotechnical, and environmental services, including designs for four wet seals, three dry seals with bat gates, one dry seal without a bat gate, drainage channels, temporary access roads, smokestack demolition, erosion controls, and revegetation. Work also included utility and portal surveys, subsurface investigation with two boreholes and piezometer installations, water quality analysis, bat assessments, and NEPA documentation. Construction inspection will follow during the eight-month, 2.9-acre reclamation.

The project improves public safety, restores environmental stability, and preserves wildlife habitat.

Owner

WVDEP
601 57th ST SE
Charleston WV 25304-2345

Reference

Christopher M Daniels
Engineer, DLR – Abandoned
Mine Lands Program /
Construction – Southern
District, WVDEP
christopher.m.daniels@wv.gov
304-932-3062

Contract Amount

\$305,958

Years of Service

2023-2025

Key Staff

Will Thornton
Andrew Wagner
Matt Glaspey
Morgan Sword
Chris Hancock

→ SIMILAR PROJECT EXPERIENCE

AML Project	Location
• Shabbyroom Hollow Complex	McDowell County, WV
• Venus Hamilton Drainage	McDowell County, WV
• Gains Highwall	Harrison County, WV
• Mallory Gibson Portal	Logan County, WV
• Libern-Pritt Highwalls	Barbour County, WV
• Harris Branch	McDowell County, WV
• Garden Grounds Highwall	Fayette County, WV
• Morgan Run PA #2	Preston County, WV
• Conley Branch Whitt Landslide	Logan County, WV
• Pierpont Refuse Pile	Wyoming County, WV
• North View Mine Drainage	Harrison County, WV
• Highland Avenue Mine Drainage	Ohio County, WV
• Tupper Creek Layne Landslide	Kanawha County, WV
• Black Wolfe Refuse	McDowell County, WV
• Grass Run Refuse	Lewis County, WV
• Camp Mohonegan Surface Mine	Randolph & Barbour County, WV
• Camp Lower Burning Creek Refuse	Mingo County, WV
• Camp Spring Branch Burning Refuse	Fayette County, WV
• Drews Creek "A" Highwall	Raleigh County, WV
• Cedar Creek Refuse	Fayette County, WV
• Stonecoal Creek Complex #1	Raleigh County, WV
• Micajah Refuse Pile	Wyoming County, WV
• Jenkins Jones Refuse	McDowell County, WV
• Stonecoal Creek Complex #2	Raleigh County, WV
• Stonecoal Creek Complex #3	Raleigh County, WV

CUSTOMER FEEDBACK

WVDEP Division of Land Restoration

Chris Daniels, Engineer
304-574-4465 x00253
christopher.m.daniels@wv.gov

WVDEP Division of Land Restoration

Jonathan Holbert, Southern Design Administrator
304-574-4465 x41182
jonathan.r.holbert@wv.gov

City of Huntington, WV

Mark Bates, Director of Public Works
800 Fifth Avenue, Huntington, WV 25701
304-696-5540

USACE Huntington District

Christopher Chandler, Chief of Division
304-399-5735

WV Division of Highways - Planning Division

Tim Sedosky, Acting Planning Director
304-414-6938

PROJECT APPROACH

TERRADON Corporation's approach to WVDEP Abandoned Mine Lands (AML) projects is rooted in proven methodology, multidisciplinary expertise, and a strong understanding of the environmental, technical, and regulatory requirements unique to West Virginia's AML Program. Our process is designed to meet the Agency's expectations for quality, compliance, and timely performance while safeguarding public safety and environmental resources.

1. Project Management & Oversight

All projects will be managed by Will Thornton, PE, PS, Vice President of Engineering, who will serve as the primary point of contact. Mr. Thornton brings over 35 years of AML project experience and will direct all phases of work from initiation through closeout.

Our management framework emphasizes:

- Clear definition of scope and deliverables in coordination with WVDEP.
- Development of detailed schedules and task assignments.
- Continuous budget tracking and resource allocation.
- Regular status updates to the Agency and prompt resolution of issues.

2. Planning & Coordination

We begin each project with a kickoff and scoping meeting involving WVDEP stakeholders, our discipline leads, and any subcontractors. Early identification of site-specific challenges—access constraints, sensitive habitats, safety hazards—guides our field planning and design.

We coordinate proactively with:

- Regulatory agencies (WVDEP, USACE, SHPO, WVDNR, USFWS) for permitting and consultation.
- Local stakeholders and property owners to secure Rights of Entry (EROE/CROE).
- Utility companies and municipalities when existing infrastructure may be impacted.

3. Field Investigations

Our in-house survey, environmental, and geotechnical teams mobilize quickly to collect accurate baseline data:

- Survey & Mapping: Establish local control, topographic mapping, portal/structure location, stream profiles, and access road layouts using GPS, robotic total stations, drones, and photogrammetry.
- Geotechnical: Conduct borings, install piezometers, and perform stability analyses for refuse piles, highwalls, impoundments, and subsidence areas.
- Environmental: Perform water quality sampling, bat and endangered species assessments, wetland and stream delineations, and NEPA EA documentation.

4. Realty Services

We perform courthouse research, prepare property plats, and secure the necessary Right of Entry agreements for exploration and construction. Our surveyors and realty specialists maintain detailed communication logs and documentation for all landowner interactions.

PROJECT APPROACH

5. Design Development

Our design process produces comprehensive, constructible plans that address all site-specific hazards and meet or exceed WVDEP standards. Typical design elements include:

- Wet and dry mine seals (with or without bat gates).
- Highwall and slope stabilization.
- Refuse pile regrading and reclamation.
- Drainage channels, underdrains, stormwater conveyance, and erosion controls.
- Streambank restoration and habitat-sensitive designs.
- Structure demolition plans and access road improvements.
- All designs are sealed by a West Virginia Professional Engineer and incorporate Best Management Practices (BMPs) for erosion and sediment control.

6. Permitting & Compliance

TERRADON obtains and manages all required permits, including:

- NPDES Construction Stormwater registration.
- WVDOH encroachment permits.
- Army Corps of Engineers Section 404/401 authorizations.
- County floodplain and building permits as applicable.
- We ensure all work complies with IIJA, Davis-Bacon, and Build America, Buy America (BABA) requirements.

7. Construction Support & Inspection

Our certified inspectors provide daily documentation and oversight through construction and warranty periods. Tasks include:

- Monitoring contractor activities for conformance with plans and specifications.
- Verifying materials and workmanship meet quality standards.
- Maintaining as-built records and preparing Final Engineer's Certification Reports.

PROJECT APPROACH

8. Schedule & Deadline Compliance

We recognize AML projects are time-sensitive, often tied to funding deadlines. TERRADON:

- Develops detailed CPM schedules.
- Tracks progress against milestones.
- Mobilizes additional staff and resources when necessary to maintain timelines.

9. Risk Management & Safety

We identify potential risks—technical, environmental, or schedule-related—early in the process and develop mitigation strategies. All field staff are OSHA-trained, and safety plans are integrated into every task.

10. Deliverables & Communication

We provide WVDEP with:

- Interim and final design submittals in required formats.
- Regular written progress reports and meeting notes.
- Complete contract documents: plans, specifications, cost estimates, and permit packages.
- Our communication approach ensures WVDEP is informed and engaged throughout.
-

This approach ensures each AML project is completed on time, within budget, in compliance with all requirements, and with lasting environmental and public safety benefits.

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*

TERRADON CORPORATION

C00901-00

Engineer in Responsible Charge: ASHLEY L. LIOI - WV PE 020507

*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, 2024 - December 31, 2025

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.

Scott E. Thomas Jr.

BOARD PRESIDENT

WEST VIRGINIA BOARD OF PROFESSIONAL SURVEYORS



Certificate of Authorization

Terradon Corporation

Poca, WV



CERTIFICATE OF AUTHORIZATION # 25-5430

This certificate is issued by the West Virginia Board of Professional Surveyors in accordance with W.Va. Code §30-13A-20
The person or organization identified on this certificate is licensed to conduct professional surveying and mapping
services in the State of West Virginia for the period

January 1, 2025 through December 31, 2025

This certificate is not transferable and must be displayed at the office location for which issued.

In witness whereof, I have put my hand, this 01 day of January 25

2025

A handwritten signature in black ink, appearing to read "Sefton R. Stewart".

Sefton R. Stewart, P.S., Chairman
Lantz G. Rankin, P.S., Member



A handwritten signature in black ink, appearing to read "James T. Rayburn".

James T. Rayburn, P.S., Secretary
Gary Facemyer, P.E., P.S., Member

Douglas C. McElwee, Esq.

Public Member

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**TERRADON CORPORATION
401 JACOBSON DR
POCA, WV 25159-9691**

BUSINESS REGISTRATION ACCOUNT NUMBER: **1040-5251**

This certificate is issued on: **06/11/2010**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with W.Va. Code § 11-12.*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.



JOHN A. MYERS
CABINET SECRETARY

STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON STREET, EAST
CHARLESTON, WEST VIRGINIA 25305-0130

W. MICHAEL SHEETS
DIRECTOR

April 27, 2018

Terradon Corporation
409 Jacobson DR
Poca, WV 25159

Mr. Wheeler,

This is to notify you that your Small, Women-, and Minority-Owned Businesses (SWAM) Certification Application has been approved on the basis of your representations that the vendor named above meets the definition of a Small, Women-, and Minority-Owned Businesses as set forth in the *West Virginia Code of State Rules* 148-22-1 et seq. This certification becomes effective:

4/27/2018

And shall automatically expire without notice two years after the effective date unless revoked by the Purchasing Director or upon expiration pursuant to the *West Virginia Code of State Rules* 148-22-8. The type(s) of Small, Women-, and Minority-Owned Businesses (SWAM) Certification approved for your entity:

Women Owned Business Small Business

To maintain certification without lapse, a certified business shall apply to renew its certification at least 60 days prior to the end of the two-year certification period. Complete renewal instructions, recertification forms, and a list of all SWAM Certified entities are available online at www.state.wv.us/admin/purchase/VendorReg.html.

If you have questions, please contact the West Virginia Purchasing Division at 304-558-2306.

Sincerely,

A handwritten signature in blue ink that reads "Wendy Means".

Wendy Means
Vendor Registration Coordinator

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

AML CONSULTANT QUALIFICATION QUESTIONNAIRE

Attachment "A"

PROJECT NAME AML EOI Prequalification's for Consultants		DATE (DAY, MONTH, YEAR) 08/15/2025		FEIN 55-0687626																																					
1. FIRM NAME TERRADON Corporation		2. HOME OFFICE BUSINESS ADDRESS 409 Jacobson Drive, Poca, WV 25159		3. FORMER FIRM NAME N/A																																					
4. HOME OFFICE TELEPHONE 304-755-8291	5. ESTABLISHED (YEAR) 1989	6. TYPE OWNERSHIP Individual X - Corporation Partnership Joint-Venture		6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES X - NO																																					
7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE 409 Jacobson Drive, Poca, WV 25159 / 304-755-8291 / Tom Kittredge, Owner / 87 Personnel (50+ AML/Project Specific Design)																																									
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Virginia King: Shareholder, Director, CEO & Secretary Ashley Lioi, PE: Shareholder, Director, PE of Record & Treasurer Amelia Randolph: Shareholder, Director, & Asst. Secretary Tom Kittredge: Shareholder, Director, & Vice President			8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS Will Thornton, PE, PS - VP Engineering Jason Asbury, TRETCNO, CESSWI - VP Field Services Matt Glaspey, CCM, ENV SP - VP Environmental Robert Thaw, PS - VP Survey Greg Fox, RLA - VP Land Development Ryan Wheeler - VP Business Development																																						
9. PERSONNEL BY DISCIPLINE																																									
<table border="0"> <tr> <td><u>11</u> ADMINISTRATIVE</td> <td>— ECOLOGISTS</td> <td><u>3</u> LANDSCAPE ARCHITECTS</td> <td><u>3</u> STRUCTURAL ENGINEERS</td> </tr> <tr> <td>— ARCHITECTS</td> <td>— ECONOMISTS</td> <td>— MECHANICAL ENGINEERS</td> <td><u>14</u> SURVEYORS</td> </tr> <tr> <td>— BIOLOGIST</td> <td>— ELECTRICAL ENGINEERS</td> <td><u>1</u> MINING ENGINEERS</td> <td>— TRAFFIC ENGINEERS</td> </tr> <tr> <td><u>7</u> CADD OPERATORS</td> <td><u>5</u> ENVIRONMENTALISTS</td> <td>— PHOTOGRAMMETRISTS</td> <td>— OTHER</td> </tr> <tr> <td>— CHEMICAL ENGINEERS</td> <td>— ESTIMATORS</td> <td>— PLANNERS: URBAN/REGIONAL</td> <td></td> </tr> <tr> <td><u>11</u> CIVIL ENGINEERS</td> <td><u>1</u> GEOLOGISTS</td> <td>— SANITARY ENGINEERS</td> <td></td> </tr> <tr> <td><u>21</u> CONSTRUCTION INSPECTORS</td> <td>— HISTORIANS</td> <td><u>2</u> SOILS ENGINEERS</td> <td></td> </tr> <tr> <td><u>8</u> DESIGNERS</td> <td>— HYDROLOGISTS</td> <td>— SPECIFICATION WRITERS</td> <td><u>87</u> TOTAL PERSONNEL</td> </tr> <tr> <td>— DRAFTSMEN</td> <td></td> <td></td> <td></td> </tr> </table>						<u>11</u> ADMINISTRATIVE	— ECOLOGISTS	<u>3</u> LANDSCAPE ARCHITECTS	<u>3</u> STRUCTURAL ENGINEERS	— ARCHITECTS	— ECONOMISTS	— MECHANICAL ENGINEERS	<u>14</u> SURVEYORS	— BIOLOGIST	— ELECTRICAL ENGINEERS	<u>1</u> MINING ENGINEERS	— TRAFFIC ENGINEERS	<u>7</u> CADD OPERATORS	<u>5</u> ENVIRONMENTALISTS	— PHOTOGRAMMETRISTS	— OTHER	— CHEMICAL ENGINEERS	— ESTIMATORS	— PLANNERS: URBAN/REGIONAL		<u>11</u> CIVIL ENGINEERS	<u>1</u> GEOLOGISTS	— SANITARY ENGINEERS		<u>21</u> CONSTRUCTION INSPECTORS	— HISTORIANS	<u>2</u> SOILS ENGINEERS		<u>8</u> DESIGNERS	— HYDROLOGISTS	— SPECIFICATION WRITERS	<u>87</u> TOTAL PERSONNEL	— DRAFTSMEN			
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— DRAFTSMEN																																									
<p>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>12</u></p> <p>*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.</p>																																									
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO																																									

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

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

YES Description and Number of Projects: +50 Projects for WVDEP/AML&R

NO

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects:
+25 WVDEP/AML&R projects included some soil analysis. TERRADON provides geotechnical engineering on a wide variety of projects including slip repairs, roadway and highway projects, bridges and structural projects, etc.

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects:
+25 WVDEP/AML&R projects included hydrology and hydraulics. Additionally, TERRADON has completed various roadway and highway projects with hydrology and hydraulic studies completed.

NO

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

YES Description and Number of Projects:

NO
TERRADON routinely provides photo control surveys and field edits the mapping provided. TERRADON does utilize subcontractor services for aerial photography when needed (Tuck Mapping).

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:
+10 WVDEP/AML&R projects included the evaluation of aquifer degradation as a result of mining. TERRADON has also designed hundreds of miles of waterline for various projects, including projects for WV American Water, throughout West Virginia.

NO

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

YES Description and Number of Projects:
+5 WVDEP/AML&R projects included acid mine drainage evaluation and abatement. Additionally, TERRADON was one of only two firms evaluating and designing AMD abatement of special reclamation projects in the 1990's.

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.) Will Thornton, PE, PS	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 13	YEARS OF AML RELATED DESIGN EXPERIENCE: 13	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 5

Brief Explanation of Responsibilities

Will Thornton is the Vice President of Civil Engineering services at TERRADON. With more than 35 years' experience on various civil engineering projects including waterline design, utility design, slip repair design, AML design, stormwater design, and more.

EDUCATION (Degree, Year, Specialization)
B.S. Civil Engineering, 1989

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)
WV Professional Engineer, 1994
WV Professional Surveyor, 1996

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.) Andrew Wagner, PE	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 7	YEARS OF AML RELATED DESIGN EXPERIENCE: 7	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Andrew Wagner is an Project Engineer (PE) at TERRADON with more than 7 years' experience in construction and design engineering. Wagner's background in Mining Engineering has lending design expertise for various slip repair, AML, and transportation projects throughout West Virginia.

EDUCATION (Degree, Year, Specialization)
B.S. Civil Engineering, 1998

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)
WV Professional Engineer

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.) Joe Carte, PE	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 41	YEARS OF AML RELATED DESIGN EXPERIENCE: 41	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 20

Brief Explanation of Responsibilities

Joe Carte is a Senior Geotechnical Project Manager for TERRADON. Carte is responsible for the project management, design review, construction drawings and specifications, constructability review, etc. on various geotechnical design projects including AML design, slip repair design, and more.

EDUCATION (Degree, Year, Specialization)
B.S. Mining Engineering, 1982

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)
Registered Professional Engineer:
WV (1993), OH (1995), KY (1995), VA (2022)

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.) Nick Anderson, EI	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 2	YEARS OF AML RELATED DESIGN EXPERIENCE: 2	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Nick Anderson is an Engineer Designer (EIT) at TERRADON with more than 2 years' experience in construction and design engineering. Anderson's background in Civil Engineering has lending design expertise for various slip repair, AML, and transportation projects throughout West Virginia.

EDUCATION (Degree, Year, Specialization)
B.S. Civil Engineering, WV Institute of Technology, 2023

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)
Engineer in Training (EIT), 2025

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES

Software

Autodesk Civil 3D 2020

SedCad 4 - Erosion Control and Hydrology Software

Haested Method Flowmaster Software for Channel Design

Haested Methods - Water CADD (Pipe Network Analysis)

Slope Stability -

PC Stable

REAME

SBSLOPE

WinStable and WinStable 2003

Piling Walls, Anchors and Reinforced Earth Walls -

Lpile

HeliCAP

Anchor 400

KeyWall 2004

TR 55, TR 20, TR 66 (Sites) - Hydrology

Hec-1, Hec HMS 2.22, Hec R As 3.1.2 - Hydrology

LC 58 + RP 61 - Structural (wall)

Microstation V8

Surveying Equipment

Trimble 4700 modular, RTK Global Positioning Total Station

Trimble Geomatics Office Software

Topcon Total Stations (3)

SMI Data Collectors (3)

Printing/Plotting/Reproduction

HP DesignJet +1600 Plotter

HP DesignJet 759C Plotter

HP LaserJet 8000 Printer (2)

HP Color LaserJet 3700

Sharp AR-550 Copier/Printer (2)

Sharp AR-C150 Full Color Copier/Printer

Océ 7056 Engineering Size Copier

** Only shows ongoing AML projects. A complete list of ongoing projects in other specialties can be provided upon request.

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	PERCENT COMPLETE
Algoma Refuse and Portals McDowell County WV	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$4,200,000	80%
Crany Mine Dump (Phase II) Wyoming County, WV	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$1,460,000	95%
Crumpler (Scott) Draining Portal McDowell County, WV	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$150,000	50%
Drews Creek Dangerous Impoundment Raleigh County, WV	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$600,000	95%
Gilliam Refuse Pile McDowell County, W	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$1,430,000	80%
Greenbrier Hollow Refuse (Phase II) McDowell County, WV	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$1,900,000	80%
Indian Creek (Dillon) Portals Boone County, WV	WVDEP-AML	Survey, geotechnical, environmental, engineering design and construction admin and inspection	\$430,000	90%
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS: \$	

**** Only shows ongoing AML projects. A complete list of ongoing projects in other specialties can be provided upon request.**

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS

[illegible]

****** Only shows completed AML projects within the last 5 years. A complete list of ongoing projects in other specialties can be provided upon request.

[illegible]

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.

TERRADON has extensive experience in multiple types of AML&R project. We are a full service engineering firm performing numerous landslide remediation projects as well as earthmoving and drainage projects

20. The foregoing is a statement of facts.

Signature: Will Stitt Title: VP Engineering
 Printed Name: Will Thornton, PE, PS

Date: 08/14/2025

**Only showing AML projects completed within last 5 years. Tenured experience can be provided upon request.

AML and RELATED PROJECT EXPERIENCE MATRIX																								
PROJECT	Exp. Basis C=Corp. P=Personnel *	Additional Info Provided in Section (s) **	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/Nitigation/ Replacement	Construction Inspection/Managem ent	Water Treatment	Active/Passive Water Treatment Systems	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Y aÁ/ @ ! } d }	Andrew Wagner	Nick Anderson	Matt Glaspey	Chris Hancock	Morgan Sword
Algoma Refuse & Portals	C	SOQ Pg 22	X			X					X		X				X	X	M	P	P	P	P	P
Crany Mine Dump Phase II	C	SOQ Pg 23	X			X					X		X				X	X	M	P	P	P	P	P
Crumpler Scott Draining Portal	C	SOQ Pg 24	X			X					X		X				X	X	M	P		P	P	P
Drews Creek Dangerous Impoundment	C	SOQ Pg 25	X			X					X		X				X	X	M	P		P	P	P
Gilliam Refuse Pile	C	SOQ Pg 26	X			X					X		X				X	X	M	P	P	P	P	P
Greenbrier Hollow Refuse Phase II	C	SOQ Pg 27	X			X					X		X				X	X	M	P		P	P	P
Indian Creek Dillon Portals	C	SOQ Pg 28	X			X					X		X				X	X	M	P		P	P	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.



THANK YOU FOR THE OPPORTUNITY!



 **Website**
www.terraddon.com

 **Phone**
304-755-8291

Point of Contact
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VP of Engineering
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