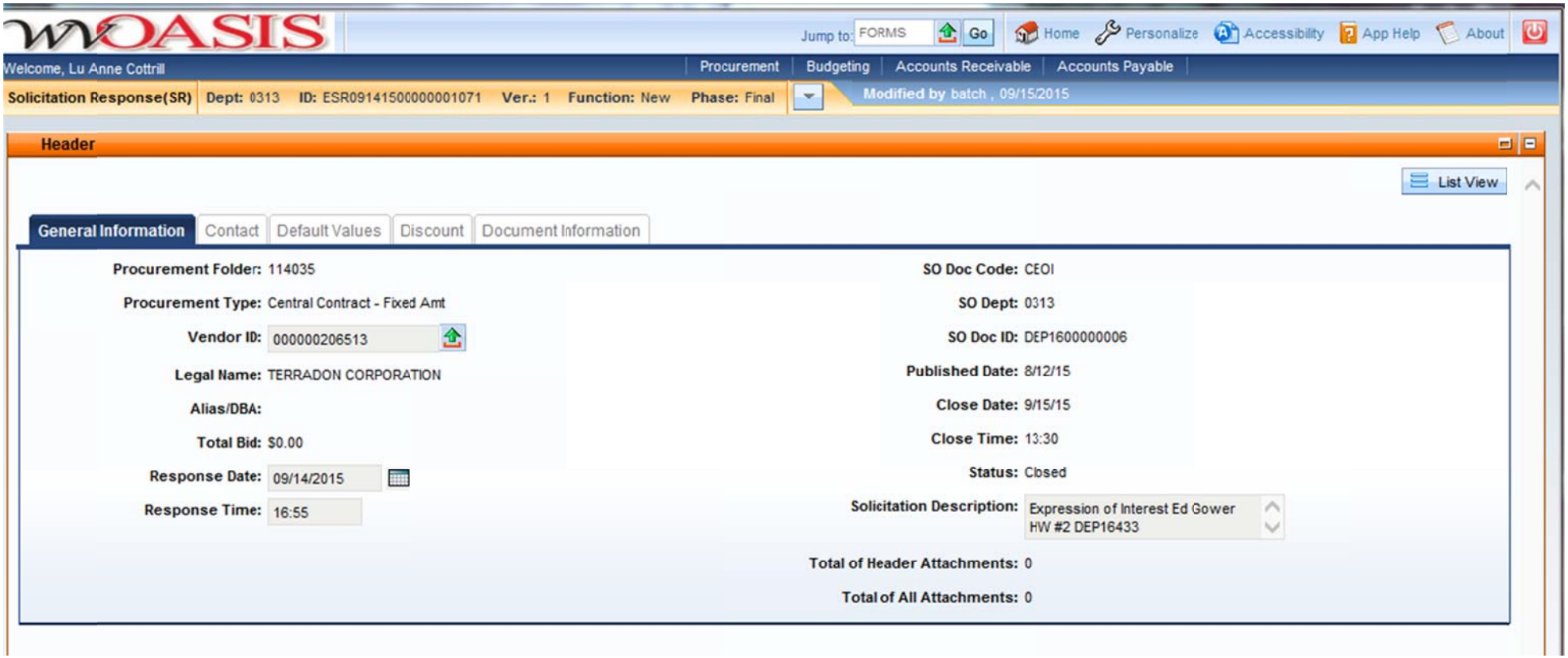
The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency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


WVOASIS
Jump to: FORMS Go
Home
Personalize
Accessibility
App Help
About
Welcome, Lu Anne Cottrill
Procurement
Budgeting
Accounts Receivable
Accounts Payable
Solicitation Response(SR) Dept: 0313 ID: ESR09141500000001071 Ver.: 1 Function: New Phase: Final
Modified by batch , 09/15/2015
Header
List View
General Information
Contact
Default Values
Discount
Document Information
Procurement Folder: 114035
Procurement Type: Central Contract - Fixed Amt
Vendor ID: 000000206513
Legal Name: TERRADON CORPORATION
Alias/DBA:
Total Bid: $0.00
Response Date: 09/14/2015
Response Time: 16:55
SO Doc Code: CEOI
SO Dept: 0313
SO Doc ID: DEP1600000006
Published Date: 8/12/15
Close Date: 9/15/15
Close Time: 13:30
Status: Closed
Solicitation Description: Expression of Interest Ed Gower HW #2 DEP16433
Total of Header Attachments: 0
Total of All Attachments: 0

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

State of West Virginia
Solicitation Response

Proc Folder : 114035

Solicitation Description : Expression of Interest Ed Gower HW #2 DEP16433

Proc Type : Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-09-15 13:30:00	SR 0313 ESR09141500000001071	1

VENDOR

000000206513

TERRADON CORPORATION

FOR INFORMATION CONTACT THE BUYER

Beth Collins

(304) 558-2157
beth.a.collins@wv.gov

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			

Extended Description : *Dates of Service are estimated for bidding purposes only.

TERRADON CORPORATION

Charleston/Poca, WV
409 Jacobson Dr.
Poca, WV 25159
Tel: 304-755-8291
Fax: 304-755-2636

Charlton Heights, WV
PO Box 307
Charlton Heights, WV 25159
Tel: 304-645-4636
Fax: 304-645-7614

Ripley, WV
101 N. Court Street,
Ripley, WV 25271
Tel: 304-532-409

Lewisburg, WV
PO Box 1635
Lewisburg, WV 24901
Tel: 304-645-4636
Fax: 304-645-7614

September 15, 2015

Acquisitions Unit, WV Purchasing Division
for the West Virginia Department of Environmental
Protection Office of AML & R
601 57th Street SE
Charleston, WV 25304

Subject: Expression of Interest Expression of Interest Ed Gower HW #2 DEP16433

Dear Selection Committee:

TERRADON is pleased to provide you with the following Expression of Interest to provide professional engineering services to the WV Department of Environmental Protection, Office of Special Reclamation for Expression of Interest Ed Gower HW #2 DEP16433.

TERRADON has a long-standing history of providing quality design and construction services to the WVDEP. Our diverse staff can provide complete services for any issue that may be included in this project. TERRADON welcomes the opportunity this project offers.

I look forward to an opportunity to interview for this project, and hope to be the State's preferred consultant. Should you have any questions regarding the submittal or TERRADON, please do not hesitate to contact me at 304-755-8291.

Sincerely,

Ryan Wheeler
TERRADON Corporation

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
02 — Architect/Engr

Proc Folder: 114035

Doc Description: Expression of Interest Ed Gower HW #2 DEP16433

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-08-12	2015-09-15 13:30:00	CEOI 0313 DEP1600000006	1

BID RECEIVING LOCATION

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

VENDOR

Vendor Name, Address and Telephone Number:

TERRADON Corporation
409 Jacobson Drive
Poca, WV 35159
304-755-8291

FOR INFORMATION CONTACT THE BUYER

Beth Collins
(304) 558-2157
beth.a.collins@wv.gov

Signature X Thomas G Ritteage FEIN # 55-0687626 DATE 9/12/15

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

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV25304 US	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue
1	EOI Engineering Design Services		

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :

*Dates of Service are estimated for bidding purposes only.

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

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)

☐ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ 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

Thomas G Kittredge
Authorized Signature

09-15-15
Date

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

CERTIFICATIONAND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

TERRADON Cororation

(Company)

Thomas G Kotulge

(Authorized Signature) (Representative Name, Title)

304-755-8291, 304-755-2636 09/15/15

(Phone Number) (Fax Number) (Date)

Rev. 04/14

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with ***West Virginia Code***, §5A-3-37. (Does not apply to construction contracts). ***West Virginia Code***, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the ***West Virginia Code***. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**

____ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or,**

____ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or,**

____ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or,**

2. **Application is made for 2.5% vendor preference for the reason checked:**

____ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or,**

3. **Application is made for 2.5% vendor preference for the reason checked:**

____ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or,**

4. **Application is made for 5% vendor preference for the reason checked:**

✓ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or,**

5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**

____ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or,**

6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**

____ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

7. **Application is made for preference as a ~~non-resident~~ small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules.***

✓ Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: TERRADON Corporation **Signed:** Thomas J Kennedy

Date: 09/13/15 **Title:**

TERRADON CORPORATION

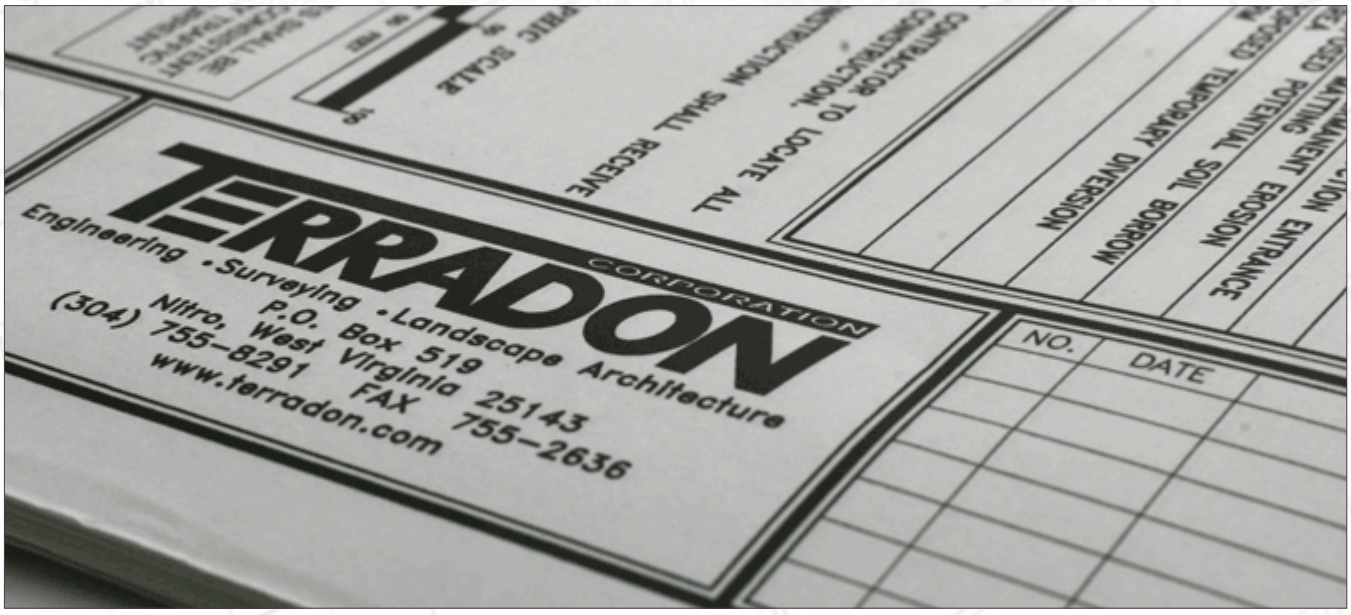
Engineering . Planning . Surveying . Environmental . Inspection

STATEMENT OF QUALIFICATIONS FOR:

CEOI 0313 DEP1600000006
Expression of Interest Ed Gower HW #2 DEP16433

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

September 15, 2015



Corporate Office
409 Jacobson Dr.
Poca, WV 25159
304-755-8291

Greenbrier Valley
425 North Jefferson St.
Lewisburg, WV 24901
304-645-4636

Jackson County
101 North Court Street
Ripley WV, 25271
304.532.4909

Fayette County
P.O. Box 307
Charlton Heights, WV 25040
304-541-7655

ALL LOCATIONS Fax: 304.755.2636
www.terradon.com

TABLE OF CONTENTS

CORPORATE OVERVIEW

TERRADON Corporation offers a multi-faceted approach to design engineering and consulting services. For more than 25 years TERRADON staff has provided a wealth of engineering solutions blanketing West Virginia and the Appalachian region with successful projects. The company built its reputation on expert personnel and quality, time-sensitive service. Those same founding principles hold true today.

Staff includes engineers, landscape architects, surveyors, planners, environmental scientists, designers, technicians and LEED Accredited Professionals.

The company maintains approximately 50 leading-edge staff in four locations: Nitro/Poca, WV; Lewisburg, WV; Ripley, WV; and Charlton Heights, WV. TERRADON'S departments work cohesively to provide turn-key solutions that strive to exceed client expectations.

The family-owned business has built a strong reputation by providing flexible, cost effective design solutions and maintaining the highest level of customer service. TERRADON is particularly suited to design engineering within the mountainous areas of the Ohio Valley and Appalachian Regions. The firm has been recognized through numerous awards from professional organizations and agencies including the West Virginia Division of Highways, Department of Environmental Protection and the West Virginia Chapter of American Institute of Architects.

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.

SERVICE OFFERINGS

- AML Design
- Surveying & Mapping
- Civil Engineering
- Energy Services
- Land Planning & Site Design
- Environmental/Geotechnical
- Materials Testing & Inspection
- Construction Monitoring
- Roadway and Bridge Design

EXPRESSION OF INTEREST

TERRADON Corporation has prepared the materials of this expression of interest in accordance with the Request for Quotation (RFQ) issued by the State of West Virginia. For convenience, the following pages are arranged in order of the evaluation criteria listed in the RFQ.

TERRADON offers a professional and experienced staff to perform the tasks required for this project. TERRADON has been responsible for all aspects of numerous successfully completed Abandoned Mine Lands (AML) and related projects in recent years.

TERRADON maintains twelve (12) West Virginia Registered Professional Engineers in its four offices:

- Joe Saunders, PE — Project Manager/Engineer
- John James, PE — Project Engineer
- Jim Nagy, PE — Project Engineer
- Mike Pyles, PE — Project Engineer
- Ashley Lioi, PE — Project Engineer
- Robert Simmons, PE — Civil Engineer
- Lee Hale, PE — Civil Engineer
- Phil Reed, PE — Project Manager/Engineer
- Kristen McClung, PE — Project Engineer
- Jennifer Casey, PE — Project Engineer
- Grant Martin, PE — Project Engineer
- Will Thornton, PE — Project Manager/Engineer

RECLAMATION ENGINEERING DESIGN EXPERIENCE

TERRADON has extensive experience in both wet and dry mine seals, with or without bat gates. Our recent experience with Mallory (Gibson) Portals had more than fifty mine seals, and Sarah Ann (Vance) Drainage had twenty as well.

In addition, TERRADON has provided regrading services on numerous refuse piles and highwalls including Stonecoal Creek Complex, Shabbyroom Hollow Complex, Kingwood Rt. 7 Highwall, Camp Mahonegan, Cedar Creek, Roaring Creek #4 and Morgan Run PA #2. TERRADON has also provided regrading services on Tuppers Creek, Gerath and Drews Creek Landslides. TERRADON also regraded more than twelve miles of highwall on the Garden Grounds HIghwalls Phase I & II sites in Fayette County.

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.

RECENT PORTAL AND REFUSE EXPERIENCE

- MALLORY (GIBSON) PORTALS
- SHABBY ROOM HOLLOW COMPLEX
- GAINS HIGHWALL
- GARDEN GROUNDS HIGHWALLS PHASE I & II
- LILBERN PRITT HIGHWALL
- ROARING CREEK #4
- MORGAN RUN PA #2
- HARRIS BRANCH REFUSE PILE
- STONECOAL CREEK COMPLEX
- DREW'S CREEK "A" HIGHWALL
- JENKIN JONES
- MACAJAH REFUSE
- CEDAR CREEK
- CARSWELL HOLLOW
- LOWER BURNING CREEK REFUSE
- SARAH ANN (VANCE) DRAINAGE
- VENUS (HAMILTON) DRAINAGE
- GRASS RUN REFUSE
- SPRING BRANCH REFUSE
- BLACK WOLFE REFUSE
- ROBINETTE BRANCH REFUSE PILE
- TUPPERS CREEK
- GERATH LANDSLIDE
- NORTH VIEW MINE DRAINAGE
- HIGHLAND AVENUE
- KINGWOOD RT. 7 HIGHWALL
- LINGER CLOGGED STREAM
- CAMP MAHONEGAN

AVAILABLE MINING RECLAMATION DESIGN TEAMS

PROJECT MANAGER

- WIlliam Joe Saunders, PE

Project Engineers

- John James, PE
- Will Thornton, PE, PS
- Jim Nagy, PE
- Bill Hunt, PG
- Mike Pyles, PE
- Robert Simmons, PE
- Ashley Lioi, PE
- Phil Reed, PE
- Kristen McClung, PE

Engineering Technicians

- Mark Clutter

CAD Designers

- Bill Gerencir
- Earl Oldham

Environmental Specialists

- SamWilkes, PWS

TERRADON Corporation maintains the following personnel available to assign to the project. All personnel listed have previous design or inspection experience on mining reclamation projects.

TERRADON engineers have numerous resources within the company to draw on, such as surveying, geotechnical engineering, environmental engineering, landscape architecture, materials testing, and construction monitoring. This allows the project manager to control all phases of the design process, from initial site reconnaissance through construction.

AVAILABLE SURVEYING DESIGN TEAMS

TERRADON has sufficient staff in-house to manage and complete project tasks in relation to this contract, more specifically, all types of surveying. TERRADON continues to offer a professional and experienced staff to perform the tasks required for this project. Additionally, TERRADON staff are well-versed in WVDEP procedures and have a strong working relationship with WVDEP staff.

PERSONNEL DEDICATED TO SURVEY SERVICES:

Name	**Project Role**
Robert Thaw, PS	Survey Project Director
William Thornton, PE, PS	Survey Project Manager
Dave Brown, PS	Survey
Brian Bakanas, PS	Survey
Randy Melton, PS	Survey

LOCATION

OFFICE WHERE THE WORK WILL TAKE PLACE

TERRADON Corporation's primary office, where the work will take place, is centrally-located in Nitro, WV, near Charleston. TERRADON's engineering reach easily extends throughout the State in regard to physical drive times, making projects in any area of West Virginia accessible in just a matter of hours. TERRADON also maintains offices in Charlton Heights, Ripley and Lewisburg, WV.

Primary Office Physical Address
409 Jacobson Drive
Poca, WV 25159

Mailing Address:
PO Box 519
Nitro, WV 25143

Phone: 304-755-8291
Fax: 304-755-2636

Charlton Heights, WV

Mailing Address:
PO Box 307
Charlton Heights, WV 25040

Phone: 304-541-7655
Fax: 304-755-2636

Lewisburg, WV
Physical Address:
425 North Jefferson Street
Lewisburg, WV 24901

Mailing Address:
PO Box 1635
Lewisburg, WV 24901

Phone: 304-645-4636
Fax: 304-645-7614

Ripley, WV
Physical Address:
101 North Court Street
Ripley, WV 25271

Phone: 304-532-4909
Fax: 304-755-2636

TERRADON CORPORATION

ATTACHMENT B: CONSULTANT CONFIDENTIAL QUALIFICATION QUESTIONNAIRE

EXPRESSION OF INTEREST

<table>
<tr><td colspan="5">WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OSR CONSULTANT QUALIFICATION QUESTIONNAIRE Attachment “B”</td></tr>
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Ed Gower HW #2 DEP16433</td><td colspan="2">DATE (DAY, MONTH,
YER) 09/15/15</td><td colspan="2">FEIN NUMBER
55-0687626</td></tr>
<tr><td>1.FIRM NAME
TERRADON Corporation, Inc.</td><td colspan="2">2.HOME OFFICE BUSINESS ADDRESS
409 Jacobson Drive, Poca, WV 25159</td><td colspan="2">3.FORMER FIRM NAME</td></tr>
<tr><td>4.HOME OFFICE TELEPHONE
304-755-8291</td><td>5.ESTABLISHED (YEAR)
1989</td><td>6.TYPE OWNERSHIP

INDIVIDUAL CORPORATION X

PARTNERSHIP JOINT-VENTURE</td><td colspan="2">6A.WV REGISTERED DBE
(Disadvantaged Business Enterprise)

YES X NO</td></tr>
<tr><td colspan="5">7. PRIMARY OSR DESIGN OFFICE: ADDRESS/TELEPHONE /PERSON IN CHARGE/ NO. OSR DESIGN PERSONNEL EACH OFFICE
409 Jacobson Drive, Poca, WV 25159/304-755-8291/Muhammad U. Riaz, PE/5</td></tr>
<tr><td colspan="2">8. PRINCIPAL OFFICERS OR MEMBER OF FIRM
Tom Kittredge, President
Virginia L. King, CEO</td><td colspan="3">8A. NAME, TITLE, & TELEPHONE – OTHER PRINCIPALS
Tom Kittredge, President
304-755-8291</td></tr>
</table>

EXPRESSION OF INTEREST

9. PERSONNEL BY DISCIPLINE

7 ADMINISTRATIVE	__ECOLOGISTS	_2_LANDSCAPE ARCHITTECTS	_2 STRUCTURAL ENGINEERS
__ ARCHITECHS	__ ECONOMISTS	__ MECHANICAL ENGINEERS	_4_ **SURVEYORS**
__ **BIOLOGISTS**	__ ELECTRICAL ENGINEERS	__ **MINING ENGINEERS**	__ TRAFFIC ENGINEERS
_3_ **CADD OPERATORS**	_2_ ENVIRONMENTALISTS	__ PHOTOGRAMMETRISTS	_4_ OTHER
__ CHEMICAL ENGINEERS	__ ESTIMATORS	__ PLANNERS: URBAN REGIONAL	
_12_ **CIVIL ENGINEERS**	_1_ **GEOLOGISTS**	_1_ SANITARY ENGINEERS	
_8_ CONSTRUCTION INSPECTORS	__ HISTORIANS	_1_ SOILS ENGINEERS	
_2_ DESIGNERS	_1_ HYDROLOGISTS	__ SPECIFICATION WRITERS	__50 TOTAL PERSONNEL
__ DRAFTSMEN			

TOTAL NUMBER OF WV REGISTERDD PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: _____7_____
*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.

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

11. OUTSIDE KEY CONSULTANTS/SUBCONSULTANTS ANTICIPATED TO BE USED. Attach OSR "Consultant Qualification Questionnaire "

NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		_____ YES _____ NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		_____ YES _____ NO

EXPRESSION OF INTEREST

12. A. Is your firm experienced in Acid Mine Drainage water treatment and remediation?

X YES Description and number of projects: _____50 Projects for WVDEP/AML&R__ _____

NO

B. Is your firm experienced in soil analysis and coal refuse analyses?

X YES Description and number of projects: _35 WVDEP/AML&R projects included some soil analysis. TERRADON provides geotechnical engineering on a wide variety of projects, including dams, highways, bridges, etc.

NO

C. Is your firm experienced in hydrology and hydraulics for handling mine water discharges on mining sites?

X YES Description and number of projects: __35 WVDEP/AML&R projects included hydrology and hydraulics.

NO

D. Does your firm produce its own aerial photography for development of contour mapping and have your own surveying crew?

X YES Description and number of projects: ___TERRADON maintains its own surveying crews and routinely provides photo control surveys and field edits the mapping provided.

NO

EXPRESSION OF INTEREST

E. Is your firm experienced in design of highwall elimination, grading and material handling plans for land reclamation?

YES Description and Number of Projects: _6 WVDEP/AML&R projects included highwall elimination plans, 90% past 35 AML projects included grading and material handling plans.

NO

EXPRESSION OF INTEREST

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR OSR PROJECT DESIGN (Furnish complete date but keep to essentials)		
NAME & TITLE (Last, First, MI) Saunders, William Joe., PE	YEARS OF EXPERIENCE 21	
	YEARS OF OSR DESIGN EXPERIENCE 4	YEARS OF OSR RELATED DESIGN EXPERIENCE 21
Brief explanation of responsibilities Primary Project Manager and PE for AML/OSR projects. Responsible for project oversight and overall delivery. Will be design engineer for all elements of the project and ensure compliance with all local, state and federal requirements.		
EDUCATION (Degree, year, specialization) B.S. 1998, Civil Engineering, WVU Institute of Technology		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS ACEWV	REGISTRATION (Type, year, state) PE, 2001, WV; PE 2005, NC; PE 2014, VA	

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR OSR PROJECT DESIGN (Furnish complete date but keep to essentials)		
NAME & TITLE (Last, First, MI) James, John W., PE	YEARS OF EXPERIENCE 33	
	YEARS OF OSR DESIGN EXPERIENCE 11	YEARS OF OSR RELATED DESIGN EXPERIENCE 9
Brief explanation of responsibilities Geotechnical Project Manager for TERRADON. Responsible for contract administration and project management; peer review of design, construction drawings and specifications; constructability review and construction cost estimates.		
EDUCATION (Degree, year, specialization) B.S. 1968, Civil Engineering		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS ASCE (Past President, WV Section)	REGISTRATION (Type, year, state) PE 1973, WV	

EXPRESSION OF INTEREST

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR OSR PROJECT DESIGN (Furnish complete date but keep to essentials)		
Gerencir, William "Bill"	YEARS OF EXPERIENCE 23	
	YEARS OF OSR DESIGN EXPERIENCE 20	YEARS OF OSR RELATED DESIGN EXPERIENCE 23
Brief explanation of responsibilities Gerencir is responsible for CAD Design, including: site layout, grading, stream alignments. Plan, cross section and detail sheet preparation. Quantity Takeoffs, Calculation Briefs, and additional design related tasks.		
EDUCATION (Degree, year, specialization) A.S. 1989, Civil/Surveying Engineering Technology		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, year, state)	
13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR OSR PROJECT DESIGN (Furnish complete date but keep to essentials)		
NAME & TITLE (Last, First, MI) Brown, David A., P.S.	YEARS OF EXPERIENCE 15	
	YEARS OF OSR DESIGN EXPERIENCE 9	YEARS OF OSR RELATED DESIGN EXPERIENCE 15
Brief explanation of responsibilities Responsible for all aspects of surveying, including photogrammetry control, if required, field editing of mapping, topographic mapping establishment of survey control monuments and establishing base lines for construction layout and quantity measurement. Also, tax map overlays and detailed property clarifications.		

EXPRESSION OF INTEREST

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR OSR PROJECT DESIGN (Furnish complete date but keep to essentials)
NAME & TITLE (Last, First, MI) Thaw, Robert, P.S.
YEARS OF EXPERIENCE 20
YEARS OF OSR DESIGN EXPERIENCE 20
YEARS OF OSR RELATED DESIGN EXPERIENCE 20
EDUCATION (Degree, year, specialization) A.S., Survey Technology, 1981, West Virginia Institute of Technology B.S., Surveying, 1985, West Virginia Institute of Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, year, state)
WV Association of Land Surveyors	P.S., 1985, WV

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

Software:	Autodesk 2010 Civil 3D
	SedCad 4 – Erosion Control and Hydrology Software
	Haested Method Flowmaker Software for Channel Design
	Haested Method – Water CADD (Pipe Network Analysis)
	Slope Stability –
	PC Stable
	REAME
	SBSLOPE
	WinStable and WinStable 2003
	Piling Walls, Anchors and Reinforced Earth Walls-
	Lpile
	HeliCAP
	KeyWall 2004
	TR 55, TR 20, TR 66 (Sites) – Hydrology
	LC 58+ RP61 – 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 T1120
	HP DesignJet 1050C Plotter (2)
	HP LaserJet 8000 Printer (2)
	HP Color LaserJet 5500
	Sharp AR-550 Copier/Printer (2)
	Sharp AR-C150 Full Color Copier/Printer
	Oce 7056 Engineering Size Copier

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15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE & LOCATION	NAME & ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Tucker Co. Landfill Cell Design	Tucker County PO Box 445 Davis, WV 26260	ENGINEER OF RECORD	$10 Million	75%
Northern Wayne Co PSD Sewer Extension	4393 5th Street Rd, Huntington, WV 25701	ENGINEER OF RECORD	$2 Million	75%
Montgomery Sanitary Board Pump Station Upgrade	1422 3rd Ave W, Montgomery, WV	Permitting	$500K	80%
Waterloo Bridge, WVDOH	WVDOT Building 5, Room A-110, 1900 Kanawha Blvd E, Charleston, WV 25305	ENGINEER OF RECORD	$2 Million	15%
Bluestone Dam Hinton, WV	US Army Corps of Engineers 502 Eighth Street Huntington, WV 25701	ENGINEER OF RECORD	$400 Million	25%
Verizon Wireless Cell Tower Slip Repair, Clemtown, WV	Verizon Wireless 18 Abele Road Bridgeville, PA 15017	ENGINEER OF RECORD	$350,000	90%
Verizon Wireless Cell Tower Goldtown, WV	Verizon Wireless 18 Abele Road Bridgeville, PA 15017	ENGINEER OF RECORD	$200,000	97%

TOTAL NUMBER OF PROJECTS: 7	TOTAL ESTIMATED CONSTRUCTION COSTS: $15.4M

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16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUBCONSULTANT TO OTHERS					
PROJECT NAME, TYPE & LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME & ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
West Virginia GSA Office Complex Fairmont, WV	Site Design, Utilities Geotechnical, Survey, Testing and Inspection	State of West Virginia 1900 Kanawha Blvd E Charleston, WV 25305	June 2014	$25 Million	$2.5 Million
Poca Elementary School Poca, WV	Site Design, Utilities, Survey	Putnam County Board of Education 3022 Winfield Rd, Winfield, WV 25213	June 2014	$12 Million	$1.5 Million
Winfield Middle School Winfield, WV	Site Design, Utilities, Survey	Putnam County Board of Education 3022 Winfield Rd, Winfield, WV 25213	August 2014	$15 Million	$1.2 Million
Courtyard Hotel Charleston, WV	Site Design, Utilities, Survey, Geotechnical, Testing and Inspection	VIM, Inc. P.O. Box 359 123 North Court Street Fayetteville, WV 25840	August 2014	$14 Million	$1.2 Million
Gerrardstown Middle School Gerrardstown, WV	Site Design, Utilities, Survey	Berkley County Board of Education 401 S Queen St, Martinsburg, WV 25401	June 2014	$13 Million	$1.5 Million
South Preston PK-8 School Tunnelton, WV	Site Design, Utilities, Survey	Preston County Board of Education 731 Preston Drive Kingwood, **WV** 26537	June 2014	$13 Million	$1.5 Million

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Leading Creek Elementary School	Site Design, Utilities	Lewis County Board of Education 239 Court Avenue Weston, **WV** 26452	December 2014	$13 Million	$1.5 Million
Advantage Valley Advanced Technology Center South Charleston, WV	Site Design, Utilities, Survey, Geotechnical, Testing and Inspection	WV Higher Education Policy Commission 1018 Kanawha Boulevard, E., Suite 700 Charleston, WV 25301	June 2014	$15 Million	$1.7 Million
Cabell County Bus Garage Lesage, WV	Site Design, Utilities, Survey	Cabell County Board of Education WV Higher Education Policy Commission 1018 Kanawha Boulevard, E., Suite 700 Charleston, WV 25301	June 2014	$10 Million	$1.3 Million
Energy Corporation of America Charleston, WV	Site Design, Utilities, Survey, Geotechnical, Testing and Inspection	Energy Corporation of America 501 56th Street SE Charleston, West Virginia 25304	December 2014	$12 Million	$1 Million
East Hardy High School	Site Design, Utilities, Survey	Hardy County Board of Education 510 Ashby Street Moorefield, WV 26836	June 2015	$15 Million	$1.5 Million
WVSU Student Housing Institute, WV	Site Design, Utilities, Survey, Geotechnical, Testing and Inspection	West Virginia State University 5000 Fairlawn Ave, Dunbar, WV 25112	January 2015	$16 Million	$1 Million

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Weisburg Applied Sciences Building Huntington, WV	Site Design, Utilities, Survey, Geotechnical	Marshall University One John Marshall Drive Huntington, WV 25755	August 2014	$30 Million	$1 Million
Smith Fastener South Charleston	Site Design, Utilities, Survey, Geotechnical, Testing and Inspection	Smith Fastener 7500 MacCorkle Ave., SE P.O. Box 4356 Charleston, West Virginia 25364	March 2015	$10 Million	$1 Million
West Virginia GSA Office Complex Fairmont, WV	Site Design, Utilities Geotechnical, Survey, Testing and Inspection	State of West Virginia 1900 Kanawha Blvd E Charleston, WV 25305	June 2014	$25 Million	$2.5 Million

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17. COMPLETED WORK WITH IN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE & LOCATION	NAME & ADDRESS OF OWNER	ESIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
KCRDA 2009 Sissonville, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	$282,000	2010	Yes
City Beer Bridge on I-77 Bridge Replacement Project Wood County, West Virginia	WVDOT Building 5, Room A-110 1900 Kanawha Blvd. East Charleston WV 25305	$6 Million	2011	Yes
AEP-Gavin Plant Sed Pond #2 Expansion Cheshire, WV	American Electric Power 1530 Winfield Road Winfield, WV 25213	$3 Million	2011	Yes
Catfish Man of the Woods Bridge, Cabell County, WV	WVDOT Building 5, Room A-110 1900 Kanawha Blvd., East Charleston, WV 25305	$1.6 Million	2015	Yes
MOT-75-21.96 Vandalia, OH	Ohio Department of Transportation 1980 W. Broad St. Mailstop: 4100, 1st Floor Columbus, Ohio 43223	$400,000	2015	Yes
Pierpont Refuse Pile	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$500,000	2015	Yes

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Venus (Hamilton) Drainage AML Reclamation Design McDowell County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$200,000	2011	Yes
Drews Creek Highwall AML Reclamation Design Raleigh County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$500,000	2011	Yes
Kingwood Route 7 Highwall AML Reclamation Project Preston County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$350,000	2011	Yes
Robinette Branch Refuse Pile AML Reclamation Design Logan County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$814,000	2011	Yes
Conley Branch AML Reclamation Project	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$500,000	2015	Yes
Harris Branch Refuse Pile Design AML Reclamation Project McDowell County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$150,000	2010	Yes
Shabbyroom Hollow Complex AML Reclamation Project McDowell County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$750,000	2010	Yes

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Gains Highwall AML Reclamation Project Harrison County, WV	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$450,000	2011	Yes
Manila Ridge Extension Engineering Poca, WV	Putnam County Commission 3389 Winfield Road Winfield, WV 25213	$1 Million	2012	Yes
WV Air National Guard Design/Inspection Charleston, WV	WV American Water Shared Services Center P.O. Box 5609 Cherry Hill, New Jersey 08034	$2 Million	2013	Yes
Mallory (Gibson) Portals Design Mallory, WV	WVDEP/AML&R 601 57th Street SE Charleston, WV 25304	$500,000	2013	Yes
Montgomery 6th Ave. Pump Station Montgomery, WV	Sanitary Board Of Montgomery 706 Third Avenue Montgomery, WV 25136	$500,000	2013	No
Ham Sanitary Landfill - Peterstown WV	HAM Sanitary Landfill P.O. Box 576 Peterstown, WV 24963	$1 Million	2013	Yes
Northern Wayne County PSD Force Main Replacement Wayne, WV	Northern Wayne County PSD P.O. Box 775 Lavallette, WV 25535	$325,000	2013	No
Northern Wayne County PSD Metering Wayne, WV	Northern Wayne County PSD P.O. Box 775 Lavallette, WV 25535	$25,000	2011	Yes

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Upper Glade Creek Dam Improvements	Beckley Water Company Po Box 2400 Beckley, WV 25802-2400	$35,000.00	2013	No
Charleston Replacement Housing	Alan Ives Construction	$20 Million	2013	Yes
Lilburn-Pritt Highwalls	WVDEP/AML&R 601 57TH Street SE Charleston WV 25304	$3.5 Million	2015	Yes

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18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK WHICH YOUR FIRM WAS RESPONSIBLE)					
PROJECT NAME, TYPE & LOCATION	NAME & ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
Northern Advanced ATC, Fairmont, WV	WV Higher Education Policy Commission	$15,000,000	2014	Yes	
Summit Bechtel Reserve Boy Scouts of America Glen Jean, WV	Boy Scouts of America **PO Box** 152079, Irving, TX 75015-	$50,000,000	2013	Yes	Trinity Works/Arrow WV, Inc.

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20. The foregoing is a statement of facts Signature: _____ Title: Owner Printed Name: ASHLEY LIOI	Date: 09/14/15

ATTACHMENT C: RELATED PROJECT EXPERIENCE MATRIX

CEOI 0313 DEP1600000006
Ed Gower HW #2 DEP16433

OSR and RELATED PROJECT EXPERIENCE MATRIX

PROJECT Ed Gower HW #2	Exp. Basis C-Corp P-Personal *	Additional info provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS																Primary staff participation/capacity *** M-Management P-Professional				
			Forfeited [illegible]	Forfeited Deep Mine	Portal/shaft [illegible]	Hydrologic/H [illegible]	Remining [illegible]	Mine / refuse fire	Subsidence investigation/	Hazardous waste	Project specifications	Water quality [illegible]	Construction inspection /	Water	Equipment /structure	Stream restoration	Geotechnical/ stability	NPDES/ Stormwater	William Joe Saunders, PE	John James, PE	Bill Gerencir	Dave Brown, PS	Mark Clutter
Mallory Gibson Portals	C/P	Yes	X					X			X				X		X	X	M/ P	M/ P	P	P	P
Grass Run Refuse (Award Winner)	C	No	X	X	X	X	X				X	X		X	X	X	X	X			P	P	P
Drews Creek “A” Highwall	C	No	X		X	X					X						X	X		P	P	P	P
Lower Burning Creek Refuse	C	No		X	X	X	X			X	X				X	X	X	X			P	P	P
Garden Grounds Highwall 1	C	Yes	X	X	X	X					X				X		X	X			P	P	P
Garden Grounds Highwall 2	C	Yes	X	X	X	X					X				X		X	X			P	P	P

Kingwood Rt. 7 Highwall	C	Yes	X	X	X	X					X				X		X	X		P	P	P	P
Shabbyroom Hollow Complex	C	Yes	X	X	X	X					X				X		X	X		P	P	P	P
Robinette Branch Refuse	C	Yes	X	X	X	X					X				X		X	X	P	P	P	P	P
Gains Highwall	C	Yes	X	X	X	X					X				X		X	X		P	P	P	P
Lilbern-Pritt	C	Yes	X			X					X	X					X	X	M/ P	P	P	P	P
Conley Branch	C	Yes	X			X					X	X					X	X	M/ P	P	P	P	P
Pierpont Refuse	C	Yes	X			X					X	X					X	X	M/ P	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.

Attachment "C"

RELEVANT PROJECT EXAMPLES

Conley Branch (Whitt) Landslide

The Conley Branch (Whitt) Landslide project is located in Logan County, West Virginia, near the community of Sarah Ann. This complicated project included nearly 600 linear feet of stream bank restoration, one large draining mine portal with approximately 200 linear feet of associated channel construction, as well as nearly 1700 LF of additional surface water conveyance channel, one cistern for local residential water supply, and two dry mine seals. The complicated portion of the project was the stream bank restoration, and difficulty resulted from the requirement to maintain an existing bench at the top of the stream bank area. The stream bank restoration project was necessary because of an existing steep slope comprised of mine spoil and refuse that was reeling into the creek below. In order to stabilize the mine spoil and refuse, the stream bank had to be lined with large riprap up to 25' in elevation, in conjunction with regrading the steep slope above the riprap up to the bench elevation. The stream bank/slope stabilization portion of the project required in excess of 2500 cubic yards of riprap. All erosion and sediment control structures were removed after construction, once vegetation was reestablished.

Pierpont Refuse Pile

The Pierpont Refuse Pile is located in Wyoming County, West Virginia near the town of Pierpont. This project involved reclaiming an existing steep slope piled high with mine spoil/refuse, which was reeling into the creek below. The project consisted of regrading the steep slope (approximately 1 to 1) to a flatter, more stable slope, and back stacking the old abandoned high wall in the vicinity with the material gathered from regrading the slope. Additionally, there were several wet and dry mine seals in the area that required bat gate mine seals. The draining portals and existing bench drainage were collected into channels that were constructed on the bench, and the channels were designed to flow to an existing drain running down the mountain to the stream below. Because the dry mine seals on the project had the potential to impound water in the future, drains for the dry mine seals were installed, and the drains were designed to run to the bottom of the refuse pile, where an accumulated drainage could run to the creek below without washing over the refuse pile. It was necessary to take the drains to the toe of the slope because the elevation of the mine seals was below that of the channels constructed on the bench in front of the existing high wall. All erosion and sediment control structures were removed after construction, once vegetation was reestablished.

Lilbern Pritt Highwall

The Lilbern Pritt Highwall Project is located in Barbour County, West Virginia near the town of Junior. The site consists of a total of six highwalls, and in the initial design phase, areas of wetlands had to be delineated in order to avoid disturbance of any wetland area. Several wetland areas were defined in the project, and as a result, a significant portion of highwall 1 was left un-reclaimed, along with all of highwall 2, highwall 4, and highwall 5. Additional work included a retaining wall study, along with drainage channel design to carry mine conveyance to eliminate a foundation problem at a nearby residence at highwall 1, and soil cover over mine refuse leading to a large wetland at highwall 5. For the retaining wall design study several alternatives to reclaim a very difficult site immediately behind a residence were investigated. Alternatives included soil nails, rock anchors, wire net draping, reinforced concrete retaining walls, and gabion basket retaining walls. Considerations for the study were cost, constructability, and future maintenance. The preferred alternative to the study was the soil nail/rock anchor wall at highwall 1, because there was no room to regrade and stabilize the soil behind and existing residential structure. Because of the limited space, regrading was not an option, and both cast in place retaining walls and gabion basket retaining walls had both space constraints and maintenance concerns, in addition to drainage concerns that could not be addressed with conventional retaining wall solutions. The soil nail/rock anchor system was designed to stabilized the failing slope while providing minimal disturbance to the structure, while at the same time providing a long term and essentially maintenance free project for the WVDEP, and allowing enough room between the soil nail/rock anchor face the and structure to allow for drainage channels to be constructed. After work was begun in the area of highwall 3, an existing county route was discovered which runs along the bench in front of highwall 3. The county route location was not clearly defined, but according to deeds for the properties adjacent to the county route, the county route served as a property boundary. Reclaiming the refuse and correcting steep slopes on the refuse in the vicinity of the wall was going to require disturbing the county route, and possibly relocation, and as a result the correct location of the county route had to be determined in order to re-establish property lines at the conclusion of the project. All erosion and sediment control structures were removed after construction, once vegetation was reestablished.

RELEVANT PROJECT EXAMPLES

Shabbyroom Hollow Complex

The Shabbyroom Hollow project was an approximately 10 acre complex located along Shabbyroom Branch in McDowell County, West Virginia, near the community of Roderfield. The site consisted of two coal refuse piles and several mine portals in various conditions, including collapsed portals, open portals and draining mine portals. Both refuse piles had areas of steep, unstable and barren slopes and were the primary source of high sediment loads to Shabbyroom Branch. The subsequent sediment deposits in Shabbyroom Branch resulted in a significant reduction of the flow carrying capacity of Shabbyroom Branch, and if the refuse piles collapsed into the adjacent stream, significant flooding would have occurred. The open mine portals were easily accessible and represented a significant life safety hazard from roof falls, potentially deadly gases and other hazards. The draining mine portals were in danger of collapsing and stopping the dewatering of the mine openings, potentially leading to catastrophic blowouts and subsequent downstream flooding. Several residents were also using the draining portals as their primary water source. The purpose of this reclamation project was to regrade the refuse piles to stable slopes, provide proper stabilization with vegetative cover and permanent drainage channel improvements, and safely seal the open and draining mine portals. Generally, refuse piles were regraded to stable slopes and permanent drainage patterns were established. A 60" pipe was necessary to carry the creek at one of the refuse piles in order to regrade the refuse pile in-place, as opposed to hauling material to a waste area off site. Where refuse piles toe into the creek, stream bank protection was provided. All mine portals were closed with an appropriate mine seal. Bat gates were also installed in all of the open mine portals. Underdrains and mine drain systems were installed to alleviate wet areas in several residents' yards. Several cisterns were installed to enable residents to continue to utilize the mine water as their primary source of water where necessary. All disturbed areas were revegetated or otherwise stabilized with structural methods. All erosion and sediment control structures were removed after construction, once vegetation was reestablished.

Gains Highwall

The Gains Highwall project consisted of three sites located in Harrison County, West Virginia, near the city of Clarksburg. The sites occupied approximately 17 acres of conglomerate land area. The purpose of this reclamation project was to regrade the refuse pile, highwall and slip to stable slopes, provide proper stabilization, with vegetative cover and permanent drainage channel improvements and safely seal the open, draining and surcharging mine portals. Generally, the refuse pile and slip were regraded to stable slopes and permanent drainage patterns were established. The highwall was regraded to a stable slope by breaking down the top of the highwall and encapsulating the weathered shale strata to prevent further weathering and collapse of the sandstone strata above.

Permanent drainage patterns were established. The slip area was regraded to stable slopes and permanent drainage patterns were established. The mine portal contributing to the saturation of the slip area was allowed to dewater by installing a horizontal bore. All mine portals were closed with an appropriate mine seal and several horizontal bores were installed to provide permanent and controlled dewatering and permanent drainage patterns were established. Bat gates were also installed in all of the open mine portals. Underdrains, drop inlets and Mine drain systems were installed to alleviate wet areas in several residents' yards. The subsidence area was repaired and a stable drainage channel was provided to alleviate surcharging of the mine workings. Several areas of scattered refuse were soil covered and seeded. All disturbed areas were revegetated or otherwise stabilized with structural methods. All erosion and sediment control structures were removed after construction, once vegetation was reestablished.

RELEVANT PROJECT EXAMPLES

Mallory (Gibson) Portals

The Mallory (Gibson) Portals project was located in Logan County, WV near the community of Mallory. This project consisted of 57 portals that needed to be sealed, two of which were draining and required drainage channel design to carry the mine drainage to a stream below the mine portals. Many of the mine portals appeared to be shallow openings which may have originally been used for house coal, but more than half of the portals were deep. Nearly all the mine portals received mine seals with bat gates, but a few of the very shallow portals received mine seals without bat gates. In addition to the mine seals, two gas lines had to be relocated to allow access to the project site. Below the portals, in the town of Mallory, underdrain was installed to correct wet areas on residences properties. Also in the town of Mallory two major culverts were designed to replace existing pipes that were collapsed or filled with sediment. In order for the culverts to be replaced, existing waterline had to be relocated and guardrail had to be installed on either end of the two major culverts. At the beginning of the design, a drainage study was performed to compare culverts against open channel reconstruction for a portion of the watercourse through the town. In the existing condition, two culverts were used to carry the stream under two roads. Our scope of services included replacing the two pipes, but there was an area between the two pipes that was an open channel. The drainage study compared alternatives and costs for the area between the two culverts. All erosion and sediment control structures were removed after construction, once vegetation was reestablished.

Garden Ground Highwalls – Phase 1 and 2

The Garden Ground Highwalls – Phase 1 and 2 projects were located in Fayette County, West Virginia, near the Community of Glen Jean. The projects contained several sites occupying approximately 433 acres of conglomerate land area consisting of approximately 12 miles of dangerous highwall. The highwalls ranged in height from 20 to 70 feet. The slopes were steep and property owners were concerned about the possibility of falling debris. The sites also consisted of several coal refuse piles and in excess of 100 mine portals in various conditions, including collapsed portals, open portals and draining mine portals. The refuse piles had areas of steep, unstable and barren slopes that were a primary source of high sediment load to the surrounding streams. The open mine portals were easily accessible and represented a significant life safety hazard from roof falls, potentially deadly gases and other hazards. The draining mine portals were in danger of collapsing and stopping the dewatering of the mine openings potentially leading to catastrophic blowouts and subsequent downstream flooding. Dangerous mine structures also existed on several of the sites. Several dangerous impoundments also existed on the sites. These dangerous impoundments could potentially collapse leading to catastrophic downstream flooding.

The purpose of the reclamation project was to regrade the highwalls to a stable slope by using the available mine spoil that existed on the adjacent strip benches or by breaking down the highwall where available mine spoil quantities were insufficient. Very few highwalls had to be broken down as the available mine spoil was of sufficient quantity in most cases. Proper stabilization, with vegetative cover and permanent drainage channel improvements were provided. Generally, the refuse piles were regraded to stable slopes, soil covered and seeded and permanent drainage patterns were established. All of the dangerous impoundments were drained in a controlled manner and the soft bottom material was mucked out and allowed to dry. A rock blanket was then provided in the bottom of the impoundments and the dried material was then utilized in the backfilling of the impoundments and highwalls. All mine portals were closed with an appropriate mine seal. Bat gates were also installed in all of the open mine portals. Underdrains and Mine drain systems were installed to alleviate wet areas, impoundments and further saturation of highwall backfill areas. The dangerous mine structures were removed and disposed of at an approved landfill. Several barren areas of scattered refused were also soil covered and seeded. All of the required erosion and sediment control measures were installed prior to construction. Additional erosion and sediment control measure were installed and maintained during construction. All erosion and sediment control structures were removed after construction, once vegetation was reestablished. All disturbed areas were revegetated or otherwise stabilized with structural methods.

RELEVANT PROJECT EXAMPLES

Sarah Ann (Vance) Drainage
Sarah Ann (Vance) was a project located along Conley Branch near Sarah Ann in Logan County, WV. The site was comprised of open and collapsed draining portals, as well as an area that consisted of a slide. TERRADON provided additional surveying to include the new slide that had developed on the site. The company identified twenty portals: eight that required dry mine seals, along with nine bat gate mine seals, and 3 wet/modified mine seals. Approximately 2000 LF of surface water drainage channel was also installed. The project was completed during the summer of 2011. All erosion and sediment control measures were removed after construction, once vegetation was reestablished.

Roaring Creek #4
The site consisted of surface mine spoil material that was cast to the outslope and not reclaimed to the original contour. Large areas of unvegetated spoil were fund throughout the site. Also, large erosion gullies had developed in several areas, which caused spoil and fines to wash into Roaring Creek. The landowner, Marshall Walls, raised horses and he was very concerned about the highwalls and spoil areas. One horse broke its leg and had to be destroyed. Mr. Walls has two small children ,and he was concerned about their safety on the areas of the farm that was mined. The 63 acre site was graded in the design phase to remove the highwalls and revegetation was included in the design. In addition, all drainage on the site was directed to new channels and conveyed away from the problem areas. Underdrain was also utilized in the design. All erosion and sediment control measures were removed after construction, once vegetation was reestablished.

Morgan Run PA #2
The Morgan Run PA #2 project consisted of 2 sites that are located in Preston County, West Virginia, near the community of Albright. The two sites were separated by Morgan's Run. The project occupied approximately 8 acres of conglomerate land. Two refuse piles had areas of steep, unstable and barren slopes and sediment from the piles was being washed into adjacent road side ditches. The project also has 19 mine portals in various conditions, including collapsed portals, open portals and draining mine portals. The open mine portals were easily accessible and represented a significant life safety hazard from roof falls, potentially deadly gases and other hazards. The draining mine portals were in danger of collapsing and stopping the dewatering of the mine openings potentially leading to catastrophic blowouts and subsequent downstream flooding. Several drainage culverts on the project were severely eroded by the AMD discharging from the draining portals and would need to be replaced. An artesian well, discharging low pH AMD also exists on the project. Several areas of scattered refuse exist on the project. Old abandoned building ruins are present on site and present a hazard to the local population also. Areas of scattered trash and debris exist on the project as well. The purpose of the reclamation project was to regrade the two coal refuse piles to stable slopes, provide proper stabilization with vegetative cover and permanent drainage channel improvements, and safely seal the open and draining mine portals. Generally, the refuse piles were regraded to stable slopes and permanent drainage patterns were established. On site soil borrow areas were utilized to obtain the necessary soil cover material required. Access to the site isolated by Morgan's run was achieved by installation of a temporary stream crossing. The stream crossing was removed after construction activities were completed. All mine portals were closed with an appropriate mine seal and several wet seals were installed to provide permanent and controlled dewatering and permanent drainage patterns were established. Bat gates were also installed in all of the open mine portals. A sloping bat gate was installed in one of the mine portals in a 10 to 15 foot deep depression.

The artesian well was stabilized and the low PH AMD was treated with a limestone blanket surrounding the well. All trash and debris were disposed of at an approved landfill. Several areas of scattered refuse were soil covered and seeded. Abandoned building ruins were demolished and disposed of at an approved landfill. Some of the Stone building material was able to be disposed of on site in a rubble disposal area. All of the required erosion and sediment control measures were installed prior to construction. Additional erosion and sediment control measure were installed and maintained during construction. All disturbed areas were revegetated or otherwise stabilized with structural methods. All erosion and sediment control measures were removed after construction, once vegetation was reestablished.

RELEVANT PROJECT EXAMPLES

Venus (Hamilton) Drainage

In the community of Venus, McDowell County, WV on a steep mountain side, mine drainage was discharging from a collapsed portal. The amount of water flowing from this portal changes from time to time throughout the year. This mine water discharges down the mountain side, on the surface of the ground and also through underground voids, causing damage to the homes and property of the approximate seven homeowners living down slope of this discharge. A wet seal was designed at the open portal and the drainage from this mine was conveyed into a pipe across the gas well road. A grouted riprap drainage channel was designed to carry all flow away from the property owners, down the hillside to a point of discharge near the railroad. All erosion and sediment control measures were removed after construction, once vegetation was reestablished.

Harris Branch

The Harris Branch site was located in McDowell County, West Virginia, near the community of Havaco. The project contained a coal refuse pile and was approximately two acres in size. The refuse pile had areas of steep, unstable and barren slopes that were a source of sediment load to the adjacent Tug Fork River. The main concern of the project was to eliminate the refuse encroachment on the fence and property of an adjacent land owner. Various items of trash and debris existed on the site as well.

The refuse pile was regraded to stable slopes, soil covered and seeded and permanent drainage patterns were established. The refuse pile was removed from the adjacent property owner and the existing collapsed fence was removed and replaced. An off-site soil borrow area was utilized to obtain the necessary soil required for the soil cover and seeding. Riprap bank protection was utilized to prevent future washout and undercutting of the refuse pile as well as further erosion and sedimentation into the Tug Fork River. All trash and debris were disposed of at an approved landfill. All of the required erosion and sediment control measures were installed prior to construction. Additional erosion and sediment control measure were installed and maintained during construction. All disturbed areas were revegetated or otherwise stabilized with structural methods. All erosion and sediment control measures were removed after construction, once vegetation was reestablished.

RELEVANT PROJECT EXAMPLES

The TERRADON team has provided engineering services to government and private industry for nearly 25 years. During this time, the company has implemented policies and standards to provide solid cost control, quality of work and compliance with performance schedules. The firm has a strong track record of meeting WVDOH performance schedules and consistently scoring above average on consultant evaluations.

TERRADON and its staff have many satisfied Government Agency, repeat customers including WVDEP Office of Abandoned Mine Lands and Reclamation, WVDNR Parks & Recreation Section, City of Fairmont, WV, City of Montgomery, WV, Kanawha County Commission, Tennessee Valley Authority, National Oceanic and Atmospheric Administration, Army Corps of Engineers, USGS, US Air Force, FEMA, & US Marine Corps.

The following project descriptions provide an overview of several successful projects TERRADON has completed that are similar in size and scope to the projects that will be part of this contract.

The Summit Bechtel Reserve

Working in tandem with geotechnical and environmental teams, in-house survey experts performed GPS static networking for Aerial Imagery, topographic mapping and project survey control. TERRADON's scope of survey services included providing permanent control monumentation, boundary surveys and construction stakeout for: roads, utilities, bridges, buildings, dams, trails and AML reclamation. During the course of the project, as-built surveys of roads, utilities, bridges, buildings, dams, trails and AML reclamation for GIS databases were provided.

State-of-the-art equipment was used to provide survey and mapping services on the project. Surveys were completed utilizing high accuracy GPS, utilizing VRS networks, robotic total stations and digital levels. The survey work performed by TERRADON on the project provided generations of custom basemaps for use in handheld GPS units. TERRADON performed as-built surveys for all underground utilities on site and field surveyed the lines prior to backfill. Additionally TERRADON is developing as-built plans off the survey information to eventually be turned over to the Summit.

Sleeth's Run Bridge

TERRADON provided design for the replacement of an existing truss bridge in Lewis County, WV. The project included the design of a new 200' structure and approaches. The project included roadway design, drainage, maintenance of traffic and right-of-way plans, and a topographic design study.

Sedalia Arch Bridge

TERRADON provided engineering services on the replacement of an existing single span concrete arch bridge with a 72' single span bridge. The bridge consisted of adjacent concrete prestressed box beams with a cast-in-place concrete deck. Roadway design consisted of new bridge approaches and a designed detour. Drainage, Maintenance of Traffic, Right of Way Plans and a Topographic Design Study with existing utilities were all part of the project.

RELEVANT PROJECT EXAMPLES

Flowing Springs Road

TERRADON Corporation provided services on the Flowing Springs Road project in Jefferson County, WV. The project involved the design and preparation of construction contract plans and related documents for a segment of Jefferson County Route 17 (Flowing Springs Road). The project consisted of re-alignment and re-construction of the existing two-lane roadway. TERRADON provided field surveys, Right-of-Way Plans, Legal Descriptions and Questionnaires for take parcels, PDE & TCE, Aerial Photography, Panel Layout and Control Survey, and Digital Contour Mapping.

Grade Road

TERRADON provided services to study, design and prepare construction contract plans for Grade Road. The project consisted of the new construction of two lanes adjacent to an existing two-lane roadway in order to provide a four-lane facility. TERRADON provided Contour Mapping, field surveys, Right-of-Way Plans, Legal Descriptions and Questionnaires for take parcels, PDE & TCE.

Corridor L

TERRADON performed a GPS static network and placed aerial mapping target control for aerial mapping for the project in Nicholas County, WV. Additionally, TERRADON performed boundary ties, hydraulic cross sections, mapped existing underground and above ground utilities, and established reference points for the project.

Martinsburg Drainage Study

TERRADON was contracted to perform a drainage study for the City of Martinsburg, WV. The project involved the development of a comprehensive drainage study comparing pre and post development conditions. TERRADON performed aerial photography, mapping, right-of-way and survey services as part of this contract.

Pine Creek/OMAR LCAP

TERRADON performed a GPS static network and placed aerial mapping target control for aerial mapping for the project in Logan County, WV. Additionally, TERRADON mapped utilities for the design of the closing of an approximate 12 acre abandoned Municipal Solid Waste Landfill. TERRADON also put together the design for the closure of this landfill's leachate collection tank. The design included grading, drainage, earthwork balance, leachate collection and detection systems.

Black Diamond Ranch

TERRADON performed a GPS static network and placed aerial mapping target control for aerial mapping for the 1700 acre residential subdivision project in Craig County, VA, which included roadway and utility design and construction layout.

Stone Mountain

TERRADON performed a GPS static network and placed aerial mapping target control for aerial mapping for the 6,250 acre residential development project in Stone Mountain, TN.

KEY PERSONNEL RESUMES

Joe Saunders, PE
Vice President: AML/ Transportation
Project Manager,
Primary Point of Contact

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

Work Experience
TERRADON Corporation
2012-Present

ms consultants
2003-2012

Buchart Horn
1998-2003

Laborers Union
1990-1998

Registration
Professional Engineer,
West Virginia, Ohio
North Carolina

Joe Saunders is a Professional Engineer, licensed in West Virginia, Ohio, Virginia and North Carolina. He is located in TERRADON's headquarters office in Nitro, WV where work for this project will be performed. Saunders offers a wealth of experience performed for the State of West Virginia, Department of Transportation, and Department of Environmental Protection related to engineering design and plan development for AML projects, structures and roadways. Saunders will be the Project Manager, responsible Engineer, and primary point of contact for the project. Working from the Nitro office, Saunders will be readily accessible to DEP.

As lead designer for TERRADON Corporation, Mr. Saunders is responsible for design engineering for AML and Highways projects. Responsibilities include preliminary design and reports, construction plans and specifications, construction estimates, contracts and bidding review, and construction engineering.

Mr. Saunders directs the in house AML and Highways design teams by QA/QC checking and reviewing, and hydrology and hydraulic calculations. Mr. Saunders also works with the design team to schedule manpower. With 15 years of experience as a designer and almost a decade of additional experience in highway and bridge construction, Saunders is experienced with all critical elements required of this contract.

Recent AML Project Experience Highlights:

- Conley Branch (Whitt) Landslide (WVDEP) Served as Project Manager and Lead Design Engineer for this WVDEP-AML project located in Logan County, WV. Responsible for all project tasks and coordination with the client.
- Pierpont Refuse Pile (WVDEP) Served as Project Manager and Lead Design Engineer for this WVDEP-AML project. Responsible for all project tasks and coordination with the client.
- Mallory (Gibson) Portals (WVDEP) Served as Project Manager and Lead Design Engineer for this WVDEP-AML project located in Logan County, WV. Responsible for all project tasks and coordination with the client.
- Lilbern-Pritt Highwall Project (WVDEP) Serves as Project Manager and Lead Design Engineer for this WVDEP-AML project located in Fayette County, WV. Responsible for all project tasks and coordination with the client.
- Shabbyroom Hollow Complex (WVDEP) Serves as Project Manager and Lead Design Engineer for this WVDEP-AML project located in McDowell County, WV. Responsible for all project tasks and coordination with the client.
- Robinette Refuse Pile (WVDEP) Serves as Project Manager for this WVDEP-AML Project. While not initially involved as design engineer, Saunders oversaw any remaining work on the project, including engineering support for the client and contractor, and inspection services.
- U.S. 35 Design and Construction Plans, West Virginia Dept. of Transportation, Mason County (WVDOH) Structural Engineer: Overall QA/QC. Involved in checking and reviewing roadway geometry, drainage and quantities. Responsible for the design of box culverts.
- U.S. Route 35, Review of Shop Drawings, West Virginia Dept. of Transportations, WV (WVDOH) Tech Resp Staff reviewed and approved shop drawings for two-span, curved bridge crossing WV County Route 38 and Lower Ninemile Creek.
- Duhring Bridge Study, Design and Preparation of Replacement Plans, WV (WVDOH) Senior Structural Engineer and Technical Manager. Detailed the study of several alternates for a replacement bridge for a structure constructed in the 1930s.

KEY PERSONNEL RESUMES

Robert Thaw, PS

Survey Project Director

With more than 22 years of experience in a wide range of surveying projects, 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 (ROW) 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.

Thaw has been directly responsible for survey and mapping services on a number of notable transportation projects including:

- Conley Branch (Whitt) Landslide (WVDEP) Served as Lead Surveyor for this WVDEP-AML project located in Logan County, WV. Responsible for all project tasks and coordination with the client.
- Pierpont Refuse Pile (WVDEP) Served as Lead Surveyor for this WVDEP-AML project. Responsible for all project tasks and coordination with the client.
- Mallory (Gibson) Portals (WVDEP) Served as Lead Surveyor for this WVDEP-AML project located in Logan County, WV. Responsible for all project tasks and coordination with the client.
- Lilbern-Pritt Highwall Project (WVDEP) Serves as Lead Surveyor for this WVDEP-AML project located in Fayette County, WV. Responsible for all project tasks and coordination with the client.
- Robinette Refuse Pile (WVDEP) Serves as Lead Surveyor for this WVDEP-AML Project.
- Laurel Fork Campground Bridge
  TERRADON provided surveying and design engineering on a USDA Forest Service project in Randolph County, West Virginia. Surveyors led by Thaw provided topographic mapping, project control for construction, hydraulic cross sections and stream profiles. Engineers prepared and submitted initial review design phase documents that consisted of design criteria, highway title sheet, plan, profile typical sections and cross sections and roadway plans sheets.
- Hillsville Bypass
  The Hillsville Bypass project consisted of the excavation of four million yards of material over the duration of 1.5 years. Mr. Thaw coordinated office and field survey crews and reviewed the data for cross sections, grade stakes and quantities. Both conventional and GPS equipment were utilized for layout. Trimble 5800 base receivers and repeaters transmitted corrections to two rover units.
- Sleeth's Run Bridge
  Thaw provided survey services during the design for the replacement of an existing truss bridge in Lewis County, WV. The project included the design of a new 200' structure and approaches. Survey services consisted of a topographic survey, ROW plans, construction control and legal description creation. Roadway design consisted of new bridge approaches and a designed detour.

TERRADON VP - Survey and Mapping

Education
A.S., Survey Technology, West Virginia University Institute of Technology
B.S., Surveying, West Virginia University Institute of Technology

Work Experience
TERRADON Corporation
1994-Present

Bowman Land Surveying
1992-1994

Dunn Engineers
1990-1992

Kelley Gidley Blair and Wolf
1988-1990

Pierson & Whitman Architects and Engineers
1984-1986

Registration
Professional Surveyor, West Virginia

KEY PERSONNEL RESUMES

David Brown, PS

Project Manager Surveying/Right of Way

Since joining TERRADON in 1999, Dave Brown has been involved in many surveying projects in West Virginia and surrounding states. Mr. Brown is responsible for conducting and or supervising ALTA/ACSM surveys, boundary surveys, gps surveys, control surveys, topographical surveys, highway right of way projects, and detailed site/utility surveys, for various geotechnical, environmental and civil projects. He is a licensed Professional Surveyor in West Virginia and Tennessee.

Mr. Brown has more than 14 years of survey experience. Mr. Brown recently oversaw the completion of survey and mapping work for The Summit Bechtel Scouting Reserve in Fayette County, WV. Brown was heavily involved in TERRADON's contract to provide survey and mapping for nearly 11,000 acres which is home of the Boy Scouts of America's National Jamboree.

Relevant Project Experience

Mr. Brown's responsibilities include survey project management, GPS networks, control surveys, development of highway right of way plans, boundary solutions, reports, courthouse research, drafting, construction staking, survey data reduction, and preparation of surveying cost estimates and proposals.

- Conley Branch (Whitt) Landslide (WVDEP) - Surveyor for this WVDEP-AML project located in Logan County, WV.
- Pierpont Refuse Pile (WVDEP) - Surveyor for this WVDEP-AML project.
- Mallory (Gibson) Portals (WVDEP) - Surveyor for this WVDEP-AML project located in Logan County, WV. Responsible for all project tasks and coordination with the client.
- Lilbern-Pritt Highwall Project (WVDEP) - Surveyor for this WVDEP-AML project located in Fayette County, WV.
- Robinette Refuse Pile (WVDEP) - Surveyor for this WVDEP-AML Project.
- The Summit Bechtel Reserve- Glen Jean, WV
- Black Diamond Subdivision(1656 Acres)-Craig County, VA
- John Amos Plant Industrial Landfill Bill's Creek, Putnam County, WV
- Beech Ridge Wind Tower Project-Greenbrier County, WV
- WVDOH Corridor L Right of Way Project-Summersville, WV
- Allegheny Energy Pleasants County Power Station ALTA Survey, St. Mary's , WV
- The Woodlands Subdivision- Summersville, WV
- Liberty Square Boundary/Topographic
- Utility Survey- Winfield, WV

Education

B. S Engineering Technology/Surveying
West Virginia Institute of Technology

Work Experience

1999 to Present
TERRADON Corporation
(Professional Surveyor)
1997 - 1999
Trans-Ash
(Project Engineer)
1997 - 1997
Summit Engineering
(Draftsman/Design)
1996 – 1997
USGS
(Hydrologic Technician)

Registration

Professional Surveyor in West Virginia, Tennessee

KEY PERSONNEL RESUMES

Brian Bakanas, PS

Survey Crew Manager

Bakanas is a land surveying party chief responsible for electronic data collection in the field and subsequently analyzing and plotting the field data in the office. He has more than fifteen years experience, including right of way (highway and utilities), boundary surveys, construction stakeouts (highway, building, sewer lines, etc.), topographical surveys, utility location, well locations and pay quantities. Bakanas' responsibilities include survey crew manager, boundary solution, courthouse research, survey data reduction, and construction stakeout data preparation.

Relevant Project Experience

- Conley Branch (Whitt) Landslide (WVDEP) - Surveyor for this WVDEP-AML project located in Logan County, WV.
- Pierpont Refuse Pile (WVDEP) -Surveyor for this WVDEP-AML project.
- Mallory (Gibson) Portals (WVDEP) - Surveyor for this WVDEP-AML project located in Logan County, WV.
- Lilbern-Pritt Highwall Project (WVDEP) - Surveyor for this WVDEP-AML project located in Fayette County, WV.
- Robinette Refuse Pile (WVDEP) - Surveyor for this WVDEP-AML Project.
- **Hansford AML Reclamation**
- Surface Mines - West Virginia. Electronic data collection of sections on slide and reclamation of slide.

Education
A.S. Land Surveying
Glenville State College

Work Experience
1995 – Present
TERRADON Corporation
1991-1994
Dunn Engineers, Inc.
1988-1991
Czop/Spector, Inc
1986-1988
V & I Associates

Registration
Professional Surveyor
West Virginia,
Pennsylvania

Randy Melton, PS

TERRADON Survey Project Manager

Randy Melton is a Senior Survey Specialist at TERRADON. With 34 years of experience, Melton offers a wealth of industry expertise in progressive survey technologies. Melton routinely provides survey project management on large scale construction activities, design surveys, and oversees TERRADON survey crews.

Relevant Project Experience

- Summit Bechtel Scouting Reserve, Glean Jean, WV, Geodetic Surveyor: Responsible for GPS network analysis and RTK site calibration on a nearly 11,000-acre site for the Boy Scouts of America. The site will be home to the National Boy Scout Jamboree and host the World Scout Jamboree in 2013. Provides support for construction survey including 3D machine control data preparation.
- A $121 million contract, Pck. DEF and V Highway Interchange, Harbert/Westbrook, Ft. Lauderdale, FL. Managed survey department responsible for stakeout of 22 bridges under simultaneous construction.
- A $22 million bridge contract, Glade Creek Bridge, Westbrook Construction, Beckley, WV. Responsible for all survey layout computations, concrete quality control testing, quantity reports, and safety. Melton also oversaw quality

Education
A.S. Land Surveying
Glenville State College

Registration
Professional Surveyor
West Virginia

KEY PERSONNEL RESUMES

William Gerencir

Auto CAD Designer/Technician

Gerencir has 25 years of experiences in the engineering related fields including more than 22 years CAD design expertise for a broad scope of projects. He has been with TERRADON for most of those years where he is responsible for design, drafting, quantity estimates, site design and is also capable of managing a project and corresponding CAD files properly.

Recent Mining Reclamation Project Experience Highlights

- **Conley Branch (Whitt) Landslide -** CAD Designer/Technician for this WVDEP-AML project located in Logan County, WV. Served as lead CAD Designer on this project responsible for site layout, grading, balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Coordinated CAD work and other design tasks with other CAD Designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the Engineers cost estimate. Prepared the calculation brief on the project as well as performed quality control checks on the construction plan sheets. Produced the final deliverable including plans, contractors bid form, engineers cost estimate, and calculation brief. Ran conceptual design meeting with WVDEP. Participated in field reconnaissance and field investigation necessary for the completion of the project. Completed NPDES and WVDOH permit application and preparation.
- **Pierpont Refuse Pile -** CAD Designer/Technician for this WVDEP-AML project. Served as lead CAD Designer on this project responsible for site layout, grading, balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Coordinate CAD work and other design tasks with other CAD Designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the Engineers cost estimate. Prepared the calculation brief on the project as well as performed quality control checks on the construction plan sheets. Produced the final deliverable including plans, contractors bid form, engineers cost estimate, and calculation brief. Ran conceptual design meeting with WVDEP. Participated in field reconnaissance and field investigation necessary for the completion of the project. Completed NPDES and WVDOH permit application and preparation.
- **Mallory (Gibson) Portals -** CAD Designer/Technician for this WVDEP-AML project located in Logan County, WV. Served as lead CAD Designer on this project responsible for site layout, grading, balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Coordinate CAD work and other design tasks with other CAD Designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the Engineers cost estimate. Prepared the calculation brief on the project as well as performed quality control checks on the construction plan sheets. Produced the final deliverable including plans, contractors bid form, engineers cost estimate, and calculation brief. Ran conceptual design meeting with WVDEP. Participated in field reconnaissance and field investigation necessary for the completion of the project. Completed NPDES and WVDOH permit application and preparation.
- **Lilbern-Pritt Highwall Project -** CAD Designer/Technician for this WVDEP-AML project located in Fayette County, WV. Served as lead CAD Designer on this project responsible for site layout, grading, balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Coordinate CAD work and other design tasks with other CAD Designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the Engineers cost estimate. Prepared the calculation brief on the project as well as performed quality control checks on the construction plan sheets. Produced the final deliverable including plans, contractors bid form, engineers cost estimate, and calculation brief. Ran conceptual design meeting with WVDEP. Participated in field reconnaissance and field investigation necessary for the completion of the project. Completed NPDES and WVDOH permit application and preparation.

Education

A.S. West Virginia University Institute of Technology, Civil/Surveying Engineering Technology

Work Experience

TERRADON Corporation
1993-Present

ERM-Midwest, Inc.
1992-1993

The H.C. Nutting Company
1990-1992

- **Robinette Branch Refuse Pile–** Regraded a 5 acre refuse pile and restored 2,100 LF of stream that was being encroached on by said refuse pile and designed all necessary surface water conveyance channels. Served as lead CAD Designer on project responsible for site layout, grading. Regraded refuse pile in a manner to maintain the current location of an existing stream so as not to add length to the US Army Corps of Engineers permit process as well as avoid disturbing residents property in the area adjacent to the stream. Ensured balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Responsible to coordinate CAD work and other design tasks with other CAD designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the engineers cost estimate. Prepare the calculation brief on the project, perform quality control checks on the construction plan sheets. Produce the final deliverable including plans, contractors bid form, engineers and cost estimate. Administered conceptual design meeting with WVDEP on this project. Participated in field reconnaissance and field investigation necessary for completion of the project. Completed NPDES and WVDOH permit application and preparation.
- **Gains Highwall–** Served as lead CAD Designer on this project responsible for site layout, grading, balancing of earthwork, drainage layout and design. Also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation. Coordinate CAD work and other design tasks with other CAD Designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the Engineers cost estimate. Prepared the calculation brief on the project as well as performed quality control checks on the construction plan sheets. Produced the final deliverable including plans, contractors bid form, engineers cost estimate, and calculation brief. Ran conceptual design meeting with WVDEP. Participated in field reconnaissance and field investigation necessary for the completion of the project. Completed NPDES and WVDOH permit application and preparation.
- **Shabbyroom Hollow Complex –** Served as lead CAD Designer on project responsible for site layout, grading, and balance of earthwork (regraded and balanced both refuse piles 1 and 2 which had very little room, on site as to not require removal of any refuse to another location on site of to an offsite waste area, drainage layout and design. Plan sheet preparation, profiles sheet preparation, cross section sheet preparation, detailed sheet preparation. Also coordinate CAD work and other design tasks with other CAD designers on the project. Generate quantity takeoffs on the project for the contractors bid form and the engineers cost estimate. Completed NPDES and WVDOH permit application and preparation.
- **Harris Branch Refuse Pile -** Served as lead CAD Designer on project responsible or Site layout, Grading and balancing of earthwork, Drainage layout and design also plan sheet preparation, profiles sheet preparation, cross section sheet preparation and detail sheet preparation, also to co-ordinate CAD work and other design tasks with other CAD designers on the project, Generate quantity take-offs on the project for the contractors bid form and the Engineers cost estimate. Also prepare the calculation brief on the project. Performed quality control checks on the construction plan sheets. Produce the final deliverable including plans, contractors bid form, engineers cost estimate and calculation brief. Also run conceptual design meeting with WVDEP on project. Also participated in field reconnaissance and field investigation necessary for completion of the project. Completed NPDES and WVDOH permit application and preparation.

KEY PERSONNEL RESUMES

Mark Clutter

Project Manager

As Project Manager, Clutter prepares construction documents and associated permitting for numerous projects throughout Kentucky, Ohio, and West Virginia to include: erosion and sediment control plans, storm water management, design of impoundment closures, slope stability analysis, field surveying, drawings and specification preparation, design, design drafting, construction inspection, quality control testing, shop drawing review, project management, contract administration, permitting and report preparation.

Recent AML Project Experience Highlights

- **Mullens Portals & Drainage- 2009, Mullens, Wyoming County, WV** Served as Project Manager for AML Project No. DEP14430. Responsibilities included: project management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: construction access, treatment of numerous open and collapsed portals, and treating/conveying storm/mine drainage, in and around the city of Mullens. A majority of the mine drainage flowed through the city storm sewer system and under County Route 54, requiring close coordination with city, state, and federal agencies.
- **Bellington Portals & Drainage– 2009, Belington, Barbour County, WV** Served as Project Manager- responsibilities included: project management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: construction access, treatment of numerous open and collapsed portals, and treating/conveying storm/mine drainage, in and around the city.
- **Rumble Refuse & Portals- 2008, near Rumble, Boone County, WV** Served as Project Manager- responsibilities included: project management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: construction access, stabilizing/regarding of refuse piles, treatment of open and collapsed portals, and treating/conveying storm/mine drainage.
- **Elk Creek Portals- 2007, near Delbarton,** management, design, drawings and specification preparation, contract administration, water sampling, permitting, and report preparation. The project consisted of extensive mine workings requiring: stream and construction access, treatment of numerous open and collapsed portals, and treating/conveying storm/mine drainage.

Education

B.S. Civil Engineering Technology
Fairmont State College

A.A.S. Civil Engineering Technology
Fairmont State College

A.A.S. Drafting/Design Engineering Technology
Fairmont State College

Work Experience

TERRADON Corporation
2010-Present

Triad Engineering, Inc.
2010-2011

WV Army National Guard
1990-2003

Registrations

Certified 40 Hr. HAZWOPER (OSHA 29 CFR 1910.120)

KEY PERSONNEL RESUMES

Samuel P. Wilkes, MS, PWS

Senior Environmental Project Manager

Sam Wilkes is a Senior Environmental Project Manager and Professional Wetland Scientist with more than 18 years of experience. He is located in TERRADON's headquarters office in Poca/Nitro, WV where work for this project will be performed.

Wilkes offers a wealth of AML project experience that has been performed for West Virginia Department of Environmental Protection, United States Forest Service, Bureau of Land Management, and the Environmental Protection Agency. Wilkes provides oversight and management of field teams and contractors collecting environmental media data and general site condition information for site characterization.

As a Senior Environmental Project Manager, Wilkes routinely conducts technical reviews and field implementation of: work plans, sampling analysis plans, health and safety plans, quality assurance project plans, and site characterization investigations. He also provides oversight of field crews conducting scientific data collection, remedial action plans, and site restoration activities.

Relevant Project Experience

- **WVDEP, AML&R Paint Branch Portals Bat Gate Closure WV***
  For the WVDEP/AML&R, oversaw the team that investigated and designed the bat gates for three mine portals along Paint Branch. Subcontracted and oversight of the site survey crew and met with the client to review preliminary designs and steered the client away from typical designs to a more appropriate bat gate for the size and shape of the mine portals. Conducted the onsite prebid meeting for various construction contractors.
- **USFS Abandoned Mine Land Surveys, Gila and Lincoln Nation Forests, NM***
  Wilkes was the field coordination manager and assisted with the inventory of over 700 abandoned mine sites throughout the Gila and Lincoln National Forests in New Mexico. He was responsible for the preliminary review of the AML database, plotting AML sites on topographic maps, and assisting in three months of on-site field verification and inventory. Once site locations were verified, GPS coordinates; photographs, and an AML inventory worksheet (which included information about open adits, shafts, tailings piles, overburden piles, acid mine drainage, subsidence, and any other human or environmental hazards) were completed for each site. The hard copy data was entered into an electronic database and delivered to the US Forest Service for remediation prioritization and management purposes.
- **USFS & BLM Abandoned Mine Land Investigations***
  Wilkes has worked on numerous abandoned mines sites on Bureau of Land Management and Forest Service property in the states of Arizona, California, New Mexico, Nevada, and Utah. Problems such as open adits, shafts and pits; exposed tailings and waste rock piles that typically result in acidic runoff; and acid mine drainage directly from flooded adits or shafts typically exist at abandoned mine sites. Elevated heavy metals concentrations were found in soils, tailings, waste rock and acidic waters draining from these sites. Wilkes is experienced in conducting investigations to determine the levels of contamination in soils, air, surface and ground water in and around abandoned mine sites. He effectively managed and conducted data analyses to determine the contaminants of concern, and concentrations above state and federal standards.
- **USFS Limited Potentially Responsible Party Searches, AZ & NM***
  Wilkes conducted several limited potentially responsible party searches for various mine sites throughout Arizona and New Mexico for the USFS southwest region. Research included specific tasks to obtain as complete a record as practical for site operations,

**Indicates project performed while working for another firm.*

Education
M.S. Environmental Science & Policy, John Hopkins University, 2003

B.S. Earth and Environmental Science, Wilkes University, 1996

Work Experience
TERRADON Corporation
2014 - Present

Tetra Tech, Inc.
2003-2014

McCormick Taylor & Associates
2001-2003

Dynamac Corporation
1997-2001

Wilkes University
1995-1997

Certifications/Training
OSHA 1910.120/1926.65 HAZWOPER

Professional Wetland Scientist by the Society of Wetland Scientist (#1395)

Maryland Biological Stream Survey Sampling Certificate of Training, MDNR

production records and dates, tailings disposal practices, and what type of operations each claim holder or claim leaser conducted at the sites.

- **USFS Removal Preliminary Assessments, AZ & NM***
  Wilkes conducted several removal preliminary assessments for the USFS at various abandoned mine and mill sites throughout Arizona and New Mexico. Many of the mines used cyanide leaching techniques to recover gold and silver along with other metals, such as copper, lead, and zinc as by products. Other hard rock mines investigated produced uranium and mercury ores for milling.
- **USFS, Promontory Butte Mine Site, Payson, AZ***
  Wilkes conducted research for a limited potentially responsible party (PRP) search and a removal preliminary assessment for the Promontory Butte Mine Site near Payson Arizona. The goals of the investigation were: (1) to quantify the contamination at the site (in the pit, piles, and other features) resulting from the mining activities; (2) evaluate the potential for offsite impacts to human health and the environment; and, (3) collect information necessary to make generalized initial conclusions regarding site reclamation options.
- **BLM, Iron Mountain Superfund Site, Redding CA***
  Wilkes has worked on the Iron Mountain Superfund Mine Site in Redding California with Paul Adamus, Ph.D. conducting vegetation surveys in the riparian areas of stream corridors. The purpose of this project was to determine and document the impacts of acid mine drainage to streams in the project area compared to unaffected background streams. Responsibilities included collecting data of riparian area plants according to the California Native Plant Society protocols. Identification of plants to the genus and species level was accomplished by using the Jepson Manual and other resources. Assisted in avian species and salamander surveys within the project area. Assisted in general habitat surveys at each sample location to compare avian habitat between sample sites. In addition, Wilkes conducted Phase I and Phase II Environmental Site Assessments for 13 parcels surrounding the mine site that were to be transferred to BLM as part of the settlement.
- **USEPA, Richardson Flat Superfund Site; Park City, Utah***
  Project manager and senior environmental scientist providing technical guidance and coordination for multiple federal (EPA, BLM, F&WS) and state agencies for three legacy mining Superfund Operational Units. Maintains technical continuity while interacting with multiple federal agencies, which results in consensus and forward momentum in reaching project goals. Responsibilities include management and allocation of a cumulative budget in excess of $2M. Main technical reviewer under contract to EPA in reviewing and providing comments on other consultants Field Sampling Plans, Quality Assurance Project Plans, Site Characterization Reports, RI/FS reports, natural resources damage assessments, and human health and ecological risk assessments within the 15 mile tailings impacted stream corridor of Silver Creek.
- **UTDEQ Utah Voluntary Cleanup Program Support***
  Work collaboratively with UTDEQ Voluntary Clean-up Program staff and EPA to ensure consistency between legacy mining Superfund and VCP sites around Park City Utah. Provide recommendations on other consultants Field Sampling Plans, Quality Assurance Project Plans, Site Characterization Reports, and Remedial Action Plans. Provide concurrence on remediation activities and final close out reports. Technical oversight consists of reviewing sampling data, removal alternatives to reduce the metals loading to Silver Creek, siting of a waste repository site for tailings during the removal activities, and remediation alternatives that reduce the metals loading to Silver Creek.

**Indicates project performed while working for another firm.*

TERRADON CORPORATION

PURCHASING AFFIDAVIT

RFQ No. DEP17263

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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

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

DEFINITIONS:

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

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

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

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: TERRADON Corporation

Authorized Signature: Thomas G Kotteridge Date: 09/13/15

State of West Virginia

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 13 day of September, 2015.

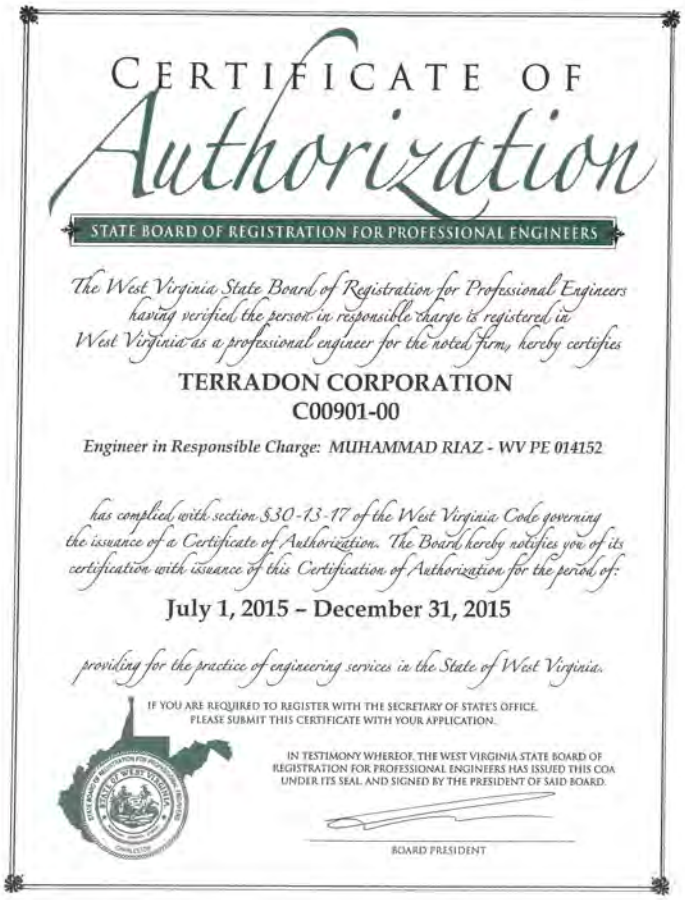
My Commission expires August 13, 2019.

AFFIX SEAL HERE

NOTARY PUBLIC Brenda Parsons

NOTARY PUBLIC OFFICIAL SEAL
BRENDA PARSONS
STATE OF WEST VIRGINIA
My Commission Expires
August 13, 2019
343 Meadow Dream Lane
Nitro, WV 25143

CERTIFICATIONS



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: MUHAMMAD RIAZ - WV PE 014152

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:

July 1, 2015 – December 31, 2015

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

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

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

BOARD PRESIDENT

WEST VIRGINIA
BOARD OF PROFESSIONAL SURVEYORS

Certificate of Authorization

2015

ISSUED TO:

TERRADON CORPORATION
Nitro, West Virginia

CERTIFICATE OF AUTHORIZATION No. 15-5430

This certificate is issued by the West Virginia Board of Professional Surveyors in accordance with *West Virginia 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, 2015 through December 31, 2015

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

In witness whereof I have put my hand, this 3rd day of December, 2014

ROY E. SHREWSBURY, II, Chairman
MARK H. HORNISH
R. MICHAEL SHEPP
ANTHONY J. SPARACINO
NELSON B. DOUGLASS, Secretary

TERRADON CORPORATION is a certified Women's Business Enterprise as defined by the Women's Business Enterprise National Council. TERRADON is controlled by Virginia King, who provides more than 32 years of administrative experience to the company.

WBENC Women's Business Enterprise National Council

National Women's Business Enterprise Certification

Terradon Corporation

The Women's Business Enterprise National Council (WBENC), founded in 1997, is the nation's leading advocate of women-owned businesses as suppliers to America's corporations. It also is the largest third-party certifier of businesses owned and operated by women in the United States. WBENC works to foster diversity in the world of commerce with programs and policies designed to expand opportunities and eliminate barriers in the marketplace for women business owners. WBENC works with representatives of corporations to encourage the utilization and expansion of supplier/vendor diversity programs.

RCSE14165
Certificate Number

July 14, 2016
Expiration Date

NWBOC
National Women Business Owners Corporation

Certifies that:

Terradon Corporation

has successfully met the requirements of the NWBOC National Certification Program for certification as a woman-owned and woman-controlled business.