



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

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

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**BID INFORMATION**

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

**VENDOR**

Vendor Name, Address and Telephone Number:

RECEIVED  
 2019 NOV 26 AM 10:02  
 WV PURCHASING  
 DIVISION

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham  
 (304) 558-2157  
 brittany.e.ingraham@wv.gov

Signature X

FEIN # 55-063-1834

DATE 11/25/19

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

STATE OF WEST VIRGINIA  
Purchasing Division

# PURCHASING AFFIDAVIT

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

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

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

**DEFINITIONS:**

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

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

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

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

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: CTL Engineering, Inc.

Authorized Signature: \_\_\_\_\_ Date: 11-25-2019

State of West Virginia

County of Monongalia, to-wit:

Taken, subscribed, and sworn to before me this 25 day of November, 2019.

My Commission expires August 3, 2023.

AFFIX SEAL HERE



OFFICIAL SEAL  
NOTARY PUBLIC  
STATE OF WEST VIRGINIA  
Tricia Trevillian Miner  
CTL Engineering of WV, Inc.  
1091 Chaplin Road  
Morgantown, WV 26501  
My Commission Expires Aug. 3, 2023

NOTARY PUBLIC

Tricia Trevillian Miner

Purchasing Affidavit (Revised 01/19/2018)

west virginia



REQUEST FOR QUALIFICATIONS  
Engineering Services  
Camden (Wilson) Landslide – EPAM19051  
CEOI 0310 DEP2000000002

November 26, 2019



# **EXPRESSION OF INTEREST**

## **Engineering Services**

### **Wilson Landslide Refuse**

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# **SECTION 1 INTRODUCTION**



November 26, 2019

**West Virginia Department of Environmental Protection**  
Office of Abandoned Mine Lands & Reclamation  
601 57th Street SE  
Charleston, WV 25304

**Re: CEOI 0313 DEP2000000002**  
**Expression of Interest**  
**Design Engineering Services Proposal**  
**Camden (Williams) Landslide**

Brittany E. Ingraham;

CTL Engineering, Inc. is very pleased to present this Letter of Interest to provide design engineering and related services for the West Virginia Abandoned Mine Lands and Reclamation Program. With over 80 years in the business, we feel our firm can provide the professionals and facilities the State of West Virginia is looking for.

CTL has evolved into a recognized leader in the Abandoned Mine Lands Engineering Design and Investigation field. We offer the services necessary to provide a non-subcontract, quality product to support your program. Our capabilities include laboratory facilities, drilling rigs, surveying systems, design equipment, and a qualified staff. We have 12 Professional Engineers, five of which are registered in West Virginia and have direct AML Design Experience. Our in-house disciplines of professionals include: Civil & Mining Engineers, CAD Designers, Surveyors, Geologists, Hydrologists and Biologists. We are experienced in completing more than 50 projects annually that require aerial mapping, support surveying with GPS, and final contouring for design.

Our in-house ability reaches beyond simply being an AML design firm. We also have extensive contract administration and management experience with the procedures of the state of West Virginia. Our invoicing procedures and accounting software has been accepted, used, and audited by various state agencies.

CTL's primary staff has over 125 years of experience with mine reclamation engineering on both a national and international level. Our qualifications and facilities are unsurpassed when it comes to Abandoned Mine Reclamation Design. With an office Morgantown, we can effectively respond to any AML Design tasks throughout West Virginia. In addition, we have a dedicated design team available to complete AML design projects. Our corporation and individual staff members have extensive experience relative to reclamation design, highwall elimination, abandoned portal seals and drainage control structures. The Camden Landslide Project is similar in scope to more than 35 AML design projects we have successfully completed. Attached to this proposal are numerous examples of similar projects successfully designed and completed.

CTL has annually completed numerous landslide projects in several different states, for both private and public entities. CTL has several geotechnical engineers with experience regarding landslide stabilization and repair.

We sincerely appreciate the opportunity to submit this proposal to you for consideration. Should you have any questions or need additional information, please contact our office.

Respectfully submitted,  
**CTL Engineering of West Virginia, Inc.**

Joseph Stanley  
Business Development Manager



**Executive Summary**

**LEGAL NAME OF PROPOSER:**  
CTL ENGINEERING, INC.

**OFFICE RESPONSIBLE FOR WORK:**  
1091 CHAPLIN ROAD  
MORGANTOWN, WV 26501

**TELEPHONE NUMBER:**  
PH: 304.292.113

**TYPE OF ENTITY:**  
Corporation

**DUE DATE OF SUBMITTAL:**  
November 26, 2019

**PROJECT MANAGER:**  
Timothy Darrah  
[tdarrah@ctleng.com](mailto:tdarrah@ctleng.com)

**CLIENT RELATIONS:**  
Joseph Stanley  
[jstanley@ctleng.com](mailto:jstanley@ctleng.com)

**CTL WAS BUILT ON THREE  
FOUNDATIONAL PILLARS:**

**COMMUNICATION**

**TEAMWORK**

**LEADERSHIP IN  
TECHNOLOGY**

[www.ctleng.com](http://www.ctleng.com)

**COMPETENCE TO PERFORM THE REQUIRED SERVICE.** *CTL's goal is to show that our work is transparent and lean. We treat every project, every dollar as if it were our own because we are not a service but a business partner. Our mantra is "It is our project also".*

CTL is a multidisciplinary Consulting Firm that provides **Municipal Engineering, Civil Site Design, Surveying, Construction Inspection, Materials Testing and Geotechnical services** for private development and local agencies and municipalities. Our highly qualified Team is capable of providing all the services outlined in this Request; We have a wide range of experience that can be called upon as seen fit by the City in order to deliver all projects assigned to our Team on time, within budget, and as per contract documents and specifications. Our Team possesses the depth of resources, staff and knowledge to insure quick and efficient furnishing of qualified personnel as dictated by the City's needs.

**ABILITY TO PERFORM EXPEDITIOUSLY.** Seamless collaboration with the Project Managers/Engineers in all Divisions is essential for project success. We understand the role and responsibilities of the project engineer, inspector and technician and will become a true extension of the City's staff. We practice partnering on all projects by engaging and communicating with all members of the project team and all stakeholders involved with the project. Our Team possesses the depth of resources, staff and knowledge to insure quick and efficient furnishing of qualified personnel as dictated by the City's needs.

**LOCAL WORKFORCE.** 100% of the Team's key personnel are located in the Morgantown office with several employees from Marion County. CTL also has several AML projects in close proximity of the project.

**CLOSING.** We hope this submittal gives an indication of our qualifications, experience, and abilities. You are invited to visit our office and laboratory facilities at your convenience or we are willing to meet with members of the project team so that we can further demonstrate the quality of our operation.



## **SECTION 2 PROJECT APPROACH**





## ***Project Management Plan***

Our approach to the **Camden (Wilson) Landslide Project** will be similar to other CTL AML projects. The Project Management Plan we have developed for these sites are as follows:

The project manager will be solely responsible for expedient and accurate completion of each phase of the individual projects performed under this contract. He will review the project sites and discuss the specific scope of work for the project with the project representative from the WVDEP. A cost proposal will be prepared, in accordance with contract unit rates, based upon an estimate of manpower, equipment, and laboratory needs.

CTL will then mobilize a fully equipped survey crew to set survey control and map the project sites. Permanent control monuments will be established to ensure that the construction contractor can tie into the necessary baselines. The project manager will supervise the surveying tasks and provide budgetary control for this portion of the work.

A geotechnical investigation may be performed to delineate the thickness of mine refuse to determine and design the optimum stable grading plan. This investigation shall be performed with a focus on safety to insure the safety of the local inhabitants and dwellings as well as the safety of the drilling and geotechnical personnel.

Should field conditions dictate that additional work or a major modification is required, the project manager will contact the WVDEP representative immediately to confirm the changed conditions.

Following completion of the surveying, field investigation and any material sampling, the analytical design work will begin. The Project Manager and Engineer will review the project data, evaluate the feasible alternatives and prepare a preliminary set of construction documents. The documents will include at a minimum:

1. A site map indicating existing conditions;
2. A tax map overlay with the parcels identified that may be impacted by the proposed design;
3. Proposed site plans for the repair and stabilization of the landslide, including safely dewatering and excavation of all portals, if needed.
4. Provide Sedimentation and Erosion Control Plan
5. Site Profiles
6. Cross Sections
7. Drainage systems and control structures, with details
8. NPDES Permit
9. MM109 Permit
10. Survey control points
11. Miscellaneous Site details



- CTL will also provide all necessary data for the MM109 and NPDES permit including S&E Control Plans as required for the site construction and if deemed necessary, perform environmental assessments. CTL will make submittals and obtain the NPDES permit.
- In addition to preparation of the above-described drawings, a complete set of specifications will be prepared and outlined to describe in detail the scope and methods of work to be accomplished. An estimate of construction costs and the design calculations will also be submitted to the WVDEP for review and future reference.
- Following the submission of the construction documents, a project design review meeting will be coordinated with the WVDEP, CTL, and appropriate individuals to review the proposed plans.
- Recommendations for plan revisions will be discussed and implemented, as necessary, into the final design documents. Upon completion, all final documents, drawings, plans and specifications will be forwarded to the WVDEP for bidding purposes.
- At the request of the WVDEP, CTL will provide construction observation personnel.

Our Project Manager and/or Engineer will coordinate the pre-bid and pre-construction conferences with the WVDEP to address any questions and supply the necessary survey control data. Periodic inspections may be conducted by our Project Manager, as deemed necessary by the WVDEP, to address specific problems that arise during construction. A report will be prepared by CTL following each of these meetings detailing the findings, conclusions, recommendations, and responses to pertinent questions.



## ***Project Scope*** **Camden (Williams) Landslide Refuse**

### Project Scope of Work:

- Upgrade access as required.
- Stabilize landslide.
- Geotechnical analysis.
- Clear and grub affected areas.
- Regrade as necessary.
- Install drainage channels, underdrains, and/or other controls to safely convey water off-site
- Condition and revegetate all disturbed areas
- Obtain require permits as determined at the Pre-Design meeting.



## ***Project Goals***

### **Camden (Wilson) Landslide Refuse**

#### **Project and Goals:**

- 2.1 Develop construction plans and technical specifications to stabilize the landslide at the abandoned mine land project area known as Camden (Wilson) Landslide.
- 2.2 Design plans and develop specifications to control any associated water with the site.
- 2.3 Design plans and develop specification for limits of disturbance, storm water control and erosion and sediment prevention. All disturbed areas are to be regraded and revegetated.
- 2.4 Design plans and develop specifications for all conditions encountered on project site.

#### **CTL's abilities to complete the project scope and goals:**

Tim Darrah will be the project manager for CTL. All communication through the owner for the duration of the project will be through Mr. Darrah. Mr. Darrah has the authority to engage any of CTL's staff or services for the completion of the project.

CTL has referenced several projects in (section 5) that were completed on time and on budget. CTL uses the following project Management outline. CTL has accounting software that can provide work in progress reports weekly.

#### **Plan Schedule management**

- **Define Scope**
- **Sequence scope tasks**
- **Estimate Resources and cost**
- **Estimate Durations and cost to complete tasks**
- **Develop Schedule**
- **Control Schedule**

CTL provides services to several projects throughout the year that are constructed timely and efficient.

#### **Construction Management Plan**

- **Project Organization**
- **Project Planning**
- **Project Monitoring**
- **Project Control**

CTL completes several projects a year that involve: civil site design, stormwater and drainage control, construction administration, construction inspection and testing, geotechnical engineering, surveying and environmental engineering.



## **SECTION 3 CORPORATE HISTORY AND QUALIFICATIONS**



**Description of the Firm**

**CTL Engineering, Inc.** is a full service **consulting engineering, testing and inspection company** with a significant amount of experience in the construction industry. We have over 250 employees including Registered Professional Engineers, Geologists, Metallurgists, Chemists, and a variety of Certified Engineering Technicians. CTL Engineering is qualified to provide services in the following disciplines: Civil and Municipal Engineering, Surveying, Observation and Testing of Construction Materials and Processes, Geotechnical Engineering, Environmental Services, Mechanical and Metallurgical Analysis, Non-Destructive Evaluations, Chemical Analysis, Roofing Design and Inspection, Building Envelope Evaluation, Pavement Design, Structural Steel and Product Testing.



CTL Engineering was established in 1927 and has maintained a presence within the State of West Virginia for over 30 years and throughout the State of Ohio for over 90 years. We have one of the most diverse firms in the region, a complete construction materials laboratory, a diversified local staff, and experience with large-scale local projects.

**CTL Engineering operates under the guidance of our Quality System Manual, which addresses all requirements of ASTM E 329 "Standard Practice for Use in Evaluation of Testing and Inspection Agencies as Used in Construction," and AASHTO R18 "Establishing and Implementing a Quality System for Construction Materials Testing Laboratories."**

CTL Engineering is regularly inspected by agencies such as the State Transportation Departments, the Cement and Concrete Reference Laboratory (CCRL) and the U.S. Army Corps of Engineers. Also, the National Institute of Science and Technology (NIST) and AASHTO accredit us in testing of concrete, soils, aggregates and asphalt.

- *CTL is regularly retained to provide services for private and public entities, (WVDEP, Army Corp of Engineers, West Virginia University, West Virginia University Hospitals, Mon Health Systems, City of Morgantown, MUB and other Municipalities*
- *CTL personnel are fully trained and equipped to perform the required task throughout the project*
- *CTL Engineering emphasizes good communication and interpersonal skills that make our personnel valuable assets*
- *CTL takes pride in completing projects in a cost effective and timely manner*





**CTL Engineering of West Virginia, Inc.** (CTL of WV) is a full service consulting civil engineering, testing, inspection, and analytical services company. CTL Engineering of West Virginia, Inc. was formed in 1981 to service West Virginia, Maryland and Pennsylvania. CTL of WV is part of CTL Engineering, Inc. formerly known as Columbus Testing Laboratory, which was established in Columbus, Ohio in 1927 as an independent engineering testing laboratory serving the local community. During the early years, our expertise focused mainly on soils, foundation engineering, and construction testing and inspection services.

*The Engineering News-Record* ranked CTL Engineering, Inc. among top 500 architectural and engineering firms in the nation. CTL Engineering maintains a staff of over 200 employees, including registered engineers, architects, chemists, environmental scientists, geologists, hydrologists, wetland scientists and technicians.

CTL of WV provides total Civil Site Design for development projects throughout West Virginia. These designs include site layouts, utility design and interconnections, stormwater management design, parking and roadway design, permit preparation and submittal, and interaction with architects, owners and all interested parties to the projects.

CTL of WV provides all necessary surveying services required of projects including boundary and ALTA surveys, topographic surveys, aerial survey control, GPS surveys, and site construction surveys to assure proper construction and compliance with specifications of the project.

CTL of WV has become an industry leader in geotechnical design and investigations. In the past 5 years, CTL of WV has provided over 1000 geotechnical investigations including drilling, sampling and design for both the public and private sectors. CTL of WV is regularly called upon to provide unique geotechnical engineering design services for projects throughout the United States and Canada.

CTL of WV provides environmental services for developments throughout West Virginia and Maryland. Environmental Services include Phase I and II ESAs, wetland delineation and mitigation plans, State and Federal 401 and 404 Permit submittals, Ms4 Phase II storm water permitting, soil and groundwater sampling, asbestos surveys and sampling, lead based paint testing, mold testing, UST removal oversight, hazardous material identification and remedial design and other environmental services as required

CTL of WV provides construction, material and concrete testing and observation services. CTL of WV has ten field technicians providing dedicated construction observation and compliance testing. CTL's in-house material laboratory provides the much needed prompt turn-around required for projects to be successful.

Additional services provided by CTL include Nondestructive Testing and Inspection, Forensic Science, Accident Re-Construction, Roofing Consulting, Product Testing, Laboratories, Analytical Chemistry and Metallurgy Services



## AML & Relevant Project Experience

### HIGHWALLS

- Anderson Highwalls, WVDEP
- Peninsula Highwalls, WVDEP
- St. Clair Portals, WVDEP
- Collins Mining, ODNR
- Miller Mining, ODNR

### OPEN PITS

- Shinn's Run Portals, WVDEP
- Jones Trucking, ODNR
- General Clay #1 & #2, ODNR

### OPEN MINE SHAFTS

- Kennel Mine Closure, MDE, AMLD
- Frostburg North Closure, MDE, AMLD
- Zilman Closure, MDE, AMLD

### REFUSE PILES

- Hopewell Church Refuse & AMD, WVDEP
- Ream Refuse Pile, WVDEP
- Williams Refuse Pile, Private
- Harrison Power Plant, Allegheny Power

### MINE SUBSIDENCE

- Fairmont Subsidence, WV DEP
- Lower Consol Road MDE, AMLD
- Terra Haute Airport, IN AML
- Farmington UMC, WV DEP Emergency
- Morningside Baptist, WV DEP Emergency
- Eccles Subsidence, WV DEP
- McArthur Subsidence, WV DEP
- Mark Kempner, NJ Private
- WV BRIM
- OMSIUA





## **MINE DRAINAGE/STREAM RESTORATION**

- St. Clair Portals, WV DEP
- Aarons Run, MDE, AMLD
- Deckers Creek, WVDEP

## **LANDSLIDES**

- Douglas Avenue Landslide, MDE, AMLD
- Schramm Landslide, MDE, AMLD
- Gordon Landslide, MDE, AMLD
- East Franklin Landslide, MDE, AMLD
- Cheat Neck Landslide, WV DEP
- McCourt Landslide, ODNR
- Caldonia Hill Slope Stability, MDE, AMLD

## **WATER SUPPLY REPLACEMENT**

- Douglas Avenue Stormwater System Repair, MDE, AMLD
- Bald Knob & Potomac Hollow Water Investigations, MDE, AMLD
- Pee Wee Hill Supply Design, MDE, AMLD
- Pee Wee Will Water Feasibility Study, MDE, AMLD
- Fairview Water Feasibility, WV DEP
- Tioga Water Feasibility, WV DEP



Consulting Engineering • Testing • Inspection • Analytical Laboratory Services  
Employee Owned Established 1927

## PROFESSIONAL SERVICES



### Analytical Chemistry

- Organics
- Metals
- Liquid and Solid Fuels
- Soil and Water
- Oils and Sludge
- Solid and Hazardous Wastes
- Construction Materials

### Computer Technology

- Drafting Services
  - AutoCad
  - Digitizing
  - Microstation
- Software Development
  - Internet and Intranet
  - Application Software

### Construction Administration

- ODOT LPA Projects
- County and Municipal Projects
- Daily On-Site Inspections
- Owner's Representative

### Construction Services

- Floor Flatness
- Soils, Concrete, Asphalt, Masonry, Fireproofing, and Steel
- Earth and Concrete Dams
- Pavements for Streets and Airports
- Pre and Post Construction inspection
- Embankments, Fill, and Cut

### Environmental

- Phase I and II ESAs
- RCRA Closure and Site Remediation
- Asbestos/Lead/Mold Surveys
- Abatement Design/Monitoring
- Wetlands Delineation, Permitting and Mitigation
- Endangered Species/Ecological Surveys
- Stormwater Management
- Water Resource Engineering
- Underground Storage Tank Management per BUSTR
- Hydrogeologic Studies and Aquifer Characterization

### Existing Structure Evaluation

- Delamination Determination
- Bridges/Buildings
- Sonic Velocity Testing
- Half Cell Potential Testing

### Forensic Science

- Roofing Failures
- Building Failures
- Legal Testimony
- Product Liability

### Forensic Investigations

- Landslide, Soil and Foundation Failures
- Accident Reconstruction

### Geotechnical

- Site Selection
- Pavement Design (including CBR Study)
- Foundation Analysis and Design
- Embankment and Earth Dam Analysis
- Slope Stability Analysis
- Subsurface Exploration - Drilling Services

### Ground Penetrating Radar

- Concrete Inspection and Evaluation
- Bridge Inspection
- Utility Detection and Mapping

### Materials Testing

- Concrete
- Aggregates
- Soils and Rock
- Clay and Masonry Products
- Bituminous Materials
- Petrographic Studies
- Concrete and Asphalt Mix Designs

### Metallurgy

- Metallography
- Failure Analysis
- Fracture Analysis
- Corrosion Studies
- Tensile and Hardness
- Application Recommendations

### Mining Engineering

- Mine Plan Design
- Permit Preparation
- Refuse Disposal Design
- Mine Reclamation Design
- Environmental Monitoring
- Subsidence Investigation
- Drainage Control Structures

### Nondestructive Testing and Inspection

- Level II Services
- Ultrasonic Inspections
- Liquid Penetrant Inspections
- Magnetic Particle Inspections

### Pavement Management

- Budgeting
- Prioritization
- Deterioration Rates
- Condition Assessment
- Maintenance and Rehabilitation Strategies
- Network Needs and Long Range Goals

### Product Testing

- Calibration
- Design Analysis
- Safety Evaluation
- Hydrostatic Testing
- Mechanical and Physical Property Testing
- Load and Strength Testing

### Roofing Engineering and Building Envelope Services

- Infrared and Nuclear Testing
- Air/Water Infiltration
- Quality Control
- Roof Surveys Evaluation
- Design and Construction Administration

### Roof Management Systems

- Budgeting
- Prioritization
- Deterioration Rates
- Condition Assessment
- Maintenance and Rehabilitation Strategies

### Security and Safety Systems

- Design
- Construction
- Paging Systems
- Video Surveillance
- Intrusion Detection
- Card Access Control
- Audio/Visual Solutions
- Digital Video Recording

### Site/Civil Engineering

- Commercial Land Development
- Infrastructure Planning
- Residential/Community Planning

### Surveying and Mapping

- Topographic Mapping Development
- Property Surveying and Boundary Determination
- Global Positioning System

### Telecommunication Services

- Design
- Construction
- Existing Structure Analysis and Maintenance
- Lighting Systems
- Inventory and Warehousing

### Welding and Quality Control

- QA/QC Programs
- Certified Welding Inspection
- Welding/Brazing Qualification
- Procedure Development

## OFFICE LOCATIONS

2860 Fisher Road  
**Columbus, OH 43204**  
Phone: (614) 276-8123  
Fax: (614) 276-6377

1310 S Franklin Road  
**Indianapolis, IN 46239**  
Phone: (317) 295-8650  
Fax: (317) 295-8395

3085 Interstate Parkway  
**Brunswick, OH 44212**  
Phone: (330) 220-8900  
Fax: (330) 220-8944

3902 New Vision Drive  
**Fort Wayne, IN 46845**  
Phone: (260) 482-4503  
Fax: (260) 482-2002

633 High Street  
**Minford, OH 45653**  
Phone: (740) 820-8355  
Fax: (740) 820-5698

102 Commerce Drive  
**Wapakoneta, OH 45895**  
Phone: (419) 738-1447  
Fax: (419) 738-7670

1091 Chaplin Hill Road  
**Morgantown, WV 26501**  
Phone: (304) 292-1135  
Fax: (304) 296-9302

2105 Schappelle Lane  
**Cincinnati, OH 45240**  
Phone: (513) 722-8665  
Fax: (513) 834-6650

450 Grant St, Suite 110  
**Akron, OH 44311**  
Phone: (330) 994-1590

7655 Coppermine Drive  
**Manassas, VA 20109**  
Phone: (571) 229-5244

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560017  
011-91-80-526-8615

[www.ctleng.com](http://www.ctleng.com)



**SECTION 4**  
**ATTACHMENTS**  
**CCQQ**  
**RPEM**

## AML and RELATED PROJECT EXPERIENCE MATRIX (2008 - 2019)

PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (5)	PROJECT EXPERIENCE REQUIREMENTS														PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional					
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrological/Hydraulic Design/Envt.	Remining Evaluation	Mine Refuse/ Fire Abatement	Subsidence Investigation/ Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/Management	Water Treatment	Equipment/ Structure Removal	Stream Restoration	Geotechnical/Stability	PATRICK GALLAGHER, PE	TIM DARRAH	JOSEPH STANLEY	CARL BELFRIDGE	Millard Nielsen
MORGANTOWN ANDERSON HIGHWALLS (WV AML '12)	C			X	X	X					X							MP	MP	P		P
SCHRAMM - GORDON - EAST FRANKLIN LANDSLIDES (MD AML '12)	C		X	X							X						X	MP	MP	P	P	
DOUGLAS AVENUE STORMWATER SYSTEM (MD AML '12)	C					X					X							MP				
FAIRMONT SUBSIDENCE (WV AML '12)	C	Profile		X					X		X						X	MP	MP	P	P	P
DOUGLAS AVENUE LANDSLIDE (MD AML '12)	C			X		X			X		X						X	MP	MP	P	P	P
LOWER CONSOL ROAD SUBSIDENCE (MD AML '11)	C		X	X					X		X						X	MP	MP	P	P	P
BALD KNOB WATER SUPPLY STUDY (MD AML '12)	C					X						X						MP	MP			
SHINNS RUN PORTALS (WV AML '11)	C	Profile		X	X												X	MP	MP	P	P	P
REAM REFUSE PILE (WV AML '10)	C	Profile	X						X									MP	MP	P		
PEE WEE HILL WATER SUPPLY (MD AML '10)	C											X						MP	MP			
TERRA HAUTE AIRPORT (IN AML '10)	C			X	X				X		X						X	MP	MP		P	
KENNEL MINE CLOSURE (MD AML '10)	C		X	X	X						X							MP	MP	P		
FROSTBURG NORTH CLOSURE (MD AML '10)	C		X	X	X						X							MP	MP	P		
PEE WEE HILL WATER FEASIBILITY (MD AML '10)	C											X						MP	MP		P	
WILLIAMS REFUSE PILE #2 (Private AML '08)	C		X			X	X			X	X	X	X	X			X					
PENINSULA HIGHWALLS (WV AML '09)	C	Profile	X	X		X			X		X						X	MP	MP	P	P	P
ST. CLAIR PORTALS (WV AML '08)	C	Profile	X	X	X	X					X					X	X	MP	MP	P	P	P
CHEAT NECK LANDSLIDE (WV AML '08)	C	Profile			X	X					X						X	MP	MP	P	P	
FARMINGTON UMC (WV DEP EMER. '09)	C								X		X							MP	MP		P	
MORNINGSIDE BAPTIST (WV DEP EMER. '09)	C								X		X							MP	MP		P	
COLLINS MINING (ODNR FOR. '09)	C		X								X							MP	MP	P		
FAKVIEW WATER FEASIBILITY(WV AML '09)	C											X						MP	MP			
AARON'S RUN (MD AML '09)	C	Profile	X			X					X	X				X		MP	MP	P		
ECCLES SUBSIDENCE (WV AML '08)	C								X		X						X	MP	MP		P	
McARTHUR SUBSIDENCE (WV AML '08)	C								X								X	MP	MP		P	
TIOGA WATER FEASIBILITY (WV AML '08)	C											X						MP	MP			
McCOURT LANDSLIDE(ODNR FOR. '08)	C		X			X					X						X	MP	MP	P	P	
JONES TRUCKING (ODNR FOR. '08)	C		X								X							MP	MP	P		
MILLER MINING (ODNR FOR. '08)	C					X					X	X						MP	MP	P		
ZILMAN CLOSURE (MD AML '08)	C			X	X						X							MP	MP	P		
CALDONIA HILL SLOPE STABILITY (MD AML '08)	C		X														X	MP	MP			
WEST VIRGINIA BRIM (2008 - 2012) 42 Projects	C								X								X	MP	MP		P	
OMSIUA (2006 - 2010) 47 Projects	C								X								X	MP	MP		P	
(2006 - 2008) 20 Additional AML Projects for WV, MD, OH, PA	C		X	X	X				X		X	X	X				X	MP	MP		P	

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

**"Attachment B"**

PROJECT NAME EOI - Camden (Wilson) Landslide-EPAM19051		DATE (DAY, MONTH, YEAR) 11/25/2019	FEIN 55-063-1834
1. FIRM NAME CTL Engineering, Inc.		2. HOME OFFICE BUSINESS ADDRESS 2860 Fisher Road Columbus, OH 43204	3. FORMER FIRM NAME Columbus Testing Laboratories
4. HOME OFFICE TELEPHONE (614)276-8123	5. ESTABLISHED (YEAR) CTL-1927     CTL-WV 1983	6. TYPE OWNERSHIP Individual <u>Corporation</u> Partnership     Joint-Venture	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES <u>NO</u>
6. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE 1091 Chaplin Road, Morgantown, WV 26501/ 304-292-1135/ CK Satyapriya, President / Morgantown - 16			
7. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM CK Satyapriya, President		8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS Ali Jamshidi, Treasurer (614) 276-8123	
9. PERSONNEL BY DISCIPLINE			
<u>2</u> ADMINISTRATIVE - ARCHITECTS - BIOLOGIST <u>4</u> CADD DESIGNERS - CHEMICAL ENGINEERS <u>2</u> CIVIL ENGINEERS <u>7</u> CONSTRUCTION INSPECTORS - DESIGNERS <u>1</u> DRAFTSMEN	- ECOLOGISTS - ECONOMISTS - ELECTRICAL ENGINEERS <u>1</u> ENVIRONMENTALISTS - ESTIMATORS <u>1</u> GEOLOGISTS/GEOTECH ENG. - HISTORIANS <u>1</u> HYDROLOGISTS	- LANDSCAPE ARCHITECTS - MECHANICAL ENGINEERS <u>1</u> MINING ENGINEERS - PHOTOGRAMMETRISTS - PLANNERS: URBAN/REGIONAL - SANITARY ENGINEERS <u>1</u> SOILS ENGINEERS <u>1</u> SPECIFICATION WRITERS	<u>1</u> STRUCTURAL ENGINEERS <u>2</u> SURVEYORS/RODMEN - TRAFFIC ENGINEERS <u>X</u> OTHER, <u>2</u> Geotechnical Drillers <u>2</u> Driller Helpers <u>3</u> Geotechnical Engineers <u>4</u> Laboratory Technicians
TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>3</u>			<u>36</u> TOTAL PERSONNEL
*RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.			
The TOTAL PERSONNEL number is for CTL Engineering, Inc. Morgantown, WV Office			
TOTAL PERSONNEL for CTL Engineering, Inc. is 250, which includes the Morgantown Office.			
10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO			



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

**YES** Description and Number of Projects: CTL Engineering has completed more than 800 AML related projects nationally and internationally. See attached "AML Past Project Experience" for some specific examples. CTL completes an excess of 100 testing projects each year.

NO

B. Is your firm experienced in Soil Analysis?

**YES** Description and Number of Projects: Our in-house laboratories perform all ASTM mechanical, organic and in-organic analyses for soils. Our labs are certified by WVDOH, OEPA and US Corps of Engineers.

NO

C. Is your firm experienced in hydrology and hydraulics?

**YES** Description and Number of Projects: Each of our site design and AML projects require hydrology & hydraulic evaluations. We estimate that annually, we complete more than 100 projects requiring hydrology design.

NO

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

**YES** Description and Number of Projects:

**NO** However, we annually complete more than 25 projects requiring aerial photography & mapping. While we sub-contract the aerial photography, in-house we provide GPS, surveying and develop the contouring as needed. CTL deploys a drone to support contour mapping typical for sites less than 10 acres.

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

**YES** Description and Number of Projects: We have completed numerous waterline design projects and our in-house staff has more than 50 years of combined experience with aquifer degradation.

NO

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

**YES** Description and Number of Projects: CTL has developed more than 20 active and passive treatment systems for AMD. More than 50 of our AML Design projects required some form of AMD evaluation and design.

NO

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

NAME & TITLE (Last, First, Middle Int.) <b>Gallagher, Patrick E., PE</b> <b>President, Project Manager</b>	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: <b>39</b>	YEARS OF AML RELATED DESIGN EXPERIENCE: <b>39</b>	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: <b>32</b>

**Brief Explanation of Responsibilities**  
 President of CTL Engineering of WV, Inc.; responsible for the overall administration of the Morgantown, WV office along with the management of the individual engineering projects. His administration and management responsibilities include marketing, proposal preparation, client contact, supervision of design personnel, scheduling, budget control, and report preparation. Projects successfully completed by Mr. Gallagher include: Geotechnical Investigations, Foundation Design Investigations, Dam Stability Analyses, Mine Subsidence Evaluations, Mineral Reserve Studies, Landslide Investigations, Mine Reclamation Designs, Failure Investigations, and Mining Permits.

**EDUCATION** (Degree, Year, Specialization)

B.S., 1975, Civil Engineering  
 B.S., 1975, Equivalent, Geology

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

American Society of Civil Engineers  
 Society of Mining Engineers of A.I.M.E.  
 Triangle Fraternity of Engineers, Architects and Scientists  
 International Society of Soil Mechanics and Foundation Engineers  
 American Institute of Professional Geologists

**REGISTRATION** (Type, Year, State)

Registered Professional Engineer; 1983-West Virginia, 1984-Ohio, 1983-Maryland, 1993-Pennsylvania, 2006-Wyoming, 2006-North Carolina  
 Certified Professional Geological Scientist - 1984  
 Professional Surveyor, 1995-West Virginia

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

NAME & TITLE (Last, First, Middle Int.) <b>Salfridge, Carl G.</b> <b>Department Head, Geotechnical Services</b>	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: <b>10</b>	YEARS OF AML RELATED DESIGN EXPERIENCE: <b>10</b>	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:

**Brief Explanation of Responsibilities**  
 Department Head Geotechnical Engineering. Responsible for subsurface investigations, geotechnical reporting, foundation analysis & recommendations, program development for investigative and laboratory analysis.

**EDUCATION** (Degree, Year, Specialization)

**Graduate Studies, 1996-1999, Civil Engineering (Geotechnical)**  
 B.S., 1996, Civil Engineering, Geotechnical and Structural  
 A.S., 1994, Engineering Science  
 A.A.S., 1991, Mechanical Technology - Design & Drafting

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

Fellow of the American Society of Civil Engineers, The GEO-Institute, Timber Framers Guild, Construction Institute (ASCE)

**REGISTRATION** (Type, Year, State)

Engineering Intern (EI), 1996, New York  
 Level II Drilling Inspector, 1999, PennDOT



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

NAME & TITLE (Last, First, Middle Int.) <b>Darrah, Timothy A.</b> <b>Civil Site Dept. Mgr., Project Manager</b>	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: <b>25</b>	YEARS OF AML RELATED DESIGN EXPERIENCE: 25	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 25

Brief Explanation of Responsibilities  
Mr. Darrah is presently responsible for Management and Design for various types of civil engineering projects including reclamation design, commercial and residential development projects. He is also responsible for scheduling, invoicing and client contacts for all surveying projects including topographic, property and construction layout. Mr. Darrah's duties include drafting, writing of property descriptions, hydrology calculations, quantity calculations and various other forms of surveying and civil engineering related duties. He is also proficient in computer software including AutoCAD, Civilsoft, HEC-1, HEC-RAS and various other engineering software.

EDUCATION (Degree, Year, Specialization)  
B.S., 1988, Civil Engineering Technology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)

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

NAME & TITLE (Last, First, Middle Int.) <b>Stanley, Joseph</b> <b>Project Manager</b>	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: <b>11</b>	YEARS OF AML RELATED DESIGN EXPERIENCE: 11	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 8

Brief Explanation of Responsibilities  
Mr. Stanley is responsible for Reclamation Design, Drafting Hydrology, Quantity Calculations, Stability Analysis, Residential Development, Valley Fill Footprinting, Surveying, Subsidence Surveys, Pre-Blast Surveys, Acid Base Accounts, Groundwater Inventory. PC Software includes Hydrologic TR-20, TR-55, Excel, Harstad Methods, Word, AutoCADD Land, Quarttro, Access.

EDUCATION (Degree, Year, Specialization)  
A.S., 2001 Civil -Engineering Technology Drafting & Design

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

REGISTRATION (Type, Year, State)

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
<b>Grani, Joe</b> <b>Branch Manager (WV)</b> <b>Geotechnical Manager</b>	YEARS OF AML DESIGN EXPERIENCE: 0	YEARS OF AML RELATED DESIGN EXPERIENCE: 27	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0

Brief Explanation of Responsibilities

Mr. Grani is the Branch Manager of the WV office and also responsible for field review and exploration for the Geotechnical Engineering Department for CTL Engineering of West Virginia. Joe is involved in the management of field drilling, classification of soil and rock, field safety procedures, assignment of project specific lab testing, and performing geotechnical evaluations. Engineering evaluations include subsidence evaluation, foundation recommendations, settlement analysis, slope stability analysis, earth pressure coefficients and report preparation.

EDUCATION (Degree, Year, Specialization)

B.S., 1991, The Ohio State University, Civil Engineering  
 M.S., 1994, The Ohio State University, Civil Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

ASHE  
 ACEC

REGISTRATION (Type, Year, State)  
 Civil Engineering Professional Engineer,  
 [REDACTED] Ohio

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

OFFICE EQUIPMENT

3 HP Color Plotters  
HP Color Scanner  
Duplicating equipment, copiers, blueprinting, laser printers, etc.  
Facsimile Machine

DESIGN SOFTWARE

Windows XP & 2000 based operating systems

Microsoft Office 2000 & 2002 is used for word processing, spreadsheet creation, data processing, and presentation creation. Alternative software including Corel Suite is available, if necessary Project designs and specifications are produced in our Computer Aided Drafting and Design (CADD) section using all versions of AutoCAD including Release 2018.

Hydrogeologic Studies

MODFLO

MODPATH

SURFER

CAPZONE

GWPATH

SKUGIS

PHREEQCI

WATEQ4F

Groundwater for Windows

Civil Engineering Software

Civil 3D 2018(AutoCADD) - 13 Seats

Profiling

Civilsoft

TR-20 & TR-55

SEDCAD

HEC 1 & 2

HEC-RAS

Arc GIS

ArcPAD

Carson Software

Geotechnical

GINT

STABL6

SHAFT

WSPRO

Various Bridge, Pavement, Pile and Foundation Software

## SURVEY EQUIPMENT

- 8 - Trimble GPS Systems - 6-R8 Receivers & 2- R10 Receiver
- 6 Total Stations ( 1- Robotic)
- DJI Inspire II Drone
- NAK Micrometer Level System & Direct Levels
- 4X4 Vehicles, including ATV for off-road use
- 2-Way Radios

## SUBSURFACE INVESTIGATION EQUIPMENT

• CTL Engineering Inc.'s subsurface exploration equipment is adaptable for use on barges or all terrain vehicles (ATV's). CTL can mobilize special equipment or a fleet of drilling rigs to a particular project requiring multiple units. CTL Engineering currently owns and operates twelve (12) drill rigs with a capacity of drilling to a depth of 500 feet. Other equipment includes large diameter soil boring and rock core sampling equipment, in-situ pressure meters, field vane, GUS Sampler along with other field sampling and testing.

• CTL's drill rigs are rotary drilling rigs equipped to conduct standard split-spoon sampling with the use of hollow-stem augering, continuous sampler, casing with advancer, air and mud rotary, down-hole hammer, etc. The rigs are also equipped with Moyno pumps, wire-line or standard coring equipment for proper and efficient execution of a subsurface investigation program.

- For this proposal, CTL owns and operates the following rigs:
- 1996 CME 45C Skid, trailer, and/or Truck Mounted Drill Rig System
- 1988 CME 55 Truck Mounted Rig
- 1978 CME 75 Truck Mounted Rig
- 1985 CME 75 Truck Mounted Rig
- 1987 CME 75 Truck Mounted Rig
- 2012 CME 550X Rubber Tired ATV Mounted Rig
- 2015 CME 550X Rubber Tired ATV Mounted Rig
- 1995 SIMCO 4000 Rubber Track Mounted Rig
- 2002 CME 55 Rubber Track Mounted Rig
- 2005 CME 550 Rubber Track Mounted Rig
- 2015 Mobile B-57 Rubber Track Mounted Rig
- Mobile "Minuteman" Small Portable Drilling Rig with Tripod System
- Portable Electric Core Drill with Truck Mount System

- Portable barges for water borne drilling (including supply boats w/outboard motors)
- In-situ permeability apparatus
- Single or double ring field infiltrometers for hydraulic conductivity testing
- Down hole temperature gauges
- Color Borehole Camera with 300 foot range
- Ground Penetrating Radar Undisturbed shelby tube sampling devices
- Standard penetration testing equipment (1", 2", 3" split spoons)
- Settlement probes
- Tripod portable drilling equipment for interior drilling with 7 feet of clearance
- CBR equipment
- Hand Augers
- Solid flight augers - 4" O.D.
- Hollow stem augers - 33", 43", 63" 83" I.D.
- Rotary drilling capability up to 12" O.D.
- Hydro Punch - In-situ groundwater monitoring
- Conventional and wireline coring capabilities - (1", 2", 3", & 4")
- Soil-gas survey equipment
- Pump testing equipment
- Decontamination Equipment - Steam cleaners, drums, generators, etc.
- Electronic Data Loggers
- Field Sampling equipment for soil, water and groundwater
- Nuclear Densometer - Soil Compaction
- PID, FID, CGI and various field monitoring equipment
- Groundwater and Soil Remediation Equipment
- Mobile activated carbon system
- Air and chemical stripping of soils and water

## 15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Geotechnical Engineering	ODOT District 9 ODOT District 6	Geotechnical Engineering and Drilling	NA	80%
WV Statewide Drilling Contract	WVDOT Charleston, WV	Geotechnical Engineering and Drilling	NA	2019-2020
Guernsey Power Plant Mine Grout Project Cambridge, Ohio	Gemma Power Systems Glastonbury, CT	Surveying and Site Design, Geotechnical Engineering and Drilling	CTL Fee's \$500,000	30%
Highway Geotechnical Engineering Multiple Counties, Indiana 10 Projects	INDOT Indianapolis, IN	Geotechnical Engineering	CTL Fees \$330,000	40%-80%
Gateway Development Commercial Development Morgantown, WV	MAGCS, LLC 308 Cheat Road Morgantown, WV 26508	Civil Site Design, Surveying, Geotechnical Engineering	\$15,000,000	90%
WV Statewide Engineering Contract, (Materials)	WVDOT Charleston, WV	Engineering	NA	2019-2020
TOTAL NUMBER OF PROJECTS: 20				

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

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
Fremont City Schools 4 elementary schools	Civil Site Design and Surveying	SSOE Group, 1001 Madison Ave. Toledo, Ohio	2020	\$52,000,000	\$400,000
Cacapon Resort	Civil Site Design and Surveying	Paradigm Architecture 2223 Cheat Rd. Morgantown, WV	2019	\$25,000,000	\$140,000
Sunnyside TIF Project	Geotechnical Engineering and Surveying	Herbert, Rowland and Grubic, Inc 829 Fairmont Road Morgantown, WV	2019	\$6,000,000	\$50,000
Arizona Infrastructure Project	Civil Site Design	Rizzo International	2020	NA	NA
West Run Widening Morgantown, WV	Surveying and Geotechnical	Herbert, Rowland and Grubic (HRG)	2020	\$28,000,000	\$175,000

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
WVU Aquatic Center Morgantown, WV	West Virginia University	\$45,000,000	2018	YES
Maple Drive Extension	Mon General Hospital	\$1,800,000	2015	YES
WVUH Drug Rehab Center	WVU Hospitals 1 Medical Center Drive Morgantown, WV 26506	\$30,000,000	2018	YES
Southern WV Drilling	Department of Environmental Protection Office of the AML	\$650,000	2017- 2018	YES
University Park	Glenmark Holding, LLC	\$20,000,000	2013	YES
Harrison Power Station Landfill Const. Services Shinnston, WV	FirstEnergy Corporation 800 Cabin Hill Drive Greensburg, PA 15601	\$1,100,000	2015	YES
Multiple County Highway Segments Construction Inspection	ODOT Districts 2,4,6,9 and 12	NA	2010- 2016	YES



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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
Mark West Site Processig Plant Nobel County, OH	West Virginia DOT 1900 Kanawha Blvd. Charleston, WV 25305	\$396,000 Geotechnical Engineering & Construction Observation	2015	YES	Beaver Excavating PO Box 6059 Canton, OH 44706
I-79 New Exit 142	WVDOT	\$15,000,000 (Geotechnical Engineering, Construction Observation & Testing)	2016	YES	Mountaineer Contracting
ODOT 113000 FRA 71-17.76 Franklin County, OH	Ohio DOT		2011-2015	YES	Kokosing Construction Construction Inspection
Frostburg State University Dorm Frostburg, MD	Maryland University	\$28,000,000	2018	No	PJ Dick Corporation

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.  
**For the past 30 years, CTL has successfully designed more than 200 AML projects. We have worked nationally and internationally on a variety of AML problem sites. We have developed unique solutions that have been applied to site development, AMD Treatment, Mine Subsidence Abatement, Mine Fires and Highwall Elimination. Routinely, CTL is involved with highwall and refuse pile stabilization, extinguishment and landslides.**

20. The foregoing is a statement of facts.

Signature:  Title: Business Development

Date: November 25, 2019

Printed Name: Joseph Stanley

NOTE: THIS DOCUMENT WILL BECOME VOID AFTER DECEMBER 31 IN CALENDAR YEAR OF DATE HEREON.



## **SECTION 5 ADDITIONAL INFORMATION**

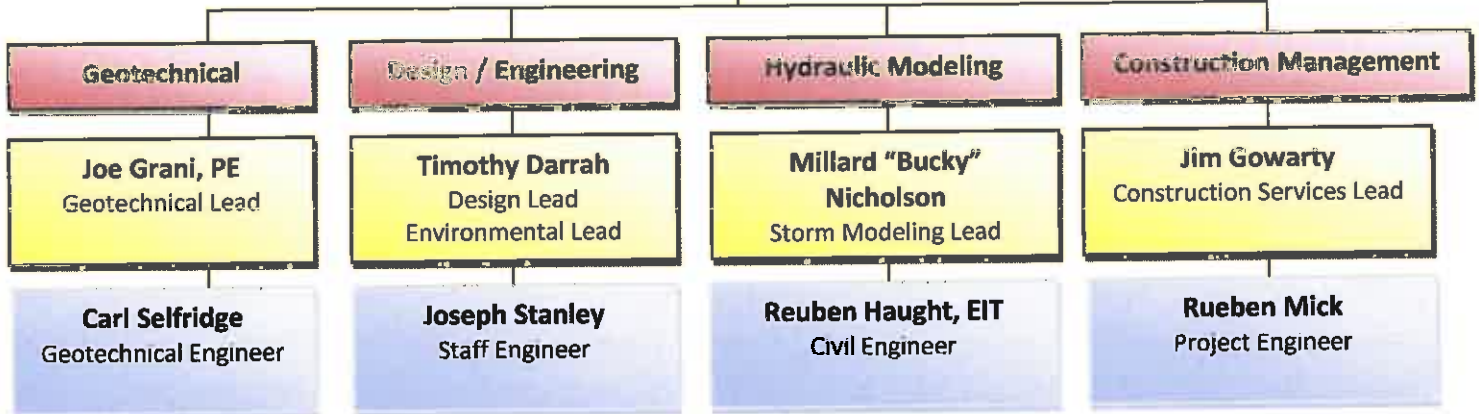
## CTL TEAM ORGANIZATION

west virginia



**Timothy Darrah**  
Project Manager and  
Client Point of Contact

**Patrick Gallagher, PE, PS**  
Engineer of Record





**Personnel Matrix**

Name	Education	Years of Experience	Subsidence	Highwalls	Refuse Piles	AMD	Mine Openings	Stream Design / Restorations	Construction Docs / Bidding
Timothy Darrah *	B.S. Civil Engineering Technology	29	X	X	X	X	X	X	X
Joe Grani*	M.S. Geotechnical and Civil Engineering	27	X	X					X
Pat Gallagher PE, PS*	B.S. Civil Engineering /Minor in Geology	42	X	X	X	X	X	X	X
Carl Selfridge *	B.S. Civil Engineering	21	X	X	X		X		X
Millard "Bucky" Nicholson *	B.S. Civil Engineering Technology	17	X	X	X	X	X	X	X
Jim Gowarty *	B.S. Civil Engineering Technology	28	X	X	X		X	X	X
Joseph Stanley*	A.S. Drafting / Design	17	X	X	X	X	X	X	X
Reuben Haught EIT *	B.S. Civil Engineering Technology	6			X				X
J.B. Chambers *	Garrett CCC	27		X	X				
Terry Allison PS*	A.A.S. Surveying and Construction	35	X	X					X
Christopher Mitchell	B.S. Landscape Architecture	4		X					X
Bruce Sine	A.A.S. Graphic Art	18		X	X	X			
Hillary Cale	Civil 3D Advanced Training	13	X			X	X		X

**Key Personnel and Additional Staff**  
 Key Personnel shown in Bold  
 \* - indicates resume is included

## CTL Team Key Personnel / Experience

### **Patrick E. Gallagher, PE, CPGS | President**

**Education:** B.S. Civil Engineering, Minor in Geology

**Summary:** Mr. Gallagher will serve as the geotechnical lead for the project. Projects successfully completed under Mr. Gallagher's direction include: Civil Site Design, Foundation Design, Stormwater Management, Waste Water Design, Roadway Design, Parking Lot Design, Geotechnical Investigations & Design, Site Stability Analyses, Mine Subsidence Evaluations, Failure Investigations and Environmental Investigations and Expert Witness Testimony. Prior to joining CTL Engineering, Mr. Gallagher was the chief of the Abandoned Mine Reclamation Program for the State of Maryland, Department of Natural Resources, and Bureau of Mines. In addition, he was also responsible for overall engineering/geologic support to the Maryland Bureau of Mines Program. His career began in Pittsburgh as a project geotechnical engineer with Orbital Engineering.



### **Relevant Project Experience**

- ODOT 11-16 – Mine Voids Mitigation SR 2, Ottawa County, OH
- Step&J 11-12 – Eastern/Patriot Kopperston Refuse Impoundment, Wyoming County, WV
- LP Mineral 11-17 – Overhead Conveyor Yearly Inspection, Monongalia County, WV
- MDE 2012 – Douglas Avenue Landslide Repair Project – Task Order #9, Allegany County, MD
- WV DEP 12-13 – Fairmont (Jackson Addition) Subsidence Project (DEP 15594), Marion County, WV
- CONSOL 2013 – Annual Certification – Loveridge, Marion County, WV
- Mepco 13-14 – Seal Certification – Prime No. 1 Mine, Monongalia County, WV
- MDE 2014 – Shaft Firehall (TO#22), Frostburg, MD
- Island Creek 2015 – North Branch Annual Certifications, Grant County, WV
- MDE 14-15 – Aarons Run, Garrett County, MD
- AECOM 14-16 – I-79 Interchange Mine Subsidence and Grout Stabilization, Monongalia County, WV
- Beaver 2015 – Cowgill Waterline – Stability Analysis, Noble County, OH
- MDE 15-16 – Upper Georges Creek Stream Sealing Project Acid Mine Drainage, Allegany County, MD

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### **Tim Darrah | Civil/Site and Surveying Department Manager**

**Education:** B.S. Civil Engineering

**Summary:** Mr. Darrah will serve as the project manager for CTL. Mr. Darrah is presently responsible for department management for municipal engineering, civil site design and surveying projects including topographic, property and construction layout. Mr. Darrah also serves as project manager on various types of civil engineering projects including water, sewer and stormwater designs as well as residential, commercial developments and reclamation design projects. Office work includes site designs, hydrology calculations, quantity calculations, and various other forms of engineering related duties.



### **Relevant Project Experience**

- Morgantown Anderson Portals & Highwall – Abandoned Mine Land Reclamation Design, Morgantown, West Virginia
- Hopewell Church Refuse and Acid Mine Drainage – Abandoned Mine Lands, Preston County, West Virginia
- Fairmont (Jackson Addition) Subsidence Project – Abandoned Mine Land Reclamation, Marion County, West Virginia
- Shinns Run Portals & Acid Mine Drainage – Abandoned Mine Lands Reclamation, Harrison County, West Virginia
- Ream Refuse Piles – Abandoned Mine Lands Reclamation, McDowell County, West Virginia
- Cheat Neck (Lenhart) Landslide, Monongalia County, West Virginia
- St. Clair Portals – Abandoned Mine Lands Reclamation, Monongalia County, West Virginia
- Morning Star Baptist Church Subsidence, Marion County, West Virginia
- Fairmont United Methodist Church-Subsidence Investigation & Mitigation, Fairmont, West Virginia
- Eccles and MacArthur Subsidence, Raleigh County, West Virginia
- Oakland Public Service District - Feasibility Study, Hancock County, West Virginia
- Peninsula Highwalls – Abandoned Mine Lands Reclamation, Monongalia County, West Virginia

**Joseph Grani, P.E. | Geotechnical Engineer**

**Education:** M.S. Geotechnical Engineering, 1994; B.S. Civil Engineering, 1991

**Summary of Experience:** Mr. Grani has over 20 years of experience in the geotechnical field. He is responsible for the supervision of all subsurface exploration projects including foundation analyses and recommendations for roadways, bridges, landslides, sewers, buildings, towers, and tanks. He has also worked on several roadway rehabilitation projects where unsuitable soils were encountered. His innovative solutions to projects have included using geogrid to bridge soft soils and decrease required pavement thicknesses and the use of drying agents such as cement and lime to stabilize the soils. Mr. Grani was the Project Manager for various landslide projects including a 1,590-foot long plug pile retaining wall (HEN-110-0.66), and a 1,170-foot long plug pile retaining wall (ADA-125-13.30).



Also, Mr. Grani served as the Project Manager for the geotechnical explorations with varying level of design calculations on 19 landslides in ODOT District 9, 14 landslides in ODOT District 5, and 23 landslides in ODOT District 11. In addition to landslides, in the past 5 years, Mr. Grani has served as Geotechnical Project Manager on over 50 other transportation projects across Ohio including new highway interchanges, bridge and culvert replacements, and roadway realignments.

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**Millard "Bucky" Nicholson | Civil Engineer**

**Education:** B.S. Civil Engineering

**Summary:** Mr. Nicholson will serve as the Stormwater Modeling Lead. Mr. Millard L. Nicholson Jr. is a Staff Engineer, Project Manager, and CAD Designer in the Morgantown, West Virginia office of CTL Engineering, Inc. His responsibilities include assisting in the planning and design of civil site design projects involving land planning and site development aspects, stormwater for MS4 communities and permitting. He is proficient in AutoCAD Civil 3D, HEC-RAS, TR-55, Hydraflow Hydrographs, Microsoft Word, and Microsoft Excel. His projects include commercial and residential properties, mine and energy sites, and, also, state, county, and local roads. Mr. Nicholson expertise in stormwater and hydraulic modeling are crucial for any project CTL completes. All site development designs are coordinated through Bucky and rely on his calculations and analyses for site specific specifications. Bucky has completed numerous studies and analyses in support of modification to FEMA Flood Maps via LOMR (Letter of Map Revision) process. He has modeled several sites using HEC-RAS to determine the actual floodplain limits. Bucky also is our lead for green design in stormwater, such as biocells and rain gardens. Ditch calculations and drainage areas are other examples of Bucky's experience.

**Relevant Project Experience**

- LOMR and FEMA permits various locations in West Virginia
- Site Development stormwater design, various locations in West Virginia
- Hydraulic Modeling for Bridge Analysis, Monongalia County, West Virginia
- Fairmont Subsidence – Abandoned Mine Land Reclamation, Marion County, West Virginia
- Morgantown Anderson Highwalls – Abandoned Mine Land Reclamation Design, Monongalia County, West Virginia
- Shinns Run Portals – Abandoned Mine Land Reclamation & Portal Closure, Harrison County, West Virginia
- Williams Refuse Pile – Land Reclamation, Harrison County, West Virginia

**James P. Gowarty | Construction Services Manager**

**Education:** B.S. Civil Engineering, 1990; A.S. Mechanical Engineering, 1990

**Summary:** Mr. Gowarty will serve as the Construction Services Lead for the Project. As the Construction Services Manager for CTL Engineering of West Virginia Inc., Mr. Gowarty is responsible for supervising field and laboratory technicians. He is also responsible for report writing for field and laboratory testing, project management, client contact, estimating, proposals and invoicing for Construction Services Department. Mr. Gowarty's experience also includes surveying, pre-mining and pre-blast surveys, field supervision of drilling crews, Phase I Environmental Site Assessments and radiation safety officer and corporate safety officer. In addition, Mr. Gowarty is the Construction Materials Testing



Supervisor, providing concrete, compaction, and aggregate testing and has over twenty (20) years of experience with Nuclear Gauge Operation.

Mr. Gowarty has been CTL's Corporate Safety Officer since the Fall of 2008. Mr. Gowarty is CTL's USNRC Safety Officer.

**Relevant Project Experience**

- Water Treatment Plant Correctional Action Design-Geotechnical & Construction Services. Marion County, W.V.
- Fairmont Airport-Variou Services. Fairmont, W.V.
- Hazelton Federal Correctional Institute-Variou Services. Hazelton, W.V.
- U.S. Department of Energy Facility-Geotechnical, Construction, Surveying Services. Morgantown, W.V.
- I-81 Martinsburg to Marlow Interchange-Design Build. Martinsburg, W.V.
- Mileground Roundabout-Construction Services. Morgantown, W.V.
- Harrison Power Station CCB Landfill Phase V Step III, Harrison County, West Virginia
- Leer Mine Complex, Taylor County, West Virginia
- Tunnel Ridge Coal, Ohio County, West Virginia
- Refuse Testing, Ohio County, West Virginia
- Longview Conveyor, Monongalia County, West Virginia

**Carl Selfridge | Geotechnical Engineer**

**Education:** B.S. Civil Engineering Technology

**Summary:** Mr. Selfridge will serve as a geotechnical engineer and provide geotechnical oversight and review for the project. Annually manages 100+ various geotechnical projects including; education, transportation, commercial development and a variety of public and private clients. Mr. Selfridge is responsible for directing all aspects of the Geotechnical Engineering Department for CTL Engineering of West Virginia, Inc.

This includes the management of field drilling activities, field classification of soil and rock, field and laboratory safety procedures, the assignment of a laboratory testing program, and performing geotechnical evaluations. Engineering evaluations include foundation recommendations, settlement analysis, slope stability analysis, earth pressure coefficients and report preparation.

**Relevant Project Experience**

- Eccles and MacArthur Subsidence-Subsidence Investigation & Mitigation. Raleigh County, W.V.
- Shinn's Run Portals & AMD-AML Reclamation & Geotechnical Services. Harrison County, W.V.
- Tunnel Ridge Slurry Cell A-Piezometer Installations & Geotechnical Services. Ohio County, W.V.
- Pine Creek: Omar Landfill-Geotechnical Services. Logan County, W.V.
- WV State- wide Landfill-Geotechnical Services.
- Buzzard Pond Dam-Geotechnical Services. Marshall County, W.V.

**Joseph Stanley | Civil Engineer**

**Education:** A.S. Drafting and Design

**Summary of Experience:** Mr. Joe Stanley is a Staff Engineer, Project Manager, and CAD Designer in the Morgantown, West Virginia office of CTL Engineering, Inc. His responsibilities include assisting in the planning and design of civil site design projects involving land planning and site development aspects. His projects vary from commercial and residential properties, mine and energy sites, and also includes state, county, and local roads.

**Relevant Project Experience**

- Fairmont Subsidence – Abandoned Mine Land Reclamation, Marion County, West Virginia
- Morgantown Anderson Highwalls – Abandoned Mine Land Reclamation Design, Monongalia County, West Virginia
- Shinns Run Portals – Abandoned Mine Land Reclamation & Portal Closure, Harrison County, West Virginia
- Hopewell Church Refuse – Abandoned Mine Drainage, Preston County, West Virginia
- Peninsula Highwalls – Abandoned Mine Land Reclamation, Monongalia County, West Virginia
- Cheat Neck Landslide, Monongalia County, West Virginia

**Reuben Haught, P.E. | Civil Engineer**

**Education:** B.S. Civil Engineering Technology

**Summary:** Mr. Haught will provide engineering support to stormwater modeling and design for the project. Mr. Haught is a Staff Engineer and CAD Designer whose responsibilities include site design, site grading, stormwater design in and out of MS4 communities, permitting, retaining pond design, and impoundment stability inspections. He is proficient in AutoCAD Civil 3D, Hydraflow Hydrographs, Microsoft Word, and Microsoft Excel.

**Relevant Project Experience**

WVU Track and Aquatic Center in Morgantown, WV: Site Layout, Site Grading, Stormwater Design, Erosion and Sediment Permitting, Retaining Pond Design.

WVU Medicine Clinic in Fairmont, WV: Site Grading, Stormwater Design, Erosion and Sediment Permitting, Retaining Pond Design

Mon General Outpatient Facility in Fairmont, WV: Site Grading, Stormwater Design, Erosion and Sediment Permitting, Retaining Pond Design

**Terrence Allison PS | Survey Lead**

**Education:** A.A.S. Surveying & Construction Technology, A.A.S. Computer Technology

**Registration:** Licensed Surveyor in West Virginia and Ohio.

**Summary:** Mr. Allison has over 35 years of all types of surveying in Ohio, around the country and around the world. He is responsible for the supervision, coordination, reporting and consultation of land surveying and construction surveying related services. These responsibilities include reviewing of the scope of work, project plans and specifications prior to the start of work, assigning appropriate field crews and cad personnel to projects, reviewing all field and office work for the project and delivering the final plats, deeds and other surveying products requested. Mr. Allison has been the project manager on a variety of surveying projects that include, but are not limited to boundary and topographic surveys, municipal infrastructure and park surveys, oil and gas well plats and design surveys, FEMA LIDAR check surveys, cell towers, subdivisions, site developments, roads, bridges, sewers and other utilities, flood control studies, and construction layout for major buildings, roads, and bridges.

**J.B. Chambers | Surveyor**

**Education:** Garrett County Community College

**Summary:** Mr. Chambers presently serves as a Surveying Supervisor and Party Chief for the Morgantown office. He is responsible for working directly with the Department Manager to coordinate projects and schedule personnel necessary to perform the required scope of services. Typical projects successfully completed by Mr. Chambers include a variety of surveying services such as; ALTA and ARSM surveys, utility locates, oil and gas line surveying, topographic, boundary, construction, site layout, mining, route, flood plan, as well as wetland delineation and control







**AML / Mine Related-Past Performance Matrix**

Name	Location	Landslide	Subsidence	Highwalls	Refuse Piles	AMD	Mine Openings	Stream Design / Restorations	Construction Docs / Bidding
Anderson Highwall	Monongalia County, WV			X			X		X
Tars Hill Landslide	Jefferson County Ohio	X							X
Oakhill Landslide	Allegheny County Maryland	X							X
Riddles Run Landslide	Jefferson County, Ohio	X							X
Aarons Run Road Failure & Landslide	Garrett County, Maryland	X							X
Peninsula Highwall	Monongalia County, WV			X			X		X
St. Clair Portals	Monongalia County, WV			X	X	X	X	X	X
Aaron's Run	Garrett County, MD					X		X	X
George's Creek	Garrett County, MD							X	X
Shinn's Run Portals	Harrison County, WV					X	X		X
Williams Refuse Pile	Harrison County, WV				X	X			X
Maryland Deep Mine Closures	Allegheny & Garrett County, MD						X		X
Hopewell Church & AMD, WVDEP	Preston County, WV			X	X	X	X		X
Fairmont Subsidence	Fairmont, WV		X						X
Blackwater River AMD	Tucker County, WV					X			X
Taylor Creek Impoundment	Clay County, WV				X			X	X
Thomas Subsidence	Thomas, WV		X						X
Red Hollow Refuse Pile	Mc Comas, WV				X				X
Alderson Branch Refuse Pile	Raleigh County, WV				X				X
General Clay	Medina County, Ohio			X					X
Zerger Quarry	Noble County, Ohio			X					X

## Past Project Experience

**Project:** Anderson Highwall

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Monongalia County, West Virginia

**Project Description:** The site consisted of dangerous highwalls, seven or more open or partially open portals and a dangerous scrap yard with potentially dangerous materials. CTL provided surveying, geotechnical investigation, civil design and construction bidding documents.



**Project:** Tars Hill Landslide

**Client:** ODNR – Division of Mineral Resource Management

**Contact:** AML Division

**Phone:** (614) 265-7079

**Location:** Jefferson County, Ohio

**Project Description:** CTL Engineering, Inc. provided engineering design services and construction documents necessary to repair and stabilize a landslide that has damaged a road and made it impassable. In addition, the hillside above the damaged road has become unstable and has several large slip areas. Abandoned deep mines, on both sides of the hollow, produce a significant number of ground water sources, which has added to the instability of the area.



Site design will begin on the collection and diversion of ground water, slope stability and road replacement once the final site investigation has been completed.

**Project:** Oakhill Landslide

**Client:** Maryland Department of Environment -- Bureau of Mining

**Contact:** MBOM

**Phone:** (301) 689-8020

**Location:** Allegheny County, Maryland

**Project Description:** CTL Engineering, Inc. provided engineering design services and construction documents necessary to reclaim and stabilize a landslide encroaching on Georges Creek and reducing the flow area of the stream. The site had been backfilled with mine spoil and mine drainage was saturating the slope and creating the instability. Subsurface investigations were performed to determine soil characteristics, strata depths and water levels, using piezometers. Slope stability analyses were performed to determine the corrective actions required to stabilize the area. Surface and subsurface drainage structures, a toe key, and stream bank protection were designed to correct the instability problems and provide long term protection to the area.



**Project:** Riddles Run Landslide  
**Client:** ODNR – Division of Mineral Resource Management  
**Contact:** AML Division  
**Phone:** (614) 265-7079

**Location:** Jefferson County, Ohio

**Project Description:** CTL Engineering, Inc. provided engineering design services and construction documents necessary to repair and stabilize a landslide that has damaged a road. Mine drainage of abandoned deep mine entries have saturated the soil causing it to slide down the slope toward the road. In addition, trees whose roots have been loosened by the movement of soils are in danger of sliding onto the roadway.

This 0.15-acre site was cleared and grubbed to install a sub-surface drain that will carry mine drainage away from the slip area.

This drain was constructed above and perpendicular to the slip. An additional surface drain was constructed and lined with rock to direct the flow from the subsurface drain to natural drainage.



**Project:** Oakhill Landslide

**Client:** Maryland Department of Environment – Bureau of Mining

**Contact:** MBOM

**Phone:** (301) 689-8020

**Location:** Garrett County, Maryland

**Project Description:** CTL Engineering of West Virginia Inc. provided site investigation, geotechnical drilling and engineering services and remediation design for this road failure which was caused by subsidence from abandoned deep mines. The mines were within 50 feet of the road surface and had active water discharge on the outslope of the roadway. The design required the excavation of all material to the deep mine, create and engineered embankment to the road level and move the roadway further into the uphill side of the existing roadway.

This design was selected as the most cost effective way to remediate the failure and utilize nearby material for the fill.



**Project:** Peninsula Highwall

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Monongalia County, West Virginia

**Project Description:** This site contained 1,800 LF of vertical to sloughed highwalls 15 to 25 feet high, 7 partially of totally collapsed mine portals, 1 open mine portal, subsidence depressions behind the portals and water present at or flowing from the portals. CTL Engineering of West Virginia, Inc. was retained to provide the design for the access road into the site,

wet seal 2 portals, regrade face of 2 portals, riprap channel and additional channel to carry water off site, backfill of



highwalls and subsidence areas, restoration of golf path asphalt, and conditioning and revegetation of all disturbed areas.

**Project:** St. Clair Portals

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Monongalia County, West Virginia

**Project Description:** The site consisted of coal refuse, acid mine drainage with impounded water, collapsed mine portals and highwalls. 17 portals were found along the highwall bench. Three impoundments of approximately 70,000 sq.ft. had water flowing at 300 gpm with a pH value of 3.1 and iron >10 mg/l. A 35' to 45' high refuse pile was in the middle of the site as well as scattered refuse throughout the site.



CTL Engineering of West Virginia, Inc. was retained to provide the design for excavation and wet seal of at least 17 mine portals, dewater three impoundments, 2000 LF of stream reconstruction, regrade and cover of coal refuse and spoil areas on mine bench, drainage control channels to carry water off site. CTL was also responsible for the backfill of highwalls using spoil material to original contour and conditioning and revegetation of all disturbed areas.

**Project:** Aaron's Run AMD Project

**Client:** Maryland Department of Environment – AML Division

**Contact:** Mike Garner

**Phone:** (301) 689-1440

**Location:** Garrett County, Maryland

**Project Description:** CTL Engineering of West Virginia, Inc. was retained to provide the design for multiple AMD treatment systems, 2 SAP cells, slurry doser, settling ponds, and natural wetlands. CTL also provided full site grading plans & drainage controls, access road & highway rated bridge, all state & federal permitting, and construction specifications and drawings.



**Project:** Upper Georges Creek Stream Sealing Project

**Client:** Maryland Department of Environment – AML Division

**Contact:** Tim Miller

**Phone:** (301) 689-1440

**Location:** Garrett County, Maryland

**Project Description:** CTL Engineering of West Virginia Inc. was retained to perform geologic and hydrologic assessments of the Upper Georges Creek Watershed to determine the extent and amount of stream flow lost to underground mines. CTL was responsible for conducting cooperative meetings with several stakeholders, reviewing existing reports and data on file at the AMLD office and based on available data along with possibly field measurements or drilling, develop plans to monitor streams to locate stream water loss zones. CTL then performed stream flow measurements within the study area to locate the areas of most significant water loss. Also,



assessments to each tributary was completed as a part of the study. Upon completion of the study, CTL provided remediation options for sealing the streams.

**Project:** Shinns Run

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Harrison County, West Virginia

**Project Description:** CTL Engineering provided surveying, reclamation design and subsurface investigations for this Abandoned Mine Lands and Reclamation project. The surveying was completed in order to establish the areas that will be reclaimed and to locate utilities that were not apparent on the mapping provided for the job. CTL provided drilling services near the mine entries to determine the mine pool as well as near a bridge on site to determine the foundation depth and bearing capacity. CTL also developed sedimentation and erosion control plans for all disturbed sites.



**Project:** Williams Refuse Pile

**Client:** Targe Energy

**Contact:** Van Plocus

**Phone:** (412) 784-0750

**Location:** Harrison County, West Virginia

**Project Description:** CTL Engineering of West Virginia, Inc. was selected to perform engineering related services including environmental services, site design, and permitting for Targe Energy Reclamation, LLC during this *turnkey project*. This project was treated very similar to a complete surface mine application. The scope of services provided by CTL included a refuse removal plan, field reconnaissance, ash backfill design, permits preparation, and environmental sampling.



**Project:** Maryland Deep Mine Closures

**Client:** Maryland Department of Environment – AML Division

**Contact:** Tim Miller

**Phone:** (301) 689-1440

**Location:** Allegheny and Garrett County, Maryland

**Project Description:** CTL Engineering of West Virginia, Inc. was retained to provide the develop detailed engineering design plans and construction plans including; cost estimates, bid documents, project drawings, maps, plans & specifications for the reclamation construction of multiple mine mouth closures. Design and Plans included dry and wet mine seals, bat gates, regrading, drainage structures and site reclamation.



**Project:** Fairmont Subsidence

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Harrison County, West Virginia

**Project Description:** CTL Engineering provided surveying, reclamation design and subsurface investigations for this Abandoned Mine Lands and Reclamation project. The surveying was completed in order to establish the areas that will be reclaimed and to locate utilities that were not apparent on the mapping provided for the job. CTL provided drilling services near the mine entries to determine the mine pool as well as near a bridge on site to determine the foundation depth and bearing capacity. CTL also developed sedimentation and erosion control plans for all disturbed sites.



**Project:** Blackwater River

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Tucker County, West Virginia

**Project Description:** CTL Engineering of West Virginia, Inc. provided Engineering Design Services and construction documents to rehabilitate an existing concrete dam and install a rotating drum and limestone slurry treatment facility on the Blackwater River. This project was a cooperative project with West Virginia Department of Environmental Protection and West Virginia Division of Natural Resources. This project has been recognized by "Trout Unlimited" and was mentioned in the February 1993 issue of "Outdoor Life". The Blackwater River/Beaver Creek Treatment Project has successfully transformed a formally dead section of the Blackwater River into a high quality trout fishery and was recognized by the *US Dept of Interior, Office of Surface Mining, as the 1999 Appalachian Region Award Winner.*



**Project:** Taylor Creek Impoundment

**Client:** WVDEP AML

**Contact:** AML Division (Bridgeport Office)

**Phone:** (304) 926-0499

**Location:** Clay County, West Virginia

**Project Description:** CTL Engineering of West Virginia, Inc. provided Engineering Design Services and construction documents necessary for the reclamation and extinguishment of a 120-acre burning refuse pile. This project also included the subsurface investigation of burning material to depths of approximately 110 feet, and the design and reconstruction of approximately 3,400 feet of Taylor Creek. Several areas of slope instability required stabilization. Additionally, an existing 24-acre coal related impoundment had to be evaluated, dewatered and the area stabilized.

