



# EXPRESSION OF INTEREST

To provide

**Professional Services**

***Leachate Holding Tank Study,  
Recommendation, and  
Construction QA/QC for  
Monongalia County and City of  
Morgantown Landfills  
Morgantown, West Virginia***

Prepared for the

**West Virginia Department**

**of Environmental Protection**

**Office of Environmental Remediation**

**By**

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

1091 Chaplin Road  
Morgantown, WV 26501  
(304) 292-1135

06/14/17 09:29:25  
WV Purchasing Division



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# **Introduction & EOI Documents**



6/12/2017

West Virginia Department of Administration, Purchasing Division  
2019 Washington Street, East  
Charleston, WV 25305

RE: Solicitation No. CEOI 0313 DEP1700000003  
Expression of Interest  
Leachate Holding Tank Study, Recommendation, and Construction QA/QC for  
Monongalia County and City of Morgantown Landfills

Ladies and Gentlemen:

CTL Engineering, Inc (CTL) is very pleased to present this interest to provide engineering and related services for the Monongalia County and City of Morgantown Landfills project. With over 80 years in the business, we feel our firm can provide the professionals and facilities required by the State of West Virginia to complete the project.

Our understanding is that this submittal addresses all required elements of the solicitation including completed certification and signature forms, purchasing affidavit, Form ID WV-PRC-CEOI-001, and West Virginia Department of Environmental Consultant Qualification Questionnaire. The Terms and Conditions are acceptable to us, and we carry the required insurance.

CTL is a recognized leader in engineering services in West Virginia. Our capabilities include laboratory facilities, drilling rigs, surveying systems, design equipment, and a qualified professional staff. Our in-house ability reaches beyond simply being a reclamation 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 have been accepted, used, and audited by various state agencies.

CTL Engineering has formulated a strong team to effectively and efficiently complete the Leachate Holding Tank Study, Recommendation, and Construction QA/QC for Monongalia County and City of Morgantown Landfills. The team includes CTL and CB&I Environmental & Infrastructure, Inc. (CB&I, formerly Shaw Environmental). CTL is to be the prime contractual consultant for overall project management and execution, site investigations and site characterization, permitting and approvals, and construction quality assurance and quality control. CB&I will be the key subcontractor with responsibility for engineering and design for the capping systems, leachate collection and storage systems, and other design elements for the closure. Refer to the team organization chart and team experience matrix. Key personnel from CTL and CB&I have prior project experience working together which will allow for seamless integration of project teams and a successful project execution.

Key characteristics for the team include:

- **The team has strong experience with the LCAP program and Leachate Storage Facilities.** CTL's experience includes field activities under the LCAP program for Monongalia Landfill, Clarksburg Landfill, Buckhannon Landfill, Marion County Landfill, Moundsville Landfill, Morgan County Landfill, Capon County Landfill, Grant County Landfill, Central West Virginia Landfill, Dons Disposal Services Landfill, South Charleston Landfill, Montgomery Landfill, Pine Creek / Omar Landfill, Mingo County Landfill, and Midwest Landfill. CB&I's experience includes landfill investigative, engineering, and design efforts associated with Wheeling Landfill, Monongalia Landfill, Moundsville Landfill, and 15 other LCAP Landfills. CB&I has evaluated leachate management systems at numerous landfills, including, including the City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill
- **Key technical staff have prior experience with LCAP program.** For CTL, Messrs. Pat Gallagher, Carl Selfridge, and James Gowarty have previously been engaged in CTL's LCAP work. For CB&I, Mr. Harry Dravecky and Dr. Jim Kilburg have previously been engaged in CB&I's hydrogeological work under the LCAP program including work on Monongalia Landfill.
- **Design Team experience with LCAP program closure.** Mr. Harry Dravecky and Dr. Jim Kilburg have experience with design in support of closure under the LCAP program including completion of projects for Rehe Landfill, Hampshire County Landfill, and Moundsville Landfill.
- **Geotechnical Experience.** Mr. Pat Gallagher has more than 40 years of experience with geotechnical engineering in West Virginia. Mr. Gallagher is a recognized geotechnical expert for projects in West Virginia and has experience with a wide array of projects. Mr. Gallagher is intimately familiar with geologic conditions and associated engineering challenges for locales throughout West Virginia.
- **Site Proximity & Efficiency.** CTL's base of operations for project personnel will be Morgantown, West Virginia, and CB&I's base of operations for project personnel will be Pittsburgh Pennsylvania. Senior personnel for CTL and CB&I have prior experience working together which will allow for seamless integration of project teams and successful project execution. This proximity and experience will support efficient, cost-effective execution of the work.
- **Experience and Resources.** CTL has more than 35 years of experience in West Virginia under the leadership of Mr. Pat Gallagher and a long record of successful projects. CTL has drilling and laboratory operations based in Morgantown which will provide necessary completion of site investigation and characterization activities. Proposed project personnel for CTL are based in Morgantown and will be supported as/if necessary, from the full resources of the CTL organization which includes more than 225 people. CB&I is a nationally-recognized firm with experience with more than 10,000 sites including 700 investigations for landfills. Proposed project personnel for CB&I are based in Pittsburgh with key personnel from CB&I and CTL having prior project experience working together. The CB&I team will be supported, as/if necessary, from the resources throughout its organization which includes more than 2,500 people.



Solicitation No. CEOI 0313 DEP170000003

Expression of Interest

Leachate Holding Tank Study, Recommendation, and Construction QA/QC for Monongalia County and City of Morgantown Landfills

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. We look forward to the opportunity to complete an Oral Interview in support of our interest in the project.

Respectfully Submitted,

CTL Engineering of West Virginia, Inc.



Daniel J. Barton, P.E.

Director of Engineering





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

Proc Folder: 323504

Doc Description: EOI: Leachate Tank Study - Monongalia/Morgantown LFs

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2017-05-19	2017-06-13 13:30:00	CEOI 0313 DEP1700000003	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:**

CTL Engineering of West Virginia, Inc.  
 1091 Chaplin Road  
 Morgantown, WV 26501  
 (304) 292-1135

**FOR INFORMATION CONTACT THE BUYER**

Jessica S Chambers  
 (304) 558-0246  
 jessica.s.chambers@wv.gov

Signature X

FEIN #

55-063-1834

DATE

06/12/2017

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

**ADDITIONAL INFORMATION**

The Acquisition and Contract Administration Section of the Purchasing Division (Purchasing Division) is soliciting Expression(s) of Interest for the Department of Environmental Protection (Agency), from qualified firms to provide architectural/engineering services (Vendors) as defined herein.

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

Line	Comm Ln Desc	Qty	Unit Issue
1	Monongalia County and City of Morgantown Landfills		


Comm Code	Manufacturer	Specification	Model #
81100000			

**Extended Description :**

Leachate Holding Tank Study, Recommendation, and Construction QAQC for Monongalia County and City of Morgantown Landfills per the attached specifications, bid requirements, and terms and conditions, incorporated here by reference and made a part hereof.



**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

  
 \_\_\_\_\_  
 (Name, Title) **Daniel J. Barton, P.E. Project Manager/Administrator**  
 \_\_\_\_\_  
 (Printed Name and Title) **1091 Chaplin Road, Morgantown, WV 26501**  
 \_\_\_\_\_  
 (Address) **(304) 292-1135 / (304) 296-9302**  
 \_\_\_\_\_  
 (Phone Number) / (Fax Number) **dbarton@ctleng.com**  
 \_\_\_\_\_  
 (email address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

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

\_\_\_\_\_  
(Company)

  
\_\_\_\_\_  
(Authorized Signature) (Representative Name, Title)

**Patrick E. Gallagher, President**  
\_\_\_\_\_  
(Printed Name and Title of Authorized Representative)

**June 12, 2017**  
\_\_\_\_\_  
(Date)

**(304) 292-1135 / (304) 296-9302**  
\_\_\_\_\_  
(Phone Number) (Fax Number)

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 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 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 of West Virginia, Inc.

Authorized Signature: \_\_\_\_\_

Date: 06/12/2017

State of West Virginia

County of Monongalia, to-wit:

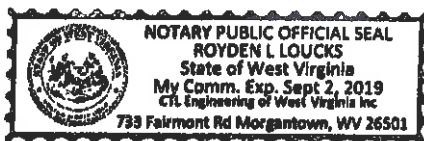
Taken, subscribed, and sworn to before me this 12th day of June, 20 17.

My Commission expires September 02, 20 19.

**AFFIX SEAL HERE**

**NOTARY PUBLIC**

*Royden L Loucks*  
Purchasing Affidavit (Revised 08/01/2015)



**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: DEP 1700000003**

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

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

**Addendum Numbers Received:**

(Check the box next to each addendum received)

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

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

CTL Engineering of West Virginia, Inc.

Company

Authorized Signature

June 13, 2017

Date

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



# **Corporate History & Service Expertise**

CTL Engineering, Inc. is a full service Consulting Engineering, Testing, Inspection, and Analytical Services Company. Formerly known as Columbus Testing Laboratory, the company was established in 1927 as a privately held independent engineering and testing laboratory serving the local community. During its early years, the company focused mainly on soils, foundation engineering, and construction testing and inspection services. The successes, experience, equipment, and expertise gained in these areas led to a natural expansion into the Metallurgical, Non-Destructive Testing, Mechanical, Mining, Roofing, and Environmental Service Industries.

CTL Engineering maintains a staff of over 250 employees, including Registered Engineers, Chemists, Environmental Engineers & Scientists, Geologists, Hydrogeologists, Non-Destructive Testing Specialists, Certified Welding Inspectors and Technicians.

Initially, CTL's client base was mostly limited to Columbus, Ohio and its surrounding communities, but has grown significantly since. Today, CTL regularly performs services for private and public clients not only throughout Ohio, but also in all of the Mid-Atlantic and Midwestern states. In addition to our corporate headquarters in Columbus, Ohio, we have expanded our service centers to include nine other regional offices.



As our client base continued to grow, along with diversifying our services in areas beyond the Geotechnical Engineering and Construction Services, CTL made the long term investment of acquiring a facility large enough to not only encompass already established laboratories for soils and material testing, but to also create additional space to accommodate our projected growth for the next decade and beyond.

## Recognition

- Business First Journal regularly lists CTL Engineering as one of the top engineering firms in Central Ohio in terms of employees and revenues.
- Inc. magazine has ranked CTL as one of the top 5000 fastest growing private companies in America.

- ✓ Employee-Owned
- ✓ MBE & EDGE Certified
- ✓ 25 Professional Engineers
- ✓ AASHTO Accredited Lab



### AREAS OF EXPERTISE:

- Soils/Geotechnical Engineering
- Foundation Engineering
- Construction Testing & Inspection
- Roofing
- Building Envelope
- Environmental
- Non-destructive Testing
- Mechanical
- Metallurgical
- Product Testing
- Forensic Services
- Mining
- Telecommunications
- Audio-Visual Systems

## ▶ CTL Engineering of West Virginia, Inc.

CTL Engineering of West Virginia, Inc. (CTL WV) is a full service consulting civil & geotechnical engineering, drilling, materials testing and construction observation service company. CTL WV was founded in 1983 to provide regional service to West Virginia, Maryland and Pennsylvania. CTL 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. Since 1927 our expertise has focused mainly on foundation engineering, construction testing and inspection services.

CTL WV has a state wide staff of over 50 people; including licensed professional engineers, licensed land surveyors, environmental scientists, geologists and certified engineering technicians. Nationwide CTL Engineering sustains a staff of over 220 employees, providing additional professional expertise as well as staff and equipment resources for meeting project needs and goals.

Over our 34 years in West Virginia, CTL WV has provided numerous civil site designs, geotechnical designs, stormwater plans and surveys for commercial and residential developments and roadway projects. We have successfully prepared State and Federal 401 and 404 Permit submittals, Ms4 Phase II stormwater permits and conducted Environmental Site Assessments. CTL WV also has significant experience working on mining related projects including mine plans and permitting, mine refuse reclamation and subsidence evaluations and investigation. These projects were completed by conscientious interaction with Architects, Engineers, State and Federal Agencies and Owners.

CTL WV has certified engineering and laboratory technicians providing material testing and construction observation services. Our Morgantown lab is annually inspected by the West Virginia Division of Highways. CTL WV maintains a fleet of four drill rigs including truck, rubberized track and ATV mounted. Our crews have experience in steep terrain and barge drilling and deep boring exploration to depths greater than 300 feet. Additionally, CTL Engineering has a total of ten drills allowing CTL to place multiple rigs on one site, if project schedule demands.



### Additional Services Provided By CTL:

- Ground Penetration Radar
- GIS Mapping
- ALTA Surveys
- GPS Surveys
- Nondestructive Testing and Inspection
- Forensic Science
- Accident Re-Construction
- Roof Consulting
- Building Envelope Testing
- Product Testing
- Analytical Laboratories
- Metallurgy Services
- Security and Safety Systems
- Telecommunication Services

#### Analytical Chemistry

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

#### Computer Technology

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

#### Construction Administration

- ODOT LPA Projects
- County & 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 & II ESAs
- RCRA Closure & Site Remediation
- Asbestos/Lead/Mold Surveys
- Abatement Design/Monitoring
- Wetlands Delineation, Permitting & Mitigation
- Endangered Species/Ecological Surveys
- Stormwater Management
- Water Resource Engineering
- Underground Storage Tank Management per BUSTR
- Hydrogeologic Studies & 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 & Design
- Embankment & Earth Dam Analysis
- Slope Stability Analysis
- Subsurface Exploration - Drilling Services

#### Ground Penetrating Radar

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

#### Materials Testing

- Concrete
- Aggregates
- Soils and Rock
- Clay & Masonry Products
- Bituminous Materials
- Petrographic Studies
- Concrete & 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 & Inspection

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

#### Pavement Management

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

#### Product Testing

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

#### Roofing Engineering & Building Envelope Services

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

#### Roof Management Systems

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

#### Security & 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 & Mapping

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

#### Telecommunication Services

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

#### Welding & 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 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

Sachina Engineering  
407 "B" Block  
SNS Arcade, Airport Road  
**Bangalore, India**  
560017  
011-91-80-526-8615



#### **GEOTECHNICAL SERVICES:**

- Complete Subsurface Exploration Study
- Foundation Analysis
- Pile, Pier, and Caisson Analysis & Inspection
- Embankment & Earth Dam Analysis
- Slope Stability Analysis
- Settlement Analysis
- Pavement Design
- Rock & Mineral Testing
- Hydrogeologic Studies
- Field and Laboratory Testing of Soils/Rock
- Legal Testimony
- Dynamic Pile Testing

#### **CTL ENGINEERING ROUTINELY PROVIDES SUBSURFACE INVESTIGATIONS ON THE FOLLOWING:**

- Roads and Bridges
- Airport Terminals, Runways, and Taxiways
- Water/Wastewater Treatment Facilities
- Hospitals, Parking Garages, Higher Education, and PK-12 School Buildings
- Energy Facilities
- Telecommunication Towers
- Commercial, Retail, and Industrial Facilities

**CTL ENGINEERING'S GEOTECHNICAL DEPARTMENT ROUTINELY PERFORMS SUBSURFACE INVESTIGATIONS AND SOIL AND ROCK TESTING. WE PREPARE ENGINEERING REPORTS, MAKE RECOMMENDATIONS REGARDING FOUNDATION AND CONSTRUCTION TECHNIQUES, AND PERFORM OTHER GEOTECHNICAL SERVICES, AS DICTATED BY A GIVEN PROJECT.**

#### **DRILLING SERVICES:**

CTL Engineering owns and operates its own fleet of drill rigs. Our rigs are capable of Hollow Stem Augering, Rotary Core Drilling and Direct Push Sampling. CTL is able to perform in-house energy transfer calibrations on all of its automatic drive hammers. In fact, CTL calibrates many of our competitors' drive hammers as well.

CTL has continuously owned and operated drilling equipment since the 1970's. We have the equipment and experience to perform just about any geotechnical or environmental drilling project you may have.

#### **ANALYTICAL LABORATORY:**

Our soils laboratory has been accredited by AMRL since 1999. The lab has consolidometers, triaxial and direct shear apparatus, permeability devices, soil compaction, soils classification equipment, and other laboratory testing equipment. We routinely perform testing on undisturbed, as well as remolded soil samples. We also provide strength and durability testing services on rock samples.







**PROFESSIONAL SERVICES:**

- Property Surveying and Boundary Determination
- Topographic Mapping Development
- Aerial Mapping Layout and Control
- Gas Midstream Development and Construction Surveys
- Construction Layout
- Settlement Plate Monitoring
- Micrometer Leveling
- Flood Plain Determination and Certification
- Wetland Profiling

**PROJECT SYNOPSIS**

- Residential Subdivision Layout
- Commercial Development Layout
- Access Road and Parking Lot Layout
- Bridge Construction Layout and Monitoring
- Elevation Certificates (FEMA)
- Property Survey Projects
- Storm Water Surveillance Mapping
- Water Body Sounding Studies

**CTL ENGINEERING MAINTAINS A FULL SERVICE, IN-HOUSE SURVEYING AND MAPPING TEAM, WHICH HAS EXTENSIVE EXPERIENCE IN PERFORMING MOST COMMON SURVEYING NEEDS.**

CTL Engineering has the professional staff and the latest equipment to support eight (8) full survey crews. Our equipment includes a Global Positioning System and Robotic Surveying Instruments which gives us an added dimension to our surveying and mapping capabilities.

We have performed surveying and mapping on many of our civil/site projects and have supplied construction stakeout and monitoring for many of our clients.





**CTL ENGINEERING – Using Drones to Reach New Heights!**

CTL is a well-established full service consulting engineering, testing, inspection, and analytical laboratory services company established in 1927. Moving into the future, CTL can utilize drone technology to conduct inspections and surveys more efficiently and cost effectively, and reach areas previously difficult or inaccessible to inspectors or requiring special equipment.

CTL Engineering's drone services allows capture of high-definition 4k video and high-resolution images to be taken remotely. [See for yourself!](#)



**Service Lines:**

- **Site Reconnaissance**
- **Telecommunication Inspections**
- **Telecommunication Bird Nest Assessments**
- **Right-of-Way Surveys**
- **Construction Inspections**
- **Roofing Inspections**
- **Agricultural Surveys**
- **Wetland Surveys**
- **Invasive Species Surveys**
- **Aerial Photography and Videography**
- **Real Estate Marketing**
- **Low Impact Wildlife Surveys**
- **And Many More!**

**FEEL FREE TO CALL FOR A PROPOSAL!**

CTL Office - 304.292.1135

Joe Stanley – 304-376-2536  
[istanley@ctleng.com](mailto:istanley@ctleng.com)



**In-Situ Remediation**



**Underground Storage Tank Removal**



**Invasive Species Control**



**Friable Asbestos Pipe Insulation**



**Cellular Tower Site Assessment**



**Wetland/Stream Mitigation & Monitoring**

**CTL HAS BEEN PROVIDING ENVIRONMENTAL SERVICES SINCE 1987 AND HAS SUCCESSFULLY COMPLETED OVER 7,100 PROJECTS OF VARYING COMPLEXITIES FOR DIVERSIFIED CLIENTS.**

Our clients includes Governmental agencies, Universities, Private Banks, Developers, Communication Tower, Pipeline and Oil & Gas Exploration Companies, etc. Our years of experience have made us aware of the regulatory and technical challenges our clients face when environmental issues arise.

Our clients have come to appreciate our ability to balance regulatory requirements while maintaining projects' feasibility and continuity. With multiple office locations and a knowledgeable staff of Geologists, Environmental Scientists/Engineers, Wetland Scientists, Industrial Hygienist, and certified HazMat Professionals, we can provide a diverse range of environmental services to our local and regional clients. Whether our clients need a Phase I ESA or a full-scale remediation project, CTL Engineering's Environmental Department is the single source for your environmental needs.

**ADDITIONAL ENVIRONMENTAL RELATED SERVICES:**

**Real Estate Related Services**

- Phase I and II ESA's
- Transaction Screenings
- FCC/NEPA Section 106 Reviews

**Building Evaluation Services**

- Asbestos Hazard Evaluations
- Asbestos Abatement Design/Monitoring
- Lead-Based Paint Surveys
- Indoor Air Quality Assessments
- Mold Testing and Remediation

**Ecological Services**

- Stream, Wetlands & Jurisdictional Waters of the U.S. - Assessment & Delineation
- 404/401 Wetland Permitting
- Wetland/Stream Mitigation and Monitoring
- Threatened & Endangered Species Habitat Research and Surveys

**Underground Storage Tank Services**

- UST Removal & Closure
- BUSTR Tiers 1, 2 & 3 Evaluations
- Remedial Investigations and Corrective Actions

**Geophysical Surveys**

- Ground Penetrating Radar (GPR) survey to detect utilities and orphan USTs.
- Resistivity Testing of soil for grounding system designs.

**Hydrogeologic Services**

- Soil Borings & Subsurface Evaluations
- Ground Water Investigations
- Monitoring Well Installation
- Soil & Ground Water Remediation
- Groundwater Mapping/ Modeling
- Storm Water Pollution Prevention Plans (SWPPP) Preparation, Design, and Inspections

**Permitting/Compliance**

- NPDES Permitting Support
- Solid-Waste Landfill Permitting
- Permit to Install/Operate (PTI & PTO)
- Compliance with Permit Conditions

**Waste Management Services**

- Hazardous & Non-Hazardous Waste
- Characterization and Disposal
- Spill/ Discharge Response Plans
- Effluent Sampling & Analysis
- RCRA Planning and Closure
- Spill Prevention Control & Countermeasure Plans (SPCC)

**Transportation Related Services**

- Environmental Screening
- CE Documentation Preparation
- BUSTR Site Assessment
- Ecological Investigations



**CTL ENGINEERING IS A LEADER IN PROVIDING ANALYTICAL SERVICES TO THE CONSTRUCTION INDUSTRY.**

We maintain a staff of experienced personnel and accurate equipment to guarantee dependable results. We evaluate all types of construction materials. Additionally, CTL Engineering can prepare and test Portland cement and bituminous concrete mixes for optimization studies to insure the proper mix design for specific jobs.

CTL Engineering offers petrographic examination of construction materials. These specialized microscopic evaluations allow us to closely evaluate concrete quality and determine the causes and extent of failures in concrete, in addition to potential future performance.

In addition to the standard ASTM tests of strength, absorption, dimensions unit weights, etc., CTL Engineering provides several specialty tests on concrete block and brick, including the fire rating test, specified by the BOCA, and efflorescence testing required by many architectural firms.

CTL Engineering also provides complete and thorough analysis of clay products.

**CTL ENGINEERING PROVIDES COMPLETE TESTING OF THE FOLLOWING:**

**AGGREGATES**

- Component Analysis (sand, gravel, limestone) - Department of Transportation
- Filter Sand - Environmental Protection Agency (EPA)
- Railroad Ballast - American Railroad Engineering Association
- Rip-Rap - U.S. Soil Conservation Service

**SOILS**

- Classification
- Compaction Parameters
- Permeability Tests

**CONCRETE**

- Mix Designs
- Mix Verification Tests to verify strength, air content, consistency, and yield of concrete
- Compression Tests
- Flexural and Split Tensile Strength Tests
- Modulus of Elasticity
- Creep Testing

**ASPHALTS**

- Mix Designs
- Nuclear Gauge Calibrations Extractions and Grading
- Core Testing and Density of Strength

**CLAY-BRICK, PIPE & TILE**

- Compressive Strength
- Absorption
- Freeze-thaw
- Efflorescence
- Dimensional Analysis
- Acid Resistance

**IN ADDITION TO THE STANDARD TESTS THAT ARE REQUIRED BY SPECIFICATION, WE PERFORM SPECIFIC TESTS ON CONSTRUCTION MATERIALS AS DICTATED BY THE NEEDS OF THE CLIENT.**



### ▶ **CTL ENGINEERING'S CONSTRUCTION ADMINISTRATION SERVICES INCLUDE ON-SITE DAILY INSPECTIONS**

Federal, State, and Locally funded Construction Projects require a high level of administration and quality control to meet the project's demands. The Counties and Municipalities, through ODOT's LPA Program, as well as private owners, developers, and contractors have selected CTL Engineering for Construction Administration, knowing that we have the experienced staff to be accurate, dependable, and perform these services in a timely manner. Our experienced engineers, inspectors, and technicians are your partners in construction. We help in completing these projects successfully and meeting the specific project requirements.

CTL Engineering's qualified construction inspectors will observe and inspect your construction project and complete the necessary daily documentation required by the Federal, State, and Local funding agencies participating in the project.

CTL Engineering also provides in-house testing services such as concrete, asphalt, and sub-grade compaction, as well as daily on-site inspection services.

### **CTL ENGINEERING PROVIDES THE FOLLOWING CONSTRUCTION ADMINISTRATION SERVICES:**

- Conduct Pre-Construction Conference
- Project Team Coordination
- Field Reports & Construction Documents' Administration
- Field Engineering and Inspections
- Material Certification and Shop Drawing Reviews
- Progress Meetings and Schedule Tracking
- Payments and Reimbursements
- Change Order Reviews
- Prevailing Wage Compliance
- EEO/DBE Contract Requirements
- Project Closeout Activities

### **CTL ENGINEERING'S ON-SITE INSPECTOR PROVIDES AND/OR PARTICIPATES IN THE FOLLOWING DAILY ON-SITE INSPECTION SERVICES:**

- Pre-Construction Conference
- Prepare Field Inspection & Quantities Reports
- Prepare Construction Documentation & provide to Construction Administrator
- Field Engineering in conjunction with Construction Administrator
- Observe & verify materials being used for the project
- Observe, identify and notify Construction Administrator of deficiencies
- Provide Construction Administrator with monthly quantities for payment preparation
- Material Testing, i.e., compaction, concrete, asphalt, etc.



# Qualification Questionnaires



# **Qualification Questionnaire**

## **CTL Engineering of West Virginia, Inc.**

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

PROJECT NAME <b>Leachate Tank Study – Monongalia/Morgantown LFs</b>		DATE (DAY, MONTH, YEAR) <b>12, June, 2017</b>	FEIN <b>55-063-1834</b>
1. FIRM NAME <b>CTL Engineering of West Virginia, Inc.</b>		2. HOME OFFICE BUSINESS ADDRESS <b>CTL Engineering, Inc. 2860 Fisher Road Columbus, OH 43204</b>	
3. FORMER FIRM NAME			
4. HOME OFFICE TELEPHONE <b>(614) 276-8123</b>	5. ESTABLISHED (YEAR) <b>CTL Engineering, Inc. 1927 CTL Engineering of WV 1982</b>	6. TYPE OWNERSHIP INDIVIDUAL, CORPORATION, PARTNERSHIP, JOINT-VENTURE  <b>Corporation</b>	6A. WV REGISTERED DBE (DISAVANTAGED BUSINESS ENTERPRISE)  YES <b>NO</b>
7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type) PERSONNEL EACH OFFICE <b>CTL Engineering of West Virginia, Inc.      Patrick E. Gallagher, President 1091 Chaplin Road      Morgantown office provided in 9.0 below Morgantown, WV 26501 (304) 292-1135</b>			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM <b>Patrick E. Gallagher, P.E. – President C.K. Satyapriya, P.E. – VP/Sec</b>		8a. NAME, TITLE, & TELEPHONE NUMBER-OTHER PRINCIPALS <b>Ali Jamshidi – Treasurer (614) 276-8123</b>	
9. NUMBER OF PERSONNEL BY DISPLINE (Bold Lettering Indicates Minimum Design Team Members) Detailed information On Team To Be Included			
<b>4 ADMINISTRATIVE</b>	<input type="checkbox"/> ECOLOGISTS	<input type="checkbox"/> LANDSCAPE	<b>1 STRUCTURAL</b>
<input type="checkbox"/> ARCHITECTS	<input type="checkbox"/> ECONOMISTS	<input type="checkbox"/> ARCHITECTS	<b>ENGINEERS</b>
<input type="checkbox"/> BIOLOGIST	<input type="checkbox"/> ELECTRICAL	<input type="checkbox"/> MECHANICAL	<b>5 SURVEYORS</b>
<b>4 CADD OPERATORS</b>	<input type="checkbox"/> ENGINEERS	<input type="checkbox"/> ENGINEERS	
<input type="checkbox"/> CHEMICAL ENGINEERS	<input type="checkbox"/> ENVIRONMENTALISTS	<input type="checkbox"/> MINING	<b>X OTHER</b>
<b>5 CIVIL ENGINEERS</b>	<input type="checkbox"/> ESTIMATORS	<input type="checkbox"/> ENGINEERS	<b>4 Geotechnical</b>
<b>7 CONSTRUCTION</b>	<b>1 GEOLOGIST</b>	<input type="checkbox"/> PHOTOGRAMMETRISTS	<b>Drillers</b>
<input type="checkbox"/> INSPECTORS	<input type="checkbox"/> HISTORIANS	<input type="checkbox"/> PLANNERS:	<b>37 TOTAL</b>
<b>3 DESIGNERS</b>	<input type="checkbox"/> HYDROLOGISTS	URBAN/REGIONAL	<b>PERSONNEL</b>
<input type="checkbox"/> DRAFTSMEN		<b>1 SANITARY</b>	
		ENGINEERS	
		<b>1 SOILS ENGINEERS</b>	
		1 SPECIFICATION	
		WRITERS	
For those disciplines not provided by CTL please see Questionnaire for CBI as attached .			
<b>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE:</b> <b>2 WV / 1 other</b>			
<b>*RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.</b>			



10. If submittal is by joint-venture, list participating firms & outline specific areas of responsibility (including administrative, technical, & financial) for each firm. Each participating firm must complete a "Consultant Confidential Qualification Questionnaire".

**This project will be a teaming project between CTL Engineering, Inc. (CTL) of Morgantown, West Virginia and CB&I Environmental & Infrastructure, Inc. (CB&I) of Pittsburgh, Pennsylvania. CTL will be the Prime Contractual Consultant and will be responsible for overall project completion including investigation of existing features, surveying and mapping, subsurface investigations, sediment and erosion control plans, preparation of construction contract drawings and specifications, permit applications, right-of-way, right-of-way entries.**

**CB&I will be a sub-consultant to CTL and will provide subject matter expertise as related to design bases for leachate generation rates in support of leachate storage capacity, cost estimating for landfill closure activities, underground and aboveground storage tank assessment and design and as related to hydrogeologic aspects of the project.**

10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? **N/A**  YES  NO

**11. OUTSIDE KEY CONSULTANTS/ SUB-CONSULTANTS ANTICIPATED TO BE USED.**

<p><b>NAME AND ADDRESS:</b> CBI Environmental &amp; Infrastructure, Inc. 500 Penn Center Blvd. Suite 1000 Pittsburgh, PA 15235</p>	<p><b>SPECIALTY:</b> Solid Waste Landfill Design</p>	<p><b>WORKED WITH BEFORE</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p><b>NAME AND ADDRESS:</b> Blue Mountain Aerial Mapping 10125 Mason Dixon Hwy Burton, WV 26562</p>	<p><b>SPECIALTY:</b> Aerial Photography &amp; Mapping (To sub if needed)</p>	<p><b>WORKED WITH BEFORE</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>

12. A. Is your firm experienced in solid waste landfill leachate storage design?

**YES Description and Number of Projects:**

CTL Engineering is experienced with solid waste landfill projects and comparable projects involving coal combustion residuals (CCR) landfills. Our experience with the LCAP program involves field activities related to monitoring well installation, development and abandonment for 16 landfills in 15 counties in West Virginia.

CTL Engineering has formulated a strong team to effectively, efficiently complete the study of the existing leachate holding tanks and ponds for the Monongalia and City of Morgantown Landfills. The team includes CTL Engineering with responsibility as prime for overall project management and execution, site investigations and site characterization, permitting and approvals, and construction quality assurance and quality control, and key subcontractor Chicago Bridge and Iron (CB&I, formerly Shaw Environmental, Inc. ) with responsibility for matter as related to design bases for leachate generation rates in support of leachate storage capacity, cost estimating for landfill closure activities, underground and aboveground storage tank assessment and design and as related to hydrogeologic aspects of the project. Key personnel from CTL and CB&I and have prior project experience working together which will allow for seamless integration of project teams and successful project execution. Refer to the team experience matrix. The team has strong experience with the LCAP program.

CB&I (formerly Shaw Environmental, Inc.) has evaluated leachate management systems at numerous landfills, including, including the City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill, which are LCAP landfills in West Virginia. CB&I also has

nationwide experience in solid waste landfill construction and closure design at more than 200 municipal waste landfills nationwide. Work related to evaluate of leachate in landfill has included the following activities:

- Installing piezometers to monitor leachate levels within landfills,
- Utilizing the "Hydrologic Evaluation of Landfill Performance" model to calculate leachate generation from municipal waste landfills and other residual waste disposal facilities,
- Design of leachate storage ponds and tanks,
- Design of pumping systems to transfer collected leachate from sumps or manholes to storage tanks, and
- Design of leachate conveyance facilities (pipelines and pump stations) to convey leachate to publicly owned treatment works.

CTL performed activities under the LCAP program for Wheeling Landfill and also for Monongalia Landfill, Clarksburg Landfill, Buckhannon Landfill, Marion County Landfill, Moundsville Landfill, Morgan County Landfill, Capon County Landfill, Grant County Landfill, Central West Virginia Landfill, Dons Disposal Services Landfill, South Charleston Landfill, Montgomery Landfill, Pine Creek / Omar Landfill, Mingo County Landfill, and Midwest Landfill. This work was related to the 16 landfills in 15 counties in West Virginia mentioned above.

**NO**

B. Is your firm experienced in solid waste landfill leachate capacity assessment?

**YES Description and Number of Projects:**

Team member CB&I (formerly Shaw Environmental, Inc.) has performed site characterization at four LCAP landfills in West Virginia as part of the closure design. These landfills include City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I also has experience in solid waste landfill site characterization assessment at more than 200 municipal waste landfills nationwide. Site characterization with respect to leachate management at solid waste landfills has included installation of piezometers to determine leachate levels within landfill was masses, identifying and designing systems for collecting and conveying leachate to storage facilities or publicly owned treatment works, and design of leachate storage ponds and tanks.

**NO**

C. Is your firm experienced in solid waste landfill closure construction inspection?

**YES Description and Number of Projects:**

CTL Engineering has experience with construction activities for landfills and solid waste facilities. This work includes ongoing construction and certifications associated with the CCR landfill at Harrison Power Station and work associated with landfill construction for the North Mountain Landfill and Wetzel County Landfill.

Team member CB&I (formerly Shaw Environmental, Inc.) has performed landfill closure construction inspections at four LCAP landfills in West Virginia as part of the closure design. These landfills include City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I has also performed construction and closure inspections at more than 200 municipal waste landfills nationwide.

**NO**

D. Is your firm experienced in aerial photography and the development of contour mapping?

**YES Description and Number of Projects:**

Historically, Aerial Photography and Mapping has been subcontracted to Blue Mountain Aerial Mapping with CTL providing all survey control. CTL is currently performing photography and mapping for small projects using a drone owned and operated by CTL personnel and is projecting to expand this service to larger projects. This approach has been provided for over 30 projects for private developers and State Agencies in West Virginia, Maryland and Ohio.

Team member CB&I (formerly Shaw Environmental, Inc.) has utilized the services of aerial photography companies to develop topographic contour maps at four LCAP landfills in West Virginia as part of the closure design. These landfills include City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I has also obtained topographic maps for more than 10 municipal waste landfills in Pennsylvania and for other solid waste disposal facilities, including residual waste landfills and CCR landfills.

**NO**

E. Is your firm familiar with the requirements of 33CSR1, the ground-water protection act, underground and above-ground storage tank rules?

**YES Description and Number of Projects:**

Team member CB&I (formerly Shaw Environmental, Inc.) has extensive experience with groundwater contamination as may be associated with landfills including aspects related to groundwater protection and underground and above-ground storage tanks. CB&I has completed over 10,000 site investigations and assessments nationwide including over 700 hydrogeological investigations at municipal, residual, and hazardous waste landfills. Landfill-related hydrogeological investigations performed were for permit applications to construct and operate landfills, landfill closures, and assessment of groundwater for potential impacts from disposal facilities. The following geological and hydrogeological-related projects have been and continue to be performed by Shaw:

- Reviewed and evaluated existing geological and hydrogeological information related to disposal facilities (including hydrogeological reports, geological maps and reports, topographic and terrain maps, water quality information, climatological information, and water well and spring records).
- Performed field reconnaissance work to identify and delineate factors that may affect the occurrence and distribution of groundwater, including taking inventories of existing water wells, mine drainages, and springs to determine their characteristics and water quality.
- Determined hydrogeological settings of groundwater monitoring well systems and determined screened intervals of existing wells and geological intervals in which new groundwater monitoring wells should be screened.
- Delineated geological conditions, including the identification of bedrock units, structural attitude of bedrock units, folding, faulting, and joints (fractures).
- Installed hundreds of groundwater monitoring wells and piezometers and obtained surveyed locations and elevations of these wells and piezometers.
- Developed groundwater contour maps, structure contour maps, geologic maps, and lithologic maps using site-specific information and published geological information.
- Identified and delineated unconfined and confined aquifers.
- Determined directions and rates of groundwater movement.
- Delineated aquifer recharge and discharge areas.
- Performed aquifer tests (pumping and slug tests).

- Determined aquifer characteristics (hydraulic conductivity, transmissivity, permeability, specific yield, storage coefficient, groundwater velocity, etc.).
- Prepared and implemented hydrogeological work plans.
- Prepared and implemented sampling and analysis plans.
- Sampled groundwater monitoring wells, springs, seeps, mine discharges, and streams.
- Reviewed analytical results for groundwater samples (as well as spring, seep, and stream samples) and performed statistical analyses to evaluate potential impacts.
- Prepared groundwater models using commercial groundwater modeling programs.
- Developed three-dimensional groundwater flow diagrams for unconfined and confined aquifers.
- Developed Environmental Management Software to manage groundwater monitoring and other landfill monitoring information.
- Performed wetland identification and delineation investigations.
- Performed benthic macroinvertebrate investigations in receiving streams.

**NO**

F. Is your firm experienced in solid waste landfill closure cost estimating?

**YES Description and Number of Projects:**

Team member CB&I has prepared cost estimates for municipal and industrial landfill closure projects including City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I associates in the Pittsburgh, Pennsylvania office have also prepared closure cost estimates for approximately 20 landfills in Pennsylvania, West Virginia, New York, and Ohio.

**NO**

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (describe project) (Furnish Complete data but keep to essentials)**

NAME & TITLE (Last, first, Middle Int.)	YEARS OR EXPERIENCE		
<b>Gallagher, Patrick E., PE</b>	41		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
	41 - Engineering		

Brief Explanation of Responsibilities:

Mr. Gallagher will be project executive responsible for overall completion of the work.

Mr. Pat Gallagher has more than 40 years of experience with geotechnical engineering in West Virginia. Mr. Gallagher is a recognized geotechnical expert and has experience with a wide array of projects. Mr. Gallagher is intimately familiar with geologic conditions and associated engineering challenges for locales throughout West Virginia.

EDUCATION (DEGREE, YEAR, SPECIALIZATION)

B.S., 1975, Civil Engineering

B.S., 1975, Geology

<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b> American Society of Civil Engineers Society of Mining Engineers Triangle Fraternity of Engineers, Architects and Scientists International Society of Soil Mechanics and Foundation Engineers American Institute of Professional Geologists	<b>REGISTRATION (Type, Year, State)</b>  Professional Engineer 1983 – West Virginia 1984 – Ohio 1983 – Maryland 1993 – Pennsylvania 2006 – Wyoming  Certified Professional Geological Scientist NC – 2006  Professional Surveyor 1995 – West Virginia
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**13a. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (name type of design or work) (Furnish Complete data but keep to essentials)**

<b>NAME &amp; TITLE (Last, first, Middle Int.)</b>  <b>Barton, Daniel J., PE</b>	<b>YEARS OR EXPERIENCE</b>  31		
	<b>YEARS OF EXPERIENCE (name type):</b> 3 i - Engineering	<b>YEARS OF EXPERIENCE (name type):</b>	<b>YEARS OF EXPERIENCE (name type):</b>

**Brief Explanation of Responsibilities:**

Mr. Barton will be project manager responsible for management of the project including coordination of teams identified for Investigation/Characterization, Design, and Construction QA/QC.

Mr. Barton has experience includes project management for diverse engineering and environmental projects. His experience includes project management for private and governmental clients. Representative projects include:

- Municipal Water/Sewer System Upgrades, Borough of Seven Springs, Champion, Pennsylvania.
- Site Characterization and Environmental Impact Statement, Barakah Nuclear Power Plant , Abu Dhabi.
- Feasibility Studies for Expansion of Chloride Copper Mine, Kingman, Arizona.
- Site Characterization and Environmental Remediation, Kennametal Manufacturing Plant, Bangalore, India.
- Lincoln Township Water System Expansion, Somerset County, Pennsylvania.

Mr. Barton has project engineering experience for solid waste landfills with project assignments involving liner systems, HELP modeling for assessment of leachate generation potential, capping systems, and leachate management systems. His experience has involved a number of facilities including Mostoller Landfill (PA), Monroeville Landfill (PA), Lackawanna Refuse Superfund Site (PA), Moyer Landfill (PA), Kennametal Fallon Landfill (NV).

**EDUCATION (DEGREE, YEAR, SPECIALIZATION)**

M.S., 1985, Civil Engineering  
 B.S., 1984, Engineering Sciences

<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:</b>	<b>REGISTRATION (Type, Year, State)</b> Professional Engineer, 1997, Pennsylvania
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**13a. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (name type of design or work) (Furnish complete data but keep to essentials)**

NAME & TITLE (Last, first, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
<b>Selfridge, Carl G.</b>	20 - Engineering		

**Brief Explanation of Responsibilities:**

Mr. Selfridge will be responsible for leading field activities involving site investigations and site characterization.

As a supervisor of Geotechnical & Drilling Services, Mr. Selfridge annually manages 100+ various geotechnical projects including; education, transportation, commercial development for a variety of public and private clients. 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.

Mr. Selfridge's experience includes serving as a project manager for the completion of field activities involving installation of monitoring wells, redevelopment of existing monitoring wells, and abandonment of monitoring wells for a number of WV LCAP sites involving 16 landfills in 15 counties. Mr. Selfridges's experience also includes geotechnical investigation and characterization activities for solid waste landfills.

**EDUCATION (Degree, Year, Specialization)**  
 B.S., 1996, Civil Engineering, Geotechnical and Structural  
 A.S., 1994, Engineering Science  
 A.A.S., 1991, Mechanical Technology – Design & Drafting

<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> Fellow of the American Society of Civil Engineers The Geo-Institute Timber Framers Guild Construction Institute (ASCE)	<b>REGISTRATION (Type, Year, State)</b>  Engineering Intern (EI), 1996, New York
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**13b. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN QA/QC (Furnish complete data but keep to essentials)**

NAME & TITLE (Last, first, Middle Int.)	YEARS OR EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
<b>Foreman, Gregory, L. P.E.</b>	27 - Engineering		

**Brief Explanation of Responsibilities:**

Mr. Foreman will be responsible for construction quality assurance and quality control (QA/QC) including certification of associated completion reports. Mr. Foreman will be responsible for design activities for pumping systems associated with the leachate system.

Mr. Foreman's experience includes serving as project manager and design engineer for a multitude of design projects for municipal, commercial, and private developer clients which have encompassed design and specifications for water and wastewater handling.

Mr. Foreman was a certifying engineer for landfill expansion new cell development for the North Mountain landfill. The new cell development used a liner system involving secondary 60 mil liner, geosynthetic clay liner, double-sided geocomposite, and primary 80 mil liner.

**EDUCATION (DEGREE, YEAR, SPECIALIZATION)**  
 B.S., 1989, Civil Engineering Technology  
 A.S., 1989, Drafting & Design  
 A.S., 1989, Mechanical

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:	REGISTRATION (Type, Year, State) Professional Engineer, 1999, West Virginia
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**13c. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR HEAVY EARTH WORK CONSTRUCTION PROJECTS (Furnish complete data but keep to essentials)**

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
<b>Gowarty, James P., Jr.</b>	21 – Construction Services		

**Brief Explanation of Responsibilities:**

Mr. Gowarty will be responsible for supervising field and laboratory activities in support of QA/QC for construction of the landfill cap.

As a Construction Services Manager CTL's Morgantown office, 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. His experience 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 years of experience with Nuclear Gauge Operation. Mr. Gowarty has been CTL's Corporate Safety Officer since the Fall of 2008.

Mr. Gowarty experience includes supervision of QA/QC activities for construction of disposal areas including work related to Harrison Power Station, Wetzel County Landfill, Mitchell Mine Refuse Area, McElroy Landfill.

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

B.S., 1990, Civil Engineering Technology

A.S., 1990, Mechanical Engineering Technology

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

ASCE

ASTM

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

**Safety**

- Radiation Safety Training, CPN Corporation
- Radiation Safety Officer Training, Troxler Electronics
- Principals of Fire Protection, Fairmont State University
- Certified Forklift Trainer, Brickstreet Insurance
- Drug Free Workplace Employee Trainer, Working Partners
- Drug Free Workplace Supervisor Trainer, Working Partners
- OSHA 10 hr Construction Safety and Health

**Other**

- Transportation Engineering Technician Level V (TRET Level V)
- West Virginia DOT Certified Compaction Technician
- West Virginia DOT Certified Bituminous Concrete Technician
- West Virginia DOT Certified Portland Cement Concrete Technician
- West Virginia DOT Certified Aggregate Sampler
- NICET Level III Asphalt & Concrete
- NICET Level II Soils
- Certified Dipfloor Profiler Operator, Face Company

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE THIS PROJECT (name project)

**OFFICE EQUIPMENT**

3 HP Color Plotters

HP Color Scanner

Duplicating equipment, copiers, blueprinting, laser printers, etc.

Facsimile Machine

**DESIGN SOFTWARE**

Windows XP, 7 & 10 based operating systems

Microsoft Office 2007 or 2013 is used for word processing, spreadsheet creation, data processing, and presentation creation. Alternative software including Corel Suite is available, if necessary Project design and specifications are produced in our Computer Aided Drafting and Design (CADD) section using all versions of AutoCAD including Release 2016.

**HYDROGEOLOGIC STUDIES**

MODFLO

MODPATH

SURFER

CAPZONE

GWPATH

SKUGIS

PHREEQCI

WATEQ4F

Groundwater for Windows

**CIVIL ENGINEERING SOFTWARE**

Civil 3D 2016(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

- 2 – Trimble GPS Systems - 3-R8 Receivers & 1- R10 Receiver
- 6 Total Stations ( 1- Robotic)
- Drone
- NAK Micrometer Level System & Direct Levels
- 4X4 Vehicles, including ATV for off-road use
- 2-Way Radios

## SUBSURFACE INVESTIGATION EQUIPMENT

- 3 - CME 75 Drilling Rigs, 4-Wheel Drive Truck Mounted
- 2 - CME 75 HD Drilling Rigs, 2-Wheel Drive Truck Mounted
- 1 – CME 55 HD Drilling Rig, All-Terrain Mounted
- 1 - CME 45 Drill Rig, 2-Wheel Drive Truck Mounted
- 1 – CME 45 Drill Rig, 2-Wheel Drive Skid Mounted
- 1 Simco 4000 Track Rig
- 4-Wheel Drive Support Vehicles
- 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 ASSOCIATED WITH OR RELATING TO LANDFILL CLOSURE OR CONSTRUCTION.				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Harrison Power Station Harrison County, WV	FirstEnergy Corp. 800 Cabin Hill Drive Greensburg, PA 15601	Design, QA/QC, Certification	+\$6M	Phase 5 completed On-going with facility
Tunnel Ridge Mine Refuse Landfill Clearview, WV	Tunnel Ridge, LLC 2596 Battle Run Road Triadelphia, WV, 26059	Quality Control	+\$10M	On-going with operation of facility
TOTAL NUMBER OF PROJECTS: # <u>2</u>		TOTAL ESTIMATED CONSTRUCTION COSTS: \$ <u>+16M</u>		

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS RELATING TO LANDFILL CLOSURE AND CONSTRUCTION.					
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
<b>NOT APPLICABLE</b>					

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
+20 Gas Pads (Pad Design, Geotechnical, Environmental, Permitting) Eastern Ohio	Eclipse Resources State College, PA	\$60,000,000	2014-2017	YES
Contract for Engineering Services (Environmental, Civil Site Design, Geotechnical) Western Maryland	MD Dept. Environment Water Street Frostburg, MD 21532	\$25,000,000	2011-2017	YES
Multiple Projects (Environmental, Survey, Geotechnical, Civil Site Design)	WVU Health Care Morgantown, WV	\$50,000,000	2013-2017	YES
PA Turnpike (Geotechnical Drilling Services)	PA Turnpike Commission Harrisburg, PA		2013-2015	On-going
Antero Midstream (Environmental, Survey, Permitting)	Antero Resources Denver, CO	\$100,000,000	2011-2013	YES

18. COMPLETED WORK WITHIN LAST 5 YEARS IN WHICH YOUR FIRM HAS BEEN A SUBCONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK WHICH YOUR FIRM WAS RESPONSIBLE) LIST 5 TO 7.					
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
University Place/ P3 Student Housing / Morgantown, WV	West Virginia University	\$ 100,000,000	2014	YES	West Virginia Campus Housing (P3 Project w/ WV University) Environmental, Geotechnical, Construction Testing, Site Design
University Park/ P3 Student Housing / Morgantown, WV	West Virginia University	\$ 100,000,000	2014	YES	Paradigm Architecture (P3 Project w/ WV University) Environmental, Geotechnical, Construction Testing
New I79 Interchange MP 135/ Morgantown, WV	WV DOT	\$ 27,000,000	2015	YES	Mountaineer Contractors, AECOM Design Build Geotech, Survey, Materials Testing
Multiple Bridges in WV	WV DOT	+ \$5,000,000	2016	YES	US Bridge, Inc. Material Testing, Survey

19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the WV Department of Environmental Protection.

CTL Engineering has formulated a strong team to effectively, efficiently complete the closure for the Leachate Holding Tank Study, Recommendation, and Construction QA/QC for Monongalia County and City of Morgantown Landfills. The team includes CTL Engineering with responsibility as prime for overall project management and execution, site investigations and site characterization, permitting and approvals, and construction quality assurance and quality control, and key subcontractor Chicago Bridge and Iron (CB &I) with responsibility for engineering and design for the capping systems, leachate collection and storage systems, and other design elements for the closure. Refer to the team organization chart and team experience matrix. Key personnel from CTL and CB&I and have prior project experience working together which will allow for seamless integration of project teams and successful project execution. Key characteristics for the team include:

- **The team has strong experience with the LCAP program and Leachate Storage Facilities.** CTL's experience includes field activities under the LCAP program for Monongalia Landfill, Clarksburg Landfill, Buckhannon Landfill, Marion County Landfill, Moundsville Landfill, Morgan County Landfill, Capon County Landfill, Grant County Landfill, Central West Virginia Landfill, Dons Disposal Services Landfill, South Charleston Landfill, Montgomery Landfill, Pine Creek / Omar Landfill, Mingo County Landfill, and Midwest Landfill. CB&I's experience includes landfill investigative, engineering, and design efforts associated with Wheeling Landfill, Monongalia Landfill, Moundsville Landfill, and 15 other LCAP Landfills. CB&I has evaluated leachate management systems at numerous landfills, including, including the City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill
- **Key technical staff have prior experience with LCAP program.** For CTL, Messrs. Pat Gallagher, Carl Selfridge, and James Gowarty have previously been engaged in CTL's LCAP work. For CB&I, Mr. Harry Dravecky and Dr. Jim Kilburg have previously been engaged in CB&I's hydrogeological work under the LCAP program including work on Monongalia Landfill.
- **Design Team experience with LCAP program closure.** Mr. Harry Dravecky and Dr. Jim Kilburg have experience with design in support of closure under the LCAP program including completion of projects for Rehe Landfill, Hampshire County Landfill, and Moundsville Landfill.
- **Geotechnical Experience.** Mr. Pat Gallagher has more than 40 years of experience with geotechnical engineering in West Virginia. Mr. Gallagher is a recognized geotechnical expert for projects in West Virginia and has experience with a wide array of projects. Mr. Gallagher is intimately familiar with geologic conditions and associated engineering challenges for locales throughout West Virginia.
- **Site Proximity & Efficiency.** CTL's base of operations for project personnel will be Morgantown, West Virginia, and CB&I's base of operations for project personnel will be Pittsburgh Pennsylvania. Senior personnel for CTL and CB&I have prior experience working together which will allow for seamless integration of project teams and successful project execution. This proximity and experience will support efficient, cost-effective execution of the work.
- **Experience and Resources.** CTL has more than 35 years of experience in West Virginia under the leadership of Mr. Pat Gallagher and a long record of successful projects. CTL has drilling and laboratory operations based in Morgantown which will provide necessary completion of site investigation and characterization activities. Proposed project personnel for CTL are based in Morgantown and will be supported as/if necessary, from the full resources of the CTL organization which includes more than 225 people. CB&I is a nationally-recognized firm with experience with more than 10,000 sites including 700 investigations for landfills. Proposed project personnel for CB&I are based in Pittsburgh with key personnel from CB&I and CTL having prior project experience working together. The CB&I team will be supported, as/if necessary, from the resources throughout its organization which includes more than 2,500 people.

20. The foregoing is a statement of facts

Signature: \_\_\_\_\_  
Title: **President**  
Printed  
Name: **Patrick E. Gallagher**

Date: **June 12, 2017**



**Qualification Questionnaire**  
**CB&I Environmental & Infrastructure, Inc.**

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

<b>PROJECT NAME</b> <b>Leachate Tank Study - Monongalia/Morgantown LFs</b>	<b>DATE (DAY, MONTH, YEAR)</b> 06/12/2017	<b>FEIN</b> 77-05899932
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<b>1. FIRM NAME</b> CB&I Environmental & Infrastructure, Inc., formerly Shaw Environmental, Inc.	<b>2. HOME OFFICE BUSINESS ADDRESS</b> 500 Penn Center Boulevard, Suite 1000, Pittsburgh, PA 15235	<b>3. FORMER FIRM NAME</b> IT Corporation
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<b>4. HOME OFFICE TELEPHONE</b> (412)372-7701	<b>5. ESTABLISHED (YEAR)</b> Incorporated as Shaw Environmental, Inc. on April 23, 2002.	<b>6. TYPE OWNERSHIP</b> Individual <input checked="" type="checkbox"/> <b>[Corporation]</b> Partnership      Joint-Venture	<b>6a. WV REGISTERED DBE (Disadvanta ged Business Enterprise)</b>  YES <input checked="" type="checkbox"/> <b>[NO]</b>
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**7.PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type)  
PERSONNEL EACH OFFICE**  
500 Penn Center Boulevard, Suite 1000 Pittsburgh, PA 15235/ (412)380 - 6222 / James  
A. Kilburg, Ph.D., P.G. / (See Question 9)

<b>8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM</b>  Kelly Trice, President Malcolm Jarrell, Vice President Harry Dravecky, P.E., Executive Vice President	<b>8a. NAME, TITLE, &amp; TELEPHONE NUMBER - OTHER PRINCIPALS</b>
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**9. KEY PERSONNEL (Check mark key personnel below that you have on staff and will  
work on project)**

<b>336 ADMINISTRATION</b>	<b>6 ECOLOGISTS</b>	<b>0 SANITARY</b>
<b>3 ARCHITECTS</b>	<b>0 ECONOMISTS</b>	<b>10 SOILS ENGINEERS</b>
<b>33 BIOLOGISTS</b>	<b>5 ELECTRICAL ENGINEERS</b>	<b>0 SPECIFICATION WRITERS</b>
<b>30 CADD OPERATORS</b>	<b>98 ENVIRONMENTALISTS</b>	<b>(TYPICALL PREPARED BY ENGINEERS</b>
<b>16 CHEMICAL ENGINEERS</b>	<b>26 ESTIMATORS</b>	<b>5 SURVEYORS</b>
<b>59 CIVIL ENGINEERS</b>	<b>77 GEOLOGISTS</b>	<b>1753 OTHERS</b>
<b>106 CONSTRUCTION INSPECTORS</b>	<b>0 HISTORIANS</b>	
<b>NA DESIGNERS (INCLUDED WITH CADD OPERATORS</b>	<b>7 HYDROGEOLOGISTS</b>	
<b>0 DRAFTSMAN - NOW TITLED CADD OPERATORS</b>	<b>0 LANEDSCAPE ARCHITECTS</b>	<b>2580 Total Employees</b>
	<b>19 MECHANICAL ENGINEERS</b>	
	<b>0 MINING ENGINEERS</b>	
	<b>0 PHOTOGRAMMATRISTS</b>	
	<b>0 PLANNERS URBAN/REGIONAL</b>	

10. If submittal is by joint-venture, list participating firms & outline specific areas of responsibility (including administrative, technical, & financial) for each firm. Each participating firm must complete a "Consultant Confidential Qualification Questionnaire". **This project will be a joint-venture between CTL Engineering, Inc. (CTL) of Morgantown, West Virginia and CB&I Environmental & Infrastructure, Inc. (CB&I) of Pittsburgh, Pennsylvania. CTL will perform the site characterization and construction quality assurance phase of this project and CB&I will prepare the landfill cap design, storm water management, and leachate management phase of this project.**

10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? **N/A**  YES  NO

**11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED.**

Attach "DEP" Consultant Confidential Qualification Questionnaire" for each.

<p><b>NAME AND ADDRESS:</b> Based on the scope of work that will be performed, CB&amp;I does not anticipate using any subconsultants for this project.</p>	<p><b>SPECIALTY:</b> Not applicable.</p>	<p><b>WORKED WITH BEFORE</b>   <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>   <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>   <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>   <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>   <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>
<p><b>NAME AND ADDRESS:</b></p>	<p><b>SPECIALTY:</b></p>	<p><b>WORKED WITH BEFORE</b>   <input type="checkbox"/> Yes  <input type="checkbox"/> No</p>



12.A. Is your firm experienced in solid waste storage design?

**YES** ✓ Description and Number of Projects:

CB&I (formerly Shaw Environmental, Inc.) has evaluated leachate management systems at numerous landfills, including, including the City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill, which are LCAP landfills in West Virginia. CB&I also has nationwide experience in solid waste landfill construction and closure design at more than 200 municipal waste landfills nationwide. Work related to evaluate of leachate in landfill has included the following activities:

- Installing piezometers to monitor leachate levels within landfills,
- Utilizing the "Hydrologic Evaluation of Landfill Performance" model to calculate leachate generation from municipal waste landfills and other residual waste disposal facilities.
- Design of leachate storage ponds and tanks,
- Design of pumping systems to transfer collected leachate from sumps or manholes to storage tanks, and
- Design of leachate conveyance facilities (pipelines and pump stations) to convey leachate to publicly owned treatment works.

B. Is your firm experienced in solid waste landfill leachate capacity assessment?

**YES** ✓ Description and Number of Projects:

CB&I (formerly Shaw Environmental, Inc.) has performed site characterization at four LCAP landfills in West Virginia as part of the closure design. These landfills include City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I also has experience in solid waste landfill site characterization assessment at more than 200 municipal waste landfills nationwide. Site characterization with respect to leachate management at solid waste landfills has included installation of piezometers to determine leachate levels within landfill was masses, identifying and designing systems for collecting and conveying leachate to storage facilities or publicly owned treatment works, and design of leachate storage ponds and tanks.

C. Is your firm experienced in landfill closure construction inspection?

**YES** ✓ Description and Number of Projects:

CB&I (formerly Shaw Environmental, Inc.) performed landfill closure construction inspections at four LCAP landfills in West Virginia as part of the closure design. These landfills include City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I has also performed construction and closure inspections at more than 200 municipal waste landfills nationwide.

D. Is your firm experienced in Aerial Photography and the Development of Contour Mapping?

**YES** ✓ Description and Number of Projects:

CB&I (formerly Shaw Environmental, Inc.) has utilized the services of aerial photography companies to develop topographic contour maps at four LCAP landfills in West Virginia as part of the closure design. These landfills include City of Moundsville Landfill, Hampshire County Landfill, Rehe Landfill, and Monongalia County Landfill. CB&I has also obtained topographic maps for more than 10 municipal waste landfills in Pennsylvania and for other solid waste disposal facilities, including residual waste landfills and coal combustion residuals landfills.

E. Is your firm experienced with the requirements of 33CSR1, the ground-water protection act, under-ground and above-ground storage tank rules?

**YES** ✓ Description and Number of Projects:

CB&I (formerly Shaw Environmental, Inc.) has completed over 10,000 site investigations and assessments nationwide including over 700 hydrogeological investigations at municipal, residual, and hazardous waste landfills. Landfill-related hydrogeological investigations performed by CB&I were for permit applications to construct and operate landfills, landfill closures, and assessment of groundwater for potential impacts from disposal facilities. The following geological and hydrogeological-related projects have been and continue to be performed by CB&I:

- Performed groundwater assessments related to leachate discharges from municipal and residual waste landfills and leachate storage impoundments.
- Evaluated groundwater abatement and designed collection and treatment systems for groundwater impacted by municipal and residual waste landfills.
- Reviewed and evaluated existing geological and hydrogeological information related to disposal facilities (including hydrogeological reports, geological maps and reports, topographic and terrain maps, water quality information, climatological information, and water well and spring records).
- Performed field reconnaissance work to identify and delineate factors that may affect the occurrence and distribution of groundwater, including taking inventories of existing water wells, mine drainages, and springs to determine their characteristics and water quality.
- Determined hydrogeological settings of groundwater monitoring well systems and determined screened intervals of existing wells and geological intervals in which new groundwater monitoring wells should be screened.
- Delineated geological conditions, including the identification of bedrock units, structural attitude of bedrock units, folding, faulting, and joints (fractures).
- Installed hundreds of groundwater monitoring wells and piezometers and obtained surveyed locations and elevations of these wells and piezometers.
- Developed groundwater contour maps, structure contour maps, geologic maps, and lithologic maps using site-specific information and published geological information.
- Identified and delineated unconfined and confined aquifers.
- Determined directions and rates of groundwater movement.
- Delineated aquifer recharge and discharge areas.
- Performed aquifer tests (pumping and slug tests).
- Determined aquifer characteristics (hydraulic conductivity, transmissivity, permeability, specific yield, storage coefficient, groundwater velocity, etc.).
- Prepared and implemented hydrogeological work plans.
- Prepared and implemented sampling and analysis plans.
- Sampled groundwater monitoring wells, springs, seeps, mine discharges, and streams.
- Reviewed analytical results for groundwater samples (as well as spring, seep, and stream samples) and performed statistical analyses to evaluate potential impacts.

- Prepared groundwater models using commercial groundwater modeling programs.
- Developed three-dimensional groundwater flow diagrams for unconfined and confined aquifers.
- Developed Environmental Management Software to manage groundwater monitoring and other landfill monitoring information.
- Performed wetland identification and delineation investigations.
- Performed benthic macroinvertebrate investigations in receiving streams.

**Number of Projects:** CB&I has performed more than 700 hydrogeological investigations at landfills related to permitting and evaluation of potential impacts to groundwater from landfill leachate.

F. Is your firm experienced in Landfill Closure cost estimating?

**YES** ✓ Description and Number of Projects:

CB&I (formerly Shaw Environmental, Inc.) has prepared cost estimates for municipal and industrial landfill closure project, including the four WVDEP LCAP landfills referenced in this Questionnaire. CB&I associates in the Pittsburgh, Pennsylvania office have prepared closure cost estimates for approximately 20 landfills in Pennsylvania, West Virginia, New York, and Ohio.

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION LANDFILL CLOSURE DESIGN (describe project) (Furnish complete data but keep to essentials)**

<b>NAME &amp; TITLE</b> <b>Dravecky, Harry, PE</b> <b>Executive Vice President</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE</b> (name type): 31 – Engineering	<b>YEARS OF EXPERIENCE</b> (name type):	<b>YEARS OF EXPERIENCE</b> (name type):

**Brief Explanation of Responsibilities:** Mr. Dravecky has served as engineer of record, project manager, construction manager, and/or design engineer during all aspects of landfill-related work throughout his career. Mr. Dravecky is a certified professional engineer in West Virginia and has worked with the WVDEP's LCAP program since 1997. He has also represented his clients in civil engineering and landfill-related arbitration support and expert witness testimony. Specific landfill-related projects conducted by Mr. Dravecky throughout his career include:

- Hampshire County Landfill – West Virginia – investigation/permitting/design
- Rehe Landfill – West Virginia – investigation/permitting/design/construction oversight
- Monongalia County Landfill – West Virginia - investigation/permitting/design/construction oversight
- Evergreen Landfill – Pennsylvania – permitting/design/construction oversight
- Gallia County Landfill – Ohio – permitting/design
- Frey Farm Landfill – Pennsylvania – field investigation/permitting/design
- Appleton Papers Residual Waste Landfill – Pennsylvania - design
- Industrial waste lagoon closures – West Virginia - design
- Fresh Kills Landfill – New York - design
- Model City Landfill – New York - design
- Imperial Landfill – Pennsylvania –design/permitting/construction oversight

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

**B.S., 1984, Agricultural Engineering (with soil and water conservation specialization)**

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

American Society of Civil Engineers

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

Professional Engineer  
 1999 – West Virginia  
 1991 – Pennsylvania  
 2000 – Ohio

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS.**  
(Furnish complete data but keep to essentials)

NAME & TITLE	YEARS OF EXPERIENCE		
<b>Kilburg, James, A., Ph.D., PG</b> <b>Primary Program Contact / Client Program Manager</b>	YEARS OF (type) EXPERIENCE: 38 – Engineering Geology	YEARS OF (type) EXPERIENCE: 30 – Landfill design, permitting, operation and closure	YEARS OF (type) EXPERIENCE: 38 – Geology and hydrogeology
<b>Brief Explanation of Responsibilities:</b> Dr. Kilburg is an engineering geologist with 38 years of experience in engineering geology (geotechnical engineering), hydrogeology, waste management, and regulatory compliance. He has considerable experience in waste management projects, including design, permitting, construction, operation, and closure of municipal, residual, and hazardous waste disposal facilities. He also has experience in other waste management issues such as soil borrow area studies and soil demonstrations, groundwater and landfill gas monitoring, mitigation of groundwater contamination and landfill gas migration, Title V permitting for landfills and evaluations, and wetlands mitigation related to landfills. Dr. Kilburg has performed a variety of services for the municipal, residual, and hazardous waste management industry, including preparation of permit applications, quality assurance for construction of landfill cells and for closure of landfills, groundwater assessments, groundwater and landfill gas monitoring, preparation of plans related to landfills such as groundwater assessment and monitoring plans and correction action plans for landfill gas migration, mine subsidence investigations at landfill sites, evaluation of landfills for applicability to Title V permitting requirements, preparation of Title V permit applications, and preparation of National Pollutant Discharge Elimination System permit applications for general storm water discharges and leachate treatment. Dr. Kilburg was involved in the closure design and construction quality assurance for the Rehe, Hampshire County, and Moundville Landfills. Dr. Kilburg was also the lead investigator evaluating the groundwater monitoring well systems at 16 LCAP landfill.			
<b>EDUCATION (Degree, Year, Specialization)</b> B.S., 1970, Geology M.S., 1972 Geology Ph.D., 1979 Geology			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> Geological Society of America Association of Engineering Geologists American Society of Highway Engineers Pittsburgh Geological Society		<b>REGISTRATION (Type, Year, State)</b> Professional Geologist Pennsylvania – 1993 Arkansas – 1994 Wyoming – 1992	

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS.**  
(Furnish complete data but keep to essentials)

NAME & TITLE	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
<b>Smith, Bruce, E., PG Project Manager</b>	28 - Hydrogeologist	28 - Geologist	

**Brief Explanation of Responsibilities:**

Managed and designed investigation plans and conducted the fieldwork associated with geologic and hydrogeologic evaluations at landfill sites in Pennsylvania, Ohio, and Kansas. Work included drilling supervision utilizing a wide array of drilling techniques including rock coring, air and mud rotary, hollow stem augering, and split barrel sampling and direct-push sample collection. Also, these projects included design and implementation of multiple aquifer characterization tests using single-well and multiple-well test designs, collection of soil and groundwater data, and preparation of investigation plans and reports. In addition, Mr. Smith is currently providing hydrogeologic management services for municipal waste facilities in Mississippi, Tennessee, and Georgia, which requires the review of historical data, evaluation of data gaps, and preparation of plans to obtain data to fill those gaps. He has also conducted hydrogeologic, geologic, and general facility siting evaluations of "Greenfield" sites as well as closed sites and sites that were developed prior to the requirements for landfill liner systems. He has managed quality assurance/quality control activities for the construction of a captive landfill and cap for a large low-level radiation site in Colorado.

In addition to specific landfill experience, Mr. Smith has managed, designed, supervised, and implemented hydrogeologic assessment plans at numerous industrial facilities in the United States, mostly concentrated in the midwest and mid-Atlantic states. He has evaluated the effects of acid mine drainage (AMD) on watersheds in West Virginia and Pennsylvania and worked on the development of passive remediation of AMD sites.

Mr. Smith has conducted numerous hydrogeologic assessments of potential public water supplies specifically associated with spring water and boreholes for the bottled water industry. Those bottled water hydrogeologic investigations ranged from data review of existing developed spring water sources, to conducting watershed analyses of undeveloped springs, which included sampling, borehole installation, and hydrogeologic characterization testing of the water sources.

**EDUCATION (Degree, Year, Specialization)**  
M.S., Geology (Hydrogeology Emphasis), 1986  
B.S., Geology, 1983  
A.S., Wildlife Technology, 1980

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**  
Pennsylvania Council of Professional Geologists

**REGISTRATION (Type, Year, State)**  
Professional Geologist  
Pennsylvania - 1994

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS. (Furnish complete data but keep to essentials)**

<b>NAME &amp; TITLE</b> <b>Jones, Gregory, S.</b> <b>CADD Operator</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE (name type):</b> 31 - CADD Operator	<b>YEARS OF EXPERIENCE (name type):</b>	<b>YEARS OF EXPERIENCE (name type):</b>
<b>Brief Explanation of Responsibilities:</b> Mr. Jones is responsible for CADD in support of commercial and government clients. He has completed cap and storm water control design and volume/quantity estimates for the Hampshire Landfill in West Virginia. He has assisted in design and preparation of as-built drawings for the Rehe and Moundsville Landfills in West Virginia and also assisted on numerous other WVDEP landfill projects in support of the leachate collection maintenance program.			
<b>EDUCATION (Degree, Year, Specialization)</b> A.S., 1983, Engineering and Design Technology			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b>			<b>REGISTRATION (Type, Year, State)</b>

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS. (Furnish complete data but keep to essentials)**

<b>NAME &amp; TITLE</b> <b>Malec, Ronald, T.</b> <b>Staff Geologist/Hydrogeologist</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE (name type):</b> 13 - Geology	<b>YEARS OF EXPERIENCE (name type):</b> 3 - Environmental	<b>YEARS OF EXPERIENCE (name type):</b> 3 - Hydrogeological
<b>Brief Explanation of Responsibilities:</b> Mr. Malec is an environmental scientist experienced in performing environmental assessments and subsurface soil and groundwater investigations as related to environmental engineering. He contributes to all phases of projects from initiating cost proposals, collecting/analyzing data from various environmental agencies, analyzing chains of titles and aerial photographs, to writing reports. Mr. Malec is also involved with RCRA/CERCLA compliance efforts, which include aquifer testing and oversight of underground storage tank closures. He has conducted site assessments/characterization, remediation, operations and maintenance, and site closures in West Virginia. Responsible for the development of geologic cross-sections and conceptual models as part of the data evaluation process. Mr. Malec also conducts biological and chemical emergency response as required. His experience includes investigation and evaluation of hydrogeological conditions at retail petroleum sites in West Virginia for WVDEP and managing cleanup following releases of petroleum products from ruptured pipelines in West Virginia. Mr. Malec has gained experience in the collection of field data for use in investigation and evaluation of hydrogeological conditions (surveying, well sampling, aquifer tests, soil boring/rock drilling and coring and well installation, etc.).			
<b>EDUCATION (Degree, Year, Specialization)</b> B.S., 2000, Geology and Environmental Studies			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> None			<b>REGISTRATION (Type, Year, State) Professional Geologist, 2013, Pennsylvania</b>



**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS.**  
(Furnish complete data but keep to essentials)

<b>NAME &amp; TITLE</b> <b>Brooker, John A.</b> <b>Biologist/Environmentalist</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE (name type):</b> 20 - Biologist	<b>YEARS OF EXPERIENCE (name type):</b> 15 - Aquatic Toxicologist	<b>YEARS OF EXPERIENCE (name type):</b> 20 Benthic Macroinvertebrate Investigations
<b>Brief Explanation of Responsibilities:</b> Mr. Brooker is a Biologist with CB&I and through his work history has conducted water column and sediment toxicity testing. He has collected and analyzed surface water samples for metals and organic compounds, and he has monitored freshwater fish and macroinvertebrate populations. In addition, Mr. Brooker has conducted environmental risk assessments, installed groundwater monitoring wells, and monitored groundwater levels using pressure transducers and data loggers.			
<b>EDUCATION (Degree, Year, Specialization)</b> M.S., 2000, Biology/Aquatic Toxicity B.A., 1995, Biology and Environmental Studies			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> Society of Environmental Toxicology and Chemistry			<b>REGISTRATION (Type, Year, State)</b>

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS.**  
(Furnish complete data but keep to essentials)

<b>NAME &amp; TITLE</b> <b>Lopez, Laurel C., P.E.</b> <b>Civil Engineer</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE (name type):</b> 22 - Civil Engineering	<b>YEARS OF EXPERIENCE (name type):</b>	<b>YEARS OF EXPERIENCE (name type):</b>
<b>Brief Explanation of Responsibilities:</b> Ms. Lopez has 19 year of experience in the areas of geotechnical engineering, environmental, solid waste, and civil engineering. She has both design and regulatory experience related to municipal waste disposal facilities. Regulatory experience which Ms. Lopez possesses includes permitting, reporting, construction certification, compliance review, related to projects regulated by state and local agencies. Ms. Lopez has worked on the design, permitting, construction quality assurance and quality control, and closure for numerous municipal waste landfills and residual waste storage and disposal impoundments. She also has experience with landfill gas and leachate management. Ms. Lopez also has experience in geotechnical engineering for site development, foundation design, and slope stability evaluations.			
<b>EDUCATION (Degree, Year, Specialization)</b> M.S., 1997, Civil and Environmental Engineering B.S., 1994, Civil Engineering			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> None			<b>REGISTRATION (Type, Year, State)</b> Professional Engineer, 2001, Pennsylvania

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS.**  
(Furnish complete data but keep to essentials)

NAME & TITLE	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
<b>Vovaris, Jill M.</b> <b>Biologist/Ecologist</b>	16 - Ecologist		

**Brief Explanation of Responsibilities:**  
Ms. Vovaris a biologist/ecologist specializing in terrestrial and aquatic habitat assessments; general taxonomy; physical soil analysis; fresh-water wetlands identification. Delineation, and mitigation; stream surveys (physical, chemical, and macroinvertebrate sampling); environmental sampling procedures; statistical data analysis; National Environmental Policy Act (NEPA) documentation, preparation of clean water act permits; regulatory agency interaction and coordination; mitigation services, including site selection, feasibility studies, stream restoration and replacement wetland design plans, and post-construction monitoring. Ms. Vovaris has extensive experience with Geographic Information System utilization. She also has experience with United States Environmental Protection Agency, Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act, and National Pollutant Discharge Elimination System regulatory requirements.

**EDUCATION (Degree, Year, Specialization)**  
M.S., 2005 Environmental Science and Management  
B.S., 1997, Biology

<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> Pennsylvania Association of Environmental Professionals	<b>REGISTRATION (Type, Year, State)</b>
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**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS.**  
(Furnish complete data but keep to essentials)

NAME & TITLE	YEARS OF EXPERIENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):
<b>Walor, Michael</b> <b>Scientist</b>	4 - Ecology	5 -	

**Brief Explanation of Responsibilities:**  
Mr. Walor is an environmental soil scientist with 4 years of experience in a variety of environmental and engineering-related projects. He has supported projects involving compliance with the Clean Water Act, cleanup of a gas condensate pipeline break under West Virginia's Underground Storage Tank program, wetland delineation, soil taxonomy, surface water and groundwater sampling, and bio-injection at sites impacted by dense non-aqueous phase liquids. He has performed wetland delineation and double ring infiltrometer tests at five proposed gas drilling well pas sites in northern Pennsylvania.

**EDUCATION (Degree, Year, Specialization)**  
B.S., 2012, Environmental Soil Science

<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> None	<b>REGISTRATION (Type, Year, State)</b>
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**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS. (Furnish complete data but keep to essentials)**

<b>NAME &amp; TITLE</b> <b>Ratchford, Amanda, E.I.T.</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE (name type):</b> 4 – Civil Engineering	<b>YEARS OF EXPERIENCE (name type):</b>	<b>YEARS OF EXPERIENCE (name type):</b>
<b>Brief Explanation of Responsibilities:</b> Ms. Ratchford has experience in storm water design and permitting and development of grading plans for site development. She also has geotechnical drilling experience and is proficient with slope stability analysis. She also completed a comprehensive storm water management plan for a large electrical substation in western Pennsylvania that included surface and subsurface drains that were installed to minimize the potential for erosion that has been ongoing at the substation for more than 40 years. Construction of the storm water management structures is ongoing and will be completed by the end of 2016. Ms. Ratchford also has structural experience in designing concrete secondary containment systems oil-containing equipment. Ms. Ratchford completed the grading plans and storm water management system design for the closure of an ash landfill at an electric generating station in Delaware. This project is now under construction.			
<b>EDUCATION (Degree, Year, Specialization)</b> B.S., 2012, Civil Engineering B.S., 2012, Construction Management Engineering Technology			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> None		<b>REGISTRATION (Type, Year, State) Engineer-In-Training, 2012, New York</b>	

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR INVESTIGATION & EVALUATION OF HYDROGEOLOGICAL CONDITIONS FOR 29 LCAP LANDFILLS. (Furnish complete data but keep to essentials)**

<b>NAME &amp; TITLE</b> <b>Schlegel, Evan L.</b> <b>CADD Operator</b>	<b>YEARS OF EXPERIENCE</b>		
	<b>YEARS OF EXPERIENCE (name type):</b> 12 CADD OPERATOR	<b>YEARS OF EXPERIENCE (name type):</b>	<b>YEARS OF EXPERIENCE (name type):</b>
<b>Brief Explanation of Responsibilities:</b> Mr. Schlegel is responsible for CADD in support of commercial and clients and also performs a variety of field related projects. His CADD capabilities include preparation of civil, mechanical, architectural drawings to the "Issued for Construction" stage. He has developed grading plans for a number of sites, performed cut and fill calculations, prepared groundwater and a variety of chemical isoconcentration maps. His field activities have included groundwater and surface water sampling, aquifer testing, groundwater monitoring well inspections and evaluations, municipal waste landfill gas monitoring, and construction oversight at environmental remediation sites.			
<b>EDUCATION (Degree, Year, Specialization)</b> Associate of Specialized Technology, CADD, 2004			
<b>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS</b> Society of Environmental Toxicology and Chemistry		<b>REGISTRATION (Type, Year, State)</b>	

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

See Exhibit 1 for a list of computer software available for use on this project. The following office equipment is available for use in CB&I's Pittsburgh, Pennsylvania office:

- All CB&I associates who will be involved in this project have laptop computers that use Microsoft Windows (Word, Excel, PowerPoint, etc.)
- Five computer-assisted drafting and design (CADD) stations
- Scanners, digitizers, high speed plotters
- Fully equipped reprographics department

CB&I maintains the following field equipment at the Pittsburgh, Pennsylvania office:

- 5-Full size, extended cab 4x4 pickup trucks with tool boxes
- 3-Oil/water interface probes
- 2-Water level probes
- 2-Photoionization detectors
- 2-LEL/O<sub>2</sub> meters
- 1-GEM 500 landfill gas monitor
- 2-Spectra-Physics Laserplanes with tripods and rods
- 1-Pentax PTS III 5-second Total Station with data recorder
- An assortment of Low Value Equipment (LVE) is also available at the Pittsburgh location. This equipment is defined by CB&I as common multi-use small hand or power tools and low dollar (<\$1,500) equipment used to support project operations. Examples include generators, saws, pumps, heaters, shop vacuums, ladders, wheel barrows, shovels, etc.
- Four portable double ring infiltrometers for testing soil infiltration rates.
- Various expendable inventory items are also stored at the Pittsburgh office. These items are defined by CB&I as items which are warehoused in large quantities, have a high turnover rate, are one-time use items, and are common to CB&I projects. Examples include oil-sorbent boom and pads, personal protective equipment, drums, sample jars, tape, visqueen, etc.
- In the event there is a need for equipment not currently located in the Pittsburgh office, CB&I's regional Equipment Coordinator will fill the project need with company-owned equipment from CB&I's Findlay, Ohio equipment yard or through local or national rental agreements (Procedure No. EQ001). The most appropriate equipment will be selected based on availability to meet the project schedule, performance, and cost.

### Exhibit 1- Computer Software Available in CB&I's Pittsburgh Office

Name of Software	Developer	Application
<b>Category: General</b>		
Word 2013	Mircosoft	Word Processing
Excel 2013	Microsoft	Data Management
PowerPoint 2013	Microsoft	Presentations and Graphics
ArcView 3.1	ESRI	GIS
HELP V.4	EPA	Water Balance Analysis
MathCAD 6	MathSoft	General Technical Calculation
MathCAD 7	MathSoft	General Technical Calculation
RACES	EPA	Remedial Action Costing
VISIO	Shapeware	Organization Chart, simple graphic and PFD
CCBs	NIBC	Specifications and other
gINT 5	Geotechnical Computer Applications	Soil Boring/Monitoring Well Construction Logs
<b>Category: Groundwater</b>		
GMS4.0	Scientific Software	Pre & Post GW Modeling
TWODAN	Scientific Software	2-D Analytical Flow Model
WHI Unsat Suite Plus includes: HELP, PESTAN, SESOIL, VS2DT, VLEACH	Scientific Software	2-D Analytical Flow Model
WinFLOW 2.0	Env. Science Inc.	2-D Analytical Flow Model
WinTrans 1.0	Env. Science Inc.	2-D Analytical Transport Model
AQUA Chem	Scientific Software	GeoChemical Visualization
Aqtesolv 4.5	Geraghty & Miller	Aquifer Test Analyses
Surfer 8.0	Scientific Software	Data Mapping
Flowpath	Scientific Software	GW Modeling
Kriging	Oxford University Press	Statistical Analysis of Data
Lahel Fortran 90 Compiler	Scientific Software	Fortran Program Compiling
Modflow T	Scientific Software	GW Modeling
Modflow Win 32	Scientific Software	GW Modeling
MT3D 96	Scientific Software	GW Modeling
Noesys 1.0	Fortner Research	2D/3D Graphic Presentation
Swift/486	Geotrans	GW Modeling
G.W.Vistas	Scientific Software	GW Modeling
<b>Category: Risk Assessment</b>		
@Risk for Lotus	Palisade Corp	Probability Analysis
3D Analysis	ESRI	GIS
Cameo		Air Model/Emergency Response
Ecosar	EPA	Ecotoxicity
Enviro Browser	Georef Ltd	Physico-chemical data
Grateful Med	National Library of Medicine	Toxicity data base searches
Risk 2000	Shaw	Risk Management
SigmaPlot 5.0	SPSS	Statistical Analysis

**Exhibit 1- Computer Software Available in CB&I's Pittsburgh Office**

SigmaSTAT 2.0	SPSS	Statistical Analysis
Spatial Analyst	ESRI	GIS
Statview	Abacus, Inc.	Statistics
SYSTAT 8.0	SPSS	Statistical Analysis
RAGS D	Shaw	Report Generator
<b>Category: Surface Hydrology and Hydraulics</b>		
H7221	USACE	Culvert Sizing and Inlet Design
H7780	USACE	Wave Runup and Wind Setup
HEC-RAS	Haestad	Flood Hydrograph Package
HydroCAD 10	HydroCAD Software Solutions	Storm Water Modeling
Various Programs in a CD (TR55, TR20, HEC1, HEC2, etc.)	Government	Surface Hydrology and Hydraulics
RUSLE	USDA-ARS	Revised Universal Soil Loss Equation
<b>Category: Drafting</b>		
AutoCAD 2013	AutoDesk	Drawing and Graphic Applications
AutoCAD LT 2013	AutoDesk	Simplified version of AutoCAD for Drafting
AutoCAD Map R5	AutoDesk	AutoCAD 2002 with Map
Land Development	AutoDesk	AutoCAD 2002 with DTM Module
Civil Design	AutoDesk	Cogo Module for AutoCad 2002
Survey 3	AutoDesk	Survey Module for AutoCAD 2002
CAD Overlay 2013	AutoDesk	Raster Images
Corel Draw (8)	Corel	Graphic Applications
Micro station SE	Bentley Systems	Drawing and Graphic Applications
SurvCADD	Carlson	DTM, Cogo, and Section Modules for 2002
<b>Category: Chemical/Process</b>		
BFSS	EPA	Bioremediation Field Application
Fluid File	DOW	Heat Transfers Fluids
GENIE	AlliedSignal	Refrigerant Thermo-dynamics
RREL	EPA	Treatability
SWAMI	EPA	Waste Minimization
VISIT	EPA	Treatment Technology
<b>Category: Civil/Geotechnical/Structural</b>		
Florida Pier	Florida DOT	Bridge Pier and Piling Analysis
GEOPRO		Geotechnical Programs
GSTABL7 (v1.15) w/STEDWIN (v2.64)	Gregory Geotechnical Software	Slope Stability
H7010	USACE	Riprap Requirements
H7011	USACE	Riprap Design
H7780	USACE	Wave Runup and Wind Setup
I0010	USACE	Shallow Foundation Settlement on Sand and Clay
I0017(CBEAR)	USACE	Shallow Foundation Bearing Capacity
I0019(CSETT)	USACE	Shallow Foundation Settlement on Clay

**Exhibit 1- Computer Software Available in CB&I's Pittsburgh Office**

I0025(DGSLOPE)	USACE	Slope Stability
I0030(CSANDSET)	USACE	Shallow Foundation Settlement on Sand
PCAMATS 5.2	Portland Cement Assn.	Mat Foundation Structural
PCSTABL5 (STED6)	Purdue University	Slope Stability Analysis
Pier Plot	Florida DOT	Post-Processor for Florida Pier
Piergen	Florida DOT	Preprocessor for Florida Pier
SPW911 v2.00	Pile Buck	The Analysis of Sheet Piling and Retaining Wall Design
STAAD.Pro 2002	Research Engineers, Inc.	Structural Design and Analysis
Survey Link 4.0		Survey Data Transfer
X0014 (3DPILE)	USACE	3-Dimension Pile Analysis
X0024 (CORTCUL)	USACE	Design or investigation of orthogonal culverts
X0026 (CANWAL)	USACE	Cantilever Retaining Wall Design/Analysis
X0027 (ANCWAL)	USACE	Anchored Bulkhead Design
X0028 (CELLRK)	USACE	Analysis of Cofferdams or Mooring in Rock
X0029 (CELLSL)	USACE	Cellular Sheetpile Structure
X0030 (CFRAME)	USACE	Analysis of Plane Frame Structures
X0031(CWALSHT)	USACE	Sheet Piling Design and Analysis
X0034 (LMVDPILE)	USACE	Pile Group Analysis
X0035 (PILESTF)	USACE	Pilehead Stiffness Matrix (Pre-processor for X0034)
X0036 (FDRAW)	USACE	Interactive Graphic (Post-processor for X0034)
X0040 (CELL)	USACE	Design Analysis of Sheetpile Cells
X0050 (CBEAMC)	USACE	Analysis of Beam-column structures with nonlinear supports
X0051(CTGA)	USACE	Design/analysis of three-girder tainter gates
X0053(CTWDA)	USACE	T-Wall Design Analysis
X0060 (CAXPILE)	USACE	Analysis of Axially Loaded Pile
X0061 (CGSI)	USACE	Strength analysis of nonhydraulic concrete structural elements
X0070 (CWALSSI)	USACE	Winkler soil-structure interaction analysis of sheet-pile walls
X0075 (CSLIDE)	USACE	Sliding stability of concrete structures
X0080 (CPGA)	USACE	Analysis of Pile Group
X0082 (CPGS)	USACE	Analysis of Single Pile
X0088 (CPGC)	USACE	Concrete Pile Group
X0095 (CUFRBC)	USACE	Investigation/Design of U-Frame structures
X0097 (CCHAN)	USACE	Structural Design of Rectangular Channel
X0098 (CBASIN)	USACE	Structural Design of Stilling Basin
X0153 (CTWALL)	USACE	Retaining and Flood Wall Analysis
X8100 (2DSAD)	USACE	Three-Dimensional Stability Analysis/ Design
X8201 (GPOSTFEM)	USACE	Finite Element Method Post Processor
X8202 (CSEEP)	USACE	Applications of the Finite Element Seepage Analysis

**15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OR RECORD ASSOCIATED WITH OR RELATING TO LANDFILL CLOSURE OR CONSTRUCTION.**

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
<p><b>15a. Fresh Kills Landfill</b> Comprehensive Hydrogeological Investigation Staten Island, NY</p>	<p>City of New York Department of Sanitation Bureau of Resource Recovery &amp; Waste Disposal Planning 280 Broadway New York, NY 10007</p>	<p>Ongoing engineering and environmental consulting services that include closure planning and design, comprehensive hydrogeological and surface water and sediment investigations; control of leachate through remedial design and construction of a leachate collection and containment system and leachate treatment plant; long-term environmental monitoring of groundwater, surface water, and sediment; and performance of a feasibility study and design for footprint reduction through reclamation</p>	<p>\$500,000 - \$1,000,000/year</p>	<p>Ongoing</p>
<p><b>15b. Westmoreland Sanitary Landfill</b> Ile Vernon, Pennsylvania</p>	<p>Dale Burns 724-366-7532</p>	<p>Landfill gas monitoring, reporting, and compliance. Design of and construction oversight for landfill gas monitoring systems.</p>	<p>\$100,000/year</p>	<p>Ongoing</p>
<p><b>15c. Appvion, Inc.</b> Roaring Spring, Pennsylvania</p>	<p>Tamela Greely 814-224-2131</p>	<p>Ongoing quarterly groundwater evaluations and reporting for Closed Landfill No. 1 and Lagoons 2 and 3 since 1998.</p>	<p>\$10,000/year</p>	<p>Ongoing</p>
<p><b>15d. NRG Energy</b> Conemaugh Generating Station New Florence, Pennsylvania</p>	<p>Jim Brunson 724-235-4596</p>	<p>Evaluated the clay liner systems beneath four ash storage impoundments to determine compliance thickness and permeability requirements of the Coal Combustion Residuals Rule.</p>	<p>\$25,000</p>	<p>Recently completed</p>
<p><b>15e. Waste Management, Inc.</b></p>	<p>Various Waste Management Facilities</p>	<p>Semiannual Title V reporting for 11 municipal waste landfills in Pennsylvania</p>	<p>\$250,000/year</p>	<p>Ongoing</p>
<p>TOTAL NUMBER OF PROJECTS:  # <u>5</u></p>		<p>TOTAL ESTIMATED CONSTRUCTION COSTS:  \$ <u>Construction Costs Vary By Year</u></p>		





**17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD (List 5 to 7)**

PROJECT NAME, TYPE, AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
City of Moundsville, Landfill Closure, Moundsville, WV	WVDEP, Division of Land Restoration, 601 57 <sup>th</sup> Street, S.E. Charleston, WV 25304-2345	\$2,000,000	2013	Yes
Indian River Power Burton Island Operating Unit 2 Remediation and Closure, Dagsboro, Delaware	NRG Indian River, LLC, 29416 Power Plant Road, Dagsboro, Delaware, 19939	\$700,000	2016	Yes
Former Ford City Slurry Lagoon Leachate Discharge Evaluation	PPG Industries One PPG Place Pittsburgh, PA	\$2,000,000 to \$4,000,000	Started in 2015 and is ongoing	In the process

**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) LIST 5 TO 7.**

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
None					

With regard to the Scope of Work for this project (as defined in the Request for EOI), CB&I will partner with CTL Engineering, Inc. of Morgantown, WV. CTL will be the primary consultant and responsible for the site characterization and construction quality assurance and quality control portions of the project. CB&I will be responsible for developing the grading plans for closure of the landfill; waste relocation plan, if required; and all related designs, including cap design, storm water management design. All of the work will be performed in CB&I's Pittsburgh, Pennsylvania office. For this project, CB&I will be a sub-consultant to CTL


19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the WV Department of Environmental Protection.

CB&I is a full service environmental consulting firm employing more than 2,500 employees in its consulting group that is part of a 55,000-person company. CB&I provides consulting services to the waste industry, power industry, oil and gas industry and a variety of other industries. The engineering capabilities of CB&I include civil, geotechnical, chemical, mechanical, structural, and electrical with the Pittsburgh Office having strong civil and geotechnical engineering capabilities. CB&I also has strong geological and environmental capabilities in the Pittsburgh office with experience in West Virginia, Pennsylvania, Ohio, Maryland, New York, and Delaware. CB&I is familiar with West Virginia's LCAP program having completed the site characterization, design, permitting, and construction quality assurance and quality control for four LCAP landfills, including Monongalia County, Rehe, Hampshire County, and City of Moundsville landfills. CB&I has also assisted WVDEP with other elements of the LCAP program, including leachate management at several landfills and an evaluation of the groundwater monitoring well systems at 16 LCAP landfills. CB&I possess the knowledge, experience, and capability to provide the design of the City of Wheeling Landfill closure.

20. The foregoing is a statement of facts

Signature:



Title: Client Program Manager

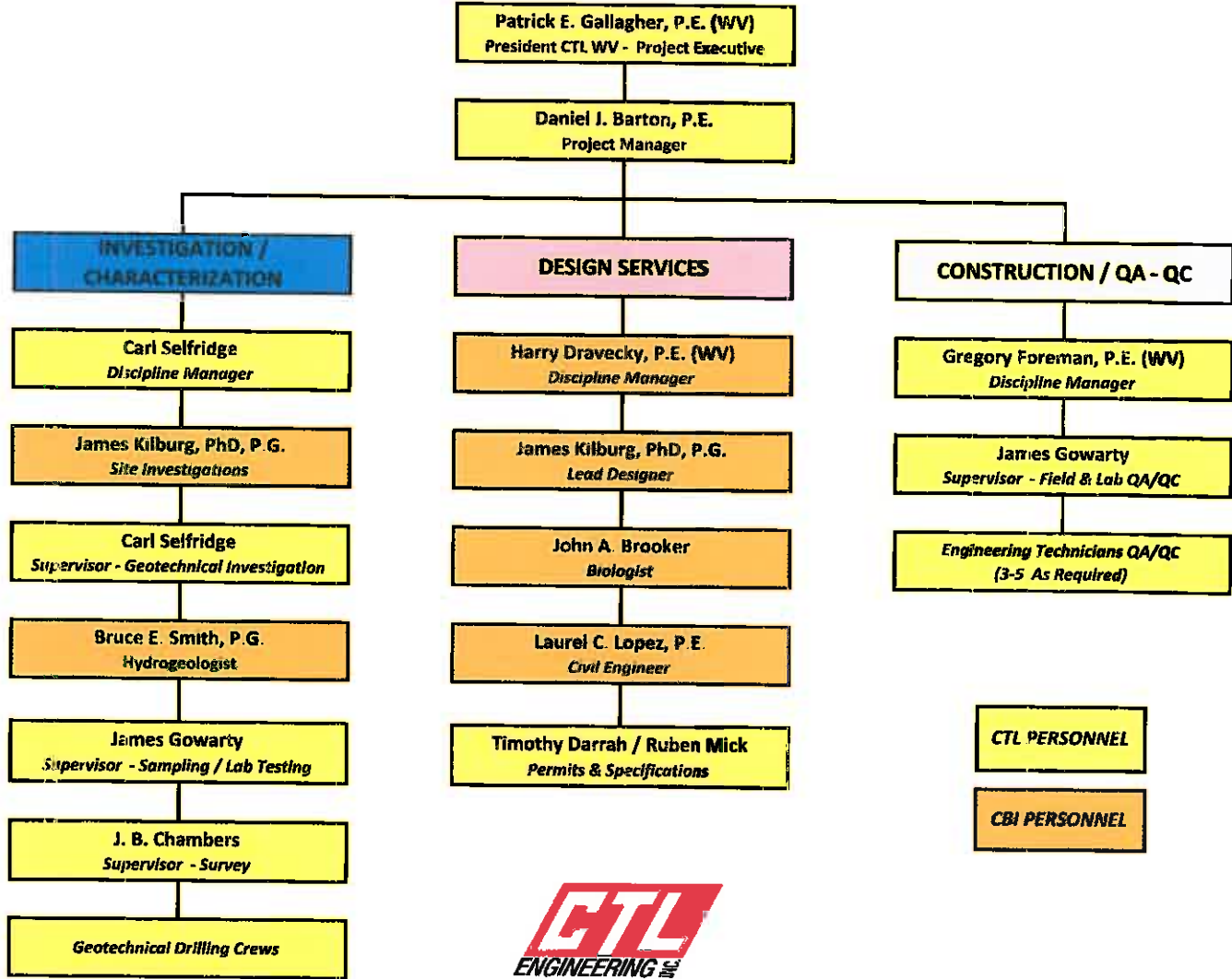
Printed Name: James A. Kilburg, Ph.D., P.G.

Date: June 12, 2017



## Team Organization

**CTL ENGINEERING OF WEST VIRGINIA, INC.  
PROJECT ORGANIZATIONAL CHART**





## Team Project Experience

## CTL TEAM LANDFILL & DISPOSAL AREA PROJECT EXPERIENCE

CTL PROJECTS  
 CBI PROJECTS

Facility/Location	SITE CHARACTERIZATION	CLOSURE DESIGN / LECHATE MANAGEMENT	CONSTRUCTION QA/QC
AK Steel Ambridge, Pennsylvania			
American Centrifuge Plant Pikeston, OH			
Appleton Papers Roaring Spring, PA			
Exxon Mobile Corporation Terminals in Boomer, Huntington, Charleston, Westover, and Parkersburg, West Virginia			
Fresh Kills Landfill Staten Island, NY			
Gavin Power Plant Landfill Cheshire, OH			
Hampshire County Landfill Hampshire County, WV			
Harrison Power Station Harrison County, WV			
Helzer Creek Landfill Poca, WV			
Leachate Collection System Maintenance 18 WV LCAP Landfills			
Pleasants Station Landfill Pleasants County, WV			
Mitchell Refuse Landfill Moundville, WV			
Monongalia Landfill Monongalia County, WV			
Moundville Landfill Moundville, WV			
Nine Landfill Sites Eastern US			
North Mountain Landfill Bekeley, WV			
Owens Corning Landfill Licking County, OH			
Pennzoll-Quaker State Company Newell, WV			
Rehe Landfill Preston County, WV			
St. Mary's Refinery St. Mary's, WV			
Tunnel Ridge Mine Refuse Landfill Clearview, WV			
Wetzel County Landfill Wetzel County, WV			
Wheeling-Pittsburgh Steel Corp. Follansbee, WV			
WVDEP LCAP Program Support 16 Landfills throughout WV			

