

August 10, 2009

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

**ATTN:** Mr. Charles A. Bowman, Jr., Buyer Supervisor

**RE: EXPRESSION OF INTEREST – DEP14707**  
Site Characterization Study, Leachate Management & Closure Cap Design  
for the City of Kingwood Landfill Closure Project  
Kingwood, Preston County, West Virginia  
TRIAD Proposal 01-09-8180

Dear Mr. Bowman:

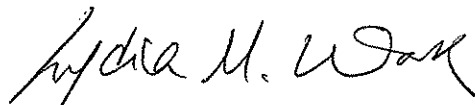
Triad Engineering, Inc. (TRIAD) is pleased to present this Expression of Interest to provide Landfill Site Characterization, Leachate Management and Closure Cap Design services for the City of Kingwood Landfill. We have prepared this proposal in response to Request for Quotation No. DEP14707 dated July 23, 2009. Herein, we have provided the following information:

- Our experience in landfill site characterization, assessment and design services.
- A description of our project team and how they will be organized to complete the work. Resumes of team members are also provided.
- Our approach to the project including an outline of project phases.
- A description of our internal project quality control and cost control systems.

We are confident that this information meets your needs at this time, and we look forward to a favorable review of our qualifications. If you have any questions or require any additional information, please do not hesitate to contact us.

Sincerely,

**TRIAD ENGINEERING, INC.**



Lydia M. Work, L.R.S.  
Branch Manager

RECEIVED

2009 AUG 11 A 8:21

PURCHASING DIVISION  
STATE OF WV



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

# Request for Quotation

RFQ NUMBER  
**DEP14707**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**CHUCK BOWMAN**  
**304-558-2157**

VENDOR

RFQ COPY  
 TYPE NAME/ADDRESS HERE

SHIP TO

ENVIRONMENTAL PROTECTION  
 DEPARTMENT OF  
 OFFICE OF WASTE MANAGEMENT  
 601 57TH STREET SE  
 CHARLESTON, WV  
 25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
07/23/2009				

BID OPENING DATE: **08/11/2009** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		962-73		
<p>CITY OF KINGWOOD LANDFILL CLOSURE PROJECT</p> <p>EXPRESSION OF INTEREST</p> <p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING EXPRESSIONS OF INTEREST FOR THE SITE CHARACTERIZATION STUDY, LEACHATE MANAGEMENT AND CLOSURE CAP DESIGN FOR THE CITY OF KINGWOOD LANDFILL, LOCATED IN PRESTON CO, WV, PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THIS CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS**  
**REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

---

**INSTRUCTIONS TO BIDDERS**

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

Revised November, 2008

**EXPRESSION OF INTEREST**  
**Site Characterization Study, Leachate Management & Closure Cap Design**  
**For**  
**City of Kingwood Landfill**  
**DEP14707**

**Part 1 GENERAL INFORMATION**

**1.1 Purpose:**

The Acquisition and Contract Administration Section of the Purchasing Division "State" is soliciting Expression(s) of Interest (EOI) for the Department of Environmental Protection, "Agency", from qualified firms to provide architectural/engineering services as defined in section two (2) and three (3).

**1.2 Project:**

The mission or purpose of the project described in sections 2 & 3 is to provide services for the West Virginia Department of Environmental Protection's Landfill Closure Assistance Program (LCAP). Project title: Site Characterization Study, Leachate Management & Closure Cap Design for the City of Kingwood Landfill.

**1.3 Format: N/A**

**1.4 Inquiries:**

Additional information inquiries regarding this EOI must be submitted in writing to the State Buyer with the exception of questions regarding proposal submission, which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.16. All inquiries of specification clarification must be addressed to:

Chuck Bowman, Buyer Supervisor  
Purchasing Division  
P.O. Box 50130  
Charleston, WV 25305-0130  
Fax: (304) 558-4115  
E-mail: Charles.A.BowmanJr@wv.gov

**The firm, or anyone on the firm's behalf, is not permitted to make any contact whatsoever with any member of the evaluation committee.** Violation may result in rejection of the EOI. The State Buyer named above is the sole contact for any and all inquiries after this EOI has been released.

**1.5 Vendor Registration:**

Firms participating in this process should complete and file a **Vendor Registration and Disclosure Statement** (Form WV-1) and remit the registration fee. Firm is not

required to be a registered vendor in order to submit an EOI, but the **successful firm must** register and pay the fee prior to the issuance of an actual contract.

**1.6 Oral Statements and Commitments:**

Firm must clearly understand that any verbal representations made or assumed to be made during any oral discussions held between firm's representatives and any State personnel are **not** binding. Only the information issued in writing and added to the Expression of Interest specifications file by an official written addendum is binding.

**1.7 Economy of Preparation:**

EOI's should be prepared simply and economically, providing a straightforward, concise description of firm's abilities to satisfy the requirements of the EOI. Emphasis should be placed on completeness and clarity of content.

**1.8 Labeling of the Sections:** The response sections should be labeled for ease of evaluation.

**1.9 Submission:**

1.9.1 State law requires that the original expression shall be submitted to the Purchasing Division. All copies to the Purchasing Division must be submitted **prior** to the date and time stipulated as the opening date. All expressions will be date and time stamped on the Purchasing Division official time clock to verify time and date of receipt.

1.9.2 Firms mailing expressions should allow sufficient time for mail delivery to ensure timely arrival. The Purchasing Division **CANNOT** waive or excuse late receipt of an expression which is delayed and late for any reason according West Virginia State Code §5A-3-11. Any EOI received after the bid opening time and date will be immediately disqualified in accordance with State law and the Legislative Rule 148-CSR-1.

**Submit:**

One original plus 2 convenience copies on CD to:  
Purchasing Division  
2019 Washington Street, East  
P.O. Box 50130  
Charleston, WV 25305-0130

The outside of the envelope or package(s) should be clearly marked:

Buyer: CB-23  
Req#: DEP14707  
Opening Date: **08/11/2009**  
Opening Time: **1:30 pm**

**1.10 Rejection of Expressions:**

The State shall select the best value solution according to §5G-1-3 of the West Virginia State Code. However, the State reserves the right to accept or reject any or all expressions and to reserve the right to withdraw this Expression of Interest at any time and for any reason. Submission of, or receipt by the State of Expressions confers no rights upon the firm nor obligates the State in any manner.

**1.11 Incurring Costs:**

The State and any of its employees or officers shall not be held liable for any expenses incurred by any firm responding to this EOI for expenses to prepare, deliver, or to attend the short-list interviews.

**1.12 Addenda:**

If it becomes necessary to revise any part of this EOI, an official written addendum will be issued by the State to all potential firms of record.

**1.13 Independent Price Determination:**

A contract will not be considered for award if the negotiated price was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor.

**1.14 Price Quotations:** No "price" or "fee" quotation is requested or permitted in the response.**1.15 Public Record:****1.15.1 Submissions are Public Record.**

All documents submitted to the State Purchasing Division related to purchase orders/contracts are considered public records. All EOI's submitted by firms shall become public information and are available for inspection during normal official business hours in the Purchasing Division Records and Distribution center after the expressions have been opened.

**1.15.2 Written Release of Information.**

All public information may be released with or without a Freedom of Information request, however, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently the fees are \$0.50/page, or a minimum of \$10.00 per request, whichever is greater.

**1.15.3 Risk of Disclosure.**

The only exemptions to disclosure of information are listed in West Virginia Code §29B-1-4. Primarily, only trade secrets as submitted by a firm are the only exemption to public disclosure. The submission of any information to the State by

a firm puts the risk of disclosure on the firm. The submission of any information to the State by a vendor puts the risk of disclosure on the vendor. The State does not guarantee non-disclosure of any information to the public.

**1.16 Schedule of Events:**

Release of the EOI..... **07/23/2009**  
 Expressions of Interest Opening Date..... **08/11/2009**

**1.17 Mandatory Prebid Conference: N/A**

**1.18 Bond Requirements: N/A**

**1.19 Purchasing Affidavit:**

West Virginia State Code §5A-3-10a (3) (d) requires that all firms submit an Affidavit regarding any debt owed to the State and licensing and confidentiality certifications. The Affidavit **must** be signed and submitted prior to award. It is preferred that the Affidavit be submitted with the EOI.

**PART 2 OPERATING ENVIRONMENT**

- 2.1 Location:** The site is located in Preston County, WV, on the North side of Co. Rt. 52/6 (Oak Street) approximately 1 1/2 miles off North Price Street, off Route 7 North of Kingwood
- 2.2 Background:** This work involves the site characterization study, engineering design, preparation of site closure drawings and specifications, preparation of appropriate documents and application for all required permits related to this project.

**PART 3 PROCUREMENT SPECIFICATIONS**

**3.1 General Requirements:**

Firms must submit a completed Consultant Qualification Questionnaire (Attachment A).

Electronic copies of the above referenced Consultant Qualification Questionnaire (CQQ) attachment "A", is available online for registered vendors at:

<http://www.state.wv.us/admin/purchase/newbul.htm>

**3.2 Project Description:**

This project shall include site investigation of existing features, surveying and mapping, laboratory analysis of soil and water, subsurface investigations to determine location as well as limits and depths of waste, location of potential borrow areas either on site or near-by, engineering and design of the capping system to be installed including grading plans and cross sections of the cap system, leachate collection and storage systems, sediment and erosion control plans including required ponds, preparation of construction contract drawings and specifications suitable for letting of construction bids and the bidding process.

### 3.3 Special Terms and Conditions:

3.3.1 *Bid and Performance Bonds:* N/A

3.3.2 *Insurance Requirements:* \$1,000,000 Professional Liability with the WVDEP listed as additional insured. DEP14707 must be listed on the insurance certificate.

3.3.3 *License Requirements:* Workers compensation certificate upon award.

### 3.4 General Terms and Conditions:

By signing and submitting the EOI, the successful firm agrees to be bound by all the terms contained in Section Three (3) of this EOI.

#### 3.4.1 *Conflict of Interest:*

Firm affirms that it, its officers or members or employees presently have no interest and shall not acquire any interest, direct or indirect which would conflict or compromise in any manner or degree with the performance or its services hereunder. The firm further covenants that in the performance of the contract, the firm shall periodically inquire of its officers, members and employees concerning such interests. Any such interests discovered shall be promptly presented in detail to the Agency.

#### 3.4.2 *Prohibition Against Gratuities:*

Firm warrants that it has not employed any company or person other than a bona fide employee working solely for the firm or a company regularly employed as its marketing agent to solicit or secure the contract and that it has not paid or agreed to pay any company or person any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award of the contract. For breach or violation of this warranty, the State shall have the right to annul this contract without liability at its discretion, and/or to pursue any other remedies available under this contract or by law.

#### 3.4.3 *Certifications Related to Lobbying:*

Firm certifies that no federal appropriated funds have been paid or will be paid, by or on behalf of the company or an employee thereof, to any person for purposes of influencing or attempting to influence an officer or employee of any Federal entity, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.



If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the firm shall complete and submit a disclosure form to report the lobbying.

Firm agrees that this language of certification shall be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this contract was made and entered into.

#### *3.4.4 Vendor Relationship:*

The relationship of the firm to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by the parties to this contract. The firm as an independent contractor is solely liable for the acts and omissions of its employees and agents.

Firm shall be responsible for selecting, supervising and compensating all individuals employed pursuant to the terms of this EOI and resulting contract. Neither the firm nor any employees or contractors of the firm shall be deemed to be employees of the State for any purposes whatsoever.

The Firm shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension or other deferred compensation plans, including but not limited to Workers' Compensation and Social Security obligations, and licensing fees, etc. and the filing of all necessary documents, forms and returns pertinent to all of the foregoing.

The Firm shall hold harmless the State, and shall provide the State and Agency with a defense against all claims including but not limited to the foregoing payments, withholdings, contributions, taxes, social security taxes and employer income tax returns.

The firm shall not assign, convey, transfer or delegate any of its responsibilities and obligations under this contract to any person, corporation, partnership, association or entity without expressed written consent of the Agency.

#### *3.4.5 Indemnification:*

The firm agrees to indemnify, defend and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for

services rendered by any subcontractor, person or firm performing or supplying services, materials or supplies in connection with the performance of the contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the firm, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use or disposition of any data used under the contract in a manner not authorized by the contract, or by Federal or State statutes or regulations; (3) Any failure of the firm, its officers, employees or subcontractors to observe State and Federal laws, including but not limited to labor and wage laws.

#### 3.4.6 *Contract Provisions:*

After the most qualified firm is identified, and fee negotiations are concluded, a formal contract document will be executed between the State and the firm. The order of precedence is the contract, the EOI and the firm's response to the EOI.

#### 3.4.7 *Governing Law:*

This contract shall be governed by the laws of the State of West Virginia. The firm further agrees to comply with the Civil Rights Act of 1964 and all other applicable laws (Federal, State or Local Government) regulations.

#### 3.4.8 *Compliance with Laws and Regulations:*

The firm shall procure all necessary permits and licenses to comply with all applicable laws, Federal, State or municipal, along with all regulations, and ordinances of any regulating body.

The firm shall pay any applicable sales, use, or personal property taxes arising out of this contract and the transactions contemplated thereby. Any other taxes levied upon this contract, the transaction, or the equipment, or services delivered pursuant here to shall be borne by the contractor. It is clearly understood that the State of West Virginia is exempt from any taxes regarding performance of the scope of work of this contract.

#### 3.4.9 *Subcontracts/Joint Ventures:*

The State will consider the firm to be the sole point of contact with regard to all contractual matters. The firm may, with the prior written consent of the State, enter into written subcontracts for performance of work under this contract; however, the firm is totally responsible for payment of all subcontractors.

#### 3.4.10 *Term of Contract:*

This contract will be effective (date set upon award) and shall extend until the scope of work is complete or for one (1) consecutive twelve (12) month period. The contract may be renewed upon mutual consent for two (2) consecutive years one (1) year periods or until such reasonable time as may be necessary to obtain a new contract or to complete work.

#### 3.4.11 *Non-Appropriation of Funds:*

If the Agency is not allotted funds in any succeeding fiscal year for the continued use of the service covered by this contract by the West Virginia Legislature, the Agency may terminate the contract at the end of the affected current fiscal period without further charge or penalty. The Agency shall give the firm written notice of such non-allocation of funds as soon as possible after the Agency receives notice. No penalty shall accrue to the Agency in the event this provision is exercised.

#### 3.4.12 *Contract Termination:*

The State may terminate any contract resulting from this EOI immediately at any time the firm fails to carry out its responsibilities or to make substantial progress under the terms of this EOI and resulting contract. The State shall provide the firm with advance notice of performance conditions, which are endangering the contract's continuation. If after such notice the firm fails to remedy the conditions contained in the notice, within the time contained in the notice, the State shall issue the firm an order to cease and desist all work immediately.

The State shall be obligated only for services rendered and accepted prior to the date of the notice of termination. The contract may also be terminated upon mutual agreement of the parties with thirty (30) days prior notice.

#### 3.4.13 *Changes:*

If changes to the original contract become necessary, a formal contract change order will be required. Prior to any work being performed, the change must be negotiated and approved by the State, the Agency and the firm. An approved contract change order is defined as one approved by the Purchasing Division and approved as to form by the West Virginia Attorney General's Office prior to the effective date of such amendment. **NO CHANGE SHALL BE IMPLEMENTED BY THE FIRM UNTIL THE FIRM RECEIVES AN APPROVED WRITTEN CHANGE ORDER.**

#### 3.4.14 *Invoices, Progress Payments, & Retainage:*

The Firm shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To" pursuant to the terms of the contract. Progress payments may be made at the option of the Agency based on percentage of work completed if so defined in the final contract. Any provision for progress payments must also include language for a minimum 10% retainage until the final deliverable is accepted.

If progress payments are permitted, firm is required to identify points in the work plan at which compensation would be appropriate. Progress reports must be submitted to Agency with the invoice detailing progress completed or any

deliverables identified. Payment will be made only upon approval of acceptable progress or deliverables as documented in the firm's report. Invoices may not be submitted more than once monthly and State law forbids payment of invoices prior to receipt of services.

**3.4.15 Liquidated Damages:**

According to West Virginia State Code §5A-3-4(8), firm agrees that liquidated damages shall be imposed at the rate of **\$300.00** per workday, for failure to provide deliverables at the agreed upon date identified in the final contract. This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue to any other additional remedy to which the State or Agency may have legal cause for action including further damages against the firm.

**3.4.16 Record Retention (Access & Confidentiality):**

Firm shall comply with all applicable Federal and State of West Virginia rules and regulations, and requirements governing the maintenance of documentation to verify any cost of services or commodities rendered under this contract by the firm. The firm shall maintain such records a minimum of five (5) years and make available all records to Agency personnel at firm's location during normal business hours upon written request by Agency within 10 days after receipt of the request.

Firm shall have access to private and confidential data maintained by Agency to the extent required for firm to carry out the duties and responsibilities defined in this contract. Firm agrees to maintain confidentiality and security of the data made available and shall indemnify and hold harmless the State and Agency against any and all claims brought by any party attributed to actions of breach of confidentiality by the firm, subcontractors, or individuals permitted access by the firm.

**PART 4 EVALUATION & AWARD**

**4.1 Evaluation & Award Process:**

- a) Expressions of Interest will be evaluated and awarded in accordance with **§5G-1-3 "Contracts for architectural and engineering services; selection process where total project costs are estimated to cost two hundred fifty thousand dollars or more."**

"In the procurement of architectural and engineering services for projects estimated to cost two hundred and fifty thousand dollars or more the director of purchasing shall encourage such firms engaged in the lawful practice of the profession to submit an expression of interest, which shall include a statement of qualifications, and performance data and may include anticipated concepts and proposed methods of approach to the project. All such jobs shall be announced by public notice published as a Class II legal

advertisement in compliance with the provisions of article three [§59-3-1et seq.] A committee comprised of three to five representatives of the agency initiating the request shall evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service. Interviews with each firm selected shall be conducted and the committee shall conduct discussions regarding anticipated concepts and the proposed methods of approach to the assignment. The committee shall then rank in order of preference no less than three professional firms deemed to be the most highly qualified to provide the services required, and shall commence scope of service and price negotiations with the highest qualified professional firm for architectural or engineering services or both. Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified, at a fee determined to be fair and reasonable, price negotiations with the firm of second choice shall commence. Failing accord with the second most qualified professional firm, the committee shall undertake price negotiations with the third most qualified professional firm. Should the agency be unable to negotiate a satisfactory contract with any of the selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached."

- b) Expressions of Interest submitted will be evaluated by a committee of three (3) to five (5) representatives of the agency. This committee will evaluate all submittals and by consensus select three (3) firms that, in their opinion, are best qualified to perform the desired service. These selections will be based off of the statements of qualifications and performance data and other material submitted by the interested firms.

The committee shall rank, in order of preference, each of the three (3) selected firms. Each of the three (3) firms shall begin with a score of one hundred. The criteria and assigned point values are as follows:

A.	Relevant Experience/Qualifications	80 points
B.	Oral Interview	20 points

- 4.2. The DEP Consultant Qualification Questionnaire must be completed to be eligible.
- 4.3. Interviews as stated in 4.1 "Evaluation and Award Process" will be conducted with the three firms selected as the most qualified by the WV DEP Selection Committee. The committee will schedule the interviews.

The format for the interviews will be a 15-30 minute PowerPoint presentation consisting, at a minimum, of the following:

- Corporate/personnel experience summary as it relates to this project or projects.
- Provide particular information or examples that uniquely qualify your firm for this project.
- Proposed project management plan.
- Key personnel available for the work proposed on this project.
- Proposed subcontractors (mapping, geotechnical, etc.).
- Project quality & cost control.

Attachment A

<b>WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION CONSULTANT QUALIFICATION QUESTIONNAIRE</b>			
PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN	
1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME	
4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP INDIVIDUAL, CORPORATION, PARTNERSHIP, JOINT-VENTURE	6A. WV REGISTERED DBE (DISAVANTAGED BUSINESS ENTERPRISE)  YES          NO
7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. (name particular type) PERSONNEL EACH OFFICE			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM		8a. NAME, TITLE, & TELEPHONE NUMBER-OTHER PRINCIPALS	
<b>9. NUMBER OF PERSONNEL BY DISPLINE (Bold Lettering Indicates Minimum Design Team Members)</b> <b>Detailed information On Team To Be Included</b>			
_ <b>ADMINSIRATIVE</b>	_ <b>ECOLOGISTS</b>	_ <b>LANDSCAPE</b>	_ <b>STRUCTURAL</b>
_ <b>ARCHITECTS</b>	_ <b>ECONOMISTS</b>	_ <b>ARCHITECTS</b>	_ <b>ENGINEERS</b>
_ <b>BIOLOGIST</b>	_ <b>ELECTRICAL</b>	_ <b>MECHANICAL</b>	_ <b>SURVEYORS</b>
_ <b>CADD OPERATORS</b>	_ <b>ENGINEERS</b>	_ <b>ENGINEERS</b>	_ <b>OTHER</b>
_ <b>CHEMICAL ENGINEERS</b>	_ <b>ENVIRONMENTALISTS</b>	_ <b>MINING</b>	_ <b>OTHER</b>
_ <b>CIVIL ENGINEERS</b>	_ <b>ESTIMATORS</b>	_ <b>ENGINEERS</b>	_ <b>OTHER</b>
_ <b>CONSTRUCTION</b>	_ <b>GEOLOGIST</b>	_ <b>PHOTOGRAMMETRISTS</b>	_ <b>TOTAL</b>
_ <b>INSPECTORS</b>	_ <b>HISTORLANS</b>	_ <b>PLANNERS:</b>	_ <b>PERSONNEL</b>
_ <b>DESIGNERS</b>	_ <b>HYDROLOGISTS</b>	_ <b>URBAN/REGIONAL</b>	_ <b>PERSONNEL</b>
_ <b>DRAFTSMEN</b>		_ <b>SANITARY</b>	
		_ <b>ENGINEERS</b>	
		_ <b>SIOLS ENGINEERS</b>	
		_ <b>SPECIFICATION</b>	
		_ <b>WRITERS</b>	
<b>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE:</b> _____			
*RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.			

11. OUTSIDE KEY CONSULTANTS/ SUB-CONSULTANTS ANTICIPATED TO BE USED.		
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> YES <input type="checkbox"/> NO



<p>12. ***Note: <i>Personnel</i> refers to those who will be working directly on the project:</p> <p>A. Are your firm's personnel experienced in Solid Waste Landfill Closure Design?</p> <p><b>YES Description and Number of Projects:</b></p> <hr/> <hr/> <hr/> <p><b>NO</b></p>
<p>B. Are your firm's personnel experienced in Solid Waste landfill site characterization assessment and evaluation?</p> <p><b>YES Description and Number of Projects:</b></p> <hr/> <hr/> <hr/> <p><b>NO</b></p>
<p>C. Are your firm's personnel experienced in landfill closure construction inspection?</p> <p><b>YES Description and Number of Projects:</b></p> <hr/> <hr/> <hr/> <p><b>NO</b></p>
<p>D. Is your firm experienced in Aerial Photography and the Development of Contour Mapping?</p> <p><b>YES Description and Number of Projects:</b></p> <hr/> <hr/> <hr/> <p><b>NO</b></p>
<p>E. Are your firm's personnel experienced in evaluating ground water contamination, such as may be associated with landfills?</p> <p><b>YES Description and Number of Projects:</b></p> <hr/> <hr/> <hr/> <p><b>NO</b></p>
<p>F. Are your firm's personnel experienced in Landfill Closure cost estimating?</p> <p><b>YES Description and Number of Projects:</b></p> <hr/> <hr/> <hr/> <p><b>NO</b></p>

<b>13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE DESIGN (describe project) (Furnish Complete data but keep to essentials)</b>			
NAME & TITLE (Last, first, Middle Int.)	YEARS OR EXPERIENCE		
	YEARS OF (type) EXPEIRENCE:	YEARS OF (type) EXPBIRENCE:	YEARS OF (name type) EXPEIRENCE:
Brief Explanation of Responsibilities: _____ _____			
EDUCATION (DEGREE, YEAR, SPECIALIZATION)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:		REGISTRATION (Type, Year, State)	
<b>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 & TITLE (Last, First, Middle Int.)	YEARS OF EXPEIRENCE		
	YEARS OF EXPEIRCENE (name type):	YEARS OF EXPEIRENCE (name type):	YEARS OF EXPEIRENCE (name type):
Brief Explanation of Responsibilities: _____ _____ _____ _____ _____			
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	

13b. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE QA/QC (Furnish complete data but keep to essentials)			
NAME & TITLE (last, first, middle Int.)	YEARS OF EXPEIRENCE		
	YEARS OF EXPERIENCE (name type):	YEARS OF EXPERIENCE (name type):	YEARS OR EXPEIRENCE (name type):
Brief Explanation of Responsibilities:			
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	
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)
Brief Explanation of Responsibilities			
EDUCATION (Degree, Year, Specialization)			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, State)	

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

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
TOTAL NUMBER OF PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COSTS:	
# _____			\$ _____	

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

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)

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



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.

20. The foregoing is a statement of facts

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

Title: \_\_\_\_\_

Printed

Name: \_\_\_\_\_

Date: \_\_\_\_\_

STATE OF WEST VIRGINIA  
Purchasing Division**PURCHASING AFFIDAVIT****VENDOR OWING A DEBT TO THE STATE:**

*West Virginia Code* §5A-3-10a provides that: 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 the debt owed is an amount greater than one thousand dollars in the aggregate.

**PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:**

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code*. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code* and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the *West Virginia Code* may take place before their work on the public improvement is begun.

**ANTITRUST:**

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

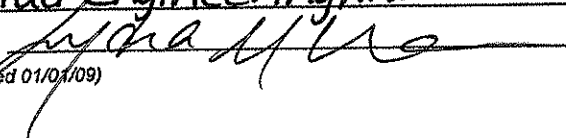
**LICENSING:**

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:**

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

Vendor's Name: Triad Engineering, Inc.Authorized Signature:  Date: 8/10/2009

# **CONTENTS**

CORPORATE HISTORY AND EXPERIENCE

LANDFILL PROJECT EXPERIENCE

PROJECT TEAM

PROJECT APPROACH

*Surveying and Mapping*

*Site Characterization Study*

*Design Engineering and Permitting*

*Construction Cost Estimate and Bidding*

PROJECT QUALITY CONTROL AND COST CONTROL SYSTEM

SUMMARY

ATTACHMENTS

*Appendix A - Landfill Project Experience*

*Appendix B - Project Team Resumes / Personnel Matrix*

*Appendix C - Confidential Consultant Qualification Questionnaire*

## **CORPORATE HISTORY AND EXPERIENCE**

TRIAD is a regional engineering firm providing services in the areas of geotechnical, civil, environmental, and mining engineering; surveying and mapping; construction quality control; and other related earth-science disciplines. The firm has provided services on thousands of projects of varying size and complexity since beginning operations in 1975. Our clients include governmental agencies, industrial manufacturing companies, contractors, architects, engineers, developers, and institutional clients.

Our firm was founded in 1975 in Morgantown, West Virginia by three civil engineers from West Virginia University. A second office was opened in Charleston, West Virginia in 1979. TRIAD expanded into the northern Virginia area in 1988 with offices in Winchester and Harrisonburg, Virginia, and began operations in Pennsylvania in 1990 with an office in Greensburg. Most recently TRIAD has opened offices in Hagerstown, Maryland and Ashburn, Virginia.

Facilities and equipment available to support our staff have grown substantially during the past 34 years. We have developed a fleet of drill rigs and support vehicles to meet the needs of our field operations. Well-equipped material testing laboratories are maintained to provide support for our geotechnical engineering and construction-related projects. Our laboratories are supplied with testing equipment necessary to perform a wide range of tests on soil, rock, concrete, aggregate, water, asphalt, and other similar construction materials. Each office maintains secure computer networks to support CADD functions, hydrogeologic evaluations, landfill water balance modeling, surface water drainage design, stability analysis, survey data reduction, and mapping. These broad in-house capabilities give us better control over project schedule, quality, and cost, thereby minimizing problems that can occur when engineering firms are forced to coordinate efforts among a number of subcontractors.

TRIAD was previously selected by WVDEP to complete two, three-year LCAP closure design contracts, and therefore, our staff is completely familiar with the work required under this contract. During our previous six years of contract work with LCAP, TRIAD successfully completed eight separate landfill projects similar or identical to this project. Because LCAP design projects are geotechnically oriented, our expertise in geotechnical engineering, geology, and civil engineering design make us particularly well qualified to provide the requested services.

## **LANDFILL PROJECT EXPERIENCE**

Our experience and capabilities as a geotechnical engineering and earth-science firm brought about our development as a waste management design firm more than twenty years ago. TRIAD was providing a variety of geotechnical engineering and hydrogeologic services related to the construction of synthetic and soil liners for one of our long term clients, Union Carbide Corporation (now Dow Chemical). Based on our performance on previous projects, they requested that we design and permit a new hazardous waste landfill for their Sistersville, West Virginia facility. Utilizing our in-house capabilities and expertise in geotechnical engineering, geology, drilling, material testing, and civil engineering, we brought the project to completion on time and within budget. TRIAD completed all phases of the necessary hydrogeologic and borrow-soil investigations, as well as engineering design, permitting, and regulatory agency

liaison services. From that point forward, our firm continued to grow steadily in the direction of waste management design services.

Since that time, TRIAD has completed a variety of solid waste and hazardous waste landfill designs, upgrades, and closures. The majority of this work has been performed for West Virginia landfills, and mandated by the requirements of 33CSR1. Most of our engineering work has also included full-time construction quality control (QC) inspection and final engineering certification of construction.

It is doubtful that any other West Virginia firm can demonstrate the depth and variety of landfill engineering and QC experience that TRIAD can bring to this project. With this extensive experience in design engineering and contract document preparation, we are expertly qualified to provide these services for proper closure and reclamation of the City of Kingwood Landfill. Appendix A contains an abbreviated list of numerous landfill closure and other waste management projects completed by our firm.

### **PROJECT TEAM**

TRIAD currently maintains a staff of over 200 personnel. This includes civil, environmental, geotechnical, and mining engineers; geologists and hydrogeologists; landscape architects; biologists; environmental scientists; and chemists. Our technical support and administrative staff includes designers, CADD technicians, surveyors, engineering technicians, drillers, construction inspectors and clerical personnel. The majority of our professional and technical staff has been with the company for many years. We pride ourselves in a very low turnover rate, which adds to continuity and enhances the level of productivity and experience afforded by our company.

Since our first foray into landfill design more than 25 years ago, TRIAD has developed a waste management design team which possesses a wide range of technical and regulatory expertise related to solid waste. Geologists, engineers, construction inspectors, environmental technicians, surveyors, designers and CADD technicians cooperate in the development of complete landfill project packages. Their work includes:

- Feasibility studies
- Facility siting
- Engineering design
- Surveying and layout
- Construction management
- Design/construction alternatives
- Soils and geologic investigation
- Technical specifications
- Construction inspection
- Engineering certification

Our geologists share a large body of knowledge and experience regarding the soil, rock, and groundwater indigenous to West Virginia. They are particularly aware of the impact which geology and groundwater can have on the design, construction, and closure of a waste management facility.

Our soils engineers, in cooperation with our materials testing laboratories, routinely assess the suitability of on-site soils for construction of low permeability hydraulic barriers and other closure cap components. Our technical staff cooperates with our clients and several regulatory agencies in the on-going development of new techniques for the design, testing and

specification of low permeability barriers. We believe TRIAD is on the cutting edge of technology in this field. We utilize the methods developed by Dr. David Daniel at Drexel University to provide a compaction-moisture-permeability window for construction of the low permeability component layers required for composite liner and cap systems.

Our material testing laboratories are well-equipped to provide the testing needed to develop the "Daniel's window" for low permeability soil components. TRIAD continues to develop new and better laboratory test methods, and improves upon methods already developed by US EPA and the state regulatory agencies. Our laboratories routinely participate in certification programs administered by the US Army Corps of Engineers, American Society of Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO) and the West Virginia Department of Transportation.

The firm maintains an experienced, well-trained staff of construction inspectors who work with our engineering staff, as well as landfill owners and contractors in the field. They typically are present at landfill construction sites on a full-time basis to ensure that the soil and synthetic liners and closure caps designed by our firm are constructed in accordance with the appropriate specifications.

Our surveying department also provides support to the design team, directing the layout and construction of base grades, checking liner component thicknesses, and checking grades and alignments on leachate collection piping and surface water drainage systems. They routinely perform annual topographic surveys of current landfill progress to determine compliance with required grades, permit limits, and to determine volume of filling.

Our design/drafting team utilizes electronically stored data from our survey crews, or from aerial photography, to generate three-dimensional computer models of our landfill projects. The use of three dimensional CADD models allows our engineers to easily make changes to our design in response to client needs, regulatory agency comments, or previously unknown site constraints. Performing our design in the three-dimensional system allows us to calculate cut and fill quantities, thereby ensuring that materials handling is kept to a minimum. Our CADD systems generate clear, easy-to-read drawings which help to assure more expeditious regulatory agency approval.

TRIAD has assembled a team of individuals with broad waste management experience to provide services under this contract. The majority of the Project Team is located in the Morgantown, WV office. The following persons have been assigned as members of the team for the City of Kingwood Landfill project:

- **John C. Hando, Ph.D., Project Manager** – Dr. Hando currently serves as the Project Manager for the Marion County Landfill project, and he will provide project management for the City of Kingwood Landfill project. Dr. Hando has approximately 20 years of experience with respect to site characterization and environmental sampling. During this period, he has managed numerous state-conducted emergency removals and site remediations as well as providing state oversight at federal Superfund project sites. In addition, Dr. Hando has performed site investigations / characterizations at the Marion County, Jefferson County, Berkeley County and Wayne County landfills, as well as numerous open dumps. He has also provided regulatory oversight at hazardous waste units closed and managed as landfills.

- **John M. Meeks, P.G., Senior Level Assessment Reviewer** - Since joining TRIAD in 1990, John Meeks has served on the design team for almost every landfill project undertaken. Mr. Meeks has approximately 20 years of experience in technical design, project management, and construction oversight of landfill projects. Mr. Meeks will be involved in reviewing the final characterization and assessment report before it is issued.
- **Karen L. Krabill, P.E., Senior Level Engineering Reviewer** – Ms. Krabill has been involved in geotechnical evaluations and construction for several landfill projects, in addition to management of geotechnical design work related to dams and impoundments. Ms. Krabill will be responsible for overall review of engineering work for the project.
- **Robert M. Sykes, C.P.G., Characterization and Assessment** - Mr. Sykes will be responsible for evaluating groundwater characteristics at the site and assessment of groundwater quality as determined from sampling and testing monitoring wells.
- **Lydia M. Work, L.R.S., Assessment and Technical Review** – Ms. Work will also be involved in assessment of groundwater characteristics at the site and will be providing in-house QA and technical review of the characterization and assessment study report.
- **L. Jane Hicks, Geotechnical Field Explorations** – Ms. Hicks will be responsible for management of field explorations for the project, including test borings, test pits, monitoring wells, and evaluation of potential borrow pits.
- **Elena V. Hoeg, Civil Design and Stormwater Management** – Ms. Hoeg will be involved in grading, design of any access roads, and design of surface water collection systems, including stormwater management (SWM) ponds or basins. She will also be responsible for NPDES permitting for any SWM facilities which are necessary.
- **Harold W. Chambers and Ron A. Talkington, P.S., Project Surveyors** – Mr. Chambers and Mr. Talkington will coordinate with the aerial mapping firm and will manage all aspects of the base mapping phase of the project.
- **Roger A. Simar, Laboratory Testing** - Mr. Simar will manage all laboratory materials testing during design.

Please refer to the Personnel Matrix in Appendix B which summarizes team member names, professional registration, specialty(s) or roles under this contract, and years of experience. Resumes which provide detailed information regarding the education and experience of all individuals who will perform services under this contract are also included in Appendix B.

## **PROJECT APPROACH**

Based on our current understanding of the work requirements for the City of Kingwood Landfill and our experience with several similar projects, we believe that the work can be subdivided into five phases. Work elements associated with each phase are discussed in more detail herein.

### **Surveying and Mapping**

Prior to beginning site assessment and engineering design, it will be necessary to have reliable and accurate mapping over the project area, including any potential borrow areas and areas where leachate storage or treatment may occur. TRIAD will team with our aerial photography subcontractor (Keddal Aerial Mapping) to determine appropriate ground control locations prior to flying the site. TRIAD will then establish aerial mapping targets using GPS survey equipment and personnel from our Morgantown, WV office to minimize travel expenses. Our field crew will also verify the legal boundaries of the property, and these will also be shown on the base map.

After the site is flown, our subcontractor will provide mapping for field review and verification. After all field data is confirmed, final digital and hard copy files will be provided to TRIAD. These files will form the basis for our base mapping.

### **Site Characterization Study**

After accurate mapping is available, TRIAD will conduct a site reconnaissance visit in cooperation with the WVDEP project manager. During our site reconnaissance, we will examine and discuss the following features:

- Interim cap system
- Existing surface water drainage controls
- Potential leachate release areas
- Nearby receiving streams and other sensitive receptors
- Potential borrow areas
- Existing monitoring wells

Following our site visit, TRIAD will generally discuss our proposed site characterization plan with the WVDEP project manager and subsequently provide a written scope of work for approval.

Upon approval, TRIAD will mobilize drilling equipment from our Morgantown, WV office to conduct any subsurface investigation necessary to characterize waste limits, potential borrow soils, groundwater, and bedrock conditions at the site. Samples of groundwater from existing monitoring wells, samples from surface run-off channels, and samples from potential leachate seeps will be obtained for laboratory analysis. Laboratory testing will be completed by our subcontract analytical laboratory, Pace Analytical Services, Inc., a WVDEP-approved laboratory.

Sufficient data will be obtained during the course of our site assessment to generate a report that will describe current conditions at the site and provide a proposed cost effective remedial approach. Our report will include:

- Overall site map depicting relevant features
- Description of groundwater quality and flow patterns



- Description of site geology and soils
- Evaluation of existing cover soil
- Evaluation of available borrow soils, including quantity and quality
- Description of surface water drainage
- An evaluation of potential impacts to nearby surface water, groundwater, and other potential sensitive receptors
- Our recommended approach to final closure of the landfill

### **Design Engineering and Permitting**

After review and approval of our Site Assessment Report by WVDEP, TRIAD will begin preliminary engineering of a closure solution. We anticipate that submittals will be made to WVDEP at the 30% complete, 90% complete, and 100% complete stage of design. Our design package will generally include the following elements:

- Existing Conditions and Topography
- Survey Layout Plan
- Erosion and Sediment Control Plan
- Base Grading Plan
- Final Grading Plan
- Closure Cap Details
- Surface Drainage and Stormwater Management Plan
- Leachate Collection/Storage System Plans and Details
- Miscellaneous Details
- Supporting Calculations
- Construction Specifications

### **Construction Cost Estimate and Bidding**

Upon completion of final plans and specifications, the expected cost of the work will be estimated. This cost evaluation will be made using unit cost data from various sources (i.e. previous bids on similar projects, information solicited from material suppliers, Means unit costs, etc.). The final cost estimate will be discussed with the WVDEP project manager and, whenever necessary, revisions to the plans and specifications will be made to bring the estimated costs in line with the project budget.

After an estimated construction budget is established, TRIAD will assist WVDEP in the advertisement and bidding of the work. The TRIAD project manager and project engineer will attend the pre-bid meeting to show the job to prospective contractors, and will assist the WVDEP project manager with the review and analysis of bids.

Upon completion of the construction, our engineer will conduct a final inspection with the WVDEP project manager and the contractor to develop a punch list as necessary to ensure that all elements of the project are completed in accordance with the plans and specifications.

## PROJECT QUALITY CONTROL AND COST CONTROL SYSTEM

The project manager will be responsible for monitoring and controlling project schedule, budget, and quality. Prior to beginning the project, Dr. Hando will cooperate with the WVDEP project manager to prepare a Project Management Plan. The Project Management Plan document guides and records execution of the project from beginning to final completion. As work progresses, the project manager will evaluate progress on a weekly basis to compare actual project progress with the established work schedule. If these reviews indicate that a schedule problem is developing, the project manager will explore options for correcting the situation. If circumstances develop that will make it impossible to maintain the original schedule, the WVDEP project manager will be immediately informed of the situation and a mutually satisfactory schedule adjustment will be made.

Personnel time and expense charges are maintained and allocated to projects on a weekly basis. Using this data, together with his knowledge of subcontractor costs, the project manager will also review project budget status on a weekly basis. This information is available at the project manager's desktop via our automated accounting and project management software. The percent of work completed will be compared to the percent of costs incurred in order to quickly identify any budget problems which may develop. If potential budget problems are identified, they will be evaluated by the project manager and the WVDEP project manager will be immediately informed of the problems and causes. If justified, a mutually agreeable budget revision will be prepared or the work scope will be revised to conform to the original budget, based on the nature of the problem.

Weekly project meetings will be held between the TRIAD project manager, the senior engineer, and other relevant staff as appropriate to generally review project schedule and budget, and also to review work product for completeness, accuracy, and conformance with the project requirements. Triad maintains a two-tiered quality review system. The first tier requires the staff person who generates work to have their work product reviewed by a peer. Any revisions required by the peer review are completed prior to moving to the second tier. In the second tier review, a senior level technical person must review and sign off on the quality of all work. Generally, this review will be conducted by Karen Krabill, P.E., for engineering work and John Meeks, P.G., L.R.S., for site assessment work. However, other senior level staff may complete these reviews as necessary to maintain efficient work flow.

### SUMMARY

As indicated in this proposal and the accompanying CCQQ, TRIAD maintains the staff, equipment and other resources to complete most projects in-house. Staff from the Morgantown, WV office will perform the work on this project so that we can minimize travel costs and more efficiently utilize the time allowed for the project.

We plan to utilize technical strengths and experience housed in particular office locations to supplement expertise available in the Morgantown, WV office. Ultimate technical oversight and guidance for this project will come from our Morgantown office. However, John Meeks, of our St. Albans, WV office, will be heavily involved in a review capacity due to his extensive landfill design experience. Correspondence between offices for purposes of technical oversight,

including the transfer of specifications and drawings, will be accomplished via VPN, FTP, and e-mail. We routinely transfer text and CADD files between offices for review and editing.

The Landfill Project Experience listing in Appendix A demonstrates our experience and ability to complete a wide variety of landfill projects, from initial design to site assessment and closure. Due to our in-house multi-disciplinary capabilities, very few subcontractors are required, and this results in greater efficiency and economy for our clients. We strongly believe that you will conclude that TRIAD is one of the most capable and experienced landfill consulting firms in West Virginia.

## LANDFILL PROJECT EXPERIENCE

Project Name Location	Contact Phone No.	Services Provided
MARION COUNTY LANDFILL Marion County, WV	Mr. Paul Benedum (304) 368-3960	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management ( <b>Currently working on this project</b> )
MORGAN COUNTY LANDFILL Morgan County, WV	Mr. Mark Church (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management ( <b>Currently working on this project</b> )
DONS DISPOSAL Charleston, WV	Mr. Clyde Bennett (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
CITY OF BUCKHANNON CLOSURE CAP Buckhannon, WV	Mr. Mark Church (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management

Project Name Location	Contact Phone No.	Services Provided
CITY OF BUCKHANNON LEACHATE COLLECTION Buckhannon, WV	Mr. Mark Church (304) 872-3800	Leachate treatment feasibility study; Borrow soils investigation; Laboratory soils & permeability testing; Leachate sampling and testing; Site design; Leachate lift station design; Sewer design; Construction drawings & specifications; Construction cost estimate; Construction bid preparation and management
MCDOWELL COUNTY LANDFILL Roderfield, WV	Mr. Clyde Bennett (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
GRANT CO. LANDFILL Petersburg, WV	Mr. Mark Church (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
ERO LANDFILL Mason Co., WV	Mr. Clyde Bennett (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management; Monitoring well installation; Wetland treatment system design
MINGO CO. LANDFILL Mingo Co., WV	Mr. Clyde Bennett (304) 872-3800	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management

Project Name Location	Contact Phone No.	Services Provided
NORTH LANDFILL Marietta, OH	Mr. Tim King (304) 747-3763	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
GOFF MOUNTAIN LANDFILL Institute, WV	Mr. Steve Graves (304) 767-6613	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
FREDERICK COUNTY CDD LANDFILL Winchester, VA	Mr. Harvey E. (Ed) Strawsnyder (540) 665-5643	Aerial photography and development of contour mapping; Geotechnical Investigation; Monitoring well installation; Construction drawings & specifications; Permit document preparation; Construction inspection of several cells
LOCAL SANITATION SERVICE Morehead, KY	Mr. Steve Hodges (606) 784-6544	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
FREDERICK COUNTY SANITARY LANDFILL Winchester, WV	Mr. Harvey E. (Ed) Strawsnyder (540) 665-5643	Geotechnical and hydrogeologic studies; Laboratory soils & permeability testing; Monitoring plan preparation; Groundwater sampling and testing; Monitoring well installation; Construction monitoring and testing of numerous cells
PRICHARD LANDFILL Prichard, WV	Mr. Rick Maynard (304) 648-5925	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management

Project Name Location	Contact Phone No.	Services Provided
SYCAMORE LANDFILL Hurricane, WV	Mr. Charles A. Forth (304) 562-2611	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management
NUMBER 1 LANDFILL Sistersville, WV	Ms. Tina Adams (304) 652-3211	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management; Monitoring well installation
HOLTZ IMPOUNDMENT So. Charleston, WV	Mr. Jerome Cibrik (304) 747-2987	Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management; Monitoring well installation
NUMBER 3 LANDFILL Sistersville, WV	Ms. Tina Adams (304) 625-3211	Site feasibility study; Monitoring well installation and hydrogeologic studies; Closure Design; Permit document preparation; Borrow soils investigation; Site characterization and evaluation (groundwater, waste limits); Closure construction inspection; Aerial photography and development of contour mapping; Construction drawings & specifications; Closure construction cost estimate; Construction bid preparation and management Liner compatibility study
NUMBER 2 LANDFILL Sistersville, WV	Ms. Tina Adams (304) 625-3211	Engineering design; Synthetic and soil liner construction inspection; Permit document preparation; Aerial surveying and ground control; Construction cost estimate and construction bid document preparation; Monitoring well installation

Project Name Location	Contact Phone No.	Services Provided
RHONE-POULENC CLOSURES Institute, WV	Mr. George Kennedy (304) 747-6870	Closure design; Site investigation; Borrow material study; Surveying and topographic mapping; Lab testing; Construction inspection; Engineering certification; Annual hydrogeologic analysis



## PERSONNEL MATRIX

RFQ No. DEP14707  
City of Kingwood Landfill

Name	Registration	Specialty or Project Role	Experience
John Hando	Ph.D.	Landfill Assessment / Design; Environmental; Project Manager Environmental Services Manager - Morgantown, WV	21
John Meeks	Professional Geologist	Landfill Design; Hydrogeology; Senior Level Assessment Review Branch Manager - St. Albans, WV	29
Karen Krabill	Professional Engineer	Landfill Design; Geotechnical; Senior Level Engineering Review Geotechnical Services Manager - Morgantown, WV	25
Robert Sykes	Professional Geologist	Hydrogeology; Site Characterization; Assessment	31
Lydia Work	Licensed Remediation Specialist	Hydrogeology; Technical Assessment Review Branch Manager - Morgantown, WV	20
L. Jane Hicks		Geotechnical; Field Explorations	33
Elena Hoeg		Civil Design; Stormwater Management Design	9
Harold Chambers		Surveying Services Manager - Morgantown, WV; Base Mapping	27
Ron Talkington	Professional Surveyor	Professional Surveyor / Supervisor; Base Mapping	28
Roger Simar	(Please see resume or CCQQ for full listing)	Monitoring Well Installation; Laboratory Testing Services Field Services Manager - Morgantown, WV	33

**John C. Hando, Ph.D.**  
***Environmental Department Manager***

**EDUCATION**

BS, Biology  
Ph.D. Genetics

Fairmont State College, 1987  
West Virginia University, 1996

**REGISTRATIONS AND LICENSES**

Pro Board Hazardous Materials Technician	Certification
Pro Board Instructor	Certification
Permit to Use Explosives	License #G71640705
Advanced Open Water Diver	Certification
Dry Suit Diver	Certification
Incident Safety Officer	Certification
OSHA 1910.120 Supervisor	Certification
National Incident Management	Certification
ICS 100, 200, 300 and 400	Certification
USEPA Hazardous Material Sampling	Certification
USEPA Air Monitoring	Certification
Radiation Response for SUPERFUND	Certification
USEPA Groundwater Investigation	Certification
USEPA Treatment Technologies	Certification
USEPA Risk Assessment	Certification
Tank Car Response	Certification
WMD Chemical Weapons	Certification
WMD Improvised Explosives	Certification
WMD Radiation Response	Certification
WMD Incident Commander	Certification
WV Regional Response Team	Member
WV Radiation Response Team	Team Leader

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

<b>Triad Engineering, Inc.</b> Morgantown, WV	Environmental Services Manager February 2008 - Present
<b>WV Department of Environ. Protection</b> Fairmont, WV	Environmental Inspector Specialist Hazardous Material Response Coordinator 1992-2008
<b>WV Division of Natural Resources</b> Fairmont, WV	Water Resources Inspector 1988-1992

**CURRENT POSITION RESPONSIBILITIES**

Dr. Hando is currently Environmental Services Manager of the Morgantown, West Virginia office of Triad Engineering, Inc. (TRIAD). In this capacity, Dr. Hando is responsible for managing TRIAD's environmental department staff, providing environmental contracts oversight and administration, ensuring overall quality control and technical quality assurance of projects undertaken by the environmental department, and performing technical contract work.

**PROJECT EXPERIENCE SUMMARY**

Dr. Hando has a long and distinguished record of environmental management and oversight work for the State of West Virginia while also performing many related adjunct professor teaching functions (as noted below) at Fairmont State and West Virginia University in the environmental area. Additionally, he has worked as a technical Advisor for the National Corrections and Law Enforcement Training and Technology Center, and the WVU Fire Service Extension.

***West Virginia Department of Environmental Protection, Fairmont, WV***

As part of Dr. Hando's work with WVDEP, he performed a variety of environmental oversight functions including: inspection of facilities that generate, treat, store, and/or dispose of hazardous

waste; hazardous material emergency response; investigation of citizen complaints; criminal investigations; hazardous material sampling; and Superfund site emergency removal and treatment technology review. Additional duties included: OSHA 1910.120 training and OSHA 1910.1200 training; technical advisor to the United States Attorney's Office (regarding environmental crimes); work with Local Emergency Planning committees; contaminated water diving; counterterrorism response, and counterterrorism training. He was a West Virginia on site representative at Beaver Valley Nuclear Power Station during inhalation phase training and response, and a sampling team leader for ingestion phase training, and response for incidents involving radioactive materials and he was the statewide hazardous materials emergency response coordinator.

***West Virginia Division of Natural Resources, Fairmont, WV***

While working as a Water Resources Inspector for the WV Division of Natural Resources, Dr. Hando's duties included inspection of facilities that generate, treat, store and/or dispose of hazardous waste. This work also involved investigation of citizen complaints, criminal investigations, hazardous material emergency response, hazardous material sampling and Superfund site emergency removal oversight.

***Fairmont State University, Fairmont, WV***

For the past ten year Dr. Hando has taught as an Adjunct Professor at FSU in the Safety and Environmental Engineering Technology Program. Courses included: Hazardous Waste Management, Hazardous Materials Sampling, and Hazardous Waste Operations and Emergency Response (OSHA 1910.0)

***National Corrections and Law Enforcement Training and Technology Center, Clarksburg, WV***

For the past five years Dr. Hando has served as technical advisor for the development of full-scale exercises involving weapons of mass destruction, hazardous materials, and pandemic influenza.

***West Virginia University, Morgantown, WV***

Over the last ten years Dr. Hando has been a Visiting Assistant Professor for the Environmental Protection Program and Safety Management Program at WVU. Courses taught included: Fundamentals of Environmental Management, Hazardous Materials Sampling, Hazardous Waste Operations and Emergency Response (OSHA 1910.120) and, Introduction to Facility Security.

***WVU Fire Extension Service, Morgantown, WV***

Dr. Hando has performed as a part-time instructor, providing specialized hazardous materials awareness, operations and technician level training to law enforcement.

**John M. Meeks, P.G., L.R.S.**  
**Branch Manager/Senior Geologist**

**EDUCATION**

BS, Geology  
Graduate Studies

West Virginia University, Morgantown, WV, 1980  
Marshall University Graduate College

**REGISTRATIONS AND LICENSES**

Professional Geologist  
Licensed Remediation Specialist

Kentucky (No. 556)  
West Virginia (No. 008)

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

**Triad Engineering, Inc.,**  
St. Albans, WV

Branch Manager/Senior Geologist  
2001 - Present

**Triad Engineering, Inc.,**  
St. Albans, WV

Environmental Services Manager/Senior Geologist  
1990 - 2001

**WV Office of Waste Management,**  
Charleston, WV

Assistant Chief  
1985 - 1990

**UTD Corp.,**  
Elkins, WV

Staff Geologist  
1982 - 1985

**GSI, Inc.,**  
Huntington, WV

Staff Geologist  
1980 - 1982

**PROFESSIONAL ORGANIZATION/ASSOCIATIONS**

**Air & Waste Management Association, WV Chapter**

**WV Chamber of Commerce, Environmental Committee** – Former Waste Team Chair

**WVDEP Waste Roundtable** – Founding Member

**Putnam County Chamber of Commerce** – Education Committee and Ambassador Committee

**CURRENT POSITION RESPONSIBILITIES**

Mr. Meeks is currently a practicing Senior Geologist and Branch Manager of the St. Albans office of Triad. In this capacity, Mr. Meeks is responsible for technical quality and management control of all projects in the region. His technical work includes environmental assessment of groundwater, surface water, and soil; waste management facility design and permitting; brownfield redevelopment projects; wetland mitigation design and permitting; and remediation system design and implementation. Mr. Meeks also gained a thorough knowledge of environmental regulatory requirements through his experience with WV Division of Environmental Protection, where he supervised statewide enforcement of waste management regulations; including hazardous waste and solid waste regulatory programs, as well as underground storage tank regulations. Prior to his tenure at WV Division of Environmental Protection, Mr. Meeks managed environmental assessment projects throughout West Virginia and the central Appalachian region. Mr. Meeks is an occasional guest lecturer and educator regarding brownfield redevelopment, wetland treatment systems, groundwater assessment and remediation, and other environmental topics at community and business associations, technical conferences, and college courses.

## **PROJECT EXPERIENCE SUMMARY**

### ***ERO Landfill Characterization and Interim Closure, WVDEP-LCAP, Charleston, WV***

As Project Manager and Senior Geologist, managed and assisted in the characterization and interim closure of the ERO Landfill facility. This included a complete hydrogeologic site evaluation and monitoring well installation, surveying and mapping, waste limit determination, borrow soil investigation, and design of the storm water management system, access road, leachate collection system, and constructed wetland leachate treatment system. Following design and permitting, served as Project Manager for construction Quality Control inspection. Prepared research paper describing the design and operation of the constructed wetland leachate treatment system that was selected for presentation at the national conference of the Solid Waste Association of North America.

### ***Mingo County Landfill Interim Closure, WVDEP-LCAP, Charleston, WV***

As Project Manager and Senior Geologist, managed and assisted in the interim closure of the Mingo County Landfill facility. This included surveying and mapping, waste limit determination, and design of the storm water management system, leachate collection system, and leachate storage system. Following design and permitting, served as Project Manager for construction Quality Control inspection.

### ***City of Buckhannon Landfill Characterization and Interim Closure, WVDEP-LCAP, Charleston, WV***

As Project Manager and Senior Geologist, managed and assisted in the characterization and interim closure of the City of Buckhannon Landfill facility. This included a limited hydrogeologic site evaluation based on existing wells, surveying and mapping, waste limit determination, borrow soil investigation, and design of the storm water management system, leachate collection system, and leachate storage system. Following design and permitting, served as Project Manager for construction Quality Control inspection.

### ***City of Buckhannon Landfill Final Closure, WVDEP-LCAP, Charleston, WV***

As Project Manager and Senior Geologist, managed and assisted in the final closure of the City of Buckhannon Landfill facility. This included design of the final closure cap system, including interfacial friction evaluation and testing of the various cap components. Following design and permitting, served as Project Manager for construction Quality Control inspection.

### ***Don's Disposal Service Landfill Characterization and Closure, WVDEP-LCAP, Charleston, WV***

As Project Manager and Senior Geologist, managed and assisted in the characterization and final closure of the Don's Disposal Service Landfill facility. This included a limited hydrogeologic site evaluation based on existing wells, surveying and mapping, waste limit determination, borrow soil investigation, and design of the storm water management system, leachate extraction wells, leachate collection system, and leachate storage system.

### ***McDowell County Landfill Closure, WVDEP-LCAP, Charleston, WV***

As Project Manager and Senior Geologist, managed and assisted in the characterization and final closure of the McDowell County Landfill facility. This included limited surveying and mapping, borrow soil investigation, and design of the storm water management system, leachate collection system, and leachate storage system. Following design and permitting, served as Project Manager for construction Quality Control inspection.

### ***Landfill Closure and Expansion Design, Private Owner, Prichard, WV***

As Project Manager and Senior Geologist, managed and assisted in the preparation of permitting and design documents for closure of an existing disposal area and development of an adjacent expansion area. This included a complete hydrogeologic site evaluation and monitoring well installation, surveying and mapping, waste limit determination, borrow soil investigation, and design of storm water management system, leachate collection system, and leachate storage system. Following design and permitting, served as Project Manager for construction Quality Control inspection.

### ***Landfill Closure and Expansion Design, Private Owner, Hurricane, WV***

As Project Manager and Senior Geologist, managed and assisted in the preparation of permitting and design documents for closure of an existing disposal area and development of an adjacent expansion area. This included a complete hydrogeologic site evaluation and monitoring well installation, surveying

and mapping, waste limit determination, borrow soil investigation, and design of storm water management system, leachate collection system, and leachate storage system. Following design and permitting, served as Project Manager for construction Quality Control inspection.

***Landfill Expansion, Private Owner, Ashland, KY***

As Project Manager and Senior Geologist, managed and assisted in the preparation of permitting and design of a vertical expansion (VEX) of an existing landfill facility. This included construction of rock/earthen berms along the margins of the existing facility. The VEX application consisted of engineering plans, cross sections, details, and supporting calculations. Two important elements of the application included a demonstration that adequate soils were available, and that the presence of previous underground mining did not compromise the structural soundness of the berms.

***Landfill Expansion, Private Owner, Morehead, KY***

As Project Manager and Senior Geologist, managed and assisted in the preparation of permitting and design documents for closure of an existing disposal area and development of an adjacent expansion area. This included surveying and mapping, waste limit determination, borrow soil investigation, and design of storm water management system, leachate collection system, and leachate storage system. Following design and permitting, served as Project Manager for construction Quality Control inspection.

***Union Carbide Corporation (DOW Chemical), South Charleston, WV***

Provided technical and project management services to plant personnel and the Remediation Technologies Group from 1990 through present:

- As a Project Manager, leading a team of engineers and scientists evaluating and preparing remedial design drawings and construction documents for closure of a Superfund landfill unit located at the former Marietta, OH plant. Project scope included evaluation of alternative cover designs and design of a specialized leachate collection and pumping system. Subsequent work included onsite inspection and certification of the construction.
- As Project Manager, currently responsible for budget and schedule in the oversight of closure of three Superfund units at the former Marietta, OH facility. Our firm's responsibilities include Assistant Site Superintendent and Quality Assurance Officer, providing liaison with representatives of surrounding manufacturing facilities as well as state and federal regulatory officials, interpretation of plans and specifications prepared by others, redesign of certain elements to optimize cost and performance, and preparation of certification documents for US EPA and state regulatory representatives.
- As Senior Geologist, upgrading and redesigning a groundwater extraction system at a former RCRA unit where disposal of wastes had impacted groundwater quality. Project included removal, redesign, and replacement of seven existing recovery wells; evaluation and selection of compressed air actuated product and groundwater pumps, design of compressed air distribution and waste removal system piping; design and retrofit of oil/water separator; evaluation and selection of electrical systems and controls.

**Karen L. Krabill, P.E.**  
**Senior Engineer/Geotechnical Services Manager**

**EDUCATION**

BS, Civil Engineering	West Virginia University, Morgantown, WV, 1984
Graduate Studies	West Virginia University, Morgantown, WV, 1984-1986

**REGISTRATIONS AND LICENSES**

Professional Engineer	West Virginia (No. 12353) Maryland (No. 34785) Pennsylvania (No. PE075489)
MSHA Certified	for Surface Coal Mine Operations

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

<b>Triad Engineering, Inc.</b> Morgantown, WV	Geotechnical Services Manager 2006 – Present
<b>Triad Engineering, Inc.</b> Morgantown, WV	Project/Senior Engineer 1990 – 2006
<b>CTC - Geotek, Inc.</b> Colorado Springs, CO	Laboratory Manager 1989 – 1990
<b>Chen - Northern, Inc.</b> Colorado Springs, CO	Laboratory Technician 1986 – 1989
<b>West Virginia University</b> Morgantown, WV	Teaching Fellow 1985 – 1986
<b>Triad Engineering, Inc.</b> Morgantown, WV	Engineering Technician Summers, 1982 – 1984

**CURRENT POSITION RESPONSIBILITIES**

Ms. Krabill is currently the Geotechnical Services Manager in the Morgantown, West Virginia office of Triad Engineering, Inc. In this capacity, she is responsible for set-up and supervision of all aspects of geotechnical projects performed from the Morgantown office. Her specific duties include preparing geotechnical proposals, reviewing subsurface exploration programs, evaluating geotechnical data, performing various analyses, and reviewing/preparing detailed geotechnical reports. Ms. Krabill has conducted geotechnical investigations and engineering evaluations for a myriad of clients including coal companies, power generation facilities, manufacturing plants, municipalities, engineering companies and developers. Ms. Krabill's technical specialties include landslide analysis and remediation, slope stability evaluations, retaining wall analysis and design, earth dam design, hydrology and hydraulic analyses and stormwater management system design.

## **PROJECT EXPERIENCE SUMMARY**

### ***Longview Power Station, Monongalia County, WV***

Ms. Krabill served as the geotechnical manager for this \$1.8 billion power plant project. The project is sited on an area that has been both surface mined and deep mined, with over 70 feet of surface mine spoil material remaining on a majority of the site. Multiple subsurface investigations were conducted in order to properly classify the subsurface conditions. Laboratory analyses, settlement evaluations and deep foundation recommendations completed the work performed for the project. Micropiles were the recommended foundation type for the heavily loaded structures planned for the site.

### ***Tibbs Run (Perine) Landslide Remediation, Morgantown, WV***

The Tibbs Run landslide encompassed approximately one-half acre, with the head of the slide located within thirty (30) feet of a residence. The project, which was conducted for the WV Department of Environmental Protection (WVDEP) Abandoned Mine Lands emergency program, was located within a prior WVDEP project that was reclaimed in 2002. Ms. Krabill managed the remediation design, which included two gabion walls, significant regrading, and reconstruction of the access road to the home. She conducted slope stability evaluations, wrote the project specifications and reviewed the finalized design plans.

### ***First United Bank & Trust, Morgantown, WV***

Ms. Krabill has been involved in three (3) bank sites in the Morgantown area, and has developed the subsurface exploration programs, compiled the soils and foundation reports and prepared the civil site design plans for these projects. She was solely responsible for performing the hydrologic and hydraulic assessment for design of the storm water management systems, one of which was required to conform to the stringent Morgantown Utility Board (MUB) retention and treatment standards. The civil site design work included development of grading and drainage plans, utility plans, landscaping plans and project specifications.

### ***Norton-Harding-Jimtown PSD Water Line Extension Feasibility Study, Randolph County, WV***

This study, which was performed for the West Virginia Department of Environmental Protection (WVDEP) examined four (4) areas for their eligibility for funding by the Abandoned Mine Lands & Reclamation (AML&R) program to provide water line extensions. Work on the project included resident interviews, research of mining history and compilation of water quality data. Ms. Krabill developed the interview questions and was responsible for statistical analysis of the interview data and water quality/quantity information. She also researched pre- and post-law, surface and deep mining operations. The research included delineation of all mining performed within the four study areas, including domestic "punch" mines as well as large commercial mining operations. Water quality data obtained from mine operators, prior published studies and current testing were evaluated to develop piper diagrams for each area. Ms. Krabill determined that three of the four areas were eligible for AML&R funding.

### ***Village at Heritage Point, Morgantown, WV***

Ms. Krabill was responsible for the stormwater management design for this senior living community on a 12 acre site. The project site has a large drainage area that contains three (3) upstream stormwater management ponds in series that the stormwater had to be sequentially routed through. The architect requested an aesthetically pleasing pond, which Ms. Krabill designed for stormwater management. The pond was designed to limit surface elevation fluctuation so that the aesthetics would not be compromised. The stormwater eventually emptied into an overloaded waterway in the middle of a residential area so tight controls on the outflow were implemented.

### ***Cobun Creek Dam Inspection and Analyses, Morgantown, WV***

The Cobun Creek Dam, which was constructed in 1957 to provide water for Morgantown's municipal water supplier, is an earthen dam that impounds about 185 acre-feet of water. Ms. Krabill conducted dam break analyses and flood routing for this impoundment for hazard classification, as required by the West Virginia Department of Environmental Protection, Dam Safety Section. In addition, Ms. Krabill has been responsible for conducting all required dam safety inspections for this impoundment in accordance with the West Virginia Dam Safety Regulations. The most recent inspection resulted in development of recommendations to arrest progressive erosion of the soft bedrock at the dam toe from flows through the open-channel spillway.



**Robert M. Sykes, C.P.G.**  
**Senior Environmental Geologist**

**EDUCATION**

BS, Geology Virginia Polytechnic Institute and State University, Blacksburg, VA, 1978

**CERTIFICATIONS, REGISTRATIONS, LICENSES, AND TRAINING**

Certified Professional Geologist	Virginia
Authorized Onsite Soil Evaluator (AOSE)	Virginia
Licensed Asbestos Inspector	Maryland, Virginia, West Virginia
Licensed Asbestos Management Planner	Maryland, Virginia, West Virginia
40-Hour Hazardous Materials Site Worker	(OSHA 29 CFR Part 1910.120)

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

<b>Triad Engineering, Inc.</b> Winchester, Virginia	Senior Environmental Geologist 1980 - Present
<b>Thompson &amp; Litten</b> Wise, Virginia	Staff Geologist 1978 - 1980

**PROFESSIONAL ORGANIZATION/ASSOCIATIONS**

**Association of Environmental & Engineering Geologists**, Member  
**National Ground Water Association**, Member

**CURRENT POSITION RESPONSIBILITIES**

Mr. Sykes is currently a Senior Environmental Geologist for the Winchester, Virginia office of Triad Engineering, Inc. In this capacity, Mr. Sykes is responsible for technical and field management aspects of specific environmental projects in the region. This work includes landfill groundwater and gas monitoring design and implementation; preparation and submission of landfill monitoring reports; asbestos inspections and management plans; the planning and execution of subsurface and hydrogeologic investigations, including fracture trace analysis and pump tests; drain field evaluations; and petroleum tank release characterizations, risk assessments, remedial design, and reimbursement of costs through the Virginia Petroleum Storage Tank fund (VPSTF).

## **PROJECT EXPERIENCE SUMMARY**

### ***Shenandoah County Sanitary Landfill, Woodstock, VA***

As Environmental Geologist/Project Manager, performs the landfill groundwater and gas monitoring design and implementation and reporting to the Virginia Department of Environmental Quality. The design of these systems was performed to differentiate between the old closed landfill, the existing operational landfill, and the new expansion area, all of which are located within the same property confines. Due to groundwater contamination from the unlined landfill area, characterization of the individual contaminant constituents was performed and corrective action plans submitted to the Virginia Department of Environmental Quality. Mr. Sykes has been performing environmental services for the landfill since 1995.

### ***Frederick County Sanitary Landfill, Winchester, VA***

As Environmental Geologist/Project Manager, performs the landfill groundwater monitoring and reporting to the Virginia Department of Environmental Quality. This reporting includes the Annual Groundwater Report, Alternate Source Demonstration Reports when certain groundwater constituents exhibit statistical exceedances, and groundwater monitoring reports. Mr. Sykes has been performing environmental services for the landfill since 1994.

### ***Page County Sanitary Landfill, Stanley, VA***

As Environmental Geologist/Project Manager, sampled groundwater monitoring wells and characterized groundwater at the old landfill site in Stanley, VA. Since 2006, Mr. Sykes has assisted Page County in reviewing laboratory analysis for waste acceptance.

### ***War Memorial Hospital (WMC), Berkeley Springs, WV***

As Environmental Geologist/Project Manager, Mr. Sykes supervised the assessment and remediation of heating oil from the groundwater surface which resulted from a leaking underground storage tank (UST). Abatement actions were performed under the supervision of U.S. EPA Region III which included removal of a 12,000-gallon heating oil UST, excavating cutoff trenches, and utilizing automatic free product skimmers and a trench drain system to remove the heating oil from the groundwater surface. After significant reduction in the quantity of oil seepage, the active collection system was converted to a passive collection system connected directly to the trench drain. In excess of 10,000 gallons of heating oil were recovered during the remediation operations and a case closure notification was obtained from the U.S. EPA Region III.

### ***Town of Hillsboro, Hillsboro, VA***

As Environmental Geologist, was contracted to locate potential high yield well locations by fracture trace analysis, which relies primarily on the use of stereo aerial photographs to delineate the location of subsurface fractures or lineaments that may serve as conduits for groundwater flow and recharge. In addition to the fracture trace analysis, geologic research and field verification of the potential high yield well sites established by the fracture trace analysis was performed.

### ***Former Woolen Mill, Winchester, VA***

As Environmental Geologist/Licensed Asbestos Inspector, performed a Phase II Environmental Site Assessment (ESA) to identify and investigate environmental concerns related to the project site. Also, performed a complete asbestos inspection and solicited bids from asbestos abatement contractors to remove asbestos containing materials prior to demolition of the building.

### ***Fahnestock Rental Property, Winchester, VA***

As Environmental Geologist/Project Manager, worked with the Virginia Department of Environmental Quality to characterize and remediate heating oil contamination resulting from a leaking UST. Approximately 10 feet of floating free product (heating oil) was detected within the drinking water well at the project site. A site characterization was performed to determine the extent of the vapor, residual, and dissolved phase contamination phases; a risk assessment to determine potential risk to human health and the environment, and design of a corrective action plan to remove free product from the groundwater surface.

***Shull's Plumbing & Heating, Dayton, VA***

As Senior Environmental Geologist/Project Manager, worked with the Virginia Department of Environmental Quality to remediate gasoline impacted groundwater using a dual phase treatment system. This project site is in the vicinity of the Town of Dayton municipal well. Characterization, extraction, and treatment of the gasoline contaminated groundwater were critical to prevent migration of the contaminant to the municipal well. After long term operation of the treatment system and a detailed final risk assessment, this pollution complaint case was successfully closed.

***Shenandoah Valley Flea Market, New Market, VA***

As Senior Environmental Geologist/Project Manager, is working with the Virginia Department of Environmental Quality to characterize and remediate heating oil contamination resulting from a leaking 3,000-gallon aboveground storage tank. The released heating oil migrated to the Flea market drinking water well resulting in an approximate 60-foot thickness of oil floating on the groundwater surface within this well. Immediate free product recovery operations were initiated and extensive groundwater characterization was performed. Based on results of the groundwater characterization, a new drinking water well was sited and drilled. Further groundwater characterization and remediation are being performed due to potential/impacted down gradient receptors.

**Lydia M. Work, LRS**  
**Branch Manager / Senior Chemist**

**EDUCATION**

BS, Honors, Chemistry

West Virginia Wesleyan, Buckhannon, WV, 1989

**REGISTRATIONS AND LICENSES**

Licensed Remediation Specialist  
OSHA 40 Hour Hazardous Workers  
OSHA 8 Hour Supervisor  
Mine Safety and Health Administration  
Hazardous Ranking Score Training  
Environmental Sampling Field Course

No. 148, West Virginia  
Operations Certification  
Certification  
Certificate of Training  
EPA, 2009  
Nielsen Environmental Field School, Inc., 2003

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

**Triad Engineering, Inc.**  
Morgantown, WV

Branch Manager  
Sep 2007 – Present

**Triad Engineering, Inc.**  
Morgantown, WV

Environmental Services Manager  
June 2005 – Nov. 2007

**Triad Engineering, Inc.**  
St. Albans, WV

Project Manager / Senior Chemist  
2001 – June 2005

**SGS CT&E Inc.**  
Charleston, WV

Quality Manager, 1998 - 2001  
Project Manager, 1994 - 1998  
Chemist, 1992 - 1994

**Air Quality Sciences Inc.**  
Atlanta, GA

Indoor Air Quality Research Chemist  
1989 - 1992

**CURRENT POSITION RESPONSIBILITIES**

Ms. Work is currently Branch Manager of the Morgantown, West Virginia office of Triad Engineering, Inc. (TRIAD). In this capacity, Ms. Work is responsible for managing staff, contract administration, and overall quality control and technical quality assurance of projects undertaken by the office.

Previously Ms. Work performed technical activities as the Environmental Services Manager and Senior Chemist at the Morgantown office of TRIAD. In that capacity, she provided Project Management to industry, private developers and the WVDEP. As the point of contact for her clients, Ms. Work's tasks have included conducting meetings with clients and various regulatory agencies, managing staff in order to meet project commitments, regulatory file reviews, site reconnaissance activities, site assessment work plan development, field operations management, identifying areas of environmental concern, preliminary human health and ecological risk assessments, developing remedial action work plans, invoicing, and report preparation. These tasks have been performed across various programs, including the West Virginia Voluntary Remediation Program (VRP), Brownfields Program, Phase I Environmental Site Assessments (ESAs), Phase II ESAs, National Pollutant Discharge Elimination System (NPDES) water quality program, and the West Virginia Superfund Program.

As a Licensed Remediation Specialist (LRS), Ms. Work has been successful in achieving two Certificates of Completion for her clients and is currently providing services for seven other sites in the VRP. As Senior Chemist, Ms. Work has performed analytical data verification and validation for many West Virginia VRP and Brownfield Sites. She has also performed commercial laboratory assessments to ascertain a laboratory's ability to meet client and project requirements and audit their quality management systems. Additionally Ms. Work has provided primary consulting services to a large West Virginia manufacturer pursuing of ISO 14001 Environmental Management Systems (EMS) registration.

## **PROJECT EXPERIENCE SUMMARY**

### ***West Virginia Department of Environmental Protection, Charleston, WV***

As Project Manager, responsible for numerous Superfund sites in West Virginia. Ms. Work has performed Preliminary Assessments, Site Inspections, and Site Inspection Reassessments under CERCLA, including sampling and analysis plan development, quality assurance plan development, selection of contaminants of concern, identifying areas of environmental concern, performing preliminary human health and ecological risk assessments, identification of potentially responsible parties, and providing recommendations to the WVDEP and the USEPA Region III. Ms. Work has provided Project Management services to the WVDEP for more than 30 Superfund Sites. Projects include:

- Dalzell Viking Glass (Former Glass Manufacturing Site)
- Reedsville Scattered Foundry (Contaminated Surface Soil)
- Standard Ultra-Marine (Industrial Disposal)
- Glen Dale TCE (Groundwater Contamination Impacting Public Water Supply)

### ***Old Standard Quarry, Charles Town, West Virginia***

As Project Manager, responsible for administration of four property parcels at a former 400-acre dolomite quarry under the West Virginia Voluntary Remediation Program (VRP). Two Certificates of Completion (COCs) have been awarded. The objective is to obtain the two remaining COCs at the Site following remedial activities in order to support future residential and commercial redevelopment.

### ***Jefferson Orchards, Jefferson County, West Virginia***

As Project Manager and Licensed Remediation Specialist (LRS), responsible for administration of four property parcels at a 400-acre fruit orchard under the West Virginia VRP. One parcel was critical to a multi-million dollar state road construction contract and had to be expedited. Ms. Work was able to go from VRP application to earth moving activities in 60 days. The final objective for the client is to obtain COCs at the Site to support future residential and commercial redevelopment.

### ***Huntington Alloys Corporation, Huntington, WV***

As Project Manager and Senior Chemist, Ms. Work provided water quality consulting services in order to achieve site specific water quality criteria relief for the industry's storm water permit. These activities included litigation support, oversight of the studies (metal translator and water effects ratio), an onsite investigation to determine point sources of the contaminants; data interpretation; use attainability analysis, and water quality standards variance submittals.

### ***Flexsys America L.P., Nitro, WV***

As an onsite ISO 14001 Environmental Management Systems (EMS) consultant, Ms. Work worked with the plant managers, operating and design engineers, and hourly employees to assist with writing the industry's Environmental Management Policy, define the facility's environmental aspects and impacts, prioritize impacts that are significant in order to set facility goals, performed plant wide ISO 14001 EMS training, and assisted with writing the facility's EMS procedures.

### ***Land Resources, Inc., Roaring River proposed development, Fayette County, WV***

As Project Manager, performed Phase I and Phase II environmental site assessment (ESA) services as part of a high-end residential development encompassing approximately 4,300-acres at the New River Gorge. On going activities include management of an onsite former landfill to be entered into the WV VRP.

### ***Alcon Manufacturing, Ltd., Huntington, WV***

As Senior Chemist, Ms. Work developed a laboratory audit program to assist the industry in their selection of a contract commercial laboratory. The services included cost comparison analysis; capabilities and certification analysis; managing performance evaluation test (PET) samples, onsite laboratory audit of personnel, equipment, and procedures; PET result interpretation; and final recommendations.

### ***Former Houze Glass, Point Marion, PA***

As Environmental Services Manager/Senior Chemist, Ms. Work completed a Phase II Environmental Site Assessment (ESA) for Point Marion Development at the 16-acre former Houze Glass Plant site. The Phase II ESA was performed at the former Houze Glass Plant due to the prospective purchaser's concern

about possible areas of contamination and impacts to groundwater. It is the intent of Point Marion Development to redevelop the abandoned property for commercial and/or industrial uses.

**L. Jane Hicks**  
**Project Engineer**

**EDUCATION**

BS, Engineering of Mines	West Virginia University, Morgantown, WV, 1981
MA, Mathematical Education	West Virginia University, Morgantown, WV, 1989

**REGISTRATIONS AND LICENSES**

Humboldt Certified for Nuclear Density Gage Operations  
MSHA Certified for Surface Coal Mine Operations

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

<b>Triad Engineering, Inc.</b> Morgantown, WV	Geotechnical Project Engineer Feb 2006 – Present
<b>Triad Engineering, Inc.</b> Morgantown, WV	Environmental/Geotechnical Staff Engineer 2000 – Feb 2006
<b>Preston Cty. Board of Education</b> Kingwood, WV	Mathematics Instructor 1984 – 1994
<b>Dept. of Health and Human Services, CDC, NIOSH</b> Morgantown, WV	Engineer Officer 1983 – 1984
<b>Kitt Energy Corporation</b> Philippi, WV	Surveyor 1981 – 1982
<b>Leckie Smokeless Coal Co.</b> Rupert, WV	Engineer Assistant 1976 – 1980

**CURRENT POSITION RESPONSIBILITIES**

As a geotechnical project engineer, Ms. Hicks provides geotechnical engineering analysis and design, prepares geotechnical engineering proposals and reports, logs and inspects soil and rock borings, and provides drilling and field services supervision. Ms Hicks has provided numerous diversified geotechnical and environmental engineering services to clients in both the mining industry and private business. Her expertise includes development of deep and shallow foundation design recommendations, preparation of detailed project plans and technical specifications and evaluation of slope stability. She manages a wide variety of projects from the proposal stage to final invoicing and project closeout.

## PROJECT EXPERIENCE SUMMARY

### ***Mortenson Wind Power Projects***, Garrett County, MD and Grant County, WV

Triad partnered with Mortenson on two of their local wind power projects. Geotechnical evaluations were necessary to aid in the design of the proposed 2.0MW turbines on 256 foot towers to be supported by mat foundations. Ms. Hicks performed field supervision for the two projects which included twenty turbine sites on Backbone Mountain in Garrett County, Maryland, and eighty-two turbine sites in Grant County, West Virginia. She supervised laboratory testing services and compiled the soils and foundations reports, as well.

### ***Canaan Valley Institute***, Davis, WV

Canaan Valley Institute, a nonprofit group dedicated to improvement of local watersheds, plans to construct a new headquarters and educational building on their 3,208-acre property located near Davis, WV. Ms. Hicks conducted the geotechnical evaluation, and supervised the subsurface investigation and laboratory testing services. The geotechnical evaluation included cut slope and detailed foundation recommendations.

### ***Morgantown Airport***, Morgantown, WV

Ms. Hicks assumed responsibility for preparation of several proposals and detailed reports of geotechnical evaluation for this growing local airport. New facilities, for which Ms. Hicks supervised the subsurface investigations and geotechnical evaluations, include an administration building, maintenance building, taxi-way extension, and runway extension. Geotechnical evaluation for the proposed ***Runway South Safety Extension*** included slope configurations for proposed cut areas and slope stability analyses/evaluation for proposed fill areas, as well as design of a 70 foot high reinforced soil slope.

### ***Allegheny Racetrack Dam***, Little Orleans, Maryland

Ms. Hicks assisted in the design and analysis of the Allegheny Racetrack Dam, provided help in the development of the subsurface exploration program, supervised the subsurface investigation and subsequent laboratory testing services, and performed a seepage evaluation and filter diaphragm design. She also performed slope stability analyses for the upstream and downstream embankment slopes considering steady state conditions. Additional work on the project included structural design of the principal spillway and other appurtenant structures, development of project plans and preparation of technical specifications.

### ***Wheeling Federal Courthouse Annex***, Wheeling, WV

Performed geotechnical evaluation and supervision of subsurface investigation and laboratory testing services. Geotechnical evaluation included analysis of different deep foundation systems and potential settlement considering the large depths of alluvial soils present on site.

### ***Albert Gallatin North Middle School Addition***, McClellandtown, Pennsylvania

Executed geotechnical evaluation and supervision of subsurface investigation and laboratory testing services. Geotechnical evaluation included analysis of pyrite content in the bedrock and its potential impact on the planned slab-on-grade, grade beams, and deep foundation system.

### ***Radisson Hotel and Conference Center***, Morgantown, WV

As Staff Engineer, performed geotechnical evaluation and supervision of subsurface investigation, laboratory testing services, and QA/QC field testing services. Supervision of field services included caisson installation. Geotechnical evaluation included analysis of various deep foundation systems for very heavy loads and retaining walls.

### ***Fairmont State University***, Fairmont, WV

Conducted geotechnical evaluations and supervision of subsurface investigation for new university facilities, which include a ***Garage, Student Center, and Dormitory***. Subsurface investigations included deep borings to assess the sites for subsidence due to deep mining. Geotechnical evaluation included analysis of different deep and shallow foundation systems and retaining walls.



**Elena V. Hoeg**  
**Staff Engineer**

**EDUCATION**

BSGE, MSChE	St. Petersburg State University, St. Petersburg, Russia, 1994
MS, Civil Engineering	West Virginia University, Morgantown, WV 2001

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

<b>Triad Engineering Inc.</b> Morgantown, WV	Staff Engineer 2006 – Present
<b>Research Hydrologist</b> Morgantown, WV	Natural Resources Analysis Center, WVU, 2002-2005
<b>Graduate Research Assistant</b> Morgantown, WV	Department of Civil Engineering, WVU, 1998-2001
<b>Graduate Teaching Assistant</b> Morgantown, WV	Department of Civil Engineering, WVU, 2001

**CURRENT POSITION RESPONSIBILITIES**

Ms. Hoeg is currently a staff engineer for the civil design department in the Morgantown Office of Triad Engineering, Inc. In this capacity, Ms. Hoeg is responsible to assist project and senior engineers by performing routine engineering calculations and design using her skills and experience as she gains familiarity with the various projects and tasks assigned to her in support of the civil design group in the Morgantown Office. In this position, occasional independent judgment is required, but she reports decisions and actions to more senior personnel as she acquires experience through tenure as a junior level staff member. She also may provide sketches and/or detailed layout information to CADD staff for incorporation into drawings. Additionally, she may be called upon to attend meetings with clients or to assist with proposal preparation or business development as called upon by more senior personnel.

**PROJECT EXPERIENCE SUMMARY**

***Everettsville Burning Refuse*, Monongalia County, WV**

This project required the preparation of a site for quenching operations to extinguish a coal mine refuse fire. Under supervision of a senior engineer, Ms. Hoeg performed a remedial design of erosion/sediment control and drainage features for this emergency project.

***Jessop Portals, Friends of the Cheat*, Preston County, WV**

This project involved designing a site layout of an abandoned coal mine discharge treatment facility to accommodate required removal rate for the discharge pollutants. Ms. Hoeg was responsible for hydrological assessment and calculations of the site. In addition, she is also prepared an earthwork specification for this project.

***Marcus Drive Townhouses*, Morgantown, WV**

Ms. Hoeg performed a storm drain design, stormwater management calculations, and prepared the submission package of the preformed hydrologic and hydraulic analysis to obtain a stormwater permit for a 2 acres townhouse development from a local utility company (MUB).

***Middletown Mall*, Marion County, WV**

As a part of this land development project, Ms. Hoeg prepared and submitted an application for an existing NPDES permit modification for grading operations and designed the permanent detention storage to

accommodate future commercial development.

**CR-31 Bridge Replacement, Harrison County, WV**

Ms. Hoeg performed the HEC-RAS stream profile simulations for existing and proposed bridges to comply with the WV DOH requirements for flood elevations.

**Exchange at WVU, Granville, WV**

This project involved the preparation of land development plans for a 24 acre apartment complex including 15 three story buildings, management office, club house and associated infrastructure. Ms. Hoeg designed the proposed storm drainage system and assisted with the preparation of storm drain plans and profiles and construction details. Ms. Hoeg also designed the temporary erosion and sediment control practices as well as prepared the NPDES permit application package submission.

**Harold W. Chambers**  
**Survey Department Manager**

**EDUCATION**

B.S. Mining Engineering

West Virginia University  
Morgantown, WV 1981

**REGISTRATIONS AND LICENSES**

WV Association of Land Surveyors  
OSHA HAZWOPER Annual Certification  
MSHA Annual Certification

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

**Triad Engineering, Inc.**  
Morgantown, WV

Surveying Services Manager  
1984-Present

**Mountain State Surveying**  
Kingwood, WV

Permit Specialist/Surveyor  
1981-1984

**CURRENT POSITION RESPONSIBILITIES**

Mr. Chambers has 25 years of diversified surveying experience. His expertise includes development of permits, topographic mapping, highway design surveys, surface and underground mine surveys and project administration. Mr. Chambers has performed engineering/design services for numerous environmental and reclamation projects. He has been active in numerous projects involving the mining industry, state and federal agencies. Mr. Chambers has responsibility for the management of Morgantown's in-house surveying department. Mr. Chambers duties involve client contacts, proposal preparation, contract negotiation, project coordination, document / data management, staff supervision, site reconnaissance, field surveys and data reduction.

**PROJECT EXPERIENCE SUMMARY**

**International Coal Group (ICG), Inc.**, Morgantown, WV

As Project Manager/Engineer/Surveyor for surface and underground coal mine projects since 1986, Mr. Chambers has provided varying levels of services to the planning, permitting and operational stages of projects. Services provided include, surveying, site reconnaissance, site development design, drainage design and field engineering, and permitting services. Mr. Chambers worked in the design and development of the Sycamore, Lake Floyd, Spruce 2 and Spruce 3 deep mine facilities, as well as, the planning for expansion of the coarse coal refuse piles at Hawthorne and Philippi Development.

**Morgantown Energy Associates / Dominion Resources**, Morgantown, WV

As Project Manager and Party Chief, Mr. Chambers provided coordination of resources for emergency surveying services required to monitor movement of a coal silo which had experienced an internal bin failure resulting in a fatality. Monitoring was provided during the rescue, recovery and demolition phases of this incident. As Party Chief, provided shift supervision and data reduction, evaluation and reporting.

**Consolidation Coal Company, McElroy Mine**, Moundsville, WV

As Party Chief, Mr. Chambers provided field crew supervision and data reduction for the planned expansion of the load out harbor facility. River soundings were performed utilizing Real Time Kinematic GPS surveying methods. Borehole locations for the river cell were staked on shore with references provided to the correct river locations.

**Dominion Resources**, Delmont, PA

As Project Manager and Party Chief, Mr. Chambers provided project administration, coordination of resources and data reduction/report preparation for the subsidence monitoring of pipeline TL-342 in Greene County, PA, during underground coal mine longwall subsidence events since 1992. Strain gages were installed along this pipeline with regular measurements of same performed to ascertain any change

in strain along this pipeline. Survey data was also obtained to determine the maximum amount and cessation of subsidence.

***DMJM Harris, Inc.***, Pittsburgh, PA

As Project Manager, for this WV Department of Transportation, Division of Highways project in Monongalia County, WV, the Mon Fayette Expressway, Mr. Chambers provided project administration and coordination of resources to complete assigned work tasks for the design of an interstate interchange, new exit, mainline roadway and local access roads. Project mapping was edited and formatted to current WVDOH CADD standards.

***Mt. Storm Wind Force***, Bayard, WV

As Project Manager/Engineer/Surveyor, Mr. Chambers provided property line reconnaissance and supervision of survey field crews for the development of an ALTA land survey and topographic mapping for a project area spread over several thousand acres. Additionally, Mr. Chambers provided drainage design for the plans included in the storm water management permit required by WVDEP.

***Parsons Brickerhoff***, Fairmont, WV

As Project Manager, for this WV Department of Transportation, Division of Highways Corridor H project in Tucker County, WV, Mr. Chambers provided project administration and coordination of resources to complete assigned work tasks for the design of an interchange, mainline roadway and local access roads. Project mapping was edited and formatted to current WVDOH CADD standards.

**Ronald A. Talkington, P.S.**  
**Surveyor Supervisor**

**EDUCATION**

One Year Survey Course

Monongalia County Vo-Tech Center  
Morgantown, WV 1980

**REGISTRATIONS AND LICENSES**

Professional Surveyor  
MSHA Annual Certification  
Railroad Roadway Workers Annual Certification

West Virginia (No. 876)

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

**Triad Engineering, Inc.**  
Morgantown, WV

Surveyor Supervisor  
2006 - Present

**Triad Engineering, Inc.**  
Morgantown, WV

Senior Surveyor  
1989 - 2006

**McCoy Surveying**  
Monongah, WV

Crew Chief  
1981-1989

**CURRENT POSITION RESPONSIBILITIES**

Mr. Talkington has 28 years of diversified surveying experience. Mr. Talkington has, during his tenure with Triad, served as a senior party chief and Professional Surveyor. Prior to his employment at Triad, his experience ranged from rodman to party chief. Mr. Talkington's duties primarily involve construction and property surveys. He has experience in a wide range of survey-related project/client applications, including construction layout, pay item quantity calculation / verification, record research, property surveys and preparation of property plats and legal descriptions.

**PROJECT EXPERIENCE SUMMARY**

**ALTA/ACSM Survey-Allegheny Energy, Inc., Mount Morris, Pa.**

Senior surveyor in the performance of boundary line and as-built location: Utility line location, record search, drafting and platting.

**WVDOH-Mon Fayette Expressway, Morgantown, WV**

Senior surveyor in the performance of boundary line location for approximately 84 parcels: Record search and development of overall property line mosaic for project: Preparation of approximately 164 legal description required to implement the design.

**WVDOH-Elkins By-Pass, Elkins, WV**

Senior surveyor in the performance of boundary line location for approximately 56 parcels: Development of overall property line mosaic for project: Preparation of approximately 112 legal description required to implement the design.

**CFW Wireless-Cell Phone Towers, Fairmont, WV**

Senior surveyor in the performance of boundary line location for approximately 150 tower sites: Record search: Platting of leased area and right of ways.

**ALTA/ACSM Survey-Helig Myers Store, Morgantown, WV**

Senior surveyor in the performance of boundary line and as-built location: Utility line location and platting.

**Institute for Scientific Research-ISR Building, Fairmont, WV**

Senior party chief in the performance of project monumentation, construction layout, check surveys and as-built drawings.

**Roger A. Simar**  
**Lab and Field Services Manager**

**EDUCATION**

A.S., Civil Engineering Technology

Community College of Allegheny County,  
Monroeville, Pennsylvania May, 1976

**REGISTRATIONS AND LICENSES**

WV Department of Highway Certifications:

Bituminous Concrete Tech. (No. 651)  
Portland Cement Concrete Tech. (No. 693)  
Aggregates Technician (No. 112)  
Compaction Technician (No. 312)  
Marshall Mix Design

Fairmont State University, Certified Inspector, Level V

National Inst. for Certification in Engineering Technologies:

Senior Civil Eng.Tech. (No. 060687)      Geotechnical Eng.Tech. - Lab (No. 060687)

American Concrete Institute:

Concrete Technician - Grade 1 (No.196-38-3400)

Troxler Electronics Laboratories:

Radiation Safety, Use of Nuclear Testing Equip.

Humboldt Scientific, Inc.:

Certified Radiation Safety Officer

**DIRECT WORK EXPERIENCE AND PRIMARY RESPONSIBILITIES**

**Triad Engineering, Inc.**  
Morgantown, WV

Lab and Field Services Manager  
March, 1987-Present

**Triad Engineering, Inc.**  
Morgantown, WV

Senior Engineering Technician  
August, 1981-March, 1987

**Triad Engineering, Inc.**  
Morgantown, WV

Engineering Technician  
August, 1976-August, 1981

**Ram Construction Company**  
Pittsburgh, PA

Survey Crew Chief  
May, 1976-August, 1976

**CURRENT POSITION RESPONSIBILITIES**

Mr. Simar has over 30 years of experience performing and providing QA/QC inspection, and laboratory testing services for Triad Engineering, Inc. He has 20 years of experience as Triad's Laboratory Manager and Field Services Coordinator. Mr. Simar is experienced in most phases of earthwork, asphalt, and concrete construction. He is also knowledgeable in most basic laboratory test procedures for soil, concrete, aggregate and asphalt materials. Mr. Simar schedules field testing projects and personnel, reviews and submits field reports, provides problem solving and client consulting, writes reports, and prepares invoices. He also schedules and prioritizes all laboratory tests that are conducted, and reviews, approves and writes laboratory test reports. Additionally, Mr. Simar is the Radiation Safety Officer for Triad. He is responsible for inventory, leak testing, maintenance, and calibration of the company nuclear-density gauges. He is also responsible of the safety training and record keeping requirements in order to comply with NRC regulations.

## **PROJECT EXPERIENCE SUMMARY**

### ***West Virginia Statewide Agreement***, Districts 1 and 4

Provided project management and personnel supervision for a statewide contract with the WVDOH in which we provide construction inspectors, material testing technicians, laboratory testing technicians, and data entry personnel on an as-needed, per project basis. Triad Engineering, Inc. was awarded the Department of Highways Engineering Excellence Award in the category of Construction Inspection for the years 2000 and 2002.

### ***New Geneva Bridge***, New Geneva, PA

Provided on-site Quality Control Manager duties for Merit Contracting on an Army Corps of Engineers new bridge construction project. The responsibilities of the QC manager on this project included:

- soil, aggregate, and asphalt compaction testing
- field concrete testing
- reviewing, reporting, and approving all laboratory testing
- writing, and distributing field reports
- conducting pre-construction meetings
- reviewing submittals
- reporting all construction activity and progress

### ***Union Carbide Dam***, Sistersville, WV

Provided on-site inspection and testing services for the construction of an earth dam at Union Carbide's Sistersville's Plant site. Soil compaction tests were performed during all phases of the earthwork and field reports written. All laboratory testing was also conducted on-site. Test reports, and laboratory reports were prepared and submitted to Union Carbide. The project also included drainage blankets, piping systems, and clay liners that required testing and inspection.

### ***Allegheny Power***, Greensburg, PA

Provided on-site field inspection and testing services for two-year testing and inspection contract (2005-07) including: coordinated the Contract Work Assignments (CWAs) and project assignments for the four offices involved in three different regions. Triad performed laboratory and field concrete testing, and also performed laboratory and field soil compaction testing services.

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

PROJECT NAME DEP14707 - Site Characterization Study, Leachate Management & Closure Cap Design for City of Kingwood Landfill		DATE (DAY, MONTH, YEAR)  August 10, 2009	FEIN  550592364																																																
1. FIRM NAME TRIAD ENGINEERING, INC.		2. HOME OFFICE BUSINESS ADDRESS 219 Hartman Run Road Morgantown, WV 26505	3. FORMER FIRM NAME N/A																																																
4. HOME OFFICE TELEPHONE 304/296-2562	5. ESTABLISHED (YEAR) 1975	6. TYPE OWNERSHIP Individual <b>CORPORATION</b> Partnership    Joint- Venture	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) YES                      NO X																																																
7. PRIMARY OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. PERSONNEL EACH OFFICE 219 Hartman Run Rd., Morgantown, WV 26505/(304) 296-2562/Lydia M. Work, L.R.S./53																																																			
8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Randy L. Moulton, P.E., President & CEO		8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS																																																	
9. PERSONNEL BY DISCIPLINE ( <b>Bold Lettering Indicates Minimum Design Team Members</b> )																																																			
<table style="width:100%; border:none;"> <tr> <td style="width:25%;"><u>23</u> ADMINISTRATIVE</td> <td style="width:25%;">— ECOLOGISTS</td> <td style="width:25%;"><u>3</u> LANDSCAPE</td> <td style="width:25%;">— STRUCTURAL</td> </tr> <tr> <td>— ARCHITECTS</td> <td>— ECONOMISTS</td> <td>ARCHITECTS</td> <td>ENGINEERS</td> </tr> <tr> <td><u>2</u> BIOLOGIST</td> <td>— ELECTRICAL</td> <td>— MECHANICAL</td> <td><u>32</u> SURVEYORS</td> </tr> <tr> <td><u>10</u> CADD OPERATORS</td> <td>ENGINEERS</td> <td>ENGINEERS</td> <td><u>17</u> OTHER</td> </tr> <tr> <td><u>1</u> CHEMICAL</td> <td><u>16</u> ENVIRONMENTALISTS</td> <td><u>1</u> MINING ENGINEERS</td> <td><u>221</u> TOTAL PERSONNEL</td> </tr> <tr> <td>ENGINEERS</td> <td><b>ESTIMATORS</b></td> <td>— PHOTOGRAMMETRISTS</td> <td></td> </tr> <tr> <td><u>19</u> CIVIL</td> <td><u>7</u> GEOLOGISTS</td> <td>— PLANNERS:</td> <td></td> </tr> <tr> <td>ENGINEERS</td> <td>— HISTORIANS</td> <td>URBAN/REGIONAL</td> <td></td> </tr> <tr> <td><u>63</u> CONSTRUCTION</td> <td><u>2</u> HYDROLOGISTS</td> <td><u>2</u> SANITARY ENGINEERS</td> <td></td> </tr> <tr> <td>INSPECTORS</td> <td></td> <td><u>16</u> SOILS ENGINEERS</td> <td></td> </tr> <tr> <td><u>7</u> DESIGNERS</td> <td></td> <td>— SPECIFICATION</td> <td></td> </tr> <tr> <td>— DRAFTSMEN</td> <td></td> <td>— WRITERS</td> <td></td> </tr> </table> <p>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: <u>2/17</u> (firm) *RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.</p>				<u>23</u> ADMINISTRATIVE	— ECOLOGISTS	<u>3</u> LANDSCAPE	— STRUCTURAL	— ARCHITECTS	— ECONOMISTS	ARCHITECTS	ENGINEERS	<u>2</u> BIOLOGIST	— ELECTRICAL	— MECHANICAL	<u>32</u> SURVEYORS	<u>10</u> CADD OPERATORS	ENGINEERS	ENGINEERS	<u>17</u> OTHER	<u>1</u> CHEMICAL	<u>16</u> ENVIRONMENTALISTS	<u>1</u> MINING ENGINEERS	<u>221</u> TOTAL PERSONNEL	ENGINEERS	<b>ESTIMATORS</b>	— PHOTOGRAMMETRISTS		<u>19</u> CIVIL	<u>7</u> GEOLOGISTS	— PLANNERS:		ENGINEERS	— HISTORIANS	URBAN/REGIONAL		<u>63</u> CONSTRUCTION	<u>2</u> HYDROLOGISTS	<u>2</u> SANITARY ENGINEERS		INSPECTORS		<u>16</u> SOILS ENGINEERS		<u>7</u> DESIGNERS		— SPECIFICATION		— DRAFTSMEN		— WRITERS	
<u>23</u> ADMINISTRATIVE	— ECOLOGISTS	<u>3</u> LANDSCAPE	— STRUCTURAL																																																
— ARCHITECTS	— ECONOMISTS	ARCHITECTS	ENGINEERS																																																
<u>2</u> BIOLOGIST	— ELECTRICAL	— MECHANICAL	<u>32</u> SURVEYORS																																																
<u>10</u> CADD OPERATORS	ENGINEERS	ENGINEERS	<u>17</u> OTHER																																																
<u>1</u> CHEMICAL	<u>16</u> ENVIRONMENTALISTS	<u>1</u> MINING ENGINEERS	<u>221</u> TOTAL PERSONNEL																																																
ENGINEERS	<b>ESTIMATORS</b>	— PHOTOGRAMMETRISTS																																																	
<u>19</u> CIVIL	<u>7</u> GEOLOGISTS	— PLANNERS:																																																	
ENGINEERS	— HISTORIANS	URBAN/REGIONAL																																																	
<u>63</u> CONSTRUCTION	<u>2</u> HYDROLOGISTS	<u>2</u> SANITARY ENGINEERS																																																	
INSPECTORS		<u>16</u> SOILS ENGINEERS																																																	
<u>7</u> DESIGNERS		— SPECIFICATION																																																	
— DRAFTSMEN		— WRITERS																																																	
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".																																																			
-NA-																																																			
10a. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? <input type="checkbox"/> YES <input type="checkbox"/> NO    -NA-																																																			



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

<p>NAME AND ADDRESS: Keddal Aerial Mapping 1121 Boyce Road, Suite 3100 Pittsburgh, PA 15241 P: (724) 942-2881 F: (724) 942-2885 map@keddalaerial.com</p>	<p>SPECIALTY: Aerial Photography / Photogrammetry</p>	<p>WORKED WITH BEFORE</p> <p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS: Pace Analytical Services, Inc. 5203 Triangle Lane Export, PA 15632 P: (724) 733-1161 F: (724) 327-7793 www.pacelabs.com POC: Carin Ferris, Project Manager Carin.Ferris@pacelabs.com</p>	<p>SPECIALTY: Full organic / inorganic analyses in accordance with RCRA, NPDES, TSCA, 10 CFR 61 Waste Characterization and UST programs for a variety of matrices</p>	<p>WORKED WITH BEFORE</p> <p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
<p>NAME AND ADDRESS:</p>	<p>SPECIALTY:</p>	<p>WORKED WITH BEFORE</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>

12. A. Are your firm's personnel experienced in Solid Waste Landfill Closure Design?

**YES Description and Number of Projects:** Triad personnel have completed closure design services for the WVDEP (LCAP) and several private entities since 1990. Six (6) LCAP projects have been performed directly for the WVDEP, and at least nine (9) other closure designs have been completed for other clients. Triad personnel are currently working on the Marion County and Morgan County Landfills.

NO

B. Are your firm's personnel experienced in Solid Waste landfill site characterization assessment and evaluation?

**YES Description and Number of Projects:** Triad personnel have been involved in assessment projects since 1990. We have completed characterization assessment and evaluation studies on over twenty (20) projects.

NO

C. Are your firm's personnel experienced in landfill closure construction inspection?

**YES Description and Number of Projects:** Triad personnel have been involved in construction inspection of closures on over twenty (20) landfill projects for the WVDEP (LCAP) and several private clients since 1990.

NO

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

**YES Description and Number of Projects:** Triad typically subcontracts the aerial photography and mapping. Triad lays out the targets in the field and conducts the survey for establishment of horizontal and vertical control used to develop the final mapping. It is estimated that we have completed several hundred similar types of mapping projects since the inception of the firm in 1975.

NO

E. Are your firm's personnel experienced in evaluating ground water contamination, such as may be associated with landfills?

**YES Description and Number of Projects:** Triad personnel have been involved in sampling groundwater monitoring wells and evaluating contamination problems related to landfills since 1990. This type of assessment work has been conducted in conjunction with all fifteen (15) of our closure design projects, as well as several other landfills which are currently operational.

NO

F. Are your firm's personnel experienced in Landfill Closure cost estimating?

**YES Description and Number of Projects:** Triad personnel have been responsible for preparation of closure cost estimates on all fifteen (15) of our closure design projects. As previously indicated, six (6) of these were LCAP projects which were performed under contract to the WVDEP.

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 OF EXPERIENCE		
	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:
Hando, John C. Project Manager	21		

**Brief Explanation of Responsibilities:**

Dr. Hando is the Environmental Services Manager at the Morgantown, West Virginia office of Triad. In this capacity, Dr. Hando is responsible for managing Triad's environmental department staff, providing environmental contracts oversight and administration, ensuring overall quality control and technical quality assurance of projects undertaken by the environmental department, and performing technical contract work. In addition, Dr. Hando has approximately 20 years of experience, including positions at WVDEP and WVDNR, managing emergency removals and site remediations / characterizations and providing technical and project oversight to landfill and other projects.

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

BS, 1987, Biology, Fairmont State College, Fairmont, WV  
Ph.D., 1996, Genetics, West Virginia University, Morgantown, WV

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**  
American Chemical Society

**REGISTRATION (Type, Year, State)**  
Pro Board Certified Hazardous Materials Technician

**13. 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 (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:
Meeks, John M. Senior Level Assessment Reviewer	29		

**Brief Explanation of Responsibilities:**

Mr. Meeks is a Senior Geologist and Branch Manager of the St. Albans office of Triad, and he is responsible for technical quality and management control of all projects in the region. His technical work includes environmental assessment of groundwater, surface water, and soil; waste management facility design and permitting; brownfield redevelopment projects; and remediation system design and implementation. Mr. Meeks also has a thorough knowledge of environmental regulatory requirements through his experience with WV Division of Environmental Protection, where he supervised statewide enforcement of waste management regulations; including hazardous waste and solid waste regulatory programs, as well as underground storage tank regulations.

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

BS, 1980, Geology, West Virginia University, Morgantown, WV  
Graduate Studies, Marshall University Graduate College, Huntington, WV

**MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**  
Air & Waste Management Association, WV Chapter  
WV Chamber of Commerce, Environmental Committee - Former Waste Team Chair  
WVDEP Waste Roundtable - Founding Member  
Putnam County Chamber of Commerce

**REGISTRATION (Type, Year, State)**  
P.G., 1993, Kentucky  
L.R.S., 1998, West Virginia

**13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR LANDFILL CLOSURE QA/QC (Furnish complete data but keep to essentials)**

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:
Krabill, Karen L. Senior Level Engineering Reviewer	24		

**Brief Explanation of Responsibilities**  
 Ms. Krabill is currently the Geotechnical Services Manager in the Morgantown, West Virginia office of Triad Engineering, Inc. In this capacity, she is responsible for set-up and supervision of all aspects of geotechnical projects performed from the Morgantown office. Her specific duties include preparing geotechnical proposals, reviewing subsurface exploration programs, evaluating geotechnical data, performing various analyses, and reviewing/preparing detailed geotechnical reports. Ms. Krabill's technical specialties include landslide analysis and remediation, slope stability evaluations, earth dam design, hydrology and hydraulic analyses and stormwater management system design.

**EDUCATION (Degree, Year, Specialization)**  
 Drafting Technology-1975  
 BS, 1984, Civil Engineering, West Virginia University, Morgantown, WV

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	P.E., 1994, West Virginia (No. 12353) P.E., 2007, Maryland (No. 34785) P.E., 2008, Pennsylvania (No. PE075489)

**13. 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 (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:	YEARS OF (type) EXPERIENCE:
Simar, Roger A. Field Services & Laboratory Manager	33		

**Brief Explanation of Responsibilities**  
 Mr. Simar has over 30 years of experience performing and providing QA/QC inspection, and laboratory testing services for Triad. He has 20 years of experience as Triad's Laboratory Manager and Field Services Coordinator. Mr. Simar is experienced in most phases of earthwork, asphalt, and concrete construction. He is also knowledgeable in most basic laboratory test procedures for soil, concrete, aggregate and asphalt materials. Mr. Simar schedules field testing projects and personnel, reviews and submits field reports, provides problem solving and client consulting, writes reports, and prepares invoices. He also schedules and prioritizes all laboratory tests that are conducted, and reviews, approves and writes laboratory test reports. Additionally, Mr. Simar is the Radiation Safety Officer for Triad. He is responsible for inventory, leak testing, maintenance, and calibration of the company nuclear-density gauges. He is also responsible of the safety training and record keeping requirements in order to comply with NRC regulations.

**EDUCATION (Degree, Year, Specialization)**  
 AS, 1976, Civil Engineering Technology, Community College of Allegheny County, Monroeville, PA

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	WV Department of Highway Certifications: Bituminous Concrete Tech (No. 651); Aggregates Technician (No. 112); Marshall Mix Design; Portland Cement Concrete Tech. (No. 693); Compaction Technician (No. 312) National Inst. For Certification in Eng. Tech.: Senior Civil Eng. Tech. (No. 060687) Geotechnical Eng. Tech. - Lab (No. 060687) Fairmont State University - Certified Inspector, Level V American Concrete Institute: Concrete Technician-Grade 1 (No. 196-38-3400) Troxler Electronics Laboratories: Radiation Safety, Use of Nuclear Testing Equipment Humboldt Scientific, Inc.: Certified Radiation Safety Officer

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE THE SITE CHARACTERIZATION STUDY, LEACHATE MANAGEMENT & CLOSURE CAP DESIGN AND QUALITY ASSURANCE / QUALITY CONTROL FOR MORGAN COUNTY LANDFILL.

IN-HOUSE SOFTWARE

PCSTABL5M Slope Stability Software  
Civil 3D CADD Software  
Eagle Point Survey Software  
HEC-1, HEC-HMS and HEC-RAS Flood Routing Software  
Hydraflow Hydrographs and Hydraflow Storm Sewers SWM Software  
Flowmaster SWM Software

LABORATORY TESTING EQUIPMENT

Triaxial Compression Machine, Manual Proctor Devices (standard & modified), Automatic Proctor Hammer, Turbidimeter, Hydrometers, pH Tester (soil & water), Electronic Scales  
Unconfined Compression Machine, Atterberg Limits Devices, Electrical Resistivity Meters, California Bearing Ratio Devices, Specific Gravity Devices, 2000 Degree Fahrenheit Oven, Permeability Cells and Back-Pressure Panel Boards, Consolidometer, Electronic Manometers,  
Concrete Compressive Strength Equipment, Sieves and Sieve Shakers, Sample Splitters, Unit Weight Buckets, Slake Durability Machine, L.A. Abrasion Machine, Load Frames, Sodium Sulfate Soundness Test Equipment, Asphalt Test Equipment, Relative Density Test Apparatus

DRILLING EQUIPMENT

CME 550 Track-Mounted Drill Rig  
CME 45 ATV-Mounted Drill Rig  
Mobile B-53 Truck-Mounted Drill Rig  
Deep Rock DR-150 4WD Truck-Mounted Drill Rig (with Down-Hole-Hammer)  
Portable Grout Mixer and Pump

FIELD QA/QC TESTING EQUIPMENT

Troxler Nuclear Moisture-Density Gauges  
Slump Cones (Concrete slump)  
Pressure Meters (Concrete Air Content)  
Concrete Thermometers  
Concrete Cylinder Molds  
Paint Thickness Gauges

FIELD SURVEYING EQUIPMENT

Topcon RTK GPS System  
Topcon Electronic Total Stations (4)  
Topcon and Sokkia Auto Levels (3)  
HP Data Collectors (2)  
Carlson Data Collector (1)  
Misc. Prisms, Level Rods, Motorola 2-way Radios (6)

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
Marion County Landfill, Marion County, WV	WVDEP Office of Waste Management 601 57 <sup>th</sup> Street SE Charleston, WV 25304 Mr. Paul Benedum 304-368-3960	Site Characterization Study, Leachate Management and Closure Cap Design and Quality Assurance/Quality Control. <b>(LCAP Design Services)</b>	To be determined	40%
Morgan County Landfill, Morgan County, WV	WVDEP Office of Waste Management 601 57 <sup>th</sup> Street SE Charleston, WV 25304 Mr. Mark Church 304-926-0499	Site Characterization Study, Leachate Management and Closure Cap Design and Quality Assurance/Quality Control. <b>(LCAP Design Services)</b>	To be determined	25%
Shenandoah County Landfill, Edinburg, VA	Shenandoah County Mr. Brad Dellinger, Director 349 Landfill Road, Edinburg, VA 540-984-8573	Semi-Annual well sampling and testing; Analytical water testing	To be determined	Testing is on-going.
Frederick County Landfill, Frederick County, VA	Frederick County Mr. Ed Strawsnyder, PE Dir. of Public Works 107 N. Kent Street Winchester, VA 22601 540-665-5643	Semi-Annual well sampling and testing; QC monitoring and testing of new landfill cells.	To be determined	Well sampling and testing is on-going. New cell construction is 99% complete.
Jefferson County Landfill / Old Standard Quarry	Old Standard, LLC P.O. Box 341 Millwood, VA 22646 Mr. Herb Jonkers (703) 627-0935	Environmental Assessment; Cap Integrity Assessment; Groundwater Sampling; Hydrogeologic Study; Soil Sampling; Surface Water Sampling	To be determined	10%
WVDEP Superfund Landfill Assessments - Old Avtex Landfill Nitro, WV Rehe Landfill Reedsville, WV Hinton Landfill Hinton, WV 31 <sup>st</sup> Street Landfill Huntington, WV	WVDEP 601 57 <sup>th</sup> Street Charleston, WV 25301 POC: Ms. Pam Hayes (304) 926-0499 ext. 1273	Detailed site assessments; sampling and analysis plans, QA Project Plans, contamination studies, soil borings, soil/groundwater sampling, surface water / sediment sampling, well sampling, data validation, contaminants of concern, recommendations	To be determined	100%

WVDEP Superfund Landfill Assessments - South Charleston Landfill South Charleston, WV	WVDEP 601 57 <sup>th</sup> Street Charleston, WV 25301 POC: Ms. Pam Hayes (304) 926-0499 ext. 1273	Detailed site assessments; sampling and analysis plans, QA Project Plans, contamination studies, soil borings, soil/groundwater sampling, surface water / sediment sampling, well sampling, data validation, contaminants of concern, recommendations	To be determined	90%
TOTAL NUMBER OF PROJECTS: Six projects listed.		TOTAL ESTIMATED CONSTRUCTION COSTS: \$ To be determined.		

16. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS A SUB-CONSULTANT TO OTHERS RELATING TO LANDFILL CLOSURE OR 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
Frederick County Solid Waste Transfer Station, Frederick, MD Sub to SCS Engineers	Forest conservation services, Geotechnical, Land surveying and QC monitoring and testing	Frederick County 9031 Reichsford Rd. Frederick, MD 21740 Mr. Michael G. Marschner 301-694-2568	2008	\$5,000,000	Approximately \$125,000

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)
Don's Disposal Landfill Closure Design Charleston, WV	WV DEP Office of Environmental Remediation - LCAP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304-2345 Mr. Clyde Bennett (304) 872-3800	\$2,900,000	2005	Yes
McDowell County Landfill Closure Design Roderfield, WV	WV DEP Office of Environmental Remediation - LCAP 601 57 <sup>th</sup> Street, SE Charleston, WV 25304-2345 Mr. Clyde Bennett (304) 872-3800	\$2,300,000	2003	Yes
Number 1 Landfill Closure Design Sistersville, WV	Union Carbide Corporation Mr. Don Estep Sistersville, WV 26175  Mr. Okey Tucker (304) 652-3211	\$500,000	2007	Yes
Number 2 Landfill Closure Design Sistersville, WV	Union Carbide Corporation Mr. Don Estep Sistersville, WV 26175  Mr. Okey Tucker (304) 652-3211	\$750,000	2007	Yes
Goff Mountain Landfill Closure Design; Landfill Expansion Design Institute, WV	Bayer Crop Science Mr. Ross Parkman Post Office Box 1005 Institute, WV 25112  Mr. George Kennedy (304) 747-6870	\$630,000	2006	No
Fayette County Landfill Detailed site assessment; hydrogeologic site investigation; closure feasibility study; borrow soils investigation Fayetteville, WV	Land Resource, LLC Roaring River Development 458 C Maple Lane Fayetteville, WV 25840 Mr. Tom Wagner (866) 469-5263	\$650,000	2007	No



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
Shenandoah County Landfill, Edinburg, VA Cell Closure	Shenandoah County Mr. Brad Dellinger, Director 349 Landfill Road, Edinburg, VA 540-984-8573	N/A	2003	Yes	SCS Engineers
Rockingham County Landfill, Harrisonburg, VA Water Sampling and Testing.	Rockingham County 2 S. Main Street Harrisonburg, VA 22801 540-476-1111	N/A	2005	Yes	HSMM
40 West Landfill Construction, Hagerstown, MD Geotechnical, drilling, and lab testing	40 West Landfill 12630 Earth Care Road Hagerstown, MD 21740 Mr. Robert G. Davenport 240-313-2790	Triad's cost was \$10,000.	2006	Yes	URS
Resh Road Phase II Landfill Closure, Hagerstown, MD Geotechnical, test pits, drilling and surveying.	Resh Road Landfill 16232 Elliott Parkway Williamsport, MD 21795 Mr. David Mason 240-313-2600	N/A	2007	Yes	URS
Frederick County Landfill, Frederick County, VA Convenience Center and Access Road Construction	Frederick County Mr. Ed Strawsnyder, PE Dir. of Public Works 107 N. Kent Street Winchester, VA 22601 540-665-5643	N/A	2006	Yes	Ricketts Construction Company

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


Triad currently maintains a staff of over 200 personnel. This includes civil, environmental, geotechnical, and mining engineers; geologists and hydrogeologists; landscape architects; biologists; environmental scientists; and chemists. Our technical support and administrative staff includes designers, CADD technicians, surveyors, engineering technicians, drillers, construction inspectors and clerical personnel. The majority of our professional and technical staff has been with the company for many years.

Facilities and equipment available to support our staff have grown substantially since the inception of the firm in 1975. We maintain a fleet of drill rigs and support vehicles to meet the needs of our field explorations. Our laboratories are supplied with testing equipment necessary to perform a wide range of tests on soil, rock, concrete, aggregate, water, asphalt, and other similar construction materials. Each office maintains secure computer networks to support CADD functions, hydrogeologic evaluations, landfill water balance modeling, surface water drainage design, stability analysis, survey data reduction, and mapping. With the exception of areal photogrammetric mapping and analytical water testing, Triad is equipped to complete work on this project without subcontractors. These comprehensive in-house capabilities afford us much better control over the project schedule, quality, and cost, thereby minimizing problems that can occur when engineering firms are forced to coordinate efforts among a number of subcontractors.

Triad was previously selected by WVDEP to complete two, three-year LCAP closure design contracts. Consequently, our staff is completely familiar with the work required under this contract. During our previous six years of contract work with LCAP, TRIAD successfully completed eight separate landfill projects similar or identical to this project. Because LCAP design projects are geotechnically oriented, our expertise in geotechnical engineering, geology, and civil engineering design make us particularly well qualified to provide the requested services.

The Morgantown, West Virginia office of Triad will perform the work on this project, with some technical review assistance from the St. Albans, West Virginia and Winchester, Virginia offices. The Morgantown office is located approximately 25 miles from the site, and this further enhances our ability to provide efficient, cost-effective services as compared to other firms in the region. We do not believe that any other West Virginia firm can demonstrate the depth and variety of landfill assessment, design engineering and QC experience that Triad can bring to this project. With this extensive experience in design engineering, contract document preparation, and QC inspection, we are expertly qualified to provide these services for proper closure and reclamation of the City of Kingwood Landfill.

20. The foregoing is a statement of facts.

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

Date: August 10, 2009

Title: Branch Manager / Senior Chemist

Printed Name: Lydia M. Work, L.R.S.