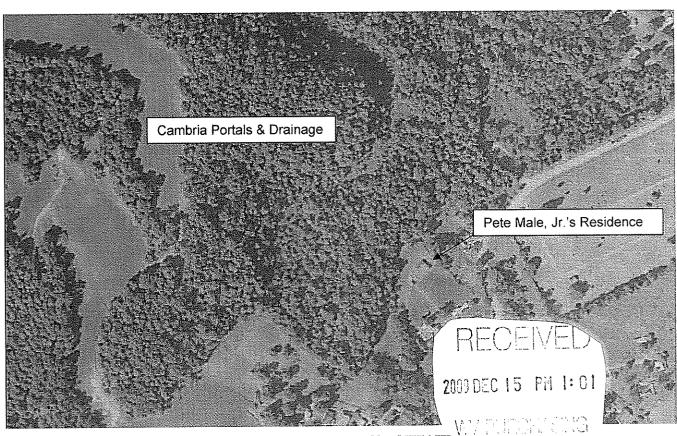
Statement of Qualifications to provide Engineering Services

To The West Virginia Department of Environmental Protection,

Office of Abandoned Mine Lands & Reclamation, for

DEP 14845 – Cambria Portals & Drainage Design

December 15, 2009





Northgate Business Park 300 Association Drive Charleston, WV 25311 304-343-7601 304-343-7604 Fax 30 Columbia Boulevard P.O. Box 1532 Clarksburg, WV 26301 304-624-4108 304-624-7831 Fax 3000 Thayer Center Oakland, MD 21550 301-334-3866 301-334-4020 Fax

www.thrashereng.com thrasher@thrashereng.com



30 Columbia Boulevard Clarksburg, WV 26301

(304) 624-4108 www.thrashereng.com 300 Association Drive Charleston, WV 25311

(304) 343-7601

December 14, 2009

West Virginia Department of Environmental Protection Office of Abandoned Mine Lands and Reclamation c/o State of West Virginia Department of Administration Purchasing Division 2019 Washington Street, East Charleston, WV 25305

RE: Expression of Interest – Cambria Portals and Drainage Design RFQ #: DEP14845

To Whom It May Concern:

Thrasher Engineering, Inc. is very interested to provide engineering design services for the Cambria Portals and Drainage design project in Harrison County, West Virginia. We will provide the highest level service and technical proficiency, in a cost efficient manner, and strive to beat all deadlines.

Following our review of the information provided for the project, Chad Biller, PE, and I made a site visit on November 13, 2009. This project is located just minutes from our office in Clarksburg, and very near our premier AMD remediation project in the Lambert Run water shed. We are very familiar with the area. The land owner, Mr. Pete Male, Jr. offered a tour of the property to show us areas affected by AMD. See the map & photos provided in the Project Approach section.

Since the site visit we have developed an understanding of the project needs and approach. Thrasher Engineering has mapped and designed numerous open channel dramage systems and access roads. Our previous WVDEP-AML remediation projects: Anglin's Run in Labour County and Roaring Creek in Randolph County, required similar design services.

We would appreciate your consideration to be short listed so that we may present our detailed project approach for this project to the selection committee.

Sincerely,

THRASHER ENGINEERING, INC.

Steven T. Engelhardt

Business Development Manager

STATEMENT OF QUALIFICATIONS

FIRM OVERVIEW

THRASHER ENGINEERING, INC.

Established

1983

Officers

H. Wood Thrasher, P.E., Kenneth P. Moran, P.E., P.S.

Kurt L. Newbrough, P.S.

Partners

Wm. Randy Watson Chadwick Biller, P.E.

Chad Riley, P.E. Clay P. Riley, P.E. Daniel E. Ferrell, P.E.

Kenneth P. Moran, P.E., P.S.

Jonathan Carpenter, P.E.

President

Vice-President

Secretary/Treasurer

Public Utilities

Site Development/Highways/Airports

Site Development

Public Utilities
Public Utilities

Vice-President

Charleston Branch Manager/

Public Utilities



Scope of Services

Public Work – Water / Sewer / Treatment Plants / Facility Plans / Business and Industrial Parks

Site Development - Industrial/ Business

/ Commercial / Residential

General Civil Engineering – Municipal Engineering /

Subdivisions / Paving / Highway/ Roadways / Recreational Trails Design

Environmental Engineering

Architecture

Landscape Architecture

Land Surveying, Platting, Legal Description Preparation Construction Management / Materials Testing / Inspection

GIS Mapping and Software Development

and continues so to opinion

Offices

30 Columbia Boulevard, Clarksburg, WV 300 Association Drive, Charleston, WV 3000 Thayer Center, Oakland, MD

Main Street, Moorefield, WV – Field Office Princeton, WV – Pentree, Incorporated – Affiliate TRASHER LIGHTERING

Thrasher Engineering, Inc. Office – Clarksburg, WV



Thrasher Engineering, Inc. Office – Charleston, WV

STATEMENT OF QUALIFICATIONS

Thrasher Engineering, Inc. is a civil engineering consulting firm, specializing in public works projects. The majority of Thrasher Engineering's work involves publicly funded water treatment and distribution systems, sewage collection and treatment systems, and industrial and business parks. Over \$600 million in water, sewer, site development, survey and construction management projects have been designed and supervised by the firm

H. Wood Thrasher and Henry A. Thrasher formed the company in 1983 with a commitment to excellence and professionalism in engineering. H. Wood Thrasher, P.E. remains principal of the company; also serving as principals are Kenneth P. Moran, P.E., and Kurt L. Newbrough, P.S.

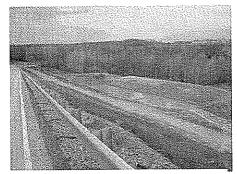
Providing a full range of professional engineering services, Thrasher Engineering, Inc. currently maintains a staff of 170 full-time employees. Our staff includes registered professional engineers, graduate engineers, registered professional surveyors, and support staffing of surveyors, design technicians, CADD technicians, construction managers, and secretarial/clerical personnel. This professional staff has a wealth of experience and is our greatest asset. This includes not only the principals but also the technicians, surveyors, construction managers, and office support staff. Combining education with experience, the qualified staff of Thrasher Engineering strives to provide service that is second to none and is committed to maintaining a strong reputation for quality work. The company's full and diverse staff has the resources to handle many projects, both large and small, simultaneously.

SERVICES

The expertise of our company is confirmed in the variety of projects successfully completed. Areas of expertise that we believe are most beneficial to the WV Department of Environmental Protection Office of Abandoned Mine Lands and Reclamation for the Gordon "C" Refuse design project include:

SITE DEVELOPMENT

Thrasher Engineering has planned, surveyed, designed and provided construction management services for over 30 site development projects for both public and private clients. Projects ranging from sites for residential housing to business and



Storm water Pond, Canaan Federal Prison, Scranton, PA

industrial parks to multi-purpose "live, work and play" communities are included in our range of site development projects.

Our objective in site development engineering is to go beyond just the engineering aspect of the project; we work as a team with our clients to understand their present and future needs. With that information, we work with them to evaluate site locations that best suit their short and long-term goals.

Our Site Development Services Include:

Planning and Conceptual Design- evaluation of potential sites; recommendation of most functional, most cost-effective alternative; layout of site reflecting best use of land available; design of off-site and on-site (underground) including water service, sanitary sewer service, storm drainage facilities, telephone, electrical service, and television cable service; obtaining all permits necessary to allow construction including State Health Department for extension of water and sewer lines, WV Division of Environmental Protection Sediment and Erosion Control Permit, WV Division of Highways entrance permit, as well as any local permits required; roadway design; layout of industrial lighting; and construction management services to assure compliance with design.

<u>Grading Plans</u> - which includes development of cut and fill quantities and construction plans (showing existing and proposed contours, structures, and facilities on site) to allow for the best use of available land.

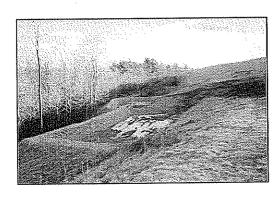
<u>Utility Layout/Mapping</u> - includes design of utility extensions to serve existing and proposed facilities, as well as the complete mapping of existing utilities.

STORM WATER DRAINAGE / SEDIMENT AND EROSION CONTROL

Our experience includes development of Sediment and Erosion Control measures on all types of construction sites as required by the WV Division of Environmental Protection, design of drainage facilities including piping, intake structures, etc., for site stabilization and flood control.

Our staff members have considerable hydrologic and hydraulic design experience and have successfully obtained local, state, and federal erosion and sediment control permits

and National Pollutant Discharge Elimination System (NPDES) permits for point source and storm water discharges.



Capabilities in the evaluation and design storm water drainage include:

- □ Hydrology Studies / Hydrographic Mapping
- Storm Water Collection Systems
- Detention Ponds
- □ Injection Wells
- Underground Storage
- Combined Sewer Overload (CSO) separation

ENVIRONMENTAL REPORTING SERVICES

Thrasher Engineering, Inc. provides full environmental assessment and clearance services. We have more than 18 years of experience conducting environmental/natural resource compliance consultation with West Virginia Division of Environmental Protection, (WVDEP), Federal Aviation Administration and Federal Highways Administration, US Department of Agriculture-Rural Development Utility Program, and US Environmental Protection Agency (EPA).

Experience includes:

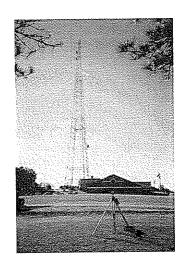
- □ Permitting Related Activities (401 and 404)
- □ NEPA Environmental Document Preparation
- Wetland Delineation and Mitigation
- Rare, Threatened and Endangered Species Section 7 Informal Consultation
- Rare, Threatened and Endangered Species Section 10 Habitat Conservation Plans
- Water Use and Water Quality
- Air and Noise Impacts, Assessments, and Controls
- □ Soils and Geological Resources
- Cultural Resources –(Sub contracted to a reputable and approved Cultural Resource Consultant)
- Hazardous Materials
- Sediment and Erosion Control
- Consent Orders
- Compliance Schedules
- Site investigations
- SPCC Plans, Contingency Plans, Ground Water Protection Plans and Storm Water Pollution Prevention Plans
- □ Waste Treatment and Site Remediation
- □ Waste Disposal
- Channel Restoration
- □ Stream Bank Stabilization
- Enforcement Actions

SURVEY

In addition to a full service professional engineering staff, Thrasher Engineering maintains a complete surveying department which includes four licensed professional land surveyors, ten full-time survey crews, CADD technicians, and office support staff.

We perform our work utilizing the most current methods and equipment available. Our survey work is accomplished using global positioning systems (GPS) and electronic distance measuring (EDM) survey stations with data gathering capabilities.





The type of surveys provided by Thrasher Engineering varies greatly as well and covers virtually all aspects of land surveying, such as:

<u>Pre- and Post-Mining Surveys</u> - vertical and horizontal control, inspector's report of protected structures, interior and exterior photographs, and videos. Thrasher Engineering provides these survey services for numerous coal companies, including Eastern and Martinka. Additional services performed for Eastern includes construction layout for impoundments, shaft site boundary and topographic surveys, map editing, and collection of well inventory data

<u>Boundary Surveys</u> - verification of land owners, traverse and location of existing monuments, computations of closure, establishment of property corners, actual field stakeout, and preparation of plats and legal descriptions for property owners.

<u>Topographic Surveys</u> - location of existing features and determination of contours used in engineering layout of water distribution systems, sewer collection systems, industrial park layouts, etc.

<u>Construction Layout</u> - providing horizontal and vertical control for contractor's use and using this information to establish construction controls.

GPS Surveys - horizontal and vertical control networks

CONSTRUCTION MANAGEMENT AND INSPECTION

Thrasher Engineering knows how projects should be built. We can provide the knowledgeable and experienced personnel necessary to manage the construction phase of your project. Our project managers and inspectors are experienced in all types of construction activities. From utilities, site development and storm water management to roads, bridges and airports, we apply our construction management and inspection expertise to ensure successful projects. Our construction managers and our inspectors have years of experience; many of our inspectors are certified by the West Virginia Department of Transportation / Division of Highways for roadwork and materials testing.



MATERIALS TESTING

Thrasher Engineering's Materials Testing Department is capable of performing a wide range of field and laboratory tests. Our laboratory at our Clarksburg, WV office is one of only three nationally certified facilities in the State of West Virginia .Additionally, our engineers and technicians who perform tests both in the field and in the lab are also certified by the State.

Services Include:

- Concrete Testing and Inspection
- Soil Testing and Inspection
- Aggregate Testing and Inspection
- Mortar and Grout
- Asphalt
- Paint Coatings
- Sprayed-on Fireproofing
- Subsidence Inspecting
- Caisson and Piling Inspection

GEO-TECHNICAL SERVICES

For these projects, we will utilize Novell Geo-Environmental, a Certified Minority/ Women Business Enterprise (MBE/WBE).

EQUIPMENT AND SOFTWARE

Thrasher Engineering, Incorporated provides one of the largest networks of computer aided design (CAD) equipment, software and trained personnel in the State of West Virginia.

AutoCAD Landdesktop 2008 and Microstation V8 software is utilized at 48 CAD stations within the Group. Additionally, equipment includes 10 large format (size E) plotters and 5 large format plotter / scanners.

CAD plans are prepared by both dedicated CAD employees and by staff engineers and engineering technicians in each of the firm's offices. This equipment allows our design department to perform accurate work quickly and efficiently. All departments have the capability to electronically transmit data to clients requesting this service. This blend of experienced personnel utilizing modern equipment results in successful projects and satisfied clients

FIRM MANAGEMENT AND STAFFING

Thrasher Engineering offers the largest engineering staff in the State of West Virginia. The expertise of the Thrasher Engineering staff is a combination of education and experience; it is reflected in all aspects of our services. The firm is led by a talented group of principals and partners who are dedicated to the success of our projects and the satisfaction of our clients.

FIRM OFFICERS AND PARTNERS

H. Wood Thrasher, P.E. - President Kenneth P. Moran, P.E. - Vice-President Kurt L. Newbrough, P.S.

Wm. Randy Watson Chadwick Biller, P.E.

Chad Riley, P.E. Clay P. Riley, P.E. Daniel E. Ferrell, P.E. Administration
Chief Engineer
Survey / Inspection /
Materials Testing
Public Utilities
Site Development / Highways
/Airports
Site Development
Public Utilities
Public Utilities

H. Wood "Woody" Thrasher, P.E. President of Thrasher Engineering, Inc. graduated from West Virginia University in 1977 with a degree in Civil Engineering. Since that time, he has utilized his engineering skills and entrepreneurial spirit to build Thrasher Engineering, Inc. into West Virginia's largest civil and consulting engineering firm Mr. Thrasher has extensive experience in all aspects of the engineering process, with emphasis on management and administration of multi-million dollar projects including funding and regulatory issues. Mr. Thrasher forms and supervises multi-project design teams and conducts client needs assessments.

Kenneth P. Moran, P.E. is Vice-President and Chief Engineer. Mr. Moran has 24 years of experience in civil engineering. He provides project management and technical review for both site development and public utilities projects. A graduate of Fairmont State University, Mr. Moran is a registered Professional Engineer (P.E.) in addition to a registered Professional Land Surveyor (P.S).

Also a partner and principal of Thrasher Engineering is **Kurt L. Newbrough**, **P.S**. Mr. Newbrough provides supervision of all survey activities for the firm performed by ten full-time survey teams. Mr. Newbrough is a licensed Professional Surveyor and has specialized training in OSHA Hazardous Waste Operations and Emergency Response Center in Addition to the US Department of Labor / Mine Safety and Health Administration. He also serves in the elected position as Harrison County (WV) Surveyor.

Public utilities system projects are the responsibility of **Wm. Randall Watson**. A graduate of Fairmont State University, Mr. Watson joined Thrasher Engineering in 1984 and is a firm partner. **Clay P. Riley, P.E.**, also a firm partner, is involved in both water and sanitary sewer utilities projects. He is a graduate of the West Virginia University College of Engineering. **Daniel E. Ferrell, P.E.** is a graduate of West Virginia University and received his Master of Science Degree in Civil Engineering from Old Dominion University. He also is responsible for public utilities projects.

Chadwick Biller, P.E. and Chad M. Riley P.E., round out the senior managers of the company. Mr. Riley is a graduate engineer from Fairmont State University and supervises site development projects. Mr. Biller received his engineering degree from West Virginia University. He is responsible for mine reclamation, highways, roads, bridges and airport projects, in addition to site development.

PROJECT TEAM

Thrasher Engineering has assigned a team of experienced professionals to the Cambria Portals & Drainage project.

Kenneth P. Moran, P.E. will serve as **Principal-In-Charge and Chief Engineer** for the project. Mr. Moran is Vice-President of Thrasher Engineering, Inc. and oversees all engineering services provided by the firm.

Chadwick D. Biller, P.E. will be the **Project Manager**. His role in this project will be to oversee all design aspects of the project and work closely with the DEP/ AML office to ensure timeliness client satisfaction and oversee budgetary aspects. Mr. Biller is a Partner in Thrasher Engineering, Inc. and manages site development and survey projects, many of which include remediation, soil and erosion control and drainage aspects.

Mike Nestor will serve as **Project Engineer** and be responsible for design of the project. Mr. Nestor's experience includes drainage and sediment control design projects for site development projects. He recently served as design engineer for the Roaring Creek and Anglin Run AML projects.

Jeff Pine will be responsible for CAD design for the project. Mr. Pine provides design infrastructure projects including street and lot layout, street profiles, extension of the public sewer and water systems including utility plans and profiles, storm water drainage, storm water management, erosion and sediment control plans and NPDES permitting.

Environmental services will be managed by **Sheirl Fletcher**, Environmental Manager for Thrasher Engineering, Inc. Ms. Fletcher joined Thrasher Engineering, Inc. after serving 23 years as a geologist, hydrologist and environmental specialist with Consol Energy, Corporation. In that position, she participated in the engineering and final reclamation of five Consol Energy mines in Monongalia County.

September of the second	
Highv	vay/Road/Bridge Projects
	Old Bridgeport Hill New Storm Drainage System
	Snowshoe Drive Upgrade
	King Coal Highway
	Terra Alta Curve
	Lodgeville Road
	North Bridgeport Bypass
	Corridor H
	Upgrade of US Route 19
	East Street and US Route 50, Parkersburg
	Merrick Creek Connector
	City of Bridgeport, Valley Drive, Chenoweth Drive, Village Drive and Meadowbrook Mall
	Road
	Lodgeville Bridge
	Indian Fork Bridge
	Jakes Run Bridge
	Littleton and Watersnake Bridges
	Verner Bridge
	Rehabilitation of the 5 th Street Bridge, Parkersburg
	Rehabilitation of the 35 th and 36 th Street Bridges, Charleston
	Kittonsville Bridge Replacement, Lewis Co.
	Water Street Bridge Replacement, Logan Co.
	Wayne County High School Bridge Replacement
	David Morgan Memorial Bridge, Marion County

The survey aspects of the project will be under the direction of **Kurt Newbrough**, **P.S.**Mr. Newbrough has over 20 years of experience in survey projects and significant project experience in pre and post mine subsidence surveys. These surveys have been conducted for numerous coal companies at sites throughout the state. Mr. Newbrough will assign and oversee the work of the experienced survey crew.

Geo-technical services will be under the direction of Larry Nottingham of Novel Geo-Environmental, a Certified DBE business.

Should the DEP choose to retain Thrasher Engineering, Inc. for the construction monitoring aspect of the project, Thrasher Engineering, Inc. has one of the largest construction inspection teams in the State. Nearly 30 inspectors are available to provide services for the project. **Aaron Denham** serves as supervisor of Construction Management and Materials Testing. He is a graduate of Fairmont State University and is a Level V Certified Inspector by the WV DOH.

Resumes of the project team members follow as additions to the information included in the AML Consultant's Confidential Qualifications Questionnaire.

KENNETH P. MORAN, P.E., P.S. Vice President / Chief Operating Officer/ Chief Engineer



SUMMARY OF EXPERIENCE

Mr. Moran joined Thrasher Engineering in 1991 and currently serves as Vice President and Chief Operations Officer and Chief Engineer.

Mr. Moran is responsible for management feasibility studies and design of public utility and site development projects for local state, federal and private clients. Additionally, Mr. Moran has extensive experience in all aspects of engineering and with funding and regulatory agencies in conjunction with projects.

EDUCATION

☐ B.S., Civil Engineering Technology, 1983 – Fairmont State University

☐ Registered Professional Engineer (PE), State of West Virginia #11309

CERTIFICATIONS

	Registered Professional Engineer (PE), State of Virginia#0102021855 Registered Professional Engineer (PE), State of Ohio #64412 Professional Land Surveyor (PS), State of West Virginia#1333
REPF	RESENTATIVE PROJECT EXPERIENCE
0	City of Belmont, Sanitary Sewer Project – Project Manager and Project Engineer. Mr. Moran was involved in the Wastewater Treatment Plant Expansion and inflow filtration improvements. Mr. Moran negotiated with the West Virginia Department of Environmental Protection for the removal of the sludge blanket for French Creek. Improvements for the Plant included designs for new clarifiers, sludge thickening, sludge processing and the relocation of the outfall to the Ohio River.
	project entailed planning and design, new sanitary sewer collection systems in and around Wellsburg and Follansbee. The project negotiations with the West Virginia Department of Environmental Protection and various municipalities to determine the sanitary sewer treatment
	Town of Tunnelton Sanitary Sewer Project - Project Manager and Project Engineer. Mr. Moran designed a sanitary sewer collection system for the Town of Tunnelton and a new 40,000 callogs per day (gpd) Wastewater Treatment Plant.
a	The state of the contract of t

	Huttonsville PSD, WWTP, Sanitary Sewer, Collection System, Extensions - Project Manager. The inflow filtration improvement project removed and replaced the gravity part collection system in the areas of Valley Bin, Daley and East Daly in Randolph County. The project included upgrading the District's existing Wastewater Treatment Facility. The improvements included head works facility, aeration system, filtering system improvements and disinfection system
o	improvements. Pea Ridge PSD, WWTP, Sanitary Sewer, Collection System, Extensions – Project Manager. This project included extensions in the existing system, inflow infiltration collection system improvements, upgrades of two (2) Wastewater Treatment Facilities, and abandonment of an existing lagoon system which was converted to a wetlands.
	Scott's Run PSD, Sanitary Sewer, Collection System Extensions – Project Manager. Mr. Moran was involved in the extension of a new gravity sewer collection system in the areas of Osage, Cassville, Wade's Run, Chaplin Hill of Monongalia County. The project removed the existing Wastewater Treatment Facility in the area of New Hill. The project negotiations with the Morgantown Utility Board for the wastewater treatment, operation and maintenance and system boundary.
	Canaan Valley Public Service District Waste Water Treatment System – Project Manager. This project entailed analyzing the Canaan Valley area for implementation of a public sanitary sewer system. There were multiple tasks involved with this project from working with the Environmental Projection Agency and the West Virginia Department of Environmental Protection with regards to the TMDL on the Blackwater River. The project solution provided a managed stream point discharge solution for the Valley.
	Pocahontas County PSD, WWTP, Sanitary Sewer, Collection System, Extensions – Project Manager. The project involved designing a new sanitary sewer collection and treatment system to serve the areas of Snowshoe, Linwood, and Slatyfork of Pocahontas County. The project involved multiple alternative analyses due to the varied environmental and social interest of the county.
	City of Bridgeport, Sanitary Sewer Lift Station Improvements, WWTP Upgrades – Project Engineer, Project Manager and Principal in Charge. Mr. Moran has managed multiple projects for the City of Bridgeport for over 17 years. He has designed multiple pumps station and collection system for the City of Bridgeport. He also designed the City's 2.5 million gpd Wastewater Treatment Facility and has worked with the City of Bridgeport to establish their GIS and Long Term Control Plan solutions.
	City of Clarksburg, WWTP Upgrades, Inflow and Sanitary Sewer System Improvements, Colonial Village Line Replacement – Project Engineer, Project Manager and Principal in Charge. Mr. Moran has managed multiple projects for the City of Clarksburg for over 17 years. He has designed multiple pump stations and collection system for the City. Mr. Moran also worked on various pump station systems and collection systems throughout the City of Clarksburg and as Engineer in Charge management upgrades of their existing Wastewater Treatment Facility. This facility was a 6 million to 8 million gpd facility. Mr. Moran worked with the City to establish their GIS and Long Term Control Plan solutions.
	Town of Terra Alta, Sanitary Sewer Collection Improvements and WWTP – Project Engineer and Project Manager. Mr. Moran designed a new collection system for the Town of Terra Alta and a 250,000 gpd expandable Sequencing Batch Reaction (SBR) Wastewater Treatment Facility.
	Hundred-Littleton PSD, New Sanitary Sewer Collection and Treatment System Water System – Project Manager, Project Engineer and Principal in Charge. Mr. Moran was involved in the Sanitary Sewer Collection System project in and around the Town of Hundred. This was a 50,000 gpd Wastewater Treatment Facility. As Principle in Charge, Mr. Moran was involved with multiple tank replacements and water line replacements throughout the district.
	Preston EDA, Chief Engineer for Water Extension to Prison and Project Manager. This project entailed the design of an eight (8) mile water distribution system to provide service to the Hazelton Federal Bureau of Prisons. This system included development of well fields for water supply and a new water treatment facility, multiple booster stations, and a 1 million gallon elevated storage tank.

	Preston EDA, Chief Engineer for Park Utilities at Northpointe Industrial Park – Chief Engineer. Mr. Moran designed the water, storm sewer, sanitary sewer improvements for a new Industrial Park. This Industrial Park is located in the Hazelton area in Preston County. He also designed a 50,000 gpd Sanitary Sewer Treatment Facility to serve the park.
u	Food Lion, Clarksburg, Nutter Fort, Sabarton – Project Engineer and Project Manager. Mr. Moran was involved in the site development for Food Lion in the areas of Clarksburg, Nutter Fort, and Sabraton. His designs included grading, sighting of the buildings, storm water management
	systems, water, and sewer. US Army Reserve Center, Clarksburg and Jane Lew – Project Engineer. This project was a Design/Build. The project team consisted of Mr. Moran and members of March Westin. Designs
_	included grading, drainage, storm water management, water and sewer. **Mineral County High School - Project Engineer.** Mr. Moran provided site drainage, design
	services including grading, drainage, storm water management, water and sewer.
	Calhoun County High School – Project Engineer. Mr. Moran designed the wastewater treatment facility for the package plant. He also provided site drainage, design services including grading, drainage, storm water management, water and sewer.
	Harrison County Bank - Project Engineer. Mr. Moran was involved in the design of site
	grading, storm water management, site drainage, design services, water and sewer. Peoples State Bank – Project Engineer. Mr. Moran designed the site grading, storm water management, site drainage, all design services, water and sewer.
	Big Elm Elementary School – Project Engineer. Mr. Moran was primarily involved with the Department of Highway's road widening of Route 19 and turning lanes for the entrance of the Big
	Elm Elementary School. Robert C. Byrd High School Access Road – Project Engineer. This project included road widening and turning lanes of the intersection of Route 98 and Robert C. Byrd Drive. Mr. Moran designed the complete roadway of Robert C. Byrd Drive including pavement, alignment, drainage, relocation of all utilities and he was involved in all aspects of the project.
	Lincoln High School, Widening of US Route 19 and Turning Lanes - Project Engineer. Mr. Moran's involvement with this project was the widening of US Route 19 and turning lanes. Mr. Moran was involved in the design of the pavement, alignment, drainage, relocation of all utilities and was involved in every aspect of the project.
	Hardy County EDA – Robert C. Byrd Industrial Park – Project Engineer and Project Manager. Mr. Moran worked on the design for the road widening of Route 58, new roads through the industrial park, stormwater management pond facility, water, sewer, communication, utilities, lighting, and a 20,000 gpd expandable Wastewater Treatment Facility.
	City of Kingwood - Project Engineer and Principal in Charge. Over the last 15 years Mr. Moran was involved in multiple water projects and sanitary sewer projects for the City of Kingwood. He also worked on various sewer pump station systems, sewer collection systems throughout the City of Kingwood sanitary sewer and water system. As Principal in Charge, he was involved with the upgrades of their existing Wastewater Treatment Facility.
	Preston County Sewer PSD WWTP- Project Manager- Project included design of a 0.5 MGD
٥	expandable (SBR) wastewater treatment plant. City of Weston. Sanitary Sewer Project, Project Engineer/Project Manager. Mr. Moran designed a new 2.5 million gallon wastewater treatment plant.

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CHADWICK D. BILLER, P.E. Partner / Project Manager

SUMMARY OF EXPERIENCE

Mr. Biller has experience in all aspects of engineering with specific emphasis on site development, highways, roads, bridges, and airports. Mr. Biller joined Thrasher Engineering in 1999 and is a partner of Thrasher Engineering. For Thrasher Engineering, Mr. Biller is responsible for WV DEP

AML proje roads and	ect and public and private site development projects, specializing in airports, highways, I bridges. As Project Manager for all of the firm's WVDOT/DOH projects, he has extensive e of state and federal building standards.
EDUCA B	TION S., Civil Engineering, 1992 – West Virginia University
CERTIF	ICATIONS
□ R	egistered Professional Engineer (PE), State of West Virginia #13620
	egistered Professional Engineer (PE), State of Pennsylvania #PE056012E
	ngistared Professional Engineer (PE) State of Ohio #64594

اا	Registered Professional Engineer (FE), Galle of Gine in City
EPR	RESENTATIVE PROJECT EXPERIENCE
	evelopment Projects
	WV DEP Anglin's Run and Roaring Creek Projects
	Taylor County Commission, Re-roofing of Courthouse and Jail
	Fairmont State University Aerospace Center
	Raleigh County Memorial Airport Industrial Park
	Putnam Business Park
	Wood Products Business Park
	Aurora Flight Sciences
	Various Subdivision in Berkeley County Ranging From 12 to 420 Lots
	Site Plan for Hi-Tech Consortium Expansion, Fairmont, WV
	Site Plans for Nippon Thermostat, Green Metals and Schwans, Putnam County
	Pendleton County Courthouse Annex
	Wingate Hotel, Charles Pointe, Bridgeport, WV
	Daycare Center and USDA Parking Lot, Hardy County
	City of Pleasant Valley, Sidewalks
	City of Bridgeport, Walking Trail and Bridge
irpo	rts
Ī	Harrison Marion Regional Airport - Improvement Master Plan

- ☐ Raleigh County Airport Business Park and Master Plan
- ☐ Grafton Hospital, Helipad Relocation

MIKE NESTOR, E.I. Project Manager / Engineer



EXPERIENCE

Mr. Nestor joined Thrasher Engineering in 2005 and serves as Project Manager and Engineer. Mr. Nestor has a wide range of experience in residential and commercial site development projects, utilizing all aspects of infrastructure design including street and lot layout, street profiles, extensions of public sewer and water systems, storm water drainage, storm water management, erosion and sediment control plans, and NPDES permitting. In addition, Mr. Nestor oversees all general operations within The Berkeley Associates, directing administrative staff, CAD technicians, and staff engineers to ensure successful completion of projects covering site development, surveying, material testing, and environmental services.

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☐ B.S. Civil Engineering Technology – Fairmont State University, 2003

CERTIFICATIONS

☐ Engineer Intern, State of West Virginia

AFFILIATIONS

- American Society of Civil Engineers
- ☐ Eastern Panhandle Home Builders Association

REPRESENTATIVE PROJECT EXPERIENCE

	WV DEP AML PORTAL AND DRAINAGE DESIGN- Design for access roads, drainage control channels, re-grading and wet-seal of deep mine portals for Anglin's Run and Roaring Creek
	sites in Barbour County.
	MILLARDSVILLE VILLAGE – 26 townhouse lots on approximately 3.15 acres. Completed sketch plat, storm water management design, and street profiles.
	FAIRFAX FARM Section 2 – 15 single family residential lots on approximately 36.73 acres.
	FAIRFAX FARM Section 2 - 13 single family resident allow or serion and sediment control
	Completed development of drainage areas, grading plan, erosion and sediment control
	plan, layout of lots, and Preliminary Plat design.
	PIKESIDE MEADOWS Section E – 63 townhouse lots on approximately 17.51 acres.
_	Prepared drawings for Public Service Districts.
	LITTLE GEORGETOWN ESTATES Sections 1 and 2 – 64 single family residential lots on
·ī	approximately 127 acres. Completed lot layout, septic layout, design of sediment basin,
	turning lane, erosion and sediment control, and Preliminary Plat.
	WEBBER SPRINGS Section 3 – 119 single family residential lots on approximately 32.81 acres. Completed design of turning lane on WV Route 51.
-	BROOKSIDE ESTATES Section 1 – 60 single family residential lots on approximately 101.86
	acres. Completed Sketch Plat design along with septic reserve layout and initial grading
	and profiles.
	CREEKSIDE MEADOWS - 95 single family residential lots on approximately 101.86 acres.
	Completed lot layout, Sketch Plat design, water and sewer extensions, and design of storm
	water management facilities.
	MULLBERRY KNOLL – 10 townhouse lots on approximately 1.5 acres. Completed Sketch
	Plat design, water and sewer extension, grading plan, erosion and sediment control plan,
	and design of storm water management facilities.

		SHENANDOAH OFFICE PARK – Two commercial buildings totaling 50,000 sf. Sketch Plat design.
C	_	SPRING HILL Section 6 – 15 single family residential lots on approximately 10 acres. Completed design of storm water management, grading plan, and preparation of drawings
C		for Preliminary Plat submittal. MAIDSTONE ON THE POTOMAC – 108 single family residential lots on approximately 40.5 acres. Completed Sketch Plat design, water and sewer extensions, grading plan, erosion and sediment control plan, drainage plan, design of storm water management facilities, and
C	ב	Preliminary Plat design. NATIONAL PROPANE – Bulk Propane Storage Facility and office space on approximately 5.5 acres. Completed Sketch Plat, water and sewer extensions, grading plan, erosion and sediment control plan, drainage plan, design of storm water management facility, and
C		Preliminary Plat design. BACK CREEK ACRES – 3 single family residential lots on approximately 6 acres. Completed Preliminary Plat, grading plan, and erosion and sediment control plan.
Ç		MARTINSBURG INTERNAL MEDICINE – Completed Site Plan for city approval of 800 sf office addition.
C		CHESTNUT HILL ESTATES – 29 single family residential lots on approximately 66 acres. Completed Sketch Plat design, lot and street layout, grading plan, and profiles.
		MVB BANK ADDITION – Completed Site Plan for approval of 900 sf bank addition.
	_	SPRING HILL Section 7 – 7 single family residential lots on approximately 7 acres.
•		Completed lot layout, water and sewer extensions, grading plan, erosion and sediment
		control plan, profiles, grading plan, drainage plan, storm water management, and
		Preliminary Plat design.
(WILLIAMSPORT PARK ROAD EXTENSION – 650 foot road extension in Williamsport, MD. Completed design of road, including grading, drainage, storm water management, profiles,
		permitting, and specifications. INWOOD AND BAKER HEIGHTS WASTE WATER TREATMENT PLANTS – Completed Site
l		INWOOD AND BAKER REIGHTS WASTE WATER TREATMENT TEATTO - Completed City
ſ		Plans for county approval of facility upgrades. LEISURE LIVING ESTATES Section 4 – 10 single family residential lots on approximately 7
1		acres. Completed Sketch Plat design, water and sewer extensions, grading plan, profiles,
		erosion and sediment control plan, drainage plan, storm water management, and
		Preliminary Plat design.
		CHIICK'S PIZZA – Completed Site Plan for 1.200 sf pizza shop on approximately 1.67 acres.
		Design included site layout, grading plan, erosion and sediment control plan, drainage and
		storm water management.
		FFDFX SMARTPOST – Upgrades to existing FedEx SmartPost location, including the
		addition of a guard shack and extension of gravity sewer system. Proposed work was
		granted approval with county building permit.
		OAK HILL WV DRAINAGE PROJECT – Design of storm sewer upgrades for the town of Oak
		Hill. Project included the addition of a 2' x 6' box culvert under Trump Avenue, construction
		drawings, and specifications.
		TBA OFFICE SITE - Construction of two new office buildings totaling 6,200 sf on
		approximately 1.6 acres. Completed Sketch Plat, grading plan, and erosion and sediment
		control plan.

JEFF PINE CADD Operator



SUMMARY OF EXPERIENCE

Mr. Pine joined Thrasher Engineering in 2005 and serves as CADD Operator for the firm. His duties entail all aspects of infrastructure design including street and log layout, street profiles, extension of the public sewer and water systems including utility plans and profiles, storm water drainage, storm water management, erosion and sediment control plans and NPDES permitting.

LUUVAIIVI	ED1	UC	AT	ION
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	Certificate, Computer Aided Design – Hagerstown Community College Diploma – Clear Spring High School
CER	RTIFICATIONS
	Certified Forklift Operator through Bragunier Masonry
REF	PRESENTATIVE PROJECT EXPERIENCE
	WV DEP AML PORTAL AND DRAINAGE DESIGN- Design for access roads, drainage control channels, re-grading and wet-seal of deep mine portals for Anglin's Run and Roaring Creek
	sites in Barbour County. Mockingbird Mobile Home Park – 25 lots with public utilities, draft lot layout and concept plan
0	for proposal Maidstone on the Potomac – Single family residential lots with public utilities; slope analysis Brookside Estates – 60 Single family residential lots on 125 Acres with individual wells and septic area, created profiles and lot layout, road profiles, street layout, road widening and well locations
	Oak Hill Drainage – Profiled box culvert
	Leisure Living Estates – Utility profiles
	Huyett Road Goodyear – concept plat, utility plan and profile
	The Berkeley Associates Office - Concept plan
	Mockingbird – Minor subdivision
	Eco-Lab IWTP Upgrade – Define site data Fed Ex Smart Post – Site plan, pricing for barriers and parking cable
0	Washington Heights, Section 1 – 20 single family residential lots served by public utilities,
	site plan, road profile, street profile

SHEIRL FLETCHER, LPG

Environmental Manager



SUMMARY OF EXPERIENCE

Sheirl Fletcher joined Thrasher Engineering, Inc. in 2007 and serves as Environmental Manager for the firm. Prior to joining Thrasher, Sheirl served as Environmental Manager for a major coal firm. She has more than 20 years experience and brings comprehensive knowledge of environmental regulatory programs and reporting requirements in multiple states to our clients' projects, along with technical expertise in environmental engineering, geology and hydrology

EDUC	<u>ATION</u>
	West Virginia University, Morgantown, WV - Bachelor of Science- Geology
	litional Training
	Contemporary Supervision
	Conflict Management
	Influence Management
CERT	IFICATIONS
	Licensed Professional Geologist (LPG), Commonwealth of Pennsylvania
	Certified Professional Geologist (COG), State of West Virginia
EVDE	RIENCE:
LAFL	NILIIOL.
Enviro	nmental Management and Safety Compliance
	Preparations of applications for required operating permits and licenses regarding air
_	quality, wastewater and construction projects ensuring compliance with all state and
	foderal regulatory requirements.
	Posponsible for compliance with all environmental regulations, including interface with
	environmental regulators, in a manner consistent with company's policies and procedures.
	Assure full compliance with OSHA (Occupational Safety and Health Administration)
	regulations
	Responsible for the preparation of NEPA documents including Environmental Impact
	Statements and Environmental Assessments.
	Developed Probable Hydrologic Impact Studies and provided technical report of findings.
	Prepare, organized, and maintained inspection reports and records, assuring on-time and
	accurate filings.
	Compiled and reported environmental statistics and remedial initiatives to Corporate
	Environmental Quality Control.
	Monitored projects to ensure that they were on task in reaching goals and objectives while
	staving within budgetary limits.
	Inspected construction sites, and waste water treatment and disposal facilities and
	systems for conformance with federal, state, or local regulations.
	Informed company personnel of inspection findings and explained how problems were
	prevented or corrected.
	Contributed to the development of company policies, goals, objectives, and procedures,
	with respect to compliance of environmental regulations.
	Oversaw activities of outside consultants providing necessary services.
	Managed staff, prepared work schedules and assigned specific duties.

Geology					
	Analyzed and interpreted geological, geochemical, and geophysical information from sources such as survey data, well logs, bore holes, and aerial photos.				
	Planned and conducted geological field studies and surveys by: development of drilling				
	pad sites, soils and subsurface drilling to collect data for interpretation				
	Prepared geological maps, cross-sectional diagrams, charts, and reports concerning mineral extraction, land use, and resource management, using results of field work and laboratory research.				
Ну	drology				
	Studied and documented quantities, distribution, disposition, and development of				
	underground and surface waters. Designed and conducted scientific hydro-geologic investigations to ensure that accurate				
	and appropriate information was available for use in water resource management				
	•••				
()	decisions. Coordinated and supervised the work of professional and technical staff, including				
	Drafted final reports describing research results, including illustrations, appendices, maps,				
'mont	and other attachments				
	Studied wastewater and storm water issues, including flood and drought risks, water				
	auglity wastowater and impacts on wetland habitals.				
	Accessed around and surface water movement to provide advice regarding issues such as				
	weets management, route and site selection, and the restoration of contaminated sites.				
	Applied research findings to help minimize the environmental impacts of poliution, water-				
	harna dicascae, arosion, and sedimentation.				
	Investigated complaints or conflicts related to the alteration of public waters, gathering information, recommending alternatives, informing participants of progress, and preparing				
	draft orders				
	Determined sampling locations and methods, and collected water or wastewater samples for analysis, preserving samples with appropriate containers and preservation methods.				

Larry C. Nottingham, PhD, PE

Mr. Nottinham served as a Principal Engineer at Triad Engineering, Inc. for over 25 years before joining the professional staff at NGE. During that time he has accumulated a broad range of experience in the numerous disciplines of geotechnical engineering. Mr. Nottingham also served as a professor and department chair of the Civil Engineering Department at the West Virginia University Institute of Technology in Montgomery, West Virginia. Mr. Nottingham was involved with consultation and review of many subsidence-related projects performed for BRIM as well as the WVDEP.



Fields of Competence

- · Foundation Investigations
- Landslide Analysis & Remedial Design
- Mine Subsidence Investigations
- · Highway & Airport Geotechnical Design
- Pavement Analysis & Design
- Retaining Wall Design
- Forensic & Insurance Investigations
- Expert Witness Consultation
- · Ground Water and Seepage Analysis & Design
- Dam Analysis & Design
- · Personnel Management
- Project Management
- Project Estimating

Education

- B.S.C.E., Civil Engineering, West Virginia Institute of Technology, 1965
- M.S.C.E., Civil Engineering, University of Pittsburgh, 1966
- Ph.D., Civil Engineering, University of Florida, 1975

Registration/Certifications

Registered Professional Engineer in West Virginia,

Kentucky, and Ohio

Employment History

• May 2005 - Present

Senior Engineer, Novel Geo-Environmental, PLLC

1979 – May, 2005

Principal Engineer, Triad Engineering, Inc.

• 1989 - 1994

Professor and Department of Civil Engineering

Chair, West Virginia Institute of Technology

• 1975 - 1979

Senior Engineer, Fugro Gulf, Inc., Houston, Texas

1970 - 1974

Project Engineer, Florida Department of

Transportation

1967 – 1970

Project Engineer - Ackenheil & Associates, Inc.



Kurt Newbrough, P.S. Partner / Field Services Supervisor

Mr. Newbrough serves as Secretary of Thrasher Engineering in addition to being a Partner of Resource Engineering Group and is Survey Supervisor for the firm. Mr. Newbrough has extensive knowledge in all aspects of surveys and is responsible for the assignment and review of all survey activities of his seven fully staffed survey teams. He is experienced in various types of surveys including, but not limited to boundary, topographical, construction layout and GPS for both public and private clientele. Survey projects are performed for each of the Resource Engineering Group companies' public and private clientele, as well as on an independent contract basis.

Mr. Newbrough is a Registered Professional Surveyor and holds the elected position of County Surveyor for Harrison County, West Virginia.

EDUCATION

Surveying

John Tyler Community College, Chester, Virginia United Career Center, Clarksburg, West Virginia

REGISTRATIONS

Professional Land Surveyor, State of West Virginia Certification, OSHA Hazardous Waste Operations and Emergency Response Center Certification, U.S. Department of Labor/Mine Safety and Health Administration

AFFILIATIONS

West Virginia Association of Land Surveyors American Congress on Surveying and Mapping

William A. Bruce, AIA; Food Lion Stores

Co	Associated with the 10-Year Infrastructure Improvement Master Plan City of Bridgeport; Charles Pointe Development		wundary Surveys WV National Cemetery Fairmont State University; Various Projects Associated with the 10-Year Infrastructure Improvement Master Plan Town of Moorefield; North and South Levee Areas US Army Corps of Engineers Flood Control USARC Sites US Department of Justice; FBI Fingerprint Identification Complex Hardy County Rural Development Authority				
Topographical Surveys GPS Surveys							
	West Virginia Department of Transportation/Division of Highways	<u> </u>	US Army Corps of Engineers, Baltimore District				
	Harrison County Board of Education Gandee and Partners; Huntington Summit High School		Benatech Associates IDG, Incorporated				

AARON DENHAM





SUMMARY OF EXPERIENCE

Mr. Denham joined Thrasher Engineering in 2000 and serves as Field Supervisor for the firm. Mr. Denham is responsible for construction management, inspection and materials testing for highway, airport, site development, structural and public utilities projects.

EDUCATION

☐ B.S. Civil Engineering Technology, 1999 – Fairmont State University

CERT	<u> IFICATIONS</u>				
	Fairmont State Universi	ity Level V Certification	Transportation	Engineering	Technologist

	Engineering Specialization
	WVDOH Compaction Inspector
	WVDOH Concrete Inspector/Technician
ā	WVDOH Aggregate Sampling Inspector
ā	WVDOH Aggregate Technician/Inspector
	WVDOH Bituminous Inspector/Technician
	WVDOH Radiation Safety
ā	Troxler Basic Safety - Nuclear Compaction Gauge
	RESENTATIVE PROJECT EXPERIENCE
KEFR	A SENTATIVE PROJECT EXPENDENCE
	Army Corp of Engineers, Tygart Dam
	Jackson County Airport
Ų	Benedum Airport Authority 2001 Master Plan
	Benedum Airport Authority 2002 Master Plan
ليا	Benedum Airport Authority 2003 Master Plan
	Benedum Airport Authority, 2004 Master Plan
	Ruby Memorial Hospital NE Addition
	Health Science Learning Center
	WV National Cemetery Expansion
	Fairmont State University
	Institute for Scientific Research
	I-68 Welcome Center
	Stockmeier Urethanes
	Fairmont State University Squibb Wilson Boulevard Demolition and Parking Lots; Lead
	Inspector & Testing
	Fairmont State University Renovation; Testing
	City of Pleasant Valley Sidewalk Project; Lead Inspector & Testing
	WVDOH South High Street Bridge
	Wheeling Route 2 Bypass
	Lake Floyd Dam
	Baker Dam Site 10
	City of Bridgeport 279 By-Pass
	Mon-Fayette Expressway
	WVDOH Meadowbrook Road
	Fetterman Bridge

REPRESENTATIVE EXPERIENCE

Thrasher Engineering offers significant experience in open drainage and sediment and erosion projects in addition to abandoned mine lands projects, covering a broad range of expertise. In the following section are examples of our experience in each of these areas related to the Gordon "C" Refuse design project.

ABANDONED MINE LAND PROJECTS

WV DEP ABANDONED MINE LANDS – ANGLIN'S RUN #1 AND ROARING CREEK STREAM RESTORATION PROJECTS

Client:

WV DEP

Office of Abandoned Mine Lands and Reclamation

304-926-0485

Anglin's Run #1 Barbour County

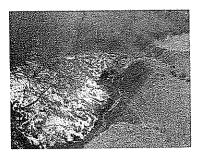
This area includes a total of eight (8) collapsed mine portals with at least 5 of them having discharges ranging from 1 to 10 gpm. Total flows were estimated to be between 25 and 30 gpm. Thrasher Engineering's preferred scope and preliminary plans for this project include construction of an access road into the site, excavation and wet seal of at least eight (8) deep mine portals and the re-grade and fill of subsidence sinkholes. To carry water safely off site, drainage control channels, conveyance pipe and under drain will be constructed. All areas disturbed by construction will be soil covered, conditioned and re-vegetated.

Roaring Creek Stream Randolph County

This project involves the elimination of subsidence depressions, the closure of open portals and the treatment of AMD. The Roaring Creek Watershed was heavily deep mined and surfaced mined prior to 1977. The project area consists of 3 open and 3 closed portals discharging AMD, AMD seeps along the unnamed tributary and an area of subsidence, which drains surface water into the mine workings. AMD flow from the deep mine portals ranges from 10 gpm to 100 gpm with PH ranging from 3.1 to 5.0. The seeps along the UNT showed an average PH of 3.3. Construct and rehabilitate access roads to the sites. Install wet seals at the portal locations (4 Portals total). Thrasher Engineering's preliminary plans include re-grading the subsidence area to prevent surface water from entering the mine workings, and installing an emergency spillway on the existing pond which will be designed to handle the additional flow.







WV DEP ABANDONED MINE LANDS – AMHERSTDALE (LOGAN COUNTY) PRE-SETTLING BASIN AND PRE-TREATMENT FACILITY PROJECT

Client:

WV DEP

Office of Abandoned Mine Lands and Reclamation

304-926-0485

Project Description: The AML affected area is located in Logan County on CR 16, west of the city limits of Man, a distance of approximately 12.6 Miles.

The scope of the project is the design and construction of a pre-settling basin and pre-treatment system to remove metals and turbidity from the existing water sources, allowing the water existing treatment facility to utilize the surface and groundwater.

The scope of services Thrasher Engineering provided for this project included:

Survey, supervision of subsurface investigation, environmental review, preparation of design, drawings, development of construction documents.

WV DEP ABANDONED MINE LANDS – RAGLAND (MINGO COUNTY) WATER LINE EXTENSION PROJECT

Client:

WV DEP

Office of Abandoned Mine Lands and Reclamation

304-926-0485

Project Description: The AML affected area is located in the Midwestern portion of Mingo County. The area is approximately 2.6 square miles The scope of services Thrasher Engineering provided for this project included: survey, supervision of subsurface investigation, environmental review, design, development of construction documents. Upon construction, Thrasher will provide construction management services.

ACID MINE DRAINAGE / COAL COMPANY EXPERIENCE

Martinka Water Treatment Plant

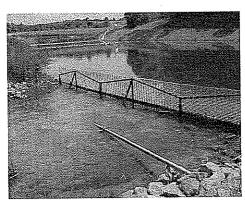
Client: Martinka Coal

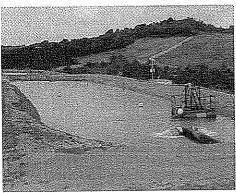
Mr. Gary Timms Water Treatment Plant Supervisor

Fairmont, WV 304-366-5516

Project Cost: \$6.5 Million

This project consisted of the design of a 17.3 MGD Water Treatment Plan to blend mine borehole water with acid mine drainage; the plan removes iron (1000 mg/l (ferric hydroxide) to less than 1 mg/l.





The plant design included:

- Aeration Blending and Stripping Carbon Dioxide
- Feed Hydrogen Peroxide Shifts chemical equilibrium for utilization of naturally calcium carbonate for neutralization
- Coagulation/Flocculation Three (3) stage tapered flocculation with axial flow propeller mixers and variable frequency drives
- □ Sedimentation Six (6) settling ponds with **ferric hydroxide** sludge removal and underground injection wells
- Polishing Pond Sodium hexamataphosphate for calcium stabilization.

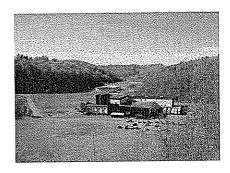
Dayton Carpenter, P.E., DEE, Project Engineer was rewarded the following for the project:

- □ 2002 WV ACEC Gold Award Engineering Excellence
- 2002 WV Manufacturer's Association Environmental Leadership Award for Innovative Technology

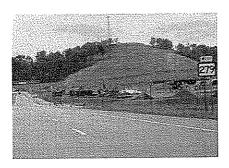
SITE DEVELOPMENT PROJECTS - SEDIMENT AND EROSION MEASURES

<u>Harrison County Business and Technology Park</u> <u>Robert C. Byrd Industrial Park – Hardy County</u> <u>White Oaks Business Park – Harrison County</u>

Thrasher Engineering provided survey, site planning, and engineering design services for each of these business/industrial parks which were developed on abandoned mine lands. The design of each project included plans for landslide / erosion and sediment control within grading plans.







Mingo County Wood Products Industrial Park, Mingo County, West Virginia

Client:

Mingo County Redevelopment Authority

Mike Whitt, Executive Director

304-235-0042

Project Description: This project consisted of the development of conceptual layout and final design drawings for the park. The work consisted of drainage, sediment, erosion measures, and on-site utilities including water and sanitary sewer, along with the design and permitting of a 12,000 gpd wastewater treatment plant. Also included in this project was a roadway design conforming to WV

Department of Highways specifications and criteria. Construction management services were also provided.



Indian Ridge Industrial Park / McDowell County Prison

Client:

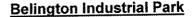
Federal Bureau of Prisons

202-514-6461

McDowell County Commission 304-436-8548

Project Description: The objective of this project was to push back an existing highwall and enlarge the flat area on the McDowell County's Indian Ridge Industrial Park, a

the McDowell County's Indian Ridge Industrial Park, a portion of which is being used to accommodate a Federal Prison. Thrasher Engineering is now providing the site development engineering services for that facility. This project consisted of the design, bidding, and construction management for the preparation of an industrial park/federal prison site. The construction involved moving 20,000,000 CY of earth to create approximately 250 relatively flat acres for development. Inclusive in our scope of work was site grading, sediment and erosion control, stream relocations, and wetland mitigation. This work involved laying back an existing highwall and placing the excavated material into a nearby valley to increase the developable acreage of the site. The valley fill serves as a buffer and will be used for non-structural uses.



Client:

Barbour County

Office for Economic Development

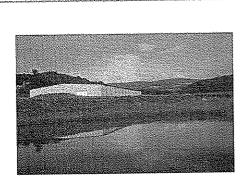
304-456-1225

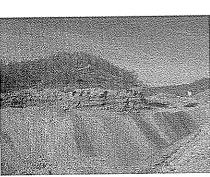
This project consisted of the development and conceptual layout and final design drawings for the park. The work consisted of on-site utilities including water and sanitary sewer.

Specifically, this project included:

8.000 LF of water line,

2,700 LF of gravity sewer line,





Manholes and Fire hydrants.

Additionally, this project included an access road conforming to WV DOT/Department of Highways specifications and criteria, earthwork for building site preparation and storm water detention. Construction management services were also provided.

West Virginia National Cemetery

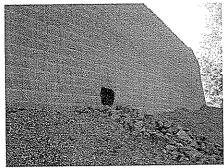
Client:

U.S. Department of Veterans Affairs Peter Fernandez, National Cemetery

Administration

Carter VanDyke Associates

215-345-5053



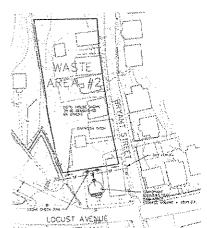
Project Description: The project consisted of the planning, design and bidding for the expansion of the WV National Cemetery. The scope of the work included site utilities, storm sewers, roads, sidewalks, retaining walls, pre-cast concrete crypt burial areas, site grading and sediment and erosion control. Construction management and survey services were also provided.

Fairmont State University

Client:

Fairmont State University
Dr. Dan Bradley, P.E. President

304-367-4000



Thrasher Engineering is providing civil engineering services throughout the Fairmont State University

campus within the scope of FSU's 10-year \$10 million master plan for infrastructure improvements. This portion of the project included storm water management during and after construction. During the construction phase erosion and sediment control was contained by installing silt fence, water barriers, temporary sediment traps, inlet protection, diversion ditches and utility matting. The final site improvements contain swales, ditches, vegetation, landscaping and culverts to control the storm water and limit the pollution from the site. Ditches are protected from

erosion and all unpaved areas are stabilized with vegetation.

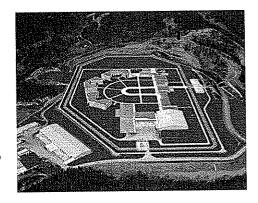
Glenville Correctional Institution, Gilmer County, West Virginia

Client:

Federal Bureau of Prisons

202-514-6461

Project Description: This project consisted of the design/build of a U.S. Correctional Facility. Inclusive in our scope of work were the site utilities (sewer, water, stormwater management gas) site grading, sediment & erosion control, layout of facilities, on site roads and parking, various site elements and oversight during the construction phase.



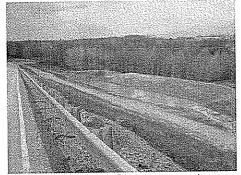
Canaan Federal Prison, Scranton, Pennsylvania

Client:

Federal Bureau of Prisons

202-514-6461.

Project Description: Thrasher Engineering served as a Team Member on this design-build project of US Penitentiary and Federal Prison Camp. The scope of services included sewer, water, storm water management and gas utilities, site grading, sediment and erosion control, relocation of a township road, layout of the facility and



oversight during construction. The drainage of this project required the design of a storm water detention pond.

West Virginia Division of Highways, Harrison County, West Virginia

Client:

West Virginia Division of Highways

304-558-2830

Total Project Cost: \$1,200,000

Project Description: This project consisted of developing construction drawings and right-of-way documents for a new storm drain system along Old Bridgeport Hill. The existing storm drain system was 25 to 30 feet deep and was collapsing in several areas; therefore, a new system of inlets and pipes were designed to collect surface water.

EXPERIENCE OF SHEIRL FLETCHER, ENVIRONMENTAL MANAGER

Consol Coal Company: Abandoned Mine Lands Remediation / Mine Reclamation

The projects included engineering and final reclamation of the following Consol Energy mines in Monongalia County, West Virginia: Blacksville No. 1, Pursglove Mine, Arkwright Mine, Osage Mine and Humphrey Mine.

Final reclamation included AMD and site remediation of the following types of surface support facilities:

- Refuse / slurry impoundments
- AMD treatment plants including impoundments and sludge lagoons
- Preparation plants and coal stockpile areas
- Shaft and drift openings
- Boreholes.

Consol Coal Company – Hydrology and Hydraulics

During the final abandonment of the Morgantown operations of Consolidation Coal Company, performed geologic hydrologic study of the Arkwright, Osage, Pursglove and Humphrey Mine pools and their inter-relationship to one another and to adjacent mining operations.

MINING RELATED SURVEY PROJECT EXPERIENCE

Eastern Associated Coal Corporation

Client:

Eastern Associated Coal Corporation

Allen Moore, Project Manager

304-449-1911

Project Description: This ongoing project consists of performing pre and post-mining subsidence surveys on structures and dwellings located within and surrounding the permit boundaries of the Federal No. 2 Mine.

A typical project of this nature consists of establishing horizontal and vertical control, preservation of control points, elevations on critical structure points, baseline establishment and profile, collection of water samples for springs and wells, inspectors report of protected structures, interior and exterior digital photography, and digital CADD mapping of the field survey.

Eastern Associated Coal Corporation

Client:

Eastern Associated Coal Corporation

Allen Moore, Project Manager

304-449-1911

Project Description: Past and ongoing projects have been performed at the Federal No. 2 Mine which include:

- Water line surveys and design for replacement of existing water sources
- Structure identification surveys, water well inventories, and stream monitoring surveys
- · Ground control for aerial mapping
- Gas well locations for down-hole surveys
- Subsidence stream locations and profiles
- Permit boundary staking
- Construction layout for refuse impoundments
- Scott's Run Railroad Bypass project design survey, design, and construction layout
- Boundary surveys for fee purchase property acquisitions
- Construction layout for new shaft sites
- Powerline profiles and construction layout
- Topographic design surveys and soundings for impoundment ponds
- Drainage control surveys and design for surface water runoff

Martinka Coal Company

Client:

Martinka Coal Company
Gary Timms, Project Manager

304-366-5516

Project Description: This project consisted of the collection of data to be used in conjunction with the design of an acid mine drainage facility, designed by Thrasher Engineering, Located at the Tygart River Mine.

Critical land survey components consisted of the following:

- Topographic surveys and digital mapping of approximately 50 acres
- Dewatering borehole layout
- Downstream cross-section surveys for volume computations
- Protected structures identification and mapping
- Pre-blasting surveys on nearly 200 structures
- Construction layout of the entire facility

Martinka Coal Company - Fairmont, WV

Client:

Martinka Coal Company

Gary Timms, Project Manager

304-366-5516

Project Description: Past and ongoing projects have been performed at the Tygart River Mine including:

- Dewatering borehole computations and layout
- Stockpile surveys
- Certification of drainage system, ponds 5, 6, and 7 Permit No. 1001-87
- Topographic survey and construction layout of the existing Guyses Run AMD Facility
- Boundary surveys for fee purchase property acquisitions
- Subsidence stream locations and profiles
- Construction layout for refuse impoundment
- · Ground control for aerial mapping
- Scanned mapping digital overlays
- Conceptual site plan for recreational facilities

PROJECT APPROACH

In order to develop a full understanding of the WV DEP's needs for this project, Thrasher Engineering, Inc. studied the information provided in the RFQ, and made a site visit with the land owner. Based upon our findings, we have developed the following project approach to demonstrate our technical abilities and straight forward method of design and construction.

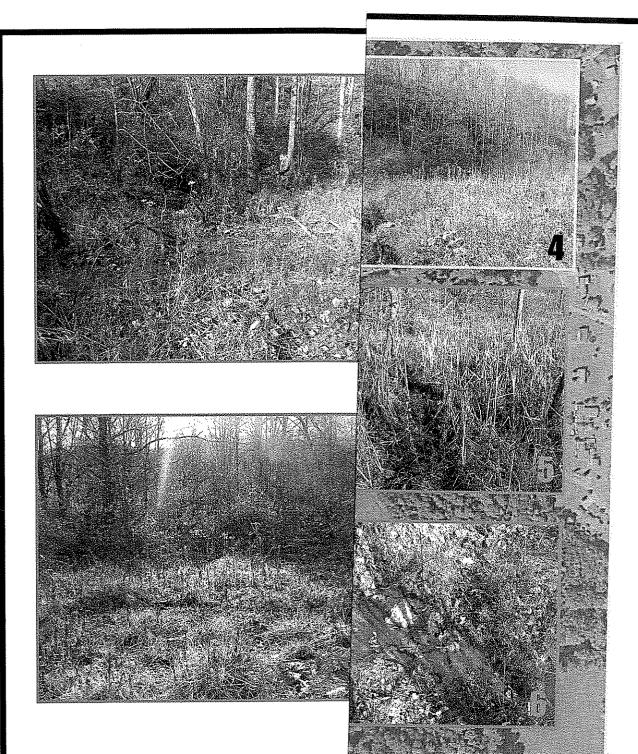
This project approach is a general approach that will be used on any WVDEP reclamation project and may need to be modified depending on the existing information that is available for the specific project. Also, some steps may not be needed on every project.

Step #1 Obtain adequate mapping. The limits of construction will be flown and digitally mapped or, if the area is small enough, survey crews will field survey the area. Thrasher will then provide 1"=50' scale mapping with 2' contours. Spot elevations and critical cross sections may be completed in the field if necessary to make tie-ins.

Step #2 Design the project. Thrasher will work closely with the WVDEP in designing the project. Field reviews will be conducted to determine the most cost effective method to be used to reclaim the area. A preliminary design based on the field reviews will be submitted to the WVDEP. After receiving comments or corrections, Thrasher will submit the final plans, specifications and design report. The design report will consist of the bore logs, piezometer elevations, quantity calculations, right of entry forms and any other assumptions that were made during the design.

Step #3 Prepare for construction. Thrasher will also set up reference points, benchmarks and control points outside of the construction limits so the contractor will be able to construct the project in the future. Thrasher will complete any permits, right of ways, and easements that are necessary to construct the project. The project manager and engineer will attend the pre-bid meetings to answer any questions that contractors may have about the design.

Step # 4 Construct the project. The project manager will be available during construction to answer any questions the contractor or inspector may have. Thrasher inspectors that are certified by the State of WV are available to be used if the WVDEP requests this service.



Cambria Portals & Drainage—Pict

- 1. Picture of AMD at South-West
- 2. Picture of AMD at South-West South.
- 3. Collapsed portal.4. Collapsed portals, highwall, ar



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)4-624-4108

www.thrashereng.com

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Que ionnaire".	Attach "AML	Consultant Confidential Qualification
NAME AND ADDRESS: NOVEL GEO-ENVIRONMENTAL	SPECIALTY: GEO-TECHNICAL SERVICES	MIL
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NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
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		Yes
		No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
		Yes
		No

- UMEROUS THE THRASHER ENGINEERING SURVEY DEPARTMENT HAS PERFORMED DESIGN TEAM ENVIRONMENTAL MANAGER HAS 23 YEARS OF EXPERIENCE AS GEOLOGIST, HYDROLOGIST AND ENVIRONMENTAL SPECIALIST OUR WITH CONSOL ENERGY. PROJECTS INCLUDED THE ENGINEERING AND FINAL RECLAMATION OF THE BLACKSVILLE NO.1D, PURSGLOVE, DEVELOPMENT, WATER LINE AND SANITARY SEWER PROJECTS RELATED TO ABANDONED MINE LANDS HAVE ALSO BEEN ENGINEERED. PROJECTS INVOLVING LAND REMEDIATION, STORM WATER DRAINAGE, SLIP REPAIR AND MASS GRADING IN RELATION TO SITE ER ENGINEERING HAS PERFORMED ENGINEERING DESIGN TO THE MY DEP FOR BOTH DRAINAGE AND PORTAL AML PROJECTS AND WELL AS FOR WATER LINE PROJECTS RELATED TO AMI. Is your firm experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering? SERVICES FOR PRE AND POST MINE SUBSIDENCE FOR MAJOR COAL COMPANIES. THE ARKWRIGHT, OSAGE AND HUMPHREY MINES IN MONONGALIA COUNTY Description and Number of Project: ζ.
- ANALYSIS LAB AT ITS CLARKSBURG, WV OFFICE. SOIL ANALYSIS EXPERIENCE IS SPECIFICALLY IN GRADATIONS AND CLASSIFICATION THRASHER ENGINEERING MAINTAINS A MATERIALS TESTING AND WE PERFORM THESE SOIL ANALYSES ON ALL OUR PRIVATELY FUNDED SITE DEVELOPMENT PROJECTS Is your firm experienced in Soil Analysis? Description and Number of Projects: ω.
- OUR TEAM ENVIRONMENTAL MANAGER PARTICIPATED IN THE ENGINEERING SHE ALSO WAS INVOLVED IN THE STRATEGIC PLACEMENT OF THROUGH OUR WORK IN THE PLANNING AND DESIGN OF BRIDGES FOR THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS AND WATER LINE EXTENSION PROJECTS, THRASHER ENGINEERING HAS EXTENSIVE EXPERIENCE IN HYDROLOGY. WE ALSO HAVE EXTENSION EXPERIENCE IN HYDRAULIC MODELING FOR WATER AND WASTEWATER PROJECTS AND ENVIRONMENTAL PERMITTING OF THE FINAL ABANDONMENT OF THE MORGANTOWN OPERATIONS OF CONSOL COAL COMPANY. THIS INCLUDED THE GEOLOGIC HYDROLOGY STUDY OF THE ARKWRIGHT, OSAGE PURSCLOVE AND HUMPHREY MINE POOLS AND THER INTER-Is your firm experienced in hydrology and hydraulics? RELATIONSHIP TO ONE ANOTHER AND TO ADJACENT MINING OPERATIONS. AACID MINE DRAINAGE TREATMENT FACILITIES AND PLANT DESIGN. Description and Number of Projects: THROUGHOUT WEST VIRGINIA.
- Does your firm produce its own Aerial Photography and Develop Contour Mapping? Description and Number of Projects: o.

NO WE UTILIZE THE SERVICES OF NUMEROUS FIRMS, INCLUDING PENTREE, INC. WHICH IS AN AFFILIATE COMPANY OF ENGINEERING INC. THROUGH THE RESOURCE ENGINEERING GROUP HOLDING COMPANY. THRASHER

THRASHER ENGINEERING HAS (Include any experience your firm has in DESCRIPTION AND NUMBER OF PROJECTS: evaluation of aquifer degradation as a result of mining.) Is your firm experienced in domestic waterline design? Description and Number of Projects: YES ы. Ы

STATIONS, WATER TREATMENT PLANTS, AND STORAGE FACILITIES. MANY OF THESE PROJECTS ARE IN AREAS WITH AML AFFECTED WATER OVER 100 WATER LINE EXTENSION PROJECTS IN THE PAST 20 YEARS OF BUSINESS. PROJECTS INCLUDE LINES, BOOSTER DESIGNED

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

ARKWRIGHT, OSAGE PURSCLOVE AND HUMPHREY MINE POOLS AND THEIR INTER-RELATIONSHIP TO ONE ANOTHER AND TO ADJACENT MINING DESIGN. IN ADDITION, THRASHER ENVIRONMENTAL, THE CHARLESTON WV BRANCH OF OUR COMPANY DESIGNED AN AWARD WINNING WATER OUR TEAM ENVIRONMENTAL MANAGER PARTICIPATED IN THE ENGINEERING AND ENVIRONMENTAL PERMITTING OF THE FINAL SHE ALSO WAS INVOLVED IN THE STRATEGIC PLACEMENT OF ACID MINE DRAINAGE TREATMENT FACILITIES AND PLANT ABANDONMENT OF THE MORGANTOWN OPERATIONS OF CONSOL COAL COMPANY. THIS INCLUDED THE GEOLOGIC HYDROLOGY STUDY OF THE WYDEP RELATED SPECIFICALLY TO ACID MINE DRAINAGE AND ABATEMENT, BOTH OF WHICH ARE LOCATED IN BARBOUR COUNTY, WEST Description and Number of Projects: TEI IS CURRENTLY DESIGNING TWO RECLAMATION PROJECTSFOR THE TREATMENT PLANT FOR MARTINKA MINES IN MARION COUNTY, WEST VIRGINIA TO TREAT DRAINAGE. OPERATIONS. VIRGINIA.

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS d but keep to essentials)	RINCIPALS AND ASSOCIATES RESPONSIBLE	FOR AML PROJECT DESIGN	(Furnish complete
& TITLE (Last, Fir		YEARS OF EXPERIENCE	
I, KENNET	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 16	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 23
Mr. Moran joined Thrasher Engineering Chief Engineer.	ng in 1991 and currently serves	as Vice President and Chief	Operations Officer and
for and ling	feasibility studies and ients. Additionally, Wr. tory agencies in conjunct	design of public utility and site Moran has extensive experience in ion with projects.	deve all
EDUCATION (Degree, Year, Specialization)	tion) B.S., Civil Engineering	ng Technology, 1983 - Fairmont	State University
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS Friendship Lodge No.56 A.F. & A.M. WV Society of Professional Engineers Member of American Society of Civil E	TIONS M. eers vil Engineers	REGISTRATION (Type, Year, State) Registered Professional En West Virginia #11309 Registered Professional En Virginia#0102021855	te) . Engineer (PE), State of . Engineer (PE), State of
		Registered Profess Ohio #64412	Engineer (PE),
		L Protessional Land Surveyor Virginia#1333	yor (FS), state of west
		翻	
13. PERSONAL HISTORY STATEMENT OF PF data but keep to essentials)	PRINCIPALS AND ASSOCIATES RESPONSIBLE	KSIBLE FOR AML PROJECT DESIGN	(Furnish complete
NAME & TITLE (Last, First, Middle Int.)	The state of the s	OF)	ľ
BILLER CHADWICK D. P.E.	reaks of AML Design experience:	IEAKS OF AML KELAIED DESIGN EXPERIENCE: 15	IEARS OF DOMESILD WATERLINE DESIGN EXPERIENCE: 15
Brief Explanation of Responsibilities: Mr on site development, highways, roads, bripartner of Thrasher Engineering. For Thrand private site development projects, spall of the firm's WVDOT/DOH projects, he	Mr. Biller has experience oridges, and airports. Mr. hrasher Engineering, Mr. Bi specializing in airports, he has extensive knowledge	te in all aspects of engineering with solutions. Biller joined Thrasher Engineering Biller is responsible for WV DEP AMI, highways, roads and bridges. As Proje of state and federal building stance.	with specific emphasis ring in 1999 and is a AML project and public s Project Manager for standards.
EDUCATION (Degree, Year, Specialization: B.S., Civil Engineering, 1992 - West	zation: - West Virginia University		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers Society of American Military Engineers National Society of Professional Engineers	TIONS ers ineers Engineers	REGISTRATION (Type, Year, Stat Registered Professional West Virginia #13620 Registered Professional Pennsylvania #PE056012E Registered Professional Ohio #64594	State) nal Engineer(PE),State of nal Engineer(PE),State of 12E nal Engineer(PE),State of

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS d but keep to essentials)	INCIPALS AND ASSOCIATES RESPONSIBLE	SIBLE FOR AML PROJECT DESIGN	(Furnish complete
(Last, First, Middle Int.)		YEARS OF EXPERIENCE	
<u>K</u>	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 6	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 6
Brief Explanation of Responsibilities Mr.	Nestor joined Thrasher	Engineering in 2005 and serves	s as Project Manager and
ineer. Mr. Nestor has a wide range	e of experience in residentia	d commercial site	projects, utili
all aspects of infrastructure design water systems, storm water drainage,	including street and lot layout, storm water management, erosion a	street profiles, and sediment contr	extensions of public sewer and of plans, and NPDES permitting.
r. Nestor oversees all hijojans, and staff eno	general	Associates, of projects	directing administrative covering site development,
ing, material testing, and	al service	ì	
EDUCATION (Degree, Year, Specialization) B.S. Civil Engineering Technology	ion) ogy - Fairmont State University,	·Y, 2003	
	■ 1	3	The state of the s
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS — American Society of Civil Engineers — Eastern Panhandle Home Builders Associa	IONS neers s Association	REGISTRATION (Type, Year, State C ENGINEERING INTERN (EIT), Virginia	State), State of West
13. PERSONAL HISTORY STATEMENT OF PRI data but keep to essentials)	PRINCIPALS AND ASSOCIATES RESPONSIBLE	ISIBLE FOR AML PROJECT DESIGN	(Furnish complete
(Last, Fir		YEARS OF EXPERIENCE	
HER, SHEIRL	YEARS OF AML DESIGN EXPERIENCE: -23	AML CE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brief Explanation of Responsibilities	S.		**************************************
L Fletcher joined Thrasher Engig Thrasher, Sheirl served as rings comprehensive knowledge clients' projects, along wit	eering, Inc. in 2007 and vironmental Manager for environmental regulato technical expertise in	Invironmental Manager firm. She has more tand reporting require engineering, geolog	for the firm. Prior to than 20 years experience ements in multiple states by and hydrology
EDUCATION (Degree, Year, Specialization)	ion)	or and account of the second o	THE PARTY OF THE P
🔲 B.S., West Virginia University, Morgantown,	, Morgantown, WV - Bachelor of	: Science- Geology	
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	IONS	REGISTRATION (Type, Year, St.	State)
		 Licensed Professional Geologist Commonwealth of Pennsylvania Certified Professional Geologist of West Virginia 	Jeologist (LPG), Ivania Geologist (CPG), State

13. PERSONAL HISTORY STATEMENT OF PRIN data but keep to essentials)	PRINCIPALS AND ASSOCIATES RESPONSIBLE	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
I, JEFF - CADD TECHNICIAN	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 5	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 5
Brief Fvnlenstion of Resnonsibilities Wr	Ding iningd	Thrasher Engineering in 2005 and serves	as CADD Operator for the
	frastructure ystems includ ntrol plans a	and log layout, cofiles, storm wa	шис
EDUCATION (Degree, Year, Specialization) Cortificate, Computer Aided Design Diploma - Clear Spring High School	- Hagerstown Community	College	
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	SNO	REGISTRATION (Type, Year, St	State)
13. PERSONAL HISTORY STATEMENT OF PRINdata but keep to essentials)	PRINCIPALS AND ASSOCIATES RESPON	RESPONSIBLE FOR AML PROJECT DESIGN	(Furnish complete
First, Middle Int.)		YEARS OF EXPERIENCE	
I	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 23	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 23
Brief Explanation of Responsibilities Mr. Newbrough in the firm. Mr. Newbrough serves as Survey Supervis activities. Mr. Newbrough has extensive experience i and easement surveys and the preparation of plats ar	ined and all a legal	Ε.	g in 1990 and is Frincipal and Fartner assignment and review of all survey including but not limited to boundary Newbrough also performs courthouse
research, computes field data for construction layout, clientele in conjunction with Thrasher Engineering pro elected position of Harrison County (WV) Surveyor.	nction layout, ngineering proj Surveyor.	and processes GPS raw data for both public and ects as well as separate contracts. He also se	lic and private also serves in the
EDUCATION (Degree, Year, Specialization) Surveying - John Tyler Community C United Career Center, Clarksburg,			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS West Virginia Association of Land	NS of Surveyors	REGISTRATION (Type, Year, State)	ate) r (PS). West Virginia
American Congress on Surveying Member Strathmore's Who's Who	37	#1618 - 19 OSHA Hazardou	and En
		Response Cen US Department o	10

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

Thrasher Engineering, Inc. will design work for AML utilizing one of the largest networks of computer aided design (CAD) equipment, software and trained personnel in the State of West Virginia.

locations. This will allow work designed for AML to be prepared and updated at the office location that best meets the Connected through a Virtual Private Network, our CAD staff has the ability to share necessary plans among our needs of the scope of services.

Additionally, equipment includes 10 large format (size E) plotters and 5 large format plotter / scanners.CAD plans are prepared by both dedicated CAD employees and by staff engineers and engineering technicians in each of the firm's AutoCAD Landdesktop 2008 and Microstation V8 software is utilized at 48 CAD stations throughout our locations. offices. Thrasher Engineering, Inc. also utilized top-of-the line survey equipment. Our survey work is accomplished with global positioning systems (GPS) and electronic distance measuring (EDM) survey stations with data gathering capabilities. This equipment includes: The equipment used to complete survey services for AML projects includes:

- Leica Geosystem System 500 GPS
- Leica Ski Post Processing Software
- Topcon G600 Total Station Instrument
- Leica 303 Total Station Instrument
- Leica 307 Total Station Instrument
- Leica 403 Total Station Instrument
- Leica 405 Total Station Instrument
- Lecia 407 Total Station Instrument
- Lecia 703 Total Station Instrument

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	PROJECTS	
	OUR FIRM IS THE DESIGN;) ENGINEER OF RECORD: SITE DEVELOPMENT PROJECTS	
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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
ANGLIN'S RUN AND ROARING CREEK STREAM AML RECLAMATION BARBOUR AND RANDOLPH COUNTIES, WV	WV DEP- DEPARTMENT OF AML 601 57th Street, SE Charleston, WV 25304	ENGINEERING DESIGN FOR PORTAL SEALING, DRAINAGE AND RECLAMATION	\$700,000.00	30%
WHITE OAKS BUSINESS PARK SITE DEVELOPMENT AND UTILITIES HARRISON COUNTY, WV	HIGH TECH CORRIDOR DEVELOPMENT, LLC MR. JACK KEELEY PO BOX 1532 CLARKSBURG, WV 26302	SITE DEVELOPMENT DESIGN (LAND PLANNING, GRADING, UTLITITIES) SURVEY, CONST. MGT, MATERIALS TESTING	\$12,100,000.00	80%
MCHENRY BUSINESS PARK SITE DEVELOPMENT AND UTILITIES GARRETT COUNTY, MD	GARRETT COUNTY EDA 203 SOUTH 4TH STREET COURTHOUSE ROOM 208 OAKLAND, MD 21550 301-334-1921	SITE DEVELOPMENT DESIGN (LAND PLANNING, GRADING, UTILITIES) SURVEY, CONST. MGT, MATERIALS TESTING	\$3,500,000.00	8 5 8
RITCHIE COUNTY BUSINESS PARK SITE DEVELOPMENT RITCHIE COUNTY	RITCHIE COUNTY ECONOMIC DEVELOPMENT AUTHORITY 217 WEST MAIN STREET HARRISVILLE, WV 26362	SITE DEVELOPMENT DESIGN (LAND PLANNING, GRADING, UTILITIES) SURVEY, CONST. MGT, MATERIALS TESTING	\$2,000,000.00	50%
CITY OF PLEASANT VALLEY SIDEWALKS PROJECT MARION COUNTY, WV	CITY OF PLEASANT VALLEY, 2340 KINGMONT ROAD PLEASANT VALLEY, WV 26554	DESIGN, SURVEY, CONSTRUCTION MGT, INSP AND TESTING - SIDEWALKS PHASE III	\$250,000.	808
NORTH CENTRAL WV AIRPORT HARRISON COUNTY, WV VARIOUS - HANGERS /STORM WATER	BENEDUM AIRPORT AUTHORITY JAMES R. GRIFFITH, AIRPORT MGR. 2000 AVIATION WAY BRIDGEPORT, WV	SITE DEVELOPMENT DESIGN (LAND PLANNING, GRADING, UTILITIES) SURVEY, CONST. MGT, MATERIALS TESTING	\$500,000 to \$1,000,000.00	ON-GOING
TOTAL NUMBER OF PROJECTS: 6 (TOTAL IN FULL APPROXIMATELY 30 APPROXIMATELY 40 MILLION)	WATELY 30 SITE DEVELOPMENT -	TOTAL ESTIMATEI \$18,600,000.00	TOTAL ESTIMATED CONSTRUCTION COSTS: \$18,600,000.00 +	

15. CLARENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNALLD ENGINEER OF RECORD: WATER TREATMENT AND DISTRIBATION PROJECTS

CT TO THE CONTRACT OF THE CONT	, to 11.44		AND A MARKET PARTY OF THE PARTY	THE DESIGNATION OF THE PERSON
FROJECI NAME, 11FE AND LOCATION	NAME AND ADDRESS OF OWNER	NAIORE OF 100R FIRM S RESPONSIBILITY	ESTIMATED CONSTRUCTION	FERCENT COMFLETE
CHESTNUT RIDGE PSD	CHESTNUT RIDGE PSD	FEASIBILITY STUDY,		
BARBOUR COUNTY, WV	BOX 38	PERMIT APPLICATIONS.	\$9.500.000	30%
	PHILIPPI, WV 26416	CONTRACT DOCUMENTS, FIELD))))))))))))))))))))))
		SERVICES OF SURVEY AND		
JESSICA LYNCH WATER LINE	TOWN OF ELIZABETH	FEASIBILITY STUDY,		
EXTENSION	200 BEVERLY STREET	DESIGN, FUNDING AND		
WIRT COUNTY, WV		PERMIT APPLICATIONS,	\$3,600,000	808
	ELIZABETH, WV 26143	CONTRACT DOCUMENTS, FIELD		
		SERVICES OF SURVEY AND		
SOUTHWESTERN PSD	SOUTHWESTERN WATER PUBLIC	FEASTBIT, THY SHIDY.		
WATER LINE EXTENSION /	1	DESIGN, FUNDING AND		30%
REPLACEMENT	P. O. BOX 98	PERMIT APPLICATIONS,	\$10,430,000.	
	FLEMINGTON, WV 26347	CONTRACT DOCUMENTS, FIELD	•	
		SERVICES OF SURVEY AND		
		INSPECTION		
HAMRICK PSD	HAMRICK PSD	FEASIBILITY STUDY,		
MOORE/PORTERWOOD		DESIGN, FUNDING AND		
	HENDRICKS, WV 26271	•	\$1,100,000.	25%
TUCKER COUNTY, WV		UMENTS		
		SERVICES OF SURVEY AND		
TOT AMERICA ALLOCATE +		INSPECTION		The second secon
LINCOLN COUNTY PSD	LINCOLN PSD	FEASIBLILLY STUDY,	000000000000000000000000000000000000000	c i
WATER LINE EXTENSION		DESIGN, FUNDING AND	\$6,920,000.	25%
PROJECTS	240 LITTLE COAL RIVER RD.			
	ALUM CREEK, WV 25003	UMENTS		
		SERVICES OF SURVEY AND INSPECTION		
POCAHONTAS COUNTY PSD	POCAHONTAS COUNTY PSD	FEASIBILITY STUDY,		
WATER LINE REPLACEMENT	HC 63 BOX 122	DESIGN, FUNDING AND	\$10,456,000.	
DURBIN / BARTOW/FRANK	FRANK, WV 24920	PERMIT APPLICATIONS,		25%
		CONTRACT DOCUMENTS, FIELD		
		SERVICES OF SURVEY AND		
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THE SALES WEST	SALEM, CITY OF	FEASIBILITY STUDY,	000 003 18	\$08
- 62	229 W MATN	DERMIT APPTITATIONS		
WATER LINE REPLACEMENT	SALEM, WV 26426	CONTRACT DOCUMENTS. FIELD		
		•		-
		NSPECTION		
TOTAL NUMBER OF PROJECTS:	SOXIM	20	TOTAL ESTIMATED CONSTRUCTION COSTS:	
ADDITIONAL CURRENTLY IN PRELIMINARY / DESIGN PHASES	S. S.	CONSTRUCTION \$32,830,000.00 ESTIMATED COST	O REPRESENTED T OF ALL JOBS APPROXIMATELY \$150,000,000.00	1 \$150,000,000.00
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	SANITARY SEWER PROJECTS
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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
BROOKE COUNTY PSD REPLACEMENT AND EXTENSION BROOKE COUNTY, WV	BROOKE CO. PSD 711 CHARLES ST. P. O. BOX 150 WELLSBURG, WV 26070	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$22,000,000	65%
GREATER HARRISON COUNTY PSD PHASE II HARRISON COUNTY, WV	GREATER HARRISON COUNTY PSD P.O. BOX 190 WEST MILFORD, WV 26451	FEASIBILLIY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$11,600,000	809
TENNERION PSD SANITARY SEWER EXTENSION UPSHUR COUNTY, WV	TENNERTON PSD 188 FAYETTE ST. BUCKHANNON, WV 26201	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$1,675,000.	75%
POCAHONTAS COUNTY PSD WWTP AND COLLECTION SYSTEM POCAHONTAS COUNTY, WV	POCAHONTAS COUNTY PSD HC 63 BOX 122 FRANK, WV 24920	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$11,600,000	30%
HEPIZIBAH PSD SANITARY SEWER EXTENSION HARRISON COUNTY, WV	ENLARGED HEPZIBAH DRAWER H HEPZIBAH, WV 26369	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION	\$3,400,000	20%
MALDEN PUBLIC SERVICE DISTRICT SANITARY SEWER REHABILITATION KANAWHA COUNTY, WV	MALDEN PUBLIC SERVICE DISTRICT P.O. BOX 350 TAD, WV 25201-0350		\$13,600,000.	55%
	CANYON PSD 12 WICHITA STREET MORGANTOWN, WV 26508	FEASIBILITY STUDY, DESIGN, FUNDING AND PERMIT APPLICATIONS, CONTRACT DOCUMENTS, FIELD SERVICES OF SURVEY AND INSPECTION		50%
TOTAL NUMBER OF PROJECTS: TOTAL ACTIVE SANITRY SEWER	OF PROJECTS: 7 REPRESENTED SANITRY SEWER PROJECTS APPROXIMATELY 32	TOTAL ESTIMAT TOTAL FOR ALL	TOTAL ESTIMATED CONSTRUCTION COSTS: \$70,300,000.0 TOTAL FOR ALL PROJECTS APPROXIMATELY \$150,000,000	\$70,300,000.00 \$150,000,000

15. CURRENT ACTIVITIES (ON WHICH YOUR FIRM IS THI	HE DESIGNATED ENGINEER OF	RECORD: HIGHWAY, BRIDGE,	, SIDEWALKS
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
CORRIDOR H GRANT COUNTY, WV	WVDOT/DOH 1900 KANAWHA BLVD EAST CHARLESTON, WV 25305	PRELIMINARY ENGINEERING, DESIGN, SURVEY	\$22,000,000.	75% - NEED FINAL COMMENTS / FINAL FIELD REVIEW
MINERAL WELLS ROUTE 2 WOOD COUNTY	WYDOT/DOH 1900 KANAWHA BLVD EAST CHARLESTON, WV 25305	PRELIMINARY ENGINEERING, DESIGN, SURVEY	TBD - JUST AWARDED	JUST AWARDED
TOTAL NUMBER OF PROJECTS: 6 (TOTAL IN FULL APPROXIMATELY APPROXIMATELY 40 MILLION)	30 SITE DEVELOPMENT	TOTAL ESTIMAT \$46,300,000.	TOTAL ESTIMATED CONSTRUCTION COSTS: \$46,300,000. +	

Personne		warene e e e e e e e e e e e e e e e e e e		-			
	CONSTRUCTION COST	YOUR FIRMS RESPONSIBILITY	\$50,000,000.				
RS	ESTIMATED CONS	ENTIRE PROJECT	\$220,000,000.				
3UB-CONSULTANT TO OTHERS	ESTIMATED COMPLETION DATE		2010				
	NAME AND ADDRESS OF OWNER		US DEPARTMENT OF JUSTICE FEDERAL BUREAU OF PRISONS DESIGN AND CONSTRUCTION BRANCH 500 FIRST STREET NW WASHINGTON, DC 20534				
ENT ACTIVITIES ON WHICH YOUR FIRM IS SERVING AS	NATURE OF FIRMS RESPONSIBILITY		SITE DEVELOPMENT ENGINEERING DESIGN (GRADING/ STORM WATER/UTILITIES/ ROADS)				
16. C ENT ACTIVITI	PROJECT NAME, TYPE AND LOCATION		MC DOWELL COUNTY FEDERAL PRISON WELCH, WV SITE DEVELOPMENT				

17. YPLETED WORK WITHIN LASTPROJECT NAME, TYPE AND LOCATION	T 5 YEARS ON WHICH YOUR F 1 WAS NAME AND ADDRESS	AS THE DESIGNATED ENGINEER OF RECORD ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED
RALEIGH MEMORIAL AIRPORT RALEIGH COUNTY, WV	RALEIGH CO AIRPORT AUTHORITY 176 AIRPORT CIRCLE, ROOM 115 BEAVER, WV 25813-9475	\$5,000,000.00 - PHASE I	2007	YES
WOLFE CREEK PARK FAYETTE COUNTY, WV	FAYETTE COUNTY COMMISSION FAYETTE COUNTY COURTHOUSE 100 COURT STREET FAYETTE, WV 25840-0307	\$4,500,000 PHASE 1	2007	YES
PINECREST DEVELOPMENT RALEIGH COUNTY, WV	PINECREST DEV AUTHORITY 200 MAIN STREET BECKLEY, WV 25801-4613	\$1,500,000.00	2007	YES
CITY OF PARSONS SANITARY SEWER LINE EXTENSION TUCKER COUNTY, WV	PARSONS, CITY OF 341 2ND ST. PARSONS, WV 26287	\$ 900,000 \$	2007	YES
TOWN OF FARMINGTON WATER LINE REPLACEMENT PROJECT MARION COUNTY, WV	TOWN OF FARMINGTON 1314 MILL STREET FARMINGTON, WV 26571	\$1,300,000.	2007	YES
CITY OF KINGWOOD WHETSELL SETTLEMENT WATER LINE EXTENSION PRESTON COUNTY, WV	KINGWOOD, CITY OF 313 TUNNELTON ST. KINGWOOD, WV 26537-1462	\$ 420,000.	2007	YES
NORTON-HARDING-JIMTOWN PSD WATER LINE EXTENSION RANDOLPH COUNTY, WV	NORION-HARDING-JIMIOWN PSD P.O. BOX 87 SCOTI ROAD NORION, WV 26285	\$1,000,000	2007	YES
TOWN OF BATH - BERKELEY SPRINGS WATER WORKS MORGAN COUNTY, WV	TOWN OF BATH 271 WILKES STREET BERKELEY SPRINGS, WV 25411	\$2,000,000	2007	YES

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
NICHOLAS COUNTY BUSINESS PARK, NICHOLAS COUNTY, WV SITE DEVELOPMENT	NICHOLAS CO BLDG COMMISSION 700 MAIN STREET, SUITE 1 SUMMERSVILLE, WV 26651	\$2,500.000.00	2008	
RALEIGH COUNTY PUBLIC SERVICE DISTRICT 2 WATER LINE EXTENSIONS	RALEIGH COUNTY PSD 224 EAST MAIN PO BOX 1286 SOPHIA, WV	\$3,700,000.	2006	YES
GILMER COUNTY PSD DUSK CAMP WATER LINE EXTENSION GILMER COUNTY, WV	GILMER COUNTY PSD 232 W. MAIN STREET GLENVILLE, WV 26351	\$2,500,000	2008	YES
HODGESVILLE PUBLIC SERVICE DISTRICT; DESIGN AND CONSTRUCTION OF WATER LINE EXTENSION, BOOSTER STATIONS, AND WATER STORAGE TANK	HODGESVILLE PUBLIC SERVICE DISTRICT 188 FAYETTE STREET P.O. BOX 758 BUCKHANNON, WV 26201	\$3,100,000	2004	YES
CITY OF CAMERON WATER STORAGE TANK MARSHALL COUNTY, WV	CITY OF CAMERON 44 MAIN STREET CAMERON, WV 26033	\$2,000,000.00	2008	YES
HAMRICK PUBLIC SERVICE DISTRICT, TUCKER COUNTY, WEST VIRGINIA; DESIGN, PREPARATION AND CONSTRUCTION MANAGEMENT TO UPGRADE THE WATER TREATMENT PLANT	HAMRICK PUBLIC SERVICE DISTRICT P.O. BOX 228 HENDRICKS, WV 26271	\$2,461,000	2004	YES
PUTNAM COUNTY BUSINESS PARK; MITIGATION OF 13 ACRES OF IMPACTED WETLAND	PUTNAM COUNTY DEVELOPMENT AUTHORITY P.O. BOX 167 SCOTT DEPOT, WV 25560	\$1,500,000	2004	YES
TOWN OF ROWLESBURG WATER TREATMENT PLANT/ EXT. PRESION COUNTY, WV	TOWN OF ROWLESBURG PO BOX 458 42 POPLAR STREET ROWLESBURG, WV 26425	\$4,500,000.	2008	YES

WVDOT/DOH 1900 KANAWHA BLVD EAST CHARLESHON WY 25305	\$1,300,000.	1 EAR 2008	(YES OR NO)
INTERNATIONAL COAL GROUP, INC. 2000 ASHLAND DRIVE ASHLAND, KY 41101	\$1,119,000.00	2008	KES
CITY OF RIPLEY TIM KING, CITY SUPERINTENDENT 203 SOUTH CHURCH ST. RIPLEY, WV 25271	\$1,200,000.	2008	N E S
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18. JOMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOU WERE A. JCIATED WITH OTHER FIRMS (INDICATE PHASE OF WORK FOR WH. A YOUR FIRM WAS RESPONSIBLE)	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
18. JOMPLETED WORK W WAS RESPONSIBLE)	acae awan acar can

DRO TROP NAME WARE					TOWN TON WILLIAM TOOK FIRM
AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED	FIRM ASSOCIATED
GLENVILLE FEDERAL CORRECTIONAL INST. SITE DEVELOPMENT GILMER COUNTY, WV	FEDERAL BUREAU OF PRISONS 320 1 ST STREET NW 500-6 WASHINGTON, DC 20534	\$96,000,000	2003		WLIH BELL JUSTICE FACILITIES
FEDERAL BUREAU OF PRISONS -CANAAN FACILITY - SITE DEVELOPMENT - SCRANTON, PA	FEDERAL BUREAU OF PRISONS 320 1st STREET NW 500-6 WASHINGTON, DC 20534	\$120,000,000	2002	YES	BELL JUSTICE FACILITIES
FAIRMONI STATE COLLEGE - STUDENT DORMITORY SITE DEVELOPMENT- FAIRMONT, WV	FAIRMONT STATE UNIVERSITY 1201 LOCUST AVENUE FAIRMONT, WV 26554-2491	\$6,000,000	2004	YES	VOA ARCHITECTS
FAIRMONT STATE COLLEGE - PARKING GARAGE- SITE DEVELOPMENT -FAIRMONT, WV	FAIRMONT STATE UNIVERSITY 1201 LOCUST AVENUE FAIRMONT, WV 26554-2491	\$4,000,000	2003	YES	MARCH-WESTIN
FAIRMONT STATE UNIVERSITY FEASTER CENTER SITE DEVELOPMENT - FAIRMONT, WV	FAIRMONT STATE UNIVERSITY 1201 LOCUST AVENUE FAIRMONI, WV 26554-2491	\$400,000.	2005	YES	VOA ARCHITECTS
FAIRMONT STATE UNIVERSITY CREATIVE 1201 ARTS AND ENGINEERING TECH BUILDING SITE DEVELOPMENT FAIRMONT, WV	FAIRMONT STATE UNIVERSITY 1201 LOCUST AVENUE FAIRMONT, WV 26554-2491	\$100,000.	2007	YES	DESIGN ALLIANCE OMNI ASSOCIATES

^{19.} USE THIS SPACE TO PROVIDE ANY ADDITIONAL INFORMATION OR DESCRIPTION OF RESOURCES SUPPORTING YOUR FIRM'S QUALIFICATIONS TO PERFORM WORK FOR THE WV ABANDONED MINE LANDS PROGRAM

SEE ATTACHMENT - STATEMENT OF QUALIFICATIONS

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	TITLE: DIRECTOR
	TITLE:
20. THE FOREGOTARY 18 STATEMENT OF FACTS.	SIGNATURE: My England

PRINTED NAME: STEVEN T. ENGELHARDT

TILE: DIRECTOR OF BUSINESS DEVELOPMENT

DATE: DECEMBER 15, 2009