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

Header 4

List View

General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 1257503
Procurement Type: Central Purchase Order
Vendor ID: VS0000028116
Legal Name: KLEINFELDER INC
Alias/DBA:
Total Bid: $7.00
Response Date: 08/29/2023
Response Time: 12:39
Responded By User ID: KleinWV20
First Name: Sami
Last Name: Pretzel
Email: spretzel@kleinfelder.com
Phone: 3042888978

SO Doc Code: CEOI
SO Dept: 0313
SO Doc ID: DEP2400000005
Published Date: 8/9/23
Close Date: 8/29/23
Close Time: 13:30
Status: Closed
Solicitation Description: EOI - 2023 AML Contract N1
Total of Header Attachments: 4
Total of All Attachments: 4

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

State of West Virginia
Solicitation Response

Proc Folder:	1257503
Solicitation Description:	EOI - 2023 AML Contract N1
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2023-08-29 13:30	SR 0313 ESR08292300000001045	1

VENDOR

VS0000028116
KLEINFELDER INC

Solicitation Number: CEOI 0313 DEP2400000005

Total Bid: 7 **Response Date:** 2023-08-29 **Response Time:** 12:39:44

Comments: Additional information relating to Kleinfelder's Abandoned Mines Program has been included as additional information in the attachments.

FOR INFORMATION CONTACT THE BUYER
Joseph E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

Vendor
Signature X **FEIN#** **DATE**

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Enterprise Portal				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

Enterprise Portal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Glosser/Williams Property				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

Glosser/Williams Property

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Miller Mine Drainage				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

Miller Mine Drainage

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Shinnston (Sheppard) Mine Drainage				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

Shinnston (Sheppard) Mine Drainage

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Simpson Creek Highwall, Tipple & Portals, Phase II				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

Simpson Creek Highwall, Tipple & Portals, Phase II

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Weaver Portals and Drainage Phase III				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

Weaver Portals and Drainage Phase III

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
7	West Fork #9				1.00

Comm Code	Manufacturer	Specification	Model #
81100000			

Commodity Line Comments: Pricing not included per EOI Instructions. The number 1 was put in as a placeholder to allow for uploading of documents.

Extended Description:

West Fork #9

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE Attachment "A"

PROJECT NAME	DATE (DAY, MONTH, YEAR)	FEIN
EOI - 2023 AML Contract N1	29, August, 2023	94-1532513

1. FIRM NAME	2. HOME OFFICE BUSINESS ADDRESS	3. FORMER FIRM NAME
Kleinfelder, Inc.	770 First Avenue, Suite 400, San Diego, CA 92101	Century Engineering (Acquired)

4. HOME OFFICE TELEPHONE	5. ESTABLISHED (YEAR)	6. TYPE OWNERSHIP	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
619-831-4600	1961	Individual (Corporation) Partnership Joint-Venture	YES (NO)

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

180 White Oak Blvd, Suite 110, Bridgeport, WV 26330 (304) 984-6443 Samantha J. Pretzel, PE (10)

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM	8a. NAME, TITLE, & TELEPHONE NUMBER – OTHER PRINCIPALS
Louis Armstrong, CEO John Murphy, COO Erik Soderquist, CFO Rita Fordiani, Technical Director	Troy Holloway, VP PA/WV Area Manager 717-901-7055 Samantha Pretzel, Senior Program Manager 304-984-6443

9. PERSONNEL BY DISCIPLINE

461	ADMINISTRATIVE	44	ECOLOGISTS	4	LANDSCAPE ARCHITECTS	52	STRUCTURAL ENGINEERS
14	ARCHITECTS	0	ECONOMISTS	196	MECHANICAL ENGINEERS	70	**SURVEYORS**
68	**BIOLOGIST**	37	ELECTRICAL ENGINEERS	3	**MINING ENGINEERS**	44	TRAFFIC ENGINEERS
40	**CADD OPERATORS**	150	ENVIRONMENTALISTS	0	PHOTOGRAMMETRISTS	959	OTHER
15	CHEMICAL ENGINEERS	0	ESTIMATORS	22	PLANNERS: URBAN/REGIONAL		
223	**CIVIL ENGINEERS**	109	**GEOLOGISTS**				
234	CONSTRUCTION INSPECTORS	0	HISTORIANS	15	SANITARY ENGINEERS	2993	TOTAL PERSONNEL
		15	HYDROLOGISTS				
48	DESIGNERS			117	SOILS ENGINEERS		
43	DRAFTSMEN			10	SPECIFICATION WRITERS		

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 3

***RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.**

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? NOT APPLICABLE

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Qualification Questionnaire".		
NAME AND ADDRESS: AllStar Ecology 1582 Meadowdale Rd Fairmont, WV 26554	SPECIALTY: Ecological studies outside of Kleinfelder's area of expertise.	WORKED WITH BEFORE __X__ Yes _____ No
NAME AND ADDRESS: Terra Testing, Inc. 260 Meadowland Blvd Washington, PA 15301	SPECIALTY: Geo-technical Drilling	WORKED WITH BEFORE __X__ Yes _____ No
NAME AND ADDRESS: Thrasher, Inc. 600 White Oaks Blvd Bridgeport, WV 26330	SPECIALTY: Aerial Survey, LiDAR and Planimetric Mapping	WORKED WITH BEFORE __X__ Yes _____ No
NAME AND ADDRESS: Encarna, LLC 2150 Brandon Trail Alpharetta, GA 30004	SPECIALTY: Bat Surveys	WORKED WITH BEFORE __X__ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE _____ Yes _____ No

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

(YES) Description and Number of Projects: Kleinfelder's personnel listed in section 13 of this attachment documents previous experience with front end watershed assessment, project development, abandoned mine lands remediation, AMD treatment facility design, and mine reclamation engineering for varying regions and types of mining. Specifically, Samantha Pretzel and Brian Osborn are RPEs for mining engineering in the state and have West Virginia specific experience for mine site remediation, reclamation and general engineering related to surface and underground coal operations prior to and while working at Kleinfelder. Additionally, the core team for the Abandoned Mine Program (AMP) at Kleinfelder incorporates the combined knowledge of both AML agency experiences, with engineering design, construction management and operational experience for AML and AMD projects across the region. Total projects related to Kleinfelder's personnel experience is approximately 20 projects. Projects include but are not limited abandoned mine reclamation to facilitate new operations, horizontal drilling program management to confirm abandoned mine works, geotechnical assessment of abandoned mine works for potential subsidence risk, abandoned mine grouting to mitigate subsidence risks, watershed management permitting & site design related to multiple bond forfeiture sites along the Dunkard Creek watershed in Pennsylvania, coal refuse site management and reclamation design, coal mine subsidence investigations and repair plan development, valley fill reclamation design, seep modeling and stability analysis, reclaimed channel design, flood modeling, and contaminant transport modeling.

NO

B. Is your firm experienced in Soil Analysis?

(YES) Description and Number of Projects: Kleinfelder has considerable depth in regards to geotechnical engineering and soil analysis. Services and capabilities range from general site investigations, earth retention designs, slope stability evaluations, and geohazard evaluation. Kleinfelder currently manages multiple extensive landslide repair programs for large energy clients in the greater West Virginia, Ohio and Pennsylvania area. Total numbers of projects exceed 50 in the last 2-5 years. Scope and responsibilities vary from site investigations that include general geotechnical investigation and soils analysis to geotechnical design generation, construction specifications and plan set compilation. Construction oversight is recommended for any geotechnical design performed by Kleinfelder to ensure that the design is installed correctly, and that any field reports and documentation are complete and help mitigate risk to the client.

NO

C. Is your firm experienced in hydrology and hydraulics?

(YES) Description and Number of Projects: Kleinfelder has performed extensive stormwater design, floodplain modeling, surface water modeling, groundwater modeling, hydrogeology and structural geologic analysis conducted for surface and underground active and reclaimed mines. Programmatic coverage for some operations has been developed to reduce risk and support permitting needs depending on the Client and their needs. Approximately 25 projects in the last 2-5 years, varying in budget and schedule for national and regional operations in the Eastern United States.

NO

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

YES Description and Number of Projects:

(NO) Kleinfelder sub-contracts aerial photography/LiDAR mapping to develop contour mapping for projects in the state of West Virginia. While Kleinfelder has in house survey capabilities, aerial photogrammetry and LiDAR is supported by the sub-contractors listed in section 14.

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

(YES) Description and Number of Projects: Kleinfelder staff have worked on multiple domestic waterline design projects, including municipal, private and institutional systems. Projects involved hydraulic analysis, pump sizing calculations, pipeline design and construction oversight for both groundwater and surface water supplies. Staff have been actively involved in 50 projects or more across the eastern United States, a small portion (10 projects) of those were related to the southeastern United States and aquifer degradation because of mining. Currently the Pennsylvania Department of Environmental Protection's Professional Engineering Services (PES) contract which provides free engineering services to rural/smaller water authorities in PA. A portion of this work is related to AML and AMD sites across the coal fields of PA. The contract is currently held by a Kleinfelder subsidiary (Century Engineering, acquired in 2021) and is supported by staff within the WV and PA offices.

NO

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

(YES) Description and Number of Projects: Attached for your consideration is additional information for the core team that supports Kleinfelder's Abandoned Mine Program (AMP). Currently Kleinfelder is in design for the Morris Run ATP Project for the Susquehanna River Basin Commission and the Banning No. 4 Mine Water Treatment Facility Upgrade for Clean Streams/Pa DEP. Both projects are 10+ million gpd facilities that are incorporating functional redundancy and are focused on minimizing O&M costs for the life of the facility. While Morris Run is a brand-new facility to restore 22 miles of the Tioga River, the Banning Facility is a complete upgrade of the existing facility, taking the operations from two treatment plants to a single operational facility to hand a combined flow to overcome the inflows of the Banning No. 4 Mine. Kleinfelder is also a current contract holder for the PA DEP BAMR's and Susquehanna River Basin Commission's on-call engineering services contracts which include both AML and AMD evaluation, design, and construction oversight. While Kleinfelder's specific abandoned mining experience for the region is limited, the core members of the AMP team have considerable experience as it relates to AMD evaluation and abatement design for both active and passive facilities and multiple types of applications.

NO

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Pretzel, Samantha J. Senior Program Manager Abandoned Mine Program	8	17	1

Brief Explanation of Responsibilities

Mining Engineer with 17 years of experience in mining and civil applications, experience varies from initial site assessment/development, environmental permitting for active and abandoned operations, construction management related to industrial and water treatment applications, abandoned mine site reclamation, and refuse disposal, transportation, as well as power/energy related to linear projects and facilities design. Ms. Pretzel's responsibilities include Abandoned Mine Program management, Project Management, Quality and Risk Management, Kleinfelder Mining Community of Practice (CoP) Leader and the current East Division Civil Practice Lead. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)

BS, 2006, Mining Engineering - Surface and Underground Coal Mine Operations & Reclamation
MBA, 2019 Business Administration & Export Management

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Society of Mining, Metallurgy and Exploration	Professional Engineer, 2014, West Virginia
American Society of Civil Engineers	Professional Engineer, 2019, Pennsylvania
National Stone, Sand and Gravel Association	Professional Engineer, 2019, Ohio
American Society of Reclamation Sciences	Other States Available Upon Request

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Clark, Thomas J Senior Scientist AMP Project Development Manager	26	26	0

Brief Explanation of Responsibilities

Senior scientist responsible for water quality, stream biological, and water pollution control techniques, particularly in the passive technologies to treat impacted coal mine water. Mr. Clark also serves as Kleinfelder's Project Development Manager serving as one of the prime contact professionals for clients, and as one of the main scientific report writers within the firm relating to AMD and AML work. Mr. Clark's experience prior to Kleinfelder included 15+ years as the Mine Drainage Coordinator for the Susquehanna River Basin Commission. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)

BS, 1998, Biology – Terrestrial Ecology
MS, 2003, Biology – Aquatic Ecology and Water Pollution Control

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Reclamation Sciences	

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Osborn, Brian M. Project Manager III	26	38	2

Brief Explanation of Responsibilities
Responsible for managing Kleinfelder's staff of professionals to meet the requirements and expectations of each project. Mr. Osborn is responsible for conducting client meetings, schedule and scope management, and ensures that the contract requirements are met. Mr. Osborn's prior experience before Kleinfelder included engineering management and principal in charge for multiple underground and surface coal operations within the north central West Virginia region, additional information included in the appendices provided.

EDUCATION (Degree, Year, Specialization)
BS, 1985, Mining Engineering - Surface and Underground Coal Mine Operations & Reclamation

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer, 1997, West Virginia Professional Engineer, 1996, Pennsylvania Professional Surveyor, 1997, West Virginia Other States Available Upon Request

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Lilly, Clayton C. Senior Professional Permitting Team Lead	1	4	0

Brief Explanation of Responsibilities
Responsible for stream and wetland delineation and aquatic feature assessment. Preparing state and federal applications for Chapter 105 clearance. Coordinating with PADEP and USACE reviewers and staff to provide information to assist with permitting reviews. Assessing and arranging for stream and wetland mitigation where necessary. Oversight of cultural resource surveys, endangered species surveys, and ESA Section 7 clearances as well as PAFBC and DCNR Coordination. Mr. Lilly serves as the permitting and environmental lead for the Morris Run and Banning No. 4 Mine projects at Kleinfelder, ensuring that the permitting requirements and necessary stakeholder engagement for the projects is achieved. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)
MSF, 2018, Forest Hydrology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Freshwater Mollusk Conservation Society	

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Giunta, Mark Senior Principal Professional Geotechnical Lead	2	13	0

Brief Explanation of Responsibilities

Geotechnical Engineer with over 20 years of experience in almost all aspects of soil and rock mechanics. Knowledgeable in site characterization using various geophysical and drilling/sounding techniques, foundation design for shallow and various deep foundation systems, retaining structure and slope design for slides as well as support of excavation, various ground improvement techniques, laboratory analysis, and construction inspection. Additional information has been included in the appendices provided.

Responsibilities include Allentown, PA office management, Project Manager, Geotechnical Engineering Lead.

EDUCATION (Degree, Year, Specialization)

BS, 1999, Geotechnical Engineering, Minor Geological Sciences.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Member - American Society of Civil Engineers	Professional Engineer, 2004, Florida Professional Engineer, 2006, Pennsylvania

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Byer Jr., Robert M. Principal Professional Hydrogeo/Hydrologist	10	38	10

Brief Explanation of Responsibilities

Mr. Byer has more than 36 years of experience managing and conducting diverse projects involving complex hydrogeologic characterizations, soil and groundwater remediation, infiltration studies, groundwater mounding evaluations, remedial alternative optimization analysis, groundwater modeling, brownfield assessments, litigation/expert witness support services, and water supply evaluations. He has provided permit development, groundwater flow model development, aquifer test design and analysis, groundwater fate and transport modeling, and RCRA/CERCLA hydrogeologic investigation services to private and public sector clients. He has modeled complex hydrogeologic regimes to interpret and optimize various remedial scenarios, and applied innovative approaches, where appropriate, to remediation projects. Mr. Byer has had responsibility for regulatory interpretations, negotiations, and training of junior staff in regulatory implementation. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)

BS, 1979, Earth Sciences

MS, 1991, Hydrogeology

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Institute of Hydrology, Application Reviewer Association of Groundwater Scientist and Engineers Pennsylvania Council of Professional Geologists	Licensed Geologist, Delaware Licensed Geologist, Pennsylvania Certified Hydrogeologist

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Pontzer, Aaron J. Senior Professional Abandon Mines Senior Civil Lead	10	17	7

Brief Explanation of Responsibilities

Mr. Pontzer is the abandoned mine drainage treatment system and abandoned mine land reclamation design lead for Kleinfelder. Mr. Pontzer assists the project teams in scope development, technical guidance, O&M and constructability reviews and client interface for mine drainage treatment systems (passive and active) and reclamation of abandoned mine lands. Mr. Pontzer's experience prior to Kleinfelder included working as a Watershed Manager for the PA DEP District Mining Operations. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)

BS 1995, Geo-Environmental Engineering
MS 1997, Engineering – Environmental Pollution Control

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
	Professional Engineer, 2005, Pennsylvania

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Pan, Shugen Senior Principal Professional	10	12	0

Brief Explanation of Responsibilities

Dr. Pan has 22 years of experience in industrial (primarily mining, power, and steel industries) and municipal water and wastewater treatment systems and is the senior process engineer for the AMP team. His projects include treatment process evaluation, feasibility studies, conceptual and detail design, construction phase service, and system start up and performance testing. His expertise includes membrane systems (microfiltration/ultrafiltration/nano filtration/reverse osmosis), conventional coagulation and lime softening processes; (high rate) clarification, multimedia filtration, greensand filtration, ion exchange resin, granular activated carbon/powdered activated carbon technologies. His experience includes disinfection byproduct control, taste and odor control, arsenic, iron, manganese, nitrate and PFAS treatment. His experience also included booster pump stations, chemical storage and feed systems, and fluoridation for treatment plants and groundwater wells. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)

PhD, 2001, Environmental Engineering

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Water Works Association American Academy of Environmental Engineers & Scientists	Licensed Professional Engineer, CA

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Oliver, Eric M. Project Professional Reclamation/Reforestation	4	27	7

Brief Explanation of Responsibilities

Mr. Oliver is the abandoned mine lands reclamation and reforestation specialist at Kleinfelder. Specializing in field investigations, field science and project development for the AMP team. Mr. Oliver is responsible for GIS mapping, drone aviation, spatial analysis, data collection and post processing, with emphasis on reforestation, revegetation, and special reclamation projects. Mr. Oliver's experience prior to Kleinfelder included working for PA DEP's District Mining Operations as a compliance inspector and reclamation lead. Additional information has been included in the appendices provided.

EDUCATION (Degree, Year, Specialization)

BS 1995, Geo-Environmental Engineering

MS 1997, Engineering – Environmental Pollution Control

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
American Society of Reclamation Sciences PA Forestry Association PA Native Plant Society	

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

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Barr, TammyRae D. Project Manager III Civil Design and Land Development	0	34	1

Brief Explanation of Responsibilities

Ms. Barr has over 34 years of extensive land development experience in the Mid-Atlantic region including but not limited to pre-feasibility reviews and constructability assessment, construction oversight, and project and design development related to renewable energy and alternative land use applications.

EDUCATION (Degree, Year, Specialization)

BS, 1989, Civil Engineering – Land Development

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	REGISTRATION (Type, Year, State)
Women's Energy Network	Licensed Professional Engineer, PA, 2000

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

Microsoft Office (Word, Excel, PowerPoint and Outlook)
Microsoft Teams

ArcGIS
AutoCAD Civil 3D
AutoCAD/Carlson Suite
MicroStation

HydroCAD
SED-CAD
HEC-RAS
ICPR

gINT
Plaxis
Ensoft Suite (APile, LPile, GROUP, SHAFT)
GEOStudio Suite (Slope/W, Seep/W, Sigma/W, Quake/W)
RocScience Suite (Slide, RSPile, RocData, Settle3D, Swedge)

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Morris Run ATP AMD Treatment Plant Design and Conveyance Tioga County, PA	PA DEP, BAMR Harrisburg, PA	Full Design Services related to the abatement for 15 MGD treatment facility and associated conveyance.	$65,000,000	60%
Banning No. 4 Mine Treatment Plant Upgrade Westmoreland County, PA	PA DEP, DMO Harrisburg, PA	Full Design Services related to the abatement for 12 MGD treatment facility and associated conveyance.	$30,000,000	25%
Loyalsock AML Site Passive Treatment Site Upgrade Williamsport Area, PA	PA DEP, BAMR Harrisburg, PA	Full Design for a Passive Treatment System Upgrade.	$750,000	5%
Coal to Solar, Feasibility and Conceptual Site Planning, Multiple Sites	Multiple Clients, Confidential	Site Assessment, Desktop Reviews, Geotechnical Investigations, Design, Permitting and Constructability evaluations for potential solar projects on mine lands	Varies $2-50 Million	Varies
FirstEnergy Geo/Site Civil Program, OH, PA, WV, MD and NJ	FirstEnergy Corp Greensburg, PA	Geotechnical Investigation, Landslide Repair Plans & Specifications, Construction Oversight	Varies $350,000 - $5,000,000	On-Call
Antero Resources, Permitting and Compliance Program, WV	Antero Resources Bridgeport, WV	Environmental Permitting and Planning for Compliance and New Construction	Varies $500,000 - $10+ Million	On-Call
Rausch Creek Business Park, Geotech/CoMET Pine Grove, PA	Viridian Partners Highlands Ranch, CO	Geotechnical Engineering, Project still in design development completing assessment of mining operations and potential subsidence risk, and mitigation efforts (if required).	$250,000,000	90%

Texas Quarry – Floodplain Analysis Hunt Valley, MD	Martin Marietta Raleigh, NC	Cross sectional survey for verification of floodplain modeling, conceptual design for mitigation to control flooding adjacent to 200 year old surface/underground aggregate mine. Karst geology present. Subsidence of the stream area is causing ground failures near the edge of existing pit.	$700,000	90%
Clinton Quarry Pond Design Civil/CoMET Clinton, SC	Hanson Aggregates Clinton, SC	Pre and Post Construction surface modeling to facilitate floodplain permits, Construction Oversight of pond/impoundment installation	$250,000	90%
Clinton Quarry Civil/Mine Planning Clinton, SC	Hanson Aggregates Clinton, SC	Overburden Stockpile & Reclamation Mine Plans. Phased civil design for 8.2 million cubic yards of material.	$5,000,000	35%
On-Call Engineering Services for Public Works Somerville, MA	City of Sommerville Somerville, MA 02143	On-Call engineering services for the City of Somerville. Engaged with Client since 2013.	$8,200,000	On-Call
Petro & Refinery Remediation Services United States	Confidential Client	Environmental site assessment, groundwater modeling and monitoring, Remediation and site redevelopment program	$50,000,000	On-Call
Additional Projects can be provided upon request.				
TOTAL NUMBER OF PROJECTS: 12 have been provided		TOTAL ESTIMATED CONSTRUCTION COSTS: Over $200,000,000		

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

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY
					None Provided, Kleinfelder is typically Prime for their projects.

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Flint Run Landslide Mitigation West Virginia	FirstEnergy Corp Greensburg, PA	$5,000,000	2023	In Progress
Dolly Landslide Mitigation West Virginia	FirstEnergy Corp Greensburg, PA	$5,000,000	2022	In Progress
Shelly Company – Quarry Highwall Evaluation and Mitigation Ohio	The Shelly Company Columbus, OH	$1,500,000	2021	YES
Trail Ridge South Mine Surface Mine Permit & Compliance Management Bradford/Clay County, FL	The Chemours Company FC, LLC Wilmington, DE	Mine Permitting Engineer of Record	2020	NO
North Maxville Mine and CR 228 Re-Alignment Surface Mine Permit & Civil Design Baker County, FL	The Chemours Company FC, LLC Wilmington, DE	Mine Permitting Engineer of Record	2019	NO
Charlton Municipal Water System Expansion Contamination Assessment, Remediation, Water System Design & Construction Oversight Charlton, MA	Town of Charlton, MA	$26,400,000	2018-2020	In Progress
Wareham Maple Springs Water Treatment Plant Water Treatment for Iron & Manganese Wareham, MA	The Wareham Fire District (WFD) Wareham, MA	$10,900,000	2018-2020	YES
Folly Hill Tank Chlorine Station System Modeling & Treatment Facility Design Danvers, MA	Town of Danvers Water Department Danvers, MA	$350,000	2020	YES
Additional Projects can be provided upon Request.				

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

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST OF YOUR FIRM'S PORTION	YEAR	CONSTRUCTED (YES OR NO)	FIRM ASSOCIATED WITH
None Provided, Kleinfelder is typically Prime for their projects.					

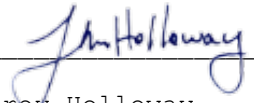
19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the West Virginia Abandoned Mine Lands Program.

Through our diverse history within the mining, environmental remediation and water sectors, Kleinfelder is bringing the depth and level of engagement of an international firm to the local level. We do this through both the firm and the individuals that have been included in our supporting documentation, as well as the pool of resources company wide that are available to support our proposed team. Kleinfelder is proposing to manage the West Virginia Abandoned Mine Lands Program out of our local Bridgeport, WV office that is centralized to the current Agency locations throughout the state, and the proposed projects listed under this submittal. Under the leadership of Samantha Pretzel, PE (17+ years of industry experience in the Northern WV coal fields), Brian Osborn, PE (35+ years of mining industry and reclamation experience) and Thomas Clark (25+ years of AMD and AML project experience), Kleinfelder has positioned itself to not only meet the needs of the Agency but bring a level of quality and fit for purpose solutions to the projects that is supports.

Kleinfelder's over 2900 professional resources spanning a broad range of technical disciplines. We are highly integrated as a workforce, and though we are an international firm, our mantra is "One Company". We bring our most qualified specialists to bear when addressing our clients' needs, regardless of their location. While the geographic diversity of our resources allows us to quickly mobilize to meet project requirements, our One Company culture and use of Web-based collaboration tools allow us to seamlessly incorporate expertise from multiple locations, providing our clients with the most appropriately qualified resources for their specific project needs.

Additional information provided in the appendices attached.

20. The foregoing is a statement of facts.

Signature:  Title: Vice President

Date: August 29, 2023

Printed Name: Troy Holloway

AML and RELATED PROJECT EXPERIENCE MATRIX

PROJECT	Exp. Basis C=Corp. P=Personnel *	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS														PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional					
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Nitigation/ Replacement	Construction Inspection/Managem ent	Water Treatment	Eq;uipment/Structure Removal	Stream Restoration	Geotechnical/Stability						
Morris Run Active AMD Treatment Plant	C	Fact Sheet	M/P	M/P	M/P						M/P	M/P	M/P	M/P		M/P	M/P					
Banning Active AMD Treatment Plant	C	Fact Sheet				P			P		P			P	P							
Dunkard Creek Watershed Management Plan	C	Resume	M/P	M/P	M/P	M/P						M/P	M/P	M/P	M	M/P	M					
Compliance Management for Permitting Portfolio	C	Resume	M/P	M/P	M/P	M/P	M/P		M/P	M/P	M/P	M/P	M/P	M/P	M/P	M/P	M/P					
Prime No. 1 Mine Reclamation	C	Resume			M/P	M/P			M/P		M/P	M/P	M/P	M/P	M/P	M/P	M/P					
Loyalsock	C	Fact Sheet	M	M							M	M	M	M								
Taylortown - WMP Phase 1	C	Resume	M/P	M/P	M/P	M/P					M/P	M/P	M/P	M/P		M/P						

SECTION NOT USED, INDIVIDUAL SHEETS INCLUDED FOR CORE TEAM

*** List whether project experience is corporate or personnel based or both.**

**** Use this area to provide specific sections or pages if needed for reference.**

***** List Primary Design personnel and their functional capacity for the projects listed.**

Attachment "B"

AML and RELATED PROJECT EXPERIENCE MATRIX

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Morris Run Active AMD Treatment Plant	C	Resume			M						M			M		M						
Banning Active AMD Treatment Plant	C	Resume				M			M		M			M	M		M						
Dunkard Creek Watershed Management Plan	C	Resume	M/P	M/P	M/P	M/P						M/P	M/P	M/P	M	M/P	M						
Laurita Trucking & Exc. Reclamation	C	Resume	M																				
National Steel Reclamation	C	Resume	M	M	P	M	M	M				M	M	M									
Concorde Corporation Reclamation	C	Resume	M			M		M				M	M	M									
Warwick No. 3 Mine Reclamation	C	Resume		M/P	M/P			M			M		M		M	M							
Shannopin Mine Reclamation	C	Resume		M/P	M/P	M/P					M/P		M/P	M/P	M/P								

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Bear Run Watershed Renaissance Project	C	Resume	M	M			M				P	M/P	M	M/P		M/P							
Morris Run Active AMD Treatment Plant	C	Resume / Fact Sheet		M							M	M/P		M									
Rausch Creek Mine Pool Eval. & Discharge Trans.	C	Resume		M							M	M/P		M		M							
West B. Susquehanna AMD Remediation Strat.	C	Resume										M/P											
Anthracite Region AMD Remediation Strategy	C	Resume										M/P											
Moshannon Creek Remediation Strategy	C	Resume										M/P											
Loyalsock Creek Treatment System Design	C	Resume / Fact Sheet		M								M/P		M/P									

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Banning Active AMD Treatment Plant	C	Resume									P			P									
Loyalsock Creek (White Ash #3) Passive System	C	Resume				P					P	P	P	P									
PA DEP Watershed Manager	P	Resume	M/P			M/P					M/P	M/P	M/P	M/P									
PA DEP BAMR Project Development	P	Resume	P			P					P	P											

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Morris Run Active AMD Treatment Plant	P	Fact Sheet	P	P							P	P		P		P							
Banning Active AMD Treatment Plant	P	Fact Sheet		P							P	P		P		P							
Eagle Mine Mill Water Treatment Plant	P	RESUME									P	P		P									
Benbow Water Treatment, Stillwater Mining	P	RESUME									P	P		P									

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Attachment "B"

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI DEP24*05

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

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

Addendum Numbers Received:
(Check the box next to each addendum received)

☑ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

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

Kleinfelder, Inc.
Company

John Holloway
Authorized Signature

August 29, 2023
Date

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

ADDITIONAL INFORMATION
EOI – 2023 AML Contract N1

CEOI 0313 DEP2400000005
August 29, 2023

KLEINFELDER
Bright People. Right Solutions.

180 White Oak Blvd, Suite 110
Bridgeport, WV 26330
Phone: 304 984-6443 | www.kleinfelder.com

Manager for the Morgantown Mine Pool AMD Collection and Treatment Project. Brian, developed the concept, designed the system, and managed the operations for lowering an approximately 100-square mile Pittsburgh Coal Seam Mine Pool hundreds of feet, allowing for continued mining while treating the raw mine pool water for discharge improving local waterways.

Thomas Clark, the AMP Senior Scientist, spent the last 16-years serving as the Mine Drainage Program Coordinator for the SRBC managing all levels of abandoned mine remediation projects from AML reclamation to active / passive AMD treatment, refuse removal, and authoring watershed remediation strategies. Mr. Clark was the Project Manager for the Bear Run Watershed Renaissance Project in Indiana County, Pennsylvania. Nine construction phases were completed over a ten-year period which restored large sections of the Bear Run Watershed, a former highly impaired headwater tributary to the West Branch Susquehanna River, to a stream with many segments now protected by Wild Trout and Class A designations.

Aaron Pontzer, P.E. is a new addition to our AMP Program and brings his significant experience as the Watershed Manager of the PA DEP Moshannon District Mining Office (DMO) and as a former AML Reclamation Project Developer with PA DEP BAMR. Mr. Pontzer is serving as AMP's AMD /AML Design Lead and will be managing the technical scope for the Loyalsock Creek (White Ash #3) Passive Treatment System Redesign Project. Aaron also has a wealth of experience in erosion and sediment control, stormwater management, environmental permitting for infrastructure projects, and contract compliance.

Eric Oliver, who served as a Mine Inspector and Mineral Resources Program Specialist with PA DEP's Moshannon DMO, brings his well-rounded technical capabilities to the AMP team. Mr. Oliver brings significant experience in mine reclamation, permitting, compliance, managing bonding and bond forfeitures, working with surety companies on closure, GIS mapping, reforestation and revegetation, soil amendments, and site stabilization. For many years, Eric has served as PA's Liaison to the Appalachian Regional Reforestation Initiative and is considered a leader within the legacy mine reforestation sector.

Resumes for these five managers, as well as all AMP supporting staff can be found in Appendix C of this EOI.

Mine Reclamation / Treatment Projects

As mentioned, KLF is currently contracted by SRBC, and within the 60-Percent design deliverable, for the Morris Run AMD ATP in the Tioga River Watershed. According to PA DEP BAMR personnel, this plant may be the largest AMD-specific ATP in the world upon construction. The design consists of over 8-miles of gravity sewer and forced mains and five separate pump stations to convey raw discharge water to the ATP site and out to strategic treated water effluent points which will maximize stream-mileage gains. At the ATP site, the dual treatment-train plant contains two 90-ton silos, four mixing tanks, and two 112-foot diameter clarifiers to provide acid neutralization and metals precipitation. Sludge generated from the treatment process will be pumped to injection wells back into a strategic section of the deep-mine for storage disposal. Once completed, the Morris Run ATP will treat upwards of 15-MGD.

In addition, KLF was recently contracted by the Clean Streams Foundation (CSF), in partnership with PA DEP BAMR, and the Federal Office of Surface Mining (OSM), to replace the aging and existing Banning No. 4 and Euclid ATPs in Westmoreland County, PA along the Youghiogheny River. KLF's team of professionals, now within the 30-Percent design deliverable, has recommended replacing the existing infrastructure with

the Morgantown Mine Pool AMD Collection and Treatment Project. Brian, developed the concept, designed the system, and managed the operations for lowering an approximately 100-square mile Pittsburgh Coal Seam Mine Pool hundreds of feet, allowing for continued mining while treating the raw mine pool water for discharge improving local waterways.

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a mine-water pumping and treatment facility capable of treating up to 9.4-MGD of degraded mine pool water. The conceptual design also includes a new operations building and three vertical turbine pumps. This allows two on the mine dewatering pumps to be run as part of typical operations as one pump is held as standby for operational redundancy.

Other goals of the Banning No. 4 ATP Project include mine pool elevation maintenance, preventing other surface water breakouts from the mine pool, the treatment of the degraded mine water to very stringent standards, all for the preservation of the water quality of the Youghiogheny River. KLF services to meet these goals include engineering design, potable water engineering, permitting, operations and maintenance, and construction administration.

Just recently, KLF was awarded the contract to redesign passive treatment systems for the two deep-mine tunnel discharges impacting the headwaters of Loyalsock Creek in Sullivan County, PA. These very large flow acidic discharges were treated successfully with two passive systems constructed in the late 1990s. However, efficiency of those systems had begun to wain and slight water quality improvements in the raw discharge water could allow for a much larger percentage of the flow to be treated utilizing new passive treatment technologies. KLF will be redesigning these systems to increase the amount of flow treated at each (500 to 2,000 GPM at the B-Vien Discharge and 300 to 1,500 GPM at the C-Vein Discharge) while creating conditions within that treatment system that minimize thermal pollution of the mine water to improve the cold-water fishery found within Loyalsock Creek.

Additional project details for these three projects can be found in Appendix D of this EOI.

Proposed Methods of Deliverable and Goal Approach

Deliverable 1: Project Management / Administration

KLF's Project Manager and Project Administrator will complete the following tasks in relation to project management and administration during the completion of the Scope of Work (SOW).

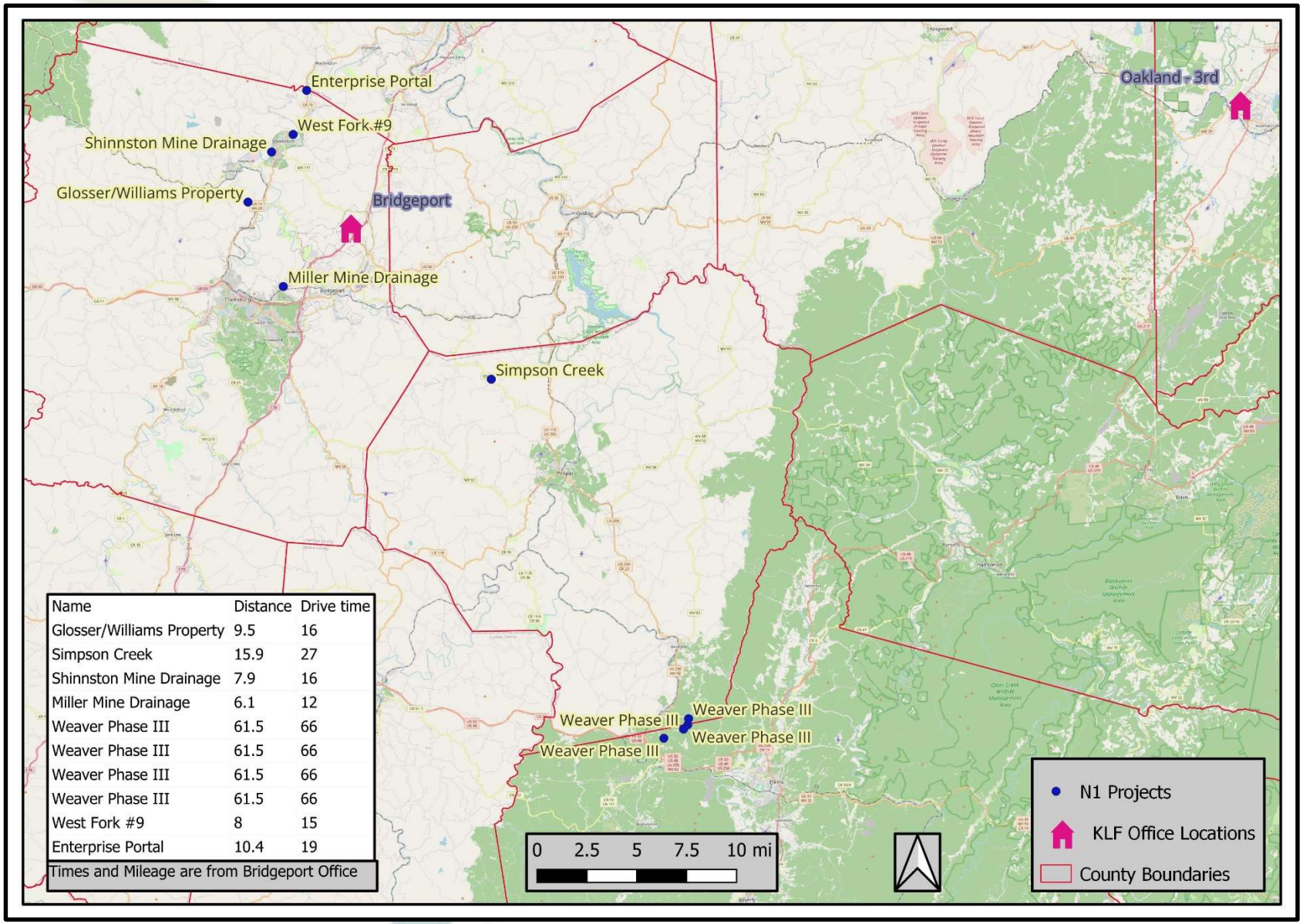
- Complete meeting minutes for all meetings and telephone conversations where project decisions are made throughout the project life cycle.
- Cost updates as required by WV DEP.
- Project schedule development, within two (2) weeks following Notice-To-Proceed (NTP), and updates as required by WV DEP.
- Provide monthly project briefings for the project's life as required by WV DEP.
- Prepare Rights-of-Entry (ROE) agreements between landowner, firm, WV DEP, and OSM.

Deliverable 2: Historical Data Collection and Desktop Analysis

Prior to entering the site, KLF will complete historical background data collection and a desktop analysis for the project in question. Data collection and analysis could include:

- Threatened and endangered species investigation, analysis, and report generation.
- The potential for bat survey needs.
- Site data including items such as highwall length, estimated spoil volumes, historical water quality, deep-mine mapping, historical site pictures, possible site ownership, etc.
- Preliminary terrain imaging, property ownership, and LiDAR mapping.

Figure 1. *Map with WV DEP N1 EOI project locations in relation to near KLF offices in Bridgeport, WV and Oakland, MD.*



Name	Distance	Drive time
Glosser/Williams Property	9.5	16
Simpson Creek	15.9	27
Shinnston Mine Drainage	7.9	16
Miller Mine Drainage	6.1	12
Weaver Phase III	61.5	66
Weaver Phase III	61.5	66
Weaver Phase III	61.5	66
Weaver Phase III	61.5	66
West Fork #9	8	15
Enterprise Portal	10.4	19

Times and Mileage are from Bridgeport Office

Table 1. *WV DEP N1 Projects with Problem Area (PA) Number, PA Acreage, and AML Features to be reclaimed.*

Project Name	PA#	PA Area (acres)	Open Potal	Collapsed Portal	Drainage Design	Dangerous Existing Structure	Access Roads	Mine Pool Drain	Spoil Remediation	Pond Remediation	Dangerous Highwall	Dangerous Slide	Subsidence	Clogged Stream	Trash Removal	Passive System Rehab	Passive System Construction	Hadzerdous Waterbody
Enterprose Portal	WV000155	8.01	x	x	x	x	x											
Glosser / Williams Property	WV000015	18.47			x		x	x										
Miller Mine Drainage	WV004983	4.18		x	x	x	x		x	x	x	x	x					
Shinnston (Sheppard) Mine Drainage	WV007038	0.83			x			x				x						
Simpson Creek Highwall, Tipple & Portals, Phase II	WV001972	870.62	x		x			x	x		x	x		x	x			
Weaver Portals and Drainage Phase III	NA (4 Passive Treatment Systems)	NA														3	1	
West Fork #9	WV001274	2.11	x	x	x								x					

Deliverable 3: Realty / ROE

With the acquisition of CE, KLF now has its own Right-of-Way (ROW) Program that can provide a full range of real estate services to public and private clients that need to acquire property or obtain ROW approvals for public work projects. KLF's staff of professionals has expertise in every phase of ROW process, from preliminary design to property acquisition to construction completion. By providing ROW clearances on schedule, within budget, and in compliance with federal and local regulations, KLF has successfully provided clearance for more than 100 major projects and completed thousands of appraisal assignments. KLF ROW Program anticipates:

- Courthouse research to determine legal property ownership.
- Obtaining exploratory ROEs for KLF, WV DEP, OSM
- Obtaining eventual Construction (ROE)
- Logging all landowner communications
- Property boundary survey data collection and reporting as needed.

Deliverable 4: Site Visit / Project Kick-Off Meeting

Once background data collection, the desktop analysis, and ROE agreements are obtained, KLF will coordinate a Site Visit / Project Kick-Off Meeting between KLF, WV DEP Project Managers and personnel, and the impacted landowners. The goals of the site meeting will be to discuss project scheduling, the historical data collection and desktop analysis completed, and to determine project deliverables and goals allowing KLF to move into field investigations leading to a conceptual design.

Deliverable 5: Survey Information and Geotechnical Investigations

KLF is assuming that LiDAR data, where available, will be sufficient to develop conceptual plans with contours (at two-foot intervals) for the project, additional field verification is assumed for the completion of Items 3 through 6.

- Utilize LiDAR data, where available, to obtain surveying and mapping to develop the conceptual project design plans (2' contours).
- Contact all affected property owners prior to field surveys.
- Locate and map all hazardous equipment or facilities, water features, structures, trails, access roads or any other important feature that will remain, be avoided, or be replaced in kind within the future work area.
- Locate all existing culvert pipes for hydraulic calculations.
- Field-locate all known utilities, including on-lot sewage systems and private water wells. Include one pole beyond the LOD (Limits of Disturbance) for utility alignment purposes.
- Edit mapping topography as needed for storm drains, utility facilities, and field located property corners.
- Geotechnical investigations will be completed to determine the engineering characteristics and surface / subsurface stratification to verify construction material suitability. Geotechnical could include, test pits, drilling / boring, and material sampling and testing.

Deliverable 6: Utilities

KLF has assumed that utility coordination and locates are necessary to minimize potential impacts to the design and construction of the site and will be dependent upon the project. Scope will be confirmed upon NTP and KLF will coordinate the following through to Final Construction Plans.

- Preliminary One-Call to be done and marked on the construction plans.
- Final One-Call required and incorporated into the Final Construction Plans.
- Coordinate any public utility impacts and incorporate the solution into the project.

Deliverable 7: Project Design Plans

KLF has assumed that design plans would be developed in the following order of completion. It is assumed that KLF will provide design deliverables in the standard WV DEP format.

- *Preliminary Design* – Includes conceptual site plan and a brief narrative to convey general understanding and assumptions made during this phase of design. Submitted electronically in PDF format to WV DEP for review. An in-person meeting would be held with one-round of review and revision with WV DEP which would include KLF's Project Team (Principal, Project Manager and Environmental / Civil Lead).
- *Pre-Final Design* –Issue for Bid Documents (IFB) to include drawings, technical specifications, and an engineer's cost estimate. Documents to be submitted electronically in DWG, Microsoft Word, and Excel formats, respectively. One round of review and revision is assumed for the pre-final design package. An in-person meeting with WV DEP will be held to review the document submission, which will include KLF's Project Team (Principal, Project Manager and Environmental / Civil Lead).
- *Final Design* – Includes the Final Design documents which will be signed and sealed by a licensed Professional Engineer in the State of WV. KLF assumes no revisions are necessary during this stage of design.

Deliverable 8: Permitting

KLF assumes that initial desktop assessments will be conducted for each site. Scope will be confirmed upon issuance of NTP, and coordination with WV DEP will be completed prior to any field investigations or delineations are completed. It is assumed that NPDES construction stormwater general permits, USACE consultations, WVDOH encroachment permits, and Department of Health permits may be necessary for the projects included within this submittal.

Deliverable 9: Project Construction Bidding

KLF assumes the following for services related to Project Bidding:

- KLF's PM, Principal and Civil Lead will attend the pre-bid meeting, document questions, and coordinate with WV DEP on responses for distribution.
- KLF offers assistance in reviewing the bids received to assist WV DEP with recommending award of the project to the successful bidder.

Deliverable 10: Construction Services

Upon award of the project to a qualified Contractor, KLF is assuming the following support during construction.

- KLF's PM and / or Civil lead will attend the pre-construction meeting, assisting in answering / documenting all questions discussed on Site.
- KLF will conduct review submittals to determine if the product proposed meets the project specifications, provide revised construction drawings or revised specifications for field adjustments or design modifications deemed necessary by WV DEP, OSM, the Contractor and / or KLF's representative.
- KLF will coordinate on-site construction meetings at an interval determined by WV DEP.
- KLF's PM and / or Environmental Lead will attend the final inspection meeting to ensure that all SOW items have been completed and the site has reached stabilization prior to the Contractor demobilizing from the project.

Summary of Staff Qualification and Experience

Success of a project stems from the commitment of the people dedicated to the goals. KLF's AMP Team, presented in our organizational charts and resumes, represent a multidisciplined group that will work to ensure that all projects are completed as envisioned. This team is supported by a tremendous resource pool of professionals from throughout the WV, PA, MD, and OH area (and beyond) that will aid in providing quality project solutions for WV DEP.

The ability of KLF's AMP to provide the highest level of service with respect to project delivery is derived from having multiple, diverse managers with extensive experience in the delivery of multiple projects concurrently to cover the full spectrum of services anticipated under this agreement. All tasks will go through our Principal, Sami Pretzel, single point-of-contact, to be assigned to managers depending on the scope of services. Our depth of professionals provides us with flexibility and redundancy in service lines and capacity, providing the ability to pivot and provide additional support should priorities or conditions change.

As project assignments under this contract are defined, the project team chosen for each assignment will be carefully planned and consist of experienced professionals that are best suited to ensure the goals of WV DEP are met.

Appendices

A. Kleinfelder Organizational Chart
B. Abandoned Mines Program Flyer
C. Kleinfelder Resumes
D. Kleinfelder Project Fact Sheets
E. Kleinfelder ROW Program Fact Sheet

Appendix A – Kleinfelder Organizational Chart

KLEINFELDER ORGANIZATIONAL CHART

**Indicates WV License*
♦ Resume included

PRINCIPAL / PROGRAM

Samantha "Sami" J. Pretzel, PE* ♦

QUALITY MANAGEMENT TEAM

Troy Holloway, PE
Anthony Dietz, PE

Independent Technical Reviewers
Dingfang Liu, PhD, PE, BCEE
David Clouser

SUPPORTING STAFF
(Multiple Offices within WV, PA, MD)

Project Manager
Brian Osborn, PE* ♦
Joshua Diaz, PE*

Senior Project Engineer
Eric Lundy, PE ♦
Aaron Pontzer, PE ♦

Civil Engineering
Tibben Zerby, PE, SEO ♦
James Pheasant, EIT

Professional Geologist
Jeff Hale, PG ♦
Bob Byer, PG, P,HGW

Construction Inspector
Tom Buynak, PE ♦
Dennis Heggenstaller

Senior Scientist
Tom Clark ♦
Eric Oliver ♦

Wetlands/Permitting
Carissa Byers, CBLP, PWS ♦
Clayton Lilly ♦

Field Technician
Jack Erickson ♦
Michael Nguyen

CADD Operator/GIS Specialist
Jason Wheatley, GISP ♦
Aaron Smith

Geotechnical Specialist
Brittany Mosser ♦
Anthony Null

ADDITIONAL RESOURCES

Survey
Aaron Teets, PLS*
Paul Saylor, SIT

ROW/Easements
Ken Hawker, SR/WA

Water Resources
David Segal, PE
Kristin Caracappa, PE

CFM
Felipe Contreras, PE

Geotechnical Engineer
Mark Giunta, PE
Bruce Stegman, PE*

Environmental/Permitting
Karen Bowman, QP
Ray Orloski

Appendix B – Abandoned Mines Program Flyer

Abandoned Mine Program

KLEINFELDER
Bright People. Right Solutions.

Sami Pretzel, PE, MBA
AMP Principal / Program Manager

17 YEARS OF EXP

- Former coal industry employee specializing in mining and civil engineering, site assessment/ design, permitting, and feasibility studies.
- Experience includes industrial and water treatment applications, mine site reclamation and refuse disposal, transportation, and power/ energy related to linear projects and facilities.
- Kleinfelder's east division civil engineering lead.
- Project Manager for Morris Run ATP.

spretzel@kleinfelder.com
304.288.8978

Brian Osborn, PE
Senior Project Manager/Mining Engineer

37 YEARS OF EXP

- Former coal industry employee specializing in mining and civil engineering, site assessment/ design, permitting, and land/mineral acquisitions.
- Experience includes industrial and water treatment applications, coal and limestone mine design, heavy construction, mine operations, mine site reclamation, coal refuse disposal, loading/unloading facilities, land development, and power infrastructure.

bosborn@kleinfelder.com
304.290.5118

Tom Clark
Project Development Manager

26 YEARS OF EXP

- Former Susquehanna River Basin Commission (SRBC) Mine Drainage Program Coordinator
- Specializing in the development of abandoned mine land reclamation and mine drainage treatment projects.
- Expert in the assessment of mine drainage impacted watersheds and the prioritization of projects.

toclark@kleinfelder.com
814.521.0093

Eric Oliver
Reclamation Specialist

27 YEARS OF EXP

- Specializes in GIS and Mining Reclamation Services
- Experience with Mine Site Compliance, Project Development in relation to abandoned mine reclamation, reclamation design and construction management.
- Former Mining Program Specialist at PA DEP specializing in restoration and revegetation of mine lands.

Aaron Pontzer, PE
AMD / AML Design Lead

24 YEARS OF EXP

- Former Watershed Manager in the PA DEP District Mining Program and former Project Developer for the PA DEP BAMR program.
- Experience in the design, review, inspection, rehabilitation, and management of active and passive AMD Treatment systems.
- Experience in project management, inspection, and design of abandoned mine land reclamation projects.

Mark Giunta, PE
Geotechnical Lead

22 YEARS OF EXP

- Specializes in geotechnical engineering.
- Experience includes slope/slide assessment, subsidence, mine grouting programs, industrial, transportation, and landfill projects, as well as project management, supervision of field and laboratory staff, analysis, report preparation, and construction monitoring.

Tibben Zerby, PE
Civil Site / Conveyance

12 YEARS OF EXP

- Specializes in land development and general site design, stormwater management, erosion and sediment controls, entitlements, and conveyance design.
- Additional experience in stormwater modeling, water and sewar line design and layout, and highway occupancy permitting.

Ray Orloski
Environmental Lead

31 YEARS OF EXP

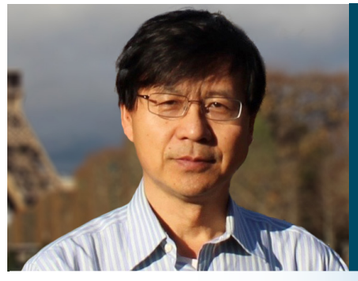
- Managed projects including landfill cap design and installation, sediment sampling, emergency pond dewatering, well abandonment, hazardous waste disposal, soil/groundwater treatment system installation, and residential water treatment system installation.
- Remediation experience with metals, waterline removal/installation, construction management, rare earth elements, and lagoon sediment solidification.

Robert Byer, Jr., PG
Hydrogeology Lead

37 YEARS OF EXP

- Specializes in hydrogeology.
- Experience includes hydrogeologic characterizations, soil and groundwater remediation, infiltration studies, groundwater modeling, brownfield assessments, water supply evaluations, permitting, aquifer test design and analysis, groundwater fate and transport modeling, and hydrogeologic investigations.

Shugen Pan, PhD, PE, BCEE
Process Treatment Lead



21 YEARS OF EXP

- Specializes in industrial and municipal water and wastewater treatment systems.
- Experience includes treatment process evaluation, feasibility studies, conceptual and detailed design, construction phase services, system start-up and performance testing, disinfection byproduct control, taste and odor control, chemical storage and feed systems, and fluoridation.

Kleinfelder in a Snapshot

100

OFFICES IN THE U.S., CANADA, & AUSTRALIA

3,000
Employees

KEY MARKETS

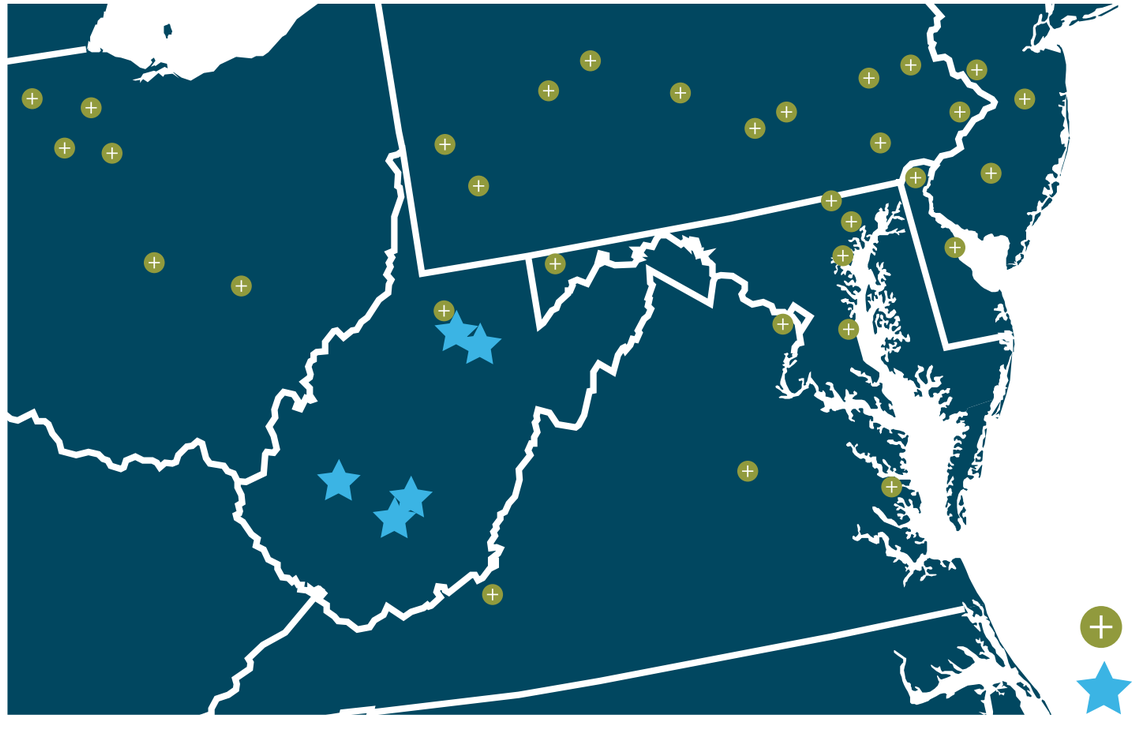
WATER

ENERGY, INDUSTRIAL

FACILITIES, TRANSPORTATION

Kleinfelder has experienced professionals located in offices throughout the Mid-Atlantic, who are planning, designing, and providing construction services for **WATER, WASTEWATER, STORMWATER SYSTEMS, MINE DISCHARGE TREATMENT,** and **MINE LAND RECLAMATION**, including:

- Project Development and Feasibility Studies
- Field Data Collection
- Mine Pool Control and Analysis
- AMD Collection and Conveyance
- AMD Treatment Process Evaluation and Design
- Potable Water System Design
- Retrofit/Rehabilitation of Existing Treatment Systems
- Reclamation Design (CS, CSL, DH, DI, DPE, DS, HWB, P, S, VO, B, GO, H, MO, PI, SA, WA, WS)
- Slope/Slide Assessment and Design
- Independent Technical Peer Reviews
- Ecological Assessments, Planning, and Permitting
- Stream Channel Restoration and Sealing
- Construction Oversight including Resident Engineer, E&S Inspections, and Compaction Testing
- Watershed Assessment and Management
- Subsidence Investigation and Mitigation Plan (Non-Residential)



We are a responsive team of engineers, scientists, and construction professionals providing solutions that improve our clients' transportation, water, energy, and other private infrastructure.

Our ecosystem mindset facilitates collaboration, harnessing the collective ingenuity of Kleinfelder and our partners, to deliver the right solutions to our clients, every day, on every project.

Kleinfelder Office

WVDEP/AML Office

KLEINFELDER
Bright People. Right Solutions.

Appendix C – Kleinfelder Resumes

Years of Experience
17 Years

Education
Bachelors, Engineering, West Virginia University, Morgantown, WV, 2006

Masters, Business Administration, West Virginia University, Morgantown, WV, 2019

Registrations/ Certifications
Professional Engineer (Multiple States)

Professional Affiliations
American Society of Reclamation Sciences

Society of Mining, Metallurgy, & Exploration (SME)

American Society of Civil Engineers

Sami Pretzel, P.E.

Program Manager / Principal / East Division Civil Lead

Ms. Pretzel has 17 years of experience in mining and civil engineering, site assessment and design for energy related projects (mining and power), environmental permitting for infrastructure projects, feasibility studies, contract compliance and project management. She is a licensed Professional Engineer, having current registration for multiple states, including but not limited to Pennsylvania, New York and Maryland. She has experience with projects from initial development to construction management related to industrial and water treatment applications, mine site reclamation and refuse disposal, transportation, as well as power/energy related to linear projects and facilities.

Selected Project Experience

Morris Run Active Treatment Plant (ATP), Susquehanna River Basin Commission, Harrisburg, PA
Ms. Pretzel is serving as the project manager for the design of a 15 MGD water treatment facility for abandoned mine discharge (AMD) water using two 112' diameter clarifiers and a series of reaction tanks to allow for mixing of hydrated lime prior to clarification. The design includes approximately 9 miles of PVC conveyance piping required to convey water to the ATP and to final discharge locations as well as piping to transport sludge resulting from the treatment process to injection wells located a mile north of the ATP. A total of 5 pump stations are being designed to accomplish the project objectives. Kleinfelder is providing all architectural, electrical, and mechanical design services for the pump stations and the buildings at the ATP site.

Banning No. 4 Mine Water Treatment, Clean Streams Foundation, PA
The existing mine water treatment plants at Banning and Euclid Mines are over 50 years old and are to be replaced with one large, centralized mine water treatment plant near West Newton, PA. The project consists of identifying where the large volume mine pumps can be positioned to control the 6.6 sq.mi. mine pool and to develop a customized design to improve the treatment process to reduce or completely eliminate the need for chemical reagents at the new treatment plant.

Fetty Portal Civil Site Design
As Project Manager/Engineer, Ms. Pretzel managed the civil site development of a reclaimed mine water treatment facility near Core, West Virginia. The original site contained a water treatment facility, lime silos, aeration pond and settling ponds prior to being reclaimed by the previous owner. Ms. Pretzel managed the conceptual site layout, subsurface investigations, electrical infrastructure layout and design, ventilation shaft sizing analysis and design, as well as the underground facility design necessary to facilitate haulage of coal and supplies as well as access for employees. Construction of the general site, ponds and stormwater conveyance structures were conducted upon receipt of permit approval and easements for the electrical installation.

Dunkard Creek Watershed Management Plan
As Project Manager/Engineer, Ms. Pretzel managed the conceptual design, project execution, schedule, budget and agency coordination related to the development of a multi-phased watershed management plan along Dunkard Creek in Greene County, Pennsylvania in coordination with PA Department of Environmental Protection and various other agencies. Initial permit strategy coordination, land easements, background studies to evaluate potential abandoned mine seep locations along Dunkard Creek, water collection conceptual design, underground mine mapping, borehole placement, pump

sizing and pipeline design were among the duties completed over the course of the project. Three sites were developed to eliminate AMD seeps that degraded the watershed downstream of the active mine discharge point into Dunkard Creek.

Project Manager Various Sites in GA, AL
Ms. Pretzel has supported a growing program as Project Manager and Engineer of Record for the completion of geologic investigations and mine planning evaluations for multiple properties relating to potential aggregate surface mining properties. Consideration of surface constraints, permitting strategy and general site layout are considered as potential impacts to the feasibility related to each proposed project site.

Project Manager Various Mid-Atlantic Clients
Ms. Pretzel currently performs duties as a Project Manager and Engineer of Record for electrical and natural gas transmission linear projects for various energy clients. Duties have included but not limited to initial project development and feasibility, linear and facility civil design review and certification, completion of construction schedule and engineer cost estimates to assist the client in planning and bidding coordination, project coordination related to design and permitting, and on call support when necessary.

Program Manager Various Sites PA and MD
Ms. Pretzel manages the on-call services for a large coal mining client in the tri-state (MD, WV, and PA) area, completing annual inspections and permit review for the active and/or reclaimed mine sites where permits are still active. Activities include annual pond inspections, permit modification submissions, permit release applications and other tasks related to review and oversight as the Engineer of Record for the current mining permits for both PA and MD.

Years of Experience
26 Years

Education
Bachelors, Biology, University of Pittsburgh, 1998

Masters, Biology, California University of Pennsylvania

Work History
PA DEP Bureau of Abandoned Mine Reclamation
Intern
Ebensburg, PA
1997-2000

California University of Pennsylvania - Research Assistant
California, PA
1998-2000

Independent Watershed Restoration Consultant
Indiana, PA
2000-2007

Susquehanna River Basin Commission
Mine Drainage Program Coordinator
Harrisburg, PA
2007-2023

Kleinfelder Inc.
Project Development Manager, Abandoned Mine Program
Clearfield, PA
2023-Present

Thomas Clark

Senior Scientist / Project Development Manager

Mr. Clark has 26 years of experience specializing in the development of abandoned mine land reclamation and mine drainage treatment projects. Prior to joining Kleinfelder, he served as the Susquehanna River Basin Commission Mine Drainage Program Coordinator for 16 years. He is an expert in the assessment of mine drainage impacted watersheds and their restoration.

Selected Project Experience

Project Manager Bear Run Watershed Renaissance Project – Indiana County Conservation District and Susquehanna River Basin Commission, PA - 2004-2015
Awarded the first ever Watershed Renaissance Initiative (WRI) Grant by PADEP for the Bear Run Mine Drainage Watershed Restoration Project. Nine different reclamation/ treatment projects were constructed including AML reclamation, passive and semi- active AMD treatment systems, coal refuse removal, stream channel restoration, and reforestation. Projects have allowed much of Bear Run to be listed as Wild Trout, with several sections obtaining Class A status.

Morris Run Active AMD Treatment Plant - Susquehanna River Basin Commission and Kleinfelder, PA – 2018 to Present
The Tioga River Watershed is significantly impacted by five (5) abandoned mine discharge (AMD) locations located near Morris Run, PA. Sections of the local streams and 22 miles of the Tioga River to which the AMDs drain have been rendered fishless due to the quality of the AMD water. The primary goal of this project is to design collection and conveyance systems for each of the five (5) AMD locations which will convey the water to a central ATP location in the Town of Morris Run. Water will be treated at the ATP to remove heavy metals and improve other water quality parameters. In addition to improving water quality within the Tioga River, the project will result in improved water quality within the reservoir system and will increase operational flexibility for the USACE. According to PA DEP BAMR personnel, once constructed, the Morris ATP may be the largest AMD specific treatment plant in the world.

Rausch Creek Mine Pool Evaluation and Discharge Transport Project – Susquehanna River Basin Commission, PA – 2014 to 2018
Project entailed completing a feasibility study to determine the most cost-effective method to transport three high flow mine discharges to PA DEP BAMR's Rausch Creek Treatment Plant. The current method of treatment is the collection of the entirety of Rausch Creek for treatment into a 16-MGD capacity ATP. Obviously, that capacity is surpassed significant times of the year rendering Rausch Creek, and its receiving stream (Pine Creek), to still be listed as AMD-impaired. Project preliminarily designed a capture-conveyance of just discharge water to all but eliminate stormwater and the times of ATP capacity exceedance. Project also determined potential utilization of the mine pools as storage mechanisms for low flow augmentation.

West Branch Susquehanna River and Anthracite Region Remediation Strategies – Susquehanna River Basin Commission, PA – 2007 to 2011
The most comprehensive mine drainage restoration plans ever completed for these areas of the Susquehanna River Basin. These remediation strategies are now being used by state / federal agencies and local grassroots organizations to plan future remediation projects and has led to the construction of the publicly accessible online SRBC Mine Drainage Data Portal. The Anthracite Strategy included a plan to construct 10 strategically placed ATPs that would capture much of the AMD loading impacting this eastern area of the Basin. That 10 ATP plan is largely being enacted by PA DEP BAMR utilizing funds entering the state through the IIJA.

Moshannon Creek Sampling Blitz and Remediation Strategy – Susquehanna River Basin Commission and Kleinfelder, PA – 2020 to Present

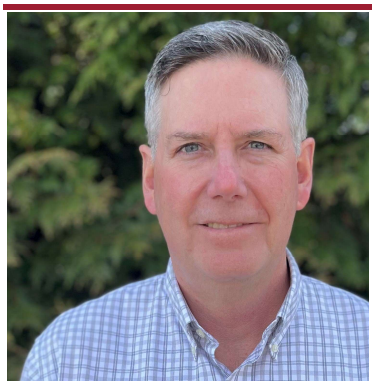
Coordinated and supervised, with the newly established Moshannon Creek Watershed Association, a sampling blitz over a three-day static low-flow period throughout the entire Moshannon Creek that allowed for the first detailed AMD loading analysis of the entire watershed. Moshannon Creek was always looked upon as the "unsalvageable stream" due to the significant coverage of its AMD impacted area. However, upon the sampling blitz loading analysis, it was discovered that only three areas of the Moshannon Creek Watershed were offering most of the AMD loading; discharges around the Borough of Osceola Mills, the Hawk Run Discharge, and the discharges impacting Sulfur Run. Consequently, PA DEP BAMR is now interested in investing funds into these three areas to improve Moshannon Creek with Kleinfelder leading the effort on the treatment of the Hawk Run Discharge.

Loyalsock Creek (White Ash #3) Passive Treatment System Design Project – Kleinfelder, PA – 2023 and Ongoing

Kleinfelder was recently awarded a contract by PA DEP BAMR to redesign two large passive treatment systems on the two largest tunnel-outfall AMD discharges entering Loyalsock Creek from the semi-anthracite region in Sullivan County, PA. Designs will include more effective and easier to maintain discharge captures and bypasses, large upflow flushable oxic limestone drains (OLD), and the installation of flush ponds to capture metal precipitation. Designs will be completed over the next eight months with construction slated to occur in either summer or autumn 2024.

Accomplished Watershed Restoration Grant Proposal Writer – Indiana County Conservation District, Susquehanna River Basin Commission, and Kleinfelder, PA – 2000 to Present

Mr. Clark is an extremely accomplished grant writer for watershed restoration projects with over 50 proposals funded totaling nearly $9 million in awards. Projects funded include watershed assessment and remediation strategies, AML reclamation, passive and active AMD treatment, coal refuse removal, agricultural BMPs, natural stream design and channel restoration projects, mine land reforestation projects, low-flow augmentation, capture-conveyance, environmental education projects, and NPO formation.



Years of Experience
38 years

Education
Bachelors, Mining Engineering, West Virginia University, Morgantown WV, 1985

Registrations
Professional Engineer (PE), No. 49627E, PA
Professional Engineer (PE), No. 13030, WV

Certifications
Professional Land Surveyor, No. 1791, WV

Work History
Mepco, Inc., WV
Chief Engineer
1997 to 2008

Mepco, LLC, WV
Vice President
2008 to 2014

Mepco, LLC, WV
Senior Vice President
2014 to 2019

Mepco, LLC, WV
President
2019 to 2020

WV DEP, WV
Engineer/Senior Engineer
2021 to 2022

Kleinfelder, WV
Project Manager III, Mining Engineer
2022 to Present

Brian Osborn

Project Manager III / Mining Engineer

Mr. Osborn has 38 years of experience in mining and civil engineering, site assessment and design for energy related projects (mining and power), environmental permitting, land and mineral acquisitions, contract compliance, project management and senior management including safety and human resources. He is a licensed Professional Engineer, having current registration for Pennsylvania and West Virginia. He is also a licensed Professional Surveyor, having current registration for West Virginia. He has experience with projects from initial development through operations related to industrial and water treatment applications, coal and limestone mine design, heavy construction, mine operations, mine site reclamation, coal refuse disposal, barge loading/unloading facilities, as well as land development and power infrastructure projects and facilities.

Selected Project Experience

Banning No. 4 Mine Water Treatment, Clean Streams Foundation, PA , From 01/11/2023 To Present

The existing mine water treatment plants at Banning and Euclid Mines are over 50 years old and are to be replaced with one large, centralized mine water treatment plant near West Newton, PA. The project consists of identifying where the large volume mine pumps can be positioned to control the 6.6 sq.mi. mine pool and to develop a customized design to improve the treatment process to reduce or completely eliminate the need for chemical reagents at the new treatment plant.

Morris Run ATP, Susquehanna River Basin Commission, PA, From 11/01/2022 To Present

The Tioga River Watershed is significantly impacted by five (5) abandoned mine discharge (AMD) locations located near Morris Run, PA. Sections of the local streams and 22 miles of the Tioga River to which the AMDs drain have been rendered fishless due to the quality of the AMD water. The primary goal of this project is to design collection and conveyance systems for each of the five (5) AMD locations which will convey the water to a central ATP location in the Town of Morris Run. Water will be treated at the ATP to remove heavy metals and improve other water quality parameters. In addition to improving water quality within the Tioga River, the project will result in improved water quality within the reservoir system and will increase operational flexibility for the USACE.

Project Manager, MSCE, From 5/31/2018 To 12/22/2020

Mr. Osborn performed as the infrastructure Project Engineer for the Mountain State Clean Energy project to develop a 1,500 MW gas fired combined cycle electric generation facility in northern WV. The project involved acquiring gas pipeline right of way, developing the natural gas interconnect, upgrading the electric power supply, and plant civil design.

Mine Operations Expansion Project, PA, WV, From 03/18/2003 To 9/30/2009

Mr. Osborn managed the permitting, land and mineral acquisitions, engineering design and managed major portions of the heavy construction required for the expansion from a 1M TPY to a 2.3 M TPY steam coal operation, including a five (5) mile overland conveyor system, coal preparation plant, new ventilation fan selection and construction, ventilation shaft construction, electrical power improvements, etc.

Dunkard Creek Watershed Management Plan, Greene County, PA, From 03/18/2003 To 12/22/2020
As corporate officer, Mr. Osborn developed the concept, provided management oversight for the project execution, schedule, budget and agency coordination related to the development of a multi-phased watershed management plan along Dunkard Creek in Greene County, Pennsylvania in coordination with PA Department of Environmental Protection and various other agencies. Management oversight included initial permit strategy coordination, land easements, background studies to evaluate potential abandoned mine seep locations along Dunkard Creek, water collection conceptual design, underground mine mapping, borehole placement, pump sizing and pipeline design were among the duties completed over the course of the project. Three sites were developed to eliminate AMD seeps that degraded the watershed downstream of the active mine discharge point into Dunkard Creek.

Morgantown Mine Pool AMD Collection and Treatment Project, SW, PA and WV, From 01/01/2002 To 05/31/2018
As engineering manager for a 2.3MM TPY coal operation, Mr. Osborn developed the concept, designed the system and managed the operations for lowering 2pprox.. 100 sq. mi. of Pittsburgh coal seam mine pools that allowed the active coal operations to continue in a higher coal seam. This project lowered and maintained the Morgantown Mine Pool hundreds of feet, which included Shannopin, Humphrey, Pursglove and Osage Mines located in southwest Pennsylvania and northern West Virginia. The pumping and treatment system was successful, and the active mining schedule was afforded access to all areas without delays to the mining schedule.

Various Mine and Coal Refuse Disposal Area Reclamation Project, SW, PA and N, WV, From 06/01/1987 To 12/23/2020
In various roles and at many former coal mining sites, ranging from conceptual layout, design, permitting, construction, contract management and final reclamation, Mr. Osborn has managed projects that among other things lead to permit releases, full compliance with DEP regulations and reduced operating costs for the owners of the sites. These job sites include Dirt Works, Concorde Corp., Pinnacle Mining, Dana Mining, Coresco, Mepco, Laurita Energy Corp, JAL Mining, General Paving, and Laurel Aggregates.

Years of Experience
24 Years

Education
Bachelors, Geo-Environmental Engineering,
Penn State University,
University Park, PA, 1995

Masters, Engineering - Environmental Pollution Cont.
Penn State University,
University Park, PA 1997

Certification
(PE), No. PE070696, PA

Work History
Blazosky Associates, Inc.
(now BAI Group)
Professional Engineer
State College, PA
2009-2011

PA DEP
Bureau of Abandoned Mine Reclamation
Civil Engineer
Harrisburg, PA
2013-2015

PA DEP
Moshannon District Office
Watershed Manager/ Compliance Specialist
Philipsburg, PA
2015-2023

Kleinfelder Inc.
AMD/AML Design Lead,
Abandoned Mine Program
Centre Hall, PA
2023-Present

AARON PONTZER, PE

AMD/AML Design Lead

Mr. Pontzer has 24 years of experience in environmental and civil engineering, site assessment and design for abandoned mine drainage (AMD) treatment systems and abandoned mine reclamation (AML) projects, erosion and sedimentation control, stormwater management, environmental permitting for infrastructure projects, contract compliance and project management. He is a licensed Professional Engineer in the Commonwealth of Pennsylvania. He has experience with projects from initial development to construction management related to water treatment applications, mine site reclamation, transportation, and power/energy related to linear projects and facilities. He has worked in both the regulatory and private consulting sectors.

Selected Project Experience

PA DEP Moshannon District Office, Watershed Manager
As the Watershed Manager, Mr. Pontzer's duties centered on improving water quality within targeted watersheds impacted by Abandoned Mine Drainage (AMD). He worked on projects to improve water quality for Alternate Bonding System (ABS) Sites and treatment of AMD discharges on bond forfeiture sites. He was responsible for contract execution and oversight of bond forfeiture reclamation projects, Trust Funds, and oversight of contracts for treatment of AMD discharges and the construction and maintenance of mine drainage treatment systems.

PA DEP Bureau of Abandoned Mine Reclamation (BAMR), Project Development
Mr. Pontzer worked with the PA DEP BAMR, Division of Project Development to evaluate civil, mining, and environmental engineering problems to prioritize and develop abandoned coal mine reclamation projects. He planned and performed field investigations of abandoned mine lands to determine the location, extent, and impact of hazards, health and safety problems, environmental degradation, and past mining as it relates to the general public and property owners. This information was used to recommend types of reclamation work and to estimate reclamation costs.

Banning No. 4 Mine Water Treatment, Clean Streams Foundation, PA
The existing mine water treatment plants at Banning and Euclid Mines are over 50 years old and are to be replaced with one large, centralized mine water treatment plant near West Newton, PA. The project includes developing a customized design to improve the treatment process to reduce or eliminate the need for chemical reagents at the new treatment plant. Mr. Pontzer is part of the Kleinfelder project team and his duties include the design of a passive treatment wetland and review of the overall treatment plant design.

Loyalsock Creek (White Ash #3) Passive Treatment System Design Project
Kleinfelder was recently awarded a contract by PA DEP BAMR to redesign two large passive treatment systems on the two largest underground mine tunnel-outfall AMD discharges entering Loyalsock Creek from in Sullivan County, PA. Designs will include more effective and easier to maintain discharge captures and bypasses, large upflow flushable oxic limestone drains (OLD), and the installation of flush ponds to capture metal precipitation. Mr. Pontzer will be involved with the field investigations, collection of water quality and site data, and the design of the treatment systems.

Years of Experience
27 years

Education
Bachelors, Earth Science, Clarion University of PA

Master's Certificate, GIScience, Pennsylvania State University, World Campus

Work History
Re-Klaim Reclamation Service,
Houtzdale, PA,
1985-2000

International Union of Operating Engineers Local 66,
Pittsburgh, PA
2000-2006

Pennsylvania DEP,
Philipsburg, PA
2006-2011 and 2014-2023

GeoTech Engineering Inc.,
Morrisdale, PA
2011-2014

Kleinfelder Inc.,
Centre Hall, PA
2023-present

Eric Oliver

Project Professional

Mr. Oliver has 27 years of experience in mine reclamation, permitting, and compliance. As a Mine Inspector for the Commonwealth of PA DEP, he was responsible for overseeing coal and non-coal mines for adherence to regulations and permitted conditions. He also was part of new mine permitting and revisions to permits under his inspection. As a Mineral Resources Program Specialist, he managed bonding and bond forfeitures. He worked with surety companies to develop special mine reclamation and closure projects. His specialties include mine mapping, reforestation, revegetation, soil amendments, site stabilization, project design and management, and project collaboration. As a member of IUOE Local 66, Mr. Oliver gained a vast amount of training and experience in the construction industry. He held Journeyman status after completing their 4-year apprenticeship.

Selected Project Experience

Round Knob Mine Bond Forfeiture Reclamation Project, Huntingdon County, PA, 2017-2019

Mr. Oliver worked with a mine bond surety company, PA DEP, local watershed groups, and OSM to reclaim a mine that was left abandoned when the mining company filed bankruptcy. The project was complicated by both AMD and AML that needed to be treated and reclaimed. The project was completed with alliances with several NGOs to reclaim the site. This project received an award from the Appalachian Regional Reforestation Initiative (ARRI) for its successful completion.

Flight 93 Memorial Reforestation Project, Somerset County, PA 2017-2023

At the direction of the National Park Service, Mr. Oliver worked to reforest legacy mine land that surrounded Flight 93 Memorial. Many groups were involved with the design, planning, and execution of this project, including the NPS, OSM, PA DEP, Friends of Flight 93, and DCNR Forestry. Over 150,000 trees were planted on over 200 acres. This project has been showcased by several news agencies and other promotional outlets for the reforestation that was completed with all volunteer tree planters.

Altoona Water Authority Kittanning Run Project, Blair County, PA 2021-2022

Mr. Oliver worked with the AWA, PEC, SRBC, GFW and PA DEP BAMR to successfully reforest 188 acres of previously mined land that had been purchased by the AWA. Nearly 100 acres of this project was on land that the BAMR had just completed the backfilling of several thousand feet of dangerous highwall. The remaining portion was on legacy mined land. The focus of the project was to reforest and protect the AWA watershed that serves nearly 70,000 people.

Various Mine Reclamation Projects, throughout PA, From 1985 To 2023

In various roles at PA DEP, Re-Klaim, GeoTech, and at many coal and non-coal mining sites, ranging from conceptual layout, design, permitting, construction, and final reclamation, Mr. Oliver has managed projects that have led to permit releases, full compliance with DEP regulations, and reduced operating costs for the owners of the sites involving both land reclamation and AMD mitigation.

Years of Experience
22 years

Education
Doctorate, Environmental Engineering, University of Kansas, Lawrence, KS, 2001

Registrations
Professional Engineer (PE)-Chemical, No. 6191, CA

Certifications
Board Certified Environmental Engineer (BCEE), No. 10/10006, AAEES

Professional Affiliations
American Water Works Association, From date: 06/01/1998

Shugen Pan

Senior Process Engineer / Project Management / Environmental Engineering

Water Resources - Principal Professional

Dr. Pan has 22 years of experience in industrial (primarily mining, power, and steel industries) and municipal water and wastewater treatment systems. His projects include treatment process evaluation, feasibility studies, conceptual and detail design, construction phase service, and system start up and performance testing. His roles ranged from project/design engineer to process expert leading multi discipline teams in complex treatment plants design. His expertise includes membrane systems (microfiltration/ultrafiltration/nano filtration/reverse osmosis), conventional coagulation and lime softening processes; (high rate) clarification, multimedia filtration, greensand filtration, ion exchange resin, granular activated carbon/powdered activated carbon technologies. His experience includes disinfection byproduct control, taste and odor control, arsenic, iron, manganese, nitrate and PFAS treatment. His experience also included booster pump stations, chemical storage and feed systems, and fluoridation for treatment plants and groundwater wells.

Selected Project Experience

Banning #4 Mine Water Treatment Facility, Clean Stream Foundation, Rostraver Township, PA , From Jan 16,2023 To March, 2024

Project is a new 6500 GPM active treatment plant to control mine pool water elevation and treat the pumps mine water to remove reduce iron and aluminum from the mine water before discharge to the Youghiogheny River. Treatment process include three stage reaction tanks, a flocculation tank and two 112-feet diameter clarifiers. The settled solids are recirculated to the reaction tanks to enhance oxidation and precipitation of the solids. Excess solids are injected into the mine pool. The treatment facility also includes an operations building and polymer make down and feed system.

P-First Solar PGT-4 R&D Facility, First Solar, Inc., Walbridge, OH, From 01-2023 To 08-2023

Design and engineering services for UPW and WWT at First Solar's PGT-4 R&D facility in Perrysburg Ohio. The UPW process consists of softening, granular activated carbon, two pass reverse osmosis, UV-TOC oxidation, and continuous electro deionization (CEDI). The capacity of the UPW system is 300 GPM high purity water. The project also includes a 300 GPM wastewater treatment system, process equipment including raw water storage tanks, pH neutralization tanks, coagulation flocculation clarification system, and filter press for solids processing. The clarified wastewater is filtered with multi-media filter and polished with two stage ion exchange to remove trace level of heavy metals before discharged to the sewer.

SRBC- Morris Run Active Treatment Plant, Susquehanna River Basin Commission, Harrisburg, PA, From 02-2022 To 08-2023

Principal Engineer leading the process design for the 15 MGD ATP of abandoned mine discharge (AMD) water using two 112-foot diameter clarifiers and a series of reaction tanks to allow for mixing of hydrated lime prior to clarification. The design includes approximately 9 miles of PVC force main piping required to convey water to the ATP and to final discharge locations as well as piping to transport sludge resulting from the treatment process to injection wells located a mile north of the ATP. A total of 5 pump stations are being designed to accomplish the project objectives. Kleinfelder is providing all architectural, electrical, and mechanical design services for the pump stations and the buildings at the ATP site.

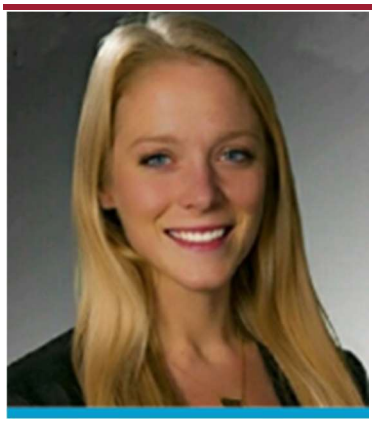
Benbow Water Treatment System, Stillwater Mining Company, MT, From 12/31/2014 To 12/31/2016
Lead process engineer for conceptual and detailed design of the project. The project is a 1000 GPM mine drainage treatment plant for reuse in the mine. Treatment process includes reaction tank and high-rate clarification. The design includes sludge recycling to improve system performance and chemical utilization. Chemicals used in the treatment process include coagulant and polymer. The project also includes a 300 GPM wastewater treatment system with moving bed bioreactor (MBBR) to remove total nitrogen from the wastewater.

Eagle Mine Mill Water Treatment Plant, Champion, MI, From 12/31/2015 To 12/31/2016
Lead process engineer for this project from proposal through conceptual and detailed design, construction, startup and performance testing. The scope of the project is a 2000 GPM water treatment plant to treat tailings pond water for discharge. Primary contaminants of concern in the water are iron, aluminum, arsenic, and heavy metals including mercury. The treatment process includes coagulation, metal precipitation, clarification, and ultrafiltration. All process wastes are recycled to the head of treatment plant. Clarifier sludge is pumped to a sludge holding tank and processed in a filter press for disposal offsite. Chemical systems include coagulant (ferric chloride), dry polymer system, and chemicals for membrane cleaning.

Process Water Treatment System for Novelis Automotive Aluminum Facility, Novelis, KT , From 2018 To 2020
Lead process engineer for the conceptual design, detailed design and construction support of the process water treatment system including raw water equalization tanks, corrugated plate interceptor for oil and grease removal, a Multiflo® clarifier with lime, acid, polymer addition for contaminants precipitation and clarification, and Multimedia filters for solids removal before discharge. Clarifier sludge is further processed with a filter press to produce dry solids for off-site disposal. Filter backwash waste and filter press filtrate are recycled to the head of the treatment system. The project also included two 210 GPM RO units to produce demine water and a process water recovery system consists of multimedia filters and ion exchange vessels to purify a stream of the process waste for reuse. Chemical systems include lime silo and feed system, acid, caustic, coagulant, and polymer systems.

Barnstable, MA- Piloting MDunn-Airpor, Town of Barnstable, MA, From 09/2022 To 04/2023
The KLF team performed a Pilot Study for the Mary Dunn Drinking Water Filtration and Treatment Facilities to address their current water system challenges. Primary contaminant of concern addressed in the pilot testing are Iron/Manganese, and PFAS in the source water. The goal is to provide a system that is reliable and resilient to supply high quality water to the residents for years to come.

Barnstable Straightway and Hyannisport Water Treatment Facilities PFAS Piloting & Pre-Design, Town of Barnstable, MA, From 12/31/2020 To Present
The Town of Barnstable's Straightway and Hyannisport Treatment Facilities serve 4 wells with a combined pumping capacity of 2,700 GPM. However, deteriorating water source water quality requires that these facilities be upgraded with a long-term solution to remove elevated levels of iron, manganese, 1-4 dioxane, and PFAS. Mr. Pan serves as senior for the Kleinfelder team, which completed a treatment technology evaluation, conceptual design, and alternatives analysis to determine the solution that would provide flexibility, resiliency, and cost-effective treatment. Pilot testing included manganese greensand filtration, UV/AOP for 1,4-D removal, and GAC for PFAS adsorption. Due to the change of treatment process, a study to evaluate the impact of corrosion on the existing distribution was conducted. We concluded that the existing corrosion control strategy of feeding ortho phosphate is still valid and will remain as the corrosion control after the new treatment system is installed.



Carissa Byers, CBLP, PWS

Staff Scientist

Ms. Byers is an environmental scientist with extensive experience in leading non-tidal and tidal wetland and waterway delineations in accordance with the 1987 USACE Wetland Delineation Manual and Regional Supplements and delineation reporting and mapping. Ms. Byers has a thorough understanding of wetland/ waterway permitting including State General Permits, USACE TMDL RGP, and Nationwide Permit requirements. She also has extensive experience with restoration/mitigation landscape plan design, contractor procurement/management, material inspections and installation oversight, and post-installation inspections and reporting. Ms. Byers has experience with regulated resource impact analysis, mitigation requirements, conducting jurisdictional determinations and pre-application meetings, regulatory agency coordination including the CBCA Commission; wetland mitigation and stream restoration site selection, design, construction oversight, monitoring and reporting; design plan review; and subcontractor management. Ms. Byers is proficient in ArcGIS, AutoCAD, and Microstation. Additionally, Ms. Byers has used ArcGIS online and Collector for multiple DOT projects. Ms. Byers is motivated, organized, and thorough with attention to detail for project management.

Years of Experience

10 Years

Education

BS, 2012, Biology – Concentrations in Chemistry and Microbiology, Gwynedd Mercy University

Registrations/ Certifications

PWS- Professional Wetland Scientist No. 3206

CBLP, Chesapeake Bay Landscape Professional Cert No. 3-00125

Spotted Lanternfly Certification and Permit No. PA-20200100123 (a regional certification - applicable in PA, MD, VA, NJ, & DE)

MBSS Spring Sampling Certified

Tidal/Nontidal wetland delineation and monitoring in MD, PA, WV, and DE; Certified Biological Stream Survey BMI Sampling Certified (2019)

Selected Project Experience

NPDES Services, MDOT SHA BCS 2010-12B, MDOT SHA, Statewide, MD

Ms. Byers served as the environmental scientist responsible for wetland and waterway delineations, permitting, and agency, client, and subconsultant coordination. Responsible for leading the wetland and waterway delineation; JPA preparation/submittal; and landscape design for NPDES stormwater management and stream restoration projects assisting with resource assessments and permitting. Select projects include: TMDL SWM Retrofit Design in Washington County with final design, H/H, reports, permitting and MOT for 15 new BMPs, Israel Creek Stream Restoration design, wetlands creation, H/H, and permitting for 5,500 LF.

Windy Knolls Wetland Mitigation and Floodplain and Tier II Stream Restoration Site, Clarksville, Howard County Department of Public Works, MD

Ms. Byers served as the environmental scientist responsible for wetland delineations, forest stand delineations, specimen tree identification, function and value assessments, habitat assessments, permitting, agency coordination, JV partner coordination, landscape plans, ground water/soil/vegetation monitoring, and Draft Prospectus. Responsible for generating wetland and stream mitigation opportunity sites utilizing resources including the EPAs Watershed Resource Registry tool, MDE's stream health website and Tier II Waterway mapping, historic and current aerials, and topographic mapping. Performed wetland delineations and significant tree identification. Prepared the JPA package for the geotechnical investigation. Prepared landscape plans.

Broad Creek Outfall Restoration, Anne Arundel County BWPR, Anne Arundel County, MD

Ms. Byers served as the environmental scientist lead for wetland and forest stand delineation, landscape design, County Planning and Zoning modifications, and Critical Area Buffer Management Plan. Kleinfelder supported the Anne Arundel County Department of Public Works with the assessment, design, and permitting for the restoration of approximately 1,350 LF of an outfall and tributary to Broad Creek. The project consisted of upgrades to an existing storm drain

outfall and the construction of a regenerative stormwater conveyance (RSC) system to reduce bed and bank erosion, provide nutrient reductions, and enhance aquatic habitat by providing vertical grade control and flow diversity along the tributary. Responsibilities included wetland and forest stand delineation, permitting, landscape design, County Article 17 modifications, and Critical Area mitigation and coordination.

Prince George's County Outfalls - Group 1, MDOT SHA, Prince George's County, MD
Ms. Byers served as the environmental scientist responsible for wetland and waterway delineations; delineation database creation, permitting, landscape design, and client coordination. Lead scientist for wetland and waterway delineations at seven (7) outfall sites. Prepared wetland delineation memo and mapping for submittal to SHA. Prepared and coordinated JPA packages for submittal to EPD, including impact graphics, Function and Value forms, MDE TMDL Restoration Checklist, and USACE TMDL RGP forms. Addressed comments from SHA and MDE, managed SHA widget geodatabase. Prepared floodplain bench enhancement plantings to satisfy wetland replacement requirements.

Dairy Farm Road and Towsers Branch Stream and Outfall Restoration, Anne Arundel County DPW, Anne Arundel County, MD
Ms. Byers served as the environmental scientist responsible for landscape design, County modifications, and TOYR Waiver Request. Kleinfelder performed a wetland delineation and forest stand delineation in accordance with Federal, State, and local jurisdiction protocols. Coordination was required with the Federal, State, and local agencies to obtain a Joint Federal/State Permit for impacts to wetlands and waterways and County Modifications for impacts to the floodplain, steep slopes, streams, and wetlands.

Raymond Orloski

Program Manager

Mr. Orloski has 32 years of diverse and successful Program and Project Management experience. His remediation experience has included VOC's/SVOC's, chlorinated solvents, building demolition, waterline removal/installation, construction management, lagoon sediment solidification, hexavalent chrome, and rare earth elements.

Years of Experience
32 years

Education
Bachelors, Geology,
University of Pittsburgh,
Pittsburgh, 1991

Work History
Toltest, Inc., PA
Program Manager
1991 to 1993, 1996 to 1999

Groundwater Technology Inc., PA
Project Geologist
1993 to1996

Shaw Environmental & Infrastructure, PA
Project Manager
1999 to 2005

MACTEC Engineering, PA
Project Scientist
2005 to 2008

KU Resources, PA
Project Manager
2008 to 2010

Tetra Tech, Inc., PA
Program Manager
2010 to 2016

AECOM Tech Services, Inc., PA
Deputy Area Manager
2016 to 2023

Kleinfelder, PA
Program Manager
2023 to Present

Selected Project Experience

Williams Atlantic Sunrise – Environmental Inspection
The Williams' Atlantic Sunrise Project is a natural gas pipeline expansion project connecting the northeastern Pennsylvania Marcellus producing region to markets in the Mid-Atlantic and Southeastern states. The project includes approximately 197-miles of new greenfield pipe, two pipeline loops totaling about 12-miles, two new compressor facilities in Pennsylvania, and other facility additions or modifications to allow gas to flow bi-directionally in five states: Pennsylvania, Maryland, Virginia, North Carolina, and South Carolina. Mr. Orloski aids the Project Manager's successful implementation of the project scope, tasks, deliverables, schedule, cost, and safety within the specification of the program and client satisfaction. At a minimum, Mr. Orloski is responsible for; reporting to the AECOM Project Manager for all tasks completed in support of the Project; keeping open lines of communication with the PM to identify any potential issues (e.g., need for additional resources); informed and able to provide the PM update and input on those items they are responsible for owning; providing deliverables in a timely fashion for review and ensuring they meet quality standards prior to PM review; and overall client satisfaction and successful project performance.

SWMU 3 Causeway Landfill Sinkhole Repair, NAVFAC, Parris Island MCRD
Managed the investigation of the source of sinkholes appearing within the causeway landfill roadway which connects the mainland to Parris Island. Raymond managed the underwater inspection of six underwater culverts followed by the preparation of an engineering evaluation / cost estimate that was prepared for the roadway repair activities.

REMACOR, Pennsylvania Department of Environmental Protection (PADEP)
Managed concurrent investigations at the site for rare earth elements, metals, and volatile organics within soils and groundwater. Supervised the radiological survey of nine structures on the site for Radium-226. Effectively coordinated a team of geologists, environmental scientists, and health physicists.

Kwiatkowski Landfill, Pennsylvania Department of Environmental Protection (PADEP)
Mr. Orloski managed the remediation of hazardous waste level of lead within soils and hazardous waste levels of semi-volatile organics within a lagoon. The project involved soils stabilization utilizing MEACTITE for lead stabilization and the use of Zapzorb stabilization material to solidify semi-volatile hazardous waste materials for off-site incineration.

Franklin Glass, Pennsylvania Department of Environmental Protection (PADEP), PA
Managed the remediation of lead, zinc and arsenic occurring within soils. The project involved stream relocation, soil excavation and the installation of riprap to prevent erosion. Effectively coordinated a team of geologists and engineers.

Quaker State Company Remedial Systems Operation and Maintenance, Pennzoil, Western PA and NY
Managed operation and maintenance of 35 remedial systems in western Pennsylvania and New York. Responsible for regulatory negotiation, personnel management, and planning an overall approach to obtain site closure.

CVS Pharmacy, Due Diligence
Mr. Orloski managed a national program of Phase I Environmental Site Assessments, building demolition, asbestos abatement, UST removals, subsurface investigations, and remediation projects for sites involved in real estate transactions. Duties included daily coordination of internal resources, subcontractors, and regulatory negotiation.

Luke's Exxon, Pennsylvania Department of Environmental Protection (PADEP), PA
Mr. Orloski managed the removal and replacement of a section U.S. Route 219 in Brockway, PA. The project involved the removal of impacted soils, waterline replacement, and provisioning of temporary water to residents. Effectively coordinated between state agencies, property owners and subcontractors to finish the project on time and on budget.

North Shore Industrial Development Corporation
Supervised multi-site U.S. EPA funded investigations at projects throughout western Pennsylvania. All sites were characterized through the Phase I ASTM 1527-13 process, followed by the preparation of sampling and analysis plans and finally the completion of field investigation activities. Site closure reports submitted to the U.S. EPA for final approval.

PADEP – GTAC6
Managed a statewide contract for general technical assistance services. Duties included management of internal and external personnel including subcontractors, financial project management and effective communication with PADEP management.

PADEP – IRRSC6 through IRRSC8
Managed Pennsylvania's statewide contract for interim response and remediation services. Projects have included landfill cap design and installation, UST removal, sediment sampling, emergency pond dewatering, well abandonment, hazardous waste disposal, soil/groundwater treatment system installation and residential water treatment system installation. Management of rapid response resources, internal and external personnel including subcontractors, financial project management and effective communication with PADEP management.

Years of Experience
12 Years

Education
Bachelor of Arts, English

West Virginia University, Morgantown, WV:2003

Master of Science, Forest Hydrology – West Virginia University, Morgantown West Virginia: 2017

Registrations/ Certifications
SGA: Env Compliance during Pipeline Construction

SafeLand Training

Stormwater Management for O&G

Qualified Preparer of Stormwater Plans

Work History
West Virginia University
Hydrology Lab Tech
2009 - 2012

The Thrasher Group
Project Manager
2018 - 2021

AllStar Ecology
Project Manager
2012 - 2018 and 2021 – 2023

Kleinfelder, Inc
EP&P Team Lead
2023 - Current

Clayton Lilly
EP&P Team Lead

Mr. Lilly is a Senior Professional with 12-years of experience as an environmental professional, with an emphasis on Clean Water Act Section 404/401 permitting and planning. Currently Mr. Lilly functions as a permitting technical lead and reviewer for projects ranging from natural gas distribution and transmission line replacements, complex warehouse site development projects, and mine remediation and reclamation projects throughout the Mid Atlantic. Mr. Lilly routinely oversees all aspects of permitting, including state level conservation district and regional office coordination as well as federal Endangered Species Act Section 7 and National Historic Preservation Act (NHPA) Section 106 compliance. Mr. Lilly has worked at all levels of environmental permitting and compliance, including stream and wetland delineation, environmental inspection, endangered species survey, permitting, and project / program management.

Selected Project Experience

Natural Gas Distribution, Transmission, Well Pad, & Facility Permitting
Environmental Project Manager responsible for coordinating fieldwork, permitting, and environmental inspections for over 100 Marcellus/Utica Shale natural gas infrastructure and over 200 distribution and transmission line replacement projects. Responsible for the project management of activities associated with erosion and sediment control permitting, CWA 404/401 compliance, USACE regulated stream and wetland impacts, state regulated stream and wetland impacts, stream and wetland mitigation, T&E species consultations/surveys, architectural and archaeological surveys, and driveway and haul route permits. Performed QA/QC oversight on all permitting related deliverables and interacted regularly with all applicable agencies.

Mine Reclamation and Remediation Permitting
Environmental technical lead responsible for permitting scope, planning, and management associated with the Banning ATP and Morris Run Active AMD Treatment Plant projects. Final QA/QC at all stages of project development for deliverables associated with PA Chapter 105 and CWA 404 clearance, including stream and wetland delineations, T&E species evaluations, applicable conservation district and local municipality coordination, evaluating secondary effects of watershed area change, stream remediation and design, stream and wetland mitigation, and coordination with state and federal agencies.

Warehouse Distribution Facility Permitting
Environmental technical lead / manager for 10+ large-scale distribution facilities (warehouse). Responsible for all aspects of CWA 404/401 compliance, stream and wetland delineations, T&E species evaluations, applicable conservation district and local municipality coordination, integrating geotechnical data with hydrologic evaluations of secondary effects of watershed area change, and coordination with state and federal agencies. Worked closely with civil design and agency reviewers for both on-site and off-site stream and wetland mitigation.

Solar Development and Data Center Site Permitting
Environmental technical lead for large scale solar development and data center siting projects. Involved in all stages of project development from initial desktop review of natural resource and municipal permitting concerns to development of risk review analyses. Managed large-scale coordination of T&E bat species, including the creation of Habitat Assessment and Conservation Plans for Indiana and northern long-eared bats with long-term monitoring of bat box conservation

measures. Coordinated USACE jurisdictional determination of aquatic feature status for use in both site planning and permitting.

Biological Assessments

Environmental technical lead for T&E species biological assessments. Noted projects include a biological assessment for candy darter (*Etheostoma osburni)* related to dam removal and replacement for a municipal water supply, and a large-scale freshwater mussel survey to assess species habitat, distribution and diversity on the Tennessee River for a bridge replacement project. Responsible for task management, survey design, USFWS coordination, and all reporting QA/QC.

Years of Experience
28 Years

Education
Bachelors, Earth Sciences, Pennsylvania State University, 1993

Masters, Geology, University of Akron, 1995

Masters, Engineering Management, Point Park College, 2008

Registrations/ Certifications
Professional Geologist (PG), No. PG003780E, PA

Professional Affiliations
National Ground Water Association

Point Park University, Pittsburgh, PA, Assistant Professor - Natural Science and Engineering Technology

ASTM International, Subcommittee Chair

Point Park University, Pittsburgh, PA, Advisory Board Member - Environmental Studies Graduate

Interstate Technology & Regulatory Council

Jeff Hale, PG

Professional Geologist

Mr. Hale is a registered Professional Geologist in Pennsylvania with 27 years of hydrogeology consulting experience, during which time he has been an active member of the National Ground Water Association. He served as past Hydrogeology Practice Leader at Kleinfelder, responsible for the quality, training, and expertise of the Hydrogeology Practice. In this role, Jeff directed and mentored dozens of hydrogeologists throughout the United States, Canada, and Australia. Mr. Hale provides senior hydrogeologic support and mentoring throughout the company for projects involving aquifer testing and analysis, quantitative hydrogeology, contaminant hydrogeology, groundwater flow modeling, fate & transport modeling, and litigation support. He has conducted hydrogeologic work in multiple geologic settings, including glacial deposits, alluvium, fractured bedrock, and coastal sediments throughout Pennsylvania, the United States, and internationally, interfacing with multiple regulatory agencies including PADEP.

Selected Project Experience

Groundwater Remediation, CERCLA/RCRA Chemical Manufacturing Facilities, PA

Mr. Hale was a Project Hydrogeologist responsible for a groundwater remediation project involving two adjacent former chemical manufacturing facilities (regulated under CERCLA and RCRA, respectively) within U.S. EPA Region 3 (Pennsylvania) from initial pilot testing to full-scale implementation. Responsibilities included: supervision of pilot scale pumping tests; designing groundwater recovery wells; supervising recovery well installation; coordinating/interfacing with engineering personnel to integrate recovery wells with remediation system components; and hydrogeologic presentation to U.S. EPA Regional Administrator to demonstrate effectiveness of full-scale operating system.

Environmental Assessment & Remediation, Former Wood Treating Company

Hydrogeologist/Project Manager responsible for groundwater investigation and natural attenuation assessment activities at a former wood treating facility. Groundwater hydrogeology was complicated by the interaction of an alluvial aquifer above an abandoned coal mine. Supervised interim remedial action for soil. Soil remediation involved excavation of 1,300 tons of soil impacted with PAHs. The project was conducted using a residual risk approach. Soil characterized as a “hot spot” was removed to achieve an acceptable cumulative excess lifetime cancer risk.

Multiple Former Creosote Wood Treating Facilities, Nationwide

Mr. Hale has conducted hydrogeologic investigations and supported the remediation of numerous former wood treating facilities impacted with creosote DNAPL and associated dissolved-phase constituents (e.g., BTEX and PAHs). These facilities are located throughout the United States, occur within various geologic terrains (e.g., glacial deposits, alluvium, fractured bedrock, and coastal sediments), and are regulated under various state-lead remediation programs, CERCLA, and RCRA. Specific activities conducted by Mr. Hale included DNAPL physical property testing, hydrogeologic characterization, conceptual model development, fate & transport modeling, phase-separated liquid recovery, and soil remediation. Mr. Hale directed the investigation of complex hydraulic conditions associated with an underlying coal mine, performed fate and transport modeling, conducted natural attenuation assessments, and supervised soil remediation at a former creosote wood treating site in

Pennsylvania where he successfully solved and explained the complex conceptual site model to the PADEP to progress the Site toward closure. Mr. Hale was responsible for the groundwater assessment, remedial design and implementation for groundwater recovery wells and sumps to recover DNAPL and alleviate groundwater head behind a sheet-pile barrier wall intended to prevent the seepage of creosote DNAPL into and adjacent river in NH. He was instrumental in developing a Groundwater Fate & Transport Evaluation Report for a former creosote wood treating site in Texas that was regulated under CERCLA.

Water Sourcing Evaluation, Energy Exploration Company, WV

Mr. Hale conducted a water resourcing evaluation to support hydraulic fracturing for natural gas exploration in the Marcellus Shale of West Virginia. The study determined that the Ohio River and flooded abandoned coal mines represent potentially prolific sources of water for hydraulic fracturing. Other potential sources include lesser streams and tributaries that traverse the state and groundwater sources in bedrock and alluvium. A cost-logistical- benefit analysis was conducted for each of these sources. The key finding of the study is that flooded abandoned coal mines represent potentially abundant sources of water that may be viable depending on proximity and water quality. There is greater overlap of abandoned coal mine areas with shale gas drilling locations in southern West Virginia, and the mine water quality tends to be better. An optimization framework was prepared to guide the client's regional water sourcing strategy. The framework considers water quality, quantity, proximity, cost, logistics, environmental considerations, and stakeholder concerns. The study was presented in the water resources track of the Alberta Oil Sands and Heavy Oil Technologies Conference.

Years of Experience
31 Years

Education
Bachelors, Civil Engineering, Pennsylvania State University, 1989

Registrations/ Certifications
1995, PE, PA, No. PE048121E

1995, PE, MD, No. 53846

SRBC – Water Resource Management

Considerations for Public Water Supply Managers, 2017

Chapter 102 – NPDES Training, 2016

Groundwater Rule – 4-log Demonstration Training, 2012

Bureau of Oil and Gas Management 2010

Industry Training, 2010

Geosynthetics BMPs for Stormwater Management, 2010

Eric Lundy, PE
Senior Project Engineer

Mr. Lundy has hands-on experience in several areas of the civil engineering discipline. Mr. Lundy has experience in subdivision and land development working with private entities in developing sites for residential and commercial uses and municipal entities in developing sites for public/ infrastructure uses including public drinking water and public wastewater collection, distribution, and small treatment systems. He is familiar with the project design, permitting, funding, construction and community coordination requirements for these types of projects. His experience includes, site, access, street, parking and utility systems design and layout, stormwater and erosion control design and associated NPDES permitting.

Selected Project Experience

Tallyrand Park
Project Manager/Engineer. Engineering consulting services related to the determination of flood volumes, water surface elevation and impact to waterways resulting from the Borough's desire to install a donated pedestrian bridge across the stream outfall of the Big Spring located in the Borough's Talleyrand Park. Our services included a hydrologic/hydraulic study, 100- year flood calculations associated with bridge design, and site development associated with the bridge installation.

Centre Hall Borough
Project Manager/Engineer. Hydrologic/hydraulic study to determine the feasibility of installing inlets and replacing an existing storm sewer system to reduce flooding issues and the possibility for sinkhole formation. Kleinfelder has provided municipal services for Centre Hall Borough for over 10 years.

College Township, Centre County, PA
Project Manager/Engineer. Hydrologic/hydraulic feasibility study focused on developing options and recommendations to address stormwater run-off issues in previously developed areas of the Township. The study involved researching previous designs and historical data related to the existing stormwater detention and conveyance facilities located in the drainages identified by the Township, performing engineering calculations to determine run-off volume and rate for various storm events and conducting field/survey visits at the identified sites to determine the likely cause of the stormwater run-off issues. These performed services were used to develop potential solutions to address the identified stormwater run-off issues. These stormwater facilities were either undersized, not constructed per the approved design or not properly maintained, resulting in the creation of stormwater run-off issues and citizen complaints. The study was used by the Township to develop an approach to address the stormwater run-off issues.

Burkholders Country Market, Penn Township, Pennsylvania
Project Manager and Engineer. This land development project encompassed a 15,000-square-foot grocery store addition land development. Services included the design of roads, parking lots, stormwater management, erosion and sediment control, and grading. Additional tasks included boundary, topographic survey, and the construction stakeout for this project. This project included many phases wherein the owner expanded the initial footprint of the building. Permits included NPDES for stormwater discharges, PADOT HOP, and on-lot sewage planning and permit.

Centre Hall Fire Company New Hall, Centre Hall, PA
Project Manager and Engineer. Design and permitting, including the NPDES and local zoning and land development approvals and permits, for the site development of a 50-foot by 125-foot fire hall with attached 80-foot by 144-foot garage. Development included two new entrances, a public water line extension, public sewer connection, parking areas, and grading for future expansion of the facility. This project has secured funding and is currently under construction.

Centre Hall Fire Company – New Fire Hall, Centre Hall, PA
Project Manager/ Engineer. Design and permitting, including the NPDES and local zoning and land development approvals and permits, for the site development of a 50’x125’ fire hall with attached 80’x144’ garage. Development included two new entrances, a public water line extension, public sewer connection, parking areas and grading for future expansion of the facility. Project is currently awaiting funding approvals for construction.

Mifflinburg Bank and Trust, Penn Township, PA
Project Manager and Engineer. This 7.2-acre new banking facility and land development project included the design of roads, parking lots, stormwater management, erosion and sediment control, grading, and the on-lot sewage disposal. Permits included PennDOT HOP.

Years of Experience
12 Years

Education
Bachelors, Biological Engineering,
Pennsylvania State University, 2014

Registrations/ Certifications
2020, PE, PA, No. PE091751

2016, Certified Sewage Enforcement Officer, No. 03946

2017 Onsite Wastewater Megaconference – Large Onsite Systems

2017 PennDOT – Highway Occupancy Permits – Utility Facilities

Tibben Zerby, PE

Professional Engineer

Mr. Zerby has first-hand experience in residential and commercial land development projects, especially related to stormwater and erosion and sedimentation control design as well as sewage planning and on-lot septic systems. Mr. Zerby is also familiar with water and sewer line design and required permitting, including PennDOT highway-occupancy permits. His experiences include stormwater and erosion and sedimentation best management practice designs, stormwater modeling, waterline design, sewer line design and layout, highway occupancy permitting, ADA curb ramp design, and sidewalk layout. Software experience includes VTPSUHM, HY-8, and AutoCAD.

Selected Project Experience

Miles Township Water Authority, East Waterline Replacement Project, Centre County, PA
Project Engineer responsible for the plan preparation and design for waterline layout. Obtained project-associated permits, including General Permit 5-Utility Line Stream Crossing, PennDOT Highway.

Hazelton City Authority to Stockton Waterline Extension Project
Project Engineer completed waterline design and layout for the 1.2-mile waterline extension and obtained all project associated permits including: Individual NPDES permit, Erosion and Sedimentation Control Approval, Highway Occupancy Permit, General Permit-5 Utility Line Stream Crossing. Attended public meetings to discuss project scope and impact, as well as field survey work to locate existing features and build base mapping for the project.

Morris Run Active Treatment Plant (ATP), Susquehanna River Basin Commission, Harrisburg, PA
Project Engineer, The Tioga River Watershed is significantly impacted by five (5) abandoned mine discharge (AMD) locations located near Morris Run, PA. Sections of the local streams and 22-miles of the Tioga River to which the AMDs drain have been rendered fishless due to the quality of the AMD water. The primary goal of this project is to design collection and conveyance systems for each of the five (5) AMD locations which will convey the water to a central ATP location in the Town of Morris Run. Water will be treated at the ATP to remove heavy metals and improve other water quality parameters. In addition to improving water quality within the Tioga River, the project will result in improved water quality within the reservoir system and will increase operational flexibility for the USACE.

Pennsylvania State University Main Campus Sanitary Sewer Survey
Engineering Intern/Project Engineer, aided in a campus wide survey of all sanitary sewer manholes. Documented manhole construction and conditions, invert elevation, pipe sizes and material, located manholes via conventional survey methods. Data was reduced and organized into appropriate segments and logged into Microsoft Excel for importation into facilities GIS software. Hard copies of all manhole photos and descriptions were also compiled.

The Gates Townhome Engineering Review Services
Project Engineer, completing progress reviews for National Penn Bank Corp. funded townhome site and building construction activities. Conducted site visits of the townhome construction, documented progress to date, compiled reports of the current progress with site photos and made recommendations for funding of the construction activities.

PA DEP Chapter 94 Reporting
Project Engineer, review of yearly data for several municipal wastewater treatment plants, compile yearly maintenance, sludge hauling receipts and data reduction, and build reports including flow and organic charts with yearly flow to be submitted to PA DEP for review and approval.

Powdr-Woodward, PA LLC Land Development
Project Engineer, worked on land development projects including the addition of 13,000 SF activities building, multiple cabins, outdoor skate park, obtained project associated permits including: PA DEP Sewage Planning Module, NPDES permits, zoning permits, etc. Completed plan preparations, represented client at municipal meetings, and worked with builders through construction.

Foxdale Village Corporation Land Development
Project Engineer, worked on land development projects including the building and site renovations including layout of a 64-stall parking lot, associated stormwater controls, lot consolidation plan, erosion and sedimentation control documentation, sidewalk and crosswalk design, campus stormwater design and other campus updates.

Penns Valley Area School District Building Additions Sewer Planning Department Special Study
Project Engineer conducted a study of the possible options for handling sewage generated from the school's buildings. Several options were studied based on general, economical, and operational feasibility and environmental impact. Cost estimation was completed for the final options and a final recommendation was ultimately delivered to PADEP for final review.

Appendix D – Kleinfelder Project Fact Sheets

Banning Mine No. 4 Treatment Plant Upgrade and Reclamation Concept Design

The Banning and Euclid Active Treatment Plants located in Westmoreland County, Pennsylvania, were selected for replacement. The Banning Mine No. 4 water treatment plant was constructed circa 1966 and ceased active operations in the 1980s.

PROJECT RESULTS

While still in the design phase of the project, it is expected that construction of the new treatment plant and other upgrades will begin as early as July 2024, with full commissioning as early as November 2025. With expanded capacity and attention to modern standards, the new facility will protect the waters of the Youghiogheny River and continue to function for many years.

Location:
Rostraver Township, Pennsylvania

Owner:
Pennsylvania Department of Environmental Protection

EXISTING CONDITIONS AND CHALLENGES

The Banning Mine water treatment plant serves an important purpose in collecting mine water from the underground pool for treatment to allow suspended solids and metals to be removed to meet effluent limits. To prevent a surface breakout, the mine pool must be maintained below a specified elevation, and the infrastructure must include redundancy of equipment to limit plant downtime.

RECOMMENDATIONS AND GOALS

Kleinfelder's team of professionals recommended replacing the existing infrastructure with a mine water pumping and treatment facility having a capacity of 6,500 gallons per minute. The conceptual design includes a new operations building and three vertical turbine pumps. This allows two of the mine dewatering pumps to operate during normal conditions while one pump remains on standby.

The flood plain of the Youghiogheny River constrained the new plant locations and required that additional fill was needed to raise the plant and pump operations pads to prevent flooding.

Goals of Kleinfelder's design included maintaining the level of the mine pool, preventing surface discharges from the underground mine pool, meeting or exceeding the required effluent limits, and ultimately preserving the water quality in the Youghiogheny River. Throughout the process, Kleinfelder will provide a variety of services, including engineering, operations, permitting, maintenance, and construction administration.

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The Kleinfelder Difference

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Our diverse staff of geotechnical, civil, and materials engineers, as well as earth scientists and computer specialists provides a wide range of technical resources and a depth of professional experience to fit our clients' project requirements. Our diverse geography provides an added benefit of local experience, which results in cost-effective and timely service.

105+
OFFICES IN THE U.S., CANADA, AND AUSTRALIA

3,000+
EMPLOYEES
COMET - 250+
GEOTECHNICAL - 160+
CIVIL ENGINEERING - 360+

KEY MARKETS

WATER

PRIVATE SECTOR (ENERGY, FACILITIES, INDUSTRIAL)

PUBLIC SECTOR (STATE, LOCAL, TRANSPORTATION)

KEY CONTACTS

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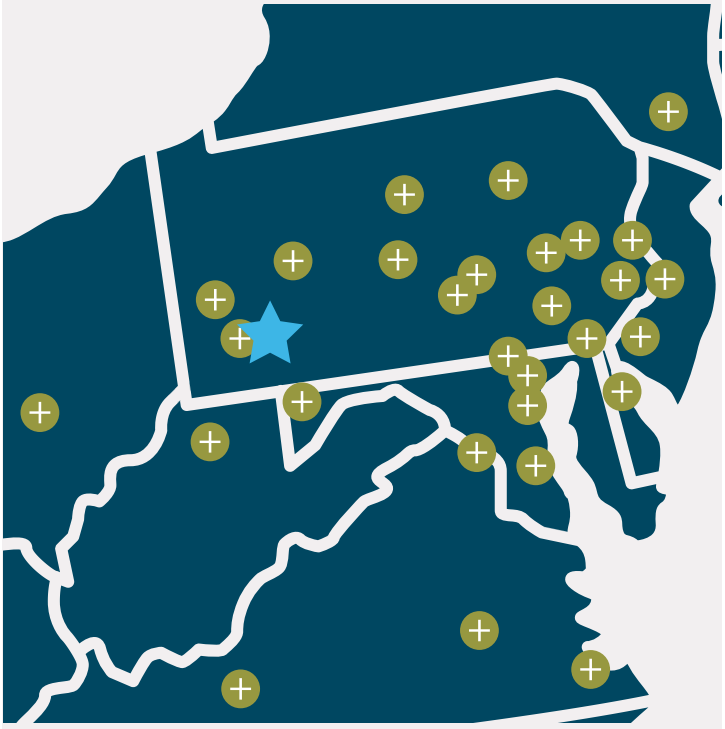
LOCATIONS



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Banning Mine No. 4 Project Site

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Loyalsock Creek Passive Treatment Plant Redesign

The headwaters of Loyalsock Creek are a high-quality major sub-watershed to the West Branch Susquehanna River. The waters are impacted by two mine tunnel drainage discharges, which supply a significant level of acidity. Treatment systems designed and constructed in the 1990s resulted in some success in treating the discharge waters, but have been deteriorating in efficacy over time.

PROJECT RESULTS

The Loyalsock Creek Passive Treatment Plant is currently in the design phase, with plans to complete designs by early 2024 and begin construction by late 2024.

Treatment of large flows will decrease the aluminum concentration and, most notably, increase the pH and alkalinity concentrations in Loyalsock Creek, which will improve the mainstream fishery.

Location:
Sullivan County, Pennsylvania

Owner:
Pennsylvania Department of Environmental Protection

PLANS FOR NEW TREATMENT INFRASTRUCTURE

To correct the deteriorating infrastructure, Kleinfelder was selected to design two new passive treatment systems for the mine water discharges. The new treatment facilities will treat higher rates of discharge and will offer easier operations and maintenance for the plant operator.

CHALLENGES AND GOALS

Adequate design of a new treatment solution provided three significant challenges:

- The need to design a passive water treatment system that can treat higher volumes of influent than systems built in the 1990s
- Loyalsock Creek is a cold-water fishery, resulting in the need to discharge treated effluent that will not thermally impact the cold water fishery
- The need to improve and/or create a passive treatment system that is easier to operate and maintain for the operator

Kleinfelder's proposed design includes an improved flow distribution box at the B-vein tunnel discharge. This improvement will capture and treat higher flows, allow for high flow bypass, and will create an easier method for handling possible sediment issues during high-flow events. This will provide treatment of flows up to 1,000 gallons per minute, with piping that will allow for an increase up to 2,000 gallons per minute.

At the C-vein discharge, Kleinfelder has proposed a new discharge catchment system to minimize sediment from entering the system. Conversion of the current pond to an upflow oxic limestone drain will allow for inflow up to 1,500 gallons per minute (an increase from 300 gallons per minute, currently).

Additional proposed features include a flush pond to be used as a storage mechanism for high-flow sediment. Treated waters will also be kept within limestone and pipes as much as possible to help mitigate thermal pollution.

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PUBLIC SECTOR (STATE, LOCAL, TRANSPORTATION)

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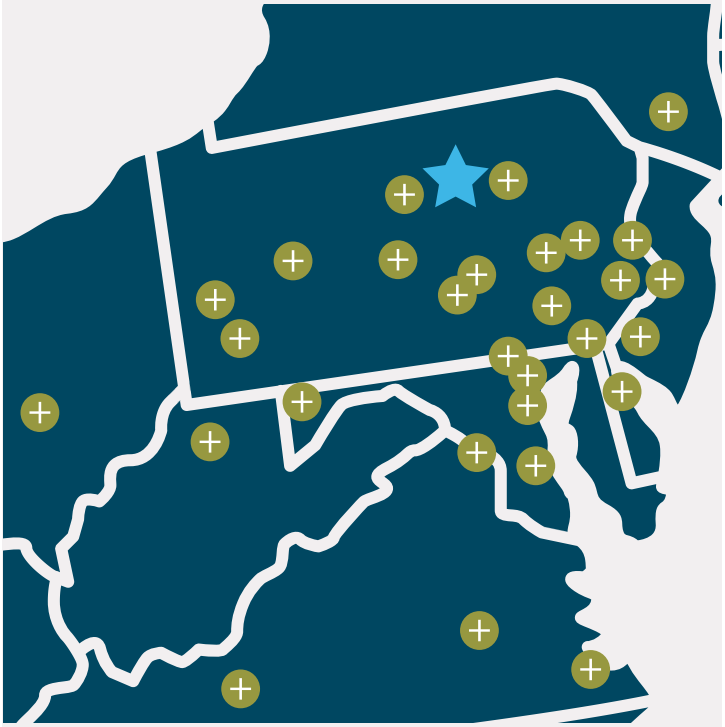
LOCATIONS



Kleinfelder Office Location

Loyalsock Creek Project Site

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Morris Run Active Treatment Plant Facility Design

The Morris Run Active Treatment Plant will collect abandoned mine drainage water and provide treatment using a high-density sludge process. Treated water will be returned to local tributaries of the Tioga River and mitigate existing water quality impairments.

PROJECT RESULTS

This project is currently still in the design phase. The goal of the project is to restore the ecological habitat and fish populations of the Tioga River and Tioga Lake. Among the services contributing to this goal, Kleinfelder provided wastewater treatment design, environmental permitting, geotechnical services, and public engagement.

Location:
Morris Run, Pennsylvania

Client:
Susquehanna River Basin Commission

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AN IMPACTED WATERSHED

The Tioga River Watershed is significantly impacted by five abandoned mine discharges. The discharges have rendered sections of the streams they discharge to and 22 miles of the Tioga River and several tributaries fishless, and impact the operations and water quality of the U.S. Army Corps of Engineers' Tioga Reservoir. Improved water quality at Tioga Lake could allow for low-flow augmentation management during drought periods for Tioga River users in Pennsylvania and Southern New York.

TREATMENT FACILITY SOLUTION

Kleinfelder is in the process of designing more than eight miles of gravity sewer and force mains and five separate pump stations to convey water to the active treatment plant site. At the treatment plant site, four mixing tanks and two 112-foot diameter clarifiers are planned to provide acid neutralization and metals precipitation. Sludge generated from the process will be pumped to injection wells one mile north of the treatment facility and treated water will be returned to local streams.

Once completed, the Morris Run Active Treatment Plant will include five discharges with a maximum flow of 15 million gallons per day, potentially making it one of the largest abandoned mine discharge plants in the world.

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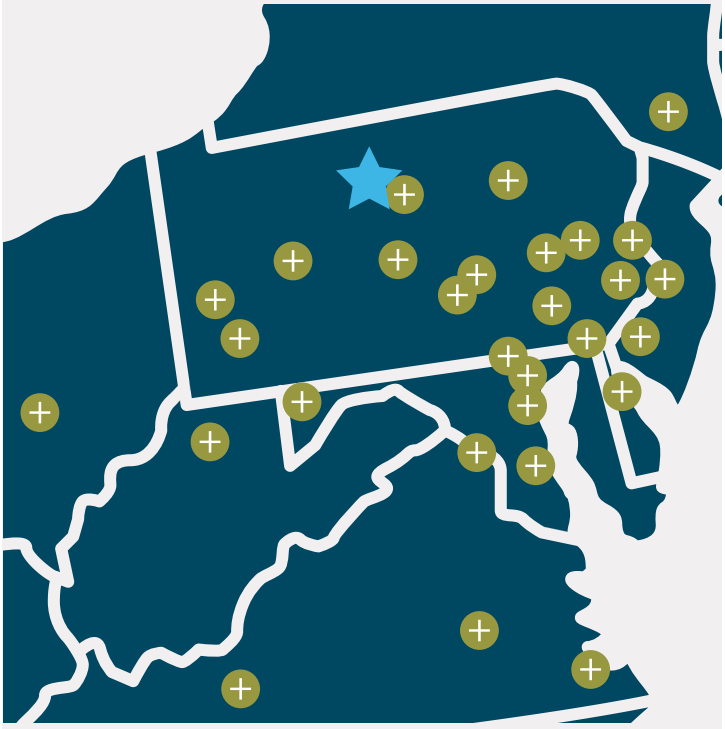
LOCATIONS



Kleinfelder Office Location

Morris Run Project Site

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Appendix E – Kleinfelder ROW Program Fact Sheet

KLEINFELDER RIGHT-OF-WAY ACQUISITION CONSULTING SERVICES: PROFILE/ PROSPECTUS OF AND STATEMENT OF QUALIFICATIONS

FOR THE

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

KLEINFELDER REAL ESTATE/RIGHT-OF-WAY BACKGROUND:

Our Real Estate/ Right-of-Way team includes 35+ skilled professionals dedicated to facilitating acquisition, appraisal and property management programs for public infrastructure improvement projects. The team has developed extensively over the past five (5) years through the purchase of consulting firm **Interstate Acquisition Services (IAS) in 2018, then Century Engineering (Century) in 2021.**

These acquisitions have increased our quality assurance and project coordination programs. We have an outstanding reputation for completing quality work that fulfills our clients' goals and the public's needs. Our experience and past performance on similar projects acquiring real property rights along with our rigorous Quality Control Program provides the project team with effective and reliable resources.

WV DEP ABANDONED MINE LANDS PROJECT UNDERSTANDING OF REALTY WORK:

The subject agreement encompasses a variety of realty work necessary to advance Abandoned Mine Land projects from the conceptual stage through design and construction completion. Courthouse research services will be required to accurately identify all current ownership interests in subject parcels (including fee, easement holders and mineral rights). That information must be thoroughly documented and considered during the plan development phase.

Engagement with affected landowners to explain project objectives and secure Exploratory Rights of Entry (EROE) and Construction Rights of Entry (CROE) must be handled in an efficient manner to maintain project schedules. All contacts will be documented thoroughly and responses to landowner inquiries will be coordinated through the WV DEP. Additional notifications to property owners concerning construction activities are also expected to accomplish individual project initiatives.

KLEINFELDER RIGHT-OF-WAY ACQUISITION CAPABILITIES:

We understand that if selected as part of the Engineering Firm of Record team to provide real estate consulting services for the subject agreement, we will be fully engaged in assisting with assignments directly related to securing real property interests including title research, plan reviews, negotiation contacts to secure rights of entries, status tracking/reporting, thorough documentation of landowner transactions, and other tasks as directed. All documents used in the process will be consistent with WV DEP requirements as well as applicable State and Federal regulations, policies and guidelines; and will be maintained in complete and accurate form. Equally important is our staff's knowledge that maintaining current, complete, and accurate documentation of each landowner transaction is critical to project clearance success. We understand the efficiencies of using standardized forms for all matters related to an

individual property, such as: letters and signatures; ROE agreements; parcel file summary; negotiation records; property history; purchase contracts; easement agreements; and related matters. This will ensure that any challenges during construction activities can be completely and effectively addressed. It is also imperative that proper documentation be up-to-date, readily available, and well organized for any audits that may be performed by WV DEP or other regulatory agencies.

PROPOSED PROJECT PERSONNEL

The following staff members will be available for this agreement with additional resources available as needed:

- Kenneth Hawker – Sr. Program Manager / Sr. Project Manager, 25 years of experience
- Stacey Lytle – Sr. Project Manager, 18 years of experience
- Mason Young – Project Manager / Sr. Right-of-Way Agent, 15 years of experience
- Karen Cowell – Project Manager / Sr. Right-of-Way Agent, 13 years of experience
- Frank Molchen – Project Manager / Sr. Right-of-Way Agent, 8 years of experience
- Anthony DeFreitas – Project Manager / Sr. Right-of-Way Agent, 5 years of experience
- Phillip "Andy" Doherty – Chief Appraiser / 35 years of experience
- David Reynolds, QA/QC Manager / Sr. Right-of-Way Agent, 39 years of experience
- Cheryl Thomas – Sr. Title Agent / Sr. Right-of-Way Agent, 32 years of experience
- Amy Etterman – Title Agent / Right-of-Way Agent, 20 years of experience
- Amanda Jacobs, Right-of-Way Agent, 10 years of experience
- Ian Ramsay – Right of Way Agent, 9 years of experience
- Stacey Love, Right-of-Way Agent, 3 years of experience
- Kolton Tyler, Right-of-Way Agent, 3 years of experience
- Michael Whorral, Right-of-Way Agent, 2 years of experience

Our Team's Key Staff is comprised of experienced Real Estate / Right-of-Way Professionals that have unquestioned combined experience in the appraisal, appraisal review, negotiation, relocation, asset/property management and full-scale project management capabilities. This allows for the selection of the proper staff for assigned tasks. Along with our continuous communication with the design team and WV DEP Representatives, our management approach identifies strategies, best practices and potential issues for the path forward on assigned tasks, creating opportunities for cost and time efficiencies. The names you see on our list of Key Staff are the same that you will see assigned to work on your tasks. In addition, the Staff selected for each task will remain assigned to that project for its duration, ensuring continuity for the duration of the task.

Mr. Ken Hawker, SR/WA, Sr. Program Manager / Sr Project Manager has 25 years in the field handling complex real estate assignments for a variety of public agencies involved with infrastructure improvement projects. He leads our real estate / ROW team and has extensive experience facilitating difficult ROW project deliveries. He will be responsible for planning, scheduling, organizing, and controlling resources to achieve clearance within project schedules.

Our Project Management team is comprised of Mrs. Stacey Lytle, Mr. Mason Young, Mrs. Karen Cowell, Mr. Frank Molchen and Mr. Anthony DeFreitas. This team provides vast coverage and can manage multiple large-scale projects concurrently. Collectively this group has delivered hundreds of projects and understands the critical importance of thoroughly detailing transactions and timely status reporting to

ensure schedules are maintained. These individuals will be responsible for conducting all quality checks on project ROE agreements and other correspondence.

This management team has the support of the rest of the company resources. Previously, our design team has been utilized to perform studies in support of ROW acquisition including: surveys, feasibility studies addressing potential of parcels before and after project impacts; water/wastewater studies; environmental services, access and circulation traffic studies; and the demolition of structures.

Kleinfelder also has GIS Database professionals that can be called upon to establish systems to track the progress of the acquisition/relocation/demolition process as well as the many functions associated with Property Management, such as inventory of improvements, leases, surplus property disposition, maintenance, and demolition activities.

EXPERIENCE / SIMILAR PROJECTS:

1. Since 2000, the Kleinfelder (Century) right-of-way team has held contracts with the Port Authority of Allegheny County (PAAC) as its On-Call Real Estate and Property Management consultant aiding with all right-of-way acquisitions for capital improvement projects as well as day to day operations with busways, rail operations, transit-oriented development activities and management services for its various park and ride lots and other real estate holdings.

In 2019, Kleinfelder (Century) was engaged thru the PAAC solicitor to provide right-of-way acquisition services for its Bus Rapid Transit project in the City of Pittsburgh. The project impacts 237 parcels involving partial take land-only acquisitions. To meet FTA requirements the project team was extensively involved with the preparation of a RAMP and maintains compliance with all associated regulations. To date, 229 claims have been cleared for construction as acquisition activities remain ahead of schedule.

Point of Contact: Michael J. Cetra, Chief Legal Officer; Tel #412-566-5245; email MCetra@PortAuthority.org

2. Kleinfelder (Century) has provided right-of-way acquisition services to the Montgomery County Transportation Authority over the past 10+ years. In the past three (3) years, we've assisted to clear projects including County Bridge # 163 (Lutheran Rd) and County Bridge # 274 (Henry Rd). We also assisted the Stantec team with the Ridge Pike Section B project in clearing over 10 parcels for construction despite impacts from the COVID-19 pandemic. Expert witness testimony was provided by Ken Hawker in successfully defending a litigation claim during a Board of Viewers hearing filed by Ronald and Susan Battaglia / Battaglia Auto Sales, Inc. stemming from the Lafayette Street Extension project.

Point of Contact: Matthew Popek, Transportation Planning Asst. Manager; Tel #610-278-3941; email mpopek@montcopa.org

3. Since 2006, the IAS/Kleinfelder (Century) team has been providing right-of-way acquisition services to PennDOT's Engineering District 6-0 for the AFC, BRI, BSR, CPR and GIR projects; each involving numerous sub-sections. The on-going interstate widening projects will reduce congestion on one of the busiest roadways in the nation and include numerous structure replacements and intersection/safety improvements. In total, hundreds of parcels have been impacted with a large volume of commercial and residential occupant relocations resulting. Design activities are not yet finalized for many of the sections – in total several hundred parcels are being impacted with large-scale displacements occurring.

Recently, we have secured right-of-way clearance certifications for I-95 construction sections AF3, BR0, BR1, BS1, BS2, GR5. Efforts are currently underway to finalize the AF2, BR3, BS5 and GR6 sections. Each remaining project contains unique challenges due to right-of-way impacts to highly valuable parcels containing commercial and industrial operations. The AF2 section involves the acquisition of real property interests from 12 parcels with two (2) large scale industrial relocations occurring. Section BS2 involved partial take acquisitions from five (5) high-profile commercial properties and is in the final stages of clearance. The GR6 project also impacts 12 total parcels but is resulting in the relocation of five (5) residential occupants and significant impacts to government owned parcels and a high-profile concert venue.

Our Trevose office is responsible for appraisal planning, acquisition/ negotiation, relocation advisory assistance and property management services for all I-95 projects in compliance with the Uniform Relocation and Real Property Acquisition Act.

Point of Contact: Roger Joseph, R/W Administrator; Tel #610-205-6505; email rogjoseph@pa.gov

4. Kleinfelder (Century) was awarded separate contracts by the PTC to provide right-of-way acquisition services and property management and demolition services for improved parcels being acquired for the limited access new alignment expressway project in Sections 53A, 53B & 53C. The project will extend existing Toll Road 43 over 8 additional miles from its current terminus at Route 51 in Large, to Route 837 in Duquesne. Ultimately, the roadway will connect to Route 376 in Monroeville.

Right-of-Way Acquisition

Kleinfelder's team is currently responsible for 80 total take parcels that include the relocation of over 50 residential occupants and 4 business operations including a large-scale fabrication shop, a religious facility, an indoor flea market and a pay per use fishing lake. All of those parcels have been cleared for construction. An additional 45 partial take claims were assigned with significant impacts to various commercial, industrial and railroad operations and are 98% clear. Appraisal planning, negotiation and relocation advisory assistance services are being provided to the PTC for this vital transportation project.

Property Management

The Kleinfelder team is implementing an all-encompassing property management and demolition services program for the 150 improved parcels being acquired for the Mon-Fayette project. Numerous services are being provided, including but not limited to: site security /surveillance, grass mowing, snow removal, asbestos inspections & abatement, utility removal coordination and boundary surveys / property plot creation. The Kleinfelder team is also responsible for actual demolition work and construction inspection / liaison services to the PTC. Thus far 148 improved parcels have been cleared for construction.

Our staff is responsible for appraisal planning, acquisition/ negotiation, relocation advisory assistance and property management services in compliance with the Uniform Relocation and Real Property Acquisition Act.

Point of Contact: John Romano, Right-of-Way Administrator; Tel # 717-831-7195; email jromano@paturnpike.com

5. From 2010 - 2013, the IAS/Kleinfelder (Century) group provided right-of-way acquisition and real estate consulting services to CSX Transportation, Inc. to help facilitate double stack rail car operations on existing tracks throughout Western Pennsylvania including the following projects:

Coraopolis Pedestrian Walkway Removal – Coraopolis, Allegheny County, PA

POHC RR Bridge – McKees Rocks, Allegheny County, PA

Benford Tunnel Removal – Lower Turkeyfoot Township, Somerset County, PA

Pinkerton Tunnel Removal – Upper Turkeyfoot Township, Somerset County, PA

Brooke Tunnel Emergency Repair – Lower Turkeyfoot Township, Somerset County, PA

Church Street Bridge Replacement (SR 2037) – Garret Borough, Somerset County, PA

The projects impacted a variety of commercial, industrial, agricultural and residential properties. Our right-of-way group provided appraisal planning and valuation services, which involved obtaining numerus specialty reports to assess coal deposits and timberlands. Acquisition and negotiation services were also provided to secure rights of entry, access agreements, and to convey real property interests necessary to advance the projects to construction.

Point of Contact: Dan Elmaleh, Manager – Strategic Projects of CSX Real Property, Inc. (now retired); Rick Hood served as Asst. Vice President at the time of engagement. Corporate Headquarters

500 Water Street, 15th Floor, Jacksonville, FL 32202

WHY THE KLEINFELDER TEAM

The Kleinfelder real estate / Right-of-Way team brings together a highly qualified, versatile, and motivated group of individuals that have the knowledge and proven abilities in their respective areas. Our Team members have the required experience along with expertise from their extensive backgrounds to provide the WV DEP with an unparalleled depth of resources. What sets us apart from our competitors are our title research services and experience handing advanced, high-profile transactions to secure real property interests for our clients in an orderly and efficient manner. We are confident that our current knowledge and experience in performing all aspects of the proposed Realty Work Consultant services gives the WV DEP confidence that the Kleinfelder team can successfully complete any task assigned in a timely and cost-effective manner.

Should you require additional information, please contact me at the above telephone number or by email at khawker@kleinfelder.com

Respectfully,

Ken Hawker
Vice President / Sr. Program Manager