

THRASHER

ARCHITECTURE | ENGINEERING | FIELD SERVICES



WEST VIRGINIA DIVISION OF NATURAL RESOURCES

Tygart Lake State Park Wastewater Systems Repairs
DNR1900000013

Submitted by:
The Thrasher Group, Inc.
June 14, 2019



THRASHER

June 14, 2019

Attn: Ms. Angela Negley
324 4th Avenue
South Charleston, WV 25303

*RE: Tygart Lake State Park Wastewater System Repairs - DNR19*13*

Dear Ms. Negley and Selection Committee Members:

One of the many great things about West Virginia is its unmatched natural beauty. Our State Park system is one of the most prominent ways the state showcases this beauty to locals and travelers alike. The Thrasher Group wants to help improve the experience of these adventurers by partnering with the West Virginia Division of Natural Resources and Tygart Lake State Park to improve their wastewater system.

An aged system like Tygart's can bring a host of problems, from worn pipes to inflow and infiltration. The Park needs an experienced team who can identify those problems and provide design solutions that fit the unique needs of Tygart Lake State Park.

Our team has broad technical experience in the utility world. The Thrasher Utility Division comes with knowledge of a wide variety of techniques and can advise you on the most efficient path to system improvement. No matter what obstacles you're facing or what challenges arise, Thrasher will work with you side-by-side to ensure ease for your long-term operation.

We appreciate the role that Tygart Lake State Park plays in promoting our state, and we are excited to have an opportunity to be a part of the work that you do. We feel that the enclosed materials will show you how Thrasher can add value to your project, and we look forward to the opportunity to do so.

Sincerely,
THE THRASHER GROUP, INC.



Kylea Radcliff, EI
Project Manager

REQUIRED FORMS



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

(Name, Title)
Robert Milne, PE, Principal

(Printed Name and Title)
600 White Oaks Blvd. | Bridgeport, WV 26330

(Address)
304-624-4108 | 304-624-7831

(Phone Number) / (Fax Number)
rmilne@thethrasher.com

(email address)

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

The Thrasher Group

(Company)

(Authorized Signature) (Representative Name, Title)

Robert Milne, PE, Principal

(Printed Name and Title of Authorized Representative)

June 10, 2019

(Date)

304-624-4108 | 304-624-7831

(Phone Number) (Fax Number)

REQUIRED FORMS



ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.: AEOI DNR19*13

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

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

Addendum Numbers Received:

(Check the box next to each addendum received)

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

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

The Thrasher Group

Company


Authorized Signature

6/10/19

Date

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

REQUIRED FORMS



STATE OF WEST VIRGINIA Purchasing Division

PURCHASING AFFIDAVIT

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

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

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

DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: The Thrasher Group

Authorized Signature: [Signature] Date: June 10, 2019

State of WV

County of HARRISON, to-wit:

Taken, subscribed, and sworn to before me this 10th day of JUNE, 2019.

My Commission expires JULY 7, 2024.



NOTARY PUBLIC [Signature]

Purchasing Affidavit (Revised 01/19/2018)



MISSION

To improve the communities where we live and work by driving infrastructure development.

CORE PRINCIPLES

Quality
Safety
Adaptability
Integrity



9

OFFICES

in six states:

West Virginia
Virginia
Pennsylvania
Ohio
Maryland
Kentucky



580

EMPLOYEES

34 Licensed
Professional Engineers

20 Licensed
Professional Surveyors

6 Licensed
Professional Architects



35

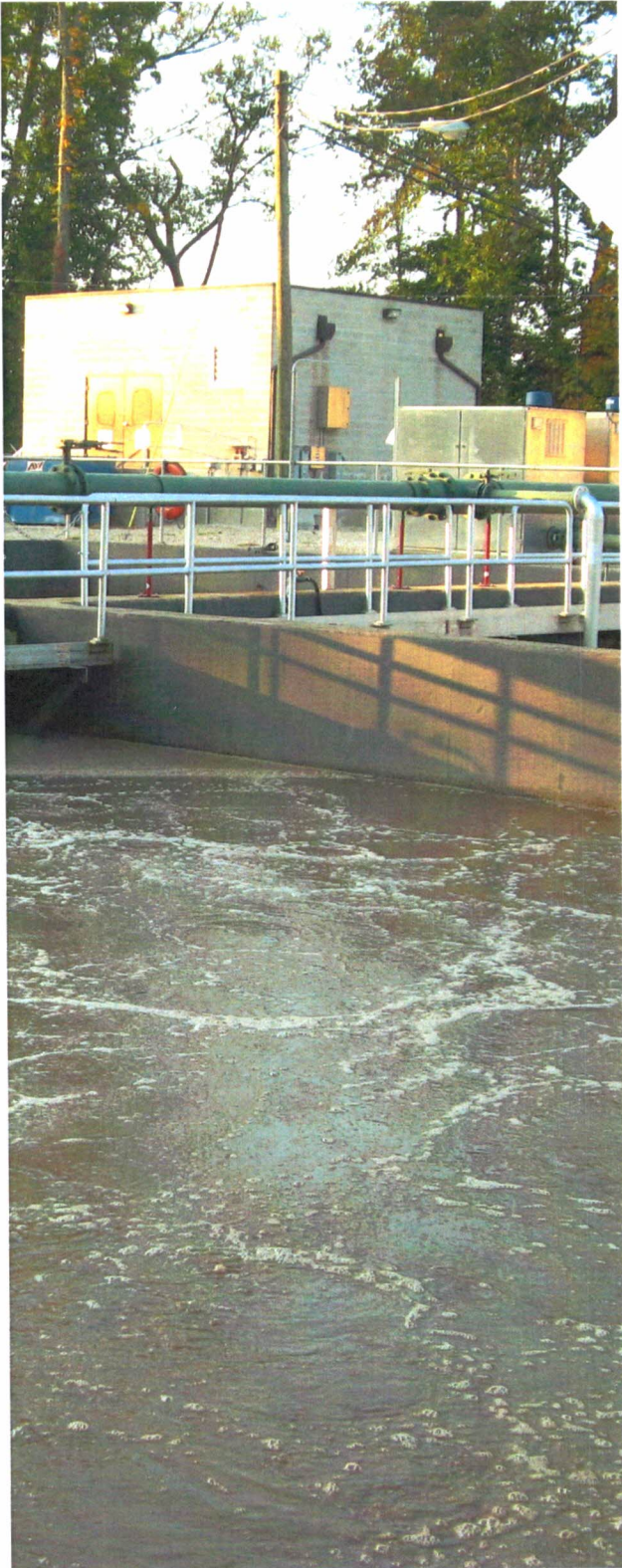
YEARS

of delivering
successful
projects

Main Point of Contact

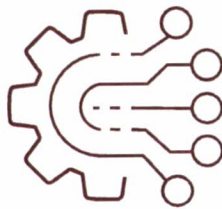
Kylea Radcliff, EI
Project Manager
kradcliff@thethrashergroup.com
Cell: 304-476-8033
Office: 304-326-6116

The Thrasher Group has a host of utility experts on staff. Our team can provide the knowledge, resources, and experience that Tygart Lake State Park needs to update its wastewater system and improve service to its users.



SERVICES

- > Engineering
- > Construction Management
- > Environmental
- > Survey
- > Materials Testing and Inspection
- > Architecture



CORE MARKETS

- > Public/Private Utilities
- > Land Development
- > Highways and Roads
- > Industrial
- > Commercial
- > Oil and Gas
- > Education (K-12, Higher Ed)



CIVIL ENGINEERING

Water Treatment & Distribution

Thrasher brings experience, practical knowledge and advanced technology to clients ranging from regional to small communities' water systems. Our engineers have designed and managed the construction of hundreds of miles of water distribution lines, millions of gallons of storage, and numerous system rehabilitations that successfully reduced water loss and increased reliability.

Wastewater Collection & Treatment

Wastewater collection and treatment systems are vital to the health of rural communities and municipalities. Cost-versus-benefit Environmental and technological issues are all involved.

Stormwater Systems

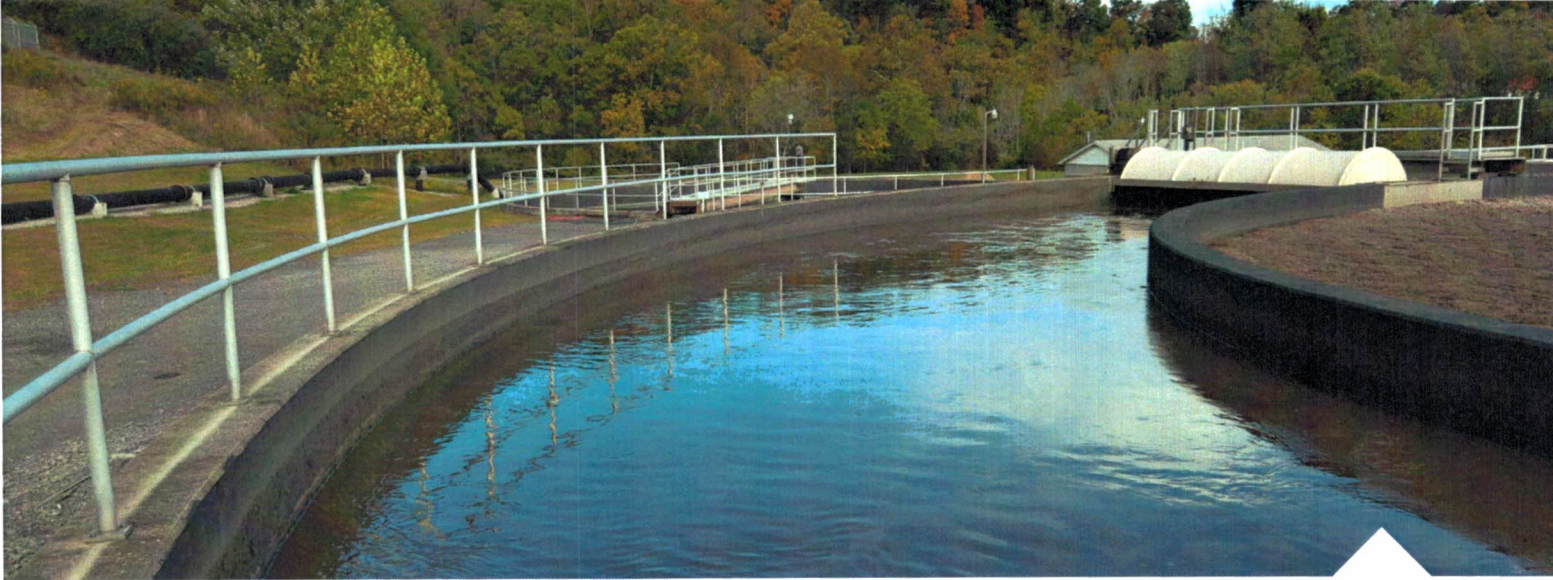
Thrasher is prepared to take on challenges to make your stormwater management project a success. In the not so distant past, storm water management was not a significant issue. It was "out of sight, out of mind." That is no longer the case. Ever-increasing regulations, the creation of public storm water utilities, and the focus on downstream effects of development are pushing stormwater management issues to the forefront.

Site Development

Engineering for site development is far from a "one size fits all" approach. Every project is unique and requires a blend of technical expertise combined with quality planning principles, efficient design, market realities, and flexibility to seize opportunities. With our diverse staff, Thrasher has the right blend of talent to make your project a success.

Roadways & Bridges

From industries to local families, the nation depends on the strength of highways, bridges, and even pedestrian walkways. No matter what the mode of land transportation, Thrasher gets our clients where they want to be.



WASTEWATER COLLECTION AND TREATMENT

Thrasher has planned, designed, and supervised the construction of municipal, industrial, and individual wastewater collection and treatment projects throughout the entire Mid-Atlantic region. When designing a wastewater system, many factors - including the environment, technology, and cost-effectiveness - come into play. Wastewater system projects require both experience and a strong understanding of regulations and requirements.

Having successfully designed and completed wastewater system projects ranging from \$50,000 to \$50 million, the Thrasher team employs some of the most skilled and sought after professionals in the industry. Our approach allows us to develop unique solutions for our clients while providing a helping hand through difficult funding and regulatory hurdles.

Wastewater Services:

- > New Collection Systems and Extensions
- > Rehabilitation and Replacement of Existing Systems
- > Combined Sewer Overflow (CSO) Reduction
- > Long-Term Control Plans
- > Construction Monitoring
- > Wastewater Treatment Plant Design
- > Feasibility Studies
- > Facility Planning
- > Geographical Information Systems (GIS)
- > Inflow and Infiltration (I&I) Testing and Evaluation

INFLOW AND INFILTRATION



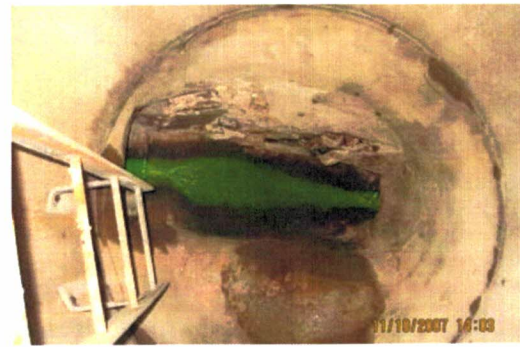
Camera Inspection



Smoke Testing



Pipe Profiling



Dye Testing

Thrasher has a full Inflow and Infiltration (I&I) team in-house. These employees are specially trained and fully knowledgeable on the I&I process and all that it entails.

The team uses a variety of methods to pinpoint exactly where an issue is within your sewer system. This can be done through camera inspection, smoke testing, pipe profiling, and dye testing, among other methods.

The I&I team includes:

- > Butch Brown, I&I Manager
- > Andrew Kelley, I&I Technician
- > Jared Smith, I&I Technician
- > Steve Six, I&I Technician
- > John Channel, I&I Technician
- > Brian Channel, I&I Technician
- > Scott Pacifico, I&I Technician
- > Brant Busdeker, I&I Technician

Thrasher's I&I team is headed by Butch Brown, who has more than 30 years of experience working on sewer projects in West Virginia.



ENVIRONMENTAL PERMITTING

The Environmental Division of the Thrasher Group provides permitting, consulting, and assessment services to a multitude of clients spanning the Mid-Atlantic region. With a combined 40 years of permitting experience, Thrasher's Environmental Scientists, Permitting Leads, and Project Managers are able to take even the most complex and time restrictive projects and provide clients with cost effective and timely solutions.

Federal Permitting

- > National Historic Preservation Act - Section 106 Consultation
 - > *State Historic Preservation Office or Division of Culture and History*
- > Endangered Species Act - Section 7 and Section 9 Consultations
 - > *United States Fish and Wildlife Service*
- > Clean Water Act - Section 404 Permits
 - > *United States Army Corps of Engineers*

- > National Environmental Policy Act - Categorical Exclusions, Environmental Assessments, and Short Environmental Assessment Forms
 - > *United States Army Corps of Engineers; Federal Aviation Administration; Division of Transportation; and Federal Communications Commission*

State and Local Permitting

- > State Responsible Regulations of the Clean Water Act - Section 401 and 402 Permits
- > State Level Rare, Threatened, or Endangered Species Consultations
- > State Level Aquatic Resource Encroachment and Impact Permits
- > State Level Roadway Encroachment, Crossing, and Occupancy Permits
- > State Level Industrial Waste Discharge Permits
- > Local Level Floodplain or Building Permits



CONSTRUCTION ADMINISTRATION

Effective management of our projects ensures that both clients and contractors work in an efficient and safe manner. From pre-construction activities - such as bid conferences and surveys - to inspections, job progress reviews, and on through final completion, our goal is work that proceeds in accordance with plans and specifications.

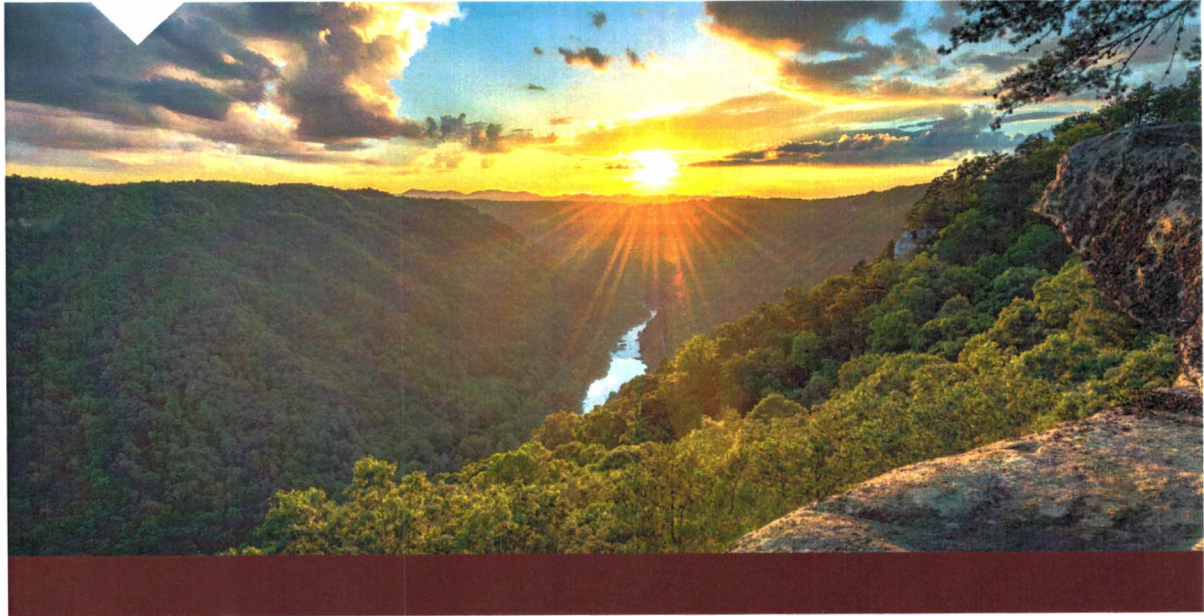
At Thrasher, we inspect and manage a wide variety of projects designed by our firm in addition to projects for contractors and other designers. We have certified project representatives responsible for overseeing every element of design integrity. Our methods have earned the respect of not only our clients, but contractors and project owners alike.

Quality Control and Assurance Methods:

- > Regularly Scheduled Planning and Progress Meetings
- > Engineering During Construction
- > Daily Logs and Progress Sheets
- > Cut Sheets
- > Quantity Tracking

Construction Inspection Services:

- > Construction Materials
- > Pipelines
- > Structural Steel & Concrete
- > Paving
- > Drainage
- > Embankments
- > Work Zone Safety & Traffic Control
- > Erosion and Soil Control



A critical step in meeting your goals is first ensuring we understand them. Thrasher’s team has thoroughly reviewed the Expression of Interest request and is confident in our ability to deliver the highest-quality solutions to your problems. We are capable of meeting each goal/objective you have outlined and feel strongly that you will be satisfied with the outcomes you receive.

We understand your goals for the Tygart Lake State Park Wastewater System Improvements project and will handle them in the following manner:

GOAL/OBJECTIVE 1

The Thrasher Group will review existing plans and conditions at Tygart Lake State Park, allowing us to fully evaluate your wastewater system. This evaluation will help Thrasher’s Utility Division outline a plan that can be implemented with minimal disruption to the facility’s operation.

GOAL/OBJECTIVE 2

We are confident that Thrasher can provide all of the necessary services to design the wastewater upgrades needed by Tygart Lake, and will keep all designs consistent with the Division of Natural Resource’s needs and objectives while adhering to all applicable codes and laws, as well as the project budget.

GOAL/OBJECTIVE 3

Construction Administration is always part of the Thrasher package. This is a piece that we feel is important to offer for every project, and we consistently bid more projects than any other firm in the state. Thrasher has the competent professionals your team needs to ensure your project is constructed correctly and functions as designed.

COMMUNICATION PROCEDURES



Communication throughout any project is a primary key to success. To that end, Thrasher will begin communication with the WVDNR immediately upon notification of award and will maintain consistent lines of communication for the duration of the project. This will ensure all parties involved - owner, contractor, and engineer - will always be apprised of the project happenings.

The two main components of the project approach will be design and construction. Each will have its own plan for communication.

Communication During Design

Prior to the initiation of design services, Thrasher's Project Manager, Kylea Radcliff, will discuss preferred methods of communication with the WVDNR's point of contact. Updates during the design phase can occur in numerous ways:

- > Weekly status updates via email
- > Weekly conference calls
- > Monthly progress meetings.

No matter the methods preferred, our project teams are well versed in keeping our clients abreast of project status. We can customize your project's communication plans to best fit your teams' wants and needs.

Communication During Construction

Before construction begins, Kylea will again meet with the WVDNR team to determine preferred communication tools for this phase of the project. Open, consistent communication will be paramount to keep the project on-time and within budget.

Additionally, Thrasher will conduct monthly progress meetings with the contractor, the WVDNR, and key project stakeholders throughout the duration of the project. Meeting minutes will be distributed to all attendees and any other agents identified by the WVDNR. Action items will be documented within the meeting minutes.

Throughout construction, Thrasher will have people on-site for project representation as well as material testing. Anytime a Thrasher employee is on site during construction, a field report will be prepared. Field reports will be reviewed by the engineering team and distributed to the WVDNR's construction representative on a weekly basis.

PROJECT APPROACH



Thrasher's goal is always to complete projects on-time and within budget for our clients, and we have a long history of achieving that goal. Throughout this Expression of Interest, you will see projects that illustrate these qualities and represent successful outcomes.

While achieving this isn't always an easy task, our tried-and-true project approach is what consistently gets us to that end result.

Thrasher will establish a design kick-off meeting with the WVDNR and key members of our project team to review the project and clearly define the Scope of Services. Following contract approval, our team will take the following steps to ensure completion:

Step 1 - Site Visit

Your assembled team of engineers and technicians will conduct a site visit. This group will evaluate the project conditions and identify and document potential problem areas. We will coordinate with your team and any identified key stakeholders to take all the facts into consideration during this process.

Step 2 - Conceptual Design and Report

Thrasher will prepare a conceptual design for the needed services at Tygart Lake State Park. Where applicable, we will also provide design alternatives for consideration by the WVDNR. We will then prepare a written report of the conceptual designs and outline any issues.

Step 3 - Construction Documents

Our team will provide design solutions and construction documents to the appropriate personnel for the project. These plans will be carried forward to final design based upon the conceptual design report. Thrasher proposes to prepare two submissions - preliminary design and final design. The preliminary design submission will be used

to review the proposed project with the WVDNR. After review and comment, we will complete the final design documents based upon comments received and conclusions reached at the preliminary design review. Our field evaluations and design approach will specifically address these issues in the construction documents.

Step 4 - Cost Estimates

Our project team will provide itemized cost estimates at the following stages: conceptual design, preliminary design, and final design.

Step 6 - Bid Process

We will assist the WVDNR in preparation of the bid documents and will attend pre-bid meetings and assist in issuance of addenda.

Step 7 - Construction Administration

The project team will review project submittals, attend project meetings, and provide inspection of the construction being completed. The project team will also provide final punch list inspection at project completion.

Thrasher will also develop a program to keep the WVDNR abreast of potential construction issues. Our project team will prepare design repairs with the adjacent property owners in mind. We plan to address any issues that may arise through clear and concise construction notes, details, and specifications to ensure the safety of the workers and environment.

Step 8 - Project Close Out

Upon completion of the project, the Thrasher team will provide final as-built drawings in both CAD and PDF format to the WVDNR and any appropriate personnel as needed.

Scheduling:

Thrasher realizes the importance of establishing and maintaining project schedules. Time means money and making sure we help you spend your money wisely is our number one goal. Because of this, our team puts an emphasis on ensuring project timetables are met, and communication is upheld throughout the process.

To accomplish these goals, Thrasher utilizes specialized scheduling software to track every stage of a project - from design and bidding through construction completion. We also require contractors working on our projects to regularly update their project schedules and give a detailed progress report at each job meeting, again focusing on the communication component of scheduling. This helps to ensure all parties are informed and aware of potential delays. Keeping our owners up to speed with progress is our number one goal and ensures occupancy and owner supplied equipment are scheduled accordingly.

Budgeting:

Construction estimating and budgeting is the most important part of what Thrasher can provide you. Without accurate budgets, there is no tool to guide the design process, and issues will be inevitable. By including cost estimating as a part of the project scope from day one, we are able to avoid the issues before they arise and keep your project within a reasonable cost.

And our estimates go beyond the typical system - rather than simply providing cost per foot or lump sum price, Thrasher will provide contractor-grade estimates that look at every part of the project. We do detailed take-offs of materials and look at every man hour needed to complete a project and factor this in accordingly. Then, we use our thorough understanding of the local market and material costs to accurately design within your budget.

PROJECT EXPERIENCE



City of Clarksburg Wastewater Treatment Plant Upgrade

Client Contact:

Martin Howe, City Manager

222 West Main Street | Clarksburg, WV 26301 | 304-624-1677

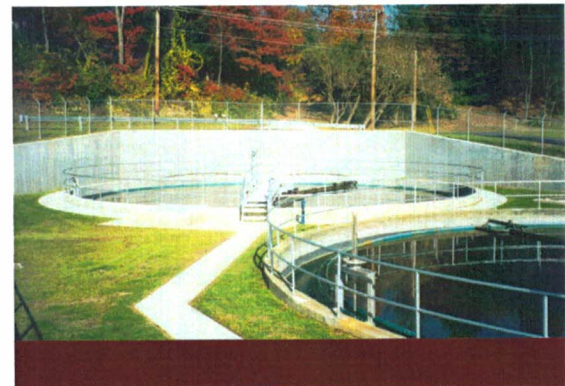
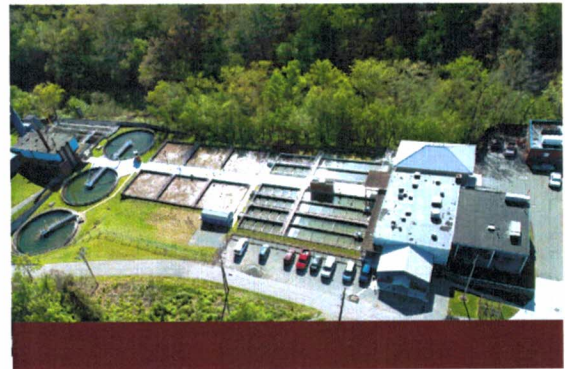
Location: Kanawha County, WV

Project Type: Treatment Plant Upgrade

Thrasher and the City of Clarksburg have been working together for nearly 25 years on various projects throughout the City. The City of Clarksburg was put under a consent order by the WVDEP to address the amount of CSO's (Combined Sewer Overflows) that were making their way into the Elk and West Fork Rivers. The City of Clarksburg has partnered once again with Thrasher to upgrade their existing wastewater treatment plant.

Phase I and II of the Long Term Control Plan have been completed. Phase I consisted mainly of Inflow and Infiltration work as well as the rebuild of the Davisson Run System. Phase II added five flow meters as part of a test, and after the success of the testing period, flow meters have been installed at all overflows within the system.

Phase III of the Wastewater Treatment Plant Upgrade included a third primary clarifier to remove grit and sediment from sewage, new bar screens to remove debris from the sewage stream, new grit removal system and new raw sewage pumps. These improvements enable the treatment plant to treat up to 18 million gallons of combined storm water and sewage per day, compared to its previous maximum capacity of 12 million gallons per day. These upgrades effectively treat the sewage and add years of life to the plant with cleaner conditions and less stress on equipment.



Additional Projects:

- > Route 19 Lift Station and Force Main Improvements
- > Pump Station with Manual Bar Screen
- > WWTP Sludge Thickener
- > Wastewater Treatment Plant Riverbank Slip Emergency Repairs
- > Washington Avenue Sewer Emergency Repairs
- > Wastewater Treatment Plant Bar Screen Improvements
- > Interceptor Sewer and I&I Improvements
- > Colonial Village Sewer Replacement

PROJECT EXPERIENCE



Malden Public Service District

Client Contact:

Mr. Chet Williamson, General Manager

PO Box 35 | Tad, WV 25201

304-925-6997

Location: Kanawha County, WV

Project Type: Treatment Plant Upgrade

Malden Public Service District had a 38-year old wastewater treatment plant that was inefficient and out of compliance. It was facing significant problems with treatment efficiency, didn't have the capacity to properly serve its customers, and was not meeting raw sewage discharge permits set forth by the West Virginia Department of Environmental Protection.

Through a complex, multi-phase project, The Thrasher Group solved those problems and then some, creating a state-of-the-art new facility for Malden that is more cost effective and environmentally friendly for the surrounding area.

The \$20 million project saw construction of six new buildings at the Malden Public Service District. All renovations and construction were completed on the same site as the existing plant, which remained operational throughout all phases of the project.

The biggest enhancement to Malden was the installation of a new treatment process – a Vertical Loop Reactor and SmartBNR control system – to increase Malden's operational efficiency and treatment capacity. This technology is uncommon in West Virginia and its ease of maintenance and operation can open doors for the future of the utility sector in the state.



Not only is this beautiful, functional new facility a more efficient system than its predecessor, it has had a vastly important environmental impact as well. The biggest factor in this change is the elimination of overflow sewage discharging into a local creek. This improves the quality of not only this creek, but also the river it feeds into, greatly reducing the potential for serious health hazards to local residents and directly impacting the safety of recreational use of the river.

PROJECT EXPERIENCE



Town of Junior Wastewater Treatment Plant Upgrades and System Extensions

Client Contact:

Mr. Gary Miller, Mayor

130 Row Street | PO Box 247 | Junior, WV 26275 | 304-823-1829

Location: Barbour County, WV

Project Type: Treatment Plant Upgrade and System Extensions

Since 2003, Thrasher and the Town of Junior have worked closely together on improvements to their wastewater treatment plant and extensions of their service to meet the needs of economic growth in the area.

Tygart Regional Jail Project

When the Tygart Valley Regional Jail was built in Randolph County, West Virginia, the Town of Junior became the responsible utility for providing wastewater collection and treatment for the facility. In order to meet the demands for the service, the Town hired Thrasher to provide engineering services to upgrade their WWTP and extend the collection line five miles to Route 33 from Junior to the Barbour/ Randolph County line. One of the Town's four lift stations were upgraded for this project as well.

Lift Station Upgrades

Following the completion of the Regional Jail project, the Town retained Thrasher's services to engineer upgrades to its remaining three lift stations. The lift stations were approximately 25 years old and required constant maintenance. The project consisted of installing duplex submersible lift stations with emergency standby generators. The completion of these upgrades allowed the Town to reduce the operations and maintenance cost of the sewer department.

Treatment Plant Upgrade for Norton-Harding-Jimtown Extension

The Town collects and treats wastewater from the Norton-Harding-Jimtown PSD in Randolph County. Norton-Harding-Jimtown wanted to extend their system to various unserved areas. To meet the increased needs for treatment, the Town hired Thrasher to design and provide services for the construction of these upgrades.



PROJECT EXPERIENCE



Anderson Equipment - 600 GPD Wastewater Treatment Plant Replacement

Client Contact:

Mr. Don Larck, Service Manager
RR 119 S Corridor G | South Charleston, WV 25303
304-756-2800

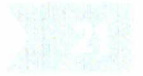
Location: Marion County, WV

Project Type: Wastewater Treatment Plant Replacement

This project consisted of replacing an existing extended aeration wastewater treatment plant with a 1,000 GPD fixed media aeration wastewater treatment plant, dosing pump station, peat filter pods and UV disinfection system.

The project also included significant permit modifications which saved our client roughly \$10,000 per year in sampling costs.

PROJECT EXPERIENCE



City of Ripley Pump Station Rehabilitation

Client Contact:

Ms. Carolyn Rader, Mayor

203 South Church Street | Ripley, WV 25271

304-532-3657

Location: Jackson County, WV

Project Type: System upgrades

The City of Ripley in Jackson County, West Virginia operates two sanitary sewer collection and treatment systems that are under the influence of inflow and infiltration. The City's Ripley and Evans sewer systems were placed under Consent Order by WVDEP to eliminate unpermitted overflows. The City's existing sewer system was aged and unable to keep up with new development. The poor condition of the old sewer lines allowed for infiltration in the system.

Inflow and Infiltration Study:

Thrasher conducted an extensive evaluation of the City's existing sewer systems. The study consisted of flow monitoring, smoke and dye testing, evaluation of each located manhole, and evaluation of each pump station. Thrasher worked with the City to evaluate the collected data and determine what improvements would be necessary to eliminate overflows in the collection system.

Pushing for Feasible Permit Limits:

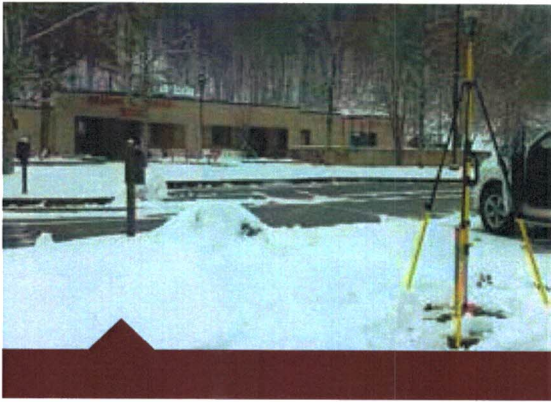
The City's existing NPDES permits were expiring and WVDEP informed the City that the permit limits were going to be more stringent due to low flow in the receiving waters. The proposed limits were unachievable with the existing treatment facilities. Thrasher worked with WVDEP to propose a plan to evaluate the stream flow and update the flow model to determine if more feasible limits could be given. A weir was designed with a still well and water level transducer that records stream flow data. This data is sent to WVDEP for evaluation. Based on recent discussions, WVDEP is considering real-time limits for the City's permit which is more feasible.

Reducing Overflows:

Due to the aging and poor condition of the sewer system, the existing pump stations and a large portion of the gravity sewer lines needed to be replaced. By replacing the sewer lines and increasing the pumping capacity of the pump stations, the excess flows could be conveyed to the City's two wastewater treatment plants, which utilize stabilization ponds for treatment, drastically reducing overflows in the system.



PROJECT EXPERIENCE



Lewis County Board of Education Roanoke Wastewater Treatment Plant

Client Contact:
Ms. Melissa Riley, Personnel Director
239 Court Avenue | Weston, WV 26452
304-269-8326

Location: Lewis County, WV

Project Type: New wastewater treatment plant



The Lewis County Board of Education selected The Thrasher Group to design a new Wastewater Treatment Plant for Roanoke Elementary School in Lewis County, WV. The existing plant had reached the end of its useful life and was in need of replacement.

Thrasher was selected for the job in January 2016. By May 2016, Thrasher opened bids for this project and began construction in June 2016. Thrasher wasted no time getting to work on this project because of the project schedule set by the client. The plant needed be put into service prior to school beginning in August 2016, when the staff and students returned. The plant was designed and reviewed within two short months of the selection. The project was placed out to bid and came in well under budget. Coordinating with the school board was imperative to the success of this project.



ADDITIONAL PROJECT EXPERIENCE



PROJECT NAME	LOCATION	TYPE
Calhoun-Gilmer Career Center	Calhoun County, WV	Wastewater Treatment Plant Upgrade
Century Volga Public Service District	Barbour County, WV	Sewer System Installation
City of Piedmont	Mineral County, WV	Pump Station Replacement
City of Ripley	Jackson County, WV	Sewer System Evaluation and Improvements
City of Romney	Hampshire County, WV	Wastewater Treatment Plant
Dominion Natrium Facility	Harrison County, WV	Wastewater System Upgrades
Greater Paw Paw Public Service District	Marion County, WV	Sewer System Improvements
Paden City	Tyler and Wetzel Counties, WV	Sewer System Upgrade
Town of Capon Bridge	Hampshire County, WV	Sanitary Sewer Upgrades
Greater Harrison Public Service District	Harrison County, WV	New Sanitary Sewer System and Wastewater Treatment Plant

The Thrasher Group has built itself on public utility projects. Our business started in this sector in 1983 and we have continuously worked to improve local utility systems ever since.

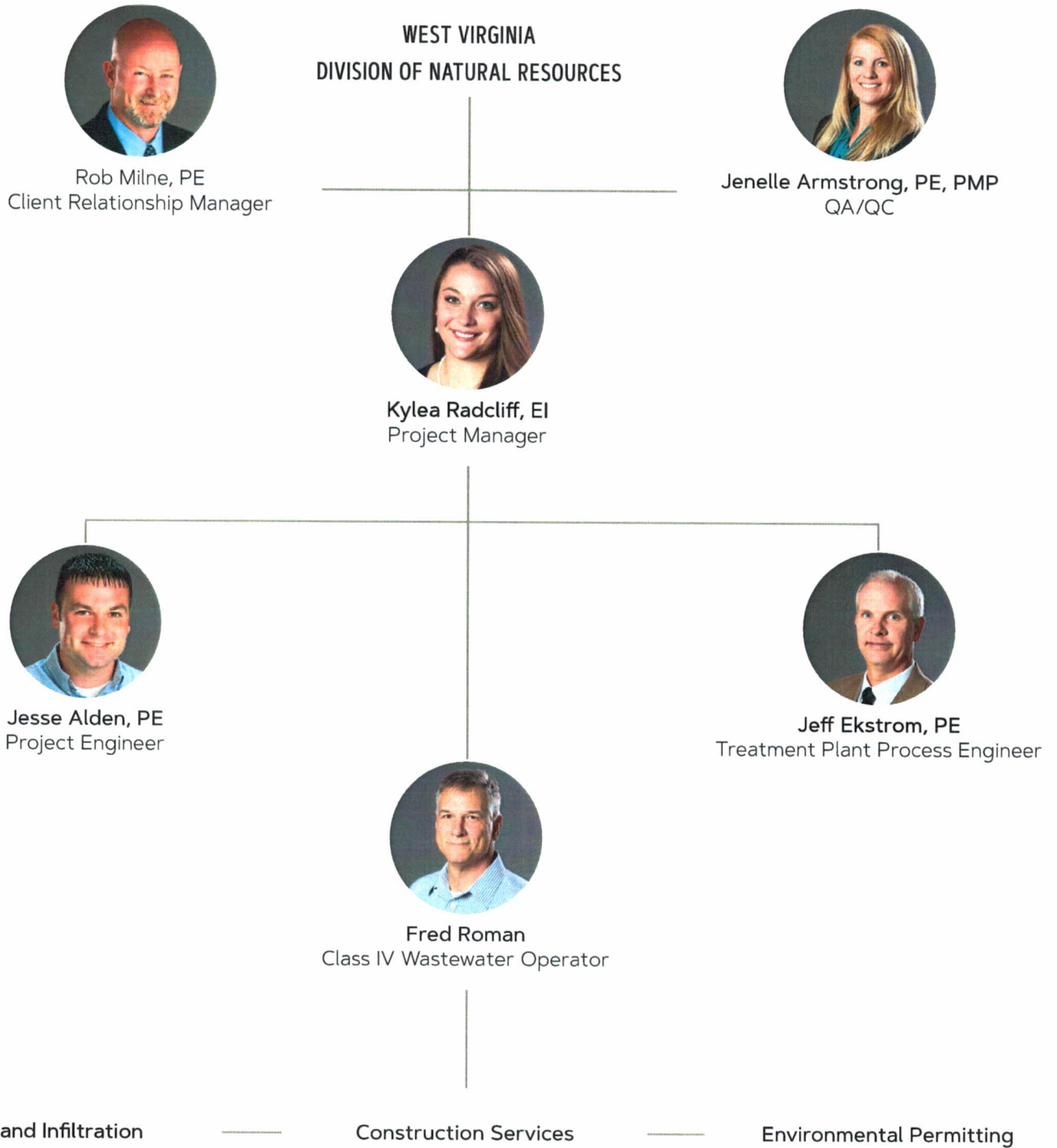
BID VS. ESTIMATE



CLIENT	ESTIMATE	LOW BID	# of BIDDERS
Town of Bath	\$2,198,725 (3 contracts combined)	\$1,963,048 (3 contracts combined)	13 (3 contracts combined)
Lewis County EDA	\$2,795,000 (2 contracts combined)	\$2,447,385 (2 contracts combined)	16 (2 contracts combined)
Greater Harrison PSD	\$2,623,110	\$2,219,115	9
Hamrick PSD	\$5,239,000	\$4,698,733	18
Fountain PSD	\$9,140,300	\$8,186,810	15
City of Ripley	\$10,762,000	\$9,948,288	15
Town of Rowlesburg	\$3,300,000 (2 contracts combined)	\$2,706,749 (2 contracts combined)	8 (2 contracts combined)
River Road PSD	\$1,860,470	\$1,497,060	14
Hundred-Littleton PSD	\$1,015,000	\$894,040	8
Paw Paw Rt. 19 PSD	\$300,000	\$315,620	8
City of Oak Hill	\$18,135,700	\$16,245,767	25
River Road PSD	\$1,860,470	\$1,497,060	14
Gilmer County PSD	\$595,000	\$443,151	12

Our team of highly skilled engineers spend the time upfront to ensure accurate estimates for each and every project we undertake. Our engineers formulate comprehensive project estimates, reach out to numerous contractors, and work with the project owner to secure competitive bids and quickly move projects from bidding to award.

KEY PERSONNEL



JENELLE ARMSTRONG, PE, PMP



QA/QC



Education

Master of Engineering
Environmental Engineering
University of Texas at El Paso

Bachelor of Science
Civil Engineering
University of Texas at El Paso

Registrations

Professional Engineer:

- > West Virginia
- > Texas
- > New Mexico
- > Ohio
- > Pennsylvania

Project Management
Professional (PMP)

Affiliations

- > American Water Works Association, West Virginia Section—Trustee
- > American Society of Engineers—Past President
- > OSHA—HAZWOPER, 40 hour Training
- > Project Management, 40 hour Training
- > Material Selection, 80 hour Training
- > Basic Offshore Survival and Emergency Training, 20 Hours
- > AWWA - Board Member - West Virginia Section
- > WEA - Membership Chair - West Virginia Section
- > West Virginia Executive Magazine - 2018 Young Gun

Jenelle Armstrong, PE, PMP thrives on the challenges of water, stormwater, and wastewater projects. With more than 20 years of civil and environmental engineering experience, Jenelle consistently finds innovative solutions to clients' specific needs. Her drive to use the latest technology and methods have delivered programs and processes exceed regulations.

As the Utility Division Manager, Jenelle is fully committed to ensuring a positive experience for clients. She values collaboration, and encourages owners and operators of systems involvement in the design process. She keeps clients fully aware of project scheduling and delivery, and facilitates project meetings and regulatory agency discussions. Jenelle joined Thrasher in 2011, following 14 years of diverse experience in process, hydraulics and water modeling for both water and wastewater systems in the states of Texas and New Mexico. She is an experienced water system modeler using H2O Map Water, H2O Net, Water CAD and KY Pipe.

Experience

**Malden Public Service
District Wastewater
Treatment Plant Upgrade**
Role: Project Engineer
> Kanawha County, WV

**Beckley Sanitary Board
Wastewater Treatment
Plant Upgrades & Capital
Improvement Plan**
Role: Client Services Manager
> Raleigh County, WV

**Berkeley County Public
Sewer Service District and
Berkeley County Public
Service Water District
Procter and Gamble Utility
Extension Project**
Role: Principal-in-Charge
> Berkeley County, WV

**Town of Accident
Wastewater Treatment
System Improvements**
Role: Principal-in-Charge
> Garrett County, MD

**Town of Junior Wastewater
Treatment Plant Upgrades**
Role: Principal-in-Charge
> Barbour County, WV



Search: Details

Name: JENELLE H. ARMSTRONG

WV Professional Engineer: PE License Number: 018299

PE License Status: Active

PE Issue Date: 08/07/2009

PE Expiration Date: 12/31/2020

Continuing Education Claim: Qualifying Hours from Last Renewal or Reinstatement: 55.00

Carryover Hours for Next Renewal: 15.00

Last Renewal or Reinstatement Date*: 12/4/2018

WV Engineer Intern: EI Certification Number:

EI Issue Date:

Primary Address of Record: 300 ASSOCIATION DRIVE
CHARLESTON, WV 25311

Primary Employer of Record: THE THRASHER GROUP, INC.
300 ASSOCIATION DRIVE
CHARLESTON, WV 25311

* This date reflects the most recent license renewal (or reinstatement) date for this licensee. Continuing education hours earned prior to this date may **not** be used for future renewals.

This data was retrieved on 2/11/2019.

ROB MILNE, PE

Client Relationship Manager



Education

Master of Science,
Civil Engineering
West Virginia University

Bachelor of Science,
Civil Engineering
West Virginia University

Registrations

Professional Engineer:

- > West Virginia
- > Pennsylvania
- > Virginia
- > Ohio

Certifications

- > Leadership Monongalia County, WV
- > Foundations of Leadership/ National Leadership Institute
- > USACE-Access Control Point Design Training Course
- > ODOT Non-complex Roadway Design prequalification
- > ODOT Complex Roadway Design prequalification
- > ODOT Bridge Design Level 1.1/1.2 prequalification

Robert Milne, PE has over 25 years of experience working with both public and private clientele throughout the Mid-Atlantic region to develop millions of dollars' worth of commercial, industrial, residential, and mixed-use sites. Rob's in-depth understanding of site layout, design, permitting, and funding have enabled him to complete several complex projects that have boosted economic development and delivered safe, sustainable building sites.

Additionally, Rob has worked closely throughout his career with the WV Department of Natural Resources, and has developed a thorough understanding of the Department's goals and processes. His knowledge will greatly enhance our team's communication and project reporting to the WV DNR.

Experience

WV Department of Natural Resources Boat Ramp Design at Palatine Park

Role: Project Manager
> Marion County, WV

WV Department of Natural Resources Elk River Boating Access

Role: Project Manager
> Kanawha County, WV

WV Department of Natural Resources Broadband Services

Role: Project Manager
> Multiple WV State Parks

Boy Scouts of America Welcome Center Site Planning and Master Conceptual Design

Role: Site Engineer
> Fayette County, WV

City of Ripley Riverbank Stabilization Project

Role: Project Engineer
> Jackson County, WV

City of Clarksburg Stormwater Management Program

Role:
> Harrison County, WV

City of Bridgeport Stormwater Structures Phases I and II

Role: QA/QC
> Harrison County, WV

Harpers Ferry National Park Historic Train Station

Role: Project Manager
> Jefferson County, WV



Search: Details

Name: ROBERT R. MILNE

WV Professional Engineer: PE License Number: 014177

PE License Status: Active

PE Issue Date: 07/28/1999

PE Expiration Date: 12/31/2020

Continuing Education Claim: Qualifying Hours from Last Renewal or Reinstatement: 47.50

Carryover Hours for Next Renewal: 15.00

Last Renewal or Reinstatement Date*: 12/31/2018

WV Engineer Intern: EI Certification Number: 7244

EI Issue Date: 07/01/1998

Primary Address of Record: 79 PRICE HILL ROAD
MORGANTOWN, WV 26501

Primary Employer of Record: THE THRASHER GROUP, INC.
600 WHITE OAKS BOULEVARD
PO BOX 940
BRIDGEPORT, WV 26330

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This data was retrieved on 12/31/2018.

KYLEA RADCLIFF, EI

Project Manager



Kylea Radcliff, EI utilizes her experience and education to provide design and engineering solutions in water and wastewater applications. She began her career at Thrasher as a summer intern in the utility department and has climbed through the ranks, joining the team full time as a Staff Engineer, then Project Engineer, and now serving as a Project Manager.

Kylea is responsible for the development of projects and takes them from the preliminary engineering report stages to completion. Several of Kylea's engineering reports have helped her clients secure funding to move their jobs to construction. She is dedicated to designing projects that meet her client's needs and improve their system while meeting project timelines and budgets.

Education

Bachelor of Science,
Civil Engineering
West Virginia University

Registrations

Engineer in Training:
> West Virginia

Affiliations

> ACEC Waste and Storm
Water Gold Award Winner

Experience

**Greater Harrison County
Public Service District 0.60
MGD Wastewater Treatment
Plant Upgrade - Bio Shell**
Role: Project Engineer/
Manager
> Harrison County, WV

**Smithville Elementary School
Wastewater Treatment Plant
Upgrade**
Role: Project Engineer
> Ritchie County, WV

**Sun Valley Public Service
District Wastewater System
Upgrades**
Role: Project Manager
> Harrison County, WV

**Preston County Public
Service District Valley Point
Sewer System**

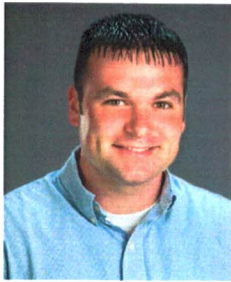
Role: Project Manager
> Preston County, WV

**City of Westover South
Dents Run Sanitary Sewer
Extensions**

Role: Project Manager
> Hancock County, WV

JESSE ALDEN, PE

Project Engineer



Education

Master of Science,
Environmental Engineering
Marshall University

Bachelor of Science,
Civil Engineering Technology
Fairmont State University

Associate Degree,
Pharmaceutical Science
National Institute of Technology

Registrations

Professional Engineer
> West Virginia
> Ohio

Trainings

> OSHA General Industry
Certification
> HAZWOPER Certification
> T & L Contractor Safety
Orientation Certification—2011
> First Aid / CPR Certification
>

Jesse Alden, PE has become one of Thrasher's leading Project Managers and Engineers for several critical utility projects throughout the Mid-Atlantic region. Jesse designs and oversees both water and wastewater system upgrades for public and private clientele primarily located throughout southern WV. His detailed understanding of pump system design and plant flow hydraulics allows him to design and troubleshoot complex hydraulic issues at various types of treatment facilities.

Aside from his expertise in hydraulics, Jesse prepares design plans, contract specifications, and complex permitting applications for his clients. He oversees the design and administration of contracts, and works closely with both project Owners and contractors to ensure projects are progressing on budget and within scheduling parameters

Jesse has been involved in some of Thrasher's largest utility expansions to date. He worked with several of the firm's most tenured engineers to help design numerous infrastructure improvements for the Malden Public Service District's massive renovation and upgrade endeavors in Kanawha County, WV. For years, the PSD worked to quickly patch up problems throughout their system, before deciding in 2016 to do a complete system overhaul. Jesse was a key member of the design team and helped make this \$23 million-dollar project a grand success.

Experience

City of Mannington Wastewater Treatment Plant Improvements

Role: Project Manager
> Marion County, WV

City of Weirton 5th Street Pumping Station

Role: Staff Engineer
> Hancock County, WV

Town of Capon Bridge Sanitary Sewer Upgrades

Role: Project Engineer
> Hampshire County, WV

Malden Public Service District Wastewater Treatment Plant Upgrade

Role: Project Manager
> Kanawha County, WV

Town of Junior Wastewater Treatment Plant Upgrades

Role: Staff Engineer
> Barbour County, WV

City of Clarksburg Wastewater Treatment Plant Upgrade

Role: Staff Engineer
> Harrison County, WV



Your **ACTIVE PE** renewal fee has been received...

Your ACTIVE PE renewal fee has been received. Your pocket card indicating you are entitled to practice engineering in West Virginia until the noted expiration date may be detached and used unless invalidated as a result of Board audit of your renewal form or formal disciplinary action.

IMPORTANT REMINDERS:

1. Please include your WV ACTIVE PE license number on any correspondence to this office.
2. To use this license as a pocket card, please cut along the dotted line and laminate if desired.
3. You are required to immediately notify the Board, in writing, of the following: loss or theft of license or seal, any name change, any address change, or any employment change.

West Virginia State Board of Registration for Professional Engineers

300 Capitol Street, Suite 910
Charleston, West Virginia 25301
304-558-3554 Phone
800-324-6170 Toll Free
www.wvpebd.org

THIS IS ONE FORM OF YOUR RENEWAL RECEIPT

PLEASE SAVE THIS FOR YOUR RECORDS

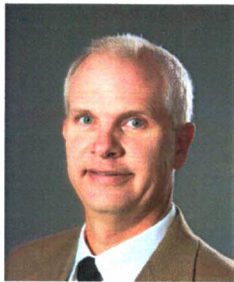
Date of Renewal: December 4, 2018
Amount Paid: \$70.00



JESSE LEE ALDEN
THE THRASHER GROUP, INC.
300 ASSOCIATION DRIVE
CHARLESTON, WV 25311

JEFF EKSTROM, PE

Treatment Plant Process Engineer



Jeffrey Ekstrom, PE is a Project Manager who thrives on managing multiple tasks to meet the needs of clients. Throughout his 24 years of experience, Mr. Ekstrom has used his organizational, problem solving and leadership skills to manage, and lead the design of infrastructure projects ranging from \$100,000 to \$31 million in construction costs.

His area of specialty is environmental engineering with focus on the design of water and wastewater treatment plants. Mr. Ekstrom is noted for being the first engineer to design treatment plants that implement new technologies in the state of West Virginia. This accomplishment has made him a sought after water and utility engineer. Mr. Ekstrom puts clients first and provides them with options on the most practical and economical ways are to solve a problem. His problem-solving skills and knowledge on water and wastewater plants make him invaluable to Thrasher.

In June of 2018, Jeff took over as the 2018-2021 West Virginia Representative on the American Water Works Association's (AWWA) National Board of Directors. Jeff was nominated and voted in by the West Virginia Section of AWWA Board of Trustees. As part of his duties with the National Board, Jeff will be working to help establish policies for the overall management and direction of National AWWA affairs.

Education

Bachelor of Science,
Civil Engineering
West Virginia Institute of
Technology

Registrations

Professional Engineer:

- > West Virginia
- > Ohio
- > Kentucky
- > Maryland
- > Virginia

Affiliations

- > American Water Works Association - Board Member, National Director
- > Water Environment, West Virginia Section

Experience

City of Romney Wastewater Treatment Plant and Lift Station Upgrades

Role: Project Engineer

- > Hampshire County, WV

Oak Hill Sanitary Board Wastewater Treatment Plant Upgrade

Role: Treatment Plant Engineer

- > Fayette County, WV

Shepherdstown Wastewater Treatment Process Design for Chesapeake Bay Initiative

Role: Project Engineer

- > Jefferson County, WV

Berkeley County Public Service District Inwood Wastewater Treatment Plant Bay Upgrade

Role: Treatment Plant Engineer

- > Berkeley County, WV

Beckley Sanitary Board Wastewater Treatment Plant Upgrade

Role: Project Engineer

- > Raleigh County, WV



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800-324-6170 Toll Free
www.wvpebd.org

THIS IS ONE FORM OF YOUR RENEWAL RECEIPT

PLEASE SAVE THIS FOR YOUR RECORDS

Date of Renewal: December 7, 2018
Amount Paid: \$70.00

 **West Virginia State Board of Registration for Professional Engineers**

JEFFERY D. EKSTROM
WV PE #013101

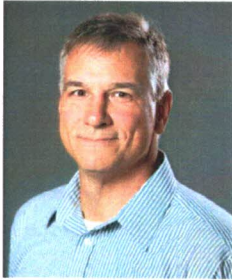
This is to certify that the above named PROFESSIONAL ENGINEER has met the requirements of the law, is duly registered and is entitled to practice engineering in the State of West Virginia.

EXPIRES December 31, 2020

JEFFERY D. EKSTROM
THE THRASHER GROUP, INC.
300 ASSOCIATION DRIVE
PO BOX 2431
CHARLESTON, WV 25311

FRED ROMAN

Class IV Wastewater Operator



Education

Bachelor of Science,
Wildlife Management
West Virginia University

Certifications

- > Licensed Class IV
Wastewater Operator

Following a 15 year career serving as the Superintendent for a large municipal system in north-central West Virginia, Fred Roman joined the team at Thrasher as a Project Representative. Fred brings a high level of hands-on experience in the technical operations of city utilities including water, stormwater, and wastewater service. While Fred is well-versed in all of these areas, he has a specific interest in wastewater systems. Fred is a licensed Class IV wastewater operator, which means he is able to thoroughly walk his clients through the operation of their unique plant step-by-step. He uses his knowledge and practical expertise to aid in not only the construction process, but the start-up of new facilities. Fred's dedication to his clientele goes beyond simply starting their plants; he is there to troubleshoot problems and help municipalities solve their operational issues.

Experience

Town of Capon Bridge Wastewater Treatment Plant

Role: Wastewater Operator
> Hampshire County, WV

City of Romney Wastewater Treatment Plant Construction Management Oversight

Role: Construction Manager
> Hampshire County, WV

Potomac Park & Resort Wastewater Treatment Plant

Role: Wastewater Operator
> Berkeley County, WV

Town of Terra Alta Wastewater Treatment Plant

Role: Wastewater Operator
> Preston County, WV

City of Weston Wastewater Treatment Plant

Role: Wastewater Operator
> Lewis County, WV





Malden Public Service District

Mr. Chet Williamson, General Manager
PO Box 35
Tad, WV 25201
304-925-6997

City of Weirton

Mr. Butch Mastrantoni, Utilities Director
125 East Bellview Drive
Weirton, WV 26062

Union Public Service District

Mr. Earl Burks, General Manager
5110 Washington Street West
Cross Lanes, WV 25313
304-776-3131

THRASHER

ARCHITECTURE | ENGINEERING | FIELD SERVICES