



West Virginia Purchasing Division

2019 Washington Street, East
Charleston, WV 25305
Telephone: 304-558-2306
General Fax: 304-558-6026
Bid Fax: 304-558-3970

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

List View

General Information [Contact](#) [Default Values](#) [Discount](#) [Document Information](#)

Procurement Folder: 146152

SO Doc Code: CEOI

Procurement Type: Central Contract - Fixed Amt

SO Dept: 0310

Vendor ID: 000000204789 

SO Doc ID: DNR1600000006

Legal Name: THRASHER GROUP NC

Published Date: 10/21/15

Alias/DBA:

Close Date: 11/18/15

Total Bid: \$0.00

Close Time: 13:30

Response Date: 11/18/2015 

Status: Closed

Response Time: 12:43

Solicitation Description: Addendum No 02, Water & wastewater improvements. 

Total of Header Attachments: 0

Total of All Attachments: 0



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

**State of West Virginia
 Solicitation Response**

Proc Folder : 146152

Solicitation Description : Addendum No 02, Water & wastewater Improvements.

Proc Type : Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-11-18 13:30:00	SR 0310 ESR11181500000002322	1

VENDOR
000000204789 THRASHER GROUP INC

FOR INFORMATION CONTACT THE BUYER
 Guy Nisbet
 (304) 558-2596
 guy.l.nisbet@wv.gov

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	Architectural engineering				

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description : AE Services for Babcock wastewater treatment plant replacement and Droop Mountain water supply improvements.



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

State of West Virginia
 Centralized Expression of Interest
 02 – Architect/Engr

Proc Folder: 146152

Doc Description: Addendum No 02, Water & wastewater Improvements.

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-10-21	2015-11-18 13:30:00	CEOI 0310 DNR1600000006	3

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:
 The Thrasher Group, Inc.
 PO Box 940, 600 White Oaks Blvd.
 Bridgeport, WV 26330
 304-624-4108

FOR INFORMATION CONTACT THE BUYER

Guy Nisbet
 (304) 558-2596
 guy.l.nisbet@wv.gov

Signature X *[Handwritten Signature]*

FEIN # 55-0633596

DATE 11/18/15

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

ADDITIONAL INFORMATION:

Addendum

Addendum No.02 issued to publish and distribute the attached information to the vendor community.

Expression of Interest

The West Virginia Purchasing Division for the Agency, The West Virginia Division of Natural Resources, Parks and recreation Division is soliciting CEOI responses from qualified firms to provide necessary engineering services for a small wastewater treatment plant at Babcock State Park Pool, Clifftop, WV. and improvements to the water supply at Droop Mountain State Park, Hillsboro, WV.. per the attached CEOI specifications, and terms & conditions

INVOICE TO	SHIP TO
DIVISION OF NATURAL RESOURCES PARKS & RECREATION-PEM SECTION 324 4TH AVE SOUTH CHARLESTON WV25305 US	STATE OF WEST VIRGINIA JOBSITE - SEE SPECIFICATIONS No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Architectural engineering	0.00000	

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description :

AE Services for Babcock wastewater treatment plant replacement and Droop Mountain water supply improvements.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

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 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, Inc.

Company



Authorized Signature

11/18/15

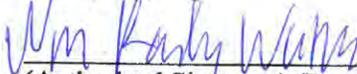
Date

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

CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained 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, Inc.
(Company)

 Randy Watson, Principal-in-Charge
(Authorized Signature) (Representative Name, Title)

ph. (304) 624-4108 fax (304) 624-7831 11/18/15
(Phone Number) (Fax Number) (Date)

THRASHER

West Virginia Division of Natural Resources Babcock and Droop Mountain State Parks Wastewater and Water Supply Project



Submitted by:
THE THRASHER GROUP
NOVEMBER 18, 2015

November 17, 2015

Division of Natural Resources
Parks & Recreation-PEM Section
324 4th Avenue
South Charleston, WV 25305

RE: Babcock and Droop Mountain State Parks Wastewater and Water Supply Improvements

Dear Members of the Selection Committee,

Thrasher understands the impact water and wastewater services have on a Park's ability to function and prosper, and that is something our team takes very seriously. A large portion of Thrasher's success can be attributed clients like the WVDNR and the state park systems. We know that the Thrasher team can provide the technical expertise and more importantly, the superior service it takes to move these two projects forward. We have a vested interest in these parks because we not only work here, but live here and play here.

Thrasher is the right engineering firm for your project for several reasons:

- **Resources for immediate action:** Our engineers and field personnel are readily available and will assure timely response to your needs
- **Expertise:** The Thrasher team has done more water/sewer improvement projects in the State of West Virginia than any other firm submitting on this EOI. From our ACEC award winning Hardy County Water Plant Project to our ACEC award winning Crown Community Sewer project, our team has unparalleled technical expertise in both water and sewer projects.
- **Cost effectiveness:** Thrasher has offices and staff all throughout the West Virginia which allows us to work more cost effectively for the WVDNR.

Thrasher's dedication to our clients, and the understanding that no other firm in West Virginia knows water and wastewater systems like we do, makes us the right fit for the projects at Babcock and Droop Mountain State Parks.

Sincerely,

THE THRASHER GROUP, INC.



RANDY WATSON
Principal-in-Charge

The Thrasher Group, Inc.

Formed in 1983, Henry A. Thrasher and H. Wood Thrasher created Thrasher with a commitment to excellence and professionalism in engineering. As the leading consulting engineering firm in the state of West Virginia, Thrasher specializes in all facets of engineering from site development to public works projects.

In 2005, the company added architecture services to our ever-expanding list of capabilities. Throughout the past 5 years, Thrasher has grown from roughly 200 employees to the over 300 people we presently employ. Thrasher is growing at a rapid pace and that has allowed us to bring aboard some of the most sought after talent around.

We believe that the partnership we establish with our clients is what makes them and their projects successful. This philosophy is the foundation of our growing company.

We have learned, regardless of our size, our commitment to this philosophy leads to successful projects.



The Thrasher philosophy is
PARTNERSHIP.

*Thrasher was recently named #37 on the
Zweig White Hot Firms - Fastest Growing
Firms in the Country.*

Main Point of Contact:

Randy Watson - Principal
600 White Oaks Boulevard
P. O. Box 940
Bridgeport, WV 26330
Phone: 304-624-4108
Fax: 304-624-7831

Office Locations:

Beaver, WV
Bridgeport, WV
Charleston, WV
Oakland, MD
Fredericksburg, VA
Canton, OH
Canonsburg, PA

Thrasher Information:

Incorporated in 1983
www.thrashereng.com

The Thrasher Group, Inc.

With multi-discipline capabilities, Thrasher covers all of the professional services needed to deliver successful projects to both public and private clientele. The firms' roots were planted in civil engineering and consulting services for public utility projects. Over the years, our success has allowed us to branch out, expanding our services to meet both the needs of our clients and the growing need for more responsive and effective solutions.

By providing a full range of quality professional engineering, surveying, architectural, environmental and related field services, this partnership has positioned itself as one of the leading consulting teams in the Mid-Atlantic region.

Disciplinary Practices :

- Water Treatment and Distribution
- Wastewater Collection and Treatment
- Civil Engineering
- Architecture
- Land & Site Development
- Roadways / Bridges /Streetscapes
- Storm Water Systems
- Dams and Levees
- Land Planning and Landscape
- Parks and Recreation
- Survey
- Construction Monitoring
- Materials Testing
- Environmental Services
- Pipeline Inspection
- GIS Mapping Software Development

Areas of Service:

- Planning
- Preliminary engineering
- Funding direction & application assistance
- Regulatory permitting
- Design and construction document preparation
- Bid documentation & process oversight
- Construction administration & monitoring
- Post construction service & on-going commitment
- Cost estimating

Successful projects require more from an engineering firm than just technical design expertise. At Thrasher, our project managers and engineers focus on all aspects of "getting the job done."

THRASHER

Project Management Scheduling and Budgeting

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. Our team puts an extra emphasis on making sure our projects stay on schedule. One of the ways we accomplish this, is by utilizing 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. 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:

At Thrasher we take construction estimating and budgeting very seriously. As a matter of fact it is considered the most important facet of what we do. Without accurate budgets, there is no tool to guide the design process. This is why we make cost estimating an integral part of the project from day one.

Our estimates go beyond the typical cost per foot of lump sum price. At Thrasher we do 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. We also have a great understanding of the local market and material costs which allows us to accurately design to meet your budget.

THRASHER



WASTEWATER COLLECTION AND TREATMENT

Thrasher has planned, designed, and supervised the construction of municipal, industrial, and individual wastewater collection and treatment projects throughout West Virginia and its surrounding states. 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 \$100,000 to \$50 million dollars, 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

WATER TREATMENT AND DISTRIBUTION

Meeting increasingly stringent water quality standards demands experienced and dedicated water system specialists. Since our very first water project over 30 years ago, there has always been a potable water project underway at Thrasher. These projects provide safe drinking water to towns, cities, and entire counties. The team at Thrasher are highly skilled and practiced in both conventional ground and surface treatment systems involving rapid mix, flocculation, sedimentation, filtration, membrane, and reverse osmosis processes.

Whether it is designing more efficient processes, integrating alternative energy sources, reducing water loss, increasing system capacity; our clients can count on Thrasher to find practical, low cost, environmentally friendly solutions to their supply needs.

WATER SERVICES:

- Distribution System Design
- Booster Stations and Hydraulic Modeling
- Water Loss Evaluation and Analysis Studies
- Feasibility Studies/Facility Planning
- Water Treatment Plant Design
- SCADA and Telemetry Systems
- Existing System Evaluation
- Storage Facility Design
- Pump Station Design
- Construction Monitoring
- Geographical Information Systems (GIS)

PIPELINE INSPECTION

Dealing with Inflow and Infiltration (I&I) can be both costly and time consuming. Thrasher provides a proficient pipeline inspection team and state of the art equipment to quickly and accurately identify the source of our client's pipeline problems.

Our team's experience in I&I sourcing allows our engineers to develop corrective strategies that are effective and budget conscious. Using our comprehensive approach to projects, Thrasher is able to perform Sanitary System Evaluation Surveys (SSES), and identify deficient pipeline systems, present pipeline conditions, and line locations. The collected data is provided to our clients and can then be used to determine the best method to rehabilitate or upgrade sanitary sewer and storm water systems.

Thrasher has equipment capabilities that are head and shoulders above the rest. We are able to inspect up to 1,000 linear feet of 4" to 30" pipe in one session. The team examines pipeline conditions including cracked and separated joints, faulty lateral connections and the location of system structures.

PIPELINE INSPECTION:

- Video Camera Inspections
- Flow Metering
- Smoke and Dye Testing
- Manual Inspections

CONSTRUCTION MANAGEMENT

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, 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.

CONSTRUCTION INSPECTION SERVICES:

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

QUALITY CONTROL AND ASSURANCE METHODS:

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

THRASHER SURVEY

SURVEY

Thrasher employs one of the largest survey departments in the Mid-Atlantic region and offers a wide range of land surveying and related services for federal, state, and private clients. We are committed to evolving our techniques and equipment to best serve our clients and their growing needs.

At Thrasher, we are able to provide both surveying and engineering services which provide a distinct advantage over survey-only companies. The combination of these two services provide our surveyors with a better understanding of what engineers and architects require to develop an appropriate design for different types of projects. Our field and survey personnel offer extensive experience, certified training, and flexibility to meet our clients' unique project schedules.

GENERAL SURVEY SERVICES:

- Large-scale Boundary Work
- Topographic Survey and Mapping
- ALTA/ACSM Survey and Mapping
- Lake and River Soundings
- Accident Reconstruction Survey and Mapping
- Drug-free Zone Mapping
- Expert Witness Testimony
- Construction Layout
- Permanent Project GPS Base Stations
- Building Control and Layout
- Road/Bridge Alignment and Staking
- Sewer/Water/Pipeline
- Site Layout
- Quality Assurance Surveying
- Volume/Quantity Surveys
- As-Built Surveys

GPS SURVEYS:

- Geodetic Control Networks
- Ground Control for Aerial Mapping
- Telecommunications
- FAA 1A and 2C Letters

ROUTE LOCATION SURVEYS:

- Transmission Lines
- Natural Gas Pipelines
- Wind Turbine
- Roadway, Railway and Rec Trails

COAL AND ENERGY SURVEYS:

- Pre and Post Mining Blast Surveys
- Water Quality Monitoring Plan
- Construction Layout
- Emergency Control Survey/Plans



Project Team



Randy Watson
Principal-in-Charge

Dan Ferrell, PE
Quality Assurance/Control

Jesse Alden
Project Manager

Robert Hebb
Project Engineer

Tom Urquhart, PE, BCEE
Hydraulics Modeling Engineer

Randy Watson

Principal-in-Charge



Randy Watson has extensive experience in water and wastewater projects across the Mid-Atlantic Region. Randy joined Thrasher in 1984 and has worked in and helped develop the utility department in that time. His responsibilities include overseeing engineering design, project acquisition, project funding applications, and construction management.

Randy undertakes each project with an extreme level of knowledge and experience which is beneficial to clients. Randy specializes in wastewater systems, water treatment and water plant design and rehabilitation. Randy has been very successful in assisting clients who face funding challenges.

Education:

- Bachelor of Science, Mining Engineering Technology - Fairmont State University
- Associate of Science, Design and Drafting - Fairmont State University

Registrations/Certifications:

- American Water Works Association

Related Experience Includes:

- **Brooke County PSD Sanitary Sewer Extension** - Brooke County, West Virginia
- **City of Weston Sanitary Sewer Extension** - Lewis County, West Virginia
- **Town of Franklin Sewage Treatment Lagoon** - Pendleton County, West Virginia
- **Federal Bureau of Prisons FBOP Sanitary Sewer and Potable Water Design** - Lackawanna County, Pennsylvania
- **Pocahontas County PSD Water Line Replacement** - Pocahontas County, West Virginia
- **Town of Elizabeth Water Line Extension** - Wirt County, West Virginia
- **Town of Farmington Public Service District Sewer Plant Upgrades and Water Replacement Projects** - Marion County, West Virginia



Clay Riley, PE

Quality Assurance/Control



As a key member of Thrasher's Utility Department, Clay focuses on the administration of water and wastewater projects in addition to serving as the Project Manager for utility clients. Assignment of the right project team for each client, project scheduling, quality assurance and quality control, and ensuring positive client relations are Clay's primary responsibilities.

Mr. Riley is a Partner within Thrasher and has spent his entire engineering career with the firm, where his portfolio of work includes multi-phased projects to provide public utility service to areas within the Mid-Atlantic region. Clay also serves as the Infrastructure Chairman for the state of West Virginia ACEC Organization.

Education:

- Bachelor of Science, Electrical Engineering - West Virginia University
- Bachelor of Science, Computer Engineering - West Virginia University

Registrations/Certifications:

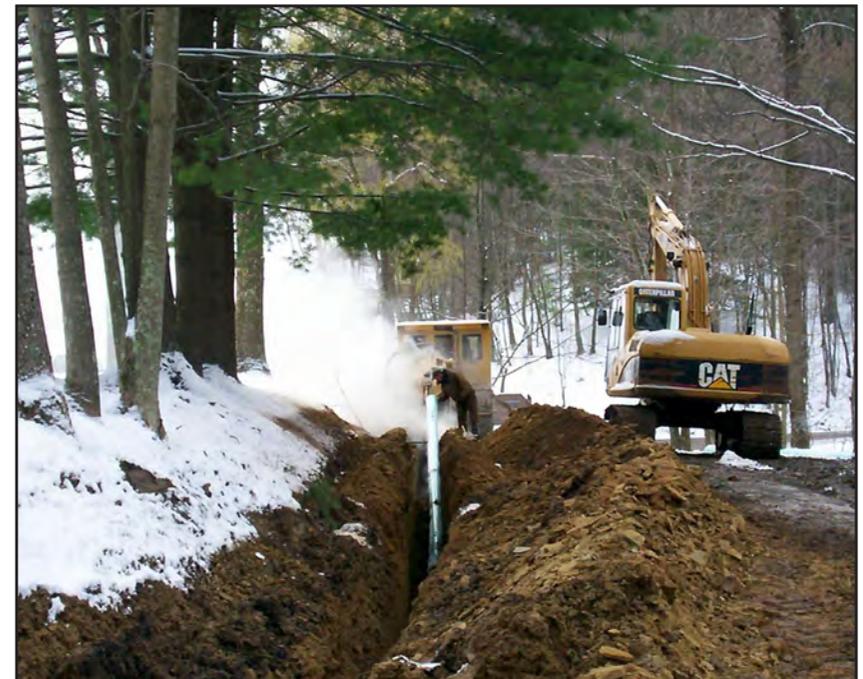
- Registered Professional Engineer (PE)
 - States of West Virginia, Maryland, Ohio, Pennsylvania, Kentucky, and North Carolina

Awards/Affiliations:

- ACEC Water Resources Gold Award
- ACEC Waste and Storm Water Gold Award
- West Virginia State Journal "Generation Next -40 Under 40" Recipient
- West Virginia Executive "Young Gun" Recipient

Related Experience Includes:

- **Hardy County Public Service District Caledonia Heights Sewer Project** - Hardy County, West Virginia
- **Hamrick Public Service District Blackman Flats Extension and WWTP Upgrade** - Tucker County, West Virginia
- **Greater Paw Paw PSD Crown Community Wastewater Project** - Marion County, West Virginia [*ACEC Gold Award - Waste and Storm Water 2014*]



Jesse Alden

Project Manager



Jesse Alden joined Thrasher in 2012 and serves as Staff Engineer in the Charleston office. Mr. Alden is involved in a number of various project and various disciplines for the firm, but specializes in utility engineering with a strong focus water and wastewater projects.

Mr. Alden is responsible for the all facets of design, contract specifications, preparation of permitting applications and coordination with various equipment manufacturers. Mr. Alden has proven himself to be a valuable member of the Utility Division through his hard work and dedication to his projects.

Education:

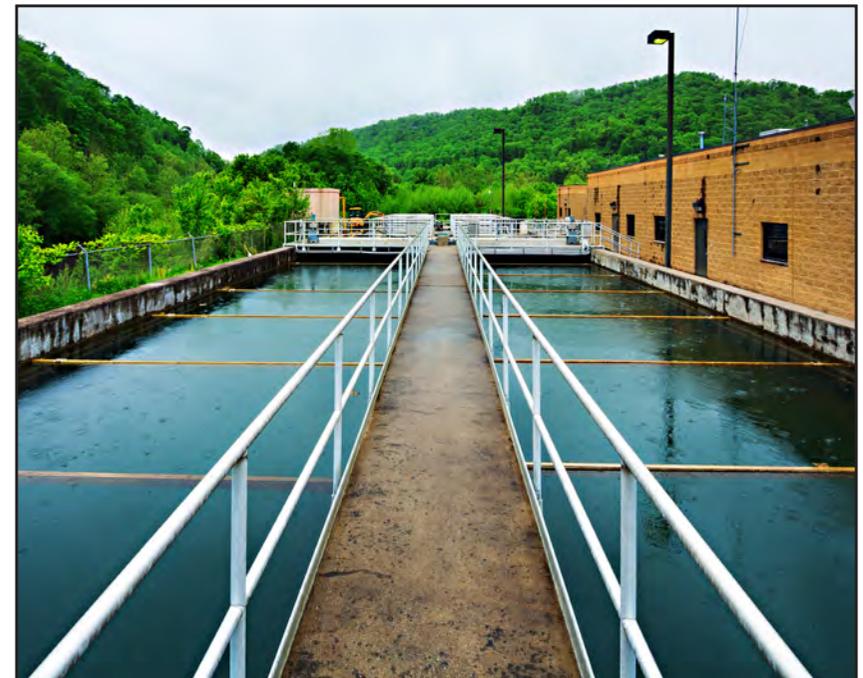
- Bachelor of Science, Civil Engineering Technology - Fairmont State University
- Associate Degree, Pharmaceutical Science - National Institute of Technology

Registrations/Certifications:

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

Related Experience Includes:

- **Weirton Water Board 18" Emergency Waterline** - Hancock County, West Virginia
- **Town of Rowlesburg Water System and Plant Upgrade Project** - Preston County, West Virginia
- **City of Milton Water Treatment Plant Upgrade** - Cabell County, West Virginia
- **Mingo County Public Service District Naugatuck to East Kermit Water Line Extension Project** - Mingo County, West Virginia



Robert Hebb

Project Engineer



Mr. Hebb joined Thrasher in 2010 and is responsible for all components of construction management and monitoring of utility projects in the field. Mr. Hebb has international experience as a result of his time with the Royal Engineers of the British Army.

Mr. Hebb has worked extensively with several private oil and gas industry clients on water tank projects. These projects include several multi-tank sites with secondary containment and supply lines. Robert's work and his excellent communication skills have proven him to be an outstanding client liaison.

Education:

- Bachelor of Engineering (Hons)
- Graduate of Management and Leadership Training Programs

Awards/Affiliations:

- Requirements for Electrical Installation BHS 7671 2008 17th Edition
- Inspection, testing and Certification of Electrical Installations
- Site Safety Supervisors Course
- Military Engineer Electrician Course
- Installing Electrical Systems and Equipment Course
- Electrical Installation Engineering

Related Experience Includes:

- **Grandview Doolin Public Service District Water Line Extensions and System Improvements** - Wetzel and Marshall Counties, West Virginia
- **Ellenboro Lamberton Public Service District Water Line Extensions** - Ritchie County, West Virginia
- **Town of Sun Valley Public Service District 35 Miles of Water Line Extensions** - Harrison County, West Virginia
- **Hardy County Public Service District 15 Miles of Water Line Extensions, Construction of 2 Storage Tanks, 1 Booster Pump Station and Water Plant Construction** - Hardy County, West Virginia



Tom Urquhart, PE, BCEE

Hydraulics Modeling Engineer



Following 33 years as chief engineer and general manager for the Morgantown Utility Board. Tom Urquhart joined Thrasher to focus his engineering expertise in quality control and hydraulics modeling for both water and wastewater systems, utilizing the KY Pipe Modeling. Tom, a Board Certified Environmental Engineer (BCEE) and has experience in civil engineering of public utilities including design and construction of water storage tanks, new and replacement water and sanitary sewer lines, pump stations, water treatment and wastewater treatment plants. He also has extensive experience in management and operations of public utilities systems, including budgeting and rate structures.

Tom was awarded the George Fuller Award from the American Water Works Association for his management and operations of the Morgantown Utility Board. This included his recognition of his ability to budget and develop rate structures.

Education:

- Master of Science, Civil Engineering - West Virginia University
- Bachelor of Science, Civil Engineering - West Virginia University

Registrations/Certifications:

- Registered Professional Engineer (PE)
 - States of West Virginia, Ohio, Maryland, and Pennsylvania

Related Experience Includes:

- **Norton Harding Jimtown Public Service District Kingsville Water Line** - Randolph County, West Virginia
- **Timberline Four Seasons Resort Complete Hydraulic Modeling** - Tucker County, West Virginia
- **Pocahontas County Public Service District County-wide Hydraulic Modeling** - Pocahontas County, West Virginia
- **Mingo County Public Service District Water Line Extensions Modeling** - Mingo County, West Virginia



West Virginia Division of Natural Resources State Park Experience

Chief Logan State Park Conference Center

The Chief Logan State Park was in need of a conference center. Thrasher, as the site development consultant, teamed with an architectural firm and was hired by the West Virginia Division of Natural Resources to provide the State Park with utility, site development and roadway design for the new conference center.

Lost River Wastewater Collection System

The West Virginia Division of Natural Resources hired Thrasher to provide services for a new wastewater collection system for the Lost River State Park. Along with the construction of the wastewater collection system, Thrasher provided erosion and sediment analysis, roadway repairs and the construction of an underground electrical system, eliminating over 49 power poles and 12,400 LF of electrical lines.

Watoga Water and Sanitary Sewer Improvement

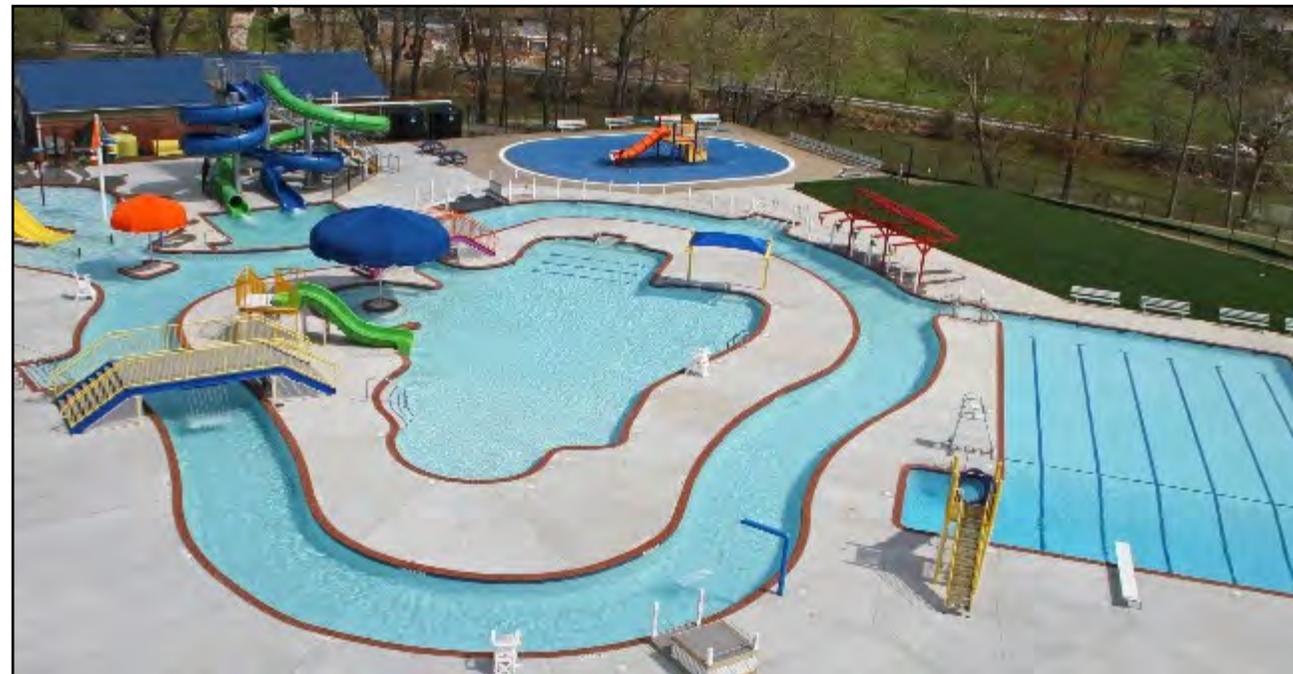
Thrasher was able to provide the West Virginia Division of Natural Resources at Watoga State Park with water and sewer system improvements. The Thrasher team provided design and construction services at the park consisting of water line extension and new water treatment facilities. It was important to the Division of Natural Resources to keep the areas of construction with the least amount of disturbance as possible.



City of Clarksburg VA Pool Lines and Pump Station Upgrade

Similar to the project at Babcock, The City of Clarksburg needed to renovate an antiquated system in order to accommodate the new VA Pool, Lazy River, and Splash Park. The key to this project, like at Babcock State Park, was accommodating the peak flow rates when sizing the new plant. The design intercepted the existing discharge line and included a new pump station dedicated specifically to the new VA Pool and Splash Park.

This project presented a unique challenge to the Thrasher team because the design of the pump station had to handle the filter cycle of the pool. This made the project very dissimilar to a standard sewage pump station. At Clarksburg, once the new Splash Park was built, the backwash water from the pool was too high in capacity.



Contact:

City of Clarksburg
Mr. Martin Howe, City Manager
222 West Main Street
Clarksburg, WV 26301
304-624-1677

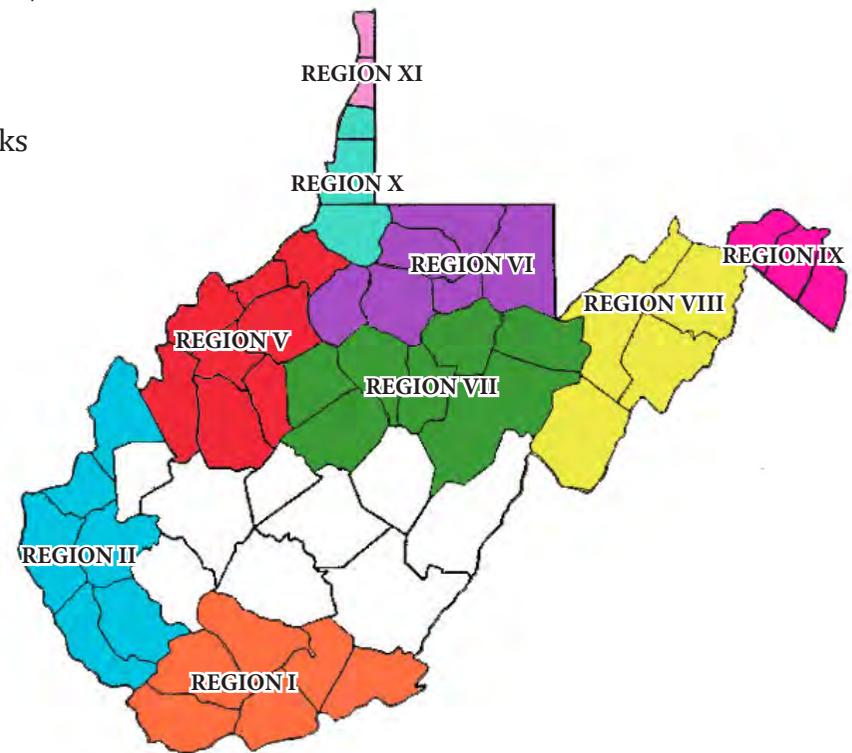
Project Manager:

Dan Ferrell, PE

Source Water Assessments State of West Virginia

Thrasher has been retained to develop multiple Source Water Protection Plans as required by Senate Bill 373. Below is a comprehensive list of the utilities and map of the Regions for which Thrasher is either currently, or has completed Source Water Assessments.

- Athens
- Big Bend PSD
- Bluewell PSD
- Buffalo Creek PSD
- Burnsville Public Utility
- Central Hampshire PSD - Green Spring
- Chester Water System
- Clarksburg Water Board
- Fairmont
- Flatwoods Canoe Run PSD
- Follansbee Hooverson Heights
- Fort Gay Water Works
- Gilbert Water Works
- Glenville Utility
- Green Valley Glenwood PSD Bulltail
- Green Valley Glenwood PSD Glenwood
- Hammond Public Service
- Harman
- Kenova Municipal Water
- Kermit Water Works
- Kingwood Water Board
- Lincoln PSD
- Logan
- Logan County PSD - Greenville
- Logan County PSD - Northern
- Lumberport
- Man Water Works
- Matewan Water Works
- McDowell County PSD Bartley
- McDowell County PSD Berwind
- Middlebourne
- Milton Water
- Mingo County PSD - Naugatuck
- Monongah
- Oceana
- Pendleton County PSD - Upper Tract
- Pinveville Municipal
- Pocahontas Water System, VA
- Preston County PSD 1
- Red Sulphur PSD
- Ripley
- Rowlesburg Water Works
- Shinnston
- Sistersville
- Sugar Creek PSD
- Taylor County PSD
- Timberline Four Seasons Resort Management
- Weirton Area Water System
- West Hamlin Municipal Water
- West Union
- Wayne Water
- Williamson Utility Board



Source Water Assessments

Region II

Thrasher has been retained to develop multiple Source Water Protection Plans as required by Senate Bill 373. The project to develop the plans is grant funded, however, it would require time from each utility to gather data needed to evaluate the existing water system and determine alternative water source options. To minimize the impact to the utilities, Thrasher developed a checklist based on the WV Health Department Requirements for the Plans that was used during meetings to capture existing data. By using this checklist approach, the time needed from each utility was limited to just a couple hours. Following this brief meeting, Thrasher developed the Source Water Protection Plan and evaluated a minimum of two secondary water source alternatives.

Project Challenge:

Some of the utilities faced specific time constraints which resulted in scheduling conflicts. This challenge is the direct result of limited full time staff. Thrasher overcame this obstacle by adapting our data collection process which allowed flexibility in working with the utilities.



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Region II Clients Include:

- West Hamlin Municipal Water
- Buffalo Creek PSD
- Fort Gay Water Works
- Gilbert Water Works
- Kermit Water Works
- Logan County PSD - Greenville
- Logan County PSD - Northern
- Lincoln PSD
- Milton Water
- Kenova Municipal Water
- Logan
- Man Water Works
- Matewan Water Works
- Mingo County PSD - Naugatuck
- Wayne Water
- Williamson Utility Board

Source Water Assessments

Region VIII

Thrasher has been retained to develop multiple Source Water Protection Plans as required by Senate Bill 373. The project to develop the plans is grant funded, however, it would require time from each utility to gather data needed to evaluate the existing water system and determine alternative water source options. To minimize the impact to the utilities, Thrasher developed a checklist based on the WV Health Department Requirements for the Plans that was used during meetings to capture existing data. By using this checklist approach, the time needed from each utility was limited to just a couple hours. Following this brief meeting, Thrasher developed the Source Water Protection Plan and evaluated a minimum of two secondary water source alternatives.

Project Challenge:

During the evaluation for water system interconnections, some utilities were found to be very isolated. Thrasher had to evaluate a broad area of neighboring utilities and the possibility of multiple interconnections to sustain the water system.



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Region II Clients Include:

- Central Hampshire PSD - Green Spring
- Pendleton County PSD - Upper Tract

Source Water Assessments

Region VII

Thrasher has been retained to develop multiple Source Water Protection Plans as required by Senate Bill 373. The project to develop the plans is grant funded, however, it would require time from each utility to gather data needed to evaluate the existing water system and determine alternative water source options. To minimize the impact to the utilities, Thrasher developed a checklist based on the WV Health Department Requirements for the Plans that was used during meetings to capture existing data. By using this checklist approach, the time needed from each utility was limited to just a couple hours. Following this brief meeting, Thrasher developed the Source Water Protection Plan and evaluated a minimum of two secondary water source alternatives.

Project Challenge:

When evaluating neighboring utilities as an alternative in Region VII, many of the utilities were utilizing the same water source. As a result, these sources could not be utilized in the event of contamination. Thrasher had to expand and evaluate additional areas to find alternative sources in a separate watershed.



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Region II Clients Include:

- Burnsville Public Utility
- Flatwoods Canoe Run PSD
- Glenville Utility
- Sugar Creek PSD
- Harman
- Timberline Four Season Resort Management

Greater Paw Paw Public Service District Crown Community Wastewater System

In 2008, the Monongalia County Health Department (MCHD) issued a report regarding health issues in the community of Crown brought about by the lack of appropriate wastewater collection systems for the citizens of the area. Some of the 43 residencies utilized undersized and failing individual septic systems while other residencies' sewer discharged directly into drainage areas or streams.

Comparing the waste conditions in the area to those seen in Third World countries, the MCHD turned to The Greater Paw Paw Public Service District (PSD) to assist in the improvements of this condition as the Crown community is located within the geographic area that could be served by the PSD.

Thrasher was highly involved in the preliminary assessment and planning for the project and worked with the PSD to best address the issues. This identifying various options, including the use of a package treatment system for the area. Additionally, preliminary cost estimates and possible funding options were reviewed, including the use of a "green funds" grant from the West Virginia Department of Environmental Protection's (WV DEP) State Revolving Funds.

Working with the WVDEP, utilization of an environmentally friendly package plant system with a drip irrigation field was selected and CWSRF "Green" Infrastructure Fund was utilized.



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Project Manager:

Clay Riley, PE



Preston County Sewer Public Service District Valley Point Sewer Collection System and 10,000 GPD WWTP

In November of 2014, The Thrasher Group wrapped up the Valley Point Sewer Collection System and 10,000 GPD WWTP Project for the Preston County Sewer PSD. The Sewer PSD had been asked to come in and take over the sewer collection for the Glade Meadows Subdivision that was previously unserved by a sewer utility. The developer of Glade Meadows had originally set up all properties to drain sewage into a pond on his land which was unsanitary.

The Sewer PSD agreed, however, the nearest existing system was approximately 5 miles away, making it not feasible to connect to the existing system. Therefore, Thrasher explored options for the construction of a collection system with an independent wastewater treatment plant in the area of Glade Meadows Subdivision.

Thrasher requested a Wasteload Allocation for the planning purposes of constructing a new wastewater treatment plant located along Glade Run to treat the sewage collected in the project area. The response from the WV DEP indicated that a wasteload allocation for discharge into Glade Run would be denied due to inadequate stream flow levels. Additionally, a wasteload allocation for a discharge into Fickey Run, a nearby stream with a larger flow, would result in strict effluent limits of 5 mg/l BOD5, 3 mg/l NH3-N, and 6 mg/l D.O. and be subject to antidegradation review.

Therefore, to meet the requirements for antidegradation review, Thrasher evaluated alternatives for this project using the construction of a gravity collection system and new, packaged, extended aeration wastewater treatment plant as the baseline case and compared other options to the baseline.

In addition to the baseline case, an option was evaluated to extend the discharge to Fickey Run, a nearby stream with a larger flow. Other options studied included the use of bio membrane treatment technology, the use of smaller on-site treatment systems, and the extension of the collection system to the existing plant that was 5 miles away.

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Project Manager:

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Grandview-Doolin Public Service District Water Treatment Plant Upgrades and Line Extensions

Grandview-Doolin Public Service District and Thrasher have worked in partnership on numerous projects to improve and expand the PSD's water treatment and distribution system to support economic development within their region, serving manufacturing and coal industries.

Water Storage Tank and Extension

The PSD was approached by BPB to extend a potable water line to a new gypsum wallboard manufacturing facility located along Route 2 near Graysville. Thrasher was hired to work with the PSD to analyze their system, determine what upgrades might be needed to serve the BPB facility and provide engineering services to complete the project. Thrasher performed a hydraulic analysis utilizing a KY Pipe Hydraulic Model that determined feed lines to the water tank would need upgraded in size. The project included upgrading the feed lines from 2" to 6" and installing a 1.4 mile water distribution line extension to the manufacturing facility.

Water Line Extension to McElroy Coal Mine and Mitchell Power Plant

After the successful BPB project, the PSD again chose Thrasher to assist them in planning and engineering a water line extension related to expanding economic development within the area. This extension, consisting of approximately 1.5 miles of 6" line, now provides potable water to McElroy Coal on WV State Route 2 and to the Mitchell Power Plant.

Water System Upgrades: Water Treatment Plant, Storage, and Line Extensions

The PSD again selected Thrasher to assist with a water line extension project. The Grandview Doolin PSD serves 848 residential customers, 33 commercial customers, and 2 industrial customers in Wetzel County and southern Marshall County. However, there were still numerous households in the PSD's service area without potable water.

Thrasher and PSD worked together to extend water to approximately 150 residents, which increased the customer base to nearly 1000.

Thrasher is currently working alongside the PSD to make improvements to the water treatment facility, which utilizes ground water for its raw water source. These improvements include chlorination, filtration, and repairs to its clearwell.



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304-455-1921

Project Manager:

Randy Watson

Town of Union

40th Street WWTP Upgrade and Tyler Mountain Extensions

The Union PSD operates two (2) wastewater treatment plants. Thrasher performed a facility study of the 40th Street wastewater treatment plant - an extended aeration treatment plant operated in the contact stabilization mode, which was built in the 1960's and upgraded in 1991.

The 40th Street wastewater treatment plant was properly maintained, however during the investigation and study phase of the project, it was determined some of the wastewater equipment had come to the end of its useful life. It was also determined that this plant was in need of an increase in its capacity due to the commercial and residential growth in the area.

Upgrades to the 40th Street wastewater treatment plant consisted of replacing two (2) influent pumps, constructing a new screening and grit removal system, two (2) new contact stabilization tanks, four (4) new clarifiers, new sludge return pump station, a new office building, upgrading non-potable water system, demolishing existing office building, constructing new office building/garage, structural repairs to existing contact stabilization tanks, site work, piping, concrete electrical and mechanical.

Tyler Mountain Extensions

Also included in the project were gravity system extensions to the Big Tyler Mountain and Little Tyler Mountain areas, consisting of approximately 3 miles of pipeline for each extension.



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Project Manager:

Wayne Morgan, PE

Hardy County Public Service District Water Extensions and Treatment Plant Project

Thrasher has served as the engineer of record for Hardy County Public Service District for over ten years in a multi-phase project to provide potable water throughout rural sections of the county.

Five-Phase Water Line Extension Project

In evaluating potential areas of water service for the Hardy County PSD, Thrasher and the PSD assessed every county route and mapped rural roads in the central region of the county for total distance, total number of customers, and customer density. Limits of the study area were defined by County lines, WV State line, and South Branch Mountain. Some areas of the PSD receive water from the Town of Moorefield while others are now served by the Hardy County PSD water treatment plant.

Raw Water Intake and Water Treatment Plant

The Baker / Mathias Water Distribution System, now provides water to the Central region of Hardy County to approximately to 518 customers at a total project cost of \$11,150,000 which included a new water treatment plant, adequately sized distribution lines, and associated soft costs. Thrasher developed a preliminary engineering study providing both surface water and ground water source alternatives. The selected alternative was to utilize the Lost River Site 10 dam, constructed by the Natural Resources Conservation District. This dam is a multi-purpose dam intended for water supply and flood control.



Treatment Pilot Study and Water Treatment Plant Design and Construction

Thrasher conducted a six-week pilot study to treat surface water to determine the effectiveness of chemical addition flocculation and sedimentation followed by membrane ultra filtration for removal of iron manganese and turbidity from the surface water.

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Project Manager:

Clay Riley, PE

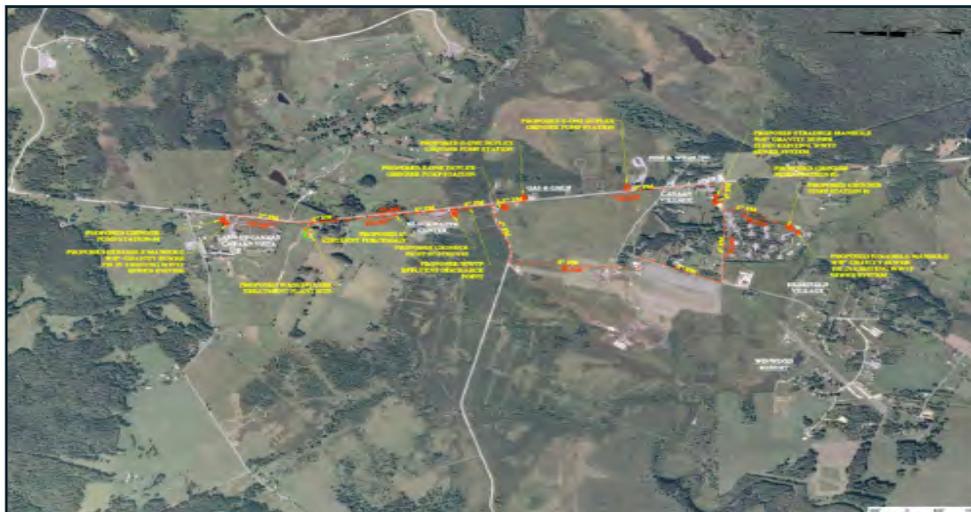
Canaan Valley Public Service District Regional Wastewater Collection System

This \$10.6 million dollar project involved addressing issues with the receiving stream of the upper Blackwater River, which was listed on the impaired stream (303D) list. The USEPA, WVDEP and USGS analyzed the upper Blackwater River for total maximum daily loads (TMDL).

Thrasher was brought in to address issues discovered by those agencies. Included in the process was Thrasher's participation in a series of Public Service Commission hearings on behalf of the Tucker County Commission to assist in the formation of the new Canaan Valley PSD.

Thrasher was then hired by the newly formed Canaan Valley PSD to analyze the valley area for the development of a public sanitary sewer system. Multiple tasks were performed with this project from working with the Environmental Protection Agency and the West Virginia Department of Environmental Protection regarding the TMDL on the Blackwater River. The project solution provided a managed stream point discharge solution for the Valley.

Working with the new PSD, Thrasher designed and provided all services to bid and construct a sewer system that includes two membrane biological reactor (MBR) wastewater treatment plants and a gravity collection system. Multiple funding sources, including USEDPA, USEPA, West Virginia Infrastructure Jobs and Development Council, WVDEP Green Funding through the American Recovery and Reinvestment Act (ARRA or Stimulus Dollars) as well as local funding, were used to make this effort a reality.



Contact:

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Project Manager:

Clay Riley, PE

References

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