



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: 159029

SO Doc Code: CEOI

Procurement Type: Central Contract - Fixed Amt

SO Dept: 0310

Vendor ID: 000000204789

SO Doc ID: DNR1600000011

Legal Name: THRASHER GROUP INC

Published Date: 11/20/15

Alias/DBA:

Close Date: 12/2/15

Total Bid: \$0.00

Close Time: 13:30

Response Date: 12/01/2015

Status: Closed

Response Time: 10:13

Solicitation Description: Addendum, repairs/compliance with DEP Dam Safety Requirement

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 : 159029

Solicitation Description : Addendum, repairs/compliance with DEP Dam Safety Requirement

Proc Type : Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-12-02 13:30:00	SR 0310 ESR12011500000002472	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 Services				

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description : A/E services to design repairs necessary to bring Cacapon Resort State Park's upper and lower dams and the Conaway Wildlife Management Area's dam into compliance with DEP's Dam Safety Requirements.



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: 159029

Doc Description: Dam repairs for compliance with DEP's Dam Safety Requirement

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2015-10-27	2015-12-02 13:30:00	CEOI 0310 DNR1600000011	1

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.f.nisbet@wv.gov

Signature X *Charles Biker*

FEIN # 55-0633596

DATE 11/23/2015

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

ADDITIONAL INFORMATION:

Expression of Interest

The West Virginia Purchasing Division for the Agency, The West Virginia Division of Natural Resources (WVDNR) is soliciting CEOI responses from qualified firms to provide a contract to provide necessary engineering and other related professional services to design and provide construction contract administration services for the repairs necessary to bring Cacapon Resort State Park Upper and Lower Dams and well as Conaway Wildlife Management Area Dam in to compliance with DEP Dam Safety Requirements per the specifications and terms and conditions as attached.

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 Services		

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description :

AE services to design repairs necessary to bring Cacapon Resort State Park's upper and lower dams and the Conaway Wildlife Management Area's dam into compliance with DEP's Dam Safety Requirements.

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 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
Christopher B. B...
Authorized Signature

11/23/2015
Date

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

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: 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 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, Inc.

Authorized Signature: *Chadwick Blum* Date: 11/23/2015

State of West Virginia

County of Harrison, to-wit:

Taken, subscribed, and sworn to before me this 23 day of November, 2015.

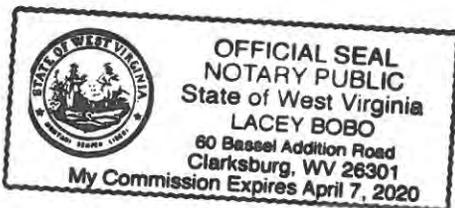
My Commission expires April 7, 2020.

AFFIX SEAL HERE

NOTARY PUBLIC

Lacey S

Purchasing Affidavit (Revised 08/01/2015)

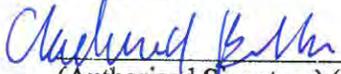


CERTIFICATION AND SIGNATURE PAGE

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)



Chadwick Biller, PE: Principal-in-Charge

(Authorized Signature) (Representative Name, Title)

ph. (304) 624-4108 fax (304) 624-7831 11/23/15

(Phone Number) (Fax Number) (Date)

THRASHER

A photograph of a dam in a park setting. The dam is a low, concrete structure with a grassy embankment on top. The water in the foreground is calm and reflects the sky and the trees. The background is a line of trees, some bare and some with green leaves, under a clear blue sky.

**Cacapon Resort State Park Dams
Conaway Run Wildlife Management Area Dam**

December 2, 2015

December 2, 2015

THRASHER

Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

**RE: Dam Repairs for Compliance with DEP's Dam Safety Requirement
0310 DNR 160000011**

Dear Members of the Selection Committee:

Thrasher is excited to answer this Request for Proposal as our impoundment/drainage team has completed many similar impoundment certifications, levee inspections and impoundment repair projects in order to meet the DEP impoundment regulations. We are in the middle of completing the necessary repairs to the Lower Dog Run Impoundment for the City of Salem which is nearly an identical situation to the Cacapon Dam project.

Our design team has an excellent relationship with Delbert Shriver, and through this relationship has corrected, or brought into compliance many impoundments throughout the State of West Virginia. We know impoundments and how to get them certified to meet state codes. We are a full service firm and can complete the project from concept through construction, including inspection and material testing all under one roof.

All the work will be completed by West Virginia residents who have a real interest in the improvement of our state through projects such as this. We look forward to being able to demonstrate our capabilities for you. Please review our qualifications and feel free to call me with any questions you may have.

Sincerely,

THE THRASHER GROUP, INC.



CHADWICK D. BILLER, PE
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. In early April of this year, it was confirmed that Thrasher acquired the Marion County-based Blackwood Associates architectural firm. Blackwood Associates brings over 40 years of experience throughout the state of West Virginia to the ever-growing Thrasher architecture division.

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:

Mr. Chad Biller, PE
600 White Oaks Boulevard
P. O. Box 940
Bridgeport, WV 26330
Phone: 304-624-4108
Fax: 304-624-7831

Office Locations:

Bridgeport, WV
Beaver, 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 firm's 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, Thrasher has positioned itself as one of the leading firms in the Mid-Atlantic region.

Disciplinary Practices :

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

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

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

Sequence of Events

- Review existing conditions
- Make sure Cacapon design meets WV code and is still adequate based on existing conditions
- Accurate surveys for base mapping
- Complete construction documents for Conaway Impoundment
- Advertise/Bid/Award contracts for construction (if needed)
- Construction management and supervision
- As-built dam certification by the WV DEP
- Project closeout



Dam Safety Engineering Investigation

Thrasher's engineers have conducted dam safety (hazard classification / rehabilitation assessment) for public and private clients. The dams investigated vary in function from single purpose structures (flood prevention or recreation) to multiple-purpose structures (flood prevention, water supply, and/or recreation).

Our objective in dam safety engineering investigation goes beyond the engineering aspects of the project; we work as a team with our clients to understand their present and future needs. With that information, we coordinate with the client to evaluate their dam and to offer the most effective solution that best suits their short and long-term goals.

Areas of Expertise:

- Dam hydrology and hydraulic principles and procedures
- Dam hazard classification
- Sedimentation storage requirements
- Geologic investigations
- Earth embankment and foundation design
- Principal and axillary spillway design



Environmental Reporting Services

In today's ever-changing regulatory landscape, compliance with federal and state environmental laws is critical to the success of any project. But compliance can often seem at odds with your project's vision and financial constraints. Thrasher's environmental team not only knows the regulations, but also provides common sense strategies and develops viable solutions.

Beginning with due diligence assessments and proceeding through project planning and permitting negotiations, Thrasher works closely with Federal and State regulatory agencies. We are also adept at meeting the requirements of multiple funding agencies. Our team has developed relationships with academic consultants from colleges and universities to assist us in performing specialized assessments.



Areas of Expertise:

- Permitting related activities (401 and 404)
- NEPA Environmental document preparation
- Wetland delineation and mitigation
- Water use and water quality
- Sediment and erosion control
- Consent orders and compliance schedules
- SPCC plans, Contingency plans, and Groundwater protection plans
- Storm water pollution prevention plans
- Waste treatment and site remediation
- Channel and stream bank stabilization
- Enforcement actions

Storm Water Systems

Thrasher is prepared to take on the challenge to make your storm water project a success. Regulations, the creation of public storm water utilities, and the focus on downstream effects of development are pushing storm water management issues to the forefront.

With these changes come the challenges, unfamiliarity and uncertainty that accompany most new initiatives for public entities and private developers alike. With a long, successful history of working with public utility clients, an understanding of the challenges facing developers, and a site development department that employs innovative, sustainable design principles for storm water control, Thrasher is uniquely qualified to serve as the engineer for your storm water project.



Areas of Expertise:

- Municipal Separate Storm Sewer System (MS4) consulting and compliance
- Design of pipelines, channels, and culverts
- Detention pond design
- SWPPP
- Underground storage/Injection wells
- Bio-retention systems
- NPDES permitting and compliance
- Watershed and flood studies
- HEC-RAS stream modeling
- Best Management Practices (BMP) evaluation and design
- Geographic Information Systems (GIS)

Similar Completed Projects:

- Buffalo Lake
- Salem Upper and Lower Dog Run
- Kitzmiller Levee
- Williamson and Matewan Levees

Survey and Geographic Information System (GIS)

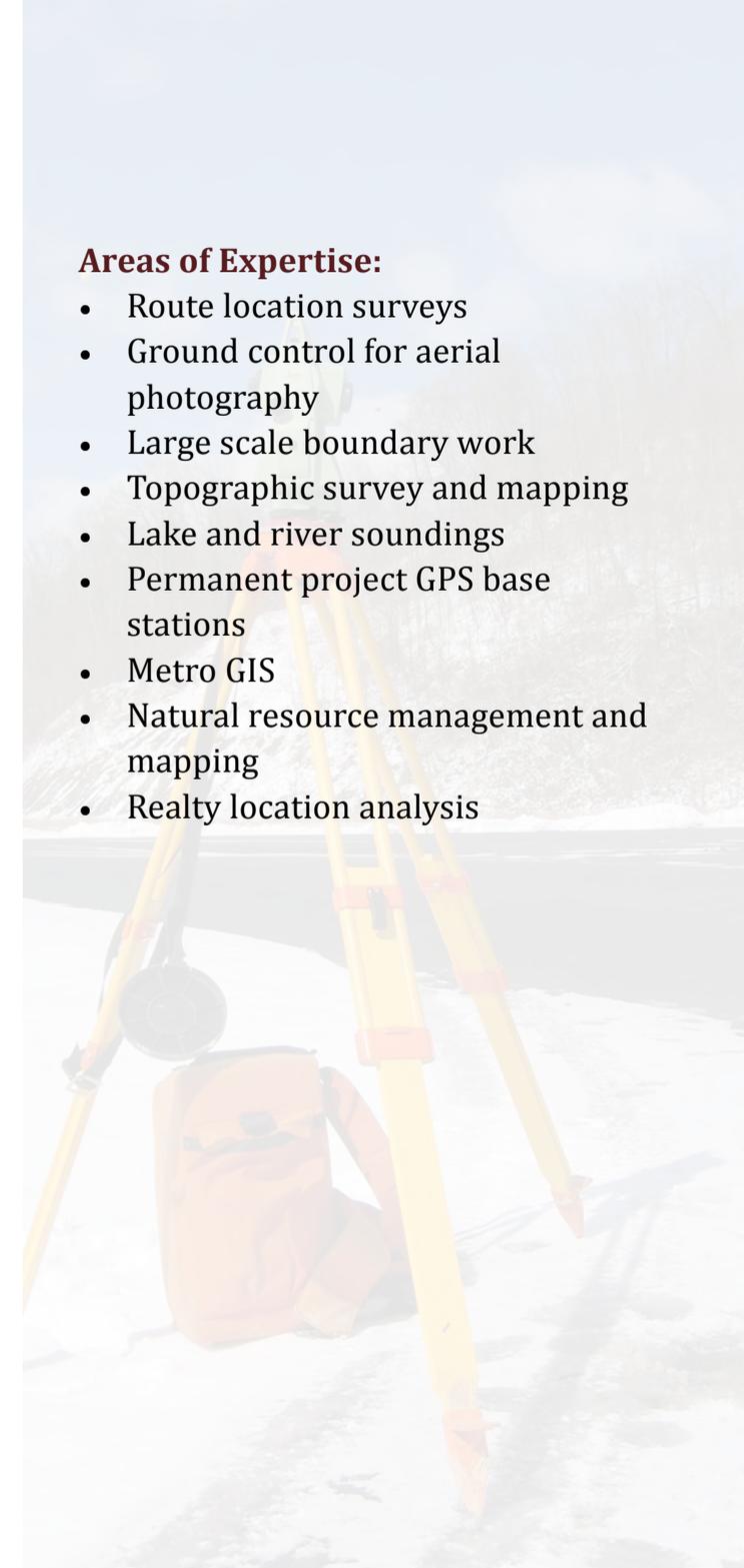
In addition to a full service professional engineering staff, Thrasher Group maintains a complete surveying department which includes six licensed professional land surveyors, eighteen full-time survey crews, CADD technicians, and office support staff. We perform our work utilizing the most current methods and equipment available. Our survey work is accomplished using global positioning systems (GPS) and electronic distance measuring (EDM) survey stations with data gathering capabilities.

Geographic Information System (GIS) software allows its users to analyze, process and visualize information to assist in solving problems and making sound planning and business decisions. But, to be effective, a system must be practical. Thrasher Group's team develops user friendly workable tools for resolving everyday issues.

Clients ranging from small public utilities through large, metropolitan areas have benefited from Thrasher's full-service approach to GIS, including our in-house survey and field verification personnel. Thrasher's commitment to training and on-going technical support makes certain you benefit from all applications of your GIS.

Areas of Expertise:

- Route location surveys
- Ground control for aerial photography
- Large scale boundary work
- Topographic survey and mapping
- Lake and river soundings
- Permanent project GPS base stations
- Metro GIS
- Natural resource management and mapping
- Realty location analysis



Materials Testing and Construction Management

Thrasher's materials testing team takes on the challenges to make certain design standards are met. From assuring the asphalt used in roadway construction meets the specifications, to testing the structural integrity of welds in steel construction, we are dedicated to precision in our work.

Quality assurance for our clients is demonstrated through our laboratories' certifications and accreditations from the American Association of State Highway and Transportation Officials Materials Reference Laboratory (AMRL). Our engineers and technicians also hold numerous accreditations and receive on-going training allowing them to be responsive to changes in the industry.

Thrasher Group knows how projects are built. We can provide the knowledgeable and experienced personnel necessary to manage the construction phase of your project. Our project managers and inspectors are experienced in all types of construction activities. From utilities, site development and storm water management to roads, bridges and airports, we apply our construction management and inspection expertise to ensure successful projects.

Areas of Expertise:

- Concrete testing and inspection
- Soil testing and inspection
- Aggregate testing and inspection
- Mortar and grout
- Asphalt
- Paint Coatings
- Sprayed-on fireproofing
- Subsidence testing
- Caisson and piling inspection
- Engineering during construction
- Regularly scheduled progress meetings
- Daily logs and progress sheets
- Digital photo logs
- Cut sheets
- Quantity tracking



Project Team



CHADWICK BILLER, PE
PRINCIPAL-IN-CHARGE

JEFFREY GOLA, PE
DAM SAFETY AND CERTIFICATION

WES MORROW
DAM SAFETY INSPECTOR

RANDY WATSON
WATER SUPPLY ENGINEER

JEFFREY TODD
ENVIRONMENTAL SCIENTIST

Chadwick Biller, PE

Principal-in-Charge



Chad Biller, PE joined Thrasher in 1999. During his tenure, he has gained experience in all aspects of engineering. His primary emphasis has been on site development, including projects related to flood control, investigations and improvements to dams, levees and impoundments. He additionally leads the storm water system engineering department for the company. Chad also leads Thrasher's highways, roads, bridges and airport projects, which are part of the Transportation Department. His role will be to oversee all contractual aspects of the project.

Education:

- Bachelor of Science, Civil Engineering - West Virginia University

Registrations:

- Registered Professional Engineer
 - State of West Virginia, Pennsylvania, and Ohio

Affiliations/Certifications:

- American Society of Highway Engineers
- American Society of Civil Engineers
- National Society of Professional Engineers

Related Project Experience:

- **Upper Dog Run Impoundment Improvements:** Principal-In-Charge for initial investigation and report along with subsequent design for improvements.
- **Buffalo Lake Dam Improvements:** Principal-In-Charge for providing a dam break analysis of the existing dam to provide a report on improvements that would be needed to bring the dam within compliance with the WV Dam Safety Act.
- **Kitzmiller, MD Levee:** Mr. Biller provided an inspection and prepared the report to enable the Kitzmiller Levee to be re-certified.
- **City of Salem Slip Repair:** The purpose of the project was to repair two slip areas that occurred below a city street and above various residential structures. Mr. Biller was the Principal-in-Charge and oversaw the repair of the slips.
- **Overfield and Squires Creek WVDEP AML Project:** These projects consisted of engineering design for portal sealing, drainage and retaining walls for the Overfield - Lafferty Site and engineering design for portal sealing, drainage and backfilling of the highwall with refuse for the Squires Creek Site.



Wm. Randy Watson

Water Supply Engineer



Randy Watson has extensive experience in water lines and water loss reduction 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 distribution system replacements, extension, water loss reduction, water treatment plant design and water tank 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/Affiliations:

- American Water Works Association

Related Project Experience:

- **City of Cameron, Marshall County, WV:** Partial water system replacement involving the replacement of approximately seven miles of distribution system to reduce an extreme amount of water loss in the distribution system.
- **Town of Elizabeth, Wirt County, WV:** Water extension project involving 28 miles of potable water line serving 200 customers and a 50,000 gallon water storage tank.
- **Town of Farmington, Marion County, WV:** Partial water distribution system replacement to reduce water loss. The project also involved a 150,000 gallon water tank and a solenoid valve station.
- **Town of Bath (Berkeley Springs Water Works), Berkeley County, WV:** Multi-phase project to reduce the water loss in the water system to an acceptable level to allow for residential growth in the service area. The water loss in the system was approximately 65% prior to the beginning of Phase I. Upon the completion of Phase I the water loss had dropped to 40% and when Phase II was completed in 2012, the water loss dropped to 12% - 15%.
- **City of Bridgeport, Harrison County, WV:** Installation of potable water distribution lines. The project also included an 800 GPM booster pump station and two 522,000 gallon water storage tanks to the White Oaks Business Park and United Hospital Center.



Wes Morrow

Dam Safety Inspector

Wes Morrow joined Thrasher in 2007 and serves as Project Engineer and Inspector for planning and design of flood control projects including impoundments (single and multiple purpose dams), stream channel modifications (stabilization and/or increased capacity), and nonstructural measures (floodplain acquisition, relocation, flood - proofing, and flood warning systems).

Mr. Morrow also serves as Project Engineer for the planning and design of sanitary sewer rehabilitation projects and development of Long Term Control Plans for small community combined sewer overflow control projects. Prior to joining Thrasher, Mr. Morrow worked for the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) and Soil Conservation Service (SCS), West Virginia University, and United States Armed Forces.

Education:

- Bachelors of Science, Civil Engineering - West Virginia University
- U.S. Army Officer Candidate School – Commissioned Officer (Branch: Corps of Engineers)

Publications:

- Co-author; “Planning Non-Structural Measures in West Virginia”, US Department of Agriculture SCS – West Virginia Engineering Guide

Related Project Experience:

- **Rehabilitation Assessment Reports:** led an interdisciplinary team of NRCS specialist in the prioritization, assessment, and evaluation of aging dams in West Virginia and preparation of Rehabilitation Assessment Reports, as requested by sponsoring local organizations.
- **Emergency Watershed Protection Program (EWP):** Assessed damage caused by sever flooding events ('85, '95, '96, and '01) throughout the state of West Virginia. Developed preliminary and final designs, construction drawings and specifications, and cost estimates for rehabilitation of damaged areas and stream bank stabilization.
- **NRCS Aging Dam Rehabilitation Program:** led interdisciplinary team of NRCS specialists with the prioritization, assessment, and evaluation of aging dams and preparation of Rehabilitation Assessment Reports, as requested by sponsoring local organizations in West Virginia.
- **Flat Run Lake Dam (North Lake)** – performed risk assessment and developed final design for an emergency rehabilitation of the dam per WV State Dam Safety order to dam's owner



Jeffrey Gola, PE

Dam Safety and Certification



Jeff Gola, PE has built a successful portfolio of streetscape, highway, community improvement, airport and commercial site development projects. He is experienced in all aspects of project control, form design and drafting to construction and project oversight. Jeff has an excellent understanding of bid processes and construction inspection.

Jeff's expertise in designing and planning roadways, brings, sidewalks, retaining walls, utility plant structures, storm water management and demolition plans is exceptional. He has first hand knowledge in obtaining permits and their requirements. His understanding of erosion and sediment control make him an excellent project manager.

Education:

- Bachelor of Science, Civil Engineering - West Virginia University

Registrations:

- Registered Professional Engineer
 - State of West Virginia and Maryland

Affiliations/Certifications:

- American Society of Civil Engineers
- American Society of Highway Engineers
- City of Mannington Enforcement Board of Appeals
- Harrison County Planning Commission Board of Appeals

Related Project Experience:

- **City of Philippi Little Laurel Run Water Supply Dam** - design of the proposed water supply dam. Mr. Gola ran models for dam breach analysis and produced hydraulic models for the stream below the dam.
- **Buffalo Lake Dam Improvements** - provided a dam break analysis of the existing dam to provide a report on improvements that would be needed to bring the dam within compliance with the WV Dam Safety Act.
- **WVDEP (Dam Safety Division) Annual Safety Inspections** - Project Manager for annual dam safety inspections for the City of Salem and Town of Lumberport water supply dams.



Jeffrey Todd

Environmental Scientist



Jeffrey C. Todd joined Thrasher in 2011 and serves as Environmental Scientist for the firm. Mr. Todd has 8 years of experience in wetland delineation as well as:

- Groundwater sampling
- The abandonment and installation of monitoring wells
- Soil drilling and sampling
- Aquatic resource assessments and permitting
- Asbestos inspections
- ESA Phase I.

Mr. Todd is very well versed in requirements and regulations on both the national and state levels. Jeff's knowledge of regulatory agencies makes him a critical member of the Thrasher Environmental Department.

Education:

- 33 Continuous Hours of Graduate School, Environmental Science - Marshall University
- Bachelor of Science, Wildlife and Fisheries Resources - West Virginia University (2003)

Registrations/Training:

- Asbestos Inspector - State of West Virginia (██████████)
- 40 Hours Hazardous Waste Operations and Emergency Response
- 38 Hour Army Corps of Engineers Wetland Delineation Training Program (2013)

Related Project Experience:

- **Little Laurel Run Water Supply Dam:** completed a delineation of the project area for aquatic resources and determined their classification and impact amounts on the area. He was also responsible for informing the USACE regarding the project and jurisdiction determination for the agency on the resources and their impacts.
- **Groundwater & Monitoring Well Sampling:** conducted groundwater sampling at various location using several different techniques to determine containments of concern and their amounts in relation to clean-up levels.
- **Baker Sanitary Sewer System**—Mr. Todd served as Environmental Specialist for the project and was responsible for conducting a stream and wetland delineation survey within the impacted area of the project. Mr. Todd was able to help design the wastewater treatment plant to avoid and minimize impact to the recourse in the area in order to expedite the permitting process for the project.
- **Kosher Waste Area**—performed stream and wetland delineations for this project. He also coordinated with the engineers and clients on his findings and collected data for mapping and permitting strategy assistance.



Tygart's Valley Conservation District (Water Supply Dam)

Related Experience

Thrasher was contracted by the Tygart's Valley Conservation District (TVCD) to perform an engineering assessment (Phase – 1 of the Barbour County Water Resources Study) of potential dam sites in the immediate vicinity of Philippi, WV to serve as a supplemental source of drinking water for Philippi and the Barbour County area that it serves. Seven dam-sites were initially evaluated; however, only one (Little Laurel Run) meets all of the requirements of the TVCD. Major components of the engineering assessment for each site included development of watershed hydrology and hydraulics, impoundment sediment and water supply storage capacities, and determination of hazard classification.

The Thrasher team utilized the NRCS SITES computer program and NRCS Technical Release – 60 (TR-60) to evaluate each dam. The assessment investigation, findings, recommendation, preliminary quantity and costs estimates were presented to the TVCD as the Phase 1 Report.

Based upon the findings and recommendations in the Phase I Report, the TVCD directed Thrasher to develop a preliminary design (Phase II) of the Little Laurel Run Dam. Mr. Morrow refined the parameters of the initial engineering assessment for this site in order to better define site conditions and to accurately assess its water storage capability. Thrasher contracted with the (GeoNovell) to perform a dam foundation investigation in order to confirm suitability of the site as a water supply impoundment. Mr. Morrow developed an investigation plan and coordinated the drilling and borrow pit with GeoNovell's geotechnical engineer. Evaluation of the site demonstrated that it is a suitable location and has sufficient storage capacity to meet the water supply objectives of the TVCD.



Buffalo Lake Dam

Related Experience

Thrasher conducted a dam safety inspection, rehabilitation assessment, rehabilitation plan, and Monitoring and Emergency Action Plan (EAP) for the Buffalo Lake Dam (WV03305).

Buffalo Creek Reservoir was originally designed and constructed during the late 1950's as a domestic water supply source for the Clarksburg Water Board. Our assessment determined that the lake had a normal pool elevation of 1018.5, covering a surface area of approximately 55 acres, with a storage capacity of 903 acre-ft. Although the maximum elevation of flow through the spillway could reach an elevation of 1028.5 ft., the top of dam elevation was only 1028.0. At maximum elevation, the pool surface area was 82.3 acres with a storage capacity of 1579 acre-ft. The spillway (ogee spillway) had a crest elevation of 1018.5 ft. with an 85 ft bottom width. Based off of the dimensions of the existing spillway, the approach depth was 10 ft. in height and had a design head of approximately 10 ft. Flow from the spillway travels down Buffalo Creek, under US Rt. 19 to its confluence with the West Fork River.

Our watershed hydrology and dam/spillway hydraulics analysis determined that the existing dam would only pass 58% of a PMP/6 hour design storm; therefore modifications to the existing dam/spillway would have to be made to safely pass the 70% PMP/6 hour design storm. In order to achieve that goal, Thrasher determined that the most efficient and economical solution would be to raise the dam to elevation and spillway to elevation 1031.0.



City of Mannington Water Supply Dam - Huey's Run Related Experience

The City of Mannington needed additional raw water supply so an existing flood control dam was modified to raise the normal pool elevation by thirteen (13) feet.

A floating pump station was installed to transmit water approximately four miles to the City of Mannington's water treatment plant. The pumping rate was 350 gpm for 24 hours a day. This enabled the City of Mannington to lift a water curtailment on its customers.

This project was funded through the combination of a USDA-RUS loan and grant money.



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City of Salem - Upper and Lower Dog Run Dam

Related Experience

Thrasher first performed a dam safety inspection of the Upper Dog Run Impoundment for the City of Salem in July, 2008 and then a second inspection more recently on the Lower Dog Run Impoundment.

Results of the inspection of the Upper Dog Run facility revealed numerous concerns about the following:

- erosion,
- woody vegetation,
- inadequate rock rip-rap protection,
- seepage into the inlet (riser),
- obstructions in the outlet channel,
- obstructions in the outlet channel,
- undercutting of the outlet structure,
- displaced rock rip-rap in the outlet channel
- and scouring in the outlet channel.

Based upon the initial review of the data plus on-site observations, we developed a straight-forward method for assessing existing conditions, identified as deficiencies relative to State Dam Safety criteria, hazard classification determination, assessed rehabilitation needs, and development of a cost effective rehabilitation plan. Construction of the improvements were tied into the bidding process for the City's waterline replacement project, allowing for time and cost efficiencies.

During the dam safety inspection of the Lower Dog Run Impoundment, similar concerns were found. To bring the Lower Dog Run Impoundment into compliance, Thrasher had to design a new riser structure, modify and amend the axillary spillway. At this time, the plans and specifications have been completed and are being approved by the WVDEP Dam Safety Division.



City of Kitzmiller, MD Levee Inspection Related Experience

Thrasher was hired by the City of Kitzmiller, Maryland to provide an inspection and prepare a report of the Kitzmiller Levee for recertification. The engineering and survey team conducted a field review and prepared a preliminary engineering analysis of the levee and a watershed model.

The Kitzmiller Levee flood protection system was judged to be an excellent candidate for recertification, with the exception of a few locations where the levee did not meet the 3-foot minimum free-board requirement.

The Thrasher team recommended two feasible options for achieving the required free-board.

These options are:

- Option 1 involved dredging the existing channel where sediment had accumulated over time.
- Option 2 would consist of physically raising the levee in areas to achieve the necessary free-board.

The team recommended Option 1, dredging the existing levee. This is a more permanent solution that would provide the levee with a more uniform shape and bring it closer to its original design.



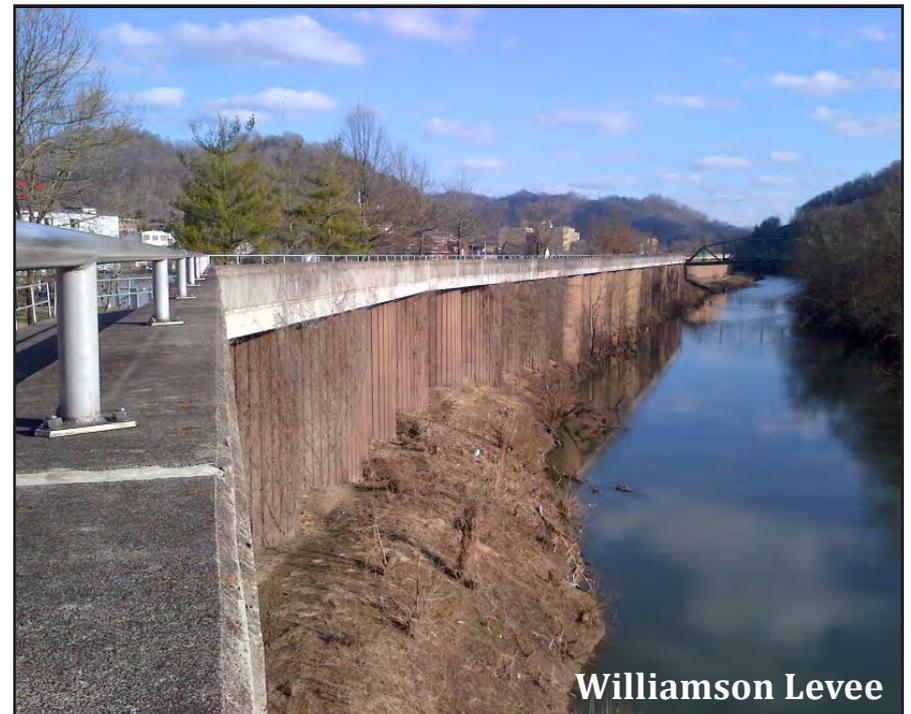
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Town of Matewan and City of Williamson - Floodwalls (Mingo County Commission)

Related Experience

Thrasher was hired by the Mingo County Commission to re-certify two existing levees within the county. For the re-certification, Thrasher had to gather an evaluation of the existing data, perform an in depth field inspection, determine a Preliminary Freeboard, determine the likelihood of certification, and prepare a fully executed Preliminary Engineering Report for each levee.

Once this portion was complete, Thrasher performed a survey, evaluated the operations and maintenance, performed hydrology and hydraulics, did a full structural evaluation, made all recommendations to bring the levee into compliance with FEMA, and finally obtained a levee certification report and letter for each floodwall.

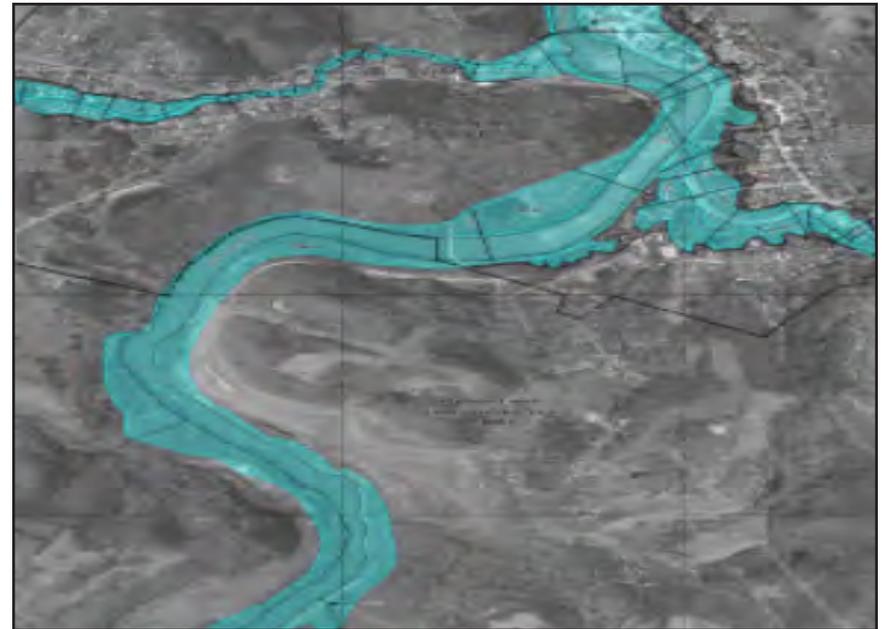


City of Philippi - Flood Protection Project

Related Experience

This project consisted of Geospatial Data collection of various drainage structures for the flood reduction project for the City of Philippi, West Virginia.

Mapping and Digital Geospatial Metadata Information was provided in the US Army Corps of Engineers format.



Town of Petersburg - US Army Corps of Engineers Flood Protection Project

Related Experience

This project consisted of Boundary Surveys, Legal Description Writing, Flood Control Mapping, and GPS Control for Levee Projects consisting of roughly 200 acres and 20 property owners.

Mapping and Legal Descriptions were both prepared in the US Army Corps of Engineers format.



References

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