

# NOTICE

Please note that this bid from Watershed Assessment Associates for CRFQ\_DEP2200000007 was received at the Purchasing Division office prior to the established bid opening date and time on September 15, 2021, but was not read at the public opening because of technical difficulties.



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Guy Nisbet

Assistant Purchasing Director



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](http://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](http://WVPurchasing.gov) with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

## Header 3

[List View](#)**General Information** [Contact](#) [Default Values](#) [Discount](#) [Document Information](#) [Clarification Request](#)

Procurement Folder: 903973

SO Doc Code: CRFQ

Procurement Type: Central Master Agreement

SO Dept: 0313

Vendor ID: 000000114826 

SO Doc ID: DEP2200000007

Legal Name: WATERSHED ASSESSMENT ASSOCIATES

Published Date: 9/8/21

Alias/DBA:

Close Date: 9/15/21

Total Bid: \$101,500.00

Close Time: 13:30

Response Date: 09/07/2021 

Status: Closed

Response Time: 9:40

Solicitation Description: BENTHIC  
MACROINVERTEBRATE  Responded By User ID: waabugs 

Total of Header Attachments: 3

First Name: Christine

Total of All Attachments: 3

Last Name: Murphy

Email: cmurphy@rwaa.us

Phone: 5183460225



Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Sample Sorting and Identification to Genus Level	500.00000	EA	200.000000	100000.00

Comm Code	Manufacturer	Specification	Model #
81131504			

**Commodity Line Comments:** Delivery as specified in bid response.

**Extended Description:**

SORTING AND IDENTIFICATION OF A 200 ORGANISM SUBSAMPLE TO GENUS LEVEL: INCLUDE TRAVEL COST FOR SAMPLE PICKUP AND DELIVERY PER UNIT.  
Reference 3.2.1A in specifications

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Sample Ident to Genus Level Only : Samples Pre-sorted	5.00000	HOUR	175.000000	875.00

Comm Code	Manufacturer	Specification	Model #
81131504			

**Commodity Line Comments:**

**Extended Description:**

Sample Identified to Genus Level Only : Samples Pre-sorted  
Reference 3.2.1B in specifications

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Profession Staff Representation of Data in Legal	5.00000	HOUR	125.000000	625.00

Comm Code	Manufacturer	Specification	Model #
81131504			

**Commodity Line Comments:**

**Extended Description:**

PROFESSIONAL STAFF REPRESENTATION OF DATA IN LEGAL  
Reference 3.2.2 in specifications  
Reference 2.2.1.5 in specifications

West Virginia Ethics Commission  
**Disclosure of Interested Parties to Contracts**

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Watershed Assessment Associates Address: 1861 Chrisler Ave.  
Schenectady, NY 12303

Name of Authorized Agent: John Kelly Nolan Address: 1861 Chrisler Ave., Schenectady, NY 12303

Contract Number: DEP2200000007 Contract Description: Benthic Macroinvertebrate Sample Processing and/or Identification

Governmental agency awarding contract: WV DEP

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

**1. Subcontractors or other entities performing work or service under the Contract**

Check here if none, otherwise list entity/individual names below.

**2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**

Check here if none, otherwise list entity/individual names below.

Christine M. Murphy, Managing Partner

**3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**

Check here if none, otherwise list entity/individual names below.

Signature: [Signature] Date Signed: 9/7/21

**Notary Verification**

State of New York, County of Schenectady:

I, John Nolan, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 7<sup>th</sup> day of September, 2021.

[Signature]  
Notary Public's Signature

**To be completed by State Agency:**

Date Received by State Agency: \_\_\_\_\_

Date submitted to Ethics Commission: \_\_\_\_\_

Governmental agency submitting Disclosure: \_\_\_\_\_

Stephen A. Bendt  
Notary Public, State of New York  
Qualified in Schenectady County  
No. 01BE6390345  
Commission Expires April 15, 2023  
Revised June 8, 2018

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: Watershed Assessment Associates

Authorized Signature: [Signature] Date: 9/7/21

State of New York

County of Schenectady, to-wit:

Taken, subscribed, and sworn to before me this 7<sup>th</sup> day of September, 2021.

My Commission expires April 15, 2023.

**AFFIX SEAL HERE**

**NOTARY PUBLIC** [Signature]

Stephen A. Bandt  
Notary Public, State of New York  
Qualified in Schenectady County  
No. 01BE6390345  
Commission Expires April 15, 2023

**Response to CRFQ DEP2200000007**  
**Benthic Macroinvertebrate Sample Processing and Identification**  
**DEP/DWWM**  
**September 2021**

Submitted by:

Watershed Assessment Associates  
1861 Chrysler Avenue  
Schenectady, NY 12303  
Phone: 518-346-0225 Fax: 518-630-5078  
Web: [www.rwaa.us](http://www.rwaa.us)

Project Contract Manager:

J. Kelly Nolan, Director of Environmental Services  
Phone: 518-346-0225 Fax: 518-630-5078  
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**Project Overview and Management**

The West Virginia Department of Environmental Protection (DEP) Division of Water and Waste Management (DWWM) requires qualified taxonomists to process and identify benthic macroinvertebrate samples collected primarily from riffle/run habitats of West Virginia waters. Legal action based upon the benthic macroinvertebrate identification results is possible, and therefore the DEP requires strict quality control measures.

Watershed Assessment Associates (WAA) is an environmental consulting firm with the qualified personnel, experience, and meticulous attention to detail that the West Virginia DEP DWWM requires. The manager for this project will be J. Kelly Nolan, Director of Environmental Services and senior taxonomist. Mr. Nolan will oversee all aspects of the project, including specimen pickup from the DEP DWWM; adherence to, and documentation of, strict chain of custody; receipt of specimens at the WAA laboratory; sample sorting; macroinvertebrate identification, performed by the experienced, certified taxonomists identified in this proposal using DEP protocol; QA/QC, including strict sorting and identification quality control; accuracy of bench sheets and computerized data sheets; creation of voucher and reference collections; and return of all required materials to DEP DWWM.

## **Company Qualifications**

Watershed Assessment Associates (WAA) is a woman-owned environmental consulting firm that has been providing water quality and benthic macroinvertebrate taxonomy services to state and county agencies, environmental organizations, institutions, and private consulting companies since 1998. Our facility houses a large macroinvertebrate processing laboratory, a separate washing/processing room, high grade dissecting and compound microscopes, fiberoptic light sources, all necessary equipment for benthic macroinvertebrate taxonomy (including fine-tipped forceps and probes, Petri dishes, 75% or greater ethanol, wash bottles, microscope slides and glass covers, CMCP-10 mounting medium, dry oven and fume hoods), computerized lab data sheets and centralized internal sample tracking system, and an extensive library of appropriate aquatic keys and references, including computer access to collegiate library references.

WAA is capable of processing 140-180 samples monthly, and we have ample capacity to process the West Virginia samples. Following are a selection of taxonomy projects completed by WAA in 2020.

<b>Date</b>	<b>Project Name</b>	<b>Samples Processed</b>	<b>Project Description</b>	<b>Contact</b>
2016-present	WV DEP	>250 in 2021	Sorting, identification and enumeration of benthic macroinvertebrates collected by WV DEP.	WV Department of Environmental Protection 601 57th Street SE Charleston, WV 25304
2016-present	NH DES	>100 in 2021	Sorting, identification and enumeration of benthic macroinvertebrates collected NH DES.	NH DES 29 Hazen Drive Concord, NH 03301
2016-present	NYS DEC	>200 in 2021	Sorting, identification and enumeration of benthic macroinvertebrates collected by NYS DEC.	NY DEC SBU 425 Jordan Rd. Troy, NY 12180

## **Staff Qualifications**

All benthic macroinvertebrate processing and identification for the WV DEP DWWM will be performed by the experienced, certified benthic macroinvertebrate taxonomists listed in this response. Our sorting staff consists of degreed biologists with extensive sorting experience, all of whom are certified taxonomists or working towards taxonomist certification. The

taxonomists assigned to this project are degreed biologists and dedicated taxonomists with multiple certifications from the North American Benthological Society, and more than 10 years of experience in the sorting, identification and enumeration of benthic macroinvertebrates. They also routinely train professionals in benthic macroinvertebrate taxonomy. If necessary, the project taxonomists will be available to attend legal proceedings and provide expert testimony regarding work performed for this project. Resumes and Society for Freshwater Science (SFS) certifications are attached to this document.

**WV DEP DWWM Benthic Macroinvertebrate Processing and Identification Project  
Taxonomist and sorting technician certifications/length of time working with benthic macroinvertebrates**

Taxonomist	Years of Experience Identifying Benthic Macroinvertebrates	SFS Certifications/Regions	Certification Dates
J. Kelly Nolan	21 years	EPT Genus Level/Eastern North America Chironomidae Genus Level North America	2008/2013 2009/2015
Natalie Ohl	13 years	EPT Genus Level/Eastern North America EPT Genus Level/Western North America General Arthropods Eastern	2016 2016 2018
Matthew Thatcher	3	Family Level Certification	2019

*Due to Covid 19 and scheduling delays SFS recertification exams have been delayed and are pending.*

**Deliverables**

Completed results will be delivered to the WV DEP/DWWM on the following schedule:

- Samples submitted by 4/1 will be delivered by 8/31
- Samples submitted by 8/31 will be delivered by 12/1
- Samples submitted by 12/31 will be delivered by 2/28
- Results of smaller, site-specific projects will be delivered within 1 month of sample receipt or within another negotiated time period

Submissions will include the following for each sample:

- Benthic macroinvertebrate identifications reported in MS Excel or Access on a data template provided by the DWWM Watershed Assessment Branch (WAB)
- Copies of bench sheets completed during identifications
- All organisms identified (except reference taxa specimens, which will be returned when the contract or project is complete)
- All QA/QC information associated with sorting and identification of the samples
- Data feeds of completed identifications every 6 weeks

WAA will testify concerning the validity of the laboratory sorting and identification process on request of the DEP/DWWM in the following areas:

- Time of notification by the DEP/DWWM of sample shipment and by whom
- Condition of the sample
- How the sample was preserved by WAA
- Dates and analysis, and by whom
- Chain of custody procedures within the laboratory
- Methods used
- Results of sorting, identification, and internal QA/QC processes
- WAA will not respond to questions concerning interpretation of results

WAA, when performing work under the terms and conditions of the contract will be solely responsible for the satisfactory completion of the work. WAA agrees that any and all data, analyses, materials, reports or other information, oral or written, prepared by WAA with respect to this requisition shall, except for information which has been publicly available, be treated as confidential and shall not be utilized, released, published, or disclosed by WAA at any time for any purpose whatsoever other than to provide consultation or other service to the DEP/DWWM.

### **Scope of Work**

Watershed Assessment Associates recognizes the importance meticulous attention in completing this project, and will strictly adhere to quality control and analytical procedures in all phases of the project, including maintaining chain of custody, transportation and processing of samples (sorting, identification, enumeration), and reporting.

#### **Step 1: Receipt of sample at specified location**

Watershed Assessment Associates will pick up and return specimens collected by the DWWM from a specified facility in Charleston, WV. WAA acknowledges that sample containers will be 1 gallon jars and that the total number of samples collected annually will be approximately 500. WAA will anticipate and schedule 4-5 sample pick-ups yearly, transport the specimens to our laboratory, and maintain a strict chain of custody for the specimens.

Upon receipt, samples will be checked against the chain of custody, recorded in the sample log book, and assigned a unique sample tracking number. Any discrepancies in sample information will be noted and DWWM will be contacted by phone or electronically regarding such discrepancies. All field samples will also be checked for proper preservation and re-preserved in 75% ethanol if found to be less than adequately preserved. Any vials received leaking or broken will be replaced, and noted in the sample log book. A copy of the chain of custody will be retained by Watershed Assessment Associates.

Watershed Assessment Associates will maintain a record of the identification results for 5 years.

## **Step 2: Sorting benthic macroinvertebrate samples**

Watershed Assessment Associates recognizes the significance of appropriate and accurate sorting of macroinvertebrates from benthic survey samples in order to generate accurate, meaningful study data and conclusions. Because our current sorting staff does not have the level of experience required by the WVDEP/DWWM, our project taxonomists will both sort and identify the benthic macroinvertebrates for this contract. We feel strongly that using experienced, knowledgeable staff during the sorting process provides added-value to the DWWM study results.

We will follow the procedures outlined in the WV DEP Watershed Assessment Branch- Standard Operating Procedures for Processing Benthic Macroinvertebrate Samples, as follows:

- For the majority of samples: 200 (+/- 20%) a subsample of benthic macroinvertebrate organisms will be removed from a sample. Any vertebrates encountered during subsampling will be retained with the sample, but not identified. Specimens will be stored in appropriate jars with screw caps.
- As part of a thorough QA/QC process, WAA will examine sorting efficiency for 5% of all submitted samples, and follow a robust QA/QC process, as described in the QA/QC section.
- Our taxonomists are fully knowledgeable of M.T. Barbour et al.'s "Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish," and routinely use these protocols for stream bio-assessments. Macroinvertebrate specimens will be processed by the taxonomists listed in this proposal using the DWWM protocol derived from this publication (as outlined in CRFQ DEP 2200000007) with the following exception:

Bottle labels are generated by computer on 28 pound stock paper. The improved legibility of these labels enhances quality assurance.

## **Step 3: Identification of Benthic Macroinvertebrates**

WAA has performed benthic macroinvertebrate taxonomy for the WVDEP/DWWM for several years and is thoroughly familiar with its protocol for the identification of benthic macroinvertebrates. The benthic macroinvertebrate samples will be identified in accordance with procedures outlined in "WVDEP-DWWM Standard Operating Procedures for Identifying Macroinvertebrate Samples" with the following exceptions:

1. The number of organisms in each taxon is entered directly into an electronic database, dispensing with the need for handwritten bench sheets, unless required by the WV DEP.
2. WAA uses CMCP-10 mounting media for the mounting of Chironomidae.

Only the dedicated, SFS-certified taxonomists listed in this proposal will identify specimens. All Chironomidae larvae will be identified to genus by the taxonomist listed in this proposal with SFS certification in Chironomidae.

All aquatic insects (including Diptera), crustaceans, and mollusks will be identified to genus-level. *Hydropsyche* individuals will be separated into *Hydropsyche* versus *Ceratopsyche*, according to Merritt, Cummins, and Berg (2008). Oligochaeta, Turbellaria, and Hirudinea will be identified to family level. Nemertea, Nematoda, and Bryozoa will be identified to phylum and Hydroida to order. Mature specimens may be identified to a lower level, if possible. Vertebrates and terrestrial organisms will not be identified.

Watershed Assessment Associates has included a complete bibliography of publications used by our taxonomists for the identification of specimens at the end of this response. Our laboratory utilizes most of the references listed in the attached operating procedure and has access to a collegiate reference library, if needed. WAA will provide a bibliography of publications used in the identification of specimens to DEP/DWWM.

WAA will create a reference collection for DEP/DWWM and a voucher collection of all specimens in the 200 organism subsample that have not been included in the reference collection.

Macroinvertebrate identification results (no analysis will be performed, per WV DEP) on the paper form styles provided by DEP/DWWM, and in electronic format (Microsoft excel or Access using the template provided by WVDEP), voucher specimens, and WV DEP WAB benthic macroinvertebrate lab sheets will be submitted to the DEP DWWM. All QA/QC associated with sorting and identification will also be submitted with the results.

Identification of samples will not be deemed complete until the data has been submitted to and accepted by the DEP/DWWM. If WAA does not receive notice of acceptance within four weeks of when the results were mailed by WAA, we will consider the data to be acceptable by the Division.

WAA will maintain preservation of the samples and will return all sample jars, voucher specimens, and reference collections to the DEP DWWM. Unless directed otherwise by WV DEP, unused sample residues will be disposed by WAA.

WAA will provide the WV DEP with:

1. Identification data, but no data analysis.
2. Completed WVDEP/WAB Benthic Macroinvertebrate Lab Sheet

3. Voucher specimens (all specimens in the 200 organism sub-sample that have not been included in the reference collection).
4. Identification results in Excel or Access format using the WVDEP electronic data template with required fields provided by the agency
5. WAA may retain the DEP/DWWM reference specimens until the contract or project has been completed or upon request by the DEP/DWWM. Specimens retained by the laboratory permanently must be first represented in the DEP/DWWM reference collection by individuals in good condition and documented on all paper and electronic forms in Exhibit C of the RFP.

#### **Step 4: Quality Control**

Quality assurance and quality control is of paramount importance to our work. Rigorous QA/QC measures are followed by all of our taxonomists, including the following:

##### Reference and voucher collections

- WAA will retain all voucher specimens and establish reference collections for the project. Voucher specimens are those identified from the 200 (+/-20%) subsampling of a sample. A reference collection will be a set of biological specimens representing each specific taxon observed in the samples submitted by DEP/DWWM. Reference collections are those pulled from the voucher specimens and retained separately for the purpose of creating a reference collection either for DEP's or the lab's internal use, and will be arranged/curated based on taxonomic and/or phylogenetic order.
- Any specimens removed from the voucher collection for purposes of building the reference collection will be documented on paper and electronic reporting forms.
- WAA will pull at least one reference specimen for the DEP's use from each taxon identified by the lab during the duration of the contract. The reference specimens will be of the highest quality (minimal to no damage) and will document any applicable life stages, instars or size classes, and phenotypes or variants. The reference specimens will be labeled with the appropriate sample identifiers (stream name, sample ID, date, collector, etc.) and taxonomy. The number of reference specimens pulled and destination (DEP versus lab reference collection) will be documented in any EDD and paper bench sheet.
- The reference taxa specimens will be delivered to the DEP DWWM at the end of the contract/project period, or upon request if desired earlier.
- Retention of specimens for any purpose will be fully documented on laboratory bench sheets. A small subset of the reference taxa may be retained permanently for internal use if the retained specimens are already represented by an individual or set of individuals in good condition in the DEP/DWWM reference collection.

- WAA will compile genus-level reference and voucher collections for submission to DEP DWWM at the end of the contract period or upon request for DEP DWWM use.
- All specimens identified in the 200-organism subsample will be returned to DEP DWWM. Slide mounted specimens will be labeled to indicate, at a minimum, DEP sample ID, lab number, count of organisms on the slide, and general groupings of organisms (e.g. Chironomidae, Oligochaeta). All other organisms will be stored in a single sample vial.
- All voucher and reference specimens will be stored in vials or containers with at least 70% ethanol. Specimens from a sample that are mounted on slides for identification purposes will remain mounted on slides, labeled with the sample information and documented with the number mounted from each taxon in any EDD. Mounted reference specimens will be labelled with the appropriate taxonomy.
- All vial-stored specimens from a sample will be permanently stored and returned to DEP in screw cap 4 dram vials (unless a larger vial is required to comfortably hold the specimen) with polyseal caps consistent with those found in the Bioquip catalog cited in the RFP. Oversized containers will be the equivalent of those listed in the RFP.

#### Sorting QA/QC

- The qualified sorting biologists will sort all the DWWM specimens to ensure the highest sorting efficacy.
- 5% of the specimens from each taxonomist are resorted to ensure a 90% sorting efficacy.
- If less than 90% sorting efficacy is discovered, the sample is resorted. The sample then undergoes a *second* quality assurance re-evaluation.
- A record of all samples sorted, a list of quality control checks, and documentation of any corrective action taken will be maintained by WAA to document the process. The information will be provided each time the taxonomic results are submitted to DEP DWWM.

#### Identification QA/QC

- 5% of each taxonomist's samples will be randomly selected for re-identification by a second taxonomist listed in this proposal.
- Any errors will be brought to the attention of the original taxonomists and subsequent identifications will be subject to scrutiny until errors are resolved.
- A record of all samples re-identified, a list of quality control checks, and documentation of any corrective action will be maintained by WAA to document the process. All reports documenting QA/QC will be submitted to DEP DWWM with all other completed results in the delivery group or upon request.

- We maintain professional contacts with numerous research taxonomists and systematists for taxonomic verification of unusual or rare specimens. Any uncertain or unusual taxa will be sent to one or more of these experts for verification. All samples subject to outside verification will be recorded in the QA/QC report..
- If any significant changes in taxonomy occur during the life of this contract, the vendor shall notify DWWM and provide supporting references.
- We will anticipate that DEP biologists and/or another contract laboratory will verify identifications for a minimum of 2.5% of the samples, selected randomly from all proposal taxonomists.

### **Step 5- Legal Testimony**

The taxonomists completing the work for this project will be prepared to legally testify, if necessary, to the time of notification by the DEP DWWM of sample shipment and by whom, condition of the sample, how the sample was preserved by the firm, dates of analysis and by whom, chain of custody procedures within the laboratory, methods used, and results of sorting, identification, and internal QA/QC processes.

The taxonomists will not be required to respond to, nor will they respond to, questions concerning the interpretation of results.

### **Subcontractors**

Watershed Assessment Associates will be solely responsible for the satisfactory completion of this contract. We are not subcontracting the project. Any unforeseen changes in project staff would be submitted to DEP DWWM by WAA for review and approval.

### **Confidentiality**

Any and all data, analyses, materials, reports and other oral/written information prepared by Watershed Assessment Associates with respect to this requisition shall, except for information that has been made publicly available, be treated as confidential and shall not be utilized, released, published, or disclosed, by WAA at any time for any purpose whatsoever other than to provide consultation or other service to the DWWM.

### List of taxonomic references

- Allen, R.K. and G.F. Edmunds, 1959. "A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). I. The subgenus *Timpanoga*." The Canadian Entomologist, 91: 51-58.
- , 1961b. "A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). II. The subgenus *Caudatella*." Annals of the Entomological Society of America, 54: 603-612.
- , 1962. "A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). V. The subgenus *Drunella* in North America." Miscellaneous Publications of the Entomological Society of America, 3: 146-179.
- , 1963a. "A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). VI. The subgenus *Serratella* in North America." Annals of the Entomological Society of America, 56: 583-600.
- , 1965. "A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). VIII. The subgenus *Ephemerella* in North America." Miscellaneous Publications of the Entomological Society of America, 4: 243-282.
- Arnett, R. H. Jr. and M. C. Thomas. 2001. Editors. American Beetles. Volume 1. Archostemata, Myxophaga, Adephaga, Polyphaga: Staphyliniformia. CRC Press, Boca Raton, London, New York and Washington, D.C. xv + 443 pp. + 2 color plates.
- Arnett, R. H. Jr. , M. C. Thomas, P.E. Skelly and J.H. Frank. 2002. . Editors. American Beetles. Volume 2. Polyphaga: Scarabaeoidea through Curculionoidea. CRC Press, Boca Raton, London, New York and Washington, D.C. xv + 861 pp. + 4 color plates.
- Bednarik, A.F. and W.P. McCafferty. 1979. Biosystematic Revision of the Genus *Stenonema* (Ephemeroptera: Heptageniidae). Can Bull. Fish. Aquat. Sci. 21:1-73.
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- Brinkhurst, R.O. 1986. Guide to the Freshwater Aquatic Microdile Oligochaetes of North America. Canadian Spec. Publ. Fish. Aquat. Sci 84: 259 pp.
- Brown, H. P. 1972. Aquatic Dryopid Beetles (Coleoptera) of the United States. Biota of Freshwater Ecosystems Identification Manual No. 6. US Environmental Protection Agency.
- Burch, J.B. 1972. Biota of freshwater ecosystems, identification manual no. 3. Freshwater sphaeriacean clams (Mollusca:Pelecypoda) of North America. WPCRS No. 18050, ELDO03/72. Supt. Doc. No.

- 5501-0367, U.S. Environ. Prot. Agency, Washington, D.C. 31 pp.
- Burch, J.B., 1982. "Freshwater snails (Mollusca: Gastropoda) of North America." EPA-600/3- 82-026. United States E.P.A., Cincinnati, Ohio, 294 pp.
- Edmunds, G.F., Jr., S.L. Jensen, and L. Berner. 1976. Mayflies of North and Central America. University of Minnesota Press.
- Epler, J.H. 1995. (Revised Edition). Identification Manual for the Larval Chironomidae (Diptera) of Florida. Florida Dept. Env. Prot., Tallahassee, FL 302 pp.
- Epler, J. H. 2001. Identification manual for the larval Chironomidae (Diptera) of North and South Carolina. A guide to the taxonomy of the midges of the southeastern United States, including Florida. Special Publication SJ2001-SP13. North Carolina Department of Environment and Natural Resources, Raleigh, NC and St. Johns River Water Management District, Palatka, FL. 526 pp.
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## SUMMARY OF QUALIFICATIONS

Experienced field biologist, skilled aquatic macroinvertebrate taxonomist, and innovative educator who serves as the Director of Environmental Services at Watershed Assessment Associates. Manages projects from inception to completion, coordinates and supervises field operations, directs laboratory operations, and maintains both field and laboratory quality control. Areas of expertise include watershed assessments, stream biomonitoring, benthic macroinvertebrate taxonomy, development of diverse professional programs related to biomonitoring and taxonomy.

## EDUCATION

<b>Bachelor of Arts, Biology</b>	<b>2005</b>
State University of New York at Albany, Albany, New York	
<b>Associates in Applied Science</b>	<b>1986</b>
SUNY Adirondack Community College, Queensbury, New York	
<b>Bachelor of Arts</b>	<b>1983</b>
Mississippi College, Clinton, Mississippi	

## CERTIFICATIONS

North American Benthological Society certified Level II, Group II, Eastern and Western EPT  
North American Benthological Society certified Level II, Group III, Eastern and Western Chironomidae

## MEMBERSHIPS

North American Benthological Society  
Black Rock Forest Consortium  
Leadership Schenectady (1998 graduate)

## RELEVANT PROJECT EXPERIENCE

Watershed Assessment Associates Principal and Director of Environmental Services

- Staff project management of surface water quality monitoring studies and benthic macroinvertebrate processing and identification projects
- Manage project data
- Perform statistical and metric analysis of water quality data
- Generate reports on water quality analysis
- Develop and facilitate professional benthic macroinvertebrate taxonomy training programs

Watershed Assessment Associates Senior Aquatic Taxonomist

- Processed hundreds of samples from Northeast (NY, VT, NH, MA, ME, PA) and Southeast (VA, WV, KY GA). Processed samples from CO

- Processed hundreds of samples for various state agencies (NY DEC, VTDEC, WV DEP, GA DNR, KY DWQ, PA DEP) as well as Federal (USGS, NOAA) and Environment Canada (Lake Superior Benthos)

### CONTINUING EDUCATION

Aquatic Algae and Diatom Identification Workshop	8/08
Advanced Identification Workshop on Baetidae and Hydropsychidae	3/07
PRIMER-E multivariate statistics for ecologist workshop	3/07
Chironomidae Taxonomy Workshop	5/06
Advanced Midge Taxonomy Workshop	3/05
Macroinvertebrate Laboratory Quality Assurance Workshop	3/05
EPT taxa workshop Humboldt Field Research Institute	5/03
Hach Technical Training Applied Analytical Chemistry workshop	6/00
River Network Clean Water Act workshop	9/99

### ADDITIONAL SKILLS

- Experienced with MS Office, ArcGIS 9.x, Primer statistical, and Pendragon database software
- Accomplished digital photographer; experienced in its use for lab and field documentation and knowledgeable of Photo Point Monitoring
- Experienced with numerous state methods and devices used for benthic macroinvertebrate field sampling and sub-sampling, in situ water parameter analysis, and physical habitat assessments
- Skilled with the Hach 890 Colorimeter procedures and field collection methods for phosphates, nitrates and turbidity water analysis

### SELECTED PRESENTATIONS

- (October 2009) Environmental Condition GIS Framework. Presented at the Southeastern Water Pollution Biologists Association Annual Meeting, Frankfort, KY, October 22, 2009
- (February 2007) Lotic Scene Investigation (LSI) Program for Higher Education: Combining Intensive Student Training with Professional Stream Biomonitoring Assessments. Presented at the Hudson River Environmental Society Conference, Hudson, NY, February 10, 2007
- (March 2004) Bioassessment of the Battenkill and Comparison of its Biological Health and Impact Source Determination to Prior Bioassessments. Presented at the New England Association of Environmental Biologists Annual Meeting, Jiminy Peak, MA, March 19, 2004

### PUBLICATIONS

Smith, A.J., Thomas, R.L., **Nolan, J.K.**, Velinski, D. J., Klein, S. & Duffy, T.T. (2012) Regional nutrient thresholds in wadeable streams of New York State protective of aquatic life. *Ecological Indicators*. Vol 29. June 2013, Pages 455-467.

## **SUMMARY OF QUALIFICATIONS**

Natalie holds a B.S. in Ecology, Evolution and Environmental Biology from Southern Illinois University. She has over 10 years experience as a benthic macroinvertebrate taxonomist, holding Society for Freshwater Science certifications in EPT, East and West; Chironomidae, East and West; and General Arthropods, East and West. She has performed macroinvertebrate identification for projects from the Pacific Northwest, Northern and Central Rocky Mountains, Midwestern and Eastern United States, and from British Columbia and Ontario, Canada.

## **EDUCATION**

**Bachelor of Science, Environmental Biology**  
Southern Illinois University, Edwardsville

**2003**

## **CERTIFICATIONS**

Society for Freshwater Science certified Level II, Group II, Eastern and Western EPT  
Society for Freshwater Science certified Level II, Group III, Eastern and Western Chironomidae  
Society for Freshwater Science certified Level II, Group I, Eastern and Western General Arthropods

## **RELEVANT PROJECT EXPERIENCE**

Watershed Assessment Associates, Senior Aquatic Taxonomist, 2017- present

Rhithron Associates, benthic macroinvertebrate taxonomist, 2010 – 2017

EcoAnalyst, benthic macroinvertebrate taxonomist, 2008 - 2010

Certification in Western Chironomidae is equivalent to the now SFS NA certification.  
Due to Covid 19 and scheduling delays all recertification exams are pending.

# TAXONOMIC CERTIFICATION

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*This five year certification is awarded to*

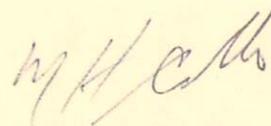
***J. KELLY NOLAN***

*In recognition of excellence for specimen identification to Genus for*

*Western*

*Chironomidae*

**SOCIETY FOR FRESHWATER SCIENCE**



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Dr. Murray Colbo

MARCH, 2020

Date of Expiry

# TAXONOMIC CERTIFICATION

---

*This five year certification is awarded to*

***KELLY NOLAN***

*In recognition of excellence for specimen identification to Genus for*

***Eastern***

***Ephemeroptera, Plecoptera & Trichoptera***

**SOCIETY FOR FRESHWATER SCIENCE**



Dr. Murray Colbo

July, 2018  
Date of Expiry

# TAXONOMIC CERTIFICATION

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*This certification is awarded to*

***NATALIE OHL***

*In recognition of excellence for image identification to genus for*

***North American  
Chironomidae***

**SOCIETY FOR FRESHWATER SCIENCE**



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Dr. Murray Colbo

OCTOBER, 2021

Date of Expiry

# TAXONOMIC CERTIFICATION

---

*This certification is awarded to*

***NATALIE OHL***

*In recognition of excellence for image identification to genus for*

*Eastern*

*Ephemeroptera, Plecoptera & Trichoptera*

**SOCIETY FOR FRESHWATER SCIENCE**



---

Dr. Murray Colbo

OCTOBER, 2021

Date of Expiry

# TAXONOMIC CERTIFICATION

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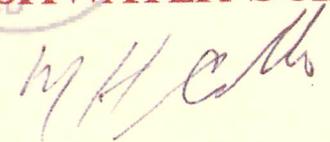
*This five year certification is awarded to*

***NATALIE OHL***

*In recognition of excellence for specimen identification to Genus for*

***Western  
General Arthropods***

**SOCIETY FOR FRESHWATER SCIENCE**



Dr. Murray Colbo

November, 2017  
Date of Expiry



Society for Freshwater Science

# TAXONOMIC CERTIFICATION

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*This five year certification is awarded to*

***MATTHEW THATCHER***

*In recognition of excellence for image identification to Family for:*

***North American Aquatic Insects***

Dr. Bernard Sweeney

**JULY, 2024**  
Date of Expiry

**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.

John Kelly Nolan, President  
(Name, Title)

[Signature]  
(Printed Name and Title)

1861 Chrysler Ave Schenectady, NY 12303  
(Address)

518-346-0225  
(Phone Number) / (Fax Number)

JKN@RWAA.US  
(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.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

Watershed Assessment Associates  
(Company)

[Signature] President  
(Authorized Signature) (Representative Name, Title)

John Kelly Nolan President  
(Printed Name and Title of Authorized Representative)

9/6/21  
(Date)

518-346-0225  
(Phone Number) (Fax Number)

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 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.

Watershed Assessment Associates  
Company

  
Authorized Signature

9/6/21  
Date

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