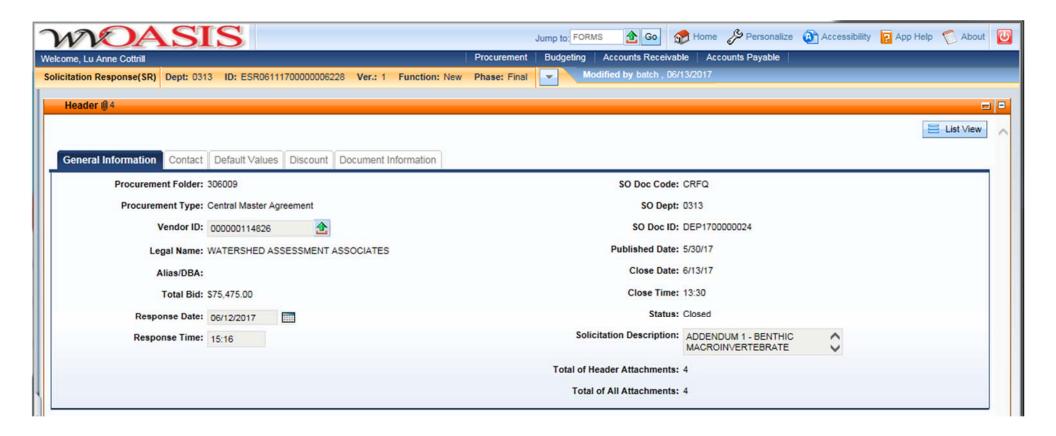
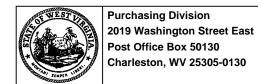


2019 Washington Street, East Charleston, WV 25305 Telephone: 304-558-2306 General Fax: 304-558-6026

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.





### State of West Virginia Solicitation Response

Proc Folder: 306009

Solicitation Description: ADDENDUM 1 - BENTHIC MACROINVERTEBRATE SAMPLE PROCESSING

Proc Type: Central Master Agreement

Date issued Solicitation Closes		Solicitation Response	Version
	2017-06-13 13:30:00	SR 0313 ESR06111700000006228	1

VENDOR

000000114826

WATERSHED ASSESSMENT ASSOCIATES

Solicitation Number: CRFQ 0313 DEP1700000024

**Total Bid :** \$75,475.00 **Response Date:** 2017-06-12 **Response Time:** 15:16:37

**Comments:** 

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers (304) 558-2063 michelle.l.childers@wv.gov

Signature on File FEIN # DATE

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

Page: 1 FORM ID: WV-PRC-SR-001

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	SAMPLE IDENTIFIED TO GENUS LEVEL	500.00000	EA	\$150.000000	\$75,000.00

Comm Code	Manufacturer	Specification	Model #	
81131504				

**Extended Description:** 

SAMPLE IDENTIFIED TO GENUS LEVEL: INCLUDE TRAVEL COST FOR SAMPLE PICKUP AND DELIVERY PER UNIT.

**Comments:** Not sure what to put for delivery days but I acknowledge section 4.1.1 data delivery times.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	PROFESSIONAL STAFF REPRESENTATION OF DATA IN	5.00000	HOUR	\$95.000000	\$475.00

Comm Code	Manufacturer	Specification	Model #
81131504			

**Extended Description:** 

PROFESSIONAL STAFF REPRESENTATION OF DATA IN LEGAL/

BID Clerk Department of Administration WV Purchasing Division 2019 Washington St. E. Charleston, WV 25305

June 12, 2017

To whom it concerns:

Watershed Assessment Associates is pleased to submit the enclosed proposal (CRFQ: 0313 DEP 170000024) to provide taxonomy services to the West Virginia Department of Environmental Protection Division of Water and Waste Management. The DWWM is seeking professional benthic macroinvertebrate identification and enumeration of samples collected by the DEP. It requires a laboratory with dedicated, certified taxonomists and the capacity of processing large numbers of macroinvertebrates.

Watershed Assessment Associates (WAA) is able to offer the West Virginia DEP the professional expertise that it requires to complete this project. Our highly skilled, experienced taxonomists have a reputation for attention to detail, meticulous documentation, reliability, and timeliness. We follow strict quality control and are able to provide the expert legal testimony that the DEP might require.

We are eager to work with DWWM on this project, and will provide the DWWM with the level of expertise and commitment necessary to successfully complete its biomonitoring work.

Sincerely,

J. Kelly Nolan

Director of Environmental Services Watershed Assessment Associates

# Response to CRFQ DEP1700000024 Benthic Macroinvertebrate Sample Processing and Identification DEP/DWWM June 12, 2017

#### Submitted by:

Watershed Assessment Associates 1861 Chrisler Avenue Schenectady, NY 12303

Phone: 518-346-0225 Fax: 518-630-5078

Web: www.rwaa.us

#### Project Contract Manager:

J. Kelly Nolan, Director of Environmental Services

Phone: 518-346-0225 Fax: 518-630-5078

E-mail: jkn@rwaa.us

#### **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 2016.

Date	Project Name	Samples Processed	Project Description	Contact
2016- present	WV DEP	>400	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	>200	Sorting, identification and enumeration of benthic macroinvertebrates collected NH DES.	NH DES 29 Hazen Drive Concord, NH 03301
2016- present	NYS DEC	>400	Sorting, identification and enumeration of benthic macroinvertebrates collected by NYS DEC.	NY DEC SBU 425 Jordan Rd. Troy, NY 12180
2016- present	CT DEEP	>200	Identification and enumeration of benthic macroinvertebrates collected CT DEEP.	CT DEEP 79 Elm Street Hartford, CT 06106-5127

#### **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 certifications/length of time working with benthic macroinvertebrates

Taxonomist	Years of Experience Identifying Benthic Macroinvertebrates	SFS Certifications/Regions	Certification Dates
J. Kelly Nolan	19 years	EPT Genus Level/Eastern North America EPT Genus Level/Western North America Chironomidae Genus Level/Eastern North America Chironomidae Genus Level/Western North America	2008/2013 2009/2015 2008/2013 2009/2015
Christopher Fishel	22 years	EPT Genus Level/Eastern North America EPT Genus Level/Western North America General Arthropods Genus Level/Eastern North America General Arthropods Genus Level/Western North America Oligochaeta Genus Level/North America	2007/2013 2007/2013 2009/2015 2009/2015 2009/2015

#### **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 bioassessments. 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 1700000024) 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

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  University of Toronto Press. Toronto ON.

#### **SUMMARY OF QUALIFICATIONS**

J. Kelly Nolan is a principal of Watershed Assessment Associates and the Director of Environmental Services. He is an experienced field biologist, expert aquatic macroinvertebrate taxonomist, and innovative educator. He manages projects from inception to completion, coordinates and supervises field operations, directs laboratory operations, and maintains both field and laboratory quality control. His areas of expertise include watershed assessments, stream biomonitoring, benthic macroinvertebrate taxonomy, development of diverse professional programs related to biomonitoring and taxonomy.

#### **EDUCATION**

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

#### **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

#### **RELEVANT PROJECT EXPERIENCE**

<u>Taxonomy</u>; <u>QA/QC</u> for Massachusetts Department of Environmental Protection 2008

- Performed benthic macroinvertebrate taxonomy for the statewide Massachusetts biomonitoring water quality program
- Provided QA/QC for macroinvertebrate taxonomy
- Contact: Robert Nuzzo 508-767-2809

Field biologist/taxonomist for Academy of Natural Sciences (agent of NYS Department of Environmental Conservation)

7/08-2/09

- Project objective was to aid development of biotic nutrient criteria for wadeable streams and rivers
- Involved collection and analysis of data from 100 wadeable streams and rivers throughout the NY state
- Contact: Roger Thomas, The Patrick Center for Environmental Research, Academy of Natural Sciences 215-299-1105

Taxonomist for Pennsylvania Department of Environmental Protection

7/08-4/09

- Project evaluated macroinvertebrate specimens for the EMAP-GRE grant for the PA DEP southwest regional office
- Contact: Rick Spear 412-600-3943

#### J. Kelly Nolan

#### Watershed Assessment Associates

<u>Field Biologist/Taxonomist</u> for Industrial Economics, Incorporated (IEc) (agent of National Oceanic and Atmospheric Administration (NOAA)) 8/08-present

- Sediment toxicity pilot study for the Hudson River Natural Resource Damage Assessment
- Contact: Ann Jones 617-354-0074

Field Biologist/Taxonomist for Vermont Department of Environmental Conservation 2008

- Project assessed numerous previously unassessed streams in the Battenkill, Walloomsac, and Hoosic Watersheds
- Contact: Steve Fiske 802-241-1378

#### Field Coordinator for Albany Pool Joint Venture Team

2008

- Coordinated field work and trained/supervised over 30 field staff for a comprehensive intermunicipal evaluation of the impact of 92 combined sewer overflows that discharge into the Mohawk and Hudson Rivers
- Project included collection of 2,250 water samples from 28 sites over a 90 day period during wet and dry events
- Contact Dr. Greg Daviero, PE 518-782-2100

#### **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

#### **MEMBERSHIPS**

Society for Freshwater Science
Association for the Protection of the Adirondacks
Black Rock Forest
Leadership Schenectady (1998 graduate)

#### **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

#### **SUMMARY OF QUALIFICATIONS**

Experienced professional aquatic macroinvertebrate taxonomist leads laboratory sample processing and identification as the Senior Aquatic Taxonomist at Watershed Assessment Associates. Manages laboratory projects and curates the Watershed Assessment Associates Reference Collection; well versed and abreast of changes in taxonomic nomenclature. Areas of taxonomic expertise include all aquatic Phyla with extensive experience throughout North America.

#### **EDUCATION**

Bachelor of Science, Entomology	2000
Cornell University, Ithaca, New York	
Associates of Science, Ecology, Environmental Technology, Limnology	1995
Paul Smith's College, Paul Smiths, New York	

#### **CERTIFICATIONS**

Society for Freshwater Science certified Level II, Group I, Eastern and Western Arthropods Society for Freshwater Science certified Level II, Group II, Eastern and Western EPT Society for Freshwater Science certified Level II, Group IV, Oligochaeta

#### **RELEVANT WORK EXPERIENCE**

#### Senior Aquatic Taxonomist, Watershed Assessment Associates, NY

07/09 - present

- Processed thousands of samples from across US (NY, VT, MA, CT, NH, ME, PA, WV, GA, NV) and Canada (ON, PQ)
- Oversee daily lab functions, curator of WAA reference collection
- Manage lab/field technicians, perform field bio-assessment duties, taxonomic workshop instructor

#### Senior Aquatic Taxonomist, EcoAnalysts Inc., ID

01/06-07/09

- Expert in all North American aquatic fauna; Assistant Curator of EcoAnalysts Reference collection, adding multiple new taxa
- Identified samples from all EPA ecoregions as part of the EPA National Lakes Assessment
- Processed thousands of samples from Northwest (ID, WA, OR), Southwest (AZ, NM, NV, CA), Southeast (TX, LA, FL, NC) and Northeast (NY, PA, NJ, CT) US as well as Canada (ON, PQ, MB, BC)
- Performed taxonomic identifications for AZ DEQ (2006-2009), NV DEP (2006-2009), ID DEQ(2006-2008), NM DEQ (2006-2008), CT DEP(2006-2009)
- Identified over 100 samples from Delaware River Watershed for Delaware River Basin Commission (DRBC) to genus/species level
- Identified hundreds of samples for Environment Canada from the Great Lakes
- Performed numerous bio-assessment field duties
- Trained fellow taxonomists/perspective taxonomists in aquatic entomology

#### Christopher M Fishel

#### Watershed Assessment Associates

• Pioneered successful new recruitment methods for acquiring future employees; established new company protocols to improve efficiency in taxonomy department

#### Production Taxonomist - temporary, Insect Ecologists, ID

09/07-11/07

 Processed over 200 pitfall trap samples from Northern ID and MT; identified thousands of specimens to family/genus/species level

#### Freelance Production Taxonomist, Cornell University/NSF Grants, Various

1998-2006

- Processed thousands of samples from New York, Colorado and Idaho.
- Identified hundreds of thousands of specimens to genus/species level.
- Performed bio-assessment field duties in New York and Colorado

#### Fisheries Technician, NYS Dept. of Environmental Conservation, NY

1995-1997

- Performed various field sampling duties including electro-fishing and the usage of various types of capture nets.
- Performed creel census duties; assisted in various endangered fish species surveys

#### **MEMBERSHIPS**

Society for Freshwater Science Connecticut Entomological Society Trout Unlimited

#### **ADDITIONAL SKILLS**

- Extensive knowledge of aquatic macroinvertebrate taxa; excellent knowledge of terrestrial insects
- Excellent working knowledge of many taxonomic keys and references
- Experienced Curator of professional/large personal collection
- Familiar with Microsoft Excel, Access, Word
- Excellent self-motivational skills; extreme passion about insects, especially aquatic EPT taxa
- Experienced utilizing electrofishing (boat & backpack), seines, kick nets, gill nets, trap nets, and plankton net gears
- Proficient with various aquatic macroinvertebrate field sampling and sub-sampling techniques

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

This five year certification is awarded to

# KELLY NOLAN

In recognition of excellence for specimen identification to Genus for

Eastern Chironomidae

SOCIETY FOR FRESHWATER SCIENCE

Dr. Murray Colbo

July, 2018
Date of Expiry

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

Dr. Murray Colbo

MARCH, 2020
Date of Expiry

This five year certification is awarded to

## J. KELLY NOLAN

In recognition of excellence for Image identification to Genus for

Western

Ephemeroptera, Plecoptera & Trichoptera

SOCIETY FOR FRESHWATER SCIENCE

Dr. Murray Colbo

MARCH, 2020

Date of Expiry

This five year certification is awarded to

# CHRISTOPHER FISHEL

In recognition of excellence for specimen identification to Genus for

Western

Ephemeroptera, Plecoptera & Trichoptera

SOCIETY FOR FRESHWATER SCIENCE

Dr. Murray Colbo

July, 2018
Date of Expiry

This five year certification is awarded to

# CHRISTOPHER FISHEL

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

This five year certification is awarded to

### CHRISTOPHER FISHEL

In recognition of excellence for specimen identification to Genus for

Eastern

General Arthropods

SOCIETY FOR FRESHWATER SCIENCE

Dr. Murray Colbo

MARCH, 2020

Date of Expiry

This five year certification is awarded to

### CHRISTOPHER FISHEL

In recognition of excellence for specimen identification to Genus for

Oligochaeta

**SOCIETY FOR FRESHWATER SCIENCE** 

Dr. Murray Colbo

MARCH, 2020
Date of Expiry

This five year certification is awarded to

### CHRISTOPHER FISHEL

In recognition of excellence for specimen identification to Genus for

Western

General Arthropods

SOCIETY FOR FRESHWATER SCIENCE

Dr. Murray Colbo

MARCH, 2020

Date of Expiry

<b>DESIGNATED CONTACT:</b> 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 Discotor Environmental Services (Name, Title)
(Printed Name and Title)  1861 Chisler Ave., Schenectody NY 12303  (Address)  518-346-0225  (Phone Number) / (Fax Number)  KNC 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.
(Company)
(Company)  (Authorized Signature) (Representative Name, Title)
(Printed Name and Title of Authorized Representative)
(Date) (Date) 518 346 0225
(Phone Number) (Fax Number)

### 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 exceed 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.

### 

Purchasing Affidavit (Revised 08/01/2015)

Saemee Reed
Notary Public, State of New York
Qualified in Saratoga County
No. 01RE6350007
Commission Expires October 31, 2020

### ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.: (RFQ 03/3 DSF) 7000 20024

**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.

(Check the	bo	x next to each addendum re	eceive	I)	
ί×	j	Addendum No. 1	[	]	Addendum No. 6
[	]	Addendum No. 2	[	]	Addendum No. 7
[	]	Addendum No. 3	Į	]	Addendum No. 8
[	]	Addendum No. 4	[	]	Addendum No. 9
ſ.	1	Addendum No. 5	ſ	1	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.

Company

Authorized Signature

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing. Revised 6/8/2012