

**EXPRESSION OF INTEREST**  
TMDL Development Contract-West Fork River Watershed  
Requisition Number DEP15530

**Part 1                    GENERAL INFORMATION**

**1.1 Purpose:**

The Acquisition and Contract Administration Section of the Purchasing Division "State" is soliciting Expression(s) of Interest (EOI) for the West Virginia Department of Environmental Protection (WVDEP), from qualified firms to provide architectural/engineering services as defined in Sections two (2) and three (3), in the Scope of Work.

**1.2 Project:**

The mission or purpose of the project described in **Sections 2 & 3** is to provide Total Maximum Daily Loads (TMDLs) for the impaired streams in the West Fork River watershed.

**1.3 Format:**

All responses should be submitted in a loose-leaf, three-ring binder. The response should be presented in concise format which defines the corporation's history and the experience, qualifications, and performance data of the firm's staff, as requested by this EOI and the TMDL Consultant Qualification Questionnaire (CQQ), Attachment "A". **An electronic copy of the above referenced attachment "A" is available online for registered vendors at:**  
<http://www.state.wv.us/admin/purchase/newbul.htm>

**1.4 Inquiries:**

Additional information inquiries regarding this EOI must be submitted in writing to the State Buyer with the exception of questions regarding proposal submission, which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.16. All inquiries of specification clarification must be addressed to:

Chuck Bowman, Buyer Supervisor  
Purchasing Division  
P.O. Box 50130  
Charleston, WV 25305-0130  
Fax: (304) 558-4115  
Email: Charles.a.bowmanjr@wv.gov

**The firm, or anyone on the firm's behalf, is not permitted to make any contact whatsoever with any member of the evaluation committee.** Violation may result in rejection of the EOI. The State Buyer named above is the sole contact for any and all inquiries after this EOI has been released.

**1.5 Vendor Registration:**

Firms participating in this process should complete and file a **Vendor Registration and Disclosure Statement** (Form WV-1) and remit the registration fee. Firm is not required to be a registered vendor in order to submit an EOI, but the **successful firm must** register and pay the fee prior to the issuance of an actual contract.

**1.6 Oral Statements and Commitments:**

Firm must clearly understand that any verbal representations made or assumed to be made during any oral discussions held between firm's representatives and any State personnel are **not** binding. Only the information issued in writing and added to the Expression of Interest specifications file by an official written addendum is binding.

**1.7 Economy of Preparation:**

EOI's should be prepared simply and economically, providing a straightforward, concise description of firm's abilities to satisfy the requirements of the EOI. Emphasis should be placed on completeness and clarity of content.

**1.8 Labeling of the Sections:** The response sections should be labeled for ease of evaluation.

**1.9 Submission:**

1.9.1 State law requires that the original expression shall be submitted to the Purchasing Division. All copies to the Purchasing Division must be submitted **prior** to the date and time stipulated as the opening date. All expressions will be date and time stamped on the Purchasing Division official time clock to verify time and date of receipt.

1.9.2 Firms mailing expressions should allow sufficient time for mail delivery to ensure timely arrival. The Purchasing Division **CANNOT** waive or excuse late receipt of an expression which is delayed and late for any reason according West Virginia State Code §5A-3-11. Any EOI received after the bid opening time and date will be immediately disqualified in accordance with State law and the Legislative Rule 148-CSR-1.

**Submit:**

One original plus one convenience copy and one copy on CD to:

Purchasing Division  
2019 Washington Street, East  
P.O. Box 50130  
Charleston, WV 25305-0130

The outside of the envelope or package(s) should be clearly marked:

Buyer: **CB-23**  
Req#: **DEP15530**  
Opening Date: **08/25/2011**  
Opening Time: **1:30 pm**

**1.10 Rejection of Expressions:**

The State shall select the best value solution according to §5G-1-3 of the West Virginia State Code. However, the State reserves the right to accept or reject any or all expressions and to reserve the right to withdraw this Expression of Interest at any time and for any reason. Submission of, or receipt by the State of Expressions confers no rights upon the firm nor obligates the State in any manner.

**1.11 Incurring Costs:**

The State and any of its employees or officers shall not be held liable for any expenses incurred by any firm responding to this EOI for expenses to prepare, deliver, or to attend the short-list interviews.

**1.12 Addenda:**

If it becomes necessary to revise any part of this EOI, an official written addendum will be issued by the State to all potential firms of record.

**1.13 Independent Price Determination:**

A contract will not be considered for award if the negotiated price was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor.

**1.14 Price Quotations:** No "price" or "fee" quotation is requested or permitted in the response.

**1.15 Public Record:**

*1.15.1 Submissions are Public Record.*

All documents submitted to the State Purchasing Division related to purchase orders/contracts are considered public records. All EOI's submitted by firms shall become public information and are available for inspection during normal official

business hours in the Purchasing Division Records and Distribution center after the expressions have been opened.

1.15.2 *Written Release of Information.*

All public information may be released with or without a Freedom of Information request, however, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently the fees are \$0.50/page, or a minimum of \$10.00 per request, whichever is greater.

1.15.3 *Risk of Disclosure.*

The only exemptions to disclosure of information are listed in West Virginia Code §29B-1-4. Primarily, only trade secrets as submitted by a firm are the only exemption to public disclosure. The submission of any information to the State by a firm puts the risk of disclosure on the firm. The submission of any information to the State by a vendor puts the risk of disclosure on the vendor. The State does not guarantee non-disclosure of any information to the public.

**1.16 Schedule of Events:**

Release of the EOI.....07/29/2011  
Expressions of Interest Opening Date.....08/25/2011

**1.17 Mandatory Prebid Conference: NA**

**1.18 Bond Requirements: N/A**

**1.19 Purchasing Affidavit:**

West Virginia State Code §5A-3-10a (3) (d) requires that all firms submit an Affidavit regarding any debt owed to the State and licensing and confidentiality certifications. The Affidavit **must** be signed and submitted prior to award. It is preferred that the Affidavit be submitted with the EOI.

**PART 2 OPERATING ENVIRONMENT**

**2.1 Location:**

Various

## 2.2 **Background:**

The West Virginia Department of Environmental Protection, Division of Water and Waste Management (DWWM), is responsible for the protection, restoration, and enhancement of the State's waters, and for Total Maximum Daily Load (TMDL) development in West Virginia. Section 303(d) of the Federal Clean Water Act and the U.S. Environmental Protection Agency's (EPA) Water Quality Planning and Management Regulations (40 CFR Part 130) require states to identify waters not meeting state water quality standards and to develop TMDLs for these waters. A TMDL establishes the maximum allowable pollutant loading for a stream to meet the applicable standard, allocates that load among pollutant contributors, and provides a basis for taking actions needed to restore water quality.

WVDEP is committed to implementing a TMDL development process that reflects the requirements of TMDL regulations, provides for the achievement of water quality standards, and ensures that adequate stakeholder participation is achieved in the process.

TMDLs are stream-specific and may involve any parameter for which numeric or narrative water quality criterion exists. West Virginia's most common impairments are those related to mine drainage, bacterial contamination, and general biological impairment. For streams impaired by mine drainage, TMDL development may be required with respect to the State's numeric water quality criteria for iron, aluminum, manganese, selenium, or pH. TMDLs for bacterial contamination must be based upon the State's numeric water quality criteria for fecal coliform bacteria. Another common impairment for which TMDL development may be necessary involves acidic atmospheric deposition based upon the State's pH numeric water quality criterion. Biological impairment is determined through a biological assessment methodology. The causative pollutants and sources are often unknown or uncertain in biologically impaired waters and must be determined in the TMDL development process. TMDLs may be needed for any pollutant for which a numeric water quality criterion is established, or for other pollutants determined to be causative stressors of biological impairment.

The WVDEP will develop TMDLs in concert with a geographically-based approach to water resource management in West Virginia known as the Watershed Management Framework. Adherence to the framework ensures efficient and systematic accomplishment of statewide TMDL development. As such, each TMDL to be developed will correspond to specific geographical areas, within which impaired waters will be geographically nested into TMDL subwatersheds. The details for this TMDL development project, the West Fork River watershed, will be accomplished through a specific work directive to the selected Vendor.

Prior to Vendor involvement, the WVDEP will perform rigorous pre-TMDL monitoring at strategic locations in impaired or potentially impaired waters. Actual monitoring

locations will vary based on the drainage pattern of studied watersheds. Station locations will attempt to characterize the extent of impairment. For impairments related to numeric water quality criteria, monthly monitoring will generally be performed for twelve months. Biological monitoring will also be conducted at selected stations to characterize stream health and assess general habitat conditions, and may include monthly monitoring for suspected causative pollutants. Source tracking information will augment pre-TMDL water quality monitoring and biological assessment through the identification and characterization of pollutant sources. The WVDEP will compile the stream monitoring and source tracking information and provide it to the Vendor. The WVDEP will review the results of the pre-TMDL monitoring effort, determine impaired waterbodies requiring TMDLs and incorporate this information into the work directive for the TMDL project. The Vendor will likely encounter modeled impairments, which will also undergo TMDL development.

As described in detail in the following section, the Vendor will provide necessary TMDLs in accordance with established deadlines. The work directive under this contract is anticipated to be issued in October, 2011 with the TMDLs to be finalized by January 2014.

## **PART 3                   PROCUREMENT SPECIFICATIONS**

### **3.1   General Requirements:**

Over the TMDL development period (approximately 26 months), the Vendor shall furnish the necessary labor, supervision and resources necessary to develop USEPA approved TMDLs for impaired waters as specified by the WVDEP. The labor, supervision and resources to be provided under this contract shall be for all aspects of TMDL development including, but not limited to, data compilation and formatting, model selection, model development and calibration, allocation scenario development, biological stressor identification, report development, public meeting participation, response to USEPA and public comments, and technology transfer/training.

In the TMDL development process, approximately eight months will be allotted for data development, source characterization, and biological stressor identification. During the next twelve months, the Vendor will complete model development and calibration, documentation of the base condition and allocation scenario alternatives, including consideration of stakeholder input to the allocation process, and will develop initial draft TMDL documents. During the subsequent six months, the Vendor will refine and finalize TMDL documents as directed by the WVDEP. Finalization components include revision of initial draft documents as directed by WVDEP, public notice of the draft TMDL, receipt and consideration of public comments, creation of a responsiveness summary that addresses public comments, and USEPA-required revisions as necessary for approval of the TMDL.

### 3.2 **Project Description:**

The project will require comprehensive water quality assessment and hydrologic modeling of the West Fork River Watershed and to develop TMDLs that are approvable by US EPA.

#### **Scope of Work:**

The Vendor will develop TMDLs for the impaired waters in the West Fork River Watershed.

#### **Data Development:**

It shall be the Vendor's responsibility to gather and assemble all relevant data as specified by the WVDEP, with details to be determined for each type of TMDL. The WVDEP shall generate recent and comprehensive water quality monitoring data for impaired waters and provide it to the Vendor. The Vendor must be capable of data manipulations in Microsoft<sup>®</sup> Access and ORACLE<sup>®</sup> formats in order to facilitate usage of WVDEP's current databases. The WVDEP will assist in the compilation of other available water quality data and pollutant source information as appropriate throughout the contract period. The data and sources necessary to fulfill TMDL development processes will be partitioned as follows:

Information supplied by WVDEP:

- Pre-TMDL water quality monitoring data and locations
- Source tracking data
- Stream reach coverage
- Impairment assessments based on water quality monitoring data:
- Timber harvest and burn areas
- Permitted facility locations and NPDES data
- Abandoned mine locations and data
- Oil and gas well locations
- 911 addressable structures and roads
- Extent of public sewer systems/info on inadequate on-site sewage treatment

Information gathered by the Vendor:

- Meteorological station locations
- Rainfall
- Temperature
- Wind speed
- Dew point
- Humidity

- Cloud cover
- Soils surveys
- State Soil Geographic Database (STATSGO)
- Soil Survey Geographic Database (SSURGO)
- Federal standards and regulations
- Clean Air Interstate Rule (atmospheric deposition)
- Cataloging Unit boundaries (HUC)
- Historical Stream Flow Record (daily averages)
- Topographic maps (topo quads)
- Digital elevation maps (DEM)
- National Elevation Dataset (NED)
- Roads

### **Subwatershed Delineation:**

In this project, the watershed will be subdivided into “TMDL watersheds”. Further subdivision of the watersheds will be scaled to the extent and size of the impaired stream segments such that only one impaired stream is contained in an individual subwatershed. The location of pre-TMDL monitoring stations shall also be considered.

Subwatershed delineation will be structured as to conserve pollutants from upstream watersheds to downstream (receiving) watersheds, and will adhere to topographic boundaries. Vendor will provide a subwatershed delineation directory (CD) of the project watersheds that will contain ArcView<sup>®</sup> shapefiles. The project will be developed in ArcView<sup>®</sup> 9 and at a minimum contain the following four layers:

- Impaired Streams Layer -- Spatial coverage including an attribute table containing impaired stream names, NHD stream code, WV stream code, trout water designation, and fields identifying each impairment.
- Stream Layer -- Spatial coverage including an attribute table containing stream name, WV stream code, NHD stream code.
- Subwatershed Layer -- Spatial coverage including an attribute table containing watershed name, sub ID number, downstream sub ID number, area (M<sup>2</sup> & acres), GNIS ID, GNIS name, final stream name, WV stream code, and WV NHD stream code.
- TMDL Watershed Boundary Layer -- Spatial coverage of the TMDL watershed(s) including an attribute table containing watershed name.

### **NPDES Permit Summary Report:**

It is very important that all permitted point sources be correctly located and represented in the model in order to develop accurate TMDLs. The Vendor shall provide an NPDES permit data summary report for the project watershed. This permit summary report will identify and characterize the NPDES data associated with

permitted point sources in the watershed. The permit summary report will contain two parts: mining-related permit summary spreadsheets (in a Microsoft® Excel filterable format) and non-mining related permit summary spreadsheets (in a Microsoft® Excel filterable format). These summaries will be submitted to WVDEP on a CD.

Mining permit data and the Division of Mining and Reclamation's (DMR) hydrologic protection unit GIS coverage (hpu.shp) will be provided to the Vendor from WVDEP's Environmental Resource Information System (ERIS) database. The hpu.shp GIS coverage will be used to determine the location of the mining-related NPDES permitted outlets. The ERIS database system will provide the effluent type, permit limits and discharge data for the permitted outlets. WVDEP will develop a comprehensive list of mining-related NPDES permitted outlets in the watershed, including permit number, permit type, outlet ID, outlet location (latitude and longitude), effluent type code, effluent limits, total and disturbed drainage area (for precipitation induced discharges), and continuous flow data (for pumped or constant discharges). This information will provide the basis for representing mining related discharge flows as either continuous flow or precipitation driven in the model.

Non-mining point sources include the following: home aeration units (HAUs), individual publically-owned treatment works (POTWs), individual other (sewage permits), individual POTW collection systems, general sewage, car washes, ground water remediation, water treatment, individual (industrial), solid waste land applications, storm water industrial general permits (GPs), construction storm water permits, combined sewer overflows (CSOs), and others. WVDEP's OWRNPDES GIS coverage will be used to determine the locations of the non-mining permitted sources and describe permit information such as discharge characteristics, permit limits, and discharge data, which will be obtained from WVDEP's ERIS database. These two datasets will be combined to generate the non-mining related permit summary list for each type of source and will provide the permit number, facility name, responsible party, permit type, outlet ID, outlet location (latitude and longitude), the watershed in which the outlet is located, outlet status (open/closed), the start and end dates for the outlet, and the parameters of interest for which limits are found (including flow, chemical concentrations and pH).

### **Pollutant Source Summary:**

The Vendor shall provide a pollutant source report in a CD directory containing an ArcView® project that spatially represents the potential sources of stream impairments in the watershed. The project will contain a unique layer for each impairment type (metals, bacteria, biological, or other). Within each view, shapefiles will be presented that represent potential point and nonpoint pollutant sources, watershed physiographic data, and the monitoring data required for modeling. The shapefiles will be represented with appropriate symbols in the view legend and physical and observed details will be presented in the attribute table associated with each shapefile. A descriptive document (or legend) will also be submitted with the pollutant source

report that explains in detail the contents of each project, view, and shapefile. The Arcview<sup>®</sup> pollutant source report layers for metals, bacteria, biological or other impairments will include the following details, where appropriate:

**Watershed Physiographic Data:**

Subwatershed Delineations -- Created by the subwatershed delineation process described in the above Subwatershed Delineation section, the attribute table will include the subwatershed ID number, stream name, stream code and next downstream reach.

Stream Reach -- Spatial representation of all digitized streams in the watershed that originates from WVDEP's dnrreach.shp.

Impaired Streams (Metals, Bacteria, Biological, and Other) – Spatial coverage of WVDEP's stream reach file including all of the impaired streams in the watershed. The theme legend will show the impaired streams and the attribute table will contain fields that indicate all pollutants for which each stream is impaired. The coverage will originate from dnrreach.shp shapefile and the work directive.

Roads – The extent of roads in project watersheds will be spatially represented through a combination of the following sources: wv\_roads.shp coverage from WCMS, TIGER/line files from the U.S. Census Bureau (2003). The Vendor will digitize unpaved roads found on topographical maps and aerial photos.

Towns – Spatial coverage including locations and names of towns and municipalities in the watershed. The coverage will originate from wvppl.shp in WCMS.

Soils – Spatial soil classification will be represented as polygons. The coverage will originate from the USGS STATSGO database.

Landuse (USGS 2006 NLCD, or equivalent) -- A grid coverage of the landuse data set will include a legend showing each of the landuses.

911 Coverage -- Spatial coverage provided by WVDEP based on information collected through the 911 initiatives. The point coverage includes all buildings and structures on a countywide basis. This coverage may be used to update the landuses to reflect population growth, if necessary.

**Monitoring Data:**

WAB Stations -- Spatial coverage to include locations of all WVDEP Watershed Assessment Branch (WAB) in-stream monitoring stations. The attribute table will include the station ID, stream name, stream code, and location coordinates. The coverage will be based on the WAB stations shapefile provided by WVDEP.

Additional Monitoring Stations -- Spatial coverage to include locations of all other water quality monitoring stations provided to WVDEP by permittees or other sources. The attribute table will include the permit #, stream name, stream code, and location coordinates.

Trend Stations -- Spatial coverage to include locations of the water quality sampling efforts by the WVDEP Division of Mining and Reclamation (DMR). The attribute table will include the stream name, stream code, and location of the station.

Weather Stations -- Spatial coverage to include locations of weather stations (including precipitation gages and surface airways stations) within and surrounding the watershed. The attribute table will include the station name and ID, period of record, elevation, and location.

USGS Gage Stations -- Spatial coverage of USGS Gage Stations located within and surrounding the project watersheds. The attribute table will include the gage name and ID, period of record, flow rate, and location.

CSO Spill Reports -- Spatial coverage to include supplemental sampling data of CSO overflows provided by WVDEP and/or collected during source tracking.

**Potential Point Sources:**

DWWM NPDES Permits -- Spatial coverage to include a summary of the non-mining permit limit information for each of the OWRNPDES permit outlets. The coverage will originate from the ownrpdes.shp shapefile and permit information retrieved from ERIS by WVDEP.

Mining NPDES Permits -- Spatial coverage to summarize mining-related NPDES outlets. The attribute table will include the permit #, outlet #, effluent type and the permit information for each outlet. The coverage will originate from the hpu.shp shapefile and from information provided by WVDEP.

Permitted Mining Areas -- Spatial coverage to include area of existing mining operations. The coverage will originate from the perbd.shp shapefile provided by WVDEP.

Valley Fills -- Spatial coverage to include area coverage of valley fills from mountaintop removal coal operations. The coverage will originate from the vallf.shp shapefile provided by WVDEP.

**Potential Nonpoint Sources:**

AML Area -- Spatial coverage to include locations and areas of AML surface disturbances. Coverage originates from the aml\_poly.shp.

AML Highwall -- Spatial coverage to include locations of AML highwalls. Coverage originates from the aml\_line.shp.

AML Portals (WVDEP) -- Spatial coverage to include locations of AML portals. Coverage originates from the aml\_pnt.shp.

Oil and Gas Wells -- Spatial coverage to include locations and status of oil and gas well operations. Coverage originates from the oog.shp.

Bond Forfeiture Sites -- Spatial coverage to include locations and status of bond forfeiture sites. Coverage created based on information from the Office of Special Reclamation in WVDEP's Division of Land Restoration.

Burned Forest Info -- Spatial coverage to include locations of burned forest areas. The attributes table includes date of burn, total area burned (acres), and the calculated radius. Coverage created based on the coordinates from the burned forest information provided by WV Division of Forestry.

Harvested Forest Info - Spatial coverage to include locations of forest harvest operations. The attributes table includes the registration number, start date, end date, landing (areas) haul road (acres), total logging area (acres) and calculated radius (meters). Coverage created based on the coordinates from the harvested forest information provided by WV Division of Forestry to WVDEP.

**Additional Information Generated by WVDEP Source Tracking:**

AML Seeps -- Spatial coverage to include sample locations taken during WVDEP source tracking efforts. The attributes table includes the site description and the analytical results for each sample.

AML Disturbances -- Spatial coverage to include the identified AML areas during WVDEP source tracking efforts. The attributes table includes the site description of each AML, associated PADS#, and ranks the runoff potential.

Sediment Sources -- Spatial coverage to include the potential sediment sources identified during WVDEP source tracking efforts. The attributes table includes rankings of potential sediment impacts for the following sources: AML, oil and gas, unmapped roads, agriculture, metal hydroxides, bank erosion, and residential areas.

Stream bank stability (S-Values) -- Spatial coverage created by WVDEP to include the actual S-values collected by WVDEP, as well as S-values assigned by best professional judgment for subwatersheds where data was not collected.

Metals Source Photos -- Spatial coverage that shows the locations of selected metal source photos taken by WVDEP during source tracking efforts. A hotlink tool will enable the user to view the photos.

Sewered Areas -- Spatial coverage created by WVDEP that includes the aerial coverage of local PSDs.

Unsewered Areas -- Spatial coverage created by WVDEP that includes the # of unsewered houses / stream segments.

Septic Zones -- Spatial coverage created by WVDEP that includes seasonal flow and septic system failure rates for separate zones within the watershed.

MS4 Permits -- Spatial coverage including areas/outlets associated with Municipal Separate Storm Sewer Systems. Where applicable, delineation of MS4s versus CSO drainage areas.

Sewage Overflow Events -- Spatial coverage that includes location and sewage overflow events that are provided on the source tracking data spreadsheet created by WVDEP.

CSO Samples -- Spatial coverage provided by WVDEP to include supplemental sampling data of CSO overflows collected during source tracking.

CSO Outlets -- Spatial coverage of areas/outlets associated with CSOs. Where applicable, delineation of MS4s versus CSO drainage areas.

Sludge Application Sites -- Spatial coverage that includes locations and application rates collected during source tracking.

Agricultural Sites -- Spatial coverage created from the potential fecal coliform bacteria sources that were identified during WVDEP source tracking efforts. The attributes table includes the category for the source, a description of the type of source, size and runoff potential.

Fecal Source Photos -- Spatial coverage to include the locations of selected fecal source photos taken by WVDEP during source tracking efforts. A hotlink tool will enable the user to view the photos.

**Watershed Model:**

The Vendor must use the Load Simulation Program in C<sup>++</sup>/Mining Data Analysis System (LSPC/MDAS), or an equivalent, modeling system to develop WVDEP TMDLs for streams that are in violation of West Virginia numeric water quality criteria or the narrative criterion 3.2.i. The Vendor shall use nonproprietary models, model codes, and tools (i.e. those in the public domain for TMDL development). In addition, Vendor shall also provide adequate technical transfer of all models, model codes, tools, and relevant data to WVDEP personnel without restriction to distribution. The modeling and data management process must provide the following:

- Simulation of watershed hydrology using hourly local meteorological data
- Capable of modeling numerous (+500) subwatersheds simultaneously
- Simulation of all land and in-stream pollutants under a range of flow conditions for existing, baseline, and TMDL pollutant loading scenarios. The model must calibrate for existing conditions, but be able to be modified to allow for baseline and allocation scenarios
- Evaluates compliance with all water quality criteria, including exposure duration and exceedance frequency components
- Representation of loading processes for both point and nonpoint sources as either precipitation driven or constant discharge, as appropriate
- Representation of pollutant build-up/washoff rates for various landuse categories
- Representation of pollutants transferred from upstream watersheds to receiving (downstream) watersheds in a conservative manner
- Incorporation of a graphical interface that supports GIS functions
- Representation of in-stream dissolved metals stemming from total metal source inputs and prescription of total metal allocations that result in compliance with dissolved metal water quality criteria
- Presentation of allocations in an acceptable manner (usable by WVDEP) through a post-processing system that provides waste load allocations (WLAs) to individual point sources and load allocations (LA) to categories of non-point sources
- Storage of all geographic, modeling, and point source permit data in a Microsoft® Access or equivalent database and text file formats to provide for efficient manipulation of data

### **Model Hydrology Calibration:**

The Vendor shall perform a calibration of the utilized model(s) with respect to hydrological prediction and provide a report showing the results. The hydrology calibration shall involve the comparison of model results with in-stream flow measurements at selected locations and subsequent adjustment of the hydrologic parameters. The calibration period will be based on the availability of weather and flow data collected during the same time period. The model hydrology calibration must entail the following:

- Incorporation of in-stream flow data from USGS flow gaging stations throughout the watershed. In watersheds without USGS flow gaging stations, the hydrology calibration will be performed on a nearby watershed with similar characteristics and well-documented land uses. This calibration will be

supplemented by instantaneous flow measurements from pre-TMDL monitoring.

- Utilization of hydrologic data selected with respect to the following criteria:
  - Completeness of the weather data available for the selected period
  - Adequacy of low-flow and high-flow years
  - Consistency of selected period with key model inputs
- Achievement of the overall goals of the calibration (to decrease the error between the simulated and observed flows) in the following order:
  - Maintenance of annual water balance
  - Representation of seasonal and monthly flow volumes
  - Representation of base-flow conditions
  - Representation of storm events
- Report presentation on a CD containing worksheets that represent the observed and modeled data, graphs and tables designed to assess the goodness-of-fit, and a statistical analysis of the calibration. Calibration shall be performed on a reasonable number of subwatersheds to assure scientific validity of the process.

### **Model Water Quality Calibration:**

The Vendor shall perform a water quality calibration for all pollutants of concern at multiple locations throughout the watersheds. This calibration will consist of executing the watershed model, comparing time series water quality output with available water quality observation data, and adjusting water quality parameters within a reasonable range. In-stream concentrations from the model are to be compared directly with observed data. The objective is to best simulate low flow, mean flow, and storm peaks at representative water quality monitoring stations.

The water quality calibration shall be presented on a CD and contain worksheets that represent the observed and modeled output data, graphs and tables designed to assess the goodness-of-fit, and a statistical analysis of the calibration. Calibration shall be performed on a reasonable number of subwatersheds to assure scientific validity of the process.

### **Biological Stressor Identification:**

Stressor identification will be accomplished by a weight-of-evidence/best professional judgment approach that incorporates evaluation of field narratives, and available information on water chemistry, habitat, and benthic biota. The Vendor will build upon the stressor identification methodologies and threshold criteria developed in the previous TMDL projects. The use of biological information, particularly statistical diagnostic resources developed in concert with DEP biologists, will be used in the stressor identification processes to increase the effectiveness of the identification of

significant biological stressors. The Vendor will utilize and integrate the abiotic and biotic information relating to stream health to formulate a candidate list of biological stressors for DEP review. Typical stressors include pH/metals toxicity, sedimentation, organic enrichment, and ionic stress; however, additional stressors may be encountered and will require diagnosis via stressor identification processes, including statistical modeling. The use of developed and tested diagnostic resources (e.g. statistical models) to enhance biological stressor identification, including stressor identification diagrams which correlate likely stressors to biological trends evidenced in benthic macroinvertebrate communities will be necessary. The Vendor shall have experience with statistical model(s) which assign probabilities for likely stressors impacting benthic macroinvertebrate assemblages based on genus and/or species-level taxonomy.

Additionally, the Vendor will adhere to the following protocol for stressor identification in streams with biological impairment:

- Thorough review of DEP/WAB database for all information related to biologically impaired streams, including water chemistry data, physical habitat assessments, field narratives, and taxonomic information.
- Review of source tracking data to provide guidance and direction as to stressor identification pathways.
- Selection of at least two appropriate reference stations per 8-digit HUC watershed designation. The Vendor will assist WVDEP personnel in the selection of appropriate reference watersheds for use in stressor identification and TMDL development. WVDEP will provide an initial list of potential reference watersheds based on knowledge of the watersheds, biological condition, similarity to impaired watersheds, and best professional judgment.

Under direction of and in cooperation with DEP, the Vendor will assemble biological stressor identification resources, which include but are not limited to the results of diagnostic statistical models, the designation of potential biological stressors as proposed through the integration of abiotic and biotic information, and the judgments of professional personnel. Utilization of stressor identification resources will generally follow the protocol below, culminating in a decision meeting between DEP and the Vendor:

- Application of knowledge regarding benthic fauna, including the application of appropriate ecological and taxonomic components relating to macroinvertebrate assemblage structure.
- Incorporation of all database information regarding biotic potential of specific streams or assemblages.
- Quantification of biological assemblage stress through the latest diagnostic stressor identification resources, particularly statistical models which assign

probabilities to likely stressors based on attributes of macroinvertebrate assemblages. The incorporation of additional diagnostic resources, like RIVPACS Models, may also be utilized if readily available and appropriate. Also, the use of non-conventional biological metrics may be appropriate where there is sufficient information that can be used to evaluate stressor-response relationships at an appropriate level.

- Application of a list of stressor-specific indicator taxa and potential impairment thresholds as determined by biotic tolerance values.
- Quantification or summarization of chemical, physical, and narrative information regarding each assemblage's potential stressors into a spreadsheet, which conserves individual site attributes, but is also illustrative of potential cumulative impacts.
- Evaluation of periphyton and fish assemblages when pertinent to the SI process.

The Vendor will incorporate all research/findings, both statistical and taxonomic, regarding biological impairment into stressor identification reports. More specifically, the results of consensus decisions emanating from the joint stressor identification meeting will be conveyed in the reports.

### **Sediment-to-Metals Relationships (via TSS-to-Fe)**

TMDLs relative to numeric water quality criteria for iron will require the control of iron loading from sediment-producing sources and biological stress due to sedimentation may involve a total iron surrogate approach. As such, the Vendor will be required to examine potential sediment-to-iron (TSS-to-Fe) relationships at the subwatershed scale and document/quantify areas where positive correlations exist. This information will be used in the development of iron or sediment-related biological TMDLs, where appropriate.

### **Allocations:**

The Vendor and WVDEP will collaborate on an overall allocation strategy from which wasteload and load allocations shall be developed. The Vendor will provide waste load allocations (WLAs) to individual point sources and load allocations (LAs) to specific categories of non-point sources. These allocations will be provided on a CD with filterable spreadsheets. The allocations will include a margin of safety, seasonality considerations, analysis of background conditions, and future growth allocations, if requested by the WVDEP. Generally, the allocations must be reasonable and the prescribed reductions cannot be more stringent than the background conditions. The Vendor and WVDEP will select the target date for the finalization of an overall allocation strategy during the project kick-off meeting. WVDEP and Vendor will cooperate as necessary to ensure that the strategy is

finalized with ample time for the completion of the Preliminary Draft TMDL deliverable by its scheduled due date.

### **TMDL Report Development:**

The TMDL reports to be submitted during the course of this contract shall be subject to the federal regulatory requirements for the development of an approvable TMDL as specified at 40 CFR 130, and any applicable EPA Region III guidance. The Vendor will be responsible for all document revisions at various points in the process, from draft stages until final document approval. WVDEP shall direct the Vendor to make report revisions when necessary.

The TMDL reports should allow the general public to understand existing impairments and the corrective actions necessary to restore water quality. Information should also be presented in formats that maximize the usefulness of the TMDL to agencies and programs responsible for implementation. The WVDEP and Vendor will cooperate in the development of a report format that meets those needs.

Prior to submission of all internal draft reports, the Vendor will perform a thorough technical review for accuracy of content, general grammatical correctness, and graphical representation.

### **Status Report and Other Meetings:**

The Vendor and WVDEP will hold project status meetings monthly. The meetings will be conducted by conference call or in-person at WVDEP headquarters. In discussion/solving of complex issues, the Vendor will be required to come to WVDEP headquarters (typically twice per month). Additionally, the Vendor and WVDEP staff will tour the TMDL development project watershed. Watershed tours typically consist of one or two day events.

### **Public Participation Meetings:**

The Vendor will participate in up to two public meetings at locations near the TMDL watershed(s), which will be determined at a later date. These meetings will be arranged by the WVDEP. The first series of meetings will be a status update, reviewing general TMDL concepts, water quality standards, and the progress of TMDL development for the impaired streams within the project watershed. Other topics will include the selection and calibration the TMDL models, description the base conditions, and general allocation strategies. The second series of meetings will occur following the development of the draft TMDLs and notice of their availability for comment. During these meetings, WVDEP and Vendor will provide a brief overview of the substantive components of the TMDLs, and facilitate interaction between the stakeholders and the WVDEP. The purpose of these meetings is to educate the stakeholders so they can make informed comments on the draft TMDLs. At least three (3) working days prior to each meeting, the Vendor shall provide any proposed presentation material to the WVDEP for review.

**Response to Public Comment:**

WVDEP and Vendor will prepare a responsiveness summary document during the TMDL finalization step in the process. The responsiveness summary shall answer questions posed by stakeholders, identify revisions of the draft TMDL that resulted from stakeholder input, and explain decisions regarding public comments that did not result in TMDL revision. WVDEP will address comments related to agency policy or procedures and the Vendor will address technical issues as necessary. Additional revisions may be required by the Vendor in regard to comments provided by USEPA during TMDL approval.

**3.3 Special Terms and Conditions:**

3.3.1 *Bid and Performance Bonds:*

3.3.2 *Insurance Requirements:* \$1,000,000 General Liability per Occurrence  
\$2,000,000 Aggregate  
\$1,000,000 Automobile Liability  
\$1,000,000 Professional Liability  
Workers Compensation Certificate upon award  
West Virginia Statutory requirements including  
West Virginia Code §23-4-2 (Mandolidis)

**3.4 General Terms and Conditions:**

By signing and submitting the EOI, the successful firm agrees to be bound by all the terms contained in Section Three (3) of this EOI.

3.4.1 *Conflict of Interest:*

Firm affirms that it, its officers or members or employees presently have no interest and shall not acquire any interest, direct or indirect which would conflict or compromise in any manner or degree with the performance or its services hereunder. The firm further covenants that in the performance of the contract, the firm shall periodically inquire of its officers, members and employees concerning such interests. Any such interests discovered shall be promptly presented in detail to the Agency.

3.4.2 *Prohibition Against Gratuities:*

Firm warrants that it has not employed any company or person other than a bona fide employee working solely for the firm or a company regularly employed as its marketing agent to solicit or secure the contract and that it has not paid or agreed to pay any company or person any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award of the contract. For breach or violation of this warranty, the State shall have the right to

annul this contract without liability at its discretion, and/or to pursue any other remedies available under this contract or by law.

*3.4.3 Certifications Related to Lobbying:*

Firm certifies that no federal appropriated funds have been paid or will be paid, by or on behalf of the company or an employee thereof, to any person for purposes of influencing or attempting to influence an officer or employee of any Federal entity, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.

If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the firm shall complete and submit a disclosure form to report the lobbying.

Firm agrees that this language of certification shall be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this contract was made and entered into.

*3.4.4 Vendor Relationship:*

The relationship of the firm to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by the parties to this contract. The firm as an independent contractor is solely liable for the acts and omissions of its employees and agents.

Firm shall be responsible for selecting, supervising and compensating all individuals employed pursuant to the terms of this EOI and resulting contract. Neither the firm nor any employees or contractors of the firm shall be deemed to be employees of the State for any purposes whatsoever.

The Firm shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension or other deferred compensation plans, including but not limited to Workers' Compensation and Social Security obligations, and licensing fees, etc. and the filing of all necessary documents, forms and returns pertinent to all of the foregoing.

The Firm shall hold harmless the State, and shall provide the State and Agency with a defense against all claims including but not limited to the foregoing payments, withholdings, contributions, taxes, social security taxes and employer income tax returns.

The firm shall not assign, convey, transfer or delegate any of its responsibilities and obligations under this contract to any person, corporation, partnership, association or entity without expressed written consent of the Agency.

**3.4.5 *Indemnification:***

The firm agrees to indemnify, defend and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person or firm performing or supplying services, materials or supplies in connection with the performance of the contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the firm, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use or disposition of any data used under the contract in a manner not authorized by the contract, or by Federal or State statutes or regulations; (3) Any failure of the firm, its officers, employees or subcontractors to observe State and Federal laws, including but not limited to labor and wage laws.

**3.4.6 *Contract Provisions:***

After the most qualified firm is identified, and fee negotiations are concluded, a formal contract document will be executed between the State and the firm. The order of precedence is the contract, the EOI and the firm's response to the EOI.

**3.4.7 *Governing Law:***

This contract shall be governed by the laws of the State of West Virginia. The firm further agrees to comply with the Civil Rights Act of 1964 and all other applicable laws (Federal, State or Local Government) regulations.

**3.4.8 *Compliance with Laws and Regulations:***

The firm shall procure all necessary permits and licenses to comply with all applicable laws, Federal, State or municipal, along with all regulations, and ordinances of any regulating body.

The firm shall pay any applicable sales, use, or personal property taxes arising out of this contract and the transactions contemplated thereby. Any other taxes levied upon this contract, the transaction, or the equipment, or services delivered pursuant here to shall be borne by the contractor. It is clearly understood that the State of West Virginia is exempt from any taxes regarding performance of the scope of work of this contract.

**3.4.9 Subcontracts/Joint Ventures:**

The State will consider the firm to be the sole point of contact with regard to all contractual matters. The firm may, with the prior written consent of the State, enter into written subcontracts for performance of work under this contract; however, the firm is totally responsible for payment of all subcontractors.

**3.4.10 Term of Contract:**

This contract will be effective (date set upon award) and shall extend until the scope of work is complete or for one (1) consecutive twelve (12) month period. The contract may be renewed upon mutual consent for two (2) consecutive years one (1) year periods or until such reasonable time as may be necessary to obtain a new contract or to complete work.

**3.4.11 Non-Appropriation of Funds:**

If the Agency is not allotted funds in any succeeding fiscal year for the continued use of the service covered by this contract by the West Virginia Legislature, the Agency may terminate the contract at the end of the affected current fiscal period without further charge or penalty. The Agency shall give the firm written notice of such non-allocation of funds as soon as possible after the Agency receives notice. No penalty shall accrue to the Agency in the event this provision is exercised.

**3.4.12 Contract Termination:**

The State may terminate any contract resulting from this EOI immediately at any time the firm fails to carry out its responsibilities or to make substantial progress under the terms of this EOI and resulting contract. The State shall provide the firm with advance notice of performance conditions, which are endangering the contract's continuation. If after such notice the firm fails to remedy the conditions contained in the notice, within the time contained in the notice, the State shall issue the firm an order to cease and desist all work immediately.

The State shall be obligated only for services rendered and accepted prior to the date of the notice of termination. The contract may also be terminated upon mutual agreement of the parties with thirty (30) days prior notice.

**3.4.13 Changes:**

If changes to the original contract become necessary, a formal contract change order will be required. Prior to any work being performed, the change must be negotiated and approved by the State, the Agency and the firm. An approved contract change order is defined as one approved by the Purchasing Division and approved as to form by the West Virginia Attorney General's Office prior to the

effective date of such amendment. **NO CHANGE SHALL BE IMPLEMENTED BY THE FIRM UNTIL THE FIRM RECEIVES AN APPROVED WRITTEN CHANGE ORDER.**

*3.4.14 Invoices, Progress Payments, & Retainage:*

The Firm shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To" pursuant to the terms of the contract. Progress payments may be made at the option of the Agency based on percentage of work completed if so defined in the final contract. Any provision for progress payments must also include language for a minimum 10% retainage until the final deliverable is accepted.

If progress payments are permitted, firm is required to identify points in the work plan at which compensation would be appropriate. Progress reports must be submitted to Agency with the invoice detailing progress completed or any deliverables identified. Payment will be made only upon approval of acceptable progress or deliverables as documented in the firm's report. Invoices may not be submitted more than once monthly and State law forbids payment of invoices prior to receipt of services.

*3.4.15 Liquidated Damages:*

According to West Virginia State Code §5A-3-4(8), firm agrees that liquidated damages shall be imposed at the rate of **N/A** per workday, for failure to provide deliverables at the agreed upon date identified in the final contract. This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue to any other additional remedy to which the State or Agency may have legal cause for action including further damages against the firm.

*3.4.16 Record Retention (Access & Confidentiality):*

Firm shall comply with all applicable Federal and State of West Virginia rules and regulations, and requirements governing the maintenance of documentation to verify any cost of services or commodities rendered under this contract by the firm. The firm shall maintain such records a minimum of five (5) years and make available all records to Agency personnel at firm's location during normal business hours upon written request by Agency within 10 days after receipt of the request.

Firm shall have access to private and confidential data maintained by Agency to the extent required for firm to carry out the duties and responsibilities defined in this contract. Firm agrees to maintain confidentiality and security of the data made available and shall indemnify and hold harmless the State and Agency against any and all claims brought by any party attributed to actions of breach of confidentiality by the firm, subcontractors, or individuals permitted access by the firm.

## **PART 4                      EVALUATION & AWARD**

#### 4.1 Evaluation and Award Process:

- a) Expressions of Interest will be evaluated and awarded in accordance with **§5G-1-3 “Contracts for architectural and engineering services; selection process where total project costs are estimated to cost two hundred fifty thousand dollars or more.”**

“In the procurement of architectural and engineering services for projects estimated to cost two hundred and fifty thousand dollars or more the director of purchasing shall encourage such firms engaged in the lawful practice of the profession to submit an expression of interest, which shall include a statement of qualifications, and performance data and may include anticipated concepts and proposed methods of approach to the project. All such jobs shall be announced by public notice published as a Class II legal advertisement in compliance with the provisions of article three [§59-3-1et seq.] A committee comprised of three to five representatives of the agency initiating the request shall evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service. Interviews with each firm selected shall be conducted and the committee shall conduct discussions regarding anticipated concepts and the proposed methods of approach to the assignment. The committee shall then rank in order of preference no less than three professional firms deemed to be the most highly qualified to provide the services required, and shall commence scope of service and price negotiations with the highest qualified professional firm for architectural or engineering services or both. Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified, at a fee determined to be fair and reasonable, price negotiations with the firm of second choice shall commence. Failing accord with the second most qualified professional firm, the committee shall undertake price negotiations with the third most qualified professional firm. Should the agency be unable to negotiate a satisfactory contract with any of the selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached.”

- b) The evaluation criteria and assigned point values are as follows:

- **Methodology.....35points**

The Vendor will be evaluated on the ability to demonstrate a comprehensive understanding of the project requirements and the approach necessary to complete these requirements. Vendor will be evaluated on descriptions of the TMDL development process for total recoverable metals, dissolved metals/acidity, bacterial impairment, and biological impairments, separately. Specifically, the Vendor will be evaluated on description(s) of the methods and technical approaches necessary to fulfill the various components of the project (Section 3.2). As such, the vendor is expected to describe each component in detail and provide example work products, if available. The Vendor will also be evaluated on details describing the chronology or sequence of events necessary to meet project deadlines.

- **Management and Resources**.....**20 points**  
Vendor must provide a detailed description of technical proficiency and necessary resources to accomplish described TMDLs within established timeframes. If the Vendor intends to subcontract work, similar information must be provided for the subcontractor. Vendor will be evaluated on the following categories of organizational and management resources necessary to complete the project:

**A. Organization**

The Vendor will be evaluated according to company resources, including the types of environmental services performed, length of time in business, in-house capabilities, amount of resources and equipment available for direct attention to this project, location of primary office and number of full and part-time employees with experience and responsibilities appropriate to this work assignment.

**B. Resources**

Vendor's description of hardware, software, licenses, databases, models/programs, contacts and other resources available to accomplish the project requirements will be evaluated.

**C. Personnel**

Vendor will be evaluated on the personnel that will be assigned to this project. The Vendor's submission for evaluation should include titles, education, and work experience.

**D. Project Management**

Vendor will be evaluated on a description of a management plan that supports personnel and project activities within the organization and coordinates with the WVDEP to achieve timely TMDL development within budgetary constraints. Vendor will also be evaluated on any unique qualities that demonstrate an enhanced ability of the

organization to meet the TMDL development requirements of WVDEP.

- **Experience**.....**25 points**  
In the proposal, the Vendor must describe its TMDL development experience and will be evaluated based on the following specific information:

**A. Duration/Types of Experience**

The Vendor will be evaluated on the length of time involved in TMDL development, the types of impairments for which the Vendor possesses TMDL development experience, and proficiency with water quality models that fulfill the Project Description (Section 3.2).

**B. Quantity of Vendor’s Past Projects**

Vendor will be evaluated on the number of completed, EPA-approved TMDLs of the types needed in the West Fork River watershed. Provide a summary spreadsheet including the following information regarding past TMDL development projects: project name, client name, impairment type, number of TMDLs, and EPA approval date. The Vendor should also identify and provide contact information for the person directly responsible for overseeing the project.

- **Oral Interview**.....**20 points**  
See Section 4.2

4.2 Interviews as stated in 4.1 “Evaluation and Award Process” will be conducted with the three firms selected as the most qualified by the WVDEP Selection Committee. The Committee will schedule the interviews.

The format for the interviews will be a 30-60 minute PowerPoint presentation consisting, at a minimum, of the following:

- TMDL development methodology relating to the proposed project
- Corporate/personnel experience as it relates to the proposed project
- Proposed project management plan
- Key personnel available for the proposed work
- Proposed subcontractors
- Product quality control
- Project cost control