EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 4-60

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-12-021	09/26/2012 To 09/25/2017 Base Option Period Number 4	Industrial Wastewater Database

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: See PWS

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [ ] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 10/27/2016 To 09/25/2017

Comments:

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period: 09/26/2012 To 09/25/2017 Cost/Fee: LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee LOE:

Cumulative Approved: Cost/Fee LOE:

Work Assignment Manager Name Phillip Flanders (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-8323 FAX Number:	
Project Officer Name Meghan Hessenauer (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Brad Heath (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:	

Performance Work Statement
Contract EP-C-12-021
Work Assignment 4-60

Title: The Industrial Wastewater Treatment Technology Database

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Period of Performance: October 27, 2016 through September 25, 2017

Purpose and Background

The purpose of this work assignment is to support the continuing development of EPA's Industrial Wastewater Treatment Technology Database (IWTT).

The 1972 Clean Water Act directs EPA to periodically study and review existing effluent guidelines, pretreatment standards, and standards of performance for new sources and consider the need to develop regulations for industries not covered by a national regulation. These planning requirements are found in several sections of the Clean Water Act (CWA). Section 304(m) provides for an effluent guideline plan to be published on February 4, 1987 and biennially thereafter. IWTT is being developed to assist in the development of Effluent Guidelines Program Plans by cataloguing peer-reviewed research articles containing treatment technology performance data from treatment of various industrial wastewaters. The data stored

in IWTT can be used to assess whether current technology can treat industrial wastewaters to meet more stringent standards and/or for reduced costs.

Under this work assignment, the Contractor shall assist EPA with continuing the development and population of IWTT. Specifically, the Contractor will provide EPA with support for the following tasks:

1. Population of IWTT with data entries from peer-reviewed journal articles including conference proceedings.
2. Development of IWTT into a public-facing online database

General Work Assignment Requirements (PWS Section 3.0)

Deliverable Formatting and Terminology

Throughout this work assignment, the contractor shall provide draft and final reports to EPA in electronic format, with hard copy format also provided when directed by the work assignment manager. The contractor shall discuss the computer file formats to be used for word processing, spreadsheet, database and graphics with the WACOR prior to file preparation. The WACOR will identify for the contractor which documents will be posted on EPA's Effluent Guidelines webpage. These documents posted to the Effluent Guidelines webpage must be Section 508 compliant.[1]

Travel

Non-local travel by the contractor employees and/or subcontractors will be required to support the scope of this work assignment (e.g., attending industry conferences). The contractor shall provide specific travel details and costs in a request for travel approval by the WACOR and the Contract Level Contracting Officer's Representative before each trip occurs (as specified by the contract per clause H.26).

Event Expenses Not to Exceed $20,000

No single event under this Work Assignment is anticipated to exceed $20,000. The Contractor shall immediately notify the EPA Contracting Officer, CL-COR and WACOR of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur $20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

[1] See http://www.epa.gov/epahome/accessibility.htm.

Confidential Business Information

The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the "Security Plan for Handling Confidential Business Information Under the Clean Water Act" (September 2002) or its successor approved plans.

Identification as Contracting Staff

To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the contractor should refer all interpretations of policy to the WACOR.

Limitation of Contractor Activities

The contractor shall submit drafts of all deliverables to the WACOR for review prior to submission of the final product. The contractor shall incorporate all WACOR comments into all final deliverables, unless otherwise agreed upon by the WACOR. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), CL-COR, and WACOR.

Deliverable Due Dates

For the purpose of developing this work plan, the contractor shall assume the deliverable due dates in the tables for each task presented further. Major technical deliverables shall be subject to internal contractor peer review by an expert(s) not directly involved in the mainstream Work Assignment tasks. Deliverables will be prepared with proper adherence to EPA style and format requirements.

Tasks

Task 1: Program Management

The contractor shall prepare and submit a detailed work plan that outlines the approach and methodology that shall be used to perform the tasks identified in this Work Assignment. The work plan shall specify the work to be done for each task, and the allocation of personnel, hours and budget by task and deliverables. The work plan shall be submitted to the CL-COR/WACOR in accordance with contract requirements.

This task also includes contract management such as communications between EPA Contracting Officer Representatives and their respective contractor counterparts. These communications would concern the progress made on the work assignment tasks and coordination of activities to facilitate optimal contractor performance.

The contractor shall provide electronic copies of the monthly progress reports to the WACOR and CL-COR. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties. The contractor shall inform the CO, CL-COR and WACOR in writing when 50%, 75%, and 90% of the allocated hours or dollars have been expended.

TASK 1 DELIVERABLES	DEADLINES
Work Plan	In accordance with contract requirements
Progress Reports	monthly

Task 2: Quality Assurance

EPA policy requires that an approved Quality Assurance Project Plan (QAPP) or Programmatic Quality Assurance Project Plan (PQAPP) be in place for work that involves the collection, generation, evaluation, analysis or use of primary environmental data. The QAPP or PQAPP defines and documents how specific data generation and collection activities shall be planned, implemented, and assessed during a particular project. This contract has an approved PQAPP for all necessary work envisioned under this work assignment, with the exception of supplemental QA/QC information required to develop sampling and analysis plans (SAPs) for new data collection activities as described below.

Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in Table 2-1 below.

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

QA Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-12-021. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data for which the PQAPP may not be applicable. As a result, the Contractor prepared a Supplemental QAPP (SQAPP) specific to the IWTT Project under this work assignment. Both the PQAPP and SQAPP have been approved by EPA and cover all activities envisioned under Task 4 and Task 6 in this work assignment.). EPA has determined that the Contractor will continue operating under the existing PQAPP and SQAPP and that these two documents address the QA requirements for this work assignment. Table 1-2 at the end of this Task demonstrates how the PQAPP/SQAPP address QA requirements for this work assignment.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as "secondary" use of data). EPA has determined that the Contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for a portion of this work assignment related to existing data collection. The applicable sections of the PQAPP are sections 4, 5, 6, 7, 8, 9 and 10.

Under Task 5, the contractor will be developing a public-access web application that will house the database. As part of this work assignment, the contractor shall prepare a revised SQAPP that will accompany the development plan discussed in Task 5. The revised SQAPP shall include discussion of QA/QC procedures for development of the database itself, including but not limited to testing and deployment procedures.

In support of this work assignment, the Contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when collecting and analyzing existing data to support the continuing development of IWTT.
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA databases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives, and
- The QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The contractor shall be responsible for providing supplemental QA/QC information in the PR Industry Self-Sampling Plan for new data collection activities described in Task 4. The PR Industry Self-Sampling Plan shall contain supplemental QA/QC information that is currently addressed in the existing PQAPP. **Table 2-2** at the end of this Task demonstrates the supplemental QA/QC information that must be included in this Plan for collection of new data.

Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Reports) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the WACOR will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's PQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

TASK 3 DELIVERABLES	**DEADLINES**
Revised SQAPP	10 days after notification from WACOR that a revised SQAPP is needed.
Final SQAPP	7 days after feedback from WACOR.
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly

Table 2-2. ERG. EPC-12-021, 2017 Work Assignment 4-60: QA CHECKLIST-- Justification for Use of an Existing PQAPP for the Quality Documentation for Projects that Rely on Existing Data

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
A1. Title & Approval Sheet				
Project title		X		
Organization's name		X		
Effective date and/or version identifier		X		
Dated signature of Organization's project manager		X		
Dated signature of Organization's QA manager		X		
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)		X		
Revision History		X		
A2. Table of Contents				
Includes sections, figures, tables, references, and appendices		X		
Document control information indicated (when required by the EPA Project Manager and QA Manager)		X		
A3. Distribution List				
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization		X		
A4. Project/Task Organization				
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.		X		
Organization chart shows lines of authority & reporting responsibilities		X		
Project QA manager position indicates independence from unit collecting/using data		X		

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
A5. Problem Definition/Background				
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X		
Identifies project objectives or goals		X		
Historical & background information		X		
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives		X		
A6. Project/Task Description				
List measurements to be made/data to obtain			X	
Notes special personnel or equipment requirements			X	
Provides work schedule			X	
A7. Overall Quality Objectives & Criteria				
States overall quality objectives and limits needed to support the project goals and objectives cited in A5		X		
A8. Special Training Requirements/ Certifications				
Identifies specialized skills, training or certification requirements			X	
Discusses how this training will be provided/the necessary skills will be assured and documented			X	
A9. Project-level Documents & Records				
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff		X		
Identifies final work products that will result from the project		X		

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes		X		
B1. Data Needs				
Detailed list/description of the specific data elements needed to support project goals		X		SQAPP applies
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)		X		SQAPP applies
If project includes development or update of a project database, QAPP identifies and defines each database field		X		SQAPP applies
B2. Potential Data Sources				
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use		X		SQAPP applies
If literature searches are used, describes the search engines that will be used and key search terms		X		
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains		X		SQAPP applies
For other potential sources, describe the potential sources & rationale for considering or using each one		X		SQAPP applies

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
B3. Criteria for Selecting Data Sources				
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)		X		SQAPP applies
Explains rating system used to evaluate source against each criterion		X		
B4. Data Value Selection Approach				
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project		X		SQAPP applies
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented		X		SQAPP applies
B5. Resolving Data Gaps				
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified		X		
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)		X		

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
B6. Data Gathering Documentation and Records				
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them		X		SQAPP applies
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)		X		SQAPP applies
C1. Standardization of Data Elements				
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database		X		
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, µg/L for chemical data), identifies the standard units that will be required for each data element		X		
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly		X		
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units		X		

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
C2. Data Entry				
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source		X		SQAPP applies
C3. Merging or Uploading Electronic Data from Existing Sources				
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)		X		SQAPP applies
C4. Data Review				
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly		X		SQAPP applies
C5. Data Storage and Manipulation				
Describes how the existing data will be stored		X		SQAPP applies
Describes who will be responsible for access to and maintenance of the stored data		X		SQAPP applies
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made		X		SQAPP applies
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation		X		SQAPP applies

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
D1. Data Quality Verification and Data Quality Reporting				
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project		X		SQAPP applies
Describes how these determinations will be documented and reported		X		SQAPP applies
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented		X		SQAPP applies
D2. Use/Analysis of the Existing Data				
Provides details regarding the exact means in which the data will be used to meet project objectives		X		SQAPP applies
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations		X		SQAPP applies
Includes applicable calculations and equations (if known) or explanations of how they will be developed		X		SQAPP applies
Includes plans for excluding outliers				
D3. Methodology Documentation and Conceptual Review				
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products		X		SQAPP applies

QAPP Element		Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
D4. Technical Review of the Data Analysis				
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives		X		SQAPP applies
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes		X		SQAPP applies
D5. Final Verification of Data Analysis and Reconciliation with User Requirements				
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives		X		SQAPP applies
Describes how the results of this assessment will be documented		X		SQAPP applies
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated		X		SQAPP applies

Task 4: Population of Industrial Wastewater Treatment Technology Database

The Contractor shall provide technical support for the continued development and ongoing implementation of IWTT. Specifically, the Contractor will help with the preparation of the database where necessary, coordinate with other contractors, share data and information for populating the database, support ongoing collection of data and information to go into the database, and assist with public outreach and communication as directed by the WACOR. The Contractor shall provide status summaries on the progress of population the database as directed by the WACOR containing information such as the total number of papers that have been entered into the database, the number of papers actively ongoing entry or entry review, and the number of papers identified for entry into IWTT that have not yet been entered.

The Contractor shall prepare an IWTT database report that will be published as a chapter in the Effluent Guidelines Program Annual Review Report (ARR). The chapter will discuss topics concerning the content that has been added to the database in the previous year to the database. Particularly, the report should address the industries, treatment technologies, and pollutant parameters represented in the database and any trends that can be ascertained.

The following table contains the major deliverables and milestones under Task 4:

TASK	DELEVERABLE	DEADLINE
Ongoing Population of IWTT	Population Status Summary	Ongoing, with technical direction from WACOR
Provide Status Summaries	IWTT data entry status summary report	As directed by WACOR
Completion of IWTT database reports	Report for ARR	According to schedule developed by the Contractor and approved by the WACOR

Task 5: Development IWTT Public-Access Web Application

The Contractor shall provide support to develop a publically-accessible web-based database application that will be hosted on EPA-owned servers. The contractor shall coordinate with the WACOR, the Office of Water Information Management Officer, and its own database developers to plan, develop, and deploy the application. The Contractor should plan to use Oracle APEX as the database platform which can be deployed to EPA's National Computer Center (NCC) without a security scan review.

The contractor should plan to use agile tool development strategy including the following development elements:

1. Project Management and Control;
2. Design, Development, and Deployment (including conversion from existing Access database format to Oracle format);
3. Development and Testing;
4. Application Deployment Checklist.

The contractor shall work with EPA to develop requirements documentation, help content, architecture diagram(s), application deployment checklist submission documentation, and security plan content.

For planning purpose the contractor should plan on conducting the following meetings with EPA via teleconference:

1. biweekly status meetings (1 hour each);
2. two design meetings (4 hours each);

3. two sprint planning meetings (2 hours each);
4. 4 application development checklist meetings (1 hour each).

The contractor shall assist EPA in developing necessary governance procedures and required documentation.

The following table contains the major deliverables and milestones under Task 5:

TASK	DELEVERABLE	DEADLINE
Project Status Summaries	Reports (contract level) and Meetings	Biweekly meetings during application development
Develop Requirements Documentation	Final Requirements Documentation	Ongoing, with technical direction from WACOR
Alpha version of IWTT web application	Web App deployed to NCC	8 weeks after completion of Requirements Documentation
Beta version of IWTT web application	Updated Web App deployed to NCC	2 weeks after receiving feedback from EPA acceptance testing

Task 6: Pilot Technology Review

The Contractor shall provide technical support for a pilot technology review. Technology reviews and studies constitute an information gathering process that EAD is developing to study a particular industrial wastewater treatment process that is analogous to the industrial category review and study process conducting under the 304(m) Work Assignment. Generally, the process consists of a review of IWTT data entries, target technology selection, preliminary technology review, and a technology study. Each stage involves more extensive data collection and a decision point at which the results are evaluated to decide whether to proceed to a later stage. Technology reviews and studies would focus in on the capability, availability, and economic achievability of a particular technologies.

For the pilot technology review, the contractor shall assist EPA with developing the technology selection process, selecting a technology to review for the pilot, and executing a pilot review. Since the technology review process has not been conducted before, the contractor shall assist EPA in developing methodology/criteria for selecting a technology for further study. This will likely include a review of the data contained within IWTT, but could also include gathering information from other sources. The contractor shall then use the methodology/criteria to select a technology and conduct the pilot study. The study will involve information gathering activities including, but not limited to, review of IWTT entries, review of market research data, outreach to the public or other stakeholders, discussions with technology vendors, and attendance of trade group association meetings. The review will attempt to profile the technology's capabilities and applications, availability and market proliferation, and costs at high-level estimates. The contractor shall summarize the findings of the effort in a Pilot Technology Review Report.

The following table contains the major deliverables and milestones under Task 6:

TASK	DELEVERABLE	DEADLINE
Develop Draft Technology Selection Process	Draft Technology Selection Process Memo	December 2016
Select Technology and Initiate Pilot Technology Review	Technology Selection Memo	February 2017
Conduct Pilot Technology Review	Pilot Technology Review Report	March 2017

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

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☐ Other ☐ Amendment Number:

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Contractor: EASTERN RESEARCH GROUP, INC.

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1										
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Authorized Work Assignment Ceiling

	Contract Period	Cost/Fee	LOE
	09/26/2012 To 09/25/2017	$0.00	0
This Action:		$147,342.00	1,500
Total:		$147,342.00	1,500

Work Plan / Cost Estimate Approvals

		Cost/Fee	LOE
Contractor WP Dated:	11/21/2016	$147,342.00	1,500
Cumulative Approved:		$147,342.00	1,500

Work Assignment Manager Name: Phillip Flanders	(Signature)	(Date)	Branch/Mail Code: Phone Number: 202-566-8323 FAX Number:
Project Officer Name: Meghan Hessenauer	(Signature)	(Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:
Other Agency Official Name:	(Signature)	(Date)	Branch/Mail Code: Phone Number: FAX Number:
Contracting Official Name: Brad Heath	(Signature)	(Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 4-61

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-12-021	09/26/2012 To 09/25/2017 Base Option Period Number 4	Opti-Tool Pilot Study

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: See PWS

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [ ] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 11/29/2016 To 09/25/2017

Comments:

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period: 09/26/2012 To 09/25/2017 Cost/Fee: LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee LOE:

Cumulative Approved: Cost/Fee LOE:

Work Assignment Manager Name Mark Voorhees (Signature) (Date)	Branch/Mail Code: Phone Number: 617-918-1537 FAX Number:	
Project Officer Name Meghan Hessenauer (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Brad Heath (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:	

Performance Work Statement
Contract EP-C-12-021
Work Assignment 4-61

Title: Mystic River Watershed TMDL Alternative Development, Technical Support and Opti-Tool Pilot Study

Work Assignment Contracting Officer's Representative (WACOR):

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Period of Performance: November 29, 2016 through September 25, 2017

Estimated Level of Effort: 1084 Hours

Purpose and Background

The purpose of this work assignment is to support elements of EPA's TMDL Vision process by providing technical support for watershed restoration efforts in the Mystic River watershed. This

project provides an opportunity to target multiple TMDL Vision Goals: developing an "Alternative" to a TMDL, "Engaging" with the state and watershed group, and "Integrating" a plan to address multiple Clean Water Act programs, such as point and non-point water pollution, and other EPA programs such as Superfund and Environmental Justice. Within the Mystic River watershed, the Massachusetts Department of Environmental Protection (DEP) is already engaged in this process through two pilot studies applying their newly developed Watershed Based Planning Tool. The work described below would directly support that initiative through development of nutrient targets and would assist in determining the validity and value of the results from the Watershed Based Planning Tool as a TMDL Alternative.

The Mystic River watershed is a 76 square mile watershed located in the Greater Boston Massachusetts area that encompasses 22 urban and suburban communities. The watershed faces multiple water quality impacts related to cultural eutrophication including excessive algal growth, harmful cyanobacteria blooms and excessive native and invasive macrophyte growth. Sources of pollutants from the watershed include Combined Sewer Overflows (CSO's), Sanitary Sewer Overflows (SSO's), Stormwater and Non-point runoff, toxic substance contamination and three recognized Superfund sites. The watershed suffers from many legacy pollutants as well as present day pollutant loadings. Several environmental justice communities are located within the watershed and there is high development pressure throughout the entire watershed.

The Mystic River is listed as a Category 5 water body on the Massachusetts 2014 303(d) List of Impaired Waters for phosphorus, Arsenic, Chlordane, Chlorophyll, DDT, dissolved oxygen, *E. coli*, PCB in Fish, Secchi depth, and sediment bio-chronic Toxicity. Due to the multiple stressors present in this watershed, development of Total Maximum Daily Loads (TMDL) to address all of the pollutants would be a lengthy and complicated task given available resources. However, this is an excellent opportunity to begin to address impairments through elements of the recent EPA/State TMDL Vision process by focusing on nutrient management. Through other regional efforts, the Region has determined that effective nutrient management will likely go a long way towards addressing sources of other impairments (e.g., bacteria).

Moreover, the Mystic River watershed has a watershed group (MyRWA) that is actively engaged in collecting water quality data and promoting resource protection. MyRWA has completed over fifteen years of water quality monitoring as part of a baseline bacteria, nutrient and aesthetics monitoring program and is currently working to develop estimates of nutrient loading to the Mystic River through use of flow gages and auto-samplers. MyRWA, in conjunction with MA DEP, are ideal partners to engage with to address water quality impairments. Planning meetings have already occurred annually to update all partners on progress and strategically plan next steps.

A previous analysis by MyRWA, in collaboration with Nigel Pickering (Horsley Witten), determined that in excess of 80% of phosphorus that enters Mystic water bodies originates from stormwater runoff. Therefore, this project provides an excellent opportunity to pilot-test a user-friendly stormwater management optimization tool (Opti-Tool) developed by the Region. The Opti-Tool provides a means to evaluate options for determining the best mix of structural BMPs in a particular geographic area to achieve quantitative water resource goals. The Opti-tool incorporates scientifically robust model generated long term time-series of hourly runoff volume

and nutrient concentrations, as well as regionally calibrated model input BMP performance parameters for total phosphorus (TP), total nitrogen (TN), total suspended solids (TSS), and Zinc (Zn). This project in the Mystic River Watershed also provides an opportunity to collaborate with local stormwater management practitioners to advance knowledge on conducting comprehensive stormwater management planning in the regional area.

Lastly, the Mystic River watershed was designated as an Urban Waters Partnership Location in 2013. The Partnership works to improve coordination and focus among federal agencies on problems in the watershed. The focus of efforts in the Mystic River watershed include: urban water restoration and monitoring, water quality awareness, scientific research, and environmental education. The partners are USGS, US Forest Service, USACOE, National Park Service, HUD, and FEMA. Work under this task order may have the potential for future collaboration.

This work assignment will support the following key areas of focus for EPA: urban stormwater, environmental justice, nutrients, and elements of the TMDL Vision process.

General Work Assignment Requirements (PWS Section 3.0)

Deliverable Formatting and Terminology

Throughout this work assignment, the contractor shall provide draft and final reports to EPA in electronic format, with hard copy format also provided when directed by the EPA Work Assignment Contract Officer's Representative (WACOR). The contractor shall discuss the computer file formats to be used for word processing, spreadsheet, database and graphics with the WACOR prior to file preparation. The WACOR will identify for the contractor which documents will be posted on EPA's Effluent Guidelines webpage. These documents posted to the Effluent Guidelines webpage must be Section 508 compliant.[1] Further, the contractor will supply the WACOR with all data, raw, refined, and otherwise, collected in the course of this work assignment.

Travel

Non-local travel by the contractor employees and/or subcontractors may be required to support the scope of this work assignment (e.g., attending meetings and conducting workshops). The contractor shall provide specific travel details and costs in a request for travel approval by the WACOR and the Contract Level Contract Officer's Representative (CL-COR) before each trip occurs (as specified by the contract per clause H.32).

Event Expenses Not to Exceed $20,000

No single event under this Work Assignment is anticipated to exceed $20,000. The Contractor shall immediately notify the Contracting Officer, CL-COR and WACOR of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur $20,000 or more in cost during performance. Conference

[1] See http://www.epa.gov/epahome/accessibility.htm.

expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

Confidential Business Information

The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the "Security Plan for Handling Confidential Business Information Under the Clean Water Act" (September 2002) or its successor approved plans.

Identification as Contracting Staff

To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the contractor should refer all interpretations of policy to the WACOR.

Limitation of Contractor Activities

The contractor shall submit drafts of all deliverables to the WACOR for review prior to submission of the final product. The contractor shall incorporate all WACOR comments into all final deliverables, unless otherwise agreed upon by the WACOR. The contractor will adhere to all applicable EPA management control procedures as implemented by the Contracting Officer (CO), CL-COR, and WACOR.

Deliverable Due Dates

For the purpose of developing this work plan, the contractor shall assume the deliverable due dates in the tables for each task presented further. Major technical deliverables shall be subject to internal contractor peer review by an expert(s) not directly involved in the mainstream Work Assignment tasks. Deliverables will be prepared with proper adherence to EPA style and format requirements.

Tasks

Task 1: Program Management

The contractor shall prepare and submit a detailed work plan that outlines the approach and methodology that shall be used to perform the tasks identified in this Work Assignment. The work plan shall specify the work to be done for each task, and the allocation of personnel, hours

and budget by task and deliverables. The work plan shall be submitted to the EPA CL-COR/WACOR in accordance with contract requirements.

This task also includes contract management such as communications between Contracting Officer Representatives and their respective contractor counterparts. These communications would concern the progress made on the work assignment tasks and coordination of activities to facilitate optimal contractor performance.

The contractor shall provide electronic copies of the monthly progress reports to the WACOR and CL-COR. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties. The contractor shall inform the CO, PO and WAM in writing when 50%, 75%, and 90% of the allocated hours or dollars have been expended.

TASK 1 DELIVERABLES	**DEADLINES**
Work Plan	In accordance with contract requirements
Progress Reports	Monthly

Task 2: Quality Assurance

EPA policy requires that an approved Quality Assurance Project Plan (QAPP) or Programmatic Quality Assurance Project Plan (PQAPP) be in place for work that involves the collection, generation, evaluation, analysis or use of primary environmental data. The QAPP or PQAPP defines and documents how specific data generation and collection activities shall be planned, implemented, and assessed during a particular project. This contract has an approved PQAPP for all necessary work envisioned under this work assignment. In addition, please see ***Attachment A*** (separate document) to this Performance Work Statement which provides a check list that identifies quality assurance elements that may apply to this project. The Region has identified with check marks (see check list) those elements that should be considered by the contractor as the Work Plan is prepared. The contractor should address each of the checked items and any other items in Attachment A that the contractor determines to be relevant to the project.

Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, implementing guidance CIO-2105-P-01-0 (May 2000, https://www.epa.gov/quality/references-epa-quality-assurance-project-plans). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 2-1** below.

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is a set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria. See https://www.epa.gov/quality/region-1-quality-systems-documents for further information on this requirement.

See also:

- https://www.epa.gov/quality
- https://www.epa.gov/quality/quality-specifications-non-epa-organizations-do-business-epa
- https://www.epa.gov/quality/epa-qar-5-epa-requirements-quality-assurance-project-planshttps://www.epa.gov/sites/production/files/2016-06/documents/r5-final_0.pdf

QA Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-12-021. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as "secondary" use of data). EPA has determined that the Contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for a portion of this work assignment related to existing data collection, as well as generation of calibration data and results from modeling.

In support of this work assignment, the Contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when collecting and analyzing existing data to support development of water quality models for critical locations in the Mystic River watershed .
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA databases, State databases and watershed association databases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives, and
- The QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those

deviations, any impact that those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Reports) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the WACOR will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's PQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

TASK 2 DELIVERABLES	**DEADLINES**
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly
Quality Assurance checklist and documentation	With work plan

Task 3: Provide Technical Assistance and Participate in Project Technical Steering Committee

The Contractor will participate on the Mystic River Eutrophication Technical Steering Committee (TSC) and provide expert advice and guidance on analytical approaches for each task below, including water quality modeling options to determine necessary phosphorus load reductions for the Mystic River watershed to attain MA surface WQS. The contractor's participation in the TSC shall have two functions: 1) Provide expert advice/guidance from technical expert(s) thoroughly familiar with nutrient/eutrophication water quality modeling approaches and options for managing excessive growth of aquatic macrophyte vegetation in slow moving impounded water bodies; and 2) provide facilitation on the selection of the analytical/water quality modeling approach(es) to be developed in the Mystic River watershed, including eutrophication related indicators and numeric endpoints for the Mystic River Eutrophication Analysis.

The Contractor shall attend up to three TSC meetings that shall cover a range of topics including: existing WQ data and monitoring programs, eutrophication related analytical/water quality modeling approach(es) suitable for the Mystic River watershed, eutrophication related water quality indicators suitable for assessing WQS attainment, numeric endpoints to be used for the Mystic River eutrophication analysis, development of WQ modeling framework, and application of the Opti-Tool to the Mystic River watershed. It is expected that the first TSC meeting will occur on or before Dec. 1, 2016.

The following table contains the major deliverables and milestones under Task 3:

TASK 3 DELIVERABLES	DEADLINES
Preparation of meeting materials and participation for each TSC meeting	1 week prior to each TSC meeting
Meeting minutes and summary of action items from each TSC meeting	2 weeks after each TSC meeting

Task 4: Analysis of Existing Water Quality Monitoring Data and Recommendations for Additional Data Collection

In preparation for participating in the TSC, the contractor shall review available water quality data as well as the MyRWA's ongoing eutrophication related water quality monitoring program underway in the Mystic River watershed and provide recommendations for future sampling and analysis. MyRWA currently monitors 15 locations in the main stem of the Mystic River and tributaries in the watershed for bacteria, suspended solids, nitrate/nitrite, total phosphorus, conductivity, dissolved oxygen, water temperature, water color and water odor. The contractor will work with the TSC to develop recommendations which will identify existing data and sampling parameters that will be useful for modelling and endpoint target setting, as well identify data and sampling parameter deficiencies that will need to be addressed in the future.

The following table contains the major deliverables and milestones under Task 4:

TASK 4 DELIVERABLES	DEADLINES
Technical Memorandum evaluating MyRWA's monitoring program, identifying gaps and provide recommendations for future sampling and analysis for calibration of a WQ model.	▪ **Draft memo:** 4 weeks after first TSC meeting ▪ **Final memo:** 2 weeks after receiving comments on Draft Memo

Task 5: Development of Nutrient and Water Quality Response Variable Targets

The contractor shall conduct a review and evaluation of potential eutrophication related water quality modeling approaches that are suitable for application to the Mystic River watershed and shall prepare a technical memorandum summarizing the results of this review with a recommendation of the modeling approach(es) for the Mystic River watershed. The process of evaluating analytical/WQ modeling approaches will require the contractor to identify and recommend appropriate eutrophication related indicators and thresholds/endpoints to be used in the Mystic River analysis for estimating necessary phosphorus load reductions that would result in attainment of MA narrative nutrient WQS.

The following table contains the major deliverables and milestones under Task 5:

TASK 5 DELIVERABLES	DEADLINES
Technical Memorandum evaluating potential analytical/WQ modeling approaches appropriate for the Mystic River watershed with a final WQ modeling recommendation including identification of nutrient water quality indicators and numeric endpoints.	▪ **Draft memo:** 4 weeks after first TSC meeting ▪ **Final memo:** 2 weeks after receiving comments on Draft Memo

Task 6: Development of Modeling Approach for Mystic River Watershed

Following selection of the analytical/WQ modeling approach, the contractor shall assist in the development of the analytical/WQ modeling framework for the Mystic River watershed to achieve the recommended water quality numeric endpoints determined through Task 5. EPA envisions that the contractor shall work closely with WACOR, MyRWA and its representatives during the development of the analytical /WQ model approach to provide the necessary technical assistance to complete development of the analytical/WQ modeling framework for the Mystic River watershed, such that the model is ready for calibration as new WQ data become available. Depending on the scope of the analytical/WQ modeling approach to be used and the timing of completing the Mystic River eutrophication related water quality modeling framework, it is possible that the Contractor shall be directed to assist in performing initial model calibration.

The following table contains the major deliverables and milestones under Task 6:

TASK 6 DELIVERABLES	DEADLINES
Technical Memorandum outlining the WQ modeling framework	▪ **Draft memo**: 4 weeks after second TSC meeting ▪ **Final memo** 2 weeks after receiving comments on Draft Memo
Technical Memorandum detailing the WQ modeling calibration approach and results	▪ **Draft memo**: 4 weeks after third TSC meeting ▪ **Final memo**: 2 weeks after receiving comments on Draft Memo

Task 7: Pilot-Study of the Opti-Tool in the Mystic River Watershed and Technical Support

The Contractor shall apply the Opti-tool for the Mystic River watershed to develop detailed stormwater management strategies that would identify the most cost effective management approaches for achieving a wide range of nutrient load reductions including the load reduction that will be needed to attain WQS. In coordination with the TSC and WACOR, the Contractor shall provide technical support to EPA and MyRWA on the application of the Opti-Tool to the watershed and will document the results of the pilot study in a technical report.

The following table contains the major deliverables and milestones under Task 5:

TASK 7 DELIVERABLES	DEADLINES
Technical Memorandum summarizing the Opti-Tool pilot application and results as well as technical support activities.	▪ **Draft memo**: 2 weeks before third TSC meeting ▪ **Final memo**: 2 weeks after receiving comments on Draft Memo

DELIVERABLES REQUIRED AND SUMMARY SCHEDULE FOR COMPLETION OF TASKS

Task	Item Required	Due Date	Number of Copies and Format Requirements
1	Work Plan	In accordance with contract requirements	In accordance with contract requirements
1	Progress Reports	Monthly	1 in electronic format
2	Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly	1 in electronic format
2	Quality Assurance checklist and documentation	With work plan	1 in electronic format
3	Preparation of meeting materials and participation for each TSC meeting	1 week prior to each TSC meeting	1 in electronic format
3	Meeting minutes and summary of action items from each TSC meeting	2 weeks after each TSC meeting	1 in electronic format
4	**Technical Memorandum** evaluating MyRWA's monitoring program, identifying gaps and provide recommendations for future sampling and analysis for calibration of a WQ model.	▪ **Draft memo:** 4 weeks after first TSC meeting ▪ **Final memo:** 2 weeks after receiving comments on Draft Memo	1 in electronic format
5	**Technical Memorandum** evaluating potential analytical/WQ modeling approaches appropriate for the Mystic River watershed and providing a final recommended approach including identification of water quality indicators and numeric endpoints.	▪ **Draft memo:** 4 weeks after first TSC meeting ▪ **Final memo:** 2 weeks after receiving comments on Draft Memo	1 in electronic format

6	**Technical Memorandum** outlining the WQ modeling framework	▪ **Draft memo**: 4 weeks after second TSC meeting ▪ **Final memo** 2 weeks after receiving comments on Draft Memo	1 in electronic format
6	**Technical Memorandum** detailing the WQ model calibration approach and results	▪ **Draft memo**: 4 weeks after third TSC meeting ▪ **Final memo**: 2 weeks after receiving comments on Draft Memo	1 in electronic format
7	**Technical Memorandum** summarizing the Opti-Tool pilot application and results as well as technical support activities.	▪ **Draft memo**: 2 weeks before third TSC meeting ▪ **Final memo**: 2 weeks after receiving comments on Draft Memo	1 in electronic format

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 4-62

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-12-021	09/26/2012 To 09/25/2017 Base Option Period Number 4	Puget Sound - Sewage Analysis

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: See PWS

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [ ] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 10/31/2016 To 09/25/2017

Comments:

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period: 09/26/2012 To 09/25/2017 Cost/Fee: LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee LOE:

Cumulative Approved: Cost/Fee LOE:

Work Assignment Manager Name Katherine Weiler (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1280 FAX Number:	
Project Officer Name Meghan Hessenauer (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Brad Heath (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:	

Performance Work Statement
Contract EP-C-12-021
Work Assignment 4-62

Title: Vessel Sewage Discharge Analysis – Puget Sound

Work Assignment Contracting Officer Representative (WACOR):

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Alternate Work Assignment Contracting Officer's Representative (AWACOR):

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Background:

Vessel sewage has the potential to impair water quality, adversely affect aquatic environments and organisms, and increase risks to human health. The potential impacts can be wide-ranging on all aquatic environments; however, the impacts may be especially problematic in marinas, slow-moving rivers, lakes and other bodies of water with low-flushing rates.

In areas with environmental and water-quality concerns, vessel sewage may be controlled under the Clean Water Act through the establishment of areas in which discharges of sewage from vessels are not allowed. These areas are known as "no-discharge zones" (NDZs). No-discharge zones (NDZs) are areas in which both treated and untreated sewage discharges from vessels are prohibited. The purpose of NDZs is to improve water quality and decrease risks to human health by preventing the discharge of sewage from vessels into sensitive water bodies. Currently, approximately forty percent of eligible statutory square miles are protected by NDZs. However, NDZs can be challenging for vessel operators

when pump-out facilities are not available or when vessels are not adequately equipped to hold the sewage generated onboard.

For the last four years, the Washington Department of Ecology has been researching and developing a petition to designate the inland waters of Puget Sound, Lake Washington, and the water bodies that connect the two as a NDZ. The EPA is interested in exploring the impacts of vessel sewage on water quality through the analysis of already existing water quality data in Puget Sound. More specifically, the EPA is interested in determining whether there is a noticeable improvement in water quality in Puget Sound once vessels are no longer discharging sewage effluent.

Purpose

This Work Assignment (WA) will support the Vessels, Marinas, and Ports Team on a research project to determine water quality trends that result from vessel sewage discharges in Puget Sound. This work will contribute to the overall goal of exploring the impacts of vessel sewage on water quality and the effectiveness of a potential NDZ in Puget Sound. The work will ideally establish a baseline for water quality prior to the establishment of a NDZ.

Support will include analyzing trends in long-term water quality data sets and determining whether vessel sewage discharges have a measurable impact on water quality. The contractor will identify and analyze any promising sources of water quality data related to vessel sewage. Data analyzed under this WA will help the Agency assess the impacts of vessel sewage on water quality and potentially the value of the NDZs through the lens of a case study in Puget Sound.

Work To Date

In preparation for this WA, the EPA performed some preliminary data gathering and mapping. While a number of water quality data sets were considered for analysis, it was necessary to select one that is readily-available, includes historic data, will continue for the foreseeable future, and can be directly tied to sewage-specific pollution. The water quality data set that EPA identified as most promising for this work in the Puget Sound is from the BEACH program. EPA also found that the Washington Department of Health's shellfish monitoring program may have some contributing data points.

The BEACH program monitors the water quality of popular beaches to ensure the safety of the recreating public. The program has 51 core sites that are monitored yearly, providing a historic record of water quality data. In any given year, these beaches are sampled weekly from Memorial Day to Labor Day to coincide with heaviest use. The samples are tested for enterococci (saltwater) and *E. coli* (freshwater), and are used to determine whether beaches should be closed. Supplementary data may be provided by the Washington Department of Health's shellfish monitoring program. The Washington Department of Health's shellfish monitoring program makes determinations about the safety of harvesting shellfish beds by examining water quality in the growing area's sanitation survey. Once a growing area is classified, it is monitored throughout the year, as long as it is active. Based on our work to date, it appears that the water quality sampling stations for the shellfish program are only present at some of the BEACH core sites but could be used where appropriate to bolster the analysis.

In addition to reviewing the two water quality data sets, EPA examined the locations of marinas with pump-outs, stormwater outfalls (municipal, industrial, and construction), and wastewater treatment plants within the Sound. The location information was mapped using ArcGIS. EPA also mapped the BEACH and shellfish water quality monitoring point locations along with the relevant metadata.

In addition, EPA created map layers that address vessel density to help determine where the heaviest vessel traffic occurs in the Sound to better identify the best sampling/data analysis points. Vessel traffic density (# of signals/mile^2/day) information is broken down by vessel type and "action area" using colored gradients. The information on recreational and commercial vessels was taken from the Washington Department of Ecology's (Ecology) draft petition for the Puget Sound NDZ. Ecology estimated that approximately 24,000 recreational vessels are equipped with onboard toilets in Puget Sound. The data is broken down by vessel length and county. For commercial vessels, Ecology found that there were 2,937 ocean vessel entries into Puget Sound and approximately 700 vessels operating exclusively in Puget Sound (e.g., ferries and tugboats).

Using the ArcGIS map, the EPA team identified over 30 promising locations for this trend analysis. The locations represent varied site criteria, including presence and absence of marinas and different confounding factors (i.e., outfalls). Working with Puget Sound partners, EPA deems the following sites as particularly suitable for this analysis:

- Eagle Harbor Waterfront Park
- Mystery Bay Park
- Port of Bellingham
- Hood Canal (Potlatch State Park; Twanoh State Park)
- State park sites, as they generally lack pump-out facilities (e.g., Bayview State Park)
- Titlow Park
- Fort Worden State Park/Port Townsend
- Liberty Bay/Port Orchard

General Work Assignment Requirements

A. Confidential Business Information: The Contractor will, at all times, adhere to Confidential Business Information (CBI) procedures, including those requirements listed at 40 CFR Part 2, when handling industry information that the WACOR identifies as CBI. When noted as necessary by the WACOR, the Contractor will manage specified reports, documents, and other materials, as well as specified draft documents developed under this WA in accordance with the procedures set forth in its "Security Plan for Handling Confidential Business Information Under the Clean Water Act (CWA)," dated March 5, 2004 or its successor approved plans.

B. Identification as Contractor Staff: To avoid the perception that contractor personnel are EPA employees, Contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the contractor should refer all interpretations of policy to the WACOR.

C. Limitation of Contractor Activities: The Contractor shall submit drafts of all deliverables to the WACOR for review. The contractor shall incorporate all WACOR comments into the final

deliverables, unless otherwise agreed upon by the WACOR. The Contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), Contract Level Contracting Officer's Representative (CL-COR) and WACOR.

D. Compliance with Section 508 Requirements: Section 508 of the Rehabilitation Act mandates that all Federal departments and agencies make electronic and information technology accessible to individuals with disabilities. This includes all individuals with disabilities wishing to access Federal information. EPA is committed to making every possible effort to ensure that all electronic and information technology developed, procured, maintained, or used by EPA is accessible to all persons with disabilities. Consequently, according to the contract clause "EPAAR 1552.2119-79: Compliance with EPA Policies for Information Resources Management," all deliverables submitted by the Contractor shall be compliant with the Section 508 requirements.

E. Travel: When travel outside of the local area becomes necessary in support of this WA, a travel authorization must be submitted to and approved by the WACOR and the CL-COR prior to the travel taking place. All travel shall be in accordance with FAR 31.205-46.

F. Draft and Deliverable format: All memos, draft comments, summaries and responses are to be provided electronically in Microsoft Word and/or Excel. The contractor shall clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support its conclusions. EPA will review all outputs in draft form, and the contractor shall incorporate the changes specified by EPA prior to providing a final version. All final materials, e.g., memos, tables, spreadsheets, etc. are to be prepared only after incorporating comments on draft documents provided by the WACOR. Final materials shall be submitted electronically in MS Word, Excel or PowerPoint (including track changes versions) and in pdf form. No documents produced by the contractor for EPA under this WA shall be proprietary.

G. Meetings: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties or visiting field sites. The Contractor shall immediately notify the CO, CL-COR and WACOR of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur $20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

Description of Tasks

Task 1: Project Management and Quality Assurance

The Contractor shall prepare a work plan in accordance with contract requirements. The work plan shall present the technical approach by task; the project schedule and deliverables; staffing details; level of effort by task, staff member, and professional labor mix; and the estimated budget.

QA is an important component of EPA's work to assure that minimum quality standards for the use intended are attained The Contractor shall adhere to its Quality Management Plan that is customized for this contract and incorporated in this contract. This WA involves the use of existing data. The Contractor shall develop a Quality Assurance Project Plan (QAPP) for secondary (existing) data handling and analysis. No collection of field samples will be collected under this work assignment. QAPPs are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP in place prior to the commencement of work.

- Under no circumstances shall work that involves the generation, collection, evaluation, analysis, or use of environmental data be performed until the Contractor receives written notification from the EPA COR that EPA has approved the Contractor's QAPP.
- Any non-sampling/non-analytical work that involves the generation, collection, evaluation, analysis, or use of environmental data that is initiated prior to EPA approval of the Contractor's QAPP must be performed in accordance with the approved QAPP. EPA may request the Contractor to furnish written documentation from the Contractor showing that the Contractor has complied with this requirement.

The Contractor shall write a Project QAPP that addresses systematic planning for this WA. The contractor shall use the active voice. The QAPP shall provide enough detail to clearly describe objectives of the project supported by the WA; the type of data to be collected, generated, or used under this WA to support the project objectives; the quality objectives needed to ensure that these will support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed. In addition the Contractor, must address the quality of the data provided by EPA at the start of the WA.

The QAPP must be consistent with the document, *EPA Requirements for Quality Assurance Project Plans: EPA QA/R-5* (**http://www.epa.gov/quality/qs-docs/r5-final.pdf**). The QAPP shall include any SOPs or checklists. The Contractor shall use the attached **QAPP Template** for existing data. The Contractor shall provide a crosswalk between the submitted QAPP and this template if the Contractor follows a different format. The Contractor shall comply with all QA/QC requirements set forth in the QAPP. As this work assignment will use only existing secondary sources of data, the contractor may want to consider referencing the EPA New England Quality Assurance Project Plan Guidance For Environmental Projects Using Only Existing(Secondary) Data (PDF) (10 pp, 128K) US EPA New England Region, Revision 2, October 13, 2009, when drafting the QAPP.

In addition, the Contractor shall include a separate and identifiable discussion in all reports (deliverables) about the quality of the data, and summarize the QA/QC activities that were or will be used to ensure and confirm the usability of the data for the project, identify any deviations from QA protocols (e.g., from the QAPP), problems encountered and corrective actions taken, and any limitations on the usability of the data for the purposes intended.

The Contractor also shall comply with the following procedural requirements related to compliance with the QAPP:

- The Contractor shall submit all drafts and final QAPP in Microsoft Word format, and in tracked changes as appropriate. The Contractor may also submit these documents in PDF format.

- The Contractor shall notify the WACOR if it determines that changes to the QAPP are warranted (e.g., due to organizational changes, revised technical approaches, or other unforeseen circumstances).

- If, during the Period of Performance of this WA, the WACOR provides technical direction that revisions to the QAPP are necessary, the Contractor shall follow all procedures and requirements set forth for development of the original QAPP, as specified above. The Contractor shall include a version history page that summarizes changes made. The Contractor also shall provide EPA with copies of any modified SOPs or checklists.

- All QA documentation prepared under this WA, shall be considered non-proprietary, and shall be made available to the public upon request.

The Contractor shall provide electronic copies of the monthly progress reports to the CO, CL-COR and WACOR. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties, lessons learned, Quality Assurance (QA)/Quality Control (QC) activities, and next steps.

The Contractor shall submit an email that proposes a standardized naming convention and version control for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The WACOR will review the email and then provide the Contractor with written notification of approval or edits that need to be made. After receiving notification of approval the contractor shall use this standardized convention for all deliverables associated with the work assignment.

The Contractor shall immediately notify the WACOR by telephone of any problems that may impede performance, impact QA related activities, and any corrective actions needed to solve the problems.

TASK 1 – Deliverables and Schedule	
Deliverable	Deadline
Hold a Kick-Off Meeting to Discuss Proposal	Within 7 days of receipt of work assignment
Work plan and Cost Proposal	In accordance with contract requirements
Draft Quality Assurance Project Plan (QAPP)	Within 21 days of receipt of the work assignment
Final Quality Assurance Project Plan	Within one week of receipt of EPA's written comments on the draft QAPP, unless otherwise directed by the WACOR
Progress/budget/QA reports	Included in the Monthly Technical and Cost Progress Report
Problem report	Contractor shall notify the WACOR immediately upon discovery of a problem.

Task 2: Project Development Support

The Contractor shall provide approximately 80 hours of support for evaluating the proposed project design and, where needed, proposing alternatives or modifications. EPA will provide the Contractor with the existing ArcGIS map file electronically, as well as a description of each layer. EPA also will provide a list of the preliminary sites selected for analysis.

(a) Evaluate data sets
    a. When does sampling occur (i.e., what percent of sampling occurs on each weekday)?
    b. How many sites should be analyzed to ensure enough statistical power? Are there suitable freshwater sites that can be used from Lake Washington?
    c. What time period should be analyzed to ensure that there is sufficient data for baseline determination?
(b) Ensure EPA-selected sites are suitable; propose others if necessary
(c) Determine appropriate form(s) of analysis in order to successfully establish water quality baselines within and across sites in Puget Sound
(d) Determine how to account for the following issues/factors in the analyses:
    a. BEACH sampling occurs during the week, while the heaviest boat use is during the weekend
    b. BEACH sampling occurs primarily during the summer months, with occasional "special" sampling
    c. Boat festivals/events
    d. Wet weather events
    e. Land-use adjacent to Puget Sound
    f. Regulatory changes that might affect sewage sources
(e) Identify any additional confounding factors

TASK 2 – Deliverables and Schedule	
Deliverable	Deadline
Project development support	Within 21 business days of WA approval

Task 3: Evaluate and update the provided ArcGIS map

(a) The Contractor shall verify that the data sets already represented in the ArcGIS map are complete and up-to-date.
(b) The Contractor shall update the provided ArcGIS map as needed, including adding a layer for marinas without pump-out facilities.

EPA will provide the Contractor with the existing ArcGIS map file electronically, as well as a description of each layer. The Contractor shall submit any proposed modifications to the WACOR for approval.

TASK 3 – Deliverables and Schedule	
Deliverable	Deadline
Draft ArcGIS map	Within 14 business days of Task 2 approval
Final ArcGIS map	Within 15 business days after WACOR provides comments on the draft map

Task 4: Analyze water quality data

The contractor shall conduct spatial and temporal trend analyses of water quality at the provided sites (Attachment 2), using BEACH data and, where appropriate, shellfish monitoring data. The contractor will need to determine a suitable time frame of historic data in order to create a reliable trend for water quality at these locations in Puget Sound before the implementation of a NDZ. The contractor will need to take precipitation events into account, since some wastewater treatment facilities with outfalls in the Sound have combined sewer overflows (CSOs) that discharge into the surrounding waters during some parts of the year. Other factors to consider are tides, boat usage/traffic and size of nearby marinas, adjacent land use, and the timing and frequency of data sampling. Other activities that are readily available/annual events near sites should also be included/noted when possible (e.g., regattas, races, holiday with high boating traffic).

TASK 4– Deliverables and Schedule	
Deliverable	Deadline
Perform water quality analysis	Within 30 business days of submission of final Task 3 deliverable

Task 5: Develop summary report

The contractor will develop a summary report of what analysis was conducted and what conclusions can be drawn. In addition to a written explanation, the report should include sufficient visual representations of the analysis and outcomes, such as through graphs or infographics. The contractor will seek to address the following questions within the report:

1. **Site-specific temporal trends →** How do enterococci or fecal coliform levels trend over time at each site? Do precipitation events influence enterococci or fecal coliform levels? Do events such as boating festivals or races/regattas influence enterococci or fecal coliform levels?

2. **General temporal trends across sites →** Do enterococci or fecal coliform levels trend together across sites over time, especially across sites that are located close together, or that share similar sources?

3. **Spatial patterns across sites within year →** Do enterococci or fecal coliform levels trend together across sites within a single year?

4. How do the different confounding factors such as the presence of outfalls influence enterococci or fecal coliform levels? Can sewage source-specific differences in sewage indicator concentrations be observed?

5. Does vessel sewage clearly influence enterococci or fecal coliform levels in Puget Sound?

6. What are the implications of the observed spatial and temporal trends in sewage indicator levels for human health in Puget Sound?

7. Explain/analyze any observed spikes or anomalies in the data.

TASK 5– Deliverables and Schedule	
Deliverable	Deadline
Create annotated outline	Within 15 business days of completion of Task 4 analysis
Draft summary report	Within 45 business days after WACOR provides comment on annotated outline
Final summary report	Within 21 business days after WACOR provides comments on the draft report

Task 6: Technical support, lessons learned, and next steps

The contractor will provide approximately 40 hours of technical support for developing future recommendations for both addressing and analyzing vessel sewage. Recommendations may include but are not limited to how the Puget Sound data set(s) can be used if the NDZ is implemented in order to successfully conduct a before-and-after analysis. Other possible areas of analysis? Dye studies? Lessons learned" from the completed analysis?

TASK 6– Deliverables and Schedule	
Deliverable	Deadline
Technical Support	Schedule will be specified upon receiving written technical direction

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 4-62

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-12-021	09/26/2012 To 09/25/2017 Base Option Period Number 4	Puget Sound - Sewage Analysis

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: See PWS

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [X] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 10/31/2016 To 09/25/2017

Comments:

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

	Cost/Fee	LOE
Contract Period: 09/26/2012 To 09/25/2017	$0.00	0
This Action:	$63,288.00	622
Total:	$63,288.00	622

Work Plan / Cost Estimate Approvals

	Cost/Fee	LOE
Contractor WP Dated: 11/30/2016	$63,288.00	622
Cumulative Approved:	$63,288.00	622

Work Assignment Manager Name: Katherine Weiler (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1280 FAX Number:	
Project Officer Name: Meghan Hessenauer (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name: Brad Heath (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:	

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 4-63

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-12-021	09/26/2012 To 09/25/2017 Base Option Period Number 4	Metal Finishing Industry Study

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: See PWS

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [ ] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 11/29/2016 To 09/25/2017

Comments:

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period: 09/26/2012 To 09/25/2017 Cost/Fee: LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee LOE:

Cumulative Approved: Cost/Fee LOE:

Work Assignment Manager Name Ahmar Siddiqui (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:	
Project Officer Name Meghan Hessenauer (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Brad Heath (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:	

Performance Work Statement
Contract EP-C-12-021
Work Assignment 4-63

Title: Detailed Study of the Metal Finishing (MF) Industry

Work Assignment Contracting Officer's Representative (WACOR):

M. Ahmar Siddiqui
USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 4303T
Washington, DC 20460

Phone: 202-566-1044
Fax: 202-566-1053
E-Mail: siddiqui.ahmar@epa.gov

Period of Performance: November 29, 2016 through September 25, 2017

Estimated Level of Effort: 3,000 hours

Purpose and Background

The Environmental Protection Agency (EPA) currently regulates discharges from the MF category pursuant to effluent limitations guidelines and pretreatment standards (collectively referred to as ELGs) found at 40 CFR Part 433. The ELGs, which were promulgated in 1983, regulate the discharge of wastewater pollutants such as cadmium, nickel, and zinc from six "core" MF operations (electroplating, electroless plating, coating, anodizing, chemical etching and milling, and printed circuit board manufacturing) and 40 "ancillary MF operations, e.g., cleaning, brazing, hot dip coating, and mechanical plating. During the decades since the promulgation of the ELGs, EPA has received many questions from the regulated industry and regulators primarily requesting clarification of the applicability of the ELGs, which may reflect changes in the processes, chemistries, and wastewaters. EPA is currently evaluating the need, therefore, to update the ELGs to reflect current conditions.

The purpose of this work assignment (WA) is to support completion of the EPA's detailed study of the MF point source category. In addition, this work assignment will support preliminary work on development of revised effluent guidelines for the MF point source category if EPA chooses to initiate a rulemaking.

General Work Assignment Requirements (PWS Section 3.0)

Deliverable Formatting and Terminology

Throughout this work assignment, the contractor shall provide draft and final reports to EPA in electronic format, with hard copy format also provided when directed by the work assignment manager. The contractor shall discuss the computer file formats to be used for word processing, spreadsheet, database and graphics with the WACOR prior to file preparation. The WACOR will identify for the contractor which documents will be posted on EPA's Effluent Guidelines webpage. These documents posted to the Effluent Guidelines webpage must be Section 508 compliant.[1]

Travel

Non-local travel by the contractor employees and/or subcontractors may be required to support the scope of this work assignment (e.g., conducting site visits). The contractor shall provide specific travel details and costs in a request for travel approval by the WACOR and the EPA Contract-Level Contracting Officer Representative (CL-COR) before each trip occurs (as specified by the contract per clause H.32). For purposes of planning, the contractor should assume attendance at two non-local industry conferences and one week of site visits, totaling up to 10 facilities.

Event Expenses Not to Exceed $20,000

No single event under this WA is anticipated to exceed $20,000. The Contractor shall immediately notify the EPA Contracting Officer (CO), CL-COR, and WACOR of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur $20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the CO.

Confidential Business Information

The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the "Office of Science & Technology Confidential Business Information (OST-CBI) Application Security Plan" (August 1, 2011) or its successor approved plans.

[1] See http://www.epa.gov/epahome/accessibility.htm.

Identification as Contracting Staff

To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the contractor should refer all interpretations of policy to the WACOR.

Limitation of Contractor Activities

The contractor shall submit drafts of all deliverables to the WACOR for review prior to submission of the final product. The contractor shall incorporate all WACOR comments into all final deliverables, unless otherwise agreed upon by the WACOR. The contractor will adhere to all applicable EPA management control procedures as implemented by the CO, CL-COR, and WACOR.

Deliverable Due Dates

For the purpose of developing this work plan, the contractor shall assume the deliverable due dates in the tables for each task presented further. Major technical deliverables shall be subject to internal contractor peer review by an expert(s) not directly involved in the mainstream Work Assignment tasks. Deliverables will be prepared with proper adherence to EPA style and format requirements.

Tasks

Task 1: Program Management

The contractor shall prepare and submit a detailed work plan that outlines the approach and methodology that shall be used to perform the tasks identified in this WA. The work plan shall specify the work to be done for each task, and the allocation of personnel, hours and budget by task and deliverables. The work plan shall be submitted to the CL-COR and WACOR in accordance with contract requirements.

This task also includes contract management such as communications between the CL-COR and WACOR and their respective contractor counterparts. These communications will concern the progress made on the WA tasks and coordination of activities to facilitate optimal contractor performance. For planning purposes, the contractor should assume that meetings between the WACOR and his contractor counterpart will take place biweekly, normally on the phone.

The contractor shall provide electronic copies of the monthly progress reports to the WACOR and CL-COR. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties. The contractor shall inform the CO, CL-COR, and WACOR in writing when 50%, 75%, and 90% of the allocated hours or dollars have been expended.

TASK 1 DELIVERABLES	DEADLINES
Work Plan	In accordance with contract requirements
Progress Reports	Monthly
Biweekly calls w/WACOR	Biweekly

Task 2: Quality Assurance

2.1 Background

Quality Assurance Project Plans (QAPPs) are required under EPA's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved QAPP in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 2-1** below.

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a

tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-12-021. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as "secondary" use of data). However, EPA has determined that the Contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for this work assignment. In support of this work assignment, the Contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when determining the need for revised ELGs for an industry.
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA data bases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives, and
- The quality assurance/quality control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Table 2-2 at the end of this QA task demonstrates how the PQAPP addresses QA requirements for this work assignment.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended

use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Analytical Methods) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the WACOR will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's PQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related

information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the WACOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the WACOR, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the WACOR shall notify the Contractor through written technical direction.

2.5 Task 2 QA Deliverables

TASK 2 DELIVERABLES	DEADLINES
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance

Table 2-2. Justification for Use of Existing PQAPP as the Sole Quality Documentation for Projects that Rely on Existing Data (Contract EP-C-12-021, WA 4-63, Detailed Study of the Metal Finishing (MF) Industry)

QAPP Element	Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
A1. Title & Approval Sheet			
Project title	X		
Organization's name	X		
Effective date and/or version identifier	X		
Dated signature of Organization's project manager	X		
Dated signature of Organization's QA manager	X		
Other signatures, as needed (e.g., EAD CL-COR, EAD QA Coordinator)	X		
Revision History	X		
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	X		
Document control information indicated (when required by the EPA Project Manager and QA Manager)	X		
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X		
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X		Specific individuals identified for the following roles: Contractor Project QA Manager Contractor WA Manager WACOR: Ahmar Siddiqui
Organization chart shows lines of authority & reporting responsibilities	X		
Project QA manager position indicates independence from unit collecting/using data	X		
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	X		
Identifies project objectives or goals	X		
Historical & background information	X		
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		
A6. Project/Task Description			
List measurements to be made/data to obtain		X	
Notes special personnel or equipment requirements		X	
Provides work schedule		X	
A7. Overall Quality Objectives & Criteria			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5	X		
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements		X	

QAPP Element	Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
Discusses how this training will be provided/the necessary skills will be assured and documented		X	
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		
Identifies final work products that will result from the project	X		
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X		
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals	X		
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)	X		
If project includes development or update of a project database, QAPP identifies and defines each database field	X		
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X		
If literature searches are used, describes the search engines that will be used and key search terms	X		
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains	X		
For other potential sources, describe the potential sources & rationale for considering or using each one	X		
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		
Explains rating system used to evaluate source against each criterion	X		
B4. Data Value Selection Approach			
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		

QAPP Element	Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented	X		
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)	X		
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, µg/L for chemical data), identifies the standard units that will be required for each data element	X		
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X		
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X		
C2. Data Entry			
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X		

QAPP Element	Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
C3. Merging or Uploading Electronic Data from Existing Sources			
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X		
C4. Data Review			
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X		
C5. Data Storage and Manipulation			
Describes how the existing data will be stored	X		
Describes who will be responsible for access to and maintenance of the stored data	X		
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X		
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X		
Describes how these determinations will be documented and reported	X		
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X		
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data will be used to meet project objectives	X		
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X		
Includes applicable calculations and equations (if known) or explanations of how they will be developed	X		
Includes plans for excluding outliers	X		

QAPP Element	Sufficiently Addressed in PQAPP	Not Applicable to Project	Explanatory Comments
D3. Methodology Documentation and Conceptual Review			
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products	X		
D4. Technical Review of the Data Analysis			
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X		
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	X		
D5. Final Verification of Data Analysis and Reconciliation with User Requirements			
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X		
Describes how the results of this assessment will be documented	X		
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X		

Task 3: General Technical and Site Visit Support for the MF Study

Using information provided by the WACOR, along with information gathered or developed by the contractor, the contractor shall assemble information, create and/or modify documents and perform analyses related to MF facilities as directed by the WACOR through written technical direction. The tasks may include work such as the following:

- Summarizing data to brief management;
- Support in preparing or gathering data for presentations at conferences;
- Collecting and analyzing secondary data;
- Revising and finalizing work products prepared under WA 3-05, based on comments provided by EPA, e.g. site visit reports;
- Attending meetings or preparing materials and participating in meetings, conferences and workshops to support EPA's outreach activities to the public and industry (these materials may include reports, brochures, maps, or other presentation materials);
- Attending MF industry technical meetings and/or conferences as directed by EPA; and

- Contacting state agencies to collect information about MF facilities, including about common wastewater management practices;
- Conducting site visits and associated site visit reports;
- Complete evaluation begun under WA 3-05 of discharge monitoring report (DMR) and Toxic Release Inventory (TRI) data to understand impacts to receiving water bodies and publicly owned treatment works (POTWs);
- Complete evaluation begun under WA 3-05 of information collected during the Metal Products and Machinery rulemaking to characterize the MF industry; and
- Complete 2016 Metal Finishing Study Stats Report.

For purposes of preparing a work plan, the contractor shall assume that there shall be approximately twenty (20) written technical directives requiring quick turn-around and the contractor will be asked to support two conferences and five off-site meetings with industry. In addition, the contractor should plan to complete approximately 20 reports for site visits conducted under WA 3-05 (three final and approximately 17 draft and final) and develop up to 10 draft and final reports for site visits conducted under this WA.

TASK 3: DELIVERABLES	**DEADLINES**
General technical support (as above)	2 days after receiving technical direction or as specified in technical direction from the WACOR
Draft site visit reports	Ongoing, per technical direction by the WACOR
Final site visit reports	Four weeks after receipt of comments from visited facilities
Draft notes for conferences and industry meetings	Two weeks after each event or as specified in technical direction from WACOR
Final notes for conferences and industry meetings	Two weeks after receipt of WACOR comments
Complete evaluation of DMR and TRI data.	Per technical direction by the WACOR
Complete evaluation of MP&M record.	Per technical direction by the WACOR
Complete 2016 Status Report	June 23, 2017

Task 4: Management of CBI

During the course of the work assignment, the contractor shall be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract performance work statement, Section 3.0, for all tasks in this WA, as applicable. The contractor shall obtain CBI security clearance to use CBI information as outlined in Section 3.0 of Contract EP-C-12-021. The contractor shall utilize CBI information in accordance with

contract requirements and limitations to include using its most recent "Security Plan for Handling Confidential Business Information under the Clean Water Act."

TASK 4 DELIVERABLES	DEADLINES
A CBI program in compliance with the requirements of contract EP-C-12-021 and the requirements of the contractor's CBI Plan.	Ongoing

Task 5: Record Support – ELG Development

Upon initiation of this task by technical direction, the contractor shall assemble and maintain a record of all documents relevant to rulemaking proceedings. The contractor shall request authorization from EPA to contact the Water Docket and enter information into the Federal Docket Management System (FDMS). When authorization is received, the contractor shall contact the Office of Water Docket to ensure that the record will meet the dockets requirements including any electronic docket requirements. This includes preparation of electronic versions of documents for the Agency's electronic docket system. The index of rulemaking record materials shall be submitted to the WACOR quarterly. The record documents and index are to be delivered to the WACOR upon completion of the Work Assignment or when directed by the WACOR in writing.

TASK 5 DELIVERABLES	DEADLINES
Maintain both the paper and the electronic records	Ongoing throughout the period of performance
Submit index of record materials to WACOR	Quarterly (Per TD of the WACOR)
Submit record documents and index to WACOR	Upon completion of the Work Assignment or written technical direction from the WACOR before the completion of the WA.

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 4-63

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-C-12-021	09/26/2012 To 09/25/2017 Base Option Period Number 4	Metal Finishing Industry Study

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: See PWS

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [X] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 11/29/2016 To 09/25/2017

Comments:

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

	Cost/Fee	LOE
Contract Period: 09/26/2012 To 09/25/2017	$0.00	0
This Action:	$295,325.00	3,000
Total:	$295,325.00	3,000

Work Plan / Cost Estimate Approvals

	Cost/Fee	LOE
Contractor WP Dated: 12/20/2016	$295,325.00	3,000
Cumulative Approved:	$295,325.00	3,000

Work Assignment Manager Name: Ahmar Siddiqui (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:	
Project Officer Name: Meghan Hessenauer (Signature) (Date)	Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name: Brad Heath (Signature) (Date)	Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:	