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Mike Hermanson  
Water Resources Manager  
Spokane County Water Resources  
509.477.7578

Mike,

This letter constitutes my proposed scope of work for additional analysis of waste water influent data and some additional effluent data that will complement the analysis of waste water effluent data I am completing under the contract with the Spokane Regional Toxics Task Force (SRRTTF) Administrative and Contracting Entity (ACE) dated August 18, 2020 here in referred to as the Municipal Effluent PMF Analysis Project.

Type of Proposal: Time and Material/Labor Hour

Place of performance: 46 Stella Drive, Bridgewater, NJ 08807

Period of performance: March 1, 2020 to June 30, 2021

Offeror is a Sole Proprietor

Point of contact: Lisa A. Rodenburg

46 Stella Drive, Bridgewater, NJ 08807 Cell: 908-581-0825

Sincerely,

A handwritten signature in black ink that reads "Lisa Rodenburg".

Lisa Rodenburg

## BACKGROUND

The Municipal Effluent PMF Analysis Project included analysis of the following samples:

- Post Falls – 15 samples
- Coeur d’Alene – 21 samples
- Liberty Lake – 34 samples
- Spokane County – 34 samples
- City of Spokane – 22 samples

The project deliverable was specified as a written report that presents the results of the PMF analysis of the effluent data and puts them in the context with respect to other sources of PCBs to the river and with respect to the effect of the treatment plant upgrades and processes on the PCB loads and source types discharged to the Spokane River.

A preliminary analysis of the above samples was presented to the SRRTTF PMF Workgroup. The workgroup requested an estimate of the cost to 1) add analysis of influent data, 2) add some additional effluent data from the City of Spokane, 3) add additional data from the Hayden Area Regional Sewer Board (HARSB) and 3) add samples from a recent study completed by Inland Empire Paper Company.

This proposed phase of the project will examine the sources of PCBs to wastewater treatment plants in the Spokane River basin in order to answer two questions:

1. How do various treatment technologies, including the upgrade from conventional secondary treatment to membrane filtration, affect the types of PCBs discharged in the treated effluent?
2. What is the level of removal of various PCB sources in the influent compared to the effluent? How does the type of treatment effect removal?

## WORKPLAN

### Task 1: Conduct PMF analysis of additional datasets

The following data sets will be added to the datasets identified in the Municipal Effluent PMF Analysis Project.

Discharger	Effluent Samples	Influent Samples
Coeur d’Alene	-	30
HARSB	18	24
Post Falls	-	24
IEP	7	7
Spokane County	-	88
City of Spokane	13	30
<b>TOTAL</b>	<b>38</b>	<b>203</b>

**Task 2: Analysis of results and reporting**

A report describing the data sets utilized in the analysis, PMF analysis results, and conclusions that can be drawn from the analysis will be prepared. The analysis will include an evaluation of the sources represented by each PMF factor and factor composition of individual samples and combinations or groupings of samples, e.g. all influent samples from a specific facility, or effluent samples prior to treatment plant upgrades. The analysis may include, but is not limited to, the following:

- Percent removal of various PCB source types;
- Comparison of PCB removal before and after upgrades to membrane filtration;
- Comparison of influent factor composition between treatment facilities; and
- Comparison of effluent factor composition between treatment facilities.

All results spreadsheets will be provided along with the project report.

**Cost estimate**

Task 1- \$9,000

Task 2-\$3,000.

The work will be completed on a time and materials basis not to exceed \$12,000. This work is being conducted in conjunction with the previously authorized contract for analysis of municipal treatment plant effluent with a not to exceed cost of \$6,000. In total, the project to analyze municipal treatment plant influent and effluent will be completed on a time and materials basis not to exceed \$18,000.