

Semi-Annual Progress Report

June 2024 – December 2024



Prepared by Brandi Lubliner, January 14, 2025

This report summarizes activities of the Stormwater Action Monitoring (SAM) funded study to evaluate contaminants of emerging concern (CECs) carried in municipal separate stormwater sewer systems (MS4s). Work is performed by the City of Tacoma (City) under an Interagency Agreement #C2500002. More detailed descriptions of work conducted by the City's consultant Herrera Environmental Consultants (Herrera) are available upon request.

General Information

Contract Period	September 5, 2024, to December 31, 2025
Contract Number	C2500002
Study Name	Characterization of Stormwater Contaminants of Emerging Concern in Western Washington
SAM Project Manager	Chelsea Morris
Lead Organization	City of Tacoma
City Project Manager	Brandi Lubliner
Reporting Period	June 2024 through December 2024
Deliverable No.	1.5
Primary Consultant	Herrera Environmental
Herrera Project Manager	Dylan Ahearn

Summary by Task

Task 1 – Project Management

The City coordinates with the SAM project manager, Herrera, and the City's internal laboratory staff (the Team) to ensure reasonable expectations and develop study deliverables. Several major accomplishments during these 6 months which required project management support include: Development of the Technical Advisory Committee (TAC); identification of laboratories and field methods to measure these novel compounds within stormwater and storm sediments, which are complex and difficult matrices; coordinating with laboratories on their methodologies; sourcing borrowable monitoring equipment; purchasing equipment, locating additional monitoring locations, acquiring permits; and writing a complete draft of the quality assurance project plan (QAPP). The City of Tacoma is providing in-kind substantial equipment (6 ISCO automated water samplers and 9 sediment traps), as well as project management time for this SAM project.

Task 2 – Planning for Monitoring

Herrera and the City have worked on this Task since the start of the project. Successful sampling and quantitation of microplastics is expected to be the hardest aspect of this study. The Team was able to network to find research laboratories willing to partner and help develop a sampling process for microplastics from stormwater and stormwater sediments. Unlike constant water discharges where massive volumes can be reliably sampled, stormwater discharge volumes are highly variable based on storm event size and drainage area. For microplastics sampling, it will be challenging to filter enough stormwater during low rainfall events at some locations, and large events may also provide other challenges of dilution or need to mechanically separate microplastics samples from other stormwater-carried debris.

The second challenge to implementing this study was to develop the first Washington state sediment extraction SOP for 6PPDQ. The Tacoma Environmental Laboratory completed this SOP in record time given our lab's decades of experience processing stormwater sediments for other similar organic contaminants.

In addition to the above, the Team was able to conduct a detailed GIS analysis of each of the monitoring locations from the original S8D studies. This entailed coordinating with multiple jurisdictions, analyzing hundreds of GIS layers, and bringing in third-party GIS support for the land cover analysis comparison over time. This information was discussed in the project QAPP, which was submitted for Ecology review in December 2024. The Team also worked closely with County and Municipal partners to obtain site access and use permits for each monitoring location, including the addition of two new industrial sites in the City of Seattle. The Team has travelled to each of the field sites across western Washington several times to plan equipment installations, assess site suitability and review safety hazards.

In December, the Team focused on gathering equipment for the project. This includes sourcing custom sediment traps, flow sensors, automated samplers, sampling pumps and vessels, dataloggers, and environmental enclosures. Many of these items are unique from previous sampling efforts given this project's focus on CEC's and their specialized sampling requirements.

Task 3– Review of CEC Literature and Available Data

Herrera has begun to collect available data and subcontracted with UW Tacoma to begin the literature review.

At the end of December 2024, 7,200 entries had been made to the database for PFAS, Microplastics and 6PPDQ. The City may request access to data not yet made publicly available from Ecology if needed for this effort.

Task 4– Sample Collection and Monitoring

The first element of this task is to conduct internal training for the 4 sampling teams and install the monitoring equipment. The internal team training will be conducted on January 31, 2025. In December 2024 Herrera gathered training materials, developed support materials, and scheduled training check-in meetings.

Task 6– Communication Plan

The City worked with the project Team to create a project Communication Plan and Project Schedule. These documents were submitted to Ecology in mid-December 2024.

Other Tasks

Aside from City coordination with external laboratories, there is not much progress to describe this period, as the remaining tasks are not yet scheduled to begin until 2025.