LOI # 14

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Organization: City of Bellingham

Study Title: Effectiveness of PCB removal by deployable runoff treatment devices

Which topics from the SWG's priority list (Appendix A) do you propose to address?

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What type of project is being proposed?

Literature review & synthesis;Environmental sampling study;In-Laboratory BMP Research

Short description of the proposed project

As part of Illicit Discharge Detection and Elimination programs, NPDES Permittees are likely to encounter active washing (including pressure washing) of buildings or sidewalks that may contain PCBs. Responding to these events involves more than stopping work and preventing further discharges. It also requires addressing discharges actively entering or moving through stormwater systems. This project proposes to evaluate the effectiveness of field-deployable treatment devices to limit or prevent the discharge of mobilized PCBs to downstream receiving waters. This data will also assist Permittees by identifying effective (and cost-effective) BMPs that could be broadly integrated into stormwater infrastructure to mitigate passive discharges of PCBs generated by rainfall events.

The City of Bellingham is proposing to lead a SAM study by contracting with a qualified professional firm to evaluate treatment devices and identify appropriate BMPs and/or operational strategies to maximize the removal of PCBs from wash water. The proposed scope of work would include 1) a survey of available field-deployable treatment devices, 2) compilation of existing PCB removal effectiveness data for those devices, 3) identification of data gaps, 4) implementation of laboratory research or strategic in-situ field studies to fill those data gaps via an Ecology-approved QAPP, and 5) the development of a technical guidance document. Project outcomes will be applicable to NPDES Permit requirements and appropriate for implementation at jurisdictions across the region. Evaluated runoff treatment devices will

be selected based on availability, affordability, ease of deployment, and adaptability to varying environmental conditions and municipal uses, amongst other criteria.

What type of information will be collected or analyzed for this proposed study?

A catalog of existing deployable runoff treatment devices available for use by Permittees. Technical PCB removal data for these devices from currently available scientific literature and/or device manufacturer research. Estimates and measurements of typical PCB concentrations from building and sidewalk wash water and pressure wash water discharges. Experimentally-determined effluent concentrations from devices treating defined influent loads, both above and below the water quality standard concentration. In-situ performance of certain devices as compared to laboratory measurements or estimated theoretical performance.

What are the anticipated measurable outcomes and key deliverables that will be produced by the proposed study and how will they be used by Permittees and the Washington State Department of Ecology?

Technical guidance including a vetted list of effective runoff treatment devices, their recommended use situations, and relevant considerations for their deployment. Guidance to assist Permittees in making educated decisions on appropriate BMPs including choosing the appropriate type of deployable treatment device, procedures for situations where PCB presence is undetermined, and effective methods to mitigate known or suspected PCB discharges into the regulated MS4 prior to entering receiving waters. In addition, guidance developed by this research will provide value for Permittees looking to deploy BMPs for passive PCB control. There is also a chance that this data will prove helpful to Permittees' Engineering, Facilities, and Maintenance operations by providing best practices for small-scale demolition activities which may not trip existing thresholds for robust PCB management.

List the permittees or agencies you are proposing to coordinate with.

City of Bellingham Public Works: Storm and Surface Water Utility, Operations Division, Engineering Division, and Water Quality Laboratory. We also intend to coordinate with the Department of Ecology in developing assessment strategies and a QAPP relevant to the guidance from "How to find and address PCBs in building materials" (Ecology Publication 22-04-024). We are also open to partnering with other interested jurisdictions if multiple letters of interest are submitted for SAM consideration.