LOI # 19

Name: Jessica Huybregts

Organization: Seattle Public Utilities (City of Seattle)

Study Title: Identifying effective methods for capturing PCBs in stormwater and washwater from exterior building materials

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

Topic #5: Develop guidance and methods for capturing and containing PCBs from suspected or confirmed sources, such as exterior buildings materials.

What type of project is being proposed?

Environmental sampling study

Short description of the proposed project

Ecology made a number of updates in the 2024 Phase I and Phase II MS4 Permits to prevent and minimize Polychlorinated Biphenyls (PCBs) in exterior building materials from entering municipal stormwater drainage systems and downstream waterways, such as:

- Prohibiting exterior washing of buildings that were built or renovated between 1950 and 1980 (excluding single-family residential), unless a building has been found free of PCB-containing materials.

- Implementing Source Control Best Management Practices (BMPs) to minimize PCBs from entering the MS4 during cleaning, maintenance, renovations, or demolition.

Ecology also added some PCB-in-building material-specific language to four Source Control BMPs in the 2024 Stormwater Management Manuals (S424, S431, S438 and S451); however, no data exist to determine the effectiveness of those BMPS in capturing PCBs from stormwater and washwater at buildings known or suspected of containing PCBs on their exterior.

Through this study, Seattle Public Utilities (SPU) will test the effectiveness of a range of readily-available and relatively inexpensive structural and operational BMPs in minimizing PCBs in

runoff from known PCB-containing buildings. Project findings will help Permittees and building owners know what BMPs to install around buildings and/or within/near MS4 infrastructure, like catch basins, when they suspect or confirm that the exterior of a building contains PCBs, thereby preventing the discharge of PCBs to the MS4 and downstream waterways. Findings will also help Permittees, building owners, developers, and contractors make decisions about what BMPs to purchase and train staff to implement in advance of a building renovation or demolition.

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

SPU will collect stormwater samples from up to ten known PCB-containing buildings pre-treatment (as sheetflow over the ground surface) and also after moving through in-situ treatment devices placed in or near catch basins or inlets, depending on the treatment device. We will collect these pre- and post-treatment stormwater samples during two or three storm events and analyze them for PCBs (Aroclors, via EPA Method 8082A) and conventional parameters including particle size and others.

The in-situ devices selected will be off-the-shelf and readily available to the public, including but not limited to filter socks, filters with MetalZorb, straw wattles, cartridge-type filters, and others to be determined. During the project scoping phase, SPU will also determine which source control BMPs already included in the Manuals should be evaluated, such as sweeping around buildings. In addition, the BMPs selected will also be tested during an active building washdown event at a building that is known to contain PCBs in exterior caulking. We will collect all discharges to prevent them from exiting a catch basin and moving downstream through the MS4). We will then compare PCB data from the pre- and post-treatment stormwater and washwater sampling events to determine their effectiveness in reducing or eliminating PCB concentrations.

Other variables will be incorporated, such as sampling runoff from buildings with different types of PCB-containing materials (e.g., window/door caulk, concrete joint materials, paint) and sampling following different antecedent rainfall conditions (e.g., first flush of the wet season, during a consistently rainy period).

SPU expects that City-owned buildings will be accessible for this study; partner agencies listed in this LOI may also offer some suspected PCB-containing buildings owned by their jurisdictions. If SPU is unable to gain permission to sample runoff from 10 PCB-containing buildings in the

City's MS4 area, we may collect samples in the combined area of the city, which is treated at the wastewater treatment plant under normal conditions.

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?

The key outcome of this study will be recommendations guiding stormwater source control decisions for buildings that contain PCBs on their exterior, demonstrated by measuring:

- Concentrations of PCBs in stormwater runoff and washwater from buildings likely to contain PCBs on their exterior (i.e., influent)

- Concentrations of PCBs in post-treatment discharges.

SPU will design this study to provide all Washington State MS4 Permittees with data-backed options to effectively and efficiently remove PCBs in stormwater and washwater from suspected/confirmed PCB buildings, thereby protecting the drainage system and downstream waterways from this legacy pollutant that continues to impact Puget Sound and many other waterbodies across the State.

Further, we anticipate the findings will inform Ecology's Water Quality Program, through potential future updates to the Stormwater Management Manuals for Western Washington and Eastern Washington. The final report will include recommendations for proposed updated language to applicable Source Control BMPs in the Manuals (S424, S431, S438 and S451), based on what tested BMPs appeared to work best/well to remove PCBs from the stormwater and washwater coming off PCB-containing buildings. SPU will also provide recommendations to Ecology's MS4 Permit Writers for potential updates to the PCB language in the next (2029) Phase I and II MS4 Permits.

Key deliverables include:

- Literature review summarizing up to 20 BMPs
- Sample QAPP
- Fieldwork forms/logs/other documentation and analytical data

- Final report, describing the study methods, results, conclusions and recommendations

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

City of Kirkland, Angela Peterson <apeterson@kirklandwa.gov>

City of Tukwila, Russell Betteridge <russell.betteridge@tukwilawa.gov>