## **September 13, 2023 from 9:00 AM to 12:00 PM**

## **Microsoft Teams meeting**

**Final Summary  
of the Meeting’s Key Discussions, Decisions and Agreements**

**Attendees:**Don McQuilliams, Abby Barnes, Morgan Baker, Chelsea Morris, Aimee Navickis-Brasch, Taylor Hoffman-Ballard, Jayde Essex, Meiring Borcherds, Russell Betteridge, Justin Cohee, Dorie Sutton, Royce Young, Zack Holt, Joshua Rubenstein, Nick Hehemann, Dave Kangiser, Jenna Judge, Jeff Davis, Patrick Soderberg, Jeff Killelea, Kevin Burrell, Joshua Chan, Stella Collier, Angela Bolton, Mike Vermeulen, Keith Estes, Stefan Grozev, Daniel Nidzgorski, Laurencio Cota, Rachel Konrady, Allison Cook, Bryan Berkompas, Robert Bernhard, Roger Chang, Aaron Burkhart, Susan Eugenis, Jenna Schroer, Kym Foley, Eli Mackiewicz, Jessica Atlakson, Jeff Vanderpham, Jason Quigley, Laurie Larson-Pugh, Nicole Chen, Sue Barclift, Jeremy Graham, Elene Trujillo, Mariko Langness, Blaine Chesterfield, Madison Bristol, Aurore Musy, George Reed-Harmon, Nicholas Wegener, Aislin Gallagher, David Wark, Katie Rathmell, Todd Hunsdorfer, Amanda Royal, Paul Knippel, Emma Trewhitt, Abbey Stockwell, Amanda Gillen, Tony Bush

**Welcomes and Introductions**

* Welcomes, chat introductions, and review of meeting agenda and goals by Abby Barnes
* Madison Rose Bristol of the Department of Ecology has taken up the mantle of the Stormwater Workgroup Coordinator in the interim period. Madison is the 6PPD Stormwater Planning Lead and is assisted in these facilitation duties by Morgan Baker, the 6PPD Stormwater Coordinator. For questions regarding the SWG, please reach out to Madison at [madison.bristol@ecy.wa.gov](mailto:madison.bristol@ecy.wa.gov) or visit the [SWG webpage](https://sites.google.com/site/pugetsoundstormwaterworkgroup/home).

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**Presentation of findings of SAM Particle-Size Distribution and Implications for BMP Effectiveness Study – Dr. Aimee Navickis-Brasch and Taylor Hoffman-Ballard, Evergreen StormH2O**

* The particle size distribution (PSD) of stormwater runoff can influence the types and amounts of pollutants that are present, as well as the way that pollutants are transported and interact with each other and with the environment. BMP effectiveness in controlling the range of particles in stormwater is typically not reported or even tested, which makes selecting a BMP more challenging. This literature review gathered the latest information on the size of particles in stormwater, the connection between particle size and stormwater chemistry, and the effectiveness of treatment approaches for particle sizes.
* This study found that while TAPE monitoring studies require PSD testing, many non-proprietary BMPs have never been tested for particle size efficiency. It was also noted that it was challenging for the team to find labs that test for particle size efficiency for a multitude of reasons, some of which included the lack of accreditation or lack of capacity to run samples of this nature.
* Most findings were based on only a few data points due to lack of available data, and this does highlight the need for further studies on PSD and its implications on stormwater management.
* Notable takeaways from the study include:
  + Pollutant concentrations were found to be highest for clay and silt-sized particles
  + Particle size associated with most pollutant loads varies
  + There is insufficient data on particle size distribution and the effects on stormwater management. Further studies would be highly valuable.
* The study can be viewed in its entirety here: [Published Report: Stormwater Particle Size Distribution and Implications for BMP Effectiveness (June 2023)](https://www.ezview.wa.gov/Portals/_1962/Documents/SAM/D3.5%20Final%20White%20Paper.pdf)
* Read the short 2-page fact sheet here: [FS#29-Stormwater Particle Size Distribution & Implications for BMP Effectiveness.pdf](https://www.ezview.wa.gov/Portals/_1962/Documents/SAM/FS29-Stormwater%20Particle%20Size%20Distribution%20%26%20Implications%20for%20BMP%20Effectiveness.pdf)

Questions:

**Question - Angela Bolton:** what was the source of the negative effectiveness values in the regenerative sweeper study?

**Answer - Taylor Hoffman-Ballard (Evergreen StormH2O):** More research is needed, as this was only one study’s results. Two other studies showed fairly positive values, and the negative values from one study pulled the scoring from the two positive studies down.

**Round 4: Workshop, Voting, and SWG Approval Process – Chelsea Morris, SAM Scientist, and Madison Rose Bristol, 6PPD Stormwater Lead Planner**

* The SAM Round 4 Workshop held on August 29, 2023 saw 130 participants and 8 proposals.
* A special thank you to Angela Bolton, who chaired the subgroup, and an additional special thank you to the members who participated in study reviews.
  + Each proposal was reviewed by a technical team of two or three SAM Study Selection Subgroup (S4) members, a SAM/SWG staff person, and an Ecology staff member. Project proponents were asked to use the review comments to prepare their final proposal and presentation.
* A summary of the proposals can be found here: [SAM Round 4 Proposal Summaries](https://www.ezview.wa.gov/Portals/_1962/Documents/SAM/SummarySheetProposals-2023.pdf)
* Additional helpful links include [presentations given](https://www.ezview.wa.gov/Portals/_1962/Documents/SAM/SAM_R4_ProposedProject_Presentations.pdf) and [each proposal in its full form](https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Stormwater-monitoring/Stormwater-Action-Monitoring/SAM-effectiveness-studies).
* Voting results, open to permittees who contribute to SAM, can be found here: [SAM Round 4 Study Selection Survey Results](https://www.ezview.wa.gov/Portals/_1962/Documents/SAM/2023SAMStudySelectionPermitteeSurveyResults.pdf)
  + Each jurisdiction was permitted a single vote for their top 3 project choices. This round of voting closed on September 10th.
  + Out of a possible 98 possible contributing jurisdictions, we received 41 votes.
  + FP1, 2 and 3 were all highly rated by voters. These proposals address street sweeping and 6ppd source control and treatment BMPs
  + F5 and FP7 ranked lowest in the voting.
* SAM funding for this round – which lasts two years – amounts to a total of $2.6 million, and our current Round 4 has a proposed $4.4 million in project proposals. Decisions regarding study funding will need to be made, and it is possible to spread these studies out over multiple rounds, much like SAM has done for the Redmond Paired Basin study.
  + These figures already reduced by Ecology’s administrative costs to implement SAM.
  + There are two existing commitments; Redmond Paired Basin 10-yr study and WSU’s Permeable Pavement Lifecycle Costs (the last Round 3 approved project to start).

**PRO-C briefing and SAM Implementation – Todd Hunsdorfer, PRO-C Chair, and Brandi Lubliner, SAM Coordinator**

* PRO-C met to discuss budget and what tools might be implemented to best fund permittee-favored projects.
  + PRO-C has thoroughly discussed funding options but has yet to discuss reactions to studies at this time.
* SAM participation beyond 2025 is unknown at this point. This means we are uncertain of financial contributions and therefore budget realities.
* We highly encourage engagement at the caucus level and recommend being specific about the timing of studies: are they linked to NPDES permits or otherwise time-sensitive? This will affect how studies are funded and should be kept in consideration.
* Jeff Killelea of the WA Department of Ecology notes that Ecology is willing to invest up to $616,000 in SAM studies, including the entirety of FP1 and partial funding of FP3 (3% of project costs) and FP8 (15%). Ecology’s 6PPD stormwater proviso funding expires June 30, 2025, limiting our ability to fund more than what Ecology is currently able to offer. This limitation has also prevented Ecology from offering to fund FP2, which Ecology believes is a strong proposal in the realm of 6PPD stormwater research and management, but whose deliverables are outside of the realm of Ecology’s constrained timelines. The implications of this are as follows:
  + Ecology will fund and manage all of FP1, opening up $315,735 in SAM funding as well as project management capacity for SAM staff.
  + If SWG chooses to fund FP3 and FP8, this will open up $9,000 and $291,870 in SAM funding, respectively.
  + Funding offers from Ecology for FP3 and FP8 are contingent upon the SWG moving forward with both proposals within the current biennium.

Questions:

**Question - Don McQuilliams:** FP1 does not overtly mention 6PPD-q. Is this still on the table for Ecology to fund?

**Answer - Aimee Navickis-Brasch:** Because this proposed study is based off BMP effectiveness, we believe it is applicable to 6PPD-q management.

**Q - Todd Hunsdorfer**: with ECY putting money towards these studies, will alterations to the scope of each be required?

**A - Morgan Baker:** we don’t believe this would be necessary (i.e., keeping TACs, presenting to SWG, etc.)

**Q - Abby Barnes:** if Ecology were to fund its full offer of $616,000, how much 6PPD proviso money would be left?

**A - Morgan Baker:** a significant amount – around $1.8 million. We are seeking interagency contracting partnerships, so if you’re a municipality or other agency we can enter into an IAA with, please contact us with your 6PPD-q stormwater project ideas! We want to fund some solid studies.

**Q - Kevin Burrel:** could ECY or PROC summarize current gap with ECY $600K add?

**A - Todd:** I was also interested how the use of 6PPD-q funds alters (if at all) SWG and PRO-C involvement

**Q - Don:** FP8 is an expensive but good proposal. Can we allow this type of project funding for effectiveness studies? Is this better for status and trend monitoring?

**A - Todd Hunsdorfer** to tee this up with municipal caucus  
**A - Angela Bolton:** notes that this was a consideration as to why FP8 didn’t land in her top 3. Feels that it may exclude more qualified projects, but that FP8 should have some funding directed towards it one way or another.

**Q - Todd Hunsdorfer:** will there be a TAC for the Ecology-funded studies?

**A - Jeff Killelea:** yes, we'd like to include a TAC

**Q - Abby Barnes:** will PROC review the contract and SOW?

**A - Chelsea Morris:** initial instinct is "no"

**A - Jeff Killelea:** we'd be open to discussing if PROC wanted to review/be involved

**Q - Jeremy Graham:** Question for Jeff and 6PPD funds. Is there a replication study in the works? Or is this no longer an issue? Basing comment off the committee on Natural Resources hearing in July 2021. Specifically, the ecotoxicity results.

**A - Jeff Killelea:** I haven't heard that our BMP effectiveness work would intersect with toxicity testing.

**A - Morgan Baker:** refining the LC50 is something we’re seeing preliminarily, but nothing to my knowledge that we’ve conducted as an agency.

The next step in this process towards SWG approval is caucus meetings.

* Caucuses should meet between this and next SWG meeting to discuss Round 4 projects for SAM funding based on discussion today, funds available, and permittee voting results.
* Decision to be made at the next SWG meeting on November 15th.
* **Please contact the chairs with updated caucus information!**

**Updates related to our work**

* **PSEMP**: Jenna Judge notes that PSEMP just finished Phase 1 of their strategic plan assessment in the Spring, and Tuesday, 9/12 marked the first big in-person workshop since pre-pandemic times.
* With the transitions happening in SWG and PSEMP, Jenna notes it’s an excellent time to explore ways in which we might be as effective as possible in bringing expertise surrounding stormwater and the Puget Sound region to both groups.
* PSEMP is refining its purpose and role, and SWG and PSEMP are hoping to work together more in the overarching effort of Puget Sound and Salish Sea recovery and resilience.
* Also of note, the [2022 Toxics Synthesis](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.eopugetsound.org%2Farticles%2F2022-salish-sea-toxics-monitoring-synthesis-selection-research&data=05%7C01%7Cmadb461%40ECY.WA.GOV%7C8d1f962a0cbc4c3618f408dbaff773c0%7C11d0e217264e400a8ba057dcc127d72d%7C0%7C0%7C638297249555085339%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=fqx7XswUVvQ8pr4uVp2jk8jAq6zLVNqF3Xp6EbgnTLI%3D&reserved=0) has recently been published.
* **NEP Stormwater SIL**: the Toxics Pod will have its first meeting in early October. [Recruitment](https://www.ezview.wa.gov/Portals/_1962/Documents/StormwaterWorkGroup/Toxics%20Pod%20Recruitment%20Announcement.pdf) is still open and interested parties can contact Dustin Bilhimer at [dustin.bilhimer@ecy.wa.gov](mailto:dustin.bilhimer@ecy.wa.gov).
* From Heidi Siegelbaum: Jen McIntyre and her colleagues recently released [a paper](https://www.sciencedirect.com/science/article/pii/S0048969723043826) on bioretention and coho mortality in early life stages. If you have any questions, please reach out to Jen at [jen.mcyntyre@wsu.edu](mailto:jen.mcyntyre@wsu.edu). Please share widely and reach out to Heidi if you have trouble accessing the paper.

**Hear about MS4 Permit Reissuance Updates (Abbey Stockwell and Amy Waterman, MS4 Phase I and II Permit Writers)**

* The permit reissuance is it its formal comment period. There is an extensive engagement process for this, and Abbey is grateful for all the feedback along the way. This comment period is open until November 10th.
* Abbey is hoping to receive a formal comment letter on the permits from the SWG as has been issued in the past.
* A number of workshops are coming up, and public hearing to collect oral testimony in addition to written comments have been scheduled. Dates can be found here on the [reissuance page](https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Municipal-stormwater-permit-reissuance).
* Abbey also notes that there are no significant changes proposed to the S8 Monitoring Assessment section of the WWA permit, but the EWA permit proposed the option to join SAM effectiveness and source ID opt-in options, as well as the continued option to manage their effectiveness study approaches independently.

Questions:

**Question - Todd Hunsdorfer:** what’s the level of interest in SAM from EWA permittees?  
**Answer - Abbey Stockwell:** early draft comments indicated mixed results. We may learn more during this comment period.

**Q - Todd:** has SAM’s influence been highlighted in the permits?   
**A - Abbey:** yes – see the [Fact Sheet](https://fortress.wa.gov/ecy/ezshare/wq/permits/MS4_2024_FactSheet.pdf) for more information on that.

**Q - Joshua Rubenstein:** 6PPD doesn’t appear in the permit.   
**A - Abbey:** the discussion in the fact sheet highlights some of the reasoning behind proposals and requirements that intend to help address 6PPD and road runoff, including the proposed retrofit requirements, street sweeping, and lower thresholds for roadways and redevelopment projects for when flow control and runoff treatment BMPs are required. These enhanced proposals will, we believe, assist in the management of 6PPD.  
**A - Madison Bristol:** <https://ecology.wa.gov/blog/august-2023/proposed-permit-updates-focus-on-cleaner-stormwater-for-growing-communities>

**Q - Jeremy Graham:** how are PFAS/PFOS addressed in permits?   
**A - Abbey:** ITRC is working to further address PFAS, and a link on this can be found [here](https://pfas-1.itrcweb.org/).  
**A - Jeremy:** notes that firehouse permits may need further consideration, as these responders can work across districts, meaning management plans in one jurisdiction may not fully address PFAS in foam.   
**A - Allison Cook:** notes that ship fires should be considered in the plan for firehose discharge.

**PRO-C briefing and SAM Implementation – Todd Hunsdorfer, PRO-C Chair, and Chelsea Morris, SAM Scientist**

* Todd notes that PRO-C has updated their charter and would like SWG and caucus feedback on the new draft.
* The charter approval may tentatively be voted upon during the upcoming November 15th meeting.
* Also of note is that the SWG bylaws have not been updated since 2008, and Abby and Don are engaged in discussions surrounding this.
* Chelsea gave budget updates for SAM, including that the recent Round 4 Solicitation workshop was executed well under its budget of $1,000. This workshop was hosted at Ecology’s Northwest Regional Office in Shoreline, and over 120 people attended either in-person or virtually.
* PRO-C expects to see the final Redmond Paired Basin study amendment by mid-2024. This will fund the final year of this 10-year study and the final trend report.
* These multi-year studies are supported by PRO-C, and the ability to run such studies are a key benefit of SAM’s funding structure.
* Chelsea also noted that Ecology can only obligate against the known revenue through the permits, which includes the 2023 payments recently received in addition to the “carryover” payments due in December 2024. The 2025 revenue won’t be known until December 2024, which does hinder Ecology’s ability to project funding beyond 2024.

Updates from receiving water studies:

* USGS is notably overdue for the Water Year 2020 annual report. The “front end” of this study required a substantial amount of work, but once the data analysis for these sites are complete, the information will be available in EIM.

Updates from effectiveness studies and source ID projects:

* WSU-led Source Control Program Guidance Manual is complete and can be found [here](https://www.wastormwatercenter.org/permit-assistance/municipal/source-control-inspection-program-guidance-manual/).
* WSU-led Outlet control of Bioretention Effectiveness Study is also complete, and a link to the SAM fact sheet can be found [here](https://www.ezview.wa.gov/Portals/_1962/Documents/SAM/FS30-Evaluation%20of%20Hydraulic%20Control%20Approaches%20for%20Bioretention%20Systems.pdf).

**Draft Work Plan for 2024-2025 – Abby Barnes**

* Abby notes that SWG is working to update the workplan.
* Current workplan: <https://sites.google.com/site/pugetsoundstormwaterworkgroup/home/about-swg/swg-work-plan>
* Our focus is on moving SWG forward while making sure the purpose and functions of this workgroup meet the needs of the participating caucuses.
* Abby asks that workgroup members read through the current workplan and give input on what would be reasonable and achievable changes we might address via the new workplan.

Discussion:

**Todd Hunsdorfer:** the level of support to be expected from Ecology may be something to discuss at the November meeting as we develop this new workplan.

**Abby Barnes:** also notes that if there is another entity aside from Ecology that wants to run SAM, SWG has left that option open with intention.

**Question - Jeremy Graham:** is there a document that explains how this works?

**Answer - Abby and Todd:** note that it’s shared at the bottom of this [Ecology page](https://ecology.wa.gov/About-us/Accountability-transparency/Partnerships-committees/Stormwater-Work-Group).

**Abby Barnes:** we are also looking for input as to how the SWG works with PSEMP. Additionally, Chair and Vice Chair voting for next year is looming – group members should be considering this as we move towards 2024.

**Updates from the SWG 6PPD Subgroup – Eli Mackiewicz, Abby Barnes, Morgan Baker:**

* Most notable is that Eli Mackiewicz will be remaining alongside Abby as chair! We are all excited to have Eli remain in this position, and many group members elicited their positive feelings on Eli’s leadership within the realm of 6PPD.
* Ecology forecasted their impending solicitation process and continuous ability to enter BMP study contracts with municipalities and other government and Tribal Nations via Interagency Agreements, or IAAs.
  + Public groups and Tribal Nations are encouraged to reach out now to Madison at [madison.bristol@ecy.wa.gov](mailto:madison.bristol@ecy.wa.gov) if they have study ideas. Ecology will collaboratively work with these groups to build a proposal.
  + SWG members should expect this RFP process for consulting companies and other private sector entities to be released this fall.
* The upcoming subgroup meeting is Wednesday, September 27th, and will feature PhD candidate Chelsea Mitchell’s study on permeable pavement.

**Next SWG Meeting: Wednesday, November 15, 2023, 9am-12pm PST**

The final 2023 SWG meeting is November 15. SWG meetings for 2024 will occur on **February 7, May 15, September 11, and November 13 on Wednesdays from 9am – 12pm PST.** We may occasionally extend our meeting time; any extended meeting time will be determined at the previous meeting.

At our meeting on Wednesday, November 15, we will:

* Hear from caucuses on the Round 4 workshop in August and results of the permittee voting.
* Make final decisions regarding the Round 4 SAM project proposals
* Review the draft SWG workplan for 2024-2025
* Hear updates on the MS4 permit formal comment period
* Hear about EPA’s MS4 permit options for Army – JBLM to join SAM
* Hear other updates related to our work
* Decide on the PRO-C charter changes