

## Bioretention Team Meeting with Ecology Engineers

**Meeting date:** 3/4/2024

**In attendance:** Chelsea Morris (ECY), Foroozan Labib (ECY), Douglas Howie (ECY), Jesse Barham (Olympia), Chris Wright (Raedeke), Bill Taylor (Raedeke), Jennifer Saltonstall (AES), Annamaria Clark (Raedeke)

**Project website:** [Hydrologic performance of bioretention - Stormwater Action Monitoring](#)

**Meeting purpose:** This meeting is an opportunity for the bioretention team to discuss initial results with members of Ecology's stormwater engineering team. The bioretention team will fold this discussion into their draft final report.

### Notes

- Final report will include the same sections as Phase 1 and 2, but will have a new lit review section focused on the reported performance of older bioretention facilities
- Major finding from the data is that infiltration is holding at these sites
  - Doug H: Ecology won't change guidance based on this finding, but it's good to know hydraulic performance remains. If you have a recommendation on what the design infiltration rate should be, Ecology would look at it.
  - Foroozan: documenting the soil information in the final report is important
  - The team did look at infiltration rates in several locations within a facility (e.g. near inlet, center, sidewall) and observed sedimentation and lower infiltration rate in some locations.
- Preferential flow paths - some observations were made
  - Ecology would like to know how much these play into a facility's function. It'd be great if geotechnical measurements and observations could be worked into the final report
- Contributing watershed type
  - Ecology is interested in the range of land uses and impervious surface percentages contributing to these bioretention facilities. The hydraulic load and sediment load do not always correlate. This is where the land use and type of pavement matters.
- Contributing watershed size
  - Doug B has made recommendations in previous phases, he's likely to make the same recommendations or more
  - What are the recommendations from prior reports? What did SWTT think of them?
- Success
  - Jennifer: what is successful is subjective. This study is about function. But some people don't like the facility and fill it back in.
  - Doug: we worry about non-functional definitions of success in that lots of bioretention facilities might be built on private property for compliance with our permits, but then get converted back when owners don't like the facility.
- Treatment capacity of older facilities
  - Doug would love to see the treatment performance through time. We hear from people who have questions about cation exchange capacity changing through time.
  - Are preferential flow paths increasing and short-circuiting treatment?
  - Jesse asks about what subset of sites Ecology would recommend to be sampled

- Doug thinks a cross section of infiltration rates
  - Foroozan suggests that we might only sample under drains
- Vegetation
  - Foroozan: it makes sense that dry plants are surviving over wetland ones
  - Doug: we hear concerns about plants in bioretention facilities in Eastern Washington. Does it improve treatment or hydraulic performance?
  - Doug: we definitely don't want irrigation at these facilities
- SWTT - Doug suggests we present the draft report to SWTT and possibly ask the project team to present