

Stormwater Retrofit Project Management Team Meeting

March 6, 2013

9:00 am to 12:00 pm

King Street Center, King/Chinook Conference Room

Attendance:

Jim Simmonds, King County (KC); Project Lead
Tamie Kellogg, Kellogg Consulting; Facilitator
Emily Santee, Floyd | Snider; Recorder
Ben Parrish, City of Covington
Brendan Grant, KC
Chris Knutson, KC
Curtis DeGaspari, KC
Dan Smith, KC
David Funke, KC
Dino Marshalonis, Environmental Protection
Agency (EPA)
Don Robinett, City of Seatac
Doug Navetski, KC
Elissa Ostergaard, KC
Giles Pettifor, KC
Jeff Burkey, KC
Mark Wilgus, KC

Mary Roderick, University of Washington (UW)
Michelle Wilcox, EPA
Olivia Wright, UW
Richard Horner, UW

Not In Attendance:

Beth Ledoux, KC
Chris Thorn, City of Auburn
Curt Crawford, KC
Dave White, KC
David Batts, KC
Ed O'Brien, Washington State Department of
Ecology (Ecology)
Erkan Istanbuluoglu, UW
Larry Jones, KC
Mindy Roberts, Ecology
Tim Nyerges, UW

Introductions followed by description of the purpose of the meeting.

Overall/Near-term Schedule.

Jim Simmonds presents project status and status of various reports that are to be completed by the April workshop, and presents a flow chart diagramming how they fit into the schedule for the rest of the year. The flow chart will be updated to incorporate future land use demands on the viability of the project team analysis. If you have other comments on the flow diagram or schedule, please notify Jim.

Review Updated Frequently Asked Questions (FAQ) Document.

Please review the FAQ document, which Beth has updated since the last PMT meeting. We would like concurrence from the group that these talking points and answers to commonly asked questions are correct and representative of the project. Some substantive changes have been made since the last meeting: for example, the response to question five now defines the new concept of "ranges." Rich Horner will work with Beth to improve the definition provided for project "goals." Goals are understood to be biological conditions rather than just what the project team thinks the landscape should look like.

Finalize Reports – Targets, Ranges, and Cost Assumptions.

Rich Horner briefly discusses the *Flow and Water Quality Indicators and Targets* report, and the work completed to develop this report. He will polish the introduction and conclusion prior to the stakeholder workshop. He has identified two related goals, but needs to identify one more goal to highlight in the final reporting. Feedback from the Project Team is welcome. Rich had a good data set to determine statistical relationships between TSS and turbidity; TSS and metals do not have as strong of a relationship. Data in the report will be used to determine best estimates of outcome and percent probability of reaching Ecology and other Water Quality goals. Rich describes Ed O'Brien's work, and describes how measured relationships in an unmanaged watershed will differ from managed results.

The report will be finalized by mid March, shared with the project team for feedback, and then presented in its final form to stakeholders in April.

Rich Horner describes cost assumptions in the *Investigation of O&M Cost Components* report, and the research that has been completed to validate cost assumptions. In this report, costs are on a per unit basis (rather than a footprint basis) and include inspection, enforcements, etc as “indirect costs.” Rich notes that further refinement to cost assumptions associated with rain gardens and porous pavement is needed. The thoroughness of inspections for biofiltration units varies widely; many cities do not have standardized inspection requirements. Project team members were asked to provide input regarding the number of hours required for inspection and maintenance of rain gardens and bioretention, to provide support for that indirect cost ranges for each type of unit provided in the report. There is concern that the maintenance term is being counted twice for some types of unit; Rich will investigate further. Costs for public bioretention units will be calculated on an annual inspection schedule (rather than a biennial inspection schedule) to match permit inspection schedule requirements.

Project team members should direct comments on the two reports to Rich Horner in the next few days. Rich and Jim Simmonds finalize the reports by mid March using the feedback received.

Results of SUSTAIN on Newaukum.

Curtis DeGaspari presents current status and the major steps that were taken to complete the work. Houses are assumed to have one or more rain garden units (each unit is 10x10 feet); this assumption can be refined with the project team and stakeholders for validity. For reference, the optimized model result predicted that each house would need two rain gardens. The flow duration curve still shows a substantial number of out of compliance events; this may be because of pond design, the assumption that paved surfaces are not treated; etc.

Cost assumptions for BMPs have increased now that inspections and enforcement costs have been incorporated into the modeling. The cost of the optimized solution is not purely a capital cost; it also includes maintenance. Capital and O&M costs should be broken apart if possible. At the stakeholder workshop, it should be stressed that this basin selected to model is representative of a more expensive (more urban) catchment, and that not all catchments will be this expensive to retrofit.

Permits require annual inspections of BMPs like pervious pavements; however, Don Robinett notes that that inspections and maintenance must occur five times per year to maintain proper functioning of the pervious pavement. The assumed frequency of inspections and maintenance for each type of unit will be further evaluated; stakeholders may also have more input into this topic. Curtis DeGaspari plans to complete sensitivity analysis on cost and infiltration assumptions.

Cost vs. treatment effectiveness charts can be useful for determining the prioritization of resource allocation when annual budgets/capital costs are limited or when other constraints are present. As this project is intended to be a planning level tool, the team needs to be careful not to promise highly detailed results for all basins; the intent of showing detailed results for the Newaukum basin is to show an example of the type of results that are possible (if the jurisdictions hire consultants to perform detailed work). It is expected that most users will simply extrapolate results from the examples provided, rather than performing detailed analysis for the basin of interest to them.

The project team will attempt to model results for a range of catchment types, as there is not enough time to model every catchment in WRIA9, particularly at this level of detail. It may be possible to build

off of the watershed characterization work that Ecology has already completed, and to dovetail this characterization work with land use predictions completed by other departments.

Other post processing options – like relating percent effectiveness to percent change in B-IBI – were discussed. Post processing options depend on the audience: stormwater managers typically care about capital and maintenance costs, how effective each BMP is at stormwater treatment, how many BMPs are required to be put on public vs. private land, etc. Water quality parameters are not as meaningful to stormwater managers; however, this is useful information for other stakeholders and project team members, so Curtis DeGaspari will incorporate TSS targets/results into a figure or table for the report.

It is important to note that the model is based on existing conditions, and does not incorporate increased population size and increased density in future land use (which may have other funding sources that won't need to be incorporated into retrofit models).

Planning for Workshop on April 25, 2013.

Tamie Kellogg presents the schedule for the event: the project team should arrive at 8:00 am; presenters with displays should be there at 7:30 to set up. Beth LeDoux can help with printing posters; please contact her if you require assistance.

Jim Simmonds has an attendance goal of more than 40 attendees from outside of the project team; please encourage any stormwater managers, environmental groups, regulators, and permittees that you have connections with to attend.

The schedule and content of presentations is discussed relative to the time constraints. Rich Horner will present costs with respect to model assumptions; his first presentation will be on the target reports. The presentation will be 15-20 minutes, followed by a few minutes of questions.

Tamie Kellogg presents facilitators and recorders for table discussions at the workshop, and solicited additional volunteers to be recorders and facilitators (Ben, Mark, Dave Funk). Comments on the table discussion questions were received.

1. The table discussion questions may be too specific or require too much outside research or thought to be useful. To encourage more meaningful and specific discussion, the table discussion questions will be distributed ahead of time to the workshop attendees who RSVP'ed.
2. Rather than asking "what do you think of these assumptions?" the question will be phrased to ask "If you disagree with the cost assumptions in this table (biased high or low), please provide us with source information to support an alternative value." The table will be edited to add a column for stakeholders to write down sources to look into.
3. The sources of the assumptions in the table will be described in a sentence or two at the top of the page for context.
4. Most table discussions spend the majority of the time on the first question; so the order should be changed so that the table discussion question currently listed second is put first.
5. Tamie will confer with facilitators of the table discussions to capture talking points and commonly-raised issues from the table discussions, such that these issues may be addressed in a timely fashion (e.g. before the end of the stakeholder workshop).

Olivia Wright's project update was broken out into its own agenda item (a 10 minute presentation) to provide results from an alternative approach that supports the results from the SUSTAIN model. The time allocated for the remaining related project updates will be shortened. Olivia's thesis will be

completed at the time of the workshop; she will try to get a copy of it to Jim Simmonds by April 10 so he may email it to stakeholders in advance of the workshop.

Tamie Kellogg will arrange for presenters to do run-through of their presentations in April, to prepare for the stakeholder workshop.

Project Updates.

1. **HSPF.** Jeff Burkey provided a project update; the only basin left to calibrate is Salmon Creek. He will be working on the report the rest of the month. Jeff will try to complete the report by March 20th.
2. **Federal Way.** The Federal Way project has been completed and the final report is near completion (it may already be completed).
3. **Bremerton/Gorst Creek.** AECOM (consultant for the city) has selected three catchments that are close to downtown to model. These were selected based on representativeness of the catchments and other factors; AECOM is hoping to address stormwater management deficiencies with the modeling. AECOM hopes to have a draft version of their SUSTAIN model completed by May 9th or 10th. Dino Marshalonis will send the contact information for those involved in Bremerton and Seattle to Jim Simmonds, so that Jim may invite them to the stakeholder workshop.
4. **Draft Project Report.** Olivia Wright presents an overview of her calculations and results. Indicator results are similar to the results of the SUSTAIN model; however, long-term model results don't tend to indicate significant improvements to water quality health when stand-alone results are evaluated (i.e. when there is not a baseline condition to compare the results to, the pulse count doesn't appear to drop because the volume and pulse count changes with each scenario model run). Olivia will present indicator results to stakeholders, rather than the stand-alone results.

The next PMT meeting will be Wednesday June 5th from 9am to 12pm. Please mark your calendars!