WRIA 9 Stormwater Retrofit Project Management Team Meeting
City of SeaTac City Hall Council Chambers
Meeting Summary – Sept 13, 2012

Meeting Attendees:

Doug Navetski	King County SWS
Jeff Burkey	King County WLRD -Science
Curt Crawford	King County SWS
David Batts	King Country WLRD/SWS
Don Robinette	City of SeaTac
Elissa Ostergaard	WRIA 9
Dan Smith	King County WLRD - Science
Chris Knutson	King County
Beth Ledoux	King County WLRD - Science
Giles Pettifor	King County
Tim Nyerges	UW-Geography
Curtis DeGasperi	King County WLRD - Science
Mark Wilgus	King County SWS
Olivia Wright	UW
Larry Jones	King County WLRD -Science
Rich Horner	UW
Tamie Kellogg	Facilitator, Kellogg Consulting
Gillian Hollander	Meeting Assistant, Kellogg Consulting
Jim Simmonds	King County WLRD - Science
Michelle Wilcox	US EPA
Erkan Istanbulluoglu	UW

1. General updates since last meeting - Jim Simmonds
    - Jim Simmonds shared results from a GIS UW professor Robert Aguirre's master level workshop that produced two reports for the WRIA 9 Stormwater Retrofit project. **PDFs of the two student reports are available on the project website**
    - One was *Future Land Use Analysis:*
      -2040 land use
    - The other was *New Strategies for Impervious Surface Data Development*.
        - characterize imperviousness
        - developed a method for looking at land cover across WRIA 9, different layers, new approach, (roads/lawns/roof tops, etc.), didn't cover all of WRIA 9, but amazingly successful
    - Note there are two yearly opportunities for workshops with students (undergrad and grad).

b. Beth Ledoux - Jim introduced Beth to the PMT. She works in the Science Group at WLRD. She will serve as stakeholder outreach and community lead.
    - Responsibilities –Develop strategy, coordinate, and implement outreach to project Stakeholders. Checking in w/cities and WRIA 9 Forum, discussions on projects, assist in setting up workshops, identification of other opportunities to discuss the project, etc.

2. Sustain BMP Assumptions Developed by the PMT Workgroup
   Curtis DeGasperi led the PMT through documentation of the overall approach to SUSTAIN and the specific parameters and assumptions the workgroup developed over the summer. The conversation included review of the following key issues, templates and assumptions for the WRIA9 Stormwater Retrofit project use of the SUSTAIN model.
      - Template of treatment trains to be evaluated (including specific BMP types to be included)
      - Design details for each distinct BMP in the treatment train
      - Cost estimates appropriate for comparison across BMPs

   NOTE: The handouts used for this discussion including the overview of the approach, specific tables with detailed assumptions and cost estimates are available on the project website Project Documents listing.

   http://edit.kingcounty.gov/environment/watersheds/green-river/stormwater-retrofit-project.aspx

a. Cistern & Rain Barrels

Overall Issues (cost/permit)

- O&M Costs (questions on exclusion of these costs)
- Material used (plastic, concrete, galvanized metal), not specific but would depend on the length of time (model based on 30 year run).
- Inspection, permit needed? Depends on the size and how cistern water would be used. If water used to supplement plumbing then inspection would definitely be needed.

Design Issues:

- Orifice size (Bellevue allows ¼ " orifice minimum-but orifice in cistern design is 1/10". Must change due to jurisdictional reasons (should be further researched). If draining in to rain garden becomes non-issue, but otherwise must be changed.
- Solution: Agreement to change orifice size to 5/8".
- This model is most important to treat peak flow, but can only slows it down; based on the graph this cistern can only handle small isolated storms.

b. Bioretention Facilities

(Rain garden/ Road Side Retention)
Thought of punching thru till (based on idea of lateral distribution of water, not down). Not applicable to this, different type of model

- going to shallow aquifer or completely goes away (lateral or holding)
- 2 very different end points (for modeling and regulations) no under drains.
- NO answer to this now, do you want a model that goes away or pops up?

Suggestion of possible pilot programs to test

Comment-If an aquifer is used the water will basically be gone (long time storage), otherwise only we are only delaying it.
Answer/Reply-wouldn't go to storm water facility, would go to stream (not into ditch or pipe, but through shallow, then deeper ground water to stream.

Question-we don't know that (that the water would sink deeper eventually going to stream), could pop up anywhere. Jurisdictional issue, should we do mixed approach?
Answer-we don't know, need to choose modeling system (legit to think about crawl space basement flooding, would need detailed surveys) figure travel time of water, figure out model.

Final Comment-Lets run model with decisions and surveys we have now, can't address the issues (rate and where) at this point. Must make assumption it'll be done correctly, cant answer all scenarios at this point.

Infiltration rate- we will run two different scenarios with two different rates ½" and another.

c. Porous Pavement

(Routed to stream or detention facility)
Applied for parking lots, driveways, and sidewalks-NOT for roads.

Question: Does it only handle what falls on it?
Answer: Yes, that is how the model treats it.

Question: Won't it lose effectiveness as aggregate impacts (cars parking, driving over, etc)?
Answer: Possibly, we have it modeled with a 30 year life, does not include replacement cost (should life span be 10 years? 18 years? 30 years?)

Group conversation about breaking up porous pavement, life span due to wear and tear, and the fact that all BMPs are based on 30 year with no replacement costs

Follow-up: Dr Rich Horner is going to follow up on this, especially due to the stronger possibility of wear and tear.

d. Detention Pond

Unit cost (see "slides" print out for actual costs, very different from cost assumption doc)
In the future Sustain may be able to allow for side slopes
But for now:

- Each unit treats 1 ac
- Level 2 performance
- Chose for now to stay with a design pond
- 0 infiltration

Conversation gets sidetracked, back to concern about counting double losses in model:

No ET from porous pavement
.5 inch per hr though on the till soils

Question: back to question of is .5 to high
Answer: We don't know the correct measurement right now-need more data.

IMPORTANT NOTE: There can be no open water facility around SeaTac due to bird use

Question: were detention vaults considered in cost
Answer-no, not considered

Comment: We might want to run another scenario to figure out if detention vaults would work well for this scenario, but not needed until the implementation stage. Vaults are triple the cost, but if some of the numbers are adjusted then maybe they will not be quite as much.

Final Comments

- Feasibility and acceptance level are certainly considerations.
- Land cost-huge variable depending on the city and type of land. That is why the costs are listed separately.
- Cost estimates are just for retrofit
- The main focus of the cost estimate is to determine the "how much is actually needed."

- We are trying to have the costs for certain treatments be able to be separated in the end by how they could be allocated (public v. private)
- We will differentiate down the road, today we will just look at the projected costs (see Cost Assumptions doc)

NOTE: Curtis will be sending out the updated information to the whole team by next month (October 2012).
IMPORTANT: 14 day cutoff for any further comments/considerations.

3. Updates

   a. Update on EPA projects
      - Gorst Creek (Kitsap County) project is moving forward
      - Snohomish County project is still interested in using SUSTAIN. Has joined the SUSTAIN conference calls.

   b. Alternative Analysis Newaukum - Olivia
      - Will you do report on other basins? No, won't have time.
      - This is extreme case as its 94% urbanized
      - Also, very flat (makes it atypical)
      - Olivia will be done with her article by December 2012.

   c. HSPF - Jeff Burkey
      - Trying to complete by December 2012

   d. Juanita Creek Basin project - Jeff Burkey & Mark Wilgus
      - Completed.
      - Link to Juanita Creek Report

http://green.kingcounty.gov/WLR/Waterres/StreamsData/reports/JuanitaCreek2012.aspx

4. Workshop and/or other Outreach -Tamie Kellogg

The group discussed if they were ready to have an engaging stakeholder workshop at this time, They decided that possibly early next year would be good timing. Perhaps after Newaukum Creek had been fully run using SUSATIN. Discussion about continuing to update the stakeholders included:

- There is a WRIA 9 Forum scheduled in November. Could you possibly invite some of the other stakeholders to attend and be briefed?
- Recommendation that you attend some other gatherings in the region to provide updates
- Put out an email update as well to keep stakeholders in the loop