Session: **Surface & Storm Water Management**

Panel: Steve Hobbs, Rice Creek Watershed District; shobbs@ricecreek.org
Kim Chapman, Applied Ecological Services; kim@appliedeco.com
Jeff Lee, Barr Engineering; jefflee@barr.com
Mark Riverblood, City of Ramsey, mriverblood@ci.ramsey.mn.us
Moderator: John Barten, Three Rivers Park District, jbarten@threeriversparkdistrict.org
Note-taker: Jennifer Christie, Three Rivers Park District, jchristie@threeriversparkdistrict.org

- Key points from the panel discussion (include "who")

Jeff Lee, Barr Engineering-Consultants
Key point: **Ecological planners need to be a park of the design**
3 Issues

1. Stormwater systems as "green infrastructures"-looks like green space in park, natural amenities-well received
2. Stormwater systems for Park Resource Protection-passive recreation areas-SW stormwater pond—key point shape of ponds to **fit landscapes**
3. Stormwater systems for site-based treatment

Steve Hobbs, Rice Creek Watershed District-Regulator
BMP and Stormwater Regulations-200 sq. miles for Rice Creek, largely developed in south, north is starting to develop

Used to dig a hole next to an area where runoff was occurring.

Pond limitations

- Little filtering
- Often undersized, improperly constructed
- Ecologically sterile

-Rain Garden better alternative-when redoing road, curb cut
-Bioretention areas incorporate many positive aspects
-Chambers underneath parking lot or a trail
-Constructed wetland have similar properties as natural wetlands
-Plan turned undeveloped areas into interconnecting wetlands (greenway corridor) traveling to the lake
-Blaine set aside 2MM and developers need to set aside???
-Reconstruct comprehensive land use plans to incorporate large greenways to allow wetland connection

Kim Chapman, Applied Ecological Services (AES)
Ecologist first and foremost, then included landscape engineers. Use ecological principals. Take natural systems as the model and work down to open areas.

BMP from PCA chart consolidation hand-out. Barr engineering has great reports/data to demonstrate effectiveness of rain gardens.

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Prairie Crossing between lots are swales, swales lead to back of houses which leads to wetland habitat. Treatment train success is a swimming beach and stocking lake with some fish.

Issues learning about

- Heavy clay site-weed control essential
- Sand base can plant natives
- Learned about staging of plantings relative to grading
- Location of swales-heavy clay, thinking through how to modify
- Long term maintenance—management plan the HOA, and write a summary update, set aside
- Designing near homes need to have a lighter touch, so need to modify approach
    - Simplify planting so seasonal blooming
- MAJOR GAP-research program as a part of the planning, outside source may be needed to complete this-prior, during and after construction to determine effectiveness
- Models must meet or exceed standards

- Q & A after speaker/panel presentation

- What are the greatest **challenges** you face regarding this topic? List specific examples. (This should help in determining where BPs are needed.)

→ Retrofit Parks are clustered around streams and lakes to treat developers land improvements

→ 2.2 lots/acre near Carver. Currently agriculture. Model says it will treat work. In reality, adding impervious pavement will not cause less run-off than current agricultural state.

→ Focus by watershed organization on development effectiveness based on treatment standards. Protect or improve impact on the resources

→ Third generation homeowner doesn't know, need buffers around them

→ Monitoring stations-continuous flow and sediments, grab samples during flow cycles for research back-up to prove effectiveness of efforts

→ Monitoring rainwater system volunteers not recommended due to complications process, but could assist in less technical aspects

→ Not enough $ to treat retention pond.

- What are some existing **BPs or good examples** of successful practices? (Record what and who to contact; at a minimum.)

Captured during discussion with panel members and moderator:

→ Look at how to disconnect impervious pieces
→ U of M St. Anthony research with PCA to determine how thermal loading happens for next two years.
→ Natural resources inventory
→ Cedar meadows – easier capital than maintenance – 3 year maintenance contracts to take burden off maintenance staff to get weeds out until established.
→ Thief River Falls-minimizing mosquito habitat—Designed for water out for 72 hours, balancing act.

- → Landscape Parking Lot, Netlong-nylon, fiberous looks like grass, infiltrated undergrass, Rice Creek has an R and D budget to test ideas—maintenance issue to make sure pores don't clog up. Rubber membrane to run over the surface to minimize damage.
- → Northland College example given by Barr

- Where are the **gaps**? Where do we need to strengthen existing BPs or develop new ones?

Unique features like a trout stream to see area as special—Winona

<u>3 degregation potentials with Trout stream</u>

1. Shading –tree canopy
2. Temperature warmer-thermal warming, direction of stream
3. Infiltrations Buffer 100 foot, same hydrology up to 100 storm event

- → St. Louis Park—funding to experts with native plant awareness is needed
- → Road salt—Parkers Lake monitoring. Permanently stratifying. There will be a road salt symposium.
- → West Nile Virus implications in stormwater
- → MN State Parks Development—pressure impervious pavement

- What are the **top priorities** from this session that need to be addressed post-summit?

1. **MORE PARTNERSHIPS TO WORK ON METROPOLITAN WIDE AREA.**
2. Brauer lower level elevation solving uphill. How to take pressure off parkland?
3. Fridley example part of a park getting all streamwater, went upstream and put in raingardens---treatment part turning into an amenity and park can be used more than before
4. Mpls, look at amount of phosphorus reduction/load over existing conditions. Put responsibility back on developer. They're going to underwater stormwater systems—infiltration, and phosphorus reduction data.
5. Conservation Easements-not burden on city, watershed funding not an issue, maybe involve a non-profit agency-Mn Land Trust, work with HOA
6. Hastings-stormwater detention/water mgmt. Homeowner different idea than developers. Better education on reality—realtor and developers there is fall out. Our responsibility to education with developers. HOA legal responsibilities to easement and open space.

    - How should they be addressed?
    - What lends itself best to a workshop?
    - To the website?
        1. There are tools on stormwater templates for BMP-www.Ricecreek.org
    - To other communication tools (e.g., handbooks, fact sheets, etc.)?
    - Or to something else (e.g., a specific initiative)?
    - Ideas on who should/could take the lead?

- What are the **3 most important factors/ideas** to emerge from this session?

1. Joint powers agreement taxing authority
2. Research data for measure before, during and after
3. More time to talk, to incorporate other municipal departments including maintenance groups by inviting maintenance supervisors.
4. Develop with a group a brochure that talks about value, expectations to share with homeowners that could be cater to each agency.
5. Organization Metro Watershed Partners out of Hamline help cities develop literature
6. Best Practices website link to website, economics on impervious benefits--

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