

**DRAFT NOTES: Urban Runoff Nutrient Reduction Subcommittee**

**December 13, 2013**

**1:00pm – 4:30pm**

**Normal City Hall Building, Ronald Hill Conference Room, Rm 334, in the Uptown Station 11 Uptown Circle,  
Normal IL, 61761**

**Summary of Discussion Points (complete notes below):**

- The Urban Nonpoint Source Subcommittee serves as an advisory team to IEPA staff writing the portions of the Illinois Statewide Nutrient Management Plan addressing urban runoff and septic systems.
- The subcommittee should seek to include additional municipal representatives and those specializing in septic systems.
- While the Stoner Memo groups septic systems and urban stormwater, the Illinois Working Group thinks septic systems should be addressed in a separate section in the Illinois strategy.
- “Current Urban Stormwater Trends in Illinois”—Josh Ellis, MPC
  - Multiple entities governing stormwater and sewer networks within an area
  - As large storms have increased, greater collaboration among governments is needed to address problem
  - Large question: how to pay for retrofits to prevent basement backups and raw sewage spills
    - Stormwater fees aren’t high enough to change behaviors of private landowners
  - Discussion:
    - There are some legislative gaps preventing stormwater utilities and watershed management plans/ordinances from being most effective
      - The Clean Water Initiative and State Revolving Fund have expanded to include stormwater treatment, including separation, and may be useful tools in addressing some of these funding shortfalls.
    - Maybe green infrastructure should simply be considered infrastructure
- “Understanding a Municipal Stormwater Program that Works”—Eric Schoeny, Aurora PWD
  - See PowerPoint for presentation details
  - Discussion:
    - Outreach and education to and of community vital part of implementing green infrastructure
    - Training of MS4 and municipal staffs could be accomplished more economically at a county level
- Discussion of Other States’ Urban Nutrient Reduction Strategies
  - See PowerPoint
  - MS4 and green BMPs are the standard methods for addressing urban NPS
  - Many of these strategies are local activities. In Illinois, the state’s role, however, may include:
    - Changing the MS4 permitting to include outreach
    - Giving counties authority to establish stormwater utilities
    - Banning phosphorus on lawns statewide, not just commercial and residential lawn care
    - Creating model ordinance for municipalities to be implemented locally
- Discussion: How do we position the Urban NPS section in the nutrient reduction strategy?
  - Should refer to target watersheds as “urban watersheds” rather than “priority watersheds”
  - Because urban NPS constitutes between 2 and 4% of nutrient pollution in Illinois, we need to ask:
    - Is it worth the effort?
    - How much will it cost, especially if looking at cost per person?

- Table of Contents Discussion:
  - In addition to discussing existing programs targeting urban NPS, Illinois should also:
    - Conduct an assessment of the IEPA's staffing capabilities to support these programs
    - Identify legislative gaps
  - Percent vs. pounds
    - Policy rather than numeric target for nutrients
      - Concern: will numeric targets penalize communities that have already achieved significant reduction targets?
    - A numeric target for reductions in stormwater volume:
      - Is measurable
      - Will achieve nutrient decreases
      - Requires less expensive monitoring
    - Consensus: include numeric goals for areas with high nutrient loading in urban runoff, but, in the majority of watersheds, the goal should be to implement stormwater reduction strategies
  - Implemented management practices for urban and suburban NPS nutrient reductions
    - Stormwater strategies should include education and outreach in addition to BMPs
  - Recommended policies
    - Need to include planned implementation practices
- Proposed timeline:
  - The subcommittee will reconvene sometime in late February to discuss a very rough draft
    - A Doodle Poll will be send to subcommittee members

### Complete Meeting Notes:

1. Welcome
2. Charge to subcommittee
  - a. Committee Members—are the right people at the table?
    - i. An umbrella NGO for septic systems?
      1. OPWW (?)—expertise might not be on effluent, but might be on operating
    - ii. More municipal representation
      1. Especially multiple roles
    - iii. IL Municipal League
    - iv. Urban counties
      1. Matt Wall in Peoria
      2. DuPage Co.
    - v. American Public Works Association
    - vi. Nancy Williamson—IDNR
  - b. Introductions
3. Septic systems
  - a. Collect list of potential expertise
  - b. Stoner Memo: septic and urban stormwater are combined

- i. To IEPA, these two topics don't seem to go together because septic not in urban areas for the most part
- ii. Proposal: make septic its own issue within the strategy
  - 1. Need to include surface discharge
- iii. Much of this could be done internally and brought to whole work group for discussion
- iv. To that end—any experts for septic systems?
  - 1. County Health Departments—Patty Nomm
  - 2. Anyone in universities (Civil or Ag engineering?)
  - 3. US EPA
  - 4. Extension—
  - 5. IL Dept of Public Health—Justin DeWitt
  - 6. Someone with Lake County (Tony Smithson--Retired)
  - 7. Northern IL Public Health Consortium—septic people on staff
  - 8. Cook Co—unincorporated land~450,000 people live on these areas—small wastewater treatment and septic—maybe more digging in this area to see if groups in urban
    - a. Revisit in future meetings

#### 4. Current urban stormwater trends and issues

##### a. Summary—Josh Ellis, MPC

- i. Keeps raining more—bigger and bigger storms, more people taking interest in stormwater
  - 1. Historically, interest in compliance
  - 2. But, as raining more and with better communication tools, asking how people experience stormwater: basement back-ups, street flooding, chronic problems
  - 3. Consequences: as people define problems differently, end up identifying solutions differently, so lots of programs
  - 4. Site-scale, green stormwater practices and benefits of large scale open space:
    - a. Some tension between calling both things green infrastructure
    - b. Less tension about site-specific green infrastructure to new construction, etc.
    - c. New watershed management planning—credit for green infrastructure
      - i. And retention for +1/2 acre sites
    - d. Array of government units that have say in what happens to rain:
      - i. Challenging to Northeastern Illinois because so many units of government, but also because pipes are governed by different groups too
      - ii. Those units of government don't really speak to one another or have unified plan for managing stormwater but seeing more progress and collaboration there
      - iii. Seeing more recognition of the need to handle in collaboration
    - e. Private property—how to motivate people?

- i. Costs something—so how to balance private benefits with public, and who pays?
  - 1. Grants programs for retrofits to homes, expensive and not very effective
  - 2. Barrels and rain gardens probably not going to solve basement back-ups—so why should private property owners want to be involved?
  - 3. So, what kinds of programs are going to motivate people?
  - 4. Working with government to identify green and gray infrastructure
  - 5. More models for infrastructure and sewer sheds
- ii. Also in suburban and northeastern Illinois—Elgin, North Shore, with staff capacity and ability to use tools are using them—still benefit from collaboration to develop master sewer shed plans
- iii. Financing—only a few communities with stormwater utilities
  - 1. 4 more looking at this financing
  - 2. Good revenue generators, but not good promoters of retrofits on private property
    - a. Hurdle for retrofitting and getting credit is burdensome
  - 3. Looking at state revolving fund to see how can be used to manage

b. Discussion

- i. Credit for parcels for less than half acre—but there is now volume control
  - 1. Detention doesn't kick in until 5 acres
  - 2. If have extra retention, can add to detention
- ii. Stormwater utilities: do counties and towns have authority to pass these?
  - 1. 18 municipalities have utilities—difference between municipal code and county code—municipal code allows passage of fees, county codes don't
    - a. Bill this summer (1522) DuPage and Peoria counties are now allowed to do that
    - b. Are more that aren't using those tools
    - c. Evanston now charging for stormwater without creating a fee program
  - 2. Communities that are charging are not charging enough to prompt retrofits
    - a. Revenue generator, but not a behavior changer
    - b. Goes along with the fact that retrofits are more expensive than the charges
  - 3. Clean Water Initiative and State Revolving Fund (SRF) Funding:
    - a. Agency expanded eligibility—stormwater treatment
      - i. Funded projects with separation in types of stormwater
      - ii. Sanitary overflow—improving capacity of system and reducing inflow, those are eligible for funding



1. Raised road: create disconnected impervious areas and force drainage through vegetation
2. Enum (sp?) Park
3. All backyards back up to a naturalized stormwater management areas—rather than backyard to backyard and a big pond
4. Homeowners and developer like it
  - ii. Rain gardens added to school
3. Make sure qualified people doing plan reviews
  - a. Look at plans with view of making them better
4. Long-term control plan
  - a. Combined Sewer Overflows (CSO) issues: dropped from 11k to 200—much of this by sewer separation
    - i. Separations meant to prevent basement back-ups
    - ii. Thought would help river too: combined and separate outfalls—instead, found out what is in stormwater.
      1. Lots of fecal coliform—very similar to CSOs—thought: must be a cross-connection—maybe in some cases, so where is that coming from?
        - a. With a combined: get some water down to treatment facility
        - b. Storm sewer goes straight to the river without treatment!
    - b. Maybe should start calling green infrastructure just infrastructure:
      - i. The green is an effective way to do sewer separation
      - ii. If select right sites, can save money over traditional sewer separation
        1. Monitored the downstream end:
          - a. Infiltrated almost 100% of rainfall
          - b. Center for Neighborhood Technology (CNT) evaluated: 16 in/hour
          - c. Not worried about ground water because is very deep and has sand/gravel layer, so runoff will probably reach the river before groundwater
          - d. Be careful what is put in regulations, because could accidentally eliminate some of these projects because of retention abilities
        2. Green vs. gray—lower cost for green sites
          - a. Doesn't tell whole story: ongoing maintenance for green
            - i. Green will treat water quality

- b. Why maintenance cost: storm sewers are designed for little work—the two have the same debris clearing requirements, but there are also plants to care for in the green
  - i. Save on capital, but spend more on maintenance
- c. People’s expectation is that these are well-maintained gardens
- d. Can bump out curbs to increase space for rain gardens: residents love this, and acts as traffic calming
  - i. Question: Did traffic engineer contribute money to this?—no, but didn’t ask

c. Lessons learned

- i. Spring Street—combined sewer system and included rain garden
  - 1. Included rain garden without telling people
  - 2. “Bring me in at the beginning I’ll be your ally; bring me in at the end, and I’ll be your critic”
  - 3. Q: Public outreach not been comfort zone: has the organization chart changed to include PR people?
    - a. Yes, now a public information office
    - b. Way we interact with public has changed dramatically

- ii. Choose a site-appropriate planting plan

- 1. Do your outreach; choose plants appropriate for your site:
- 2. Simple, organized
  - a. Less natives—neighborhood people will weed it, so easy to maintain
- 3. Complex, natural

- iii. Grey infrastructure still important part of solution

- 1. Will always be
- 2. Green important, too
- 3. MS4 permits: good housekeeping, pushing prevention, start with municipal areas, and set a good example
- 4. Using deep groundwater as heat source and sink in Aurora water treatment—some smart, easy things to do to protect environment and save us money

- iv. Understand your system

- 1. Aurora has a sewer atlas—updating to GIS, so can look at what up and downstream, inspection records, etc.

2. Every community needs a champion
  - a. Administration support and involvement

d. Questions:

- i. Strategy to promote: conversations with people—IL Association of Wastewater, for example, encourages use of green infrastructure
- ii. people want data on results and costs: how do you interact with engineering community to share your experience.
  1. Hired consultants to do this for us.
  2. Made presentations at events/conferences
  3. Public works and operators: ripe audience for the information provided today—need to think about long-term control plan, stormwater and sso (?)—need more examples of success and cost, and is good info for engineers from engineers
  4. Partnered with Fox River Water Reclamation District—presented at their meetings, showed operators—there are some people who aren't behind the green options, and want cost and data to support arguments
  5. Fear of failure in engineering and regulated community—you don't really get a test
    - a. Leadership needs to enable people to make mistakes and conduct pilot projects
- iii. Staffs of municipalities and MS4s are supposed to be trained. But not specifications for how much and who, etc.
  1. DuPage does training at county level—maybe one way to do it is to go to county with MS4s and do at that level

6. Discussion of Other States' Urban Nutrient Reduction Strategies

- a. Wisconsin has a requirement in 151 for a 20% reduction in TSS through BMPs for all MS4s
  - i. Assumed P is directly correlated to TSS reduction—reduction in TSS requirements corresponds with reduction in P
  - ii. Different BMPs are assumed to achieve different reductions
  - iii. It's a modeling exercise at this point
  - iv. Uses SLAMM for every community
  - v. TMDLs are underway in several watersheds.
  - vi. Model community as if there were no BMPs and then require towns to reduce that by 20%.
    1. Benefit is that it doesn't punish cities that have already made large reductions.
- b. Indiana's rule 14 (perhaps) is much more specific—look for more information here
  - i. A lot of CSO communities where green infrastructure is a major part of CSO program
  - ii. Each community determines how they make their determination
- c. Both states are addressing urban reduction primarily through MS4 programs

- d. Discussion: likes/dislikes of other state programs
  - i. Urban sources of phosphorus historically seen as the street system—is that still the same?
    - 1. What impact would a simple street sweeping plan have on reductions?
  - ii. Municipalities can do a lot on their public spaces (such as street sweeping), but can also provide guidance for private property owners to reduce sources, which are significant
    - 1. Philadelphia an example here. BMPs for private property owners
  - iii. What is the state’s role in all of this? A lot is at the municipal level
    - 1. Watershed planning as a model.
      - a. Task, responsible entity, and priority. State and municipalities would both be responsible for the things that they can address
      - b. Might be some overlap here where the state has to do something before the municipalities can
      - c. Tasks won’t be limited to just state tasks
    - 2. Potential state tasks:
      - a. Change the MS4 permitting to include outreach
      - b. Give counties authority to establish stormwater utilities
      - c. Ban phosphorus on lawns statewide, not just commercial and residential lawn care
      - d. Create model ordinance for municipalities to be implemented locally?
        - i. Industries prefer state-wide approach to avoid patchwork requirements
  - iv. Reinforces need for additional municipality representation
  - v. Likes
  - vi. Dislikes
- e. How do we wish to position the Urban Nonpoint Source section in the Nutrient Reduction Strategy?
  - i. Should we include Urban NPS as part of statewide scenarios for priority watersheds
  - ii. Or should we keep urban NPS strategies as a tool to be applied in priority watersheds with dominant urban land uses (applied in urban watersheds replaces priority watersheds...)
    - 1. Looking at MS4 retention and detention requirements
      - a. SLAMM does a good job of estimating
    - 2. Tend to agree with that—but use urban watersheds rather than priority
      - a. From an equity standpoint, should include rural communities as well
      - b. Identify BMPs that would benefit a specific watershed most
      - c. What are the tools, where do they get utilized, and how
      - d. Using this method
    - 3. Looking at 2-4% statewide and then trying to reduce by 45%--what does this cost?
      - a. How do you justify this cost?—is it better to let city have run-off, or is it better to save the money and give it to point source?

- i. Depends on level of urbanization (e.g. Chesapeake Bay finding MS4 is most useful to fund dollars/lbs)
      - b. Cost per person, not just dollars/lbs—allows people in other groups to have idea of cost, also allows identification of resources to address these problems
    - 4. Moving forward: will the plan include costs per lbs for urban BMPs?
      - a. Looking for those numbers for scenarios
      - b. What reduction statewide, and how much will it cost?
      - c. MN came up with intermediate cost—the 20% came from cost break
        - i. Above 20% required huge increase in cost
      - d. Will be looking at costs ultimately, but need some more data
      - e. Cost estimation is important in a community approach—produce menu of options, and let community decide how to make good decision based on which most cost effective
        - i. If can't get those estimates in plan, is important activity toward end of process
7. Table of Contents Discussion: Stormwater and Septic Systems
  - a. Inventory of Existing Programs
    - i. IEPA's program—in-house manpower, funding suggestions—IEPA's ability to make these implementations
      - 1. Along with program, how staffed to accomplish those things?
      - 2. What is staff ability to look after these permits, how is this monitoring done, etc.
    - ii. Identification of gaps
      - 1. Legislative gaps
  - b. Reduction Goals and Targets
    - i. Percent vs. pounds?
      - 1. Prefer policies rather than target, because hard to set a meaningful goal statewide
        - a. if we beef things up on the MS4 level, more county authorities to address storm water utilities.
        - b. Statewide policies, rather than working on numbers that might not be very meaningful
      - 2. Number/technology requirements—assumption that if do this, numbers will follow. Maybe stormwater is more amenable to behavioral approach rather than numbers?
      - 3. Using resources—spending a lot of money monitoring or implementing BMPs?
        - a. If have a goal, will require money—documenting probably won't reach goal
        - b. Still have to monitor—can measure for built rather than numbers coming out
      - 4. Agree with the numeric goals, but two concerns overall:
        - a. Could encourage people toward investing money in something like phosphorus in an area where it's not a problem. Hate to see us go after a source that won't be impactful

- b. Percent vs. lbs or even a reduction target—doesn't that penalize communities that aren't discharging much? Those cuts become more difficult. The dirtiest water is the easiest in which to get a good reduction
    - 5. What about a runoff volume reduction—will result in nutrient reduction
    - 6. Consensus: goal is implementation of various strategies, not a numeric target
      - a. Not just reducing nutrients, reducing volume. Nutrients may not be an appropriate measure. Infiltration.
      - b. Concerned that if no number then appears fuzzy and unenforceable. Add something like: in urban watersheds, may want to include a numeric goal
      - c. More specificity, include a runoff volume that is measureable and enforceable, also, if include behaviors for MS4 for things like street sweeping, that can be measured as well. Ex. this number of sweeps a year.
        - i. Not all street sweeping is equal
    - 7. Every subcommittee discusses measurements of progress. That is more of our discussion at the moment.
      - a. Ex. street sweeping, these are the measurable kinds of things that are added to the Urban NPS
      - b. Will be chapter on measuring and reporting—accountability and verification
      - c. So even if we don't chose a numeric goal for Urban NPS, there may be measurements that are more quantitative at this point
      - d. Strategy in Science Assessment—will be numbers in there, may not be our reduction
    - ii. Nitrogen vs. phosphorus?
  - c. Implemented Management Practices for Urban and Suburban Nonpoint Nutrient Reductions
    - i. Private sewage treatment system strategies
    - ii. Stormwater strategies
      - 1. Low impact development
      - 2. Green infrastructure
      - 3. BMPs—Illinois Urban Manual
        - a. Two levels—construction practices, but also
        - b. Education and outreach portion—guide for the private landowner,
      - 4. Education, Outreach, Training
        - a. All private landowners
      - 5. Municipal BMPs
        - a. Good housekeeping
        - b. Pollution prevention in MS4
        - c. Source reduction—ban on P-fertilizer
    - iii. Sediment reduction strategies
    - iv. Listing BMPs/practices—found somewhat useless
      - 1. Statement of state support for LID, etc. and point people to sources
      - 2. List if state has program, like green infrastructure grants, etc.
  - d. Recommended policies or gap-filling strategy
    - i. Implementation piece

- ii. Essence of this document—come up with actions that need to be taken to achieve reduction
- iii. Can list practices, but need to identify actions to go from recognizing the problem to how to get reductions
- e. Sediment Reduction
  - i. Storm water reduction
  - ii. Should it be out?
  - iii. Stream bank stabilization—quantifying the phosphorus contributions made?
  - iv. Refocus back to streams themselves

## 8. Proposed Timeline

- a. Rough, rough draft (late Jan/early Feb)
- b. Rough draft conference call (early Feb) –
- c. Written draft (March)
- d. Report Out to Working Group (March 19)
- e. Comments: go from writing the plan to the actions?
  - i. Rough, rough draft will be starting place for this discussion
  - ii. Should have a mtg. to address the strategies
    - 1. If don't get strategies right, doesn't matter what gets on paper
    - 2. Would prefer a second meeting to address that early to mid-February to address rough, rough draft—will add comments on implementation
    - 3. Doodle Poll for early February?
      - a. Feb. 24<sup>th</sup>

## 9. Next Steps

- a. Meetings