



To: Radnor Stormwater Advisory Committee  
Steve Norcini, Township Engineer  
Bob Zienkowski, Township Commissioner

Cc: Radnor Township Board of Commissioners

From: Maya K. van Rossum, the Delaware Riverkeeper

Date: September 28, 2014

A few thoughts I would like to share regarding the discussion from your September Stormwater Advisory Committee meeting.

The CH2M analysis conducted for the Ithan Creek watershed specifically focused on lands owned by the township, the school district, lands in public rights of way and state roads. The “general” consideration of residential BMPs was very limited. Limiting the analysis of solutions to the publicly owned or accessible lands denies the township and the committee the opportunity to look for best solutions for reducing flood damages. As the 9/10/2015 presentation noted, there are relatively few properties that fulfill the ownership constraint placed on the analysis, and so right from the get go the universe of solutions is limited.

Additionally, areas experiencing flood damages are often downstream of large parcels held in private ownership, or well-developed residential areas owned by a large number of individuals, failure to consider solutions within these privately held parcels denies those living downstream the opportunity for effective flood damage reduction and relief. If Radnor truly wants to address flood damages in the township it needs to be open to an array of volume reducing solutions regardless of land ownership. The goal should be to solve the problem, and that means considering all of the options for a solution.

If a stormwater project were implemented on private lands the township can require that it secure a level of ownership so that it can ensure the project is properly maintained in perpetuity and that it “gets something” for its investment of public dollars – conservation easements or other ownership rights easily accomplish this important goal. In addition, allowing stormwater fees to be used for projects on privately held lands also opens up the opportunity for cost sharing on projects, thus helping the township’s stormwater dollars to stretch even further. If you have a rule or policy against use of the stormwater fee on privately held lands then this opportunity for cost sharing or collaborative projects is not available.

I would encourage the township to embrace a policy that allows stormwater fees to be used on privately owned lands if that will provide the best level of volume reduction and stormwater damage reduction for the community. The RMS project is a perfect example of why this is important. Set aside the issue that the system has not been properly connected to the stormwater areas it was intended to control, from the very beginning when that project was proposed the design engineers made clear that the project would be unable to address the full volume of the runoff that was coming down to that location and was creating the massive flooding that happens in front of the emergency services building in Radnor. The engineers made clear that an additional sum of money would have to be invested in a series of back yard best management practices in the uphill residential community so as to reduce the volume of runoff that was coming down the hill – only by adding this component to the RMS project could Radnor hope to address the flooding in front of the emergency services building and the middle school. Radnor’s Commissioners did in fact approve this combination approach and the additional investment it would require – unfortunately the township administration of the time never implemented it.

In addition, it is important that residents of Radnor are fully informed as to the level of stormwater damage reduction they can expect from a project that is implemented – there are many projects that will not be able to provide full protection to many communities, sometimes the level of volume reduction and therefore flood damage reduction will be modest; it is important residents are not given false expectations as to the benefits they are going receive; and we need to be clear that in some cases there is no solution short of moving someone out of the path of the floodwaters that will provide the needed protection and relief. It is also important they understand that each project is a piece of the solution and so, over time, multiple projects will provide cumulative benefits that will provide an increasing level of benefit.

Before a project is decided upon, it needs to be clear what is the flooding damage that is being experienced, and what is the level of benefit that is expected to result. Questions that need to be answered for each stormwater project considered include (but are certainly not limited to):

- ✓ What kinds of flood damages are to be reduced or avoided with the project? First floor flooding? Basement flooding? Property erosion? Landscaping damage?
- ✓ What is the level of flood reduction that will be obtained from the proposed project – i.e. how many inches or feet will flood waters be lowered?
- ✓ What is the level of flood damage reduction that will result? What will be the reduction in damages –how much and what kind of damages will be reduced or avoided? What is the economic value of the damage avoidance?
- ✓ What is the full economic cost of the project being proposed?
- ✓ What are all of the permits and approvals required for the project to proceed?
- ✓ What alternatives have been considered and what level of flood reduction, flood damage reduction, and cost is associated with each individually and/or collectively?
- ✓ What other legal or community obligations or goals will the project help the Township achieve – e.g. will it help Radnor meet its obligations under the MS4 program, the clean water act 303(d) obligations, create enhanced recreational opportunities, help restore a public park or school grounds that have been overwhelmed by invasives, help alleviate erosion problems impacting public or private lands or threatening road or bridge infrastructure.

The array of questions and considerations that must be answered and assessed for each project needs to be clearly laid out before projects are selected for additional study or implementation.

The installation of a bypass pipe in Area F and/or an enlarged culvert in Area H discussed at the 9/10/2015 meeting should not receive further consideration by this committee. These are bandaied solutions that in large part just move the stormwater problem from one part of the community to another, and in some instances might even make a pre-existing problem downstream worse.

The cutting down of part of the forest on the high school grounds at the intersection of Radnor Chester Road and Lancaster Avenue in order to construct some sort of stormwater basin is an expensive idea per the materials distributed that should be rejected out of hand as being counter productive and counter to other community obligations and goals such as water quality improvement and tree preservation and enhancement goals of the township. Trees are among the most effective water pumps we have, they effectively infiltration and evapotranspire water. Removing a portion of the forest at the high school will increase the volume of water that has to be addressed by any system installed and is not necessary if one were to consider installing a volume reduction solution at the parking lot that is the source of much of the stormwater at issue – why go across the street to the school and cut the trees when you can consider an infiltration, bioretention or other effective and attractive system at the location where the runoff is actually being generated?

The committee should be advancing assessment of the other watersheds in the township before committing too much of the funding it has for investing in solutions. It should also include in its initial considerations the two township projects that are already well advanced and have received Commissioner support over the years – installation of back yard BMPs up the hill from the emergency services building as part of the RMS project, and installation of the stormwater system already in the beginning stages of design for the West Wayne Preserve, a project that will provide stormwater volume reduction, peak rate reduction, water quality enhancement, and recreational benefits for those walking along the Radnor trail and those that access the recreational viewing platforms and/or walking paths the project is anticipated to include.

Thank you for consideration of this input.



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