

**Pennypack Watershed Partnership
Act 167 Stormwater Management Plan Meeting
Tuesday, October 19, 2010, 9:30 a.m. – 11:30 am
Pennypack Ecological Restoration Trust**

Attendees: See below at end of notes

Meeting Notes

I-Introduction and Welcome – Paul Racette, Pennsylvania Environmental Council (PEC)

Paul gave a brief overview of recent Partnership activity:

The PWD-URS Backyard Stream Buffer Program:

- Continues to focus on outreach in both the lower (Philadelphia) and upper (municipalities) sections of the watershed.
- Lower watershed activities have focused on property assessments addressing opportunities to naturalize stream side vegetation.
- Re-vegetation demonstration project also being installed at Fountain Point Condominium.
- Educational brochures are available including:
 - Guides to Designing Your Property and Protecting our Watershed (for single homes, row homes, and condos)
 - Eight BMP Tip Sheets (from no mow, to planting, to porous pavers)
- Workshops can be scheduled in upper watershed. Several partners expressed interest in a homeowner stream buffer naturalization workshop including. Paul with coordinate with PWD, URS, and partners regarding scheduling of workshops:
 - Abington EAC. They have a WREN grant for doing education and outreach. Interested in a Spring 2011 workshop focused on homeowners. Could be held at Roslyn Park meeting space, with opportunity to observe riparian planting completed within the park along Sandy Run.
 - Mike Wilson and Project Headwaters. Homeowner workshop for properties surrounding Blair Mill Elementary School BMP projects.
 - Lisa Romaniello of Upper Moreland. Interested in landowner outreach particularly where flooding issue are occurring.

Pennypack Watershed Project Inventory:

- At the last (June 15th) meeting the Partnership started to identify stormwater and stream restoration projects ongoing in the watershed. Goal is to map projects and facilitate learning/communication between project implementation teams. Please let Paul know of your ongoing projects. We can inventory them on Google Earth Mapping tools, making project identification accessible to broader group of stakeholders.

2-Pennypack Watershed Act 167 Overview and Deliverables –

Jeff Featherstone, Mahbubur Meenar, Rick Fromuth, and Richard Nalbandian, *Temple University Center for Sustainable Communities*

The Temple representatives provided a summary of the products that are now being finalized for the Pennypack Act 167 stormwater plan. Their **Progress Report** presentation is available at http://www.phillywatersheds.org/pp_working. Summary points from the report include:

- 1) **Watershed Runoff Characteristics:** Runoff issues are characterized by increases in stormwater volume and peak flow rates due to development; 70 percent of the watershed is covered by stormwater collection systems.
- 2) **Stormwater Problems:** Run off issues contribute to watershed impacts that include impaired water quality, erosion hotspots, flooding above obstructions, and other flood prone areas.
- 3) **Modeling and Scenarios:** Modeling performed to assess stormwater issues and identify improvements.
 - **Model calibration:** Peak rate and volume predictions compared to measured data at Rhawn Street gauge.
 - **Model inputs:** Model considers 68 watershed sub-basins. Curve numbers assigned to each basin based on soils and land uses. Runoff predicted by curve number, design storm precipitation rates, and topography/elevations. Existing detention volumes within basins incorporated into model. Highest curve numbers/runoff occur in upper and lower portions of watershed where development is denser. Pennypack Ecological Restoration Trust reserve in center of watershed helps to slow/store runoff.
 - **Model predictions:** Model predicts peak flow (CFS) and volume (acre/feet) at points across watershed.
 - **Findings:** The model was run to evaluate the following conditions:
 - 1) Existing versus “natural” (forested) condition
 - 2) Impact when one additional inch of runoff is captured (given that 70 percent of storms produce less than 1 inch). Capture of first inch contributes significantly to peak flow and volume reductions (i.e. about two-third reduction of flow/volume at Rhawn Street for 1-year storm).
 - 3) Impact when future land use scenarios are modeling, including typical development and greener development patterns. Typical (trend) peak flow and volume increases range from 7 to 17% for sub-basins. For green scenarios, all but one basin have less than 5% increases in volume/peak flow.
 - 4) The impact of stormwater management improvements such as basin retrofits, infiltration trenches, and riparian plantings across the watershed. For all project categories, Temple identified a total of 380 acre-feet of volume storage across the watershed (for comparison, 1 inch of storage is 53.3 acre-feet per mile, or about 3,000 acre-feet for the whole watershed).

- For basin retrofit projects, Temple identified an additional 300 acre-feet of volume detention that could be gained at a total cost of 21.4 million dollars.
 - For infiltration trenches, Temple identified an additional 56 acre-feet of volume at a total cost of 11.1 million dollars.
 - For riparian plantings, Temple identified an additional 27 acre-feet of volume at a cost of 1.5 million dollars.
- 5) An assessment of where peak rate control may be required to prevent delayed flows from stormwater management structures from increasing downstream peak flows. Stormwater management districts with proposed design storm conditions were identified.
- 4) **Model Ordinance:** Temple is preparing a draft Act 167 stormwater ordinance for the Pennypack. They are starting with ordinances prepared for Tookany-Tacony/Frankford and Darby-Cobbs Watersheds Act 167 plans. **It is highly recommended that Pennypack municipalities be involved with the development of the ordinance.** Richard Nalbandian of Temple is taking the lead on the ordinance development. He reviewed the ordinance provisions (see outline below and details in Temple Act 167 Progress Report at http://www.phillywatersheds.org/pp_working). **Outreach to municipalities (e.g. an ordinance review meeting) will be scheduled.** Richard will also confer with Bucks and Montgomery Counties, and PA DEP, on ordinance requirements.

<u>Article:</u>	<u>Description:</u>
I.	General Provisions
II.	Definitions
III.	SW Mgmt Site Plan Requirements.
IV.	Stormwater Management
V.	Inspections
VI.	Fees And Expenses
VII.	Maintenance Responsibilities
VIII.	Prohibitions
IX.	Enforcement & Penalties

3-Partner Discussions

- Regarding the trend analysis for future development in the watershed, Temple predicted growth in a Pennypack headwater area that is protected by conservation easements. Temple should correct changes in land use assumptions for the headwater area around the Natural Land Trust property, Pennypack Farm, and recent land acquisitions by Thompson family.
- Regarding the stormwater ordinance, municipalities raised the following concerns:
 - Setting land disturbance triggers for the size of a project that is subject to the ordinance. Examples of triggers ranged from 250 to 5,000 square feet. A decision will need to be made on the triggers that will be associated with specific stormwater control requirements.

- Fees and expenses associated with compliance with ordinance. Of particular concern to municipalities such as Rockledge is the potential for high fees that would be required for smaller projects. Alice Lambert of Bucks County Planning noted that they have developed an exemption program that allows smaller stormwater management projects be done without more expensive engineering plans (e.g. do it yourself projects for small homeowner projects).
- Following the meeting, Alice forwarded a do-it-yourself stormwater management site plan for small projects that Bucks County developed for the Neshaminy Creek Watershed model ordinance. She noted that a roundtable of 15 engineers and municipal representatives and conservation district employees decided on the final content and how to apply the small project site planning in Bucks County, The document, *Model Ordinance APPENDIX I: SMALL PROJECT STORMWATER MANAGEMENT (SWM) SITE PLAN* is attached.

4-Attendees

Name		Organization	E-mail/Phone
Alice	Lambert	Bucks County Planning Commission	ajlambert@co.bucks.pa.us
Christopher	Hoffman	Lower Moreland Township	choffman@lower-moreland.org
David	Robertson	Pennypack Ecological Restoration Trust	djrpennypack@cs.com
Jason	Showmaker	Rockledge Borough	jshowmaker@rockledgeborough.org
Jennifer	Sherwood	Abington Township Environmental Advisory Committee	jas750@comcast.net
Jeff	Featherstone	Temple Center for Sustainable Communities	jeffrey.featherstone@temple.edu
Jennifer	Kelher	PA Department of Environmental Protection	jekehler@state.pa.us
Jim	Ryan	Friends of Pennypack Park	jryanpark9@verizon.net
Jim	Kates	Friends of Fox Chase Farm	jim.kates@verizon.net Jim.Kates@att.net
Jon	Leshner	Montgomery County Planning Commission	JLeshner@montcopa.org
Jonathan	Dejonge	Upper Moreland Advisory Planning Agency	JHRdeJonge@aol.com
Karen	Thompson	Landowner and farmer	karbormeade@yahoo.com
Mahbubur	Meenar	Temple University	-
Michelle	Kaczalek	Abington EAC	jjkaczalek@aol.com
Mike	Wilson	Trout Unlimited, Southeastern PA Chapter	wilson6216@verizon.net

Mindy	Lemoine	Pennsylvania Environmental Council	mlemoine@pecpa.org
Nicholas	Scull	Advisory Planning Commission, Upper Moreland	Sculldikun@aol.com
Patrick	Starr	Pennsylvania Environmental Council	pstarr@pecpa.org
Paul	Racette	Pennsylvania Environmental Council	pracette@pecpa.org
Richard	Nalbandian	Temple University	nalband@temple.edu
Richard	Booth	Upper Moreland Township	RichardLowellBooth@verizon.net
Rick	Fromuth	Temple University	rhw07@aol.com
Stephanie	Chiorean	Philadelphia Water Department	stephanie.chiorean@phila.gov