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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Water Management

Septic Systems in High Quality and Exceptional Value Watersheds

April 23, 2013

Dial-in number for Audio: 1-877-668-4493

Event Number: 648 587 324

WebEx Technical Support: 866-229-3239

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AGENDA

1. Welcome
2. Review of Draft Technical Guidance
3. Questions & Comments

Note: WebEx Technical Support is available at 866-229-3239

Background

- **Issue**: Siting of septic onlot sewage systems in HQ (High Quality) and EV (Exceptional Value) watersheds primarily for new residential development.
- **Special Protection:** Chapter 93 antidegradation regulations provide special protection for HQ and EV watersheds as part of our federally-approved water quality standards program.

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Chapter 93 and Septic Systems

- **Nonpoint sources:** Septic systems are nonpoint pollutant sources because they do not add pollutants to surface water through a pipe or similar conveyance.
- **Antidegradation:** Chapter 93 requires that water quality in HQ and EV waters be protected and maintained.

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Chapter 93 and Septic Systems

- **Point Source Process:** Well defined. Involves setting effluent limits to protect instream concentrations of pollutants, or considering nondischarge alternatives.
- **Point Source Exception**: For point source discharges in HQ watersheds, some degradation of instream water quality may be allowed based on social or economic justification (SEJ analysis).

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Chapter 93 and Septic Systems

- **Nonpoint Source Process:** Chapter 93 requires DEP to “assure that cost-effective and reasonable best management practices (BMPs) for nonpoint source control are achieved.”

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Septic Systems and Water Quality

- **Septic Systems:** Inherently protective of surface water quality when properly designed, operated and maintained.

- **Nitrate:** Septic system pollutant of potential concern in groundwater and drinking water wells.

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Recent EHB Decision

Pine Creek Watershed Assoc. v. DEP: DEP approved the use of septic systems in a small residential development in an EV watershed -- Pine Creek in Berks County.

The approval was appealed to the Environmental Hearing Board (EHB) on the basis that water quality in Pine Creek would not be properly maintained and protected under the Chapter 93 antidegradation requirements.

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Recent EHB Decision

DEP relied primarily on a groundwater plume analysis using a model developed to design constructed wetlands to assert that nitrate would not reach the creek because the natural wetland present on the site would effectively remove the nitrate.

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Pine Creek and EHB

Outcome: DEP did not prevail. The EHB ruled in November 2011 that the wetlands model relied upon by DEP was not appropriate. DEP's approval of the plan was rescinded and DEP was required to pay the watershed group's attorney fees.

Problem: The *Pine Creek* decision establishes a legal and scientific standard that is extremely difficult to meet.

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Refocus on BMPs

- For nonpoint sources, water quality in HQ and EV watersheds can be protected and maintained through the implementation of reasonable and cost-effective best management practices (BMPs) under the Chapter 93 regulations.
- For onlot septic systems, the use of BMPs with nitrate removal efficiencies established through scientific research is the best approach.

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New BMP-Based Guidance

DEP has implemented the BMP approach for other nonpoint sources such as agricultural operations, general construction/land development, timber harvesting, resource extraction and waste management, but has not developed BMPs for septic systems to maintain and protect water quality in HQ and EV watersheds.

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New BMP-Based Guidance

DEP is now doing so through this guidance:

"Sewage Facilities Planning Module Review for Onlot Sewage Systems Proposed in High Quality and Exceptional Value Watersheds"

DEP-ID: 385-2208-001

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BMPs

- **Onlot System Density**: Limit number of sources within reason. One-acre lot minimum.
- **Setback Distance**: Credit for the distance of the septic system from the river or stream.
- **Riparian Buffers**: Inexpensive, effective and protective of property value long-term. Effective against essentially all nonpoint sources. May use existing buffers, instead of planting new buffers.

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BMPs (more)

- **Permeable Reactive Barrier:** Emerging passive technology. Effective, and can be cost-effective in certain situations. If and when PRBs are integrated into the design of the drain field, nitrate migration will be eliminated.
- **Denitrifying Septic Systems:** Established technology, but has disadvantages as an engineered system that has a higher capital cost and requires ongoing maintenance.

Planning & Challenges

Part of the challenge is integrating the BMP process into the established new land development planning process.

- Regional input
- High degree of detail in guidance

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Summary

- Cost-effective and reasonable BMPs are needed to protect and maintain water quality in HQ and EV streams under Chapter 93.
- Quantitative BMP approach outlined in the guidance is consistent with Chapter 93.
- Revisions to regulations are being considered.

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Clarifications

- DEP had routinely approved new land development with septic systems in HQ/EV watersheds.
- The EHB has determined that any proposal for new septic systems requires an analysis that shows that water quality will be protected. DEP can't change this.
- This is a guidance, not a regulation. On its own, it doesn't require anything. It describes one method that may satisfy the EHB.

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Clarifications

Nothing about the EHB ruling or this guidance applies to existing onlot systems. If you have an existing septic system, you don't have to demonstrate or do anything new.

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Clarifications

- Without proven methods to show that water quality will be protected, any new land development is subject to challenge. That is the situation right now, without the guidance.
- The BMP-based method in the guidance is a generalized method that can be applied anywhere. DEP and developers must have a method that will work anywhere in Pennsylvania.

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Clarifications

- Other methods, including those that may be used in Wayne and Pike counties, may also be acceptable to DEP and the Board. DEP will make this clear in the final guidance.
- But those methods are site-specific analyses that must be funded by the applicant, and reworked for every project by qualified professionals. Also, the result of any site-specific analysis is not known until it is performed.

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Clarifications

- **Critical Points**: Proven methods that will stand up to scientific analysis are needed to support new land development in HQ/EV watersheds. In this guidance, DEP proposes the BMP-based method because we feel it has the best chance of success and it can be employed anywhere. Other methods may be limited or may not withstand a challenge. This guidance supports new development -- it doesn't impede it.

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QUESTIONS?

Please type your questions into the chat window.


Comment Deadline: June 3, 2013

Thomas Starosta
Department of Environmental Protection
Bureau of Point and Non-Point Source Management
Division of Planning and Permits
P. O. Box 8774
Harrisburg, PA 17105-8774
Phone: (717) 787-4317
Email: tstarosta@pa.gov.