

## **Erosion and Sediment Pollution Control And Gas Drilling Operations**

*This column is presented weekly by the Public Education sub-committee of the Clinton County Natural Gas Task Force in an effort to provide accurate, up-to-date information on activities surrounding the Marcellus Shale formation and the natural gas exploration industry. For more information on Task Force activities, visit the Task Force page on the Clinton County government website at [www.clintoncountypa.com](http://www.clintoncountypa.com).*

Maintaining the quality of our waterways is a concern of many people in the wake of all that occurs in the process of drilling for natural gas. Minimizing soil erosion and the resulting sediment pollution to waterways from earthmoving is the goal of Pennsylvania's Erosion and Sediment Pollution Control program.

Regulations within the Pennsylvania Code and the Pennsylvania Clean Streams Law require the implementation and maintenance of erosion and sediment control best management practices (BMPs) to minimize the potential for "accelerated erosion and sedimentation." Accelerated erosion is the removal of the surface of the land through human activities and natural processes at a greater rate than would occur naturally.

One of the major concerns that could be faced by landowners during any gas drilling operation is the potential land disturbance caused by all of the equipment, drilling pads, roadways, and pipelines. The Pennsylvania Department of Environmental Protection (DEP) is the main agency that has authority to approve gas drilling permits. These permits cover many aspects of the drilling operation, including well casings, well pad construction, and the erosion and sediment pollution controls that will be used during the drilling activity. For oil and gas exploration, production, processing, treatment and transmission activities that disturb five or more acres, an Erosion and Sediment Control General Permit must be obtained before commencing any earth disturbance activities.

For erosion and sediment pollution control activity other than within the natural gas industry, the Clinton County Conservation District has delegated authority from the DEP to implement the Erosion and Sediment Pollution Control program in our county and serve as the lead agency in conducting erosion control plan reviews, performing site inspections, and responding to complaints.

Conservation Districts also continue to be responsible for reviewing plans, issuing permits, and earth disturbance inspections for certain oil and gas construction projects, such as transmission pipelines, separate compressor stations, and water withdrawal or pump stations.

Due to the nature of their activities, most of the gas drilling operations in the Marcellus Shale area disturb a large amount of earth. Large areas are needed to stage the drilling equipment, water trucks, water storage facilities, and support apparatus. Most of these pads expand more than five acres of disturbance. Also, in order to transmit the enormous amount of natural gas being extracted, gas companies need to install gathering and transmission pipelines. All of these activities that disturb more than five acres must obtain an Erosion and Sediment Control General Permit.

Part of the gas industry's responsibility when obtaining a permit, is to submit an erosion and sediment pollution control plan to DEP. That plan should show the location of the drilling pad, amount of disturbance, and the best management practices that will be used during the activity to reduce sedimentation. Also, if there will be any impacts to streams or other waterbodies, a DEP stream encroachment permit would be required, as well.

As a landowner allowing access to your property, you would want to review these documents from the gas company. These plans and applications for permits would include locations, soils information, best management practices, and final stabilization efforts that will be done when the operation is complete.

Earth disturbance is defined as: a construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing & grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, timber harvesting activities, road maintenance activities, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or other earth materials.

Under the Erosion and Sediment Pollution Control program a written erosion and sediment pollution control plan is required for earthmoving under most conditions, including the following:

- The proposed earth disturbance activity will take place in an Exceptional Value (EV) or High Quality (HQ) Special Protection Watershed or have the potential to discharge to these waters. (A major portion of watersheds in Clinton County fall into these categories and must be maintained and protected to those high standards of water quality without degradation.
- The proposed earth disturbance activity will result in a total disturbance of 5,000 square feet or more in a Cold Water Fisheries (CWF) or Warm Water Fisheries (WWF) Watershed. (These watersheds include any not designated as High Quality or Exceptional Value that are able to support either cold water or warm water fish species, such as Bald Eagle Creek).
- The person proposing the earth disturbance activity is required to develop a plan under the direction of other PA Department of Environmental Protection permits or approvals (for example, stream encroachment and wetland permits).
- A written plan is required by municipal or county ordinances, permits, zoning, watershed plan, or similar requirements.

It is noted in the state regulations that even those sites that disturb less than 5,000 square feet of land, erosion control best management practices must be installed, implemented, and maintained to minimize the potential for accelerated erosion and sedimentation.

An erosion and sediment pollution control plan is a site specific plan identifying best management practices or ways in which accelerated erosion and sediment pollution will be minimized. Best management practices are: activities, facilities, and measures, or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim and restore the quality of waters and the existing and designated uses of waters of the Commonwealth during and after construction activities. Such best management practices can include: filter fabric fence, compost silt socks, sediment basins, erosion control blankets, filter strips, rock filters, etc.

The erosion and sediment pollution control plan should be developed by an individual who has been trained or has experience in erosion and sediment control methods and techniques. A plan typically includes a plan narrative and plan drawings. The plan should be developed prior to any earth disturbance activities at the site. These plans are required to be available on site or displayed.

At a minimum, the erosion control plan should contain the following information: 1) A location map identifying the site location and topographic features; 2) soils information; 3) characteristics of the earth disturbance activity including proposed land use; 4) amount of runoff including the upstream watershed area; 5) location of any streams and the watershed the project is located in, along with the water quality classification; 6) types and location of best management practices that will be used to reduce erosion and sedimentation; 7) a sequence of construction with a schedule of each construction activity listing installation of controls and final stabilization; 8) supporting calculations; 9) plan drawings showing land features, waterbodies, construction limits, and location of controls around construction area; 10) maintenance plan including inspection of controls especially following precipitation events and schedule of repairs if needed; 11) procedures for recycling and disposal of construction wastes.

The erosion and sediment pollution control plan must be kept at the site throughout the duration of the earthmoving activities. Inspectors from the PA Department of Environmental Protection may visit the site and request to see the plan. For all other earthmoving activities, the Conservation District would be authorized to inspect such activities.

If you see a sediment pollution problem and are unsure if it is coming directly from a gas drilling site, please contact the Clinton County Conservation District at 570-726-3798. If it is deemed to be under the authority of DEP, then the action will be referred to their office. If you know the sediment pollution is occurring on a gas drilling site, you can report the incident directly to DEP's Williamsport Northcentral office at 570-327-3636.



A Best Management Practice (BMP) example are Compost filter socks which are a type of contained compost filter berm. They are capable of allowing water to pass through but containing the sediment behind the tube. They consist of a biodegradable or photodegradable mesh tube filled with a coarse compost filter media that meets certain performance criteria. Upon stabilization of the tributary area, the filter sock may be left in place and vegetated or removed.



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