Conservation Products and Services Directory to be updated

The Southeastern Pennsylvania Resource Conservation and Development Council (SEPARC&D) is in the early stages of updating our Conservation Products and Services Directory. The Directory was last printed in 2007 and has proven to be a useful tool. Basically it is an ad book with the following categories Builders and Developers, Earthmoving Contractors, Engineering Services, Environmental Consultants, Erosion Control Products, Stormwater Products, Plant Materials, etc.

Berks, Lehigh, Northampton, Chester, Montgomery, Bucks, and Delaware County Conservation Districts are all sponsors of SEPARC&D. The directory has proven useful in getting valuable contact information to the people we are providing assistance. The Directory provides the direction necessary for individuals to find the products and services they need, and the Conservation Districts does not create the perception that they are providing an endorsement of a particular company.

If you would be interested in purchasing an ad in the upcoming addition of our Conservation Products and Services Directory please send your name and address to my email : Magargeee@co.delaware.pa.us, and I will make sure you receive the proper forms when they are developed.

Ed Magargee, Delaware County C.D.

The New PAG-2 – Shorter and Stronger than ever!

Please take note of the Coverage Expiration Date for all PAG-2 General Permits. On December 7, 2009, DEP reissued the NPDES General Permit (PAG-02, 2009 Amendment) for a 2-year term (rather than the typical 5-year term). This was done to comply with EPA's November 23, 2009 final ruling for "Effluent Limitation Guidelines (ELGs) and Standards for the Construction and Development Industry" which will take effect in August of 2011. (For more info on ELG's, go to http://www.epa.gov/guide/construction/) This was also done in anticipation of the finalization of revisions to Pennsylvania's Chapter 102, Erosion and Sediment Control and Stormwater Management Regulations, which are currently being updated. This means that any General NPDES Permit issued after December 7, 2009 will only be effective for two years from the date of issuance. Also, any person with an unexpired approval of coverage under the general permit shall be responsible for complying with the final renewed, reissued or amended general permit that will be issued in December 2011. For more information on PAG-2, go to: http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-10687.

Erosion Control Dinosaurs

Last Resort Only

Hay bales and rock filters are the dinosaurs of erosion control in a concentrated flow channel. These Best Management practices (BMPs) can act as a dam and cause water to build up and flow around these structures, often creating severe erosion gullies.

The correct way to prevent erosion and sediment pollution from occurring when building a temporary or permanent swale is to install lining. There are many manufactures that produce temporary and permanent erosion control linings to handle shear stress and erosion from concentrated flow within a channel. When using linings to prevent accelerated erosion, please follow the manufactures instructions carefully.

Eric Wightman
Bucks County Conservation District

Install lining for better erosion control.

Conservation Districts Host Post Construction Stormwater Management Workshop

On Friday, March 26, 2010 the four Southeast Regional Conservation Districts (Bucks, Chester, Delaware and Montgomery) held a Post Construction Stormwater Management Plan workshop for NPDES plan designers, engineers and municipal officials on at the Penn State Great Valley Conference Center. Approximately 175 representatives of local engineering firms, landscape designers and other professionals attended the workshop.

Domenic Rocco, PA DEP, answering questions following his Infiltration BMP presentation.

The workshop focused on four presentations:

- **Infiltration BMPS by Domenic Rocco, PA DEP**

  This presentation addressed common questions conservation districts have received regarding infiltration BMPs. Domenic discussed the importance of the loading ratio for serving as a rule of thumb to mitigate pollutant and/or hydraulic overloading of infiltration BMPs, as well as methods for adjusting the ratio based on land use. He emphasized a proactive approach to minimizing failure of infiltration BMPs including construction oversight, utilizing several small BMPs versus directing site drainage to one lot, maintaining a low drainage area per infiltration BMP, utilizing surface pretreatment for subsurface systems, and monitoring efficacy of the BMPs post construction. Topics are presented in more detail in a recent white paper available on the PA DEP ftp site: ftp://ftp.state.pa.us/pub/dep/SWM/Loading_Ratios_Draft_w-oTracking_01-13-10.doc.

- **Volume Credits by Mark Bowen, Kleinschmidt Consultants**

  Mark's presentation focused on calculating credits for evapotranspiration (ET) when designing infiltration BMPs. Mark demonstrated the application of Thornwaithe and Mather's (1957) evapotranspiration model to calculate estimated annual ET using case studies of a green roof and constructed wetland. Benefits of utilizing native plants for infiltration BMPs were discussed as well as additional application credits and benefits of incorporating constructed wetlands into site design.

- **Level Spreaders by Domenic Rocco, PA DEP**

  In light of a high incidence of failures of level spreaders over the past several years across the southeast region, Domenic's presentation provided an overview of a recent white paper aimed at providing additional guidance on 'atypical' surface level spreaders, i.e., where stormwater discharges are proposed to be directed to off-site areas unsuitable for carrying event flows. Domenic addressed common types of level spreader failure primarily resulting from poor siting, materials choice, and geometry. Domenic also underscored the importance of accurately assessing downslope condition when calculating level spreader length to avoid failure and encouraged continual monitoring of these areas for two years post-construction. The paper is available for download on the PA DEP ftp site: ftp://ftp.state.pa.us/pub/dep/SWM/ROCCO-V13.pdf.

- **Common Mistakes on PCSM Plans by Aneca Crews, PA DEP**

  Aneca outlined common mistakes in PCSM Plans, resulting in incomplete plans or delays in the review process. She showed how updated NPDES worksheets and chart 5B seek to minimize these mistakes and make key information easier to locate. Aneca also gave helpful tips for items on Standard Notes to improve function of infiltration BMPs post construction including fencing off infiltration beds to avoid compaction and protecting these areas from sedimentation until the surrounding areas are stabilized. Throughout her presentation, Aneca underscored the benefits of pre-application meetings for facilitating the plan review for complex projects.

At intervals throughout the day, product and service presentations were also provided by Job Site Products, Atlantic Construction Fabrics and Terre Klean. Representatives of these companies were on hand to answer questions during session breaks.

Links to the presentations and papers provided at the training are available on the Conservation Districts' websites.

The SEPA Conservation Districts appreciate each participant's contribution toward making this workshop a success.

Meghan Rogalus, Watershed Specialist
Bucks County Conservation District

Something to *Ponde*r…..

Attention pond owners! Sure, having a pond is pretty cool. Being able to view the wildlife that congregates at your pond, being able to fish, swim, and just relax are some of the many perks that you may enjoy with a pond.

Often, when someone purchases a property that has a pond on it, there are many things that may not have been considered, but should be. A pond, like many other possessions, needs maintenance in order to retain its value. This value can be measured in not only monetary value, but also biological value as well.

Sedimentation and nutrification are common problems with ponds that require maintenance. Too much sediment decreases pond volume and can smother aquatic life within the pond. Too many nutrients create an opportunity for algal blooms, which can block out the light for many of the oxygen producing plants that may live in the pond. Sedimentation can also help accelerate nitrification, as many nutrients adhere to and are transported with soil particles. Additionally, shallower waters resulting from sedimentation provides for warmer waters, in which algal blooms thrive.

An over abundance of water fowl, such as geese, can also contribute to poor pond health. Excrement from geese has a similar effect on a water body as that of livestock, causing in increase of nutrients and bacteria in a pond.

There are several ways to protect your pond from these problems and minimize the effects. For example, minimizing access of livestock to the pond and the water that feeds it will help, as will introduction of vegetated buffers around the pond and its tributaries. Maintaining a vegetated buffer can be an effective way to deter the congregations of geese that may affect a pond. Geese typically feed and "hang out" in the open, where they may have a good point of surveillance for possible predators. The low-maintenance buffer provides cover that may hide predators, deterring geese from gathering.

Providing a forebay in the upstream, feeding end of the pond can also help by filtering the water entering the pond. Dredging and maintaining a forebay is significantly easier and less costly than dredging an entire pond. Implementing BMPs for treatment of water entering the ponds may come with a cost, but will save in maintenance cost in the long run.

Sometimes upstream activities, such as development, can accelerate the negative impacts on ponds, thus increasing the need and frequency to maintain. In this case, it is a good idea for the pond owner to protect themselves. Testing the pond water and surveying the capacity before, during, and after upstream development can be beneficial to a pond owner because the potential impacts to the pond would be quantifiable. Being able to measure the impacts could be the difference in determining accountability.

In summary, while a pond can have many benefits, ponds – like cars and houses – need periodic maintenance so that they may be in tip-top shape for your enjoyment.

Benjamin Drover
Chester County Conservation District

Pond Management Workshop May 15, 2010

Bucks County Conservation District has partnered with Penn State Cooperative Extension and Bucks County Audubon Society to offer a Pond Management Workshop 8:30 a.m. to 12 p.m. on Saturday, May 15, at the Audubon Visitor Center, 2877 Creamery Road, Solebury. Instructors Bryan Swistock, Water Resources Associate from Penn State Cooperative Extension, and Edward Molesky, president of Aqua Link, Inc. based in Doylestown, will share important information for pond owners drawing from their combined nearly 50 years of professional experience in pond and lake management.

The workshop will begin with an overview of pond ecology. Participants will learn about water quality metrics and managing pond nutrients. We will discuss common weed and algae problems and control options. Participants will also learn how to evaluate fish habitat and manage their pond for optimal fishing. The morning will end with a short walk to the pond at Honey Hollow where participants will learn about how to inspect and maintain pond banks and spillways and how to perform and interpret water quality tests.

Coffee and light refreshments will be available. Registration is $25 per person and will be open until Thursday, May 6th. To register or for more information, please visit http://www.bucksccd.org/watershed_manage.htm, or contact Meghan Rogalus, Bucks County Conservation District Watershed Specialist, at 215.345.7577 x107.

Meghan Rogalus, Watershed Specialist
Bucks County Conservation District

You Down with LOD?

LOD – Limit of disturbance – the pre-determined boundaries within which earth moving and excavation is accepted.

The limit of disturbance, whether with township, county, or state approvals, should envelope all proposed work including access, spoils areas, septic fields, and utilities.

When a plan is submitted, the limit of disturbance encompasses "all work to be done." Sometimes the limit is proposed to keep the disturbance under a certain threshold for permitting or to stay within a certain review fee bracket.

For example, a single residential unit may be roughly an acre in disturbance, teetering between the need for just an erosion and sediment control plan, and that requiring an NPDES permit. In other instances, a commercial development with improvements resulting in a limit of roughly five acres may try to keep the disturbance under 5 acres to avoid the next fee bracket. But in most other instances, there is little need, or even benefit to keeping a restrictive limit of disturbance.

The proposed limits of disturbance should be realistic, and comfortably allow for access, E&S controls, utilities, stockpiling, and grading. The limit should be determined to allow enough room for the type of project, and the workability of the improvements. For example, a commercial site hugs its improvements with a .98 acre limit of disturbance to avoid an NPDES permit. The site, entirely a cut operation, has plans that designate a stockpile roughly 20 feet by 20 feet. A stockpile of this size is unrealistic, given it should be kept below 35 feet in height and limited to side slopes of 2:1.

The "real" result of this is that there is not enough room within the limit of disturbance to accommodate the improvements in addition to the fill produced from the cut operation. Likely the limits as approved will be exceeded. In this case, the site may be shut down, and the NPDES permit that was initially intended to be avoided may still be needed. Any loss of work or penalties can be avoided if the limits are proposed to comfortably allow enough room for the work.

For building footprints, allow enough room for the footer itself, more room to allow for safe excavation, and then extra space that may be needed to get from point to point. Limits for Septic fields should allow for storage of the soil removed from the pit during excavation, access with large machinery to the field, and also installation of piping. Chances are the 5-foot-wide limit for installing the pipe to the septic field will no be very accommodating to a 10-foot-wide excavator with tracks.

The limit of disturbance should also allow for proper installation of E&S controls. For example, the limits should allow enough room for silt fence to be installed at least 8 feet below the toe of the slope for a filled slope. Silt fence should not be used to hold back filled slopes. This can result LOD violations in addition to possible pollution.

While limiting disturbance is a helpful E&S control measure, if the work cannot be completed without infringing upon those limits, then the limits aren't good enough.

Benjamin Drover
Chester County Conservation District

REEL IN and RECYCLE!

Monofilament Recycling Program

The Pennsylvania Coastal Nonpoint Pollution Control Program started its Smart Boating Clean Waters Campaign in 2003 to provide recreational water-users information and guidance in protecting Delaware Estuary and Lake Erie water quality. Current partners include Pennsylvania Coastal Resources Management Program (CRM), Pennsylvania Sea Grant, Philadelphia Water Department, Delaware, Bucks, and Montgomery County Conservation Districts, Fish and Boat Commission, Pennsylvania Department of Conservation and Natural Resources, and the US Coast Guard Auxiliary.

In 2009, through a grant from Boat U.S. Foundation, 29 bins were installed in the following Southeastern PA counties (Montgomery – 18; Philadelphia/Fairmount Park – 5; Delaware – 2; Bucks – 2; Tyler State Park – 2). Sponsors visit each bin regularly and collect the contents by unscrewing the bottom cap on the container. Once enough line is collected, the material is weighed and shipped to the recycler, Berkley Recycling Center.

Data on the amount of line collected is entered into Boat U.S. online data system. Detailed bin mapping and information is also available on CRM's website.

Overall, the monofilament recycling effort has been successful. Unfortunately, many containers are also being used inappropriately as trash cans (despite signage) and a few have been subject to vandalism. Some bins may be relocated to avoid these issues.

Why is this so important?

Most fishing line is made from monofilament because it is strong, transparent and inexpensive.

If it is left in the environment, it is nearly undetectable and can entangle birds, fish, and other aquatic animals causing potential injury, drowning, or starvation.

Large amounts of line can also snare boating and other watercraft equipment. Monofilament that does find its way to the trash is not biodegradable and can remain in landfills for hundreds of years.

Fishing line can be sent to Berkley Recycling Center. The line is then manufactured into artificial underwater habitat structures.

Fishing line can entangle birds, fish, and other aquatic animals

What you can do?

~ Deposit monofilament in an appropriate bin.

~ Encourage others to utilize the bins appropriately.

~ Consider doing a collection.

- -Fishing /watershed organizations
- -Schools/youth groups
- -During a stream clean up

~ Pick up any monofilament you see.

~ Teach conservation and angler ethics.

Who can help?

J. Samantha Burton, PA Coastal Resource Management
jenburton@state.pa.us

Kristina Henderson, Montgomery County Conservation District
khenderson@montgomeryconservation.org

Tessa Bailey, Delaware County Conservation District
BaileyTD@co.delaware.pa.us

Jake Borden, Bucks County Conservation District
jakeborden@bucksccd.org

Tiffany Ledesma-Groll, Philadelphia Water Department
ledesmagrolltd@cdm.com

Karla Kaczmarek, Pennsylvania Sea Grant
kmk32@psu.edu

Bin mapping and information on PA CRM's website
http://www.dep.state.pa.us/river/grants/cnpp/smartboating/monofilament.htm

Monofilament can be mailed to:
Berkley Recycling Center
1900 18th Street
Spirit Lake, Iowa 51360

J. Samantha Burton, PA CRM and
Kristina Henderson, Montgomery County CD

An Idea for Filtration of Pumped Water

A recurring problem at sites is the filtration of pumped water. Every E&S plan that has utilities involved with it should include a detail for a pumped water filtration device. The most frequently used would be the filter bag. There are numerous problems associated with it such as bags tearing causing sediment pollution events, inability to handle larger pump rates, and removal of the filled bags, just to name a few. The industry has been looking for a better pumped water filtration device for some time now, and one may have been found.

J. D. Eckman, Inc. asked for approval of a device they stated was used at other sites effectively. It was approved on a trial basis at the County Line Road Bridge site in Hatfield Township, Montgomery County and New Britain Township, Bucks County. It is a dumpster lined with fabric and stone covering the door end of the dumpster. The water discharges out through the spaces along the doors, so no modifications to the dumpster (holes, etc) are necessary. The discharge pipe is bolted onto a piece of I-beam to hold it in place and weigh it down. The entire filter (dumpster) was placed on a bed of stone, surrounded by an embankment of rock underlain with geotextile fabric to further filter the water before it runs in a stone channel to the creek.

This method appeared to be an effective solution to several of the above noted problems. The pump at the site utilized a 5 inch line. While the pump may fill the dumpster and overflow, the sediment laden water is pumped in at the bottom, which allows cleaner, upper water to overflow the sides, which is then further filtered by the stone bed and embankment surrounding the dumpster. As for maintenance, the filter stone can be easily replaced or refreshed until such time that the dumpster needs to be replaced. Then the dumpster company takes away the full one and leaves a new one.

While this application is not valid for every situation, there are definitely quite a few instances where this device can be utilized. Hopefully forward thinking and innovative ideas can help to increase the effectiveness of E&S BMP's and curtail the costs associated with implementation of the 102 program.

Jeffrey McKenna
Montgomery County Conservation District

Sock-cess

More often than ever, silt socks are being specified on plans and are being implemented in the field. The long-time standard of silt fence finally has some competition, and justly so. So why is the silt sock becoming so prevalent?

The silt sock has many advantages and uses in particular situations where silt fence can't be easily installed or is maintenance intensive. For example, in development of a well vegetated area where vegetation preservation is encouraged, using silt sock has its advantages. Using a silt sock over silt fence in such a situation avoids the need to unnecessarily disturb the root system of the vegetation. Trenching silt fence can be labor intensive with resulting disturbance and potential damage to the root structures of nearby plants. Poorly entrenched silt fence also results in increased maintenance and improved chances of failure. Silt sock can lay on top of the roots system, with no disturbance necessary, weaving in and out between trees, preserving the root system. The use of a silt sock is also advantageous in areas of existing pavement and shallow bedrock, for similar reasons.

A frequent issue with silt fence is keeping the fabric taut and in place. A lot of time wind is a factor in the frequency of silt fence maintenance. Silt socks are less subject to wind induced maintenance than silt fence. After a heavy wind storm, repairs will more likely be needed on silt fence than a sock.

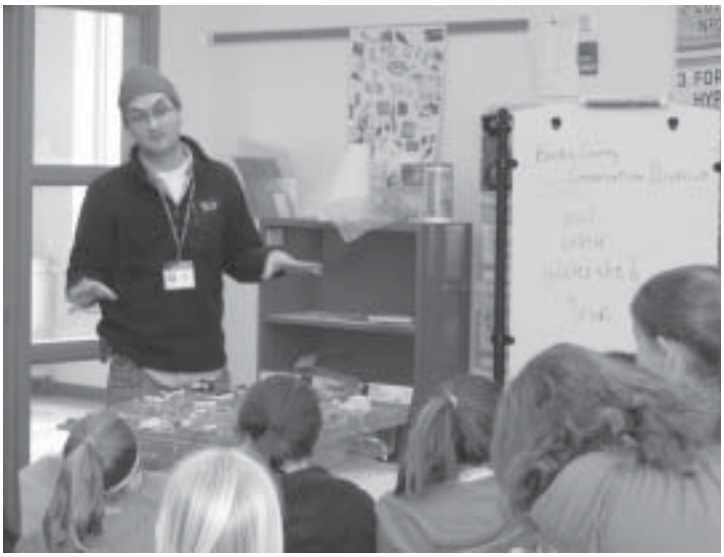
With silt fence, if the fabric is ripped, the fence no longer provides effective filtering of effluent reaching it. If the silt sock rips, so long that the mulch layer is still intact and not subject to concentrated flows, it still provides an effective sediment filtering barrier.

Removal of silt sock is straight forward. The sock fabrics are biodegradable. When the earth disturbance is complete, and well stabilized, it takes one person with a pocket knife and a rake to remove all silt sock on site. Simply cut the silt sock lengthwise along the top, and spread the mulch out and leave sit. The mulch can also be seeded for additional stabilization. No disposal costs, and no re-stabilization necessary.

Gaye Lynn Criswell
Chester County Conservation District

Coastal Zone Outreach

Jake Borden, Bucks County Conservation District (BCCD) Coastal Zone Technician, recently visited 5th grade classes at New Hope-Solebury Elementary School in an effort to educate students about non-point source pollution, erosion and sediment control and other watershed issues. Jake joined Mary Ellen Noonan, BCCD Educator, in presenting an interactive demonstration using the *Enviroscape* model. The Enviroscape is an interactive model of a watershed that engages students of all ages by using manipulatives to teach about watersheds. In addition to a neighborhood, a factory, a farm, streams, lake and road, a construction site on the model is perfect for teaching erosion and sediment control.



Jake Borden teaches 5th graders about non-point pollution.

Following are excerpts from some of the thank you letters the students sent.

Dear Mr. Borden, Thank you so much for coming to our 5th grade and teaching us about how pollution can affect our environment. I learned that if you keep a green roof on top of a factory … the plants on the green roof absorb the rain fall. *Elizabeth*

Dear Ms. Noonan and Mr. Borden, Thank you for coming to visit and help us learn about conserving water. One thing I learned was that construction sites have to get passed by people who study the plan to make it stop erosion. *Matt*

Dear Mr. Borden, You gave a great presentation. I learned how you keep all the dirt on site. *Willie*

Dear Ms. Noonan, A few things I learned from your presentation are how ground and soil erosion works and how vegetation helps this cycle. *Gideon*

Dear Ms. Noonan, I learned about silt fences and how they worked. On my way home on the bus, I saw a construction site and I looked for a silt fence. Then I saw one! *Jacqueline*

Mary Ellen Noonan
Bucks County Conservation District

Conservation District Fees for Services

Fees for services are a source of revenue for many if not all conservation districts statewide at this point in time. Delegation agreements and the Conservation District Law define the authority for Conservation Districts to charge fees. State Conservation Commission policy states "Fee Schedules should be equitable and may reflect the district's full costs of providing the services that are not reimbursed by the program."

The Conservation Districts typical cost share funding for core programs, which are used to offset the cost of administering the Erosion and Sediment Control Program, have decreased by between 20 and 25 percent since 2007. So even without factoring in other rising costs, the simple fact that the State is providing less funding has resulted in the need to raise fees significantly.

The volume of (fee paying) private sector projects submitted in 2009 resulted in less revenue than in prior years even as many conservation districts increased fees. Delaware County Conservation District collected fewer fees in 2009 than it had since 1998. Ironically, at the same time, the State was cutting funding to our core programs. Federal and State funding initiatives resulted in an increased workload due to the number of transportation projects and other government related infrastructure projects submitted. Our delegation agreement prohibits us from charging state agencies fees for service. To address this issue, several conservation districts have recently eliminated fee waivers for projects submitted by counties and other units of local government. Delaware County eliminated the waiver of fees for School Districts starting in 2008.

The Post Construction Storm Water Management requirements that have been evolving since they were implemented in 2002 represent a major change in focus for construction projects. This has resulted not only in increased costs to the building and construction industry, but also an increased review and compliance workload for conservation districts. No additional funding was provided by the state when these requirements were added. The increased costs resulted in the need to increase fees for services.

Fee for Service revisions effective dates:

Bucks County Conservation District – January 1, 2010

Chester County Conservation District – January 1, 2010

Delaware County Conservation District – September 18, 2008

Montgomery County Conservation District – April 1. 2010

A final issue I would like to touch upon is the wide range of fees charged by conservation districts. The State Conservation Commission policy referenced previously applies to all districts. The key issue to remember, however, is that each district's unreimbursed costs to administer the program will vary significantly depending on the number of staff, level of financial support from county government, and overhead costs. Conservation districts could use your support in attempting to convince state government to increase funding for conservation districts. Dollars provided to implement delegated programs will reduce the need to increase fees for conservation district services.

Ed Magargee
Delaware County Conservation District

ADVERTISE TO YOUR TARGET MARKET!

The Conservation Districts in Southeastern PA offer advertising space in this quarterly newsletter, **CONSERVATION & YOU**, distributed to some 1600 developers, engineers, architects, municipalities, and other related businesses in the region. Please contact the conservation district in your county with comments and suggestions.

Two size ads are offered: **Business card size** (2" x $3^1/_2$") $75/ issue **Quarter Page** ($3^1/_2$" x $4^1/_2$" – vertical) $125/ issue

A 10% discount is offered for inserting an ad in two or more issues. Ad deadline for the Spring issue is June 15, 2010. Send your check payable to the Delaware County Conservation District and camera-ready copy to Ed Magargee, Delaware County Conservation District, Rose Tree Park - Hunt Club, 1521 N. Providence Road, Media, PA 19063; Phone (610) 892-9484. Email: MagargeeE@co.delaware.pa.us

CONSERVATION & YOU is published by the Bucks, Chester, Delaware and Montgomery County Conservation Districts in cooperation with the PaDEP, Bureau of Waterways, Wetlands and Erosion Control. For advertising information, call (610)892-9484.

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