



International Erosion Control Association

IECA Southeast Chapter Newsletter Fall 2005

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A Note from the President - In the Wake of Natural Disasters...

The Southeast Chapter includes North Carolina, Kentucky, Tennessee, South Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana. Several of these states were impacted by hurricanes Katrina and Rita, as I'm sure you have seen in the news. The SE Chapter Board would like to extend a helping hand in two ways:

1) **The Membership Challenge.** The Southeast Chapter Board would like to challenge our membership to donate to the American Red Cross. We will make a matching donation up to \$1000 to the Red Cross. This is a great way to make your contribution to the Red Cross double -- \$5 becomes \$10, \$100 becomes \$200 - and a great way to show our support as a Chapter of our fellow Chapter members in response to this disaster. To make your contribution count towards the \$1000 match, send checks made out to the IECA Southeast Chapter to my attention at the address noted below. 100% of your donation will go directly to the American Red Cross. We'll send a single check to the Red Cross and note that donations came specifically from our membership. It's likely that many of you have already contributed, but if just 200 of you give \$5.00, we will have a total contribution of \$2000 from just the SE Chapter!

2) **The "Member Help a Member" Program.** If you are a Chapter member and need help recovering from the hurricanes or if you know of someone that needs help recovering, please contact me or another member of the board. We would like to use our network of people to offer support, and if we can identify specific individuals or families, we can begin to work our network of people to fill the needs.

3) **Volunteer your services.** IECA has been coordinating with several agencies to find ways for our members to help out and put our professional skills to work. Get more information about how to help here:
<http://www.ieca.org/Membership/GetInvolved/katrina.asp>

As Chapter members, we are bound together by our professional and personal interests. I encourage you to reach out to your fellow members now by providing your support in one or more of the ways outlined above.

Thanks,
Beth Chesson,
SE Chapter President

Not an IECA member? No problem!

Become an IECA E-Member and get these benefits:

- Member discount pricing to IECA events
- Membership in your local IECA chapter
- Discounts on renewal fees for the Certified Professional in Erosion and Sediment Control program **plus 5 PDUs a year for CPESCs**
- Access to *Erosion Control Journals'* feature articles via a web link
- Access to IECA NEWS section of *Erosion Control Journal* via a web link
- Web site access to *News To Use*, IECA's quarterly member newsletter
- Web site access to IECA member logo artwork for promotional use

Join Today!

**News You Can Use
From State Representatives**

Tennessee: A Lesson Learned - Planning for the Obvious

Shortly after construction had begun on one of TDOT's road construction projects for a major thoroughfare in eastern TN, AMEC's weekly EPSC inspector determined that the erosion control drawings did not take traffic control into consideration when phasing the project. This thoroughfare could not be closed for any amount of time as large numbers of trucks and other vehicles routinely used the roadway. As a stop-gap measure, the EPSC measures on the SWPPP were revised numerous times to account for the traffic shifts, detours and lane closures. After rewriting the SWPPP, the project now sits with new cross drains partially installed that discharge to temporary drainage ditches until the remaining sections of the cross drains can be installed under the existing road during Phase II of the construction schedule.

As EPSC professional, we know the need to phase projects to reduce the potential for erosion and off-site sedimentation. But we must also remember that other factors such as traffic control must be considered early in the planning process. Due diligence at the site reviewing the in-situ conditions and phasing of the project with the TDOT and contractor, prior to groundbreaking, would have allowed for an early resolution to this issue.

South Carolina Update

The Department of Health and Environmental Control (DHEC) in South Carolina along with Greenville County and Woolpert LLP, recently completed production of a statewide stormwater Best Management Practices (BMP) manual as well as a comprehensive field manual. The DHEC BMP manual includes methodology on how to develop area specific designs that give reasonable assurance that stormwater effluents meet desired performance standards. This is extremely critical in efforts to meet statewide anti-degradation requirements for proposed projects which will discharge into waterbodies identified on the 303(d)

impaired list. The manual and models contained within include estimation of performance of detention/retention ponds, extended detention ponds, sand filters, and riparian buffers. There are native planting lists for created wetland and bioretention applications, temporary and permanent seeding rate tables and supporting technical information for the water quality and construction BMPs. Another important component of the BMP manual is that it provides a standardized set of symbols/legends for all acceptable stormwater management and sediment/erosion control practices. This will create a uniform methodology for consultants to utilize in submitting engineering plans for DHEC land disturbance/stormwater permitting.

The development of a S.C. DHEC statewide stormwater management and sediment/erosion control field manual was also completed in July of 2005. This field manual will be available for contractors, developers, engineers and any other individuals interested in proper installation and maintenance procedures for best management practices (BMPs). It includes information on some of the more innovative techniques such as bio-retention, low impact development (LID), sediment tubes, high velocity inlet filters and other practices not previously recognized in any DHEC handbooks or manuals. The field manual includes installation and maintenance specifications for post-construction water quality control as well as erosion prevention and sediment control BMPs. This field manual is the first of its kind in the state of South Carolina and should be an invaluable tool in assisting contractors, inspectors and other construction project personnel in understanding the proper installation and maintenance techniques required to meet existing state and federal requirements. The manual contains preventive measures and troubleshooting guide information on each stormwater management and sediment/erosion control practice so that appropriate solutions can be quickly identified for specific problems.

Florida News

The University of Central Florida is researching Green Roofs. They currently have a side-by-side 1,600 square foot green roof and a regular flat

conventional roof project this year. The native plants are dune sunflower, blanket pinwheel daisy, painted daisy, coral honeysuckle, Simpson's stopper, and confederate jasmine. For more information contact Marty Wanielista at wanielis@mail.ucf.edu

Web page: <http://stormwater.ucf.edu/>

Georgia News

Georgia has a new program on the horizon that will require all persons involved in land development, design, review, permitting, construction, monitoring, or inspections to attend training and certification courses in Erosion & Sediment Control (E&SC). This means everyone who plays a part in land-disturbing activities, from the conceptual planning stages, through mass grading, and all the way to the sod-laying, must meet this new certification requirement by December 31, 2006. This deadline may seem a long way off but with well over 20,000 professionals to be certified, this is one of Georgia's largest educational efforts and time will quickly run short.

Born out the 2003 Session of the Georgia General Assembly, House Bill 285, which became effective July 1, 2003, required major amendments to both the Georgia Erosion & Sedimentation Act and the Water Quality Control Act. In addition to the mandatory E&SC certification requirements, the Bill also introduced a new "disturbed acreage fee" under the National Pollutant Discharge Elimination System (NPDES) General Permit. This fee is now \$80 per disturbed acre and will be used to hire additional E&SC inspectors at the Georgia Environmental Protection Division (EPD) as well as in local government agencies. Several other policy changes were implemented including clearer NPDES permit requirements. These changes intend to minimize the duplication of efforts often encountered in complying with both state and local rules.

The Georgia Soil & Water Conservation Commission (GSWCC) in consultation with the EPD and a 13-member, Governor-appointed Stakeholders Advisory Board (SAB), has developed the new E&SC training and certification requirements. The Board had been meeting

bimonthly since the beginning of August 2004 and had the task of not only developing course content but establishing rules and testing procedures.

The courses are broken down into two levels (1&2) with an open book exam at the end of each course. A fundamentals seminar (Level 1A—One Day) will provide sufficient training to all participants as to the applicable laws, requirements, processes, and the latest means and methods recognized by the state to effectively control erosion and sedimentation. This course will be attended by contractors, builders, site superintendents, developers, city/county crews and monitoring consultants. An advanced fundamentals seminar (Level 1B—Two Day) will provide additional details of installation and maintenance of best management practices (BMPs) for regulatory inspectors. An introduction to design seminar (Level 2—Two Day) will provide training to design and review successful erosion, sedimentation, and pollution control plans. This course will be attended by plan reviewers and design professionals. Finally, an awareness seminar (Level 1) will provide information regarding the E&SC practices and processes which includes an overview of the systems, laws, and role of the participants.

Upon the completion of the course and passing of the exam, the E&SC certification will be good for three years.

Mississippi: Up and Running

Some Mississippi Cities are off and running with the Phase 2 Storm Water Programs. Most of the cities have received their general permits with the 5-6-general BMPs to implement in 3-5 years.

Two small cities have hired a CPESC professional as their Storm Water Compliance Officer to help implement Phase 2 of the Storm Water requirements. The Mayors and Boards for these cities have taken Phase 2 one step beyond minimum requirements. Prior to any work on residential lots, commercial or industrial sites, an approved Erosion Control plan must be implemented. Weekly inspections are made for each site. If BMPs are not maintained properly the contractors could lose their building permits. Over 150 Storm Water Permits have been granted in

less than 6 months. Only minor problems have been encountered. I believe their success can be contributed to a group effort beginning with Mayor and Board support and going down through each Department, in particular the building Departments. Inspectors and planners cannot implement this program without proper training and support. These two cities are Richland and Pearl located in Rankin County in the suburbs of Jackson. Many other cities have been successful with Phase 2, but others have a big challenge ahead.



North Carolina Updates: NCDOT Protecting Mussels

As is the case in many parts of the country, the Triangle area of North Carolina (Raleigh, Durham, and Chapel Hill) is growing and the roads are being filled as fast as they can be built. The eastern part of this region is seeing farms being converted to subdivisions and shopping centers faster than you can say “urban sprawl.” One of the state highways has been clogged with commuters due to the many interchanges which have sprung up, so a bypass has been started to allow drivers to get to their destination much faster. But when the US 70 Bypass was laid out, state and federal wildlife officials pointed out that the endangered Dwarf Wedge mussel was in that watershed and needed to be protected. The erosion and sediment controls would have to be beefed up, among other things.

The Roadside Environmental Unit, which is in charge of E & SC plans, made a number of changes to the traditional systems put in place. Equipment for temporary seeding and mulching is kept on site to be mobilized whenever rain is expected. Using groundcovers can reduce erosion by more than 90%, so this approach can be very cost effective. In addition, ground covers are established in a shorter time interval than regulations require.

To better ensure that sediment is retained on site the sediment traps were designed to handle 25 year storm events instead of the usual 10 year storm events. These larger basins provide more settling capacity through larger surface areas and volumes. Many of the areas drain to sediment basins which are equipped with porous baffles and Faircloth skimmer outlets, which will greatly

enhance sediment retention compared to simple rock outlets. The sides of these basins are stabilized with erosion control blankets and the inlets are modified slope drains to reduce headwall erosion.

Doing work for NCDOT in 2006?

Beginning in 2006, contractors in charge of erosion and sediment control on NCDOT projects must have contractor training. For more information, see the following website:

<http://www.bae.ncsu.edu/workshops/dot/index.html>

Other items of interest...

North Carolina is well underway with revisions to the state *Erosion and Sediment Control Planning and Design Manual*. Eight draft revisions are posted on the NC Land Quality web site for public review

(<http://www.dlr.enr.state.nc.us/pages/sedimentation.html>). These include updates to the following measures: temporary sediment trap, skimmer sediment basin, flocculants, porous baffles, temporary stream crossings, sediment fence, sediment basin and rock dam. When passed by the Sedimentation Control Commission, these drafts will be issued as inserts to the current manual.

The North Carolina Water Resources Research Institute publishes a newsletter, called *SEDIMENTS*, dedicated to tracking the happenings of erosion and sediment control. To stay apprised of new regulations, NC Sediment Control Commission actions, best management practices and training events, sign up today! Subscribe electronically at

<http://www.dlr.enr.state.nc.us/pages/sedimentnewsletters.html>

or contact WRRRI at water_resources@ncsu.edu.

Along with training and newsletter updates, North Carolina pursued legislative initiatives of reducing groundcover time requirements, promoting site self-inspections, and allowing partial delegations of local erosion and sediment control programs. The groundcover bill, requiring sites to obtain groundcover within 21 calendar days of completion of any phase of grading, passed. Considering

limited staff and budget constraints, Land Quality Central staff and Regional Land Quality field staff continue to provide excellent service in the area of erosion and sedimentation control!

Kentucky Update

The City of Bowling Green, KY adopted their Storm Water Ordinance December of 2004. The ordinance established a requirement for a Certified Contractor to be identified for each permitted site and to be responsible for implementing and maintaining Erosion Prevention and Sediment Control. Bowling Green has been working with a consultant to develop their EPSC Contractor Certification Program that will include a requirement to attend a training session. The City sees this as an opportunity to educate the contractors and developers in the City and state requirements related to storm water. The requirement for a Certified Contractor will become effective on April 1, 2006. At that time, all permit applications will require a certified contractor. The first certification class is scheduled for October 26, 2005.

Bowling Green is also working on an Illicit Discharge Ordinance and plans to have it implemented by the end of the year.



Mark your calendar for this important event

2005 Southeast Regional & Kentucky State Watershed Roundtable

Watershed Strategies for a New Era: Protecting the Environment & the Bottom Line

When November 2-4, 2005

Where Holiday Inn University Plaza, Bowling Green, Kentucky

Who should attend this important event?

- ◆ City and County Government
- ◆ Business & Industry
- ◆ Farm Organizations
- ◆ Developers & Engineering Firms
- ◆ Local and Regional Planners
- ◆ Watershed Associations
- ◆ Soil & Water Conservation Districts
- ◆ Environmental Organizations
- ◆ State & Federal Agencies
- ◆ University & Educators

The Southeast Watershed Roundtable, in conjunction with the Kentucky State Watershed Roundtable, will host more than 30 speakers at its November event. The presenters will cover topics in three major theme areas: 1) Watershed Strategies; 2) Community Strategies; and 3) Conservation Strategies. Five pre-Roundtable workshops will be presented on November 2.

For more information, go to: <http://www.southeastwaterforum.org/>



EC06 IECA's Environmental Connection
February 20-24, 2006 in Long Beach, California

Need a break from the winter blues? Need to find new BMPs for your projects?
Join IECA at EC06 in Long Beach

Learn about:

- ✓ Wind erosion
- ✓ Stream restoration
- ✓ New technologies
- ✓ Storm Water Management Plans
- ✓ Natural channel design
- ✓ Case studies (what's worked, what hasn't)
- ✓ Writing SWPPPs
- ✓ Performing inspections

Add much more!

Research: More than 10 lbs of PAM Needed!

Rich McLaughlin

Polyacrylamide (PAM) was proven to reduce erosion many decades ago, but most of those applications were in agricultural settings. The use of PAM in furrow irrigated crops is now a common practice on millions of acres. The PAM is either injected into the irrigation water or placed in the first part of the furrow to dissolve as the water passes over it. Less than 5 pounds of PAM per acre are needed for these applications. However, when transferring this technology to a typical construction site, with slopes of 50% or greater, much more PAM will be needed.

A paper recently published in the Journal of Soil and Water Conservation summarized the results of tests at three construction sites where PAM was applied. The study, conducted by Sara Hayes, Rich McLaughlin, and Deanna Osmond of North Carolina State University, showed that applying 10 lbs of PAM per acre or less did not result in significantly reduced erosion on these steeper slopes. "Some visual differences, such as fewer rills could be seen initially in the runoff plots that were treated with PAM," observed Sara "but any effect was quickly eroded; partially due to the low application rates." One thing was abundantly clear, however – a ground cover of straw and grass was very effective at reducing erosion by 90% or more. They also reviewed other research and found that only when higher rates of PAM were applied were there significant effects on erosion rates. Applying dry PAM was also found to be much less effective than applying PAM solutions.



Field plots where runoff was collected to measure erosion.

In a subsequent study, Tabitha Brown and Rich McLaughlin tested PAM at 17 lbs per acre and found it to be effective on slopes up to 20%. Conducted at the Sediment and Erosion Control Research and Education Facility (SECREP) using both natural and artificial rainfall, they also determined that hydraulically applied mulch was the most effective in reducing erosion but straw and erosion control blankets were also effective. The mulch was a crimped wood fiber material applied at a relatively high rate of 3,500 lbs per acre. Most of the benefits of PAM added to the ground covers occurred in the first or second rain events. This work will be published in the Journal of the American Water Resources Association.

Some states have guidelines for using PAM for erosion control which may conflict with these findings. Virginia limits the use of PAM to 10 lbs per acre for each application, while some west coast states allow much less. Some of these rates are based on preliminary findings by Washington DOT, and some appear to have been set arbitrarily. There is little evidence of any significant risks in using PAM for improving erosion control, either to applicators or to aquatic systems. These limits may discourage PAM use at the most beneficial rates for no particular reason.

Calendar of Events

October 11, 2005	TDEC Level I - Fundamentals of Erosion Prevention and Sediment Control for Construction Sites, Chattanooga, TN http://www.tnepsc.org/
November 1, 2005	TDEC Level I - Fundamentals of Erosion Prevention and Sediment Control for Construction Sites, Memphis, TN http://www.tnepsc.org/
November 2-3, 2005	Level II - Design Principles for Erosion Prevention and Sediment Control for Construction Sites, Memphis, TN http://www.tnepsc.org/
November 2-4, 2005	2005 Southeast Regional and Kentucky State Watershed Roundtable Bowling Green, KY http://www.southeastwaterforum.org/
November 7, 2005	Advanced Polymer Workshop, Raleigh, NC. http://www.soil.ncsu.edu/swetc/sediment2/2005/poly.htm
November 17-18, 2005	Level II - Design Principles for Erosion Prevention and Sediment Control for Construction Sites, Nashville, TN http://www.tnepsc.org/
Nov 30-Dec 2, 2005	Stormwater Funding and Utility Development; BMPs: Pollutants, Selection and Maintenance; and the Complete NPDES Program from Design to Implementation, Nashville, TN www.stormcon.com/nashville
December 1, 2005	TDEC Level I - Fundamentals of Erosion Prevention and Sediment Control for Construction Sites, Knoxville, TN http://www.tnepsc.org/
December 8, 2005	TDEC Level I - Fundamentals of Erosion Prevention and Sediment Control for Construction Sites, Nashville, TN http://www.tnepsc.org/
December 13-14, 2005	Level II - Design Principles for Erosion Prevention and Sediment Control for Construction Sites, Knoxville, TN http://www.tnepsc.org/
December 14-15, 2005	NCDENR Basic Erosion and Sediment Control Workshop, Wilmington, NC http://www2.ncsu.edu/ncsu/CIL/WRR/erosionseminars.html
February 20-24, 2006	EC06 IECA's Environmental Connection, Long Beach, California http://www.ieca.org/
April 2005	Muddy Water Blues, Mid-TN, Franklin, TN More information coming soon!