

SEDIMENTS

Newsletter of the North Carolina Sedimentation Control Commission

A Variety of Training Opportunities

NCDOT Trains Employees, Contractors and Consultants on Erosion and Sediment Control/Stormwater

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North Carolina State University's Biological and Agricultural Engineering (BAE) Department and Soil Science Department, in cooperation with NC DOT, have trained over 4,200 people on Erosion and Sediment Control (E&SC)/Stormwater as related to NC DOT projects statewide. This program is targeted at four independent audiences:

- 1) Level I: Inspector/Installer
- 2) Level II: Site Managers
- 3) Level III-A: Designer of E&SC Plans
- 4) Level III-B: Designer of E&SC Plans for Reclamation Sites

Certification requires that a candidate pass a multiple choice exam using the handouts and notebook provided in the workshop. A "test only" option is available for those who download the materials and self study. In addition to a Spanish test, a Spanish DVD and notebook are available for both Levels I and II.



Level I is targeted at personnel within NCDOT, CEI firms, contractors, and subcontractors involved with the inspection or installation of E&SC/Stormwater devices. These certified personnel were required on NC DOT projects beginning in January 2007. In addition to classroom instruction, this course contains a field tour of Best Management Practices (BMPs) when held in Raleigh. This tour includes an in-depth review of the standard drawing (detail) while looking at an installed BMP for compliance. From past reviews, many workshop participants indicated that this helped them tie together the standard drawings with the intended product—the 3-D BMP.

Starting a year earlier, in January 2006, Certified Level II personnel were required on NC DOT construction jobs that have an E&SC/Stormwater Plan. The Level II candidate is typically a supervisor that oversees the contractor and subcontractor or a foreman who is directing construction operations, specifically operations that increase the potential for erosion. In addition, construction engineering and inspection (CEI) firms and NCDOT field personnel are required to be certified as Level II personnel. Beginning in January 2009, NCDOT will require that a Level II supervisor will need to oversee all "vertical" construction within the Department

of Highways (DOH). Examples of vertical construction would be the construction of a NCDOT maintenance /shop/office facility or a Division of Motor Vehicles (DMV) building. Recertification workshops are

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State of North Carolina,
Department of Environment & Natural Resources
William G. Ross, Jr., Secretary

Land Quality Section
Division of Land Resources
James D. Simons, Director and State Geologist

(NCDOT Training, continued from p. 1)

currently being held for those whose Level II certifications are expiring.

Level III-A is targeted at private engineering firms and select NC DOT employees who prepare or oversee the preparation of E&SC and stormwater pollution plans for NC DOT projects. Likewise, Level III-B was developed to certify contractors, private engineering firms, and select NC DOT employees that develop or oversee the development of the E&SC/Stormwater plan for the reclamation plan on NC DOT projects. Beginning in January 1, 2008, all E&SC/Stormwater plans for NC DOT projects required the respective Level III certification number of the person who

developed or oversaw the development of the plan. In addition, a Level III-A or III-B designer will need to submit the E&SC/Stormwater Plan for vertical construction beginning in January 2009.

The table below shows the numbers trained in each of these workshops through September 2008.

Certifications are valid for three (3) years. Professional development hours (PDHs) are available for these four workshops ranging from four (4) to seven (7) hours per workshop. To view workshop handouts, more information, or upcoming workshop schedule, please visit the following website:

www.bae.ncsu.edu/workshops/dot

	Level I	Level II	Level III-A	Level III-B
Total Attended	1245	2546	416	412
Reciprocity	8	22	n/a	n/a
Total Certified	1145	2300	392	391

NC Sedimentation Control Commission: November Actions

At its meeting on November 20, 2008 the NC Sedimentation Control Commission (SCC) took the following actions:

Delegated Programs:

- Iredell County: Motion to continue delegation was approved.
- Lincoln County: They started their program in 2007. The Commission approved a continued review until the February 2009 SCC meeting.
- Caldwell County update: The County staff responded to the questions about potential deficiencies; due to State staff shortage, the State was unable to do a follow-up site review. The Commission continued the probationary status until February 2009 while releasing their Local Program Funding.
- Whispering Pines: Approved the new delegation of Local Program authority and local ordinance for the Village of Whispering Pines. Due to State budget cuts, the state funding will not be available until July 2009. However, the Local Program will

begin its delegation in March 2009 in anticipation of the lifting of their construction moratorium that is scheduled for April 2009.

- Town of Columbus: Approved the new delegation of Local Program authority and local ordinance for the Town of Columbus. Due to State budget cuts, the state funding will not be available until July 2009. The Local Program will start when the State finalizes their contract.
- NC Department of Transportation: Motion to continue delegation was approved.

Adoption of 2009 SCC Meetings:

- Wednesday, February 18, 2009
- Thursday, May 21, 2009
- Thursday, August 20, 2009s
- Thursday, November 19, 2009

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4. Send the e-mail message.



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Send comments to Gray Hauser, NCDENR-Land Quality, 1612 Mail Service Center, Raleigh, NC 27699-1612. Email: Gray.Hauser@ncmail.net. Send change of address and subscription information to NCSU Water Quality Group, NCSU Box 7637, Raleigh, NC 27695-7637; (919) 515-3723; bonnie_kurth@ncsu.edu. To receive *Sediments* electronically, please subscribe at: <http://www.dlr.enr.state.nc.us/pages/sedimentationnewsletters.html>. Five thousand copies of this newsletter were printed at a cost of \$1,490 or 30 cents per copy.

Personnel of the Land Quality Section of the NC Department of Environment and Natural Resources provide information and assistance for implementation of the NC Erosion and Sedimentation Control Program. For assistance, please contact the Regional Engineer or the Raleigh headquarters listed below:

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The North Carolina Sedimentation Control Commission

The Sedimentation Control Commission (SCC) was created to administer the Sedimentation Control Program pursuant to the NC Sedimentation Pollution Control Act of 1973 (SPCA). It is charged with adopting rules, setting standards, and providing guidance for implementation of the Act. The composition of the Commission is set by statute to encompass a broad range of perspectives and expertise in areas related to construction, industry, government, and natural resource conservation and quality. All members are appointed by the Governor and serve three-year terms, except for the Director of the Water Resources Research Institute of the University of North Carolina, who serves as long as he remains Director. The chairman of the SCC is named by the Governor. The following is a list of current members with the organizations they represent:

Chairman:

Donnie W. Brewer
Greenville

NC Environmental Management Commission

Commissioners:

W.T. "Buzz" Bryson
Raleigh
NC Public Utilities

Elaine C. Chiosso
Brynun
Non-governmental Conservation

Thommy Esqueda
Wake County
NC Association of County Commissioners

Joseph H. Kleiss
Raleigh
NC State University, Dept. of Soil Science

Grover McPherson
Winston-Salem
NC Soil and Water Conservation Commission

John William Miller, Jr.
Burnsville

NC Mining Commission

Director WRRRI (currently vacant)
Raleigh
Water Resources Research Institute of
The University of North Carolina

Robin Smith
Asheville
Non-governmental Conservation

Mark A. Taylor
Greensboro
Professional Engineers of NC

Richard Vick
Wilson
Carolinas Associated General Contractors

Rob Weintraub
Wake Forest
NC Home Builders Association

LQ Personnel Changes

Starr Silvis is a new Assistant Regional Engineer and express permit reviewer in the Asheville Regional Office.

Darlene Kucken is a new Environmental Specialist in the Asheville Regional Office.

Jason Fulton is a new Environmental Specialist in the Asheville Regional Office.

Evangelyn Lowery-Jacobs is a new Assistant Regional Engineer in the Fayetteville Regional Office.

Ryan Locklear is a new Environmental Specialist in the Fayetteville Regional Office.

Ryan Kormanik is a new Environmental Specialist in the Mooresville Office.

Chad Broadway is a new Environmental Specialist in the Mooresville Office.

Christina Mason is a new Environmental Specialist in the Raleigh office.

Rhonda Hall is a new Assistant Regional Engineer and express permit reviewer in the Wilmington Office.

Steve McEvoy is a new State Dam Safety Engineer in the Raleigh Central Office.

Ashley Rodgers is a new Assistant State Mining Specialist (formerly the Sediment Education Specialist) in the Raleigh Central Office.

Gowon Goode is a new Assistant State Sediment Specialist in the Raleigh Central Office.

Tommy Esqueda Joins the NC Sedimentation Control Commission

Mr. Tommy Esqueda, Director, Department of Environmental Services for Wake County Government, has been appointed by the Governor to serve on the Sedimentation Control Commission (SCC) as a representative for the NC Association of County Commissioners. Mr. Esqueda holds a Bachelor of Science in Civil Engineering from San Jose State University (1988, Minor in Humanities) and is a registered Professional Engineer in Oregon and North Carolina.

The Wake County Board of Commissioners created the Environmental Services Department within Wake County Government to administer and enforce rules and regulations that address public health, animal care and welfare, water quality, and solid waste

management. The Environmental Services Department consists of several divisions: Administration, Water Quality, Solid Waste, Environmental Health and Safety, and Co-operative Extension.

The Water Quality Division protects public health in Wake County through the enforcement of rules and regulations enacted for individual groundwater wells and non-municipal wastewater systems. In addition, the Water Quality Division protects water resources in Wake County through the enforcement of rules and regulations for storm-water management, floodplain management, and erosion and sediment control. The Water Quality Division is also responsible for the implementation of a watershed management program, which is designed to (a) collect information and data to monitor the health and condition of Wake County water resources, (b) analyze and quantify specific causes and sources of water resource problems in Wake County, and (c) develop specific recommendations to solve and correct the identified problems.

Erosion and Sedimentation Control Planning/Design Workshops

The Sedimentation Control Commission, in conjunction with the Land Quality Section and the Water Resources Research Institute (WRRRI), sponsors a series of workshops for design professionals. These workshops are intended to provide updates and training for the Sedimentation Pollution Control Act (SPCA), current design guidelines, and new technologies for controlling erosion and sedimentation.

Who should attend? Professional engineers, surveyors, landscape architects and others who design Erosion and Sedimentation Control Plans.

Credits: 12 PDHs will be available to professional engineers and land surveyors, and 10 continuing education hours for landscape architects upon completion of one of these workshops. Please provide your license number on the registration form.

One workshop has been scheduled for this Spring: February 25-26, 2009, McKimmon Center, Raleigh, NC. Agendas and registration information:

<http://www.ncsu.edu/wrrri/erosionworkshops.html>

NC State's Soil Science Department Sediment and Erosion Control Team Puts On A Series of Training Workshops

Melanie M. McCaleb, M.S., CPESC
NC State University, Soil Science Dept
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Hands-on Best Management Practices (BMPs) Installation Workshop

As new guidelines and specifications roll out from state and local programs and the US EPA, so do more opportunities for installers, engineers, and supervisors to learn how to properly install these Best Management Practices (BMPs) on construction sites.

NC State University's Sediment and Erosion Control Research and Education Group demonstrates these techniques during a half day workshop on how to properly install construction site BMPs: baffles and skimmers in basins, silt fence along contours of the site, straw wattles in ditchlines with polyacrylamide applied, drop inlet protection, and different ground covers.



Figure 1. Installation of coir baffles into a sediment basin.



Figure 2. Installation of Silt Fence

This hands-on workshop allows for all to participate in the actual installation of specific BMPs learning first hand the “dos and don'ts” of installation techniques. It is often poor installation which causes the failure of common practices, so gaining experience in proper installation is an important step in preventing problems. Attendees range from inspectors to contractors and they work in teams to install the practices. They get a good workout but all agree it's a great learning experience!

Sediment and Erosion Control Workshop

This workshop is designed for contractors, designers, engineers, foreman, inspectors, and anyone involved in the construction industry. To provide participants with the latest in technology and most recent research, we designed the workshop to consist of both in-class lectures and field demonstrations. The classroom portion of the workshop gives us time to introduce to the participants the latest in environmental and governmental updates as well as the latest in sediment and erosion research. The field demonstration allows participants to get together with experts in the field as well as vendors of products and services, so that you will see the latest techniques in a realistic setting. The ongoing discussion that is created throughout the workshop is often a valuable source of information for all involved.



Figure 3. Dr. Rich McLaughlin explains the velocity reducing mechanism of coir baffles in sediment basins.

Polymer Enhancement of Erosion and Turbidity Control on Construction Sites

There is increasing pressure on construction site managers to reduce the off-site impacts on streams, lakes, and estuaries adjacent to their projects (Read more about EPA's new Effluent Limitation Guidelines, ELG on [p. 5](#)). Traditional erosion and sediment control measures, even when properly installed

and maintained, will often release highly turbid water to the environment. Polymer systems developed in or adapted from water treatment, mining, and agricultural applications are becoming more available for use on construction sites. The workshop is designed to provide practical information on the use of polymers for professionals involved in designing and managing erosion, sediment, and turbidity control on construction sites.



Figure 4. Polyacrylamide applied to fibrous check dams (FCDs) is demonstrated to treat runoff in ditch lines



Figure 5. Dr. Rich McLaughlin describing how the polymers work in an active treatment process.

Participants are encouraged to bring one or more samples of sediment from their own construction sites so they may have an opportunity to practice the screening process. This process allows them to match the best polymer to their site specific sediment.

Participants learn about:

- Background theory and chemistry, environmental and regulatory concerns.

continued next page

(Soil Science Training, continued)

- Numerous applications of polymer systems for solving a variety of potential problems common on construction sites.
- How to properly test sediment from their own sites.
- And a variety of equipment available for solving erosion and turbidity problems.

All of these workshops are scheduled periodically and can be found at: <http://www.soil.ncsu.edu/training/training.php>

Green Design & Development Workshops

Workshop Overview:

Green Planning:

- Conservation Design
- Low Impact Development (LID)
- Planning Techniques

Green Construction:

- Working with the Land

Green Building:

- Structural Green Features

Green Development Exercise :

- Planning
- Construction
- Building
- Implementation

As a result of this training, participants gain a basic knowledge and understanding of:

- green planning techniques
- low impact development techniques
- green building techniques for structures (residential, commercial and other)
- the LEED certification program
- applying knowledge and understanding in a design exercise

Credit Hours:

Real Estate Brokers and Agents receive four (4) continuing education credits.

Urban and Rural Planners receive at least seven (7) professional development hours. AICP Accredited.

Engineers receive six (6) professional development hours.

Other professionals will need to contact the respective profession's board.

http://www.bae.ncsu.edu/training_and_credit/workshops.php

SE Regional IECA Erosion and Sediment Control Conference

May 12-13, 2009

There will be a SE Regional IECA Erosion and Sediment Control Conference in Asheville this coming May! It is scheduled for the Crown Plaza Hotel for May 12-13, 2009. A block of rooms has been set aside at a conference rate. **Abstracts Due February 18, 2009.** The preliminary agenda:

May 12

8:30-12:00: Regional and National Speakers

Lunch

1:00-5:00 Volunteered Papers (Case Studies, Research, Programs, Outreach)

Session 1: Erosion control and slope stabilization (incl. geotechnical)

Session 2: Policy/Regulatory Approaches (state & local)

6-8:00 pm Reception w/ vendors, raffle, heavy hors d'oeuvres

May 13 (Volunteered Papers)

8:00 -12:00 Concurrent Sessions

Session 3: Sediment and turbidity control

Session 4: Stream restoration and stormwater treatment

12:00 – 4:00: Box lunch and field trips to demonstration sites.

www.soil.ncsu.edu/training/training.php

EPA Proposed Effluent Limitation Guidelines – Construction Site Runoff: 90 Day Public Comment Period

Under court order, the US EPA has released a draft rule to control the discharge of pollutants from construction sites (Federal Register, 11/28/08, Vol 73, No 230):

<http://www.epa.gov/fedrgstr/EPA-WATER/2008/November/Day-28/w27848.htm> or

Through <http://www.epa.gov/waterscience/guide/construction/>

Proposed changes include:

1) Sites with 30 acres or more of disturbance, 10% clay or more, and an R factor of 50 (index of runoff expected): turbidity control to 13 NTU and monitoring required.

2) Sites with 10 acres or more of disturbance: a sediment basin with a surface outlet is required, sized for a 2-year/24 hour event plus 1,000 cu ft for sediment.

3) Areas not being disturbed for 14 days need to have ground cover applied.

1) and 3) are more stringent than current NC requirements, 2) is actually less since sediment traps or basins are required on many sites less than 10 acres in area. 1) is a major change in regulation. The rule will not be finalized for 1 year. Public Comment deadline is 2/26/09.

IECA's Environmental Connection- The World's Largest Soil and Water Event!

February 9-12, 2009

Reno Convention Center and the Atlantis Casino Hotel, Reno, Nevada, USA

This is the premier educational event for the erosion and sediment control industry. Environmental Connection has more erosion, sediment control, and stormwater focused training, technology and networking events than any other event. This is the world's largest soil and water event.

Over 4 days, Environmental Connection provides peer-reviewed education, products and technology which address eight technology sections:

- Slope Stabilization
- Stream Restoration
- Vegetative Establishment
- Stormwater Management
- Wetlands Technology
- Erosion and Sediment Control
- Beach and Shoreline Stabilization
- New: Wind Erosion Technology

Information or to register, go to: <http://www.ieca.org/conference/annual/aboutec.asp>



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c/o NCSU Water Quality Group
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Raleigh, NC 27695-7619

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1/28/2009	Level I: Erosion & Sediment Control/Stormwater Inspector/Installer , Hickory, NC. http://www.bae.ncsu.edu/workshops/dot	2/25-2/26/09	Erosion and Sedimentation Control Planning and Design Workshop. McKimmon Center , Raleigh, NC http://ncsu.edu/wrri/erosionworkshops.html
1/27-1/28/09	Local Programs Workshop , Southern Pines, NC (Limited to Local Program staff)	3/5-3/6/09	Stormwater BMP Inspection & Maintenance Certification Workshop , Wilmington, NC. http://www.bae.ncsu.edu/stormwater/training/bmpworkshop.html
1/29/09	Level II Recertification: Erosion & Sediment Control/Stormwater , Hickory, NC http://www.bae.ncsu.edu/workshops/dot/	3/31/2009	Level II: Erosion & Sediment Control/Stormwater , Hickory, NC http://www.bae.ncsu.edu/workshops/dot/
2/8-2/12/09	2009 USDA-CSREES National Water Conference , St. Louis, Missouri http://www.soil.ncsu.edu/training/training.php	4/7/09	Level III-A: Design of Erosion & Sediment Control Plans , Hickory, NC http://www.bae.ncsu.edu/workshops/dot
2/9-2/12/09	IECA Environmental Connection , Reno NV http://www.ieca.org/conference/annual/aboutec.asp	4/8/09	Level III-B: Design of Erosion & Sediment Control for Reclamation Plans , Hickory, NC http://www.bae.ncsu.edu/workshops/dot
2/24/09	Level II: Erosion & Sediment Control/Stormwater Site Management , Raleigh, NC http://www.bae.ncsu.edu/workshops/dot/	5/12-13/09	SE Regional IECA Erosion & Sediment Control Conference , Asheville, NC http://www.soil.ncsu.edu/training/training.php
2/25-2/26/09	Stormwater BMP Inspection & Maintenance Certification Workshop , Dallas, NC http://www.bae.ncsu.edu/stormwater/training/bmpworkshop.html	7/11-7/15/09	Soil & Water Conservation Annual Conference , Dearborn, MI http://www.swcs.org/