



SEDIMENTS

Newsletter of the North Carolina Sedimentation Control Commission

Are Qualified Inspection Personnel Needed on North Carolina Construction Sites?

Did you know that anyone has the qualifications to perform inspections under North Carolina's National Pollutant Discharge Elimination Systems (NPDES) General Permit for construction activities? That is because currently there are no minimum qualifications required in NC.

This example was given at the Sedimentation Control Commission's (SCC) August meeting held in Raleigh. Erosion and sediment control/stormwater professionals sought the SCC's support in defining qualifications for those performing inspections on land disturbing activities under the NPDES construction permit and the Sedimentation Pollution Control Act (SPCA).

The Environmental Protection Agency's 2008 Construction General Permit defines qualified personnel eligible to conduct inspections for NPDES construction activities as follows:

"Inspections must be conducted by qualified personnel (provided by the operator or cooperatively by multiple operators). "Qualified personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the construction activity."

Sister southeastern states including Virginia, Tennessee, South Carolina, Alabama, and Florida define qualifications for those performing inspections. These states specifically designate professions, certifica-

tions, or training programs required for site inspections.

The North Carolina Department of Transportation initiated mandatory training and certification for contractors, consultants, and departmental personnel who conduct site inspections beginning in 2006.

Division of Land Resources and Division of Water Quality staff indicate that statutory authority is necessary to define and designate qualified personnel.

SCC Chairman Brewer appointed a committee of four consisting of: Commissioners Bryson, Esqueda, Weintraub, and Smith. The committee's charge was to work with DENR staff and subject matter experts to determine appropriate detail and recommendations for legislative consideration. Chairman Brewer is the Environmental Management Commission's representative on the SCC.

EPA Hitting Hard with Heavy Fines

Starting in June 2008 EPA has been on the hunt for home builders in violation of sediment and erosion control/ Clean Water Act Policies, hitting hard with heavy fines. This crackdown started June of 2008 with EPA fining FOUR of the nation's largest builders with 4.3 million dollars in penalties for failure to control runoff at construction sites in over 34 states across the country. Pulte, Centex, KB Homes,

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SEDIMENTS is a newsletter published quarterly by the N.C. Sedimentation Control Commission to provide information and assistance to the regulated community and to facilitate communication among personnel of state and local erosion and sedimentation control programs. SEDIMENTS is available in electronic form at: <http://www.dlr.enr.state.nc.us/pages/sedimentationnewsletters.html>.

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State of North Carolina,
Department of Environment & Natural Resources
Dee Freeman, Secretary

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

NC Sedimentation Control Commission: May Actions

At its meeting on May 21, 2009, the NC Sedimentation Control Commission (SCC) took the following actions:

Education Projects:

- Funded WRI to support the NC Sedimentation Control Commission (SCC) and NC Department of Environment and Natural Resources – Division of Land Resources, Land Quality Section (DENR-LQS) staff by providing assistance in the continuation of workshops for design professions training. Three workshops were funded, one for the November 2009 and two the spring of 2010 (\$20,088).
- Funded WRI to continue support for the annual workshop and awards banquet for the Local Erosion and Sediment Control Programs, including meeting facility and attendee travel (\$73,762).
- Funded NC State University to continue electronic production (web posting & listserv) of the Sediments Newsletter (\$28,750). Substantial savings will be realized by elimination of printing and postage cost.

Delegated Local Programs:

- Orange County: Approved the continuation of Local Delegation of erosion and sediment control (ES&C) programs.
- Greensboro: Approved the continuation of Local Delegation with a recommendation that a ratio of one inspector for every 80 active projects be maintained.
- High Point: Approved the continuation of Local Delegation.
- Lincoln County and the City of Lincoln: Approved the expansion of the jurisdiction of Lincoln County's Local Program to include the City of Lincoln and its extraterritorial jurisdiction (ETJ) using Lincoln County's Erosion and Sedimentation Control Ordinance.
- Iredell County and Statesville and Troutman: Approved the expansion of the jurisdiction of Iredell County's Local Program to include the City of Statesville and the Town of Troutman.

NC Sedimentation Control Commission: August Actions

At its meeting on August 20, 2009, the NC Sedimentation Control Commission (SCC) took the following actions:

Delegated Local Programs:

- Wake County: Approved the continuation of Local Delegation of ES&C programs with the condition that written inspection reports be completed when violations are observed.
- Gaston County: Approved the continuation of Local Delegation.
- Village of Whispering Pines: Approved the continuation of Local Delegation.
- Town of Southern Pines: Approved the continuation of Local Delegation.
- Pitt County: Approved the continuation of Local Delegation.
- Iredell County and Town of Mooresville: Approved the expansion of the jurisdiction of Iredell County's Local Program to include the Town of Mooresville. Only new projects submitted after September 1, 2009 are included; the existing projects will remain with the NC DENR regional LQS office.

Qualifications of Inspectors:

- Formed a subcommittee (Bryson, Weintraub, Esqueda, and Smith) to discuss and recommend how to facilitate the establishment of a requirement that inspectors of construction sites permitted under the Sedimentation and Pollution Control Act or a NPDES General Stormwater Permit meet minimum qualifications similar to EPA's definition of "Qualified Inspectors." The committee was asked to coordinate with the SE Chapter of International Erosion Control Association (IECA), LQS staff, and DWQ stormwater staff. This would require statutory authority from the NC legislature.

Support documents for SCC actions may be found online at <http://dlr.enr.state.nc.us/scc.html>

To report possible violations of the NC SPCA call
1-866-STOPMUD or 786-7683



SEDIMENTS is published quarterly by the NC Sedimentation Control Commission to provide information and assistance to the regulated community and to facilitate communication among personnel of state and local erosion and sedimentation control programs.

Send comments to Janalyn Vo, NCDENR-Land Quality, 1612 Mail Service Center, Raleigh, NC 27699-1612. Email: Janalyn.Vo@ncdenr.gov. To receive *Sediments* electronically, please subscribe at: <http://www.dlr.enr.state.nc.us/pages/sedimentationnewsletters.html> or contact bonnie_kurth@ncsu.edu or (919) 515-3723.

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
Bynum
Non-governmental Conservation

Tommy 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

Michael P. Voiland
Raleigh
Water Resources Research Institute of
The University of North Carolina

Robin Smith
Burnsville
Non-governmental Conservation

Joseph E. Glass
Fayetteville
Professional Engineers of NC

Richard Vick
Wilson
Carolinas Associated General Contractors

Rob Weintraub
Wake Forest
NC Home Builders Association

LQS Personnel Changes

Katherine Marciniak, Environmental Specialist, transferred from the Asheville Regional Office to the Washington Regional Office in April 2009.

Amy Mullikin, former Environmental Specialist in the Mooresville Regional Office, left state employment in June.

Janalyn Vo is the new Sediment Education Specialist in the Raleigh Central Office effective September 2009.

Timothy Garrett, Formerly Environmental Senior Specialist at the Washington Regional Office, left state government employment in October 2009.

New SCC Members

Joseph (Joe) E. Glass, P.E.

Originally from Fayetteville, Mr. Glass obtained a BS in Civil Engineering from N.C. State University in 1977. He is a registered Professional Engineer in North Carolina and South Carolina. He retired as Regional Engineer from the North Carolina Department of Environment and Natural Resources, Land Quality Section in 1997 after 20 years in enforcement of Erosion Control, Mining and Dam Safety Regulations. Mr. Glass worked as staff engineer at Larry King & Associates until April of 2001. Then he came to Fayetteville Public Works Commission (PWC) where he is currently Engineering Manager for the Water Resources Engineering Department. PWC is a private company categorized under electric services and located in Fayetteville, NC.

Mr. Glass has extensive experience in water resources planning and design. This includes the design and analysis of dams and stormwater ponds, design of erosion and sedimentation control devices, design of storm drainage systems as well as water distributions and sewer collection systems. He has conducted training sessions and has presented papers on various water resources issues.

Michael P. Voiland, PhD

Michael P. Voiland, executive director of North Carolina Sea Grant, was named director of the Water Resources Research Institute (WRRI) of The University of North Carolina in August 2009. Voiland has been serving as acting director of WRRI since April. As director, Voiland oversees WRRI's statewide research and information transfer programs and will serve as a member of the North Carolina Sedimentation Control Commission, as provided by statute.

Voiland will now lead both WRRI and also the North Carolina Sea Grant College Program. Voiland joined North Carolina Sea Grant in June 2006. As North Carolina Sea Grant executive director, he oversees the program's research and outreach efforts on coastal topics including ecosystems, fisheries and seafood, coastal communities and hazard mitigation. He also holds appointments as research associate professor at UNC Wilmington, and adjunct associate professor at NCSU.

He previously had served 30 years at Cornell University, including roles with New York Sea Grant and Cornell's Cooperative Extension, Agricultural Experiment Station and Government Affairs Office. Voiland received a bachelor's and master's degrees in geography from the State University of New York at Albany. He earned a doctorate in natural resource management from the State University of New York College of Environmental Science and Forestry at Syracuse University. ❖



Top Row (L-R) Joe Glass, Richard Vick, Michael Voiland, Tommy Esqueda, Donnie Brewer. Bottom Row (L-R) Bill Miller, Joe Kleiss, Robin Smith, Elaine Chiosso, Buzz Bryson, Rob Weintraub

News from Land Quality Section

Janalyn Vo - New Sedimentation Education Specialist

Ms. Janalyn Vo joined the Land Quality Section Staff as the new Sedimentation Education Specialist on September 1, 2009. As the new education specialist, Ms. Vo replaces Ms. Ashley Rodgers who is now Assistant State Mining Specialist in the Raleigh Central Office.

Ms. Vo attended the University of Tennessee and received a Bachelor of Science in chemical engineering with a minor in environmental engineering and a Master of Science in environmental engineering. She formerly worked for The City of Maryville, Tennessee, as an Assistant Environmental Engineer in their Water Quality Department.

As part of her duties, Ms. Vo will oversee all the educational aspects of the Erosion and Sedimentation Control Program including planning the design and local program workshops sponsored by LQS and the Sedimentation Control Commission; contributing to the SEDIMENTS newsletter; helping facilitate the Sediment Education Committee meetings; and overseeing further updates to the Erosion and Sediment Control Planning and Design Manual.

Ms. Vo may be reached at 919-733-4574 or janalyn.vo@ncdenr.gov.

Design Professional Workshops

Each year, the Sedimentation Control Commission, in conjunction with the Land Quality Section and the Water Resources Research Institute, sponsors a series of workshops for design professionals. These workshops are intended to provide updates to the Sedimentation Pollution Control Act (SPCA), current design guidelines, and new technologies for controlling erosion and sedimentation. The fall workshop for design professionals was very successful and well attended. A total of approximately 150 individuals were in attendance at the workshop held in Hickory, NC.

If you missed out on the fall workshop, two workshops for the spring have also been scheduled:

March 3-4, 2010 - The Village Inn Golf and Conference Center, Clemmons, NC

April 12-13, 2010 - McKimmon Center, Raleigh, NC

Professional engineers and land surveyors may earn 12 PDHs and landscape architects may receive 10 continuing education credits for completion of both days.

Agendas and registration information may be found online at:
<http://www.ncsu.edu/wrri/erosionworkshops.html>

EPA Hitting Hard with Heavy Fines

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and Richmond Homes of America were the four named in the settlement. The four companies in a joint statement said they were pleased with the agreements overall and “As leaders in the homebuilding industry, we share the government’s goal of protecting and preserving clean waterways.” The four homebuilders have also agreed to go above what is required of them by federal law in order to keep 600,000 tons (1.2 billion pounds) of sediment from entering the waterways.

In August of this year, 2009, Cooper Land Development agreed to pay a \$513,740.00 civil penalty for failure to comply with federal regulations controlling sediment on site from leaving and depositing in nearby waterways. EPA estimates by implementing the terms and conditions of this settlement, roughly 4,400 tons of sediments from the construction sites will be kept from polluting the nation’s waters.

And again in November of this year, 2009, John Weiland Homes has agreed to pay \$350,000.00 for violations of the Clean Water Act. The EPA estimates that keeping in compliance with the regulations will help this company keep an estimated 18,500 TONS (37 million pounds) of sediment out of the waters EACH YEAR!

All of these builders have a great influence in the Southeast region of the US, impacting North Carolina and its waterways daily. Stan Meiburg of the EPA was quoted as having said “failure to properly control stormwater runoff at construction sites can have serious consequences for the environment.” The agreements that have been made with all of these homebuilders “will result in better management practices that will ultimately lead to greater protection of

rivers, lakes and streams across the Southeast.”

Sources for this article: <http://www.cbsnews.com/stories/2008/06/11/tech/main4173209.shtml>

<http://www.wral.com/business/briefs/story/6380982/>

http://www.stormwaterauthority.org/library/view_article.aspx?id=1339

2009 IECA Southeast Chapter Conference- Muddy Water Blues Asheville, NC, May 2009

By Melanie McCaleb, Soil Science NCSU

Everyone from the US EPA down to local government is increasing their scrutiny on stormwater as a major source of pollution. Our regional conference focused on the new requirements and new options for reaching them, particularly for construction sites. Improved erosion, sediment, and turbidity control systems were the focus, as well as regulatory and policy approaches to achieving reductions in non-point source pollution.

Russell Adsit, Executive Director of the International Control Association spoke on the evolution of sediment and erosion control over the years and the significant progress that we as a community have made since the enactment of the Clean Water Act in 1972. We’ve come a long way baby!



Jesse Pritts with the Environmental Protection Agency (EPA) also spoke to us about the Effluent Limit Guidelines (ELG) that will be published and in effect by the end of 2009. Eye opening!

Along with numerous other presentations throughout the days we were also fortunate enough to be able to have 2 workshops the day before the presentations:

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2009 IECA SE Chapter

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1. How to Control Turbidity on Construction Sites - Dr. Richard McLaughlin, NC State University. This workshop was 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.

2. Certified Professional in Erosion and Sediment Control Review class - Ted Sherrod, NCDOT. This workshop was designed for attendees seeking certification.

Two optional field tours were offered:

“North Carolina Arboretum & Mountain Stream Restoration Project” which highlighted the efforts to minimize the effects of agriculture, roads and development on destabilizing our streams and to decrease erosion and habitat loss.

“Erosion and Sediment Control Demonstrations” which were presented at the Mountain Horticultural Field Station in Fletcher/Mills River. Here the attendees were able to see erosion, sediment, and turbidity control products.

Overall, we had 194 people in attendance at this year’s meeting. The programming and a great turnout are what made the conference such a success. Without the industry coming together, there would have been little chance for “swapping” of ideas and stories and that’s what keeps our industry thriving. Thanks to all who attended and participated in the ongoing dialogue. ❖



Tour #2- Erosion and Sediment control demonstrations.

ASABE Annual Meeting - Vegetative Filter Strips

The American Society of Agricultural and Biological Engineers (ASABE) had their annual international meeting in Reno, Nevada June 21-24, 2009. Papers presented at this meeting are often relevant to erosion and sediment control professionals, as highlighted below:

Field Evaluations of Level Spreader-Vegetative Filter Strips to Improve Hydrology and Water Quality. ASABE Paper No. 096025

Ryan J. Winston and William F. Hunt, *Biological and Agricultural Engineering Department, NC State University.* Contact: ryan_winston@ncsu.edu or Bill_Hunt@ncsu.edu

Traditional construction practices lead to degradation of watershed hydrology through increased flow in pipe networks, increased flow volumes, decreased groundwater recharge, and increased peak flow rates. Recent regulations in North Carolina have led to the use of level spreaders in combination with vegetative filter strips as an end-of-pipe method to reduce erosion and decrease stresses on riparian buffers from urban stormwater. A level spreader is designed to receive upslope pipe flow, and create downslope diffuse flow through a vegetated buffer. Little research has been done to evaluate their effectiveness. A total of four level spreaders were studied at two sites, Apex and Louisburg, NC. At each site, stormwater from small, impervious watersheds (0.4 ha or less) was conveyed to two level spreaders. Flow was released along the length of the level spreaders and into two vegetative filter strips. This study evaluated the hydrologic and water quality benefits of level spreader – vegetative filter strip systems. Differing buffer widths and vegetation types were studied. Hydrologic results show that flow volumes were reduced by 50% or more, and peak flow rates were reduced by 70% or more. The systems reduced TSS and sediment bound nitrogen and phosphorus forms. For example, at the Louisburg sites, 55% reductions in sediment and nutrients were measured. However, reconcentration of flow into channels in the forested buffers reduced potential effectiveness.

Additional resources and training:

Hathaway, J.M. and W. F. Hunt. Level Spreaders: Overview, Design, and Maintenance - Factsheet. <http://www.bae.ncsu.edu/stormwater/PublicationFiles/LevelSpreaders2006.pdf>

Hunt et al. On-line web courses and extension & research publications. <http://www.bae.ncsu.edu/people/faculty/hunt/#Extension>

Hunt et al. Workshop series: Level Spreader Workshops, NC www.bae.ncsu.edu/stormwater/training.htm

NC DENR, Division of Water Quality. 2007. Chapter 8: Level Spreaders: Stormwater Best Management Practices Manual. http://h2o.enr.state.nc.us/su/documents/Ch08-LevelSpreaders_002.pdf ❖

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

February 16-20, 2009

Hilton Anatole Hotel, Dallas, Texas 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
- Wind Erosion Technology

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





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Sedimentation Control Commission
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Raleigh, NC 27695-7619

1/3-1/5/2010	NC Association of Soil and Water Conservation Districts Annual Meeting , Raleigh, NC. http://portal.ncdenr.org/web/swc/2010annualmeeting	2/11/2010	Level I: Erosion & Sediment Control/ Stormwater Certification , Winston-Salem, NC. http://www.bae.ncsu.edu/workshops/dot
1/12/2010	Level I & II: Erosion & Sediment Control/ Stormwater Recertification , Raleigh, NC http://www.bae.ncsu.edu/workshops/dot/	2/16-20/10	International Erosion Control Association (IECA) Environmental Connection , Dallas, TX. www.ieca.org/conference/annual/ec.asp
1/14/2010	Level I: Erosion & Sediment Control/Stormwater Certification , Raleigh, NC http://www.bae.ncsu.edu/workshops/dot/	2/21-25/2010	Land Grant & Sea Grant National Water Conference , Marriott Hilton Head Hotel, Hilton Head SC. http://guest.cvent.com/EVENTS/Info/Agenda.aspx?e=aa264916-889a-4bb1-84af-9139e3d69b88
1/15/2010	Level Spreader Workshop , Washington, NC http://www.bae.ncsu.edu/stormwater/training.htm	3/3-4/2010	Erosion & Sedimentation Control Planning and Design , Clemmons, NC http://www.ncsu.edu/wrri/erosionworkshops.html
1/19-20/10	Stormwater BMP Inspection & Maintenance Certification , Barco, NC http://www.bae.ncsu.edu/stormwater/training.htm	3/10/2010	Level II: Erosion & Sediment Control/ Stormwater Certification , Raleigh, NC http://www.bae.ncsu.edu/workshops/dot/
2/2-3/2010	Stormwater BMP Inspection & Maintenance Certification , Raleigh, NC http://www.bae.ncsu.edu/stormwater/training.htm	3/16/2010	Level Spreader Workshop , Apex, NC www.bae.ncsu.edu/stormwater/training.htm
2/3-4/2010	Local Programs Workshop , Atlantic Beach, NC (limited to Local Program staff)	3/17/2010	Level Spreader Workshop , Hickory, NC www.bae.ncsu.edu/stormwater/training.htm
2/9/2010	Level I & II: Erosion & Sediment Control/ Stormwater Recertification , Winston-Salem, NC http://www.bae.ncsu.edu/workshops/dot/	4/12-13/10	Erosion & Sedimentation Control Planning and Design , Raleigh, NC http://www.ncsu.edu/wrri/erosionworkshops.html
2/10/2010	Level II: Erosion & Sediment Control/Stormwater Certification , Winston-Salem, NC http://www.bae.ncsu.edu/workshops/dot/	7/18-21/2010	2010 Soil and Water Conservation Society (SWCS) International Annual Conference , Lt. Louis, Missouri. Abstracts Due December 17. http://www.swcs.org/en/conferences/