

MARCH 28, 2012

Stormwater Management for Linear Projects

Linear development projects such as highways and pipelines present unique challenges for stormwater management (SWM). This class will provide the techniques and practices most applicable for achieving erosion and sediment control, peak flow mitigation, pollutant removal and runoff reduction on these confined site conditions.

Topics Include:

- ◆ Linear projects and the stormwater permit
- ◆ Erosion and sediment control specifics for linear projects
- ◆ Applicable SWM practices
- ◆ NYSDOT design criteria for SWM
- ◆ Hydrology and hydraulics
- ◆ Achieving runoff reduction
- ◆ Retrofits
- ◆ Maintenance

APRIL 18, 2012

Illicit Discharge Detection and Elimination (IDDE)

Most MS4's have begun their IDDE program by locating and inventorying their stormwater outfalls, but many have not started the process of detecting and locating the illicit discharge and eliminating them. This course will take the participants through this process with hands-on lab testing on prepared samples in the classroom to determine potential pollutants, and then in the field to demonstrate actual detection methods and locating techniques.

Topics Include:

- ◆ Introduction and lessons learned from Phase 1, basic program components
- ◆ IDDE terminology
- ◆ Outfalls and conditions
- ◆ Lab analysis protocols (Indoor work stations)
- ◆ Finding and fixing ID's
- ◆ Field assessment protocols
- ◆ Field exercise
- ◆ Generating sites assessment hotspots

MAY 10, 2012

SWPPP Preparation and Review

The Stormwater Pollution Prevention Plan (SWPPP) is the cornerstone of any development project's strategy for managing stormwater, and demonstrating compliance with the GP-10-001 permit. The SWPPP document and the related Notice of Intent (NOI) are the essential communication tools between designers and regulators. The objective of this class is to give those charged with

preparing and reviewing SWPPP's effective techniques for documenting and checking the essential elements of a Plan, which includes erosion and sediment control, post-construction management, runoff reduction and maintenance. Guidance for the development and review of design alternatives that may deviate from the standards will also be provided.

Topics Include:

- ◆ The NYS Stormwater permits
- ◆ Critical elements of SWM for SWPPP's:
 - Erosion and sediment
 - Hydrology
 - Pollutant removal
 - Peak flow mitigation
 - Runoff reduction
 - Maintenance
 - Good housekeeping
- ◆ SWPPP outlines/checklists
- ◆ Preparation and review challenges
- ◆ Preparation of the NOI
- ◆ Roundtable with private sector, municipal and regulatory perspectives on the SWPPP process

These trainings are offered through New York Regional Stormwater Training Centers

The New York Regional Stormwater Training Centers are a Statewide Partnership between Cornell Cooperative Extension Orange and Saratoga Counties, the Central New York Regional Planning & Development Board, and Monroe County SWCD. Our goal is to provide the best technical training to all stormwater professionals working in New York State.

"Phase II" is part of the U.S. Federal Clean Water Act that regulates small municipalities and all construction sites of one acre or more through a national permit system to manage stormwater runoff from urbanized areas.

The Regional Training Centers are dedicated to providing stormwater professionals working in New York with the best possible information, education, and training to help better manage stormwater runoff and keep all of our waters clean.

Other Regional Training Center information:

Saratoga County Intermunicipal Stormwater Management Program
www.saratogastormwater.org

Central New York Regional Planning & Development Stormwater Training Program
www.cnyrddb.org/stormwater

Monroe County Soil & Water Conservation District
www.monroecountyswcd.org

Principal Instructor:

John Dunkle, P.E., CPESC, CMS4S

John is a graduate of SUNY ESF and Syracuse University, and has been practicing civil engineering since 1981. Working with both private developers and municipalities on site planning and development projects, John's has prepared and reviewed SWPPP's, provided guidance for MS4's, participated with NYS DEC in the development of the current Stormwater regulations, and conducted stormwater trainings for contractors, developers, engineers, and municipal officials.



He is also a Visiting Instructor at SUNY ESF, teaching a graduate level Stormwater Management class, and has been conducting stormwater trainings across NY State with Don Lake for over 6 years. He is a Certified Professional in Erosion & Sediment Control (CPESC) instructor. John is the Planning Board Chairman in the Town of Nelson, Madison County.

Deb Caraco, P.E., Center for Watershed Protection

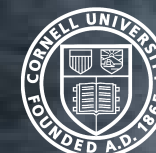
Deb has over 15 years of experience in the watershed protection field. She has worked as a watershed engineer at the Center for Watershed Protection for over 12 years and operated a field office in Ithaca, NY since 2008. She has also worked as a stormwater management specialist with the New York State Soil and Water Conservation Committee, and as an engineer with T.G. Miller Engineers and Surveyors in Ithaca, NY. Some representative projects have included developing the *New York State Stormwater Management Design Manual* in 2003, writing nationwide guidance on Illicit Discharge Detection and Elimination, and developing the Watershed Treatment Model. Deb has also worked directly with local and state governments nationwide to craft ordinances and assist with watershed planning, and to complete stormwater management designs. Deb has a Masters of Engineering in Biological and Environmental Engineering from Cornell University and lives in Ithaca, NY.



2011-2012 Stormwater Management Training Series

Based on the trainings developed by Don Lake

Regional Stormwater Training Series held in Orange County, New York



Cornell University Cooperative Extension Orange County

845-344-1234 www.cce.cornell.edu/orange

Cornell University Cooperative Extension provides equal program and employment opportunities. Please contact our office if you have any special needs. CUCE is not responsible for program content.

Stormwater Mgt. Training

Registration deadline: one week prior to class date.
\$225/person/class. \$275/person/class after deadline

Name _____

Mailing Address _____

City _____ County _____

State _____ Zip _____

Daytime Phone Number _____

E-mail _____

Yes / NO (Please circle one) Cornell Coop. Extension is granted permission to use and/or publish my photograph or image (including audio, film, digital image or any other media) for educational programs, websites or promotion of Extension programs.

Return form and fee to:

Cornell Cooperative Extension Orange County
18 Seward Ave., Ste. 300, Middletown, NY 10940-1919
Attn: Stormwater Mgt. Training

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Please indicate number of people who will be attending each class

___ Soils & Hydrology ___ Linear Projects
___ Applied Green Infrastructure ___ IDDE
___ Stormwater Ponds & Wetlands ___ SWPPP Review

Classes at \$ _____ per class = \$ _____

**All 6 classes - save 10% if paid by Oct. 17, 2011 -
_____ at \$1215/person = \$ _____**

NO REFUNDS - if you cannot attend, send someone in your place.

Make checks payable to: Cornell Coop. Extension OC

___ MasterCard ___ Visa ___ Disc. _____ Exp. Date (mo./yr.)

Credit Card Number _____

Signature _____

For those Professionals involved in Stormwater Management, keeping up with the latest trends and standards can be a challenging task. New techniques, standards, and regulations are evolving as research, experience, policies and performance data change.

These Stormwater Trainings are designed to provide private and public sector engineers, architects, administrators, planners and consultants with up-to-date techniques for understanding, evaluating, designing and reviewing stormwater management plans and practices. While the program emphasizes the standards in New York State, based on NYS DEC's August 2010 Stormwater Management Design Manual, and related permits, a broader perspective is also offered, through examination of national standards and future trends. All trainings emphasize applications to real-world conditions, and involve hands-on group and individual exercises.

NOTE: Registration with payment is required. Deadline for registration is ONE WEEK prior to each course. Cost (which includes lunch and materials) is \$225 per person, per course, if registered by deadline; \$275 per person, per course after deadline. **Discount of 10% when registering with payment for all six training courses by October 17, 2011!** No refunds - if you cannot attend send someone in your place.

PDH's, LU's, and CEU's have been requested for each course. Code Enforcement Officer credits may be available for some courses. Please call for information.

**All classes are 8:30 AM – 4:30 PM at
Cornell Cooperative Extension Orange County
18 Seward Ave., Suite 300, Middletown, NY 10940**

NOVEMBER 2, 2011

Soils and Hydrology for Green Infrastructure

A working knowledge of soils and hydrology are essential skills for anyone involved in the planning, design, or review of Green Infrastructure (GI) practices. In the first section of this workshop, we will review the many classifications and characteristics of natural and man-altered soils that influence runoff, infiltration, storage, filtration, and vegetative growth. Techniques for soil restoration will also be explored. Secondly, the hydrology of Green Infrastructure practices will be examined, especially impervious disconnection, and its effect on Runoff Curve Number (RCN) and Time of Concentration (TC). Techniques for computing and evaluating small and large storm hydrology, incorporating runoff reduction, will be applied to various development scenarios.

Topics Include:

- ◆ Soil characteristics and classifications
- ◆ Using the Soil Survey
- ◆ Compaction impacts
- ◆ Soil restoration techniques

2011-2012 Stormwater Management Training Series



Who Should Attend:

Consulting and municipal design engineers

Code enforcement officers

Landscape architects

Municipal and planning staff and consultants

Land use planners and developers

- ◆ Infiltration testing
- ◆ Soil amendments for GI practices
- ◆ Basics of TR-55 Hydrology
- ◆ Impervious disconnection
- ◆ Hydrology modeling for source control/GI practices
- ◆ Small storm hydrology

- ◆ Computing runoff reduction
- ◆ Design principles for GI practices
- ◆ Maintenance requirements for GI practices
- ◆ Roundtable with private sector, municipal, and regulatory perspectives on implementing GI

JANUARY 25, 2012

Applied Green Infrastructure

Integrating Green Infrastructure (GI) techniques for stormwater management has changed the paradigm from an "end-of pipe" treatment approach, to one encompassing source control. Using the techniques and standards outlined in the 2010 NYSDEC Stormwater Management Design Manual, this workshop will explore in detail the process of selecting and designing effective GI practices, and review the method for computing the associated runoff reduction. Designed as an in-depth follow-up to last year's introduction to GI, this training will emphasize applications to numerous development conditions, and discuss some of the nuances of these stormwater management techniques.

Topics Include:

- ◆ Overview of the GI approach
- ◆ GI practices
- ◆ Practice selection

FEBRUARY 29, 2012

Stormwater Ponds and Wetlands

Stormwater ponds, and to a lesser extent, stormwater wetlands, are the most widely used and accepted stormwater management practices. Properly designed and managed ponds and wetlands mitigate peak runoff and effectively remove pollutants from stormwater, while creating an esthetically attractive and environmentally diverse feature for development sites. This course will cover all attributes of pond and wetland design, hydrology, and hydraulics, plant selection and maintenance requirements.

Topics Include:

- ◆ Characteristics
- ◆ Effectiveness and limitations
- ◆ Design elements
- ◆ Hydrology and hydraulics
- ◆ What's new and innovative
- ◆ Vegetation/planting
- ◆ Maintenance

**For more information contact Rose Baglia at rsb22@cornell.edu or Tiffany Glavan at tg257@cornell.edu
You can also call us at 845-344-1234.**