

<p align="center"><b>STORMWATER MANAGEMENT COURSES – 2008/2009</b>            Fee for each one-day workshops: \$215.00</p>	<p align="center"><b>ALBANY</b></p>	<p align="center"><b>FISHKILL</b></p>	<p align="center"><b>SYRACUSE</b></p>	<p align="center"><b>BUFFALO</b></p>
<p><b>Stormwater Practices for Redevelopment and Retrofitting</b>            As vacant land becomes more scarce, many new building projects are utilizing sites that have been previously developed. There are unique challenges and opportunities to designing stormwater management practices for re-development. Retrofitting existing drainage facilities to provide higher levels of treatment is necessary in many situations. This class will review the NYS Stormwater Re-development Standards and Practices, and teach participants how to apply the concepts to actual design and field examples. We will also examine ways to retrofit existing sites to reduce stormwater runoff and pollutant discharges.</p>	<p align="center">ALB-403 11/10/2008</p>	<p align="center">FSH-403 4/9/2009</p>	<p align="center">SYR-403 3/3/2009</p>	<p align="center">BUF-403 3/12/2009</p>
<p><b>Fundamentals of Erosion and Sediment Control</b>            One of the critical components of stormwater management on construction sites is a properly prepared erosion and sediment control plan. This course will cover: evaluating a site for water quality risk; identifying resources and plan components; computing soil loss and hydrologic impacts; selection and design of appropriate practices for site control and preparation of O&amp;M plans.</p>	<p align="center">ALB-402 6/9/2009</p>	<p align="center">FSH-402 5/27/2009</p>	<p align="center">SYR-402 10/15/2008</p>	<p align="center">BUF-402 11/5/2008</p>
<p><b>Natural and Created Wetlands</b>            Wetlands are an important natural resource, and an effective stormwater management practice. Participants will learn the characteristics and types of natural wetlands, state and national regulations, and receive hands-on field experience in delineating wetland boundaries. In addition we will examine essential design construction elements for creating and maintaining ecologically viable stormwater wetlands.</p>	<p align="center">ALB-401 6/10/2009</p>		<p align="center">SYR-401 5/13/2009</p>	
<p><b>Fundamentals of Watershed Hydrology I</b>            Understanding the hydrology of stormwater is essential for anyone that is involved designing, reviewing, constructing or regulating drainage. This course will cover the three (3) basic influences of climate, topography and land cover and review the standard methods and models (Rational, TR-55 and Hydrocad) for computing runoff rates and volumes. Actual design examples of stormwater conveyance facilities will be used.</p> <p><b>Fundamentals of Watershed Hydrology II</b>            This course will build on the skills learned in Hydrology I to examine the methods of modeling and designing stormwater detention facilities in complex watersheds using the WIN TR-20 and Hydrocad computer models. Specific site examples will be used for in-class, hands-on design problems.</p>	<p align="center">ALB-404A 1/21/2009</p> <p align="center">ALB-404B 1/22/2009</p>		<p align="center">SYR-404A 12/10/2008</p> <p align="center">SYR-404B 12/11/2008</p>	

<p><b>Hydraulics/Soils</b>  Knowledge of soils and hydraulics is an important component of the design and construction of stormwater management facilities. The first part of this course will review the methods for computing flows through pipes, channels, orifices and weirs.</p> <p>Secondly, the classification of soils and their engineering characteristics will be examined (plasticity, sieve analysis, angle of repose, permeability coefficient, bearing capacity, optimum moisture content, etc.)</p> <p>Finally, these principles and characteristics will be applied to practical design examples of stormwater facilities during the class exercise.</p>	ALB-405 2/4/2009			
<p><b>Watercourse Hydrology and Hydraulics I</b>  The HEC-RAS computer program is a powerful tool developed by the USACE to model river hydraulics and hydrology. Participants will be introduced to the fundamental components and organization of the program. An understanding of basic hydraulics and watershed hydrology is necessary. Attendees will learn how to generate hydraulic profiles for simple water courses using actual design examples.</p> <p><b>Watercourse Hydrology and Hydraulics II</b>  This workshop will build on the skills covered in Water Course Hydrology and Hydraulics I using the HEC-RAS computer program to model more complex water courses with multiple branches, culverts and bridges. Numerous design examples of actual site conditions will be used.</p>		FSH-406A 2/18/2009  FSH-406B 2/19/2009		
<p><b>Advanced Watercourse Hydrology and Hydraulics I</b>  The new NYS-DEC dam safety regulation requires that an emergency action plan be developed for any significant impoundment structure in a water course. The plan must include an assessment of downstream impacts resulting from its failure. Participants will learn how the HEC-RAS program is used to model dam breaches and establish downstream inundation plans using actual condition examples.</p> <p><b>Advanced Watercourse Hydrology and Hydraulics II</b>  Many developments impact or are impacted by 100-year flood plains that are established and regulated by FEMA. The foundation for establishing flood plain boundaries and elevations is the HEC-RAS (or its predecessor HEC-2) computer model. Attendees will be familiarized with the procedures for computing and modifying regulated flood plains and flood ways using HEC-RAS in accordance with FEMA requirements. Actual real-life examples will be used as class problems.</p>	ALB-407A 2/25/2009  ALB-407B 2/26/2009			
<p><b>Stormwater and the Development Process/SEQR</b>  From vision to certificate-of-occupancy, developing property is a complicated enterprise, with stormwater management playing an ever increasing role. This class will take a close look at the issues that influence private sector development, including natural, economic, political, sociological, regulatory, philosophical and even psychological factors. Stormwater management practices for a project must consider all of these while being practical, durable and sustainable. We will identify the steps, the issues, and the players involved in typical development projects, and learn how to successfully integrate stormwater management in the process.</p> <p>An overview of the <u>S</u>tate <u>E</u>nvironmental <u>Q</u>uality <u>R</u>eview Act will also be provided.</p>	ALB-409 3/19/2009		SYR-409 11/19/2008	



<p><b>Stormwater Ponds</b>  Wet ponds have become the most widely used and accepted stormwater management practice and are used to remove pollutants from stormwater runoff, mitigate peak flow rates, while creating an aesthetically attractive site feature.</p> <p>This course will cover the attributes of various pond designs, and review pond hydrology and hydraulics. Specific design examples will be utilized.</p>		<p>FSH-413  6/16/2009</p>		<p>BUF-413  4/1/2009</p>
<p><b>Illicit Discharge Detection and Elimination – IDD&amp;E</b>  Illicit discharges of pollutants through municipal and private storm systems can be a major source contamination to our streams, lakes, wetlands, oceans and rivers. This workshop will provide hands-on field experience in the techniques for detecting illicit discharges and tracing the pollutant path back to its source. Methods for municipalities to enforce and eliminate such discharges as required by GP-08-02 will be presented and discussed.</p>		<p>FSH-414  6/17/2009</p>		