BMP-LID Design with EPA SWMM (5.0.021)
Hosted by the Illinois Association for Floodplain and Stormwater Management

Tuesday, March 11th, 2015
Marriot Bloomington-Normal Hotel & Conference Center
201 Broadway Ave, Normal, Illinois 61761

- Registration is open until March 2nd, 2015
- Follow the link to complete your registration with 123signup.
  - https://www.123signup.com/register?id=yyxyp
- Contact Sarah Harbaugh at mailto:iafsm@illinoisfloods.org or 630-443-8145 with questions.

What is SWMM?
The EPA Storm Water Management Model (SWMM) is a dynamic rainfall-runoff simulation model used for single event or long-term (continuous) simulation of runoff quantity and quality from primarily urban areas. The runoff component of SWMM operates on a collection of subcatchment areas that receive precipitation and generate runoff and pollutant loads. The routing portion of SWMM transports this runoff through a system of pipes, channels, storage/treatment devices, pumps, and regulators. SWMM tracks the quantity and quality of runoff generated within each subcatchment, and the flow rate, flow depth, and quality of water in each pipe and channel during a simulation period comprised of multiple time steps.

What is SWMM5?
SWMM was first developed in 1971, and has since undergone several major upgrades since then. It continues to be widely used throughout the world for planning, analysis and design related to stormwater runoff, combined sewers, sanitary sewers, and other drainage systems in urban areas, with many applications in non-urban areas as well. SWMM 5 provides an integrated environment for editing study area input data, running hydrologic, hydraulic and water quality simulations, and viewing the results in a variety of formats. These include color-coded drainage area and conveyance system maps, time
series graphs and tables, profile plots, and statistical frequency analyses. **SWMM 5** also includes components to model runoff reduction via Low Impact Development (LID) controls.

### Typical Applications of SWMM

- Evaluating Best Management Practices (BMPs) for **sustainability goals**
- Design and sizing of drainage system components including detention facilities
- Control of combined and sanitary sewer overflows (CSOs and SSOs)
- Generating non-point source pollutant loadings for wasteload allocation studies
- Flood plain mapping of natural channel systems

### Learning Objectives

1. Get information about SWMM5 capabilities and features.
2. Learn how to prepare SWMM5 input file and interpret SWMM5 output results.
3. Learn how to use SWMM5 as a LID/BMP analysis and design tool.
4. Prepare yourself for future EPA stormwater regulations that will address runoff volume control and other stormwater quality objectives.

### Target audience:

Civil and environmental engineers and scientists who work with storm sewer systems, BMP and LID design, or stormwater management. The course is intended for those familiar with stormwater modeling theory and practice for site design applications. Watershed planners and policy specialists may not find the content to be applicable. It is assumed that the student does not have prior experience with SWMM. Experienced SWMM users may find parts of the course less than useful.

### Course type

Instructor led course with 40% lectures and 60% hands-on exercises
**Pre-requisite**
Students should know how to use Windows®-based software and have a basic understanding of hydrology, hydraulics and stormwater LID and BMP design.

**Course Outline**
- SWMM Description
- SWMM Capabilities
- User interface
- SWMM Applications to LID/BMP design
- Input data
- Output results
- Tutorial
- Hands-on LID Design Exercise
- Brief Overview of the Watershed and BMP Modeling Program WinSLAMM

**Course Instructors**
Ralph Stark, P.E., Joy Corona, P.E., and Shauna Urlacher, P.E.

**Computer Requirements**
Students must bring their own laptop computer to work on the course exercises, with EPA SWMM® installed.

One week before the training date, the registered students will receive a link to download SWMM software and user’s manual. Handouts, case study files and software installation instructions will be also emailed. Before arriving for the training, the students will have to install the software on their laptop and print the handouts and user’s manual.

Once installed, double click on the SWMM icon on your desktop to confirm that the program properly opens. It is the instructors’ intent to avoid delays at the start of the course due to installation needs or lack of case study files. Students must install the program in advance of the course, and load the supplemental files on their C:\ Drive. For any questions, contact Shauna Urlacher at surlacher@smithlasalle.com or (847) 671-8304.

**Cost:** $140  lunch included  7.5 PE PDHs and 6 CFM CECs
**Time:** 8:00am-5pm  Registration at 7:30