

## Autodesk Storm & Sanitary Analysis

Autodesk Storm & Sanitary Analysis (SSA) is an advanced, powerful, and comprehensive modeling package for analyzing and designing urban drainage systems, storm water sewers, and sanitary sewers for all civil engineers. SSA can model complex hydrology, hydraulics, and storm water quality.

After completing this course, students will have obtained the knowledge to design and analyze drainage systems, storm water sewer networks and interconnected detention ponds, sizing and designing of detention ponds and outlet structures, sanitary sewers utilizing the Autodesk Storm & Sanitary Analysis tool. We will show how SSA interacts dynamically with Civil 3D 2012, and Map 3D 2012. Working with DWG, DXF, GIS, and raster data and imagery, SSA is the complete solution for anyone needing a storm and sanitary analysis tool.

### Who should attend?

This is an advanced level course for civil engineers and technicians who are presently using AutoCAD Map 3D or AutoCAD Civil 3D.

### Prerequisites

Students must be fluent in storm water and sewer analysis design and AutoCAD Map 3D or AutoCAD Civil 3D. Students should have a working knowledge of the Microsoft Windows (7, 8.1, or 10) environment.

### Questions?

Please call us at 800-336-3375 and ask to speak to our Training Coordinator.

### Note:

To receive your certification of completion from Autodesk for this course you must complete the online evaluation form at <http://atcevaluation.autodesk.com/>

### Course Outline

#### User Interface Basics

- Plan View
- Menu Bar
- Data Tree
- Toolbars
- View Tabs

#### Rational Method

- Setting Project Options
- Inserting Background Image
- Creating Subbasins & Properties
- Creating Drainage Network
- Setting Analysis Options
- Performing Analysis (Single & Multiple Storms)
- Reviewing Time Series Plot
- Generating reports (ASII, Excel®, PDF)

#### SCS Method

- Setting Project Options
- Importing Background Image
- Creating Subbasins
- TOC Properties
- Creating Network
- Adding Roadway Gutter Flow & Gutter Cross Section
- Rain Gage, Time Series, and Rainfall Designer
- Performing Analysis
- Generating Reports
- Profile Plot & Output Animation
- Plan View Legend & Display

#### Stormwater Planning Preparation Using Map 3D (Import Shape File)

- Displaying Map Task Pane (MAPWSPACE)
- Opening USGS drawing
- Connecting Shape File for Soils & Add to Map
- Showing Data Table for Selected SHP
- Creating a Theme (Soils) & Review

## Autodesk Storm & Sanitary Analysis [CONTINUED]

### Stormwater Planning Analysis Using SSA (Import GIS Data)

- Importing GIS Land Use Subbasin Data
- Merging Settings (Bring in Predefined Rain Gage, Links, etc.)
- Import – Layer Manager to bring in Background
- Project Options
- Creating Network
- Adding Roadway Gutter Flow & Gutter Cross Section
- Running Analysis & Review Time Series Plot

### Stormwater Design Preparation Using Civil 3D

- Opening Pre-Development Drawing
- Using Waterdrop Tool
- Turning on Slope Arrows in Surface Style
- Sheet, Shallow, and Channel Flow for TC
- Converting Boundary Polyline to Subcatchment
- Opening Proposed Storm Network
- Review

### System Pipe Design & Analysis Workflow

- Opening Drawing in C3D
- Analyzing Network in SSA
- Setting Project Options (Rational, TR55, Hydrodynamic)
- Run Analysis, Review Profile Plot, and Play Output Animation
- Making Corrections (Pipe Size, etc.)
- Exporting to Hydroflow Storm Sewers File
- Importing the STM file in C3D & Select Update Pipe Network
- Review Plan & Profile

### Pond Design and Analysis

- Opening drawing in C3D
- Setting User Contours & Low Breakline, Overflow Elevation, and Top of Pond
- Selecting Surface, Analyze, and Stage Storage
- Defining Basin
- Inserting Stage Storage Table into Drawing
- Opening Storage Pong in SSA (SPF File)
- Viewing Profile Plot of the System & Adjust Pond Elevation
- Adding Outlet Controls
- Storage Node Exfiltration
- Run Analysis
- Review Storage Node for Flooding, Review Weir, and Review Orifice
- Custom Report