

AutoCAD Civil 3D Pipe Networks – 8.0 Hours (1 Day)

Course Description

Summary

This class explores the pipe layout and drafting tools in AutoCAD® Civil 3D®, and their application in typical project applications for storm, sanitary and water distribution systems. Civil 3D uses a pipe network model, providing a powerful system for representing the interactions of pipes and structures within a system. The Civil 3D pipe network links to analysis and design tools in the Storm and Sanitary Analysis portion of Civil 3D, providing data *to* and depicting data *from* this robust analysis package. Detailed analysis operations in the Storm and Sanitary Analysis product are covered in a separate training class.

This class provides insight into the development and use of prototyped pipe network settings, deployed through template drawings that make required pipe elements available to all designers. The class examines in detail the creation and editing of pipe network data, as well as Civil 3D's pipe annotation capabilities and the ability to produce design deliverables.

Topics and Schedule

Civil 3D Pipe Network Concepts

- Civil 3D Pipe and Structure Objects
- Civil 3D Pipe Networks
- Network versus Run Based Pipe Modeling

Civil 3D Pipe Network Parts Lists and Part Availability

- Development of Parts Lists and Prototyping Strategy
- Pipe Network Part Availability and Civil 3D Pipe Catalogs
- Part Size and Feature Availability for Pipes and Structures
- Adding Part Sizes in the Part Builder
- Pipe Catalog Management and Distribution
- Advanced Part Modification Concepts in the Part Builder
- Creating Parts Lists for Various Applications

Civil 3D Pipe and Structure Styles

- Style Display Options and Drawing Requirements
- View-Based Display Control Settings
- Layer Management and CAD Standards Settings
- Style Associations in Parts Lists

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Civil 3D Pipe and Structure Rules

- Rule Concepts and Interactions with Network Layout
- Rule Hierarchy and Control Order
- Rule Associations in Parts Lists

Creating Civil 3D Pipe Networks

- Alignment and Surface Considerations
- Creating Networks from Objects or by Layout
- Pipe Network Creation Tools
- Plan and Profile Network Settings Assignments
- Making and Changing Parts List Assignments
- Controlling Flow Direction
- Graphic Feedback During Network Creation

Civil 3D Pipe Data in Profile

- Defining Alignments from Pipe Networks
- Creating Profiles and profile Views
- Drawing Pipe Network Parts in Profile
- Profile Display and Style Interactions

Editing Civil 3D Pipe Networks

- Pipe Network Editing in Plan – Data Editing
- Pipe Network Editing in Plan – Grip Editing
- Swapping Network Parts
- Controlling Structure Orientation
- Structure Naming and Numbering
- Pipe Network Editing in Profile – Data Editing
- Pipe Network Editing in Profile – Grip Editing
- Controlling Rim and Sump Elevations in Profile
- Pipe Network Editing in Storm and Sanitary Analysis - Overview

Managing Pipe Network Data

- Pipe Networks in Section
- Pipe Networks in 3D Model View
- Pipe Network Data in Quantity Takeoff
- Pipe Network Import and Export with Storm and Sanitary Analysis
- Pipe Networks and LandXML
- Pipe Network Data and Interaction with Civil 3D Projects
- Managing Pipe Network Data Across Multiple Base Drawings

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Prerequisites

Thorough familiarity with AutoCAD is essential. Completion of Civil 3D Essentials and Civil 3D Intermediate, or equivalent experience in Civil 3D, is required.

Learning Objectives

1. Participants will be able to modify storm and sanitary system parts lists with pipes and structures for use in the sample land development project used in the course.
2. Participants will be able to modify pipe and network styles for illustration and labeling of pipe networks in the sample land development project used in the course.
3. Participants will be able to create storm and sanitary pipe networks in the sample land development project used in the course.
4. Participants will be able to edit data and labels for the storm and sanitary pipe networks in the sample land development project used in the course.

AUTOCAD CIVIL 3D PIPE NETWORKS – ONE DAY	
Overall Course Length	8.0 Hours
Instructional Time	7.0 HOURS
PROFESSIONAL DEVELOPMENT HOURS (PDHs)	
New York State Land Surveyors	N/A
New York State Professional Engineers	7.0 PDHs



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