

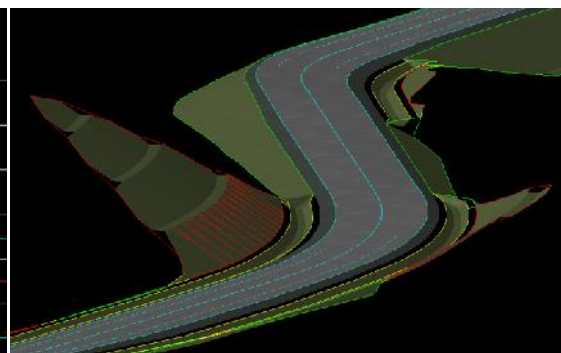
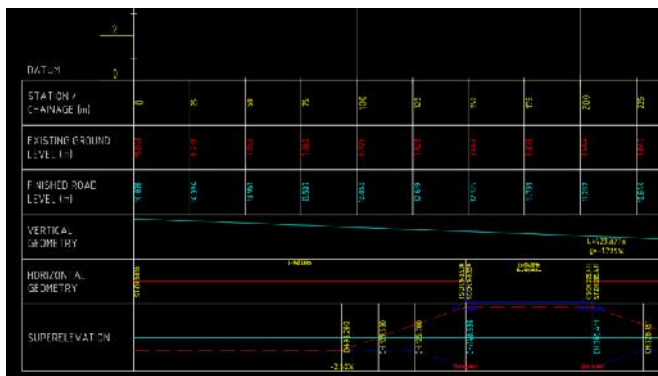
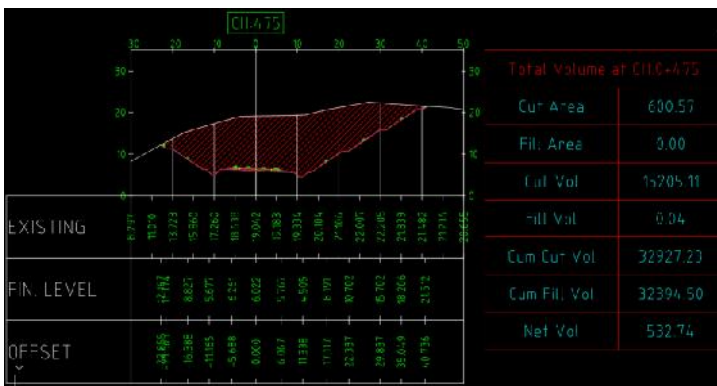
AutoCAD Civil 3D 2018 : Essentials Training Course Outline – Road and Highway Project Module



Course Description

Be in residential project, GIS integration or applying it just for plain 2D drafting purposes, Autodesk AutoCAD Civil 3D is the flexible Building Information Modeling tool for civil and infrastructure project. In this 2-day training session, we will learn the designing of road and highway project in 3D.

Starting with clean-up the survey data, we shall proceed to generate 3D digital terrain model of the existing ground surface. Explore the quick alignment generation tool together with proposed profile layout. Superelevation and alignment geometry design based on local standard are also included. Generating cross-section details and earthwork volume calculation and balancing are crucial in any road and highway project. Finally, the integration of Google Earth and BING map imagery will drive advantages to your organization to win more projects.



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Course Outline – Day 1

Introduction to AutoCAD Civil 3D

-] Interface and Commands, Generating Template & Template Installation Guide

Clean-up the Survey Drawings

-] Working with Layers
-] Execute clean-up Commands
-] Importing Cleaned Survey Data into AutoCAD Civil 3D Template

Creating 3D Existing / Original Ground Surface

-] Creating 3D OGL Surface from 2D AutoCAD TEXTS
-] Creating 3D OGL Surface from 2D AutoCAD POINTS
-] Creating 3D OGL Surface from 2D AutoCAD LINES / POLYLINES / CONTOURS

Surface Analysis in 3D

-] Contour Labelling, Elevation Analysis & Slope Arrow Analysis

Course Outline – Day 2

Road and Highway – Alignment Design

-] Creating & Editing Horizontal Alignment
-] Alignment Labelling : Control Plan
-] Alignment Labelling : Fixed Interval Pegging Points

Road and Highway – Superelevation Design

-] Generating Superelevation

Road and Highway – Profile Design

-] Creating Existing Ground Profile
-] Creating & Editing Proposed Road Profile

Road and Highway – Assembly Design

-] Creating Typical Cross-Section of a simple road

Road and Highway – Corridor Design

-] Creating Proposed Corridor

Road and Highway – Sample Lines

-] Creating Sample Lines

Road and Highway – Volume Calculation

-] Earthwork Volume – TIN Volume Method
-] Earthwork Volume – Cross-Section / Average End-Area Method
-] Earthwork Balancing

Road and Highway – Cross Section Detailing

-] Creating Multiple Cross-Sections

Road and Highway – Imagery Integration

-] Embedding Google Earth and BING Map images into the model

BIM Workflow Overview

-] Integration with Autodesk InfraWorks 360
-] Integration with Autodesk Vehicle Tracking
-] Integration with Autodesk NavisWorks

Note: The suggested course duration is a guideline. Course topics and duration may be modified by the instructor based upon the knowledge and skill level of the course participants.