



Civil Site Design

Design - Analyse - Visualise - Deliver

Civil Site Design

Road Fundamentals

Course Description

The Civil Survey Solutions Civil Site Design (CSD) - Road Fundamentals course will introduce you to the design components of CSD for undertaking a variety of road design projects.

The CSD modules work seamlessly inside AutoCAD, MAP 3D, Civil 3D and BricsCAD using surfaces and alignments to create surface models, plan linework, long sections and cross sections including full outputs to Australian drafting standards and detailed reporting. You can also do vehicle clearance checks on your driveways and vehicle access points, in conjunction with the road design.

Course Duration:	2 Days
Delivery:	Instructor led - maximum of 6 participants
Course Times:	9:00 am - 5:00 pm
Software Used:	AutoCAD Civil 3D, Civil Site Design

Prerequisites

Prior to attending this course you should have:

- A good working knowledge of basic road principles would be of benefit

Upon completion you will be issued with a **Civil Survey Solutions Certificate of Training**.



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Course Objectives

- Undertake road designs including vertical design and cross sections
- Generate intersection designs including roundabouts and cul-de-sacs
- Understand how to vary the cross sections using alignments and multiple vertical controls
- Be able to do long section and cross section set-out as well as plan set out of your designs
- Be able to create driveways and apply vehicle clearance templates to check for and correct vertical clearance issues
- Understand how to apply super elevation to your designs
- Understand template design and sub grade controls
- Be able to generate volumes of the designs



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Topics Covered

- **Creating roads**
- **Creating / managing cross section templates**
- **Vertical design - using the vertical grading editor**
- **Varying cross sections by adding design data**
- **Super elevation - application and editing automatic super elevation**
- **Cross section plotting**
- **Long section plotting**
- **Setout**
- **Volumes of roads and road networks**
- **Introduction to String Design - horizontal and vertical control in your cross sections**
- **Vehicle clearance and driveway vertical clearance checking**
- **Introduction to design constraints**
- **Varying your cross sections via the variation form**
 - Inserting and deleting codes
 - Varying offset / slopes
 - Using alignment and string controls
- **Intersection design fundamentals**
 - Side road match-in
 - Kerb return design and automation
 - Cul-de-sac design
 - Roundabout design introduction
 - Knuckle design
- **Creating 3D surface models of road networks**
- **Introduction to road reconstruction tools and techniques**