



# AutoCAD Civil 3D

TIPS provides Autodesk's Civil 3D engineering design package which provides the tools and functionality of base AutoCAD and AutoCAD Map 3D software. Additionally, AutoCAD Civil 3D software provides a cover a wide array of tools for use in civil engineering/site design, mining engineering, and surveying.

## CAD Overview

Computer-aided design is the use of computer technology to aid in the design of technical projects and can be done in 2D and 3D. Autodesk's AutoCAD is a Windows-based computer aided drafting program that has become the standard for producing technical drawings of all types. It has the depth and range of features that lets users create nearly any type of technical drawing.

## CAD and GIS

AutoCAD Civil 3D includes the AutoCAD Map 3D software tools to provide direct access to data and enables the use of AutoCAD tools to maintain a broad variety of geospatial information.

## Point Clouds

Create point clouds from LIDAR data, and then use that information to create surfaces, perform site surveys and earthwork designs.

## Surfaces and Grading

Build surfaces from traditional survey data or from large data sets. After design work has been completed, can use Civil 3D tools to generate surface models for any type of grading projection.

## Stormwater Analysis and Simulation

Design and analyze surface water systems, including collection systems, ponds and culverts.

## Integration with HEC-RAS software

## SOFTWARE:

AutoCAD Civil 3D

## SMCRA USES:

- Import Company provided data to produce a base map for field and office use.
- Produce maps and cross-sections.
- Calculate volumes of stockpiles, soil piles, and pond capacity.
- Design post-mine topography and create a map.
- Design drainage areas and drainage structures.
- Calculate volumes of soil material for soil substitution and soil replacement.

## TIPS TRAINING CLASSES:

CAD202: AutoCAD Civil 3D Site Design for Permitting and Reclamation

## NEED HELP????

Contact: Stefanie Self  
 sself@osmre.gov

[www.tips.osmre.gov](http://www.tips.osmre.gov)