



OVERVIEW

ODA Civil SDK is a vertical extension based on Drawings SDK and Architecture SDK, that allows it to work with Autodesk® Civil 3D® files and Civil objects in different engineering tasks like roadway design, land surveying, terrain modeling and analysis.

■ Model Elements

Access a model's COGO points, TIN and GRID surfaces, alignments, profiles, gravity pipe networks, pressure pipe networks, corridors and more

■ Smart Linking

Civil objects relate to each other and dynamically link to project documents and specifications — reacting to any design changes and updating project documentation

■ Supported Format Versions

Civil SDK can read Autodesk® Civil 3D® files of versions 2006 to the latest 2023

■ Documentation objects

You can annotate Autodesk Civil objects with labels that update dynamically when the drawing objects change. A variety of customizable labels and tables is available for most civil objects

■ Licensing

Civil SDK is developed through a Special Interest Group (SIG) within ODA. Any ODA member of Sustaining level or higher may participate in a SIG. Membership includes access to the Civil SDK for commercial use and free technical support

KEY CAPABILITIES

■ Read

Civil SDK provides read access to data in civil objects through a cross platform C++ API and .NET wrappers

■ Edit

Edit Civil objects via a powerful high-level API.

Modify all standard properties of drawing objects (visibility, style, associated layer, etc.), civil-specific properties (coordinates, elevations, slopes, etc.) and user-defined properties.

Perform standard object transformations (translation, rotation and scaling), use object-specific functions to modify specific geometric parameters or explode a complex object into a set of plain dwg objects by using the built-in decomposition mechanism

■ Write

Civil SDK saves dwg files that are 100% compatible with Autodesk® Civil 3D® software, ensuring seamless interoperability between applications. Civil SDK offers write support to the latest format version only

■ Create

Civil SDK supports creation for COGO points, TIN and GRID surfaces, alignments, profiles and profile views. Creation of other civil objects could be implemented by demand

■ Visualize

Visualize Civil objects on desktop, mobile devices or from any web-based application.

Appearance of any civil object or documentation primitive could be customized with styles

■ Publish

Publish Civil objects to rich, functional 3D PDF, or standard 2D PDF.

Use the Publish API to create modern, lightweight and interactive 3D or standard 2D documentation from .dwg files. All PDFs are 100% compatible with ISO standards and Adobe tools

WHAT'S NEW 2022

■ Surfaces enhancements

- Performance was significantly optimized
- Topology accuracy was improved

■ Alignments enhancements

- Introduced new API for parametric data of alignment entities.
- Implemented support of alignment entities
 - Free Spiral Constrained By Length
 - Arc line to line fillet
 - Floating arc constrained by through point
 - Float spiral-line constrained by tangent length
 - Complex free spiral-curve-spiral-curve-spiral transition constrained by Arc Length and Arc Angle

■ Visualization accuracy enhancements

- Profile and section views
- Superelevation and cant views
- Labels and tables
- Gravity and pressure pipe networks
- Surfaces, alignments and corridors