

AutoCAD®
Civil 3D®
2010

Questions and Answers

AutoCAD® Civil 3D® 2010 software, the building information modeling (BIM) solution for civil engineering, helps project teams design, analyze, and visualize transportation, land development, and environmental projects more efficiently. AutoCAD Civil 3D helps civil engineers explore more what-if scenarios and optimize project performance with visualization and analysis tools such as geospatial and storm water analysis, and quantity-takeoff. The creation of coordinated and reliable design information helps enable delivery of higher-quality documentation and more accurate 3D models for automated machine guidance during construction. BIM helps civil engineers minimize errors and omissions, make better decisions, shorten production time, and gain a competitive advantage.

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1 General Product Information

1.1 What are the main benefits of AutoCAD Civil 3D 2010 software?

AutoCAD Civil 3D software, the building information modeling (BIM) solution for civil engineering, helps project teams design, analyze, and visualize transportation, land development, and environmental projects more efficiently and with improved accuracy.

AutoCAD Civil 3D helps civil engineers explore more what-if scenarios and optimize project performance with visualization and analysis tools such as geospatial and storm water analysis, and quantity-takeoff.

Choose from several integrated data management approaches to help keep teams coordinated throughout the project. The creation of coordinated and reliable design information helps enable the delivery of higher-quality documentation and more accurate 3D models for automated machine guidance during construction. BIM helps civil engineers minimize errors and omissions, make better decisions, shorten production time, and gain a competitive advantage.

1.2 Which version of AutoCAD is AutoCAD Civil 3D 2010 built on?

AutoCAD Civil 3D 2010 is built on AutoCAD® 2010 software. All AutoCAD functionality is included in AutoCAD Civil 3D.

1.3 Does AutoCAD Civil 3D 2010 contain geospatial and mapping functionality?

AutoCAD Civil 3D 2010 includes geospatial and mapping functionality to support civil engineering and survey-based workflows. AutoCAD Civil 3D 2010 also provides the ability to export data, including AutoCAD Civil 3D points, parcels, alignments, and pipes into SDF format files that can be used to create intelligent maps in Autodesk MapGuide® Enterprise software and AutoCAD® Map 3D software.

1.4 What types of projects are best handled with AutoCAD Civil 3D 2010?

AutoCAD Civil 3D 2010 software can help provide notable productivity benefits for a variety of project types, including transportation, land development, and environmental projects. The software's functionality is flexible enough to be used for a variety of tasks including surveying, storm sewer design and analysis, subdivision and parcel layout, road and highway design, and more.

1.5 What is new in AutoCAD Civil 3D 2010?

The 2010 release continues to demonstrate Autodesk's commitment to high quality and increased performance and includes the following enhancements:

Performance and Capacity

- Surface performance and scalability improvements

Usability

- Updated product interface that streamlines usability by providing user interaction, which is consistent across Autodesk® products, is easy to use, and is easy to learn
- Civil-specific ribbon for creating, editing, and annotating the civil model
- Improved usability via contextual tabs, rationalized user interface, and tooltips
- Improved efficiency for advanced users; easier to learn for new users

Parcels

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- Parcel layout usability enhancements
- New parcel sizing options, including frontage offset, minimum width, min/max depth

Surveying

- Additional field-to-finish functionality to create survey databases from COGO points, ASCII field book information, and LandXML data
- Automatically process linework from survey database using predefined linework definition controls
- Improved management of overall survey process with introduction of import events
- Workflow improvements in figure editing

Plans Production and Production Drafting

- Ability to superimpose and label objects, such as blocks and lines, onto profiles and sections
- General label improvements including automatic staggering of overlapping labels, leader enhancements, band labels, and contour label masking
- Material hatching between surface and design profiles

Intersections

- Dynamic intersection features including curb returns, road widening, and alignment offsets
- Enhancements to alignments, profiles, and corridor modeling to support intersection design requirements
- Creation of corridor model including intersection
- Road design usability improvements

Storm Water Analysis and Simulation

- Hydrology and hydraulics extensions integrated into AutoCAD Civil 3D software user interface
- Metric support and content added
- AutoCAD Civil 3D pipe data automatically added into storm sewer calculator
- AutoCAD Civil 3D pipes updated automatically based on sized network
- Display of hydraulic and energy grade line in AutoCAD Civil 3D profile

Quantity Take-Off

- Ability to import pay item information into AutoCAD Civil 3D
- Ability to assign pay item values to objects in drawings, including AutoCAD software entities and AutoCAD Civil 3D model elements such as pipes and corridors
- Ability to calculate quantities and generate basic quantity reports inside AutoCAD Civil 3D
- Ability to export pay item information for use in Autodesk® Quantity Takeoff software and AASHTO Trns*port products.

Interoperability

- Ability to import Revit® Architecture software building shells directly into AutoCAD Civil 3D 2010

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- Ability to locate building using location and orientation defined in Revit Architecture
- AutoCAD Civil 3D 2010 building includes utility connection points, roof areas, building entrances, and capacity information

1.6 What benefits does Autodesk Vault 2010 provide users of AutoCAD Civil 3D?

For companies looking for more advanced data management for their civil engineering workflow, the addition of Autodesk® Vault 2010 software included with AutoCAD Civil 3D 2010, integrates general data management capabilities including change management, version control, user permissions and archive control. For more information about Autodesk Vault software included with AutoCAD Civil 3D 2010, visit www.autodesk.com/civil3D.

1.7 Do I need to use Autodesk Vault to share civil model data with AutoCAD Civil 3D 2010?

AutoCAD Civil 3D 2010 introduces a more consistent workflow and user interface that is independent of Autodesk Vault. Autodesk Vault is still included and is integrated into AutoCAD Civil 3D 2010 for users who require data management capabilities. However, AutoCAD Civil 3D 2010 users can opt to use model sharing tools such as AutoCAD Civil 3D data shortcuts regardless of whether Vault is being implemented.

1.8 What are the options for moving to AutoCAD Civil 3D 2010?

Autodesk offers a variety of options for purchasing AutoCAD Civil 3D 2010, including new licenses, cross-grades from AutoCAD, AutoCAD LT® software, AutoCAD® Map 3D, CAiCE™ Visual® Transportation products, and AutoCAD® Land Desktop software products. Options vary by country and region. Contact your Autodesk Authorized Reseller for more information.

2 Technology

2.1 Is there an API (application programming interface) for extending AutoCAD Civil 3D 2010? What data is included?

Yes. AutoCAD Civil 3D 2010 software includes the full AutoCAD® 2010 software as well as a broad API for Civil 3D objects and annotation. This API includes the ability to query references and create data such as point groups, surfaces, alignments, profiles, parcels, and the corridor model. Full documentation of the API is included in the product as a help file. Third-party developers around the world are using this API to help create new applications that extend AutoCAD Civil 3D.

2.2 What survey communication support is available for AutoCAD Civil 3D 2010?

AutoCAD Civil 3D 2010 includes the Survey Link extension as part of the product installation. Using the Survey Link extension, you can easily convert proprietary raw survey data into an Autodesk field book (FBK) for use in AutoCAD Civil 3D. By harnessing the power of field books, you can more quickly and easily import and process survey data, making the field-to-finish process easier. Using the Survey Link extension included with AutoCAD Civil 3D, you can work with most raw survey data formats, including TDS raw data (.rw5 and .raw); Sokkia SDR Numeric 4 and SDR Alpha 14; Topcon FC-4, GTS 210/220/310 raw data, and DL-100 Digital Level; Leica® GRE3 and GSI raw data; SMI; and Nikon® AP800, 700, DTM500, 400, 300, DR48, and more.

In addition, several third-party partner applications provide survey communication support for AutoCAD Civil 3D 2010 software, including Leica, Trimble Link, and Topcon.

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For more information on survey partner products, visit www.autodesk.com/civil3d.

2.3 How do I access the hydrology and hydraulic design and analysis capabilities in AutoCAD Civil 3D 2010?

The Hydraflow Storm Sewers, Hydraflow Hydrographs, and the Hydraflow Express Extensions are now integrated into the AutoCAD Civil 3D 2010 graphical interface. These utilities can no longer be installed separately from AutoCAD Civil 3D.

3 Installation, Configuration, and Licensing

3.1 Can I install AutoCAD Civil 3D 2010 on a computer with other applications that are based on AutoCAD?

The following AutoCAD-based applications can be installed on the same system as AutoCAD Civil 3D 2010.

	2010	2009	2008	2007
AutoCAD Civil 3D	N/A	✓	✓	✓
AutoCAD Civil	✓	✓	NA	NA
AutoCAD Land Desktop		✓	✓	✓
AutoCAD	✓	✓	✓	✓
AutoCAD® Map 3D	✓	✓	✓	✓
AutoCAD® Architecture	✓	✓	✓	✓

3.2 What are the system requirements for AutoCAD Civil 3D 2010?

Visit www.autodesk.com/civil3D for a complete list of system requirements.

3.3 Can AutoCAD Civil 3D 2010 be installed from a CD?

The AutoCAD Civil 3D 2010 product package ships with DVD media only. Subscription customers also have the option to download AutoCAD Civil 3D 2010 software. CD media is not available.

3.4 What are the prior use rights for AutoCAD Civil 3D subscription customers?

For so long as you remain a subscription customer for AutoCAD Civil 3D, notwithstanding any information in the Autodesk Subscription terms and conditions that may be construed to the contrary, you may continue to use previous versions of your AutoCAD Land Desktop software in accordance with the terms of your AutoCAD Civil 3D subscription.

3.5 How is Autodesk Vault installed?

The Autodesk Vault client installation is included in the AutoCAD Civil 3D 2010 installation as an option. The server component is provided on a separate DVD. This component is not needed on all user desktops. Organizations should consider several issues before installing AutoCAD Civil 3D 2010, such as whether the project functionality in AutoCAD Civil 3D is going to be used, and if so, where project data will be stored. For more information, see the materials included in the product.

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3.6 Is installation and use of Autodesk Vault required with AutoCAD Civil 3D 2010?

No, the Autodesk Vault project management functionality in AutoCAD Civil 3D 2010 software provides an excellent data management solution, but you do not have to use it. AutoCAD Civil 3D provides a scalable approach to data management and team coordination that helps address the needs of any organization, regardless of size or organizational structure. Starting with xrefs and data shortcuts, project team members can share model data such as surfaces, alignments, and pipes, and work off the same instance of a design object for multiple design tasks.

3.7 Do I need to purchase a dedicated server to store project data?

An Autodesk Vault server can be set up in a variety of ways. Before installing AutoCAD Civil 3D 2010 software, an organization should determine how it wants to save and share project data. Options include the following:

- Define a local machine as the data server
- Define another production machine as the data server
- Define a dedicated machine as the data server

Where project data resides is determined during installation, but the location can be changed at any time after the software is installed.

3.8 Can Microsoft SQL Server be used to host Autodesk Vault data?

If you are currently using a previous version of Microsoft[®] Server Desktop Engine (MSDE) in conjunction with Autodesk data management server, you should consider upgrading to either Microsoft SQL Server™ 2005 Workgroup or the full version of Microsoft SQL Server 2005. By upgrading from MSDE to a newer version of the SQL server, you increase the maximum number of CPU's and the maximum database size limitation of 4GB. AutoCAD Civil 3D 2009 includes an option to install the Autodesk[®] Data Management Server. The standard database installed with Autodesk Data Management Server includes Microsoft SQL Server 2005 Express.

4 Compatibility and Interoperability

4.1 Can I save drawings in AutoCAD Civil 3D 2010 for use in previous versions of AutoCAD Civil 3D or AutoCAD software?

The AutoCAD 2010 DWG file format has been updated and is different from the 2007/2008/2009 DWG file format. This new format is also the same DWG file format that is used in AutoCAD Civil 3D 2010 software. To support the use of previous AutoCAD releases, AutoCAD Civil 3D 2010 has a built-in SaveAs function so you can save drawings to prior AutoCAD releases. However, users who open an AutoCAD Civil 3D 2010 drawing in previous AutoCAD Civil 3D releases will be unable to modify or interact with the model. All base AutoCAD operations will be enabled but AutoCAD Civil 3D-specific commands will not be enabled. Note also that the AutoCAD Civil 3D model objects will remain in the drawing and will be fully accessible once the drawing is opened again in AutoCAD Civil 3D 2010.

You can also export the AutoCAD Civil 3D 2010 drawings to the DWG format for use with previous versions of AutoCAD. When this is done, the civil model will be extracted as AutoCAD primitives.

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4.2 Can I share an AutoCAD Civil 3D 2010 drawing with others who are using AutoCAD 2010?

Yes. You can share AutoCAD Civil 3D 2010 drawings with AutoCAD 2010 users. However, AutoCAD 2010 users should install the AutoCAD Civil 2010 object enabler so that they can edit AutoCAD Civil 3D labels in the drawing without affecting the model. The object enabler will also help ensure that there is complete visual fidelity of AutoCAD Civil 3D objects when viewed in AutoCAD. When the file is reopened in AutoCAD Civil 3D 2010, the drawing loses no information and all edits are in place. The object enabler is included on the AutoCAD Civil 3D 2010 software installation DVDs and can also be downloaded from the Autodesk website.

Note: The AutoCAD Civil 2010 object enabler can be installed only on the 2010 family of products.

4.3 What products does the AutoCAD Civil 2010 object enabler work with?

The AutoCAD Civil 2010 object enabler works with AutoCAD 2010, AutoCAD[®] Mechanical 2010 software, AutoCAD[®] Electrical 2010 software, AutoCAD[®] Architecture 2010 software, AutoCAD[®] MEP 2010 software, AutoCAD Map 2010 software, Autodesk[®] 3ds Max[®] 2010 software, and Autodesk[®] Navisworks[®] 2010 software.

4.4 Can AutoCAD Civil 3D 2010 read and write DGN format files for use in MicroStation software?

Yes. AutoCAD Civil 3D 2010 can read and write MicroStation[®] DGN format files.

5 Consulting, Training, and Support

5.1 Are there other resources that can help me learn more about AutoCAD Civil 3D 2010?

There are many resources that you can take advantage of, including webcasts reseller seminars, discussion groups, consultant programs, and more. Visit www.autodesk.com/civil3d for more information.

From instructor-led or self-paced classes, to online training or education resources, Autodesk offers a robust portfolio of learning solutions to fit your individual needs. Get expert guidance or implementation services at an Autodesk Authorized Training Center (ATC[®]), access learning tools online or at your local bookstore, and validate your experience with Autodesk certifications. To learn more, visit www.autodesk.com/learning.

5.2 What learning and training materials ship with AutoCAD Civil 2010?

AutoCAD Civil 3D 2010 software includes a collection of tools accessible from the Learning Resources page that help you get up and running more quickly. This includes Getting Started with Civil 3D, tutorials, and best practices.

5.3 Are there any materials to help with the transition from AutoCAD Land Desktop to AutoCAD Civil 3D?

Yes. An extensive *Moving from Land Desktop to AutoCAD Civil 3D* guide is included on the Learning Resources page. Autodesk is continuing to work on making the migration from AutoCAD Land Desktop to AutoCAD Civil 3D as smooth as possible.

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6 Subscription

6.1 Can AutoCAD Civil 3D 2010 be purchased without subscription?

Yes, AutoCAD Civil 3D 2010 can be purchased without subscription. Note, however, that only subscription customers receive product updates, e-Learning, and other subscription benefits. Several subscription pricing options are available, including single and multiyear contracts. Contact your Autodesk Authorized Reseller for complete details.

6.2 What benefits does an AutoCAD Civil 3D software subscription offer?

Get the benefits of increased productivity, predictable budgeting, and flexible license management with Autodesk® Subscription. You get any new upgrades of your Autodesk software and any incremental product enhancements, if these are released during your subscription term. A range of community resources, including web support direct from Autodesk product support specialists and self-paced training to extend your skills, make Autodesk Subscription the best way to optimize your investment in AutoCAD Civil 3D software.

The annual fee includes:

- Autodesk Subscription offers a way to make your AutoCAD Civil 3D software costs predictable. Whether you opt for a one-year subscription or a multiyear contract, the costs are known for the entire term of your contract.
- Product enhancements may include extensions, bonus packs, or other rich content for AutoCAD Civil 3D—exclusive to Subscription members. Only Subscription members can access these new product downloads that add new functionality or features to your AutoCAD Civil 3D software. Easily adaptable into your current workflows, apply them immediately to your new projects to help you stay competitive.
- Autodesk Subscription helps make managing software licensing hassle-free and flexible. You have added flexibility to allow your employees to use their AutoCAD Civil 3D software—in the office or at home. Better yet, designers are entitled to run previous versions of the AutoCAD Civil 3D software concurrently with the latest release (under certain conditions), so updates will not cause disruptions to ongoing projects where clients or partners are running previous versions.
- Get what you need to stay productive with AutoCAD Civil 3D software. With web support you get direct, one-to-one communication with Autodesk product support specialists for answers to your installation, configuration, and troubleshooting questions. And you do not need to keep track of support records and email trails, because we will do it for you!
- Get your team up to speed quickly with access to a complete library of interactive training tools and high-quality, self-paced e-Learning lessons that allow users to increase their productivity and master new skills. E-Learning lessons give you a quick and easy way to learn about the features and functionality of AutoCAD Civil 3D software. These short lessons are available on demand and complement more in-depth training provided through [Autodesk Authorized Training Centers](#) or Autodesk Authorized Resellers.

To learn more, take the Autodesk Subscription tour at www.autodesk.com/subscription.

6.3 What product downloads are available for AutoCAD Civil 3D for Subscription members?

For the latest product downloads, please visit www.autodesk.com/civil3dsubscription. Product downloads may include the latest release of the software, extensions, bonus packs, or other rich content for AutoCAD Civil 3D software—exclusive to Autodesk Subscription members and can be downloaded from the Subscription Center www.autodesk.com/subscriptionlogin.

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