Workflows
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AutoCAD Civil 3D Workflows

Refer to this section for workflows for common tasks you might perform when working with AutoCAD Civil 3D.

Moving Data from Land Desktop

Use this workflow to help you efficiently move existing data from AutoCAD Land Desktop to AutoCAD Civil 3D.

- Prepare for the move
  A clear understanding of your current workflows and processes will help you implement AutoCAD Civil 3D successfully and be better able to validate results.

- Map or setup styles and settings
  Styles control the appearance and sometimes the behavior of AutoCAD Civil 3D objects. By using styles in AutoCAD Civil 3D, you have great flexibility in the presentation of design elements, including labels and tables.

- Migrate the LDT data
  There are various tools and methods for moving Land Desktop data into AutoCAD Civil 3D.

Labels and Tables Workflow

You can use the workflow topics as a reference for the process of working with labels and tables.
Each topic contains a brief explanation of a stage in the development of labels or tables and provides links to specific tasks in that stage.

### Setting Up Label Settings and Styles

Specify settings for labels at various levels in the hierarchical Settings tree. In addition, you define specific settings for individual labels in the *label styles*, which manage label content.

The highest levels of settings can serve as a general prototype model for settings that are lower in the hierarchy. Those settings, if not locked at the drawing level, can be overridden in subordinate settings.

**To set up label settings and styles**

1. Define default settings for all labels in a drawing:
   - Right-click the drawing name in the Settings tree and click Edit Label Style Defaults.
2. Define default settings for all labels belonging to a feature:
   - Right-click the feature name in the Settings tree and click Edit Label Style Defaults.
3. Define default settings for a specific label style type in a feature:
   - Right-click the label style type name and click Edit Label Style Defaults.
4. Define a label style:
   - Define the settings for a new label style.
5. Manage label style properties:
   - Define label style layer, visibility, display mode, and text style.

### Inserting and Managing Labels

Follow these steps as a guide to efficiently insert and manage labels.
Inserting and Managing Tables

Follow these steps as a guide to efficiently insert and manage tables.
To insert and manage tables

Set up table styles

Table styles define which data is displayed in the table, and control the table appearance.

Add tables to a drawing

Specify table data differently for each object type.

Add surface legend tables

Surface tables are created in a legend style and do not use label styles or tags.

Modify tables

You can modify the appearance of a table, or add or remove data.

Project Management Workflow

Determine whether the project uses data shortcuts or Autodesk Vault, then choose the appropriate workflow.

Standard Workflow

Use these steps as a guide to create an efficient network of drawings within a project.

Clarify file handling procedures

Establish written procedures for project members who will create or access project data. Make communication between project members a priority.

Create individual design objects

Create the basic surfaces, alignments, and other object to be shared.
Use data references to share read-only copies of objects across multiple design drawings.

Combine reference objects and external references (xrefs) of entire drawings to produce the final drawings.

**Data Shortcuts Workflow**

Follow these steps for each new data shortcut project.

1. **Set up the folders to keep project data organized**
   - Select the appropriate project template, then create a project folder within the working folder.

2. **Set the active project folder**
   - Designate the new project folder as the active data shortcuts folder. Save project drawings in the appropriate subfolders of the project folder.

3. **Create data shortcuts**
   - Open each design drawing and create shortcuts for any objects to be shared with other drawings.

4. **Create object references**
   - Create read-only references to specific objects in other drawings, which are known as consumer drawings.

5. **Validate data shortcuts**
   - Periodically validate shortcuts and repair any broken references.
Autodesk Vault Workflow

Follow these steps for each new Autodesk Vault project.

1. **Designate a Vault Server and database**
   - Designate a Vault server and database for the project.

2. **Create the project in the database**
   - Create the project folder and subfolders, ideally using a standard template.

3. **Create Vault user names and groups**
   - Set appropriate access permissions for user groups to protect the project data.

4. **Identify project objects**
   - Identify project objects and develop a strategy for partitioning project object data.

5. **Add drawings to the project**
   - While adding source drawings to the project, designate which objects can be shared with other drawings.

6. **Create references to source objects in other drawings**
   - Create read-only object references to save space in the consumer drawings.

7. **Synchronize drawings with latest project data**
   - Ensure that data references are regularly updated with the latest versions of project objects as designs change.

8. **Use Vault Labeling**
   - When a major milestone is reached, use the Vault Labeling feature to tag the appropriate version of each project file.
Survey Workflow

Prepare for Survey Data

Before adding survey data to a survey database and drawing, ensure that the styles and settings are set up. There are several types of settings that you must specify before importing or creating survey data.

- Verify Survey user settings
  - Survey user settings are specific to a Windows user login account and affect only the survey features including linework defaults.

- Set or verify equipment properties
  - Equipment properties specify the values associated with a specific surveying instrument.

- Create/verify Figure Prefix database
  - The Survey Figure Prefix database contains information on how figures are created and stylized.

- Create Survey database
  - A survey database contains all the control points, known directions, observation measurements, traverse definitions, figures, and standard deviations.

- Import/edit Survey database settings
  - Survey database settings are specific to the survey features of an AutoCAD Civil 3D survey database.

- Verify survey object settings
  - Verify and adjust the figure, network, and survey point properties.

- Verify Survey drawing settings
  - Survey drawing settings specify the default behavior for drawing-related survey commands.
Survey styles to control the way that survey features are displayed in a drawing.

**Obtain and Create Survey Data**

Survey data can be brought into AutoCAD Civil 3D using several methods including importing from field books and LandXML files as well as entering data manually.

**Transfer and convert raw file to .fbk files**

Use the Survey Link Extension to download raw data and convert it to a field book file.

**Import survey data**

Use the Survey Data wizard, import field book files, import survey LandXML data directly into the survey database, import a point file, or import points from a drawing.

**Review/update import events**

The import event provides a framework that you can use to view and edit specific survey data that is referenced within the import event.

**Input/edit survey data**

Use AutoCAD Civil 3D to define and manage survey data such as point, setups, directions, traverses, and figures.

**Create/edit survey figures**

Use the Survey Figure commands to create and edit survey figures, as well as to perform figure inquiries.

**Adjust, Analyze, and Output Survey Data**

After you have imported or created survey data, you can use several tools to adjust, analyze, and output it.

**Perform mapcheck analysis**

Perform a Mapcheck Analysis by selecting AutoCAD Civil 3D line and curve labels to determine values from label objects based on the precision of the annotation of the label object, or enter mapcheck data manually.
Obtain figure information using mapcheck and inverse methods.

Perform Least Squares analysis.

Analysis may include Least Squares, Compass Rules, Crandall Rule, and Transit Rule.

Export survey data from an individual network, individual figure, or collection of figures.

Use figures that you located in your survey as surface breaklines.

Export survey LandXML data directly from the survey database.

Points Workflow

Refer to this section for high-level descriptions of tasks you might perform when working with points in AutoCAD Civil 3D.

Creating a Drawing Template for Points

Creating drawing templates that contain standard styles, settings, and other point-related information helps you work more efficiently and ensures that final drawings conform to office standards.
To create a drawing template for points

1. Create a new drawing
   - Open an existing drawing or create a new one.

2. Set the default point settings
   - Select the default point settings for the template.

3. Create the point styles
   - Create the point styles for the template.

4. Create the point label styles
   - Create the point label styles for the template.

5. Create the point table styles
   - Create the point table styles for the template.

6. Create the point groups
   - Create the point groups for the template.

7. Create the description keys
   - Create the description keys for the template.

8. Create the point file formats
   - Create the point file formats for the template.
Creating a Project Point Database

Adding points to an AutoCAD Civil 3D project allows others to access the points. For more information about AutoCAD Civil 3D projects, see Managing Projects.

To create a project point database

1. Create a new drawing
   - Open an existing drawing or create a new one.
2. Create points in the drawing
   - Use any method, including importing point data from a file.
3. Create an AutoCAD Civil 3D project
   - Create a new project in the project database.
4. Add the drawing points to the project
   - Use the Add To Project command to add points to a project.
5. Protect the project points
   - To prevent others from modifying the project points, protect them.

Creating Points in a Drawing

Before creating points in a drawing, specify settings and options that control how points are created and how they appear in a drawing.

Save time by saving commonly used styles, description keys, point groups, and point file formats in a drawing template. For more information, see Creating a Drawing Template for Points on page 9.
To create points in a drawing

Create a new drawing
Use a drawing template that contains styles, description keys, point file formats, and point groups you will use

Choose point creation settings
Using any method, including importing point data from a file.

Select point identity settings
If you plan to create points by importing, select Point Identity settings.

Specify description key matching
If you are using description key matching, specify the order in which description keys are matched.

Create/import the points or create copies of project points
To create copies of project points, use either the Get From Project command or the Check Out command.

Changing the Appearance of Points in a Drawing

Before producing hard-copy drawings for a project, you can adjust the appearance of the points in the AutoCAD Civil 3D drawing.

Use styles and point groups to change the appearance of the points in a drawing.

To change the appearance of points in a drawing

Change the appearance of points or use point group overrides
Use another style. For example, you can remove the point numbers from the display.
Use point group overrides to change the appearance of all the points in a point group.

Delete unwanted points
You can delete unwanted points using the Point Editor.
If you prefer that some points are not displayed, you can turn off or freeze the layer.

### Importing Architectural Data Workflow

Refer to this section for high-level descriptions of tasks you can perform when importing an architectural data model to AutoCAD Civil 3D.

1. **Create an architectural model design package file on page 14**
   - Apply all the required export settings, including simplification, and publish the .adsk file to a common network location.
   - See also Exporting Building Sites in the *Autodesk Revit Architecture 2010 User’s Guide*.

2. **Import a building site object**
   - After you create the design package file, you can import the file into AutoCAD Civil 3D.

3. **Create the building site style**
   - Create the style for a new building site object.

4. **Edit the building site style**
   - If necessary, edit the style elements of the building site object.

5. **Update the building site definition**
   - If the source architectural model has changed and a new package file was posted in the shared location, modify the out-of-date building site object.
Preparing a Building Site File for Export

The following is a high-level workflow of the steps that a Revit Architecture user performs to prepare a building site model design package file for export to AutoCAD Civil 3D.

1. **Prepare and simplify the file**
   - An architect applies a Civil Engineering View template and the related visibility settings and filters.

2. **Launch the Export Module and specify export settings**
   - An architect specifies a footprint level, location, base point, and the number of building model elements to export.

3. **Save the file**
   - An architect specifies file location and file name.

4. **View the file export report**
   - The report lists a summary of the output contents.

See also:


Surfaces Workflow

Refer to this section for high-level descriptions of tasks you can perform when working with surfaces in AutoCAD Civil 3D.

Preparing for Surface Data

Before adding surface data to a drawing, ensure that the styles and settings are set up. Consider creating drawing templates that contain standard styles and settings. It helps you work more efficiently and ensure that your final drawings conform to your office standards.

**To create a drawing template for surfaces**

- Open an existing drawing or create a new one.
Creating Surfaces in a Drawing

Before you create surfaces in a drawing, set up your environment to take advantage of the settings and options AutoCAD Civil 3D offers for automatically labeling surfaces and surface objects.

To work even more effectively, save the styles in a drawing template. For more information, see Preparing for Surface Data.

To create a surface

Create a new drawing

Create a drawing based on the desired template.
Adding and Managing Surface Data

When you create a surface, the surface may be empty and therefore is not visible in the drawing. However, the surface name is displayed in the Prospector tree so you can perform other operations, such as adding data.

**To add and manage surface data**

- **Review the surface data.**
  - Expand the surface item in the Prospector tree to display its data.

- **Review the surfaces edit operations and add data**
  - Edit operations are added to a surface definition.

- **Review the surface definition**
  - A surface definition is a collection of a surface’s build, data, and edit properties.
Changing the Appearance of Surfaces

As your design progresses, you can change the look of your drawing by changing the surface style or surface label styles.

To change the appearance of surfaces in a drawing

- Create a new style or edit an existing style
  - Surface styles control the display of all surface components.
- Modify the label and table styles
  - Move and edit the label and table styles as required.

Analyzing Surface Information

You can create analysis of surface data and view surface information and statistics.

To analyze surface information

- View the statistics for the surface
  - AutoCAD Civil 3D provides extensive statistics based on the current state of the surface.
- Create an analysis of the surface
  - You can analyze depressions, elevations, contours, slopes, and watersheds.
- Calculate volumes
  - Query composite and bounded volume differences between surface.
Grading Workflow

Refer to this section for high-level descriptions of the most common grading tasks you might perform when working with grading in AutoCAD Civil 3D.

Setting up Gradings

This section provides high-level descriptions of grading-related tasks you might perform during the early stages of a project.

Before you begin, save time and effort in the design and drafting phase by doing some setup tasks. Establish and save grading criteria as a collection of values for commonly used slope methods and projections. Then apply saved criteria to any grading you create. The following is a list of setup tasks:

To set up for grading

- Establish grading settings
  Define the units of measurement for all gradings.

- Create grading styles
  Grading styles determine how gradings appear in the drawing.

- Define grading criteria
  Grading criteria predefine the methods and projections for grading.
  Watch video: Create a Criteria Set and Criteria (1 minute 35 seconds)
Designing and Creating Gradings

This section provides high-level descriptions of grading-related tasks you might perform during the design phase of a project after completing the setup tasks on page 18.

To perform grading design tasks

Create feature lines
- Convert existing objects, draw parcel lot lines or feature lines, or export feature lines from corridor models.

Create grading groups
- Use grading groups to organize the base-line geometry and to control the interaction of grading objects.

Create the grading
- Use the Grading Creation Tools.

Modify the grading as required
- Use edit commands on the Grading menu or the Grading Creation Tools.

Outputting Grading Information

This section provides high-level descriptions of grading-related tasks that you might perform during the later stages of a project.

To create finished plans and generate reports from surfaces

Select grading group surface creation
- Surfaces created from grading can be used to generate surface analysis displays.

Edit grading styles
- Use styles to establish the display of the grading and surface.
Parcels Workflow

Refer to this section for high-level descriptions of how to work with parcels in AutoCAD Civil 3D.

Setting up Parcels

To set up styles for a project with parcels

- Determine the types of parcels to use
  - Includes site parcels. Decide how to display the parcels and their associated labels and tables.

- Create a new drawing
  - Save as a drawing template if needed.

- Create parcel styles
  - Parcel styles control the way a parcel is displayed in a drawing.

- Create parcel label styles
  - Parcel label styles control the way a parcel's labels are displayed.

- Create parcel table styles
  - Parcel table styles control the way a parcel's tables are displayed.
Designing and Creating Parcels

Create parcels by converting existing AutoCAD objects, or create parcels directly using the Parcel Layout Tools toolbar.

AutoCAD objects that you can convert to parcels include closed polylines, and other closed sequences of lines or arcs. If you are converting AutoCAD objects, they must be free of drawing errors. Use the drawing cleanup tools in Autodesk Map to accomplish this before you convert the objects.

To design and create parcels

Create parcels from objects by importing AutoCAD objects, by layout using the Parcel layout toolbar, or subdivide existing parcels to create new parcels.

Control parcel display by changing parcel styles or their label styles.

Use the Parcel Layout Tools toolbar to edit parcels.

To merge two parcels, delete a shared segment. When you delete a shared segment, you delete the shared boundary. The two parcels become one.

Alignments Workflow

Refer to this section for high-level descriptions of tasks you perform when creating, designing, and finishing alignments in AutoCAD Civil 3D.

Setting Up Alignments

Establish different alignment and label styles for each design phase.
All objects have a default style that you can copy, edit, and then save with a new name. You may begin by establishing styles for different design phases. For example, design styles might have details that would not be necessary in plotting styles.

**To set up alignments**

- **Set up alignment styles**
  Alignment styles control the visual display of each alignment component.
- **Set up alignment label styles**
  Alignment label styles control the visual display of each label component.
- **Set up alignment label sets**
  Alignment label sets control the label styles that are applied to the individual elements that you want to label on the alignment.
- **Set up the design criteria file**
  The design criteria file contains minimum local standards tables for design speed, radius, and length of individual alignment sub-entities.
- **Set up design checks and design check sets**
  Design checks verify design criteria for parameters that are not included in the design criteria file.

**Designing and Editing Alignments**

Create alignments by layout, from polylines, from pipe networks, and from LandXML data.

**To design and edit alignments**

- **Create the alignment**
  Draw an alignment, or create one from a polyline, reference, pipe network, or LandXML file.
Profiles Workflow

Refer to this section for high-level descriptions of tasks you perform when working with profiles and profile views.

Setting Up Profiles

Use standards to create a consistent format for the profiles in a drawing.
Standard format and content for profiles is often required to comply with your requirements or to make it easier to compare several profiles. You can create these formats and content standards with styles and settings for profiles, profile views, labels, and data bands. The following process helps you evaluate existing styles and settings and to decide whether to change anything.
To set up profiles and profile views

1. **Create a profile from an existing alignment**
   - Create a profile from an existing alignment and display the profile on a profile view.

2. **Add profile view labels**
   - Manually place a few profile view labels for station elevation and depth.

3. **Add data bands**
   - Add data bands above or below the profile grid, ensuring that you have one of each type that you need.

4. **Review profile styles**
   - Review the standards for the graphed profile line.

5. **Review profile label styles**
   - Review the standards for the automatic labels along the profile line.

6. **Review profile view label styles**
   - Review the standards for the manual labels in the profile view.

7. **Review profile view styles**
   - Review the standards for the profile view title, axes annotation, grid, and ticks.

8. **Review profile view band styles**
   - Review the standards for the data bands above or below the profile view grid.
Designing and Displaying Profiles

Follow this sequence to design and display profiles.

To design and display profiles

1. Ensure that your drawing contains all relevant surfaces
   - If necessary, add surfaces by importing their DWG, XML, TIN, or text files.

2. Identify the horizontal alignment
   - The alignment specifies the centerline route along which to sample elevations for the profile.

3. Decide whether you want any profiles offset from centerline
   - If so, determine what offset distances to left and right are required.

4. Create the surface profile and offsets or Export feature lines as profiles
   - If you have existing corridors, you can create profiles directly from the corridor feature lines.

5. Create a profile view
   - Create a profile view to display and annotate the profile and offsets for analysis purposes.

6. Design a layout profile
   - Using the reference lines in the profile view, design a layout profile on the profile view grid.

7. Create a superimposed profile
   - If the profile view includes the profile of any linear feature not parallel to the main alignment, create a superimposed profile.
### Sections Workflow

Refer to this section for high-level descriptions of tasks you might perform when working with sections in AutoCAD Civil 3D.

### Setting Up Sections

Use this information to determine a standard, consistent format for the sections in a drawing.

Standard format and content for sections is often required to comply with your requirements or to make it easier to compare several sections. These standards are created by means of styles and settings for sample lines, sections, section views, labels, and bands. Use the following workflow to help you evaluate existing styles and settings and decide whether anything should be changed.

**To set up standards for sample lines, sections, and section views**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create the sample lines and sections</td>
<td>Create the sample line(s) and the section(s) from an existing alignment.</td>
</tr>
<tr>
<td>2. Create the section view</td>
<td>Create a section view to display the section(s).</td>
</tr>
<tr>
<td>3. Review the sample line styles</td>
<td>Review or modify the standards for the sample line(s).</td>
</tr>
<tr>
<td>4. Review the section label styles</td>
<td>Review and modify the standards for the automatic labels for the sample line(s) and the graphed section.</td>
</tr>
<tr>
<td>5. Review the section styles</td>
<td>Review and modify the standards for the section.</td>
</tr>
<tr>
<td>6. Review the section view styles</td>
<td>Review and modify the standards for the section view title, axes annotation, grid, and ticks.</td>
</tr>
</tbody>
</table>
Designing and Creating Sections

Before you create sample lines and sections, you must have existing data, including elevation (surface) data as well as a horizontal alignment.

To design and create sections

1. Ensure that the drawing contains the required surface
   - If necessary, add the surfaces.

2. Ensure that the drawing contains the necessary alignment
   - Alignment properties and labels do not affect the sections.

3. Locate the sections
   - Decide where along the alignment you want the sections and what ground distance they should cover.

4. Create sample lines
   - Use appropriate sources, styles, and left and right swath widths across of the alignment.
Material and Quantity Analysis Workflow

Refer to this section for high-level descriptions of tasks you might perform when performing material and quantity analysis in AutoCAD Civil 3D.

Analyzing Sectional Material Volumes

Refer to this section for high-level descriptions of tasks used to set up quantity takeoff properties for sample line groups and create quantity takeoff tables and reports in AutoCAD Civil 3D.

To create a quantity takeoff table or report

1. Create sample lines
   - Create sample lines for the alignment along which you are going to generate quantity takeoff information.
2. Create quantity takeoff criteria
   - Create a list of materials that specifies the surfaces and shapes from which you want to generate volume information. You will map the list entries to actual surfaces and corridor shapes found in the drawing later.
3. Editing quantity takeoff settings
   - The settings include the default quantity takeoff criteria used to create material lists and default styles for tables.
4. Create a material list
   - Select the sample line group and a quantity takeoff criteria, and then map objects in the drawing to the materials listed in the criteria.
Display the sectional volume information in a standard AutoCAD Civil 3D table format, or view and export the information in XML.

Analyzing Material Quantities

Refer to this section for high-level descriptions of tasks used when analyzing quantities using pay item lists in AutoCAD Civil 3D.

To analyze quantities using pay item lists

1. **Import pay items and categorization files**
   - A pay item file contains the pay item codes, descriptions, and units of measure for the master pay item list.

2. **Filter and categorize pay item lists**
   - You can filter the pay item list for individual pay items, either by Pay Item ID or by the text in the Description for the pay items.

3. **Tag objects with pay items**
   - You can assign pay items to objects or groups of objects in your drawing. You can assign pay item lists to corridors and pipe networks.

4. **Use formulas with pay item lists**
   - Apply formulas to pay items, and edit the formulas.

5. **Compute quantities using pay item lists**
   - Compute pay item quantities for drawings, view frames, and selection sets.

6. **Report pay item quantities**
   - Save quantity reports or place quantity tables in your drawing.
Creating and Editing Mass Haul Diagrams

Refer to this section for high-level descriptions of tasks used to create mass haul diagrams in AutoCAD Civil 3D.

To create a mass haul diagram

1. Specify mass haul settings
   - Specify settings, including the default styles for mass haul lines and views, and for mass haul commands.

2. Confirm pre-requisite objects
   - Confirm that you have a baseline alignment, a sample line group, and a material list from which you can create your mass haul diagram.

3. Create the mass haul diagram
   - Specify source objects, materials, mass haul view and mass haul line styles, and free haul distance, using the Create Mass Haul Diagram wizard.

4. Edit mass haul styles
   - Edit mass haul line and view styles to improve visibility of the mass haul diagram.

5. Specify mass haul line balancing options
   - Add borrow pits and/or dump sites to balance mass haul.

Corridor Modeling Workflow

Refer to this section for high-level descriptions of tasks you might perform when working with corridors in AutoCAD Civil 3D.

Preparing the Drawing for Corridor Creation

Creating drawing templates that contain standard styles and settings will help you work more efficiently and ensure that your final drawings conform to your office standards.
Preparing the drawing template for corridor creation

Open a drawing

Select the default settings

Create the styles

Create the label styles

Create the quantity takeoff criteria

Save the drawing as a template (.dwt)

Open an existing drawing or create a new one.

Use corridor settings to specify the default behavior for corridor-related commands.

Styles control the display and design characteristics of drawing objects.

You can define default label settings at three different levels.

Use quantity takeoff settings to specify the default style and name format settings for quantity takeoff.

By saving as a template, you can leverage the style and setting changes.

Setting Up Data for Corridor Creation

Before you create corridors, you must have existing data, such as existing ground surfaces, alignments (centerlines), profiles (vertical alignments), and typical sections (assemblies).

To set up data for corridor creation

Build the existing ground surfaces

Surfaces are used to derive alignments and profiles, and for corridor grading.
Alignments are used by a corridor as its centerline.

Use existing ground profiles and design finished grade profiles (vertical alignments).

Specify superelevation parameters for the curve groups on the centerline alignment and design offsets (if required).

Use subassemblies to build the required assemblies.

Before creating an assembly, identify the different types of subassemblies you need.

Corridor Design and Creation

This section provides the processes used to create corridors.

Use the Create Corridor or Create Simple Corridor commands.

Make any required customizations to settings or styles for the corridor.

Override corridor and assembly parameters and apply the overrides to a station or range of stations.
Visualizing Corridors

After you have created a corridor, create corridor surfaces and boundaries to help you visualize the corridor.

To visualize a corridor

Create a corridor surface

When you create a corridor surface, it is added to the Surfaces collection.

Create corridor boundaries

Use corridor surface boundaries to prevent triangulation outside of the daylight lines of a corridor surface.

View corridor sections

You can use the View/Edit Corridor Section Tools to visually inspect how assemblies are applied at various stations.

Render a corridor boundary region

Render corridor data using the AutoCAD Render command.

Exporting Corridor Data

After creating a corridor, you can export several types of data.

To export corridor data

Export corridor feature lines

Export corridor feature lines as alignments, grading feature lines, profiles, or polylines.

Export corridor points as COGO points

Export all points from a selected corridor or constrain the selection based on station ranges or point code types.
Intersection Design Workflow

Refer to this section for high-level descriptions of tasks you might perform when working with intersections in AutoCAD Civil 3D.

Set up data required for the intersection

- You must have at least two alignments that intersect each other only once in your drawing. If you want to create a more realistic intersection model, you will need road geometry and surface data.

Set the driving direction

- The driving direction option determines how curb returns are drawn when creating intersections.

Verify intersection settings

- Use intersection settings to specify the default behavior for intersection-related commands.

Create the intersection

- Use the Create Intersection wizard.

Labeling Intersections

- You can add labels to intersection objects.

Edit intersections

- You can edit intersections using commands available from the ribbon, from right-click shortcut menus, or by editing the objects directly in the drawing using grips.
**Pipe Networks Workflow**

Refer to this section for high-level descriptions of tasks that you might perform when working with pipe networks in AutoCAD Civil 3D.

You can use LandXML features to import existing pipe data into your drawing, or to export pipe data from an AutoCAD Civil 3D drawing. For example, to bring pipe data into AutoCAD Civil 3D from an AutoCAD Land Desktop project, you can export pipe data from AutoCAD Land Desktop using the Export LandXML command, and then import it into AutoCAD Civil 3D using the Import LandXML command. For more information, see LandXML Import and Export.

If you need to perform hydraulic and or hydrology design and analysis tasks, you can use the hydraulics and hydrology extensions that are provided with AutoCAD Civil 3D. They enable you to perform a variety of hydraulics and hydrology tasks on AutoCAD Civil 3D pipe network models. For more information, see Hydraulics and Hydrology Features.

**Preparing for Pipe Network Creation**

Creating drawing templates that contain standard styles and settings helps you work more efficiently, and ensures that your final drawings conform to your office standards.

*To prepare the drawing template for pipe network creation*

1. **Create a new drawing**
   - Open an existing drawing or create a new one.

2. **Select the default settings**
   - Use pipe network settings to specify the default styles and behavior for pipe network commands.

3. **Create the styles**
   - Styles control the display and design characteristics of drawing objects.

4. **Create the label styles**
   - You can define default label settings at three different levels.

5. **Save the drawing as a template (.dwt)**
   - Saving the drawing as template enables you to leverage the styles and settings.
Setting Up Data for Pipe Network Creation

Before you create a pipe network, it may be useful for you to have existing data, such as ground surfaces and alignments, already in your drawing.

While it can be useful to have these items already set up in your drawing, you can create a pipe network even if these components are not yet created.

To set up data for pipe network creation

1. Build the existing ground surfaces
   - Before you create a pipe network, it may be useful for you to have existing data, such as ground surfaces and alignments.

2. Create the horizontal alignments
   - The pipe and structure objects in a pipe network can be associated with a referenced alignment.

Creating, Modifying, and Analyzing Pipe Networks

This section summarizes the basic process for creating and analyzing a pipe network.

To create, modify, and analyze a pipe network

1. Select a parts list
   - Pipe networks reference a part catalog and a parts list that define the size, shape, and certain behavior of the parts (pipes and structures) you insert into drawings.

2. Create the pipe network
   - There are several ways you can create pipe networks.

3. Run an interference check
   - Interference checking lets you quickly identify pipe network parts that may be in conflict with each other.

4. Specify display styles for pipes and structures in plan, profile, and section views
   - Styles enables you to customize the pipe network view.
Plan Production Tools Workflow

Refer to this section for high-level descriptions of tasks you might perform when working with plan production tools in AutoCAD Civil 3D.

The key stages involved with using the AutoCAD Civil 3D plan production tools are:

1. **Prepare the template and configure the viewport**
   - Before using plan production tools, make sure the drawing templates have appropriately configured viewports.

2. **Set up plan production styles and labeling**
   - Plan production styles and labels control the display of all plan production components and labeling.

3. **Create view frames**
   - Use the Create View Frames wizard to quickly create view frames along an alignment.
Create sheets (and sheet sets)

Use the Create Sheets wizard to quickly create sheets for construction documents (plans).

Manage the sheet sets

Use the Sheet Set Manager to organize drawing layouts into named sheet sets.

Plot and publish the drawings

You prepare your drawing for plotting or publishing by specifying page setup settings.
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