

How to create a MicroStation base file from ORD-generated civil data

The issue for people using MicroStation is that some of the civil data generated by OpenRoads Designer cannot be modified using MicroStation only. You might get a circle with a slash mouse cursor and a pop-up message "Locked Civil Element" when trying to copy linework from a referenced file into your own "working" file. Another issue crops up when we export civil graphics to a Google Earth (*.KML) file - sometimes the civil graphics that are displayed in the view don't export to the KML/KMZ file, and you don't see them in Google Earth.

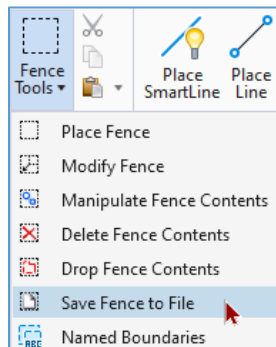
The solution is to use non-civil graphics. This document will explain a method for creating a base file containing non-civil graphics using just MicroStation. Both methods below may be accomplished using MicroStation!

Non-civil graphics 2D CAD Base File - no terrain

The result will be a 2D file containing graphics that can be manipulated with MicroStation commands.

In a ProjectWise project, in the 2_Plan_Sheets folder, use MicroStation to open an **OPNP** file **read-only**. *Note: the OPNP file already has survey, rw, and design work, that includes the existing terrain, attached as references to the Default model. If the terrain Perimeter and Exterior line levels are not displayed, a terrain element will not be created in the resulting CAD Base File.*

In the Default model, adjust the level display to **toggle off any unwanted levels** or references, such as: "S_NamedBoundary" in the active model, "D_CORR_*" in CORR reference, "*TicSmScl" in GEOM reference, and existing breaklines, random points, perimeter line, and exterior lines in TERR reference.



Use the **Save Fence to File** command in the Drawing>Home>Selection>Fence Tools. The steps listed below explain how to use the command to name the output file, then draw and accept the fence around the graphics. In ProjectWise, it is recommended to use No Wizard and select the 0_Temp folder for creating a new file. Later, after you have exited MicroStation, you should use the naming tool to name and describe the new file and move it to its proper folder. R_K#####_cad_##.dgn (CAD Base File) in the 3_Base_Files folder is an appropriate document name and location.

Save Fence to File Steps for CAD Base File:

1. On the "Copy Fence Contents to New File" tool settings dialog, click the ellipsis button [...], then select No Wizard.
2. On the "Save Fence Contents As dialog":
 - a. Click the [Select] button; choose the 0_Temp folder,
 - b. Name the file something like CAD_Base_File.dgn, describe it as "Use Naming Tool"; click [Save].
3. In MicroStation, follow the prompts to place two fence points surrounding the graphics.
4. Left click in the view to Accept the fence. After a few seconds, the status bar should display, "File [c:\pw_work\pw_odot_prod\... .dgn] saved."

Exit the OPNP file.

If you decide to keep the newly created file: in the ProjectWise Explorer, use Move To... and move it to the 3_Base_Files folder. Use the ODOT Naming Tool and rename the document. Something like, R_K99999_cad_02.dgn, Non-Civil Design and Existing Graphics CAD Base File.

Create a MicroStation Terrain to Display and Label contours

The result will be a 3D Contour Base File containing graphics, including a MicroStation Terrain element, that can be manipulated with MicroStation commands and labeled with the MicroStation command **Label Terrain Contours**.

In a ProjectWise project, in the 0_Temp folder, create a new temporary document from a 3D seed. Edit the file using MicroStation and attach a civil terrain file.

Ensure that the level E_TERR_BNDRY_Perimeter in a Survey Existing Terrain reference is toggled on – this is the level of the terrain element. If using a design terrain, the boundary must be displayed - ensure that P_TERR_DSPLAY_Parent and P_TERR_DSPLAY_General are toggled on.

Use the **Save Fence to File** command in the Drawing>Home>Selection>Fence Tools. If "Switch to generated file" is enabled, the new file will open. The steps listed below explain how to use the command to name the output file, then draw and accept the fence around the graphics. In ProjectWise, it is recommended to use No Wizard and select the 0_Temp folder for creating a new file. Later, after you have exited MicroStation, you should use the naming tool to name and describe the new file and move it to its proper folder. R_K#####_cn_bas_###.dgn (Contour Base File) in the 3_Base_Files folder is an appropriate document name and location.

Save Fence to File Steps for Contour Base File:

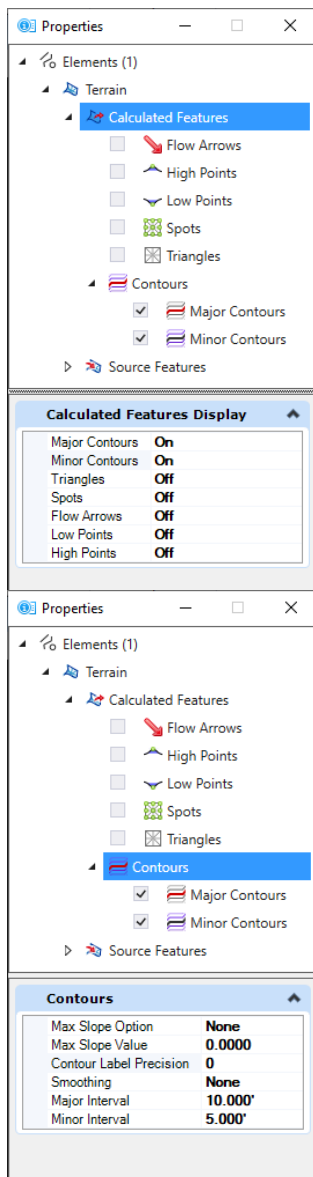
1. On the "Copy Fence Contents to New File" tool settings dialog, click the ellipsis button [...], then select No Wizard.
2. On the "Save Fence Contents As dialog":
 - a. Click the [Select] button; choose the 0_Temp folder,
 - b. Name the file something like Contour_Base_File.dgn, describe it as "Use Naming Tool"; click [Save].
3. In MicroStation, follow the prompts to place two fence points surrounding the graphics. *(Warning! If no boundary is seen, the terrain will not be created in the other file.)*
4. Left click in the view to Accept the fence. After a few seconds, the status bar should display, "File [c:\pw_work\pw_odot_prod\... .dgn] saved."

Exit the file with the reference attachment to a terrain.

If you decide to keep the newly created file: in the ProjectWise Explorer, use Move To... and move it to the 3_Base_Files folder. Use the ODOT Naming Tool and rename the document. Something like, R_K99999_cn_bas_01.dgn, L-FG Contour Base File.

MicroStation Terrain Element Properties

The display of the terrain element is most easily controlled through the Properties dialog. What is displayed can be printed.

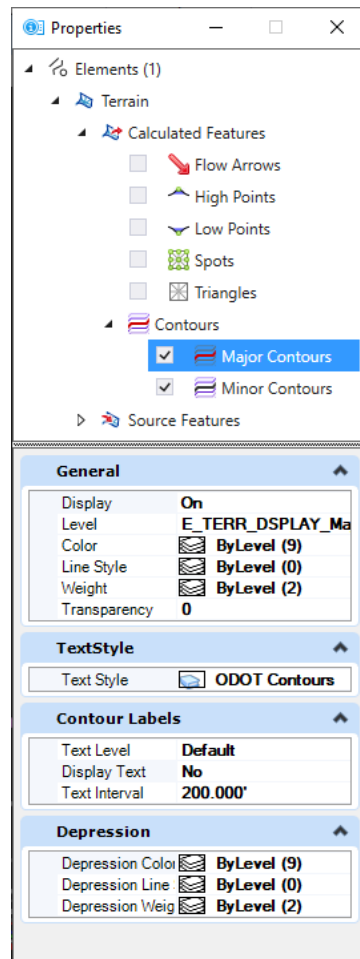


The Properties dialog allows display control of calculated features in Terrain, such as Contours. In the upper dialog, when **Calculated Features** is selected and expanded it shows a list of features (Flow Arrows, High Points, Low Points, Spots (actual shots) and Triangles) that may be toggled on/off and a **Contours** sub-group with more control.

When Calculated Features is selected in the upper window, a Calculated Features Display group with on/off toggles is seen at the bottom.

When **Contours** is selected in the upper window, the Contours group controls for **Intervals** and **Precision** is seen at the bottom.

Selecting **Major Contours** or **Minor Contours** in the upper window (seen below) provides **TextStyle** and **Contour Labels** groups at the bottom which will allow the contour elevations to display in the view.



If you prefer to annotate individual contours or control the location of the elevations – you can use the **Terrain Model** tools (seen below) on the Drawing>Annotate ribbon tab.

