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Chapter 9: Plan & Profile Sheet Clipping

Overview

This chapter will describe the methods used to create plan and profile sheets. The following workflows will show the user how to set up sheets using GEOPAK Plan and Profile Sheet Composition tool.



Note: CFLHD policy is to create one sheet per file. This will allow the use of plan and profile labelers when detailing the sheets.

Plan/profile sheet creation

GEOPAK will create single plans, double plans and plan/profile sheets. These sheets are generally created at 1000 scale Metric or 2000 scale Metric and 1:100 scale English and 1:200 scale English. Workflow 1 will describe the steps necessary to create a plan/profile sheet. Station range, drawing areas, and many other variables are contained in the sheet library files **English_sheets.psl** and **Metric_sheets.psl**. The sheet library file contains many values specific to CFLHD such as cell library names and locations, specific sheet cells to be used, drawing scales, and a variety of text parameters and cannot be modified by the user.

The sheet library files for CFLHD projects and are located on the CFLHD network at: N:\V8i_resource\CFL_Local\GEOPAK\Resources\English\ (or Metric)



For CFLHD employees, the unit correct .psl file will be automatically attached while opening a design file using the Project Configuration (*.pcf).

For consultants, CFLHD sheet library files are available through the **V8i_Resource.zip** download. Download the file and extract the file to the server or local drive, keep the V8i_Resource directory structure intact. The unit correct .psl file will be attached when opening a design file using the project configuration file.

Clip Sheets and Motif Files

Prior to using the GEOPAK Plan and Profile Sheet Composition tool, three files need to be created. **Clip.dgn**, **Plan_motif.dgn** and **Profile_motif.dgn** should be created to assure proper setup of plan and profile sheets. Outlined below are the uses and instructions for creating each file.





| Clip.dgn | Creating a drawing to display the sheet boundaries will allow the user to always have a visual representation of how each sheet will layout in relation to the others. If the design changes, having this file will allow the user to move sheets around to better fit any design changes. To create this sheet, make a copy of the 2D seed file and reference the chain and profile into this new file. By referencing the overall design back into the Clip.dgn file, any future design changes will be displayed in this new file, instantly showing the designer which sheets, if any, will need to be adjusted. Sheet cell libraries English_pnp_sheet_layout.cel or Metric_pnp_sheet_layout.cel should be attached to the Clip.dgn file prior to clipping sheets, this will provide the ability to automatically clip the graphics with notches for project Information (state, project, sheet number) to be unobstructed. |
|-------------|--|
| Motif files | Motif files act as seed files for clipping plan and profile sheets. Motif file should be a blank file with the proper reference files attached, and the proper levels for each file turned on or off. The Plan and Profile Sheet Composition tool will then use these files when clipping each sheet and each clip sheet will have the correct files displayed with the correct levels on. For example, if the plan view in a final plan sheet needs to show overall design, mapping, raster images, ROW, etc., with specific levels on or off for each of these files, you would only need to setup this combination once in the motif file. This information would then be used to create each sheet. These sheets should be named Plan_motif.dgn and Profile_motif.dgn . To create Plan_motif.dgn , make a copy of the 2D seed file and attach each reference file that should be shown in the plan view, and turn on or off any levels to make the display look exactly like the final plan sheets in plan view. Repeat these steps for the Profile_motif.dgn , referencing the profile sheet into the 2D seed file. |

The seed files for CFLHD projects are located on the CFLHD network at: N:\V8i_resource\FLH_Common\MicroStation\Seed\English\ (or Metric)





Workflow 1: Creating Plan/Profile sheets using GEOPAK

To access this workflow, follow this link:

http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow_9.1_v8i.pdf

CFL Sheet Composition Dialog Settings:

Click on a Sheet Style link (below) for recommended

METRIC Sheet Styles:

1000 Scale PLAN & PROFILE

1000 Scale DOUBLE PLAN

2000 Scale PLAN & PROFILE

2000 Scale DOUBLE PLAN

2000 Scale SINGLE PLAN

2000 Scale SINGLE PROFILE

500 Scale PLAN & PROFILE

ENGLISH Sheet Styles:

100 Scale PLAN & PROFILE

100 Scale DOUBLE PLAN

100 Scale SINGLE PLAN

200 Scale PLAN & PROFILE

200 Scale DOUBLE PLAN

200 Scale SINGLE PLAN

200 Scale SINGLE PROFILE

50 Scale PLAN & PROFILE





| 🔀 Plan Sheet Layout: CFL_M_Sheets.psi | x |
|---|---|
| File View Settings Tools Image: Setting | |
| Plan Sheet Layout: Sheet Composition | |





| 🕺 Plan Sheet Layout: CFL_M_Sheets.psi | x |
|---|---|
| Eile <u>Vi</u> ew <u>S</u> ettings <u>T</u> ools | |
| Plan Sheet Layout: Sheet Composition | |
| By BeginStation/OverLap | |
| Maximum Drawing Area: 390.00 x 132.50 Horizontal: 0.00 Vertical: 0.00 Drawing Shown: 390.00 | |
| Active Drawing Area: 390.00 x 132.50 Overlap: 20.00 Fixed Distance | |





| 📕 Pla | n Sheet Layout: CFL_M_Sheets.psi |
|-------|---|
| | <u>Vi</u> ew <u>S</u> ettings <u>T</u> ools ¹ 2.00:1 → 2.00:1 |
| • | |
| | 🎉 Plan Sheet Layout: Sheet Composition |
| | Clip Vertical T |
| | Cilip Vertical |
| | By Station Range: Outside In 💌 |
| | Clip Maximum Drawing Area: 740.00 x 240.00 |
| | Horizontal: 20.00 Vertical: 0.00 |
| | Station Range: 700.00 |
| | Active Drawing Area: variable 700.00 x 240.00 |





| 🖞 Plan Sheet Layout: CFL_M_Sheets.psl | x |
|--|---|
| <u>File Vi</u> ew <u>S</u> ettings <u>T</u> ools | |
| Plan Sheet Layout: Sheet Composition | |
| | J |





2000 Scale Single Plan

| 🛂 Plan Sheet Layout: CFL_M_Sheets.psl | x |
|---------------------------------------|---|
| File View Settings Tools | |
| Plan Sheet Layout: Sheet Composition | |
| Overlap: 20.00 Fixed Distance ▼ | |





2000 Scale Single Profile

| 🕽 Plan Sheet Layout: CFL_M_Sheets.psl 📃 💻 🗙 | |
|--|--|
| File <u>Vi</u> ew <u>S</u> ettings <u>T</u> ools File View Settings Tools Image: Setting s | |
| | |
| 📕 Plan Sheet Layout: Sheet Composition 📃 💻 🗶 | |
| Clip Vertical T Clip Horizontal OVERLAP Clip Vertical | |
| By BeginStation/OverLap Clip | |
| Maximum Drawing Area: 740.00 x 480.00 | |
| Horizontal: 20.00 Vertical: 0.00 | |
| Drawing Shown: 700.00 | |
| Active Drawing Area: 700.00 x 480.00 | |
| Overlap: 20.00 Fixed Distance | |





| 🔑 Plan Sheet Layout: CFL_M_Sheets.psl | x |
|---|---|
| File View Settings Tools Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure I | |
| Image: Outside In Image: Outside In <td></td> | |
| Station Range: 180.00 Active Drawing Area: variable 180.00 x 60.00 | ļ |





| Plan Sheet Layout: CFL_E_sheets.psl | – – × |
|---|--------------|
| File View Settings Tools Image: Setting | 2.00 ft/in |
| Plan Sheet Layout: Sheet Composition | |
| Clip Maximum Drawing Area: 1450.00 x 520.00 Horizontal: 25.00 Vertical: 0 Station Range: 1400.00 Active Drawing Area: variable 1400.00 x | 520.00 |





| 📕 Pla | an Sheet Layout: CFL_E_sheets.psl |
|-------|---|
| | <u>Vi</u> ew <u>S</u> ettings <u>T</u> ools □ <u>id</u> <u>100 Scale D_PLAN</u> <u>2.00 ft/in</u> |
| | Plan Sheet Layout: Sheet Composition Image: Clip Vertical I Image: Clip Maximum Drawing Area: 1560.00 x 520.00 Horizontal: Image: One Interview Inter |
| | Overlap: 100.00 Fixed Distance |





100 Scale Single Plan

| 🖞 Plan Sheet Layout: CFL_E_sheets.psl | x |
|--|---|
| File View Settings Tools | |
| Plan Sheet Layout: Sheet Composition | |
| Maximum Drawing Area: 1560.00 x 1040.00 Horizontal: 0.00 Vertical: 0.00 Drawing Shown: 1560.00 Active Drawing Area: 1560.00 x 1040.00 Overlap: 100.00 Fixed Distance | |

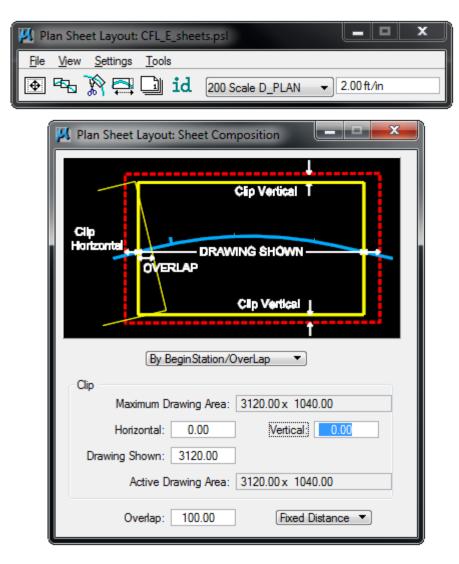




| 😕 Plan Sheet Layout: CFL_E_sheets.psl | x |
|---|---|
| File View Settings Tools Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure Image: Setting structure I | |
| Plan Sheet Layout: Sheet Composition | |
| Active Drawing Area: variable 2800.00 x 1040.00 | |











200 Scale Single Plan

| 🔑 Plan Sheet Layout: CFL_E_sheets.psl | |
|--|----|
| File Mew Settings Tools Image: Setting | ìn |
| Plan Sheet Layout: Sheet Composition | X |
| By BeginStation/OverLap Image: Station/OverLap Clip Maximum Drawing Area: 3120.00 x 2080.00 Horizontal: 0.00 Vertical: 0.00 Drawing Shown: 3120.00 Active Drawing Area: 3120.00 x 2080.00 | |
| Overlap: 100.00 Fixed Distance | |





200 Scale Single Profile

| File Mew Settings Tools Image: Clip Vertical T Image: Cl | 📕 Plan Sheet Layout: CFL_E_sheets.psl 🛛 💻 💻 🗶 |
|---|--|
| Plan Sheet Layout: Sheet Composition | |
| | Plan Sheet Layout: Sheet Composition Clip Vertical Clip Vertical By Station Range: Outside In Clip Maximum Drawing Area: 2900.00 x 1900.00 Horizontal: 50.00 Vertical: 0.00 Station Range: 2800.00 |





| Plan Sheet Layout: CFL_E_sheets.psl | | x |
|--|------------|---|
| <u>Fi</u> le <u>Vi</u> ew <u>S</u> ettings <u>T</u> ools | | |
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| | D X | ħ |
| Plan Sheet Layout: Sheet Composition | | |
| Cilp Vertical T | 1 | |
| Clip STATION RANGE | 1 | |
| Cilip Vertical j | | |
| By Station Range: Outside In 💌 | | |
| Clip Maximum Drawing Area: 725.00 x 260.00 | | |
| Horizontal: 12.50 Vertical: 0.0 | 00 | |
| Station Range: 700.00 | | |
| Active Drawing Area: variable 700.00 x 2 | 60.00 | |
| | | |