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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. This application has evolved over the years, allowing for profile stair stepping, ability to automatically clip the graphics with notches (Title block, project information, etc.), customized sheet numbering and station adjustment on sheets.



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:\Standards\V8_RESOURCE\X_30\Standards\Sheet_Layout\metric or English



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 **V8_Resource.zip** download. Download the file and extract the file to the server or local drive, keep the V8_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:\Standards\18_RESOURCE\30\Standards\seed\Metric or English*



Workflow 1: Creating Plan/Profile sheets using GEOPAK

To access this workflow, follow this link:

[http://www.cflhd.gov/cadd/ documents/Creating Plan Profile sheets using GEOPAK - \(Workflow 9.1\).pdf](http://www.cflhd.gov/cadd/documents/Creating%20Plan%20Profile%20sheets%20using%20GEOPAK%20-%20(Workflow%209.1).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](#)

[200 Scale PLAN & PROFILE](#)

[200 Scale DOUBLE PLAN](#)

[200 Scale SINGLE PLAN](#)

[200 Scale SINGLE PROFILE](#)

[50 Scale PLAN & PROFILE](#)



METRIC SHEET STYLE

1000 Scale Plan/Profile

Plan Sheet Layout: Metric_sheets.psl

File View Settings Tools

id 1000 Scale P_P 2,000:1

Plan Sheet Layout: Sheet Composition

Clip Vertical

Clip Horizontal

STATION RANGE

Clip Vertical

By Station Range: Outside In

Clip

Maximum Drawing Area: 370.00 x 120.00

Horizontal: 10.00 Vertical: 0.00

Station Range: 350.00

Active Drawing Area: variable 350.00 x 120.00



METRIC SHEET STYLE

1000 Scale Double Plan

The screenshot displays two overlapping windows from Bentley software. The top window is titled "Plan Sheet Layout: Metric_sheets.psl" and shows a menu bar with "File", "View", "Settings", and "Tools". Below the menu is a toolbar with various icons, including a red "id" icon. A dropdown menu is set to "1000 Scale D_PLAN" and a scale input field shows "2,000:1".

The bottom window is titled "Plan Sheet Layout: Sheet Composition" and contains a diagram and a settings panel. The diagram shows a yellow rectangle representing the drawing area, with a red dashed rectangle representing the clip area. Labels include "Clip Vertical" (top and bottom), "Clip Horizontal" (left), "DRAWING SHOWN" (center), and "OVERLAP" (bottom-left). A dropdown menu is set to "By BeginStation/OverLap".

The settings panel includes the following fields:

- Clip: 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 (dropdown)



METRIC SHEET STYLE

2000 Scale Plan/Profile

The screenshot shows two overlapping windows from the AutoCAD software. The top window is titled "Plan Sheet Layout: Metric_sheets.psl" and has a menu bar with "File", "View", "Settings", and "Tools". Below the menu bar is a toolbar with various icons, including a "1" icon and an "id" icon. The current drawing name is "2000 Scale P_P" and the scale is "2,000:1".

The bottom window is titled "Plan Sheet Layout: Sheet Composition" and displays a diagram of a road profile. The diagram shows a blue line representing the road profile, with a yellow box labeled "Clip Vertical" and a red dashed box labeled "Clip Horizontal". The text "STATION RANGE" is written across the profile. Below the diagram is a dropdown menu set to "By Station Range: Outside In".

Below the diagram are input fields for "Clip" settings:

- Maximum Drawing Area: 740.00 x 240.00
- Horizontal: Vertical:
- Station Range:
- Active Drawing Area: variable 700.00 x 240.00



METRIC SHEET STYLE

2000 Scale Double Plan

Plan Sheet Layout: Metric_sheets.psl

File View Settings Tools

id 2000 Scale D_PLAN 2.000:1

Plan Sheet Layout: Sheet Composition

Clip Vertical

Clip Horizontal

DRAWING SHOWN

OVERLAP

Clip Vertical

By BeginStation/OverLap

Clip

Maximum Drawing Area: 780.00 x 265.00

Horizontal: 0.00 Vertical: 0.00

Drawing Shown: 780.00

Active Drawing Area: 780.00 x 265.00

Overlap: 20.00 Fixed Distance



METRIC SHEET STYLE

2000 Scale Single Plan

Plan Sheet Layout: Metric_sheets.psl

File View Settings Tools

id 2000 Scale S_PLAN 2.000:1

Plan Sheet Layout: Sheet Composition

Clip Vertical

Clip Horizontal

DRAWING SHOWN

OVERLAP

By BeginStation/OverLap

Clip

Maximum Drawing Area: 780.00 x 530.00

Horizontal: 0.00 Vertical: 0.00

Drawing Shown: 780.00

Active Drawing Area: 780.00 x 530.00

Overlap: 20.00 Fixed Distance



METRIC SHEET STYLE

2000 Scale Single Profile

The screenshot shows two overlapping windows from the AutoCAD software. The top window is titled "Plan Sheet Layout: Metric_sheets.psl" and has a menu bar with "File", "View", "Settings", and "Tools". Below the menu bar is a toolbar with various icons, including a red "id" icon. The current profile is set to "2000 Scale S_PROFIL" with a scale of "2.000:1".

The bottom window is titled "Plan Sheet Layout: Sheet Composition" and displays a graphical representation of a profile. A blue profile line is shown within a yellow rectangular area. This yellow area is enclosed by a red dashed rectangle. Labels "Clip Vertical" are placed at the top and bottom of the red dashed rectangle, with arrows pointing to the top and bottom edges. A label "Clip Horizontal" is placed to the left of the yellow area, with an arrow pointing to the left edge. A label "STATION RANGE" is placed above the profile line, with arrows indicating the horizontal extent of the profile.

Below the graphical area is a control panel with a dropdown menu set to "By Station Range: Outside In". Underneath is a "Clip" section with the following fields:

- Maximum Drawing Area: 740.00 x 480.00
- Horizontal:
- Vertical:
- Station Range:
- Active Drawing Area: variable 700.00 x 480.00



METRIC SHEET STYLE

500 Scale Plan/Profile

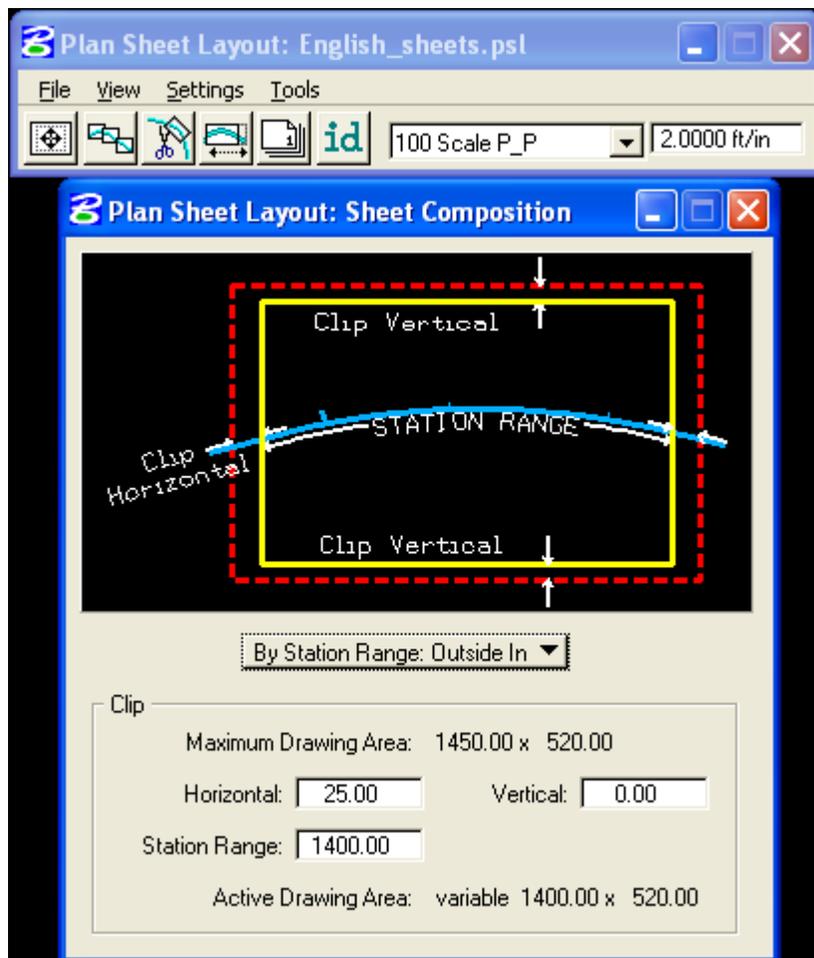
The screenshot shows the AutoCAD interface for a plan sheet layout. The main window is titled "Plan Sheet Layout: Metric_sheets.psl" and has a menu bar with "File", "View", "Settings", and "Tools". The toolbar includes icons for navigation and editing. The current drawing is "500 Scale P_P" with a scale of 1:1,000.1. A dialog box titled "Plan Sheet Layout: Sheet Composition" is open, showing a diagram of a station range profile. The diagram features a blue profile line within a yellow rectangular clipping area, which is itself inside a larger red dashed rectangular clipping area. Labels include "Clip Vertical" with arrows pointing up and down, and "Clip Horizontal" with arrows pointing left and right. The text "STATION RANGE" is centered on the profile. Below the diagram, a dropdown menu is set to "By Station Range: Outside In". The "Clip" section contains the following fields:

Maximum Drawing Area:	185.00 x 60.00		
Horizontal:	2.50	Vertical:	0.00
Station Range:	180.00		
Active Drawing Area:	variable 180.00 x 60.00		



ENGLISH SHEET STYLE

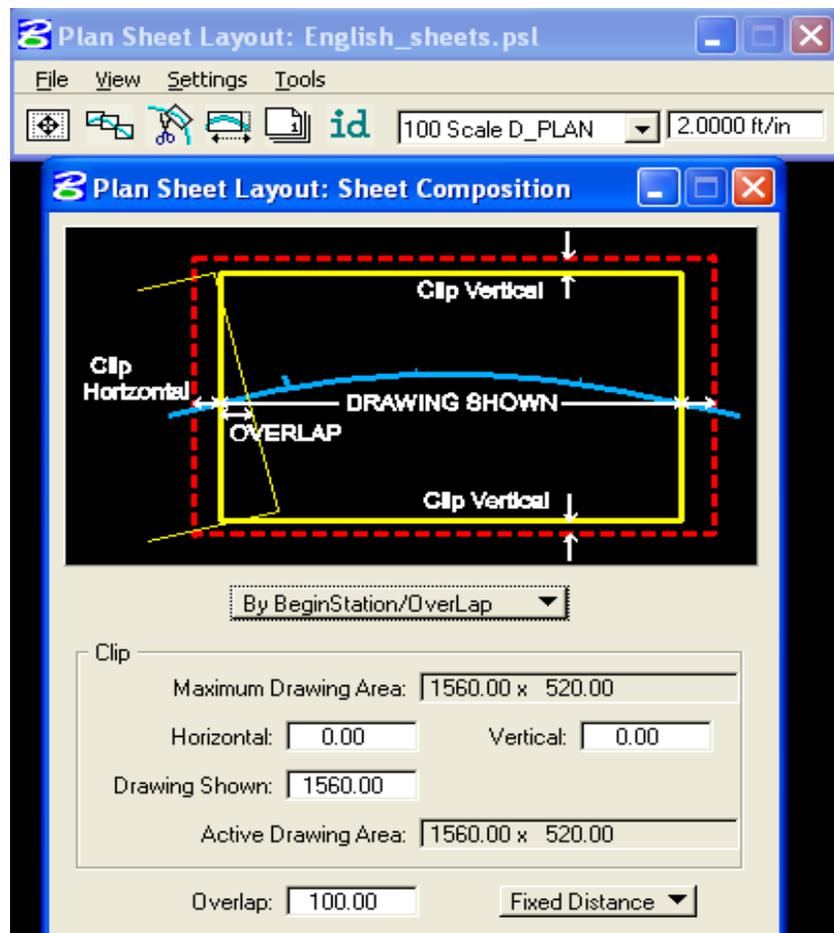
100 Scale Plan/Profile





ENGLISH SHEET STYLE

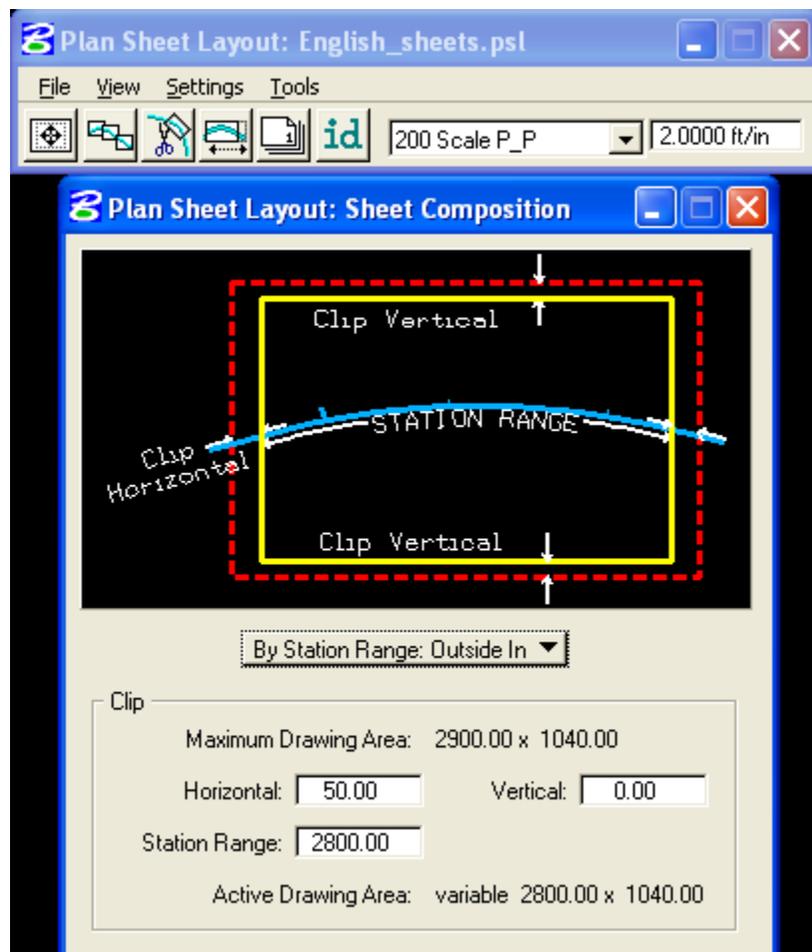
100 Scale Double Plan





ENGLISH SHEET STYLE

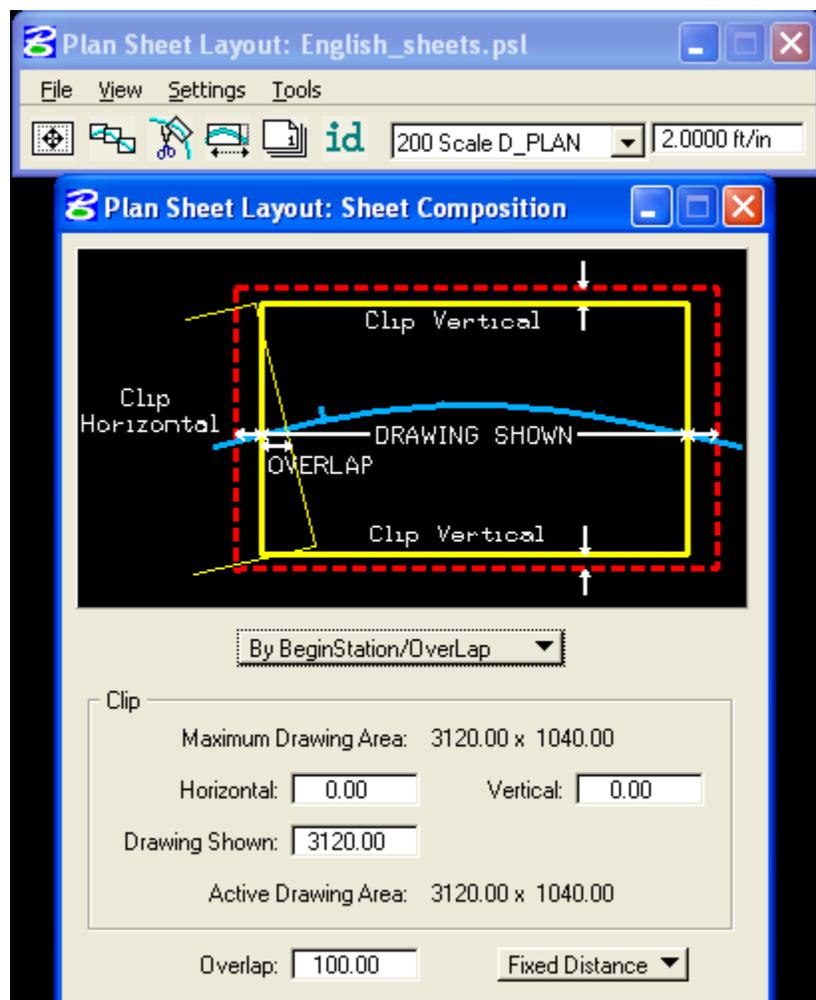
200 Scale Plan/Profile





ENGLISH SHEET STYLE

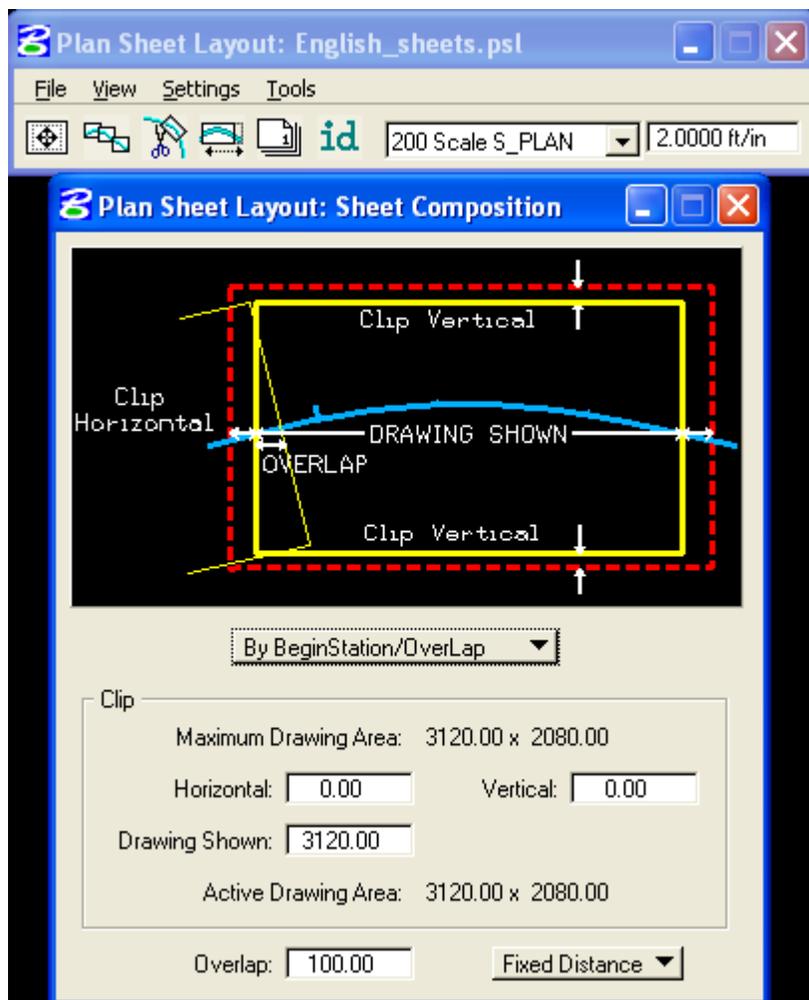
200 Scale Double Plan





ENGLISH SHEET STYLE

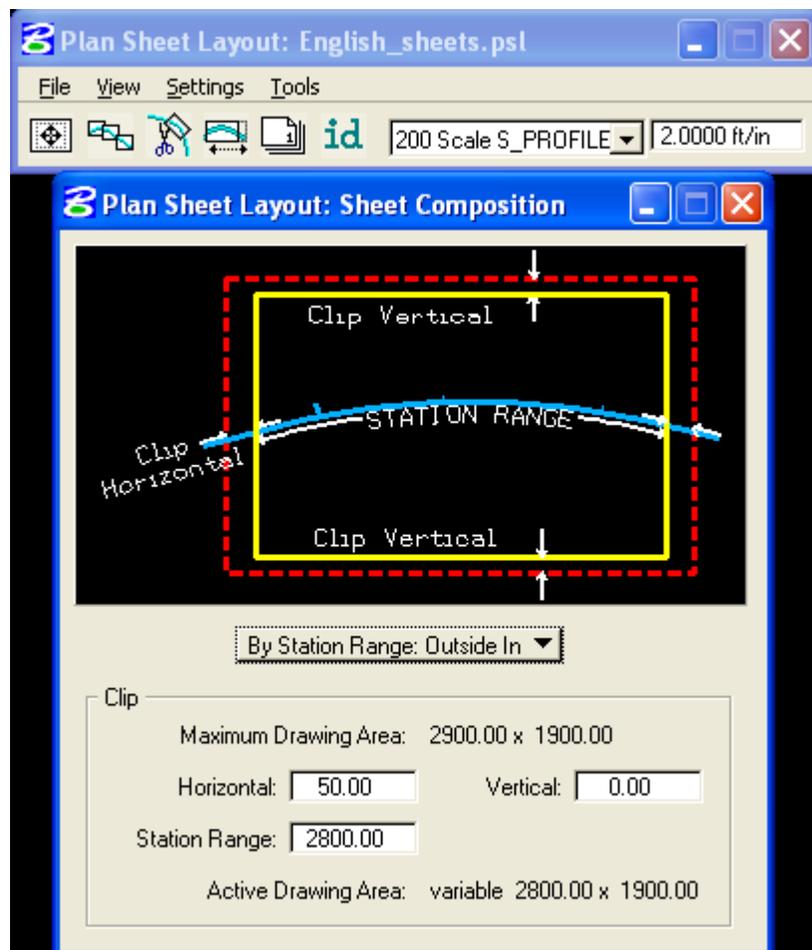
200 Scale Single Plan





ENGLISH SHEET STYLE

200 Scale Single Profile





ENGLISH SHEET STYLE

50 Scale Plan/Profile

