19. Plan and Profile Sheets

In this exercise we will use GEOPAK's Sheet Layout tools to set up our proposed layout sheets which we will set up as plan/profile sheets.

I.)   Set Up Sheet Layout DGN Files

1)   In order to assign the proper DGN reference files and levels from those references to the top (proposed plan) and bottom (profile) of our sheets, we need to set up "motif" DGN files.
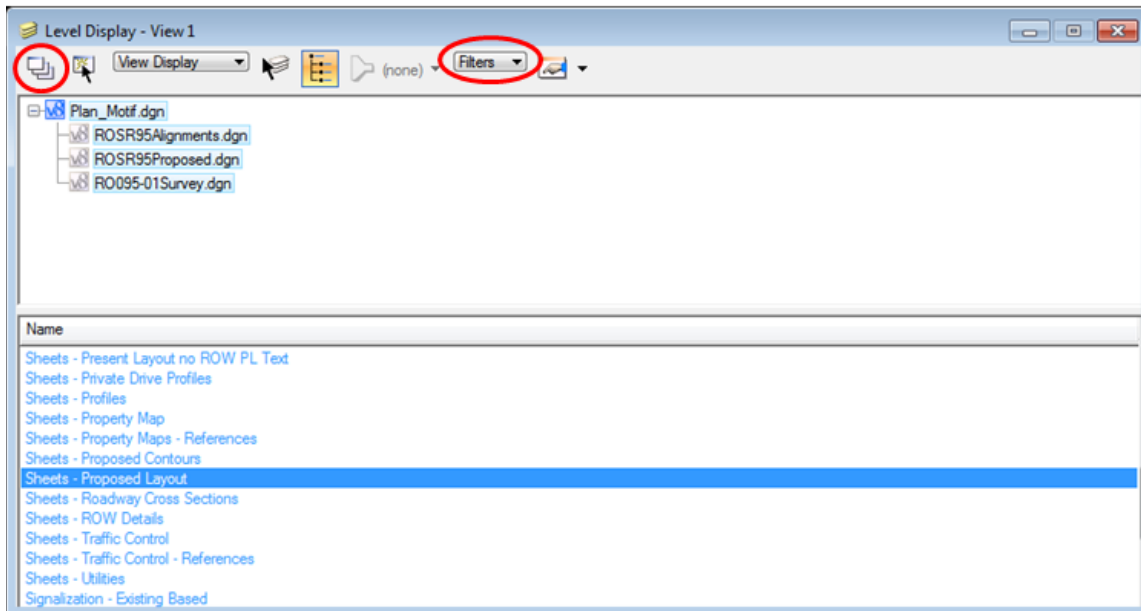
Open the MicroStation file

C:\Projects\Roane\SR95PoplarCr\Plan_Motif.dgn

2)   We will set up the top of our sheets with this motif file. Use MicroStation's **Reference** tool to attach the following files as references and use **Coincident World** attachment mode.

- **ROSR95Alignments.dgn**

- **ROSR95Proposed.dgn**

- **RO095-01Survey.dgn**

3)   **Go to** MicroStation's **Level Display** tool and set levels in the references and the master dgn file for a proposed layout sheet.

In the dialog set the control to **View Display** and highlight all files.
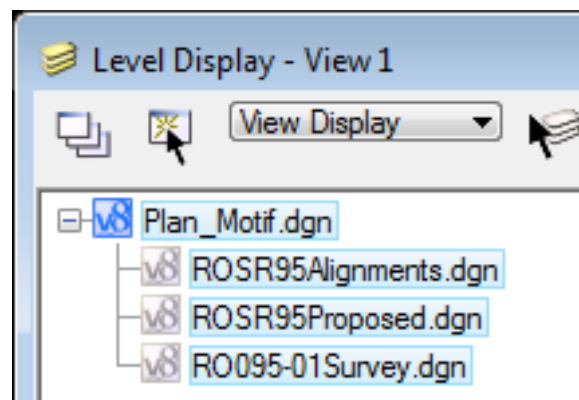
Set the Level control to Filters and then click on level filter **Sheets – Proposed Layout**.

Finally, **click** the icon at the upper left of the Level Display dialog to **Apply To Open Views**.

Use MicroStation's **File > Save Settings** to save this set up of levels.

4) **Open** the MicroStation file

   C:\Projects\Roane\SR95PoplarCr\Profile_Motif.dgn

5) We will set up the bottom of our sheets with this motif file so using MicroStation's Reference tools attach the following files as references and use **Coincident** attachment mode.

   - **ROSR95Alignments.dgn**

   - **ROSR95Proposed.dgn**

   - **RO095-01Survey.dgn**

6) **Go to** MicroStation's **Level Display** tool and **repeat** step 3 using level filter **Sheets – Profiles**.

   Switch back to **Levels, click** on the reference file **ROSR95Alignments.dgn** and turn the **"DESIGN - SHEET…"** levels off. We do not need the working profile grid and annotation from that reference file on our sheets.

   Use MicroStation's **File > Save Settings** to save this set up of levels.

II.) Configure Sheet Settings

1) **Create** a blank DGN file to set up clipping shapes in. In MicroStation go to **File →**
New and in the New dialog keyin filename **ProposedLayout.dgn** and use seed
file **Seed2D.dgn** which should be set by default.

Use MicroStation's Reference tools to attach **ROSR95Alignments.dgn** and use
**Coincident World** attachment mode**.**

NOTE:
The clipping shape DGN file can be referenced later to other files for help in
orienting text, etc. to appear correctly on the sheets.

2) **Access Project Manager**. **Click** the **Plan & Profile Sheets** button from the
workflow dialog.

3) **Create** a run **SR95** to **set up** the plan/profile sheets. The **Plan Sheet Layout**
menu bar will appear.

If the plans sheet library **tdot.psl** is not already attached, **go to** drop down option
File → Sheet Library → Attach.
**Navigate to C:\Users\Public\Geopak Standards**, pick **tdot.psl** and then
click Open.
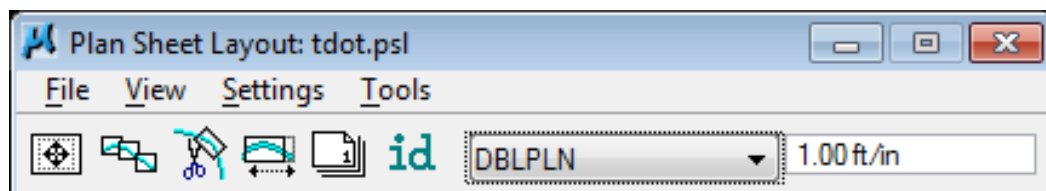
4) **Select** drop down option **Settings → Sheet Layout**. **Change Sheet View**
Attributes option to **Customize with Motif Files** then **click OK**. The
completed dialog is shown below.
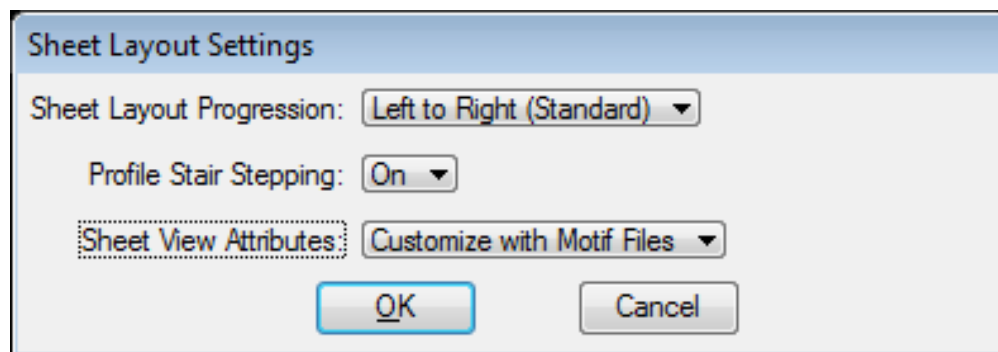
NOTE:

For sheet layouts where only one set of references is required, you could just use the **Use Current Design File** option and assign references and levels in the same DGN file where clipping borders are placed. However **it is recommended** that you use motif files for all sheet set ups to avoid attachment of the sheet clip boundary file as a reference to the plan sheets.

5)   **Review** sheet preferences by clicking **File → Sheet Library → Edit**. **Change** the sheet type to see settings for different types.
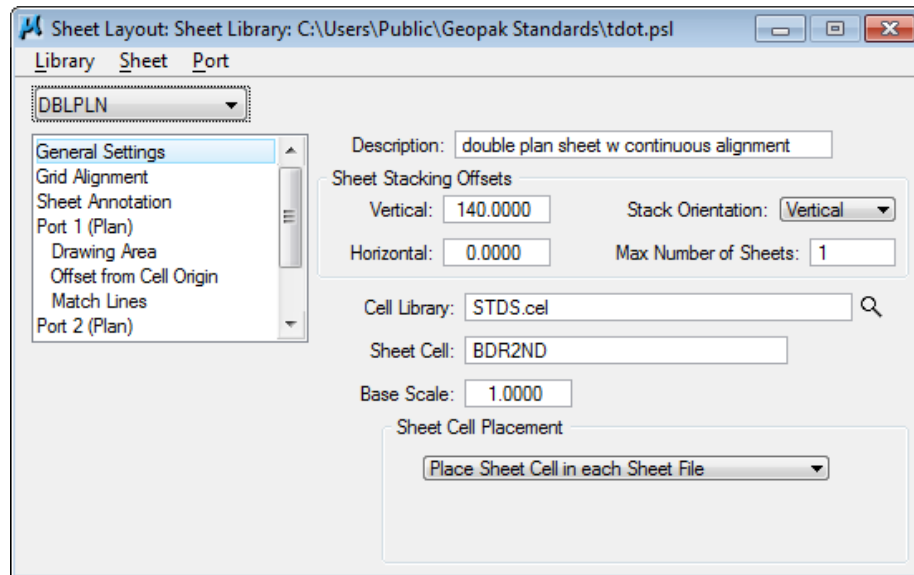

You usually will never need to adjust these settings but can see we have the following sheet types set up for us already

- **DBLPLN**   split plan plan sheets (set up with continuous stationing from top through bottom for resurfacing project plan sheets)

- **PLAN**   full plan sheets (All full plan sheets except Present Layout)

- **PLNPLN**   split plan plan sheets (set up with the same station limit on top & bottom for project phase layouts such as used for Traffic Control or Erosion Prevention Sediment Control sheets)

- **PLNPRO**   split plan profile sheets (Proposed Layout sheets w/Profiles)

- **PRESNT**   full present sheets (Present Layout sheets)

- **PROFLE**   full profile sheets (Profile sheets)

6)   **Set** the sheet type back to **PLNPRO**. **Click** on the category **Port 1 (Plan)**. The **Shape Symbology** defines the symbology of the clipping shape that is placed in the layout operation. **Review** other settings as desired but **do not** make any changes.
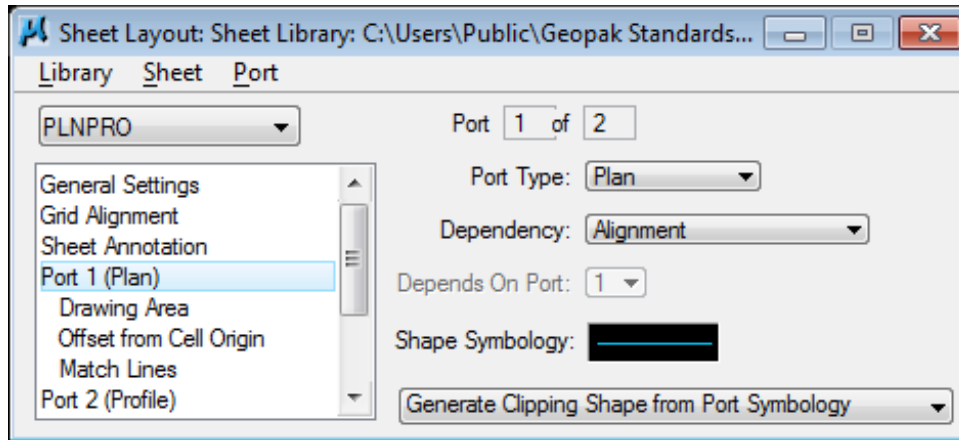

Close the Sheet Library dialog by clicking the **X** in the upper right of the dialog. **Do Not** save any changes.

7)   **Populate** the **Plan Sheet Layout** menu bar as shown below with sheet type **PLNPRO** and scale **50**.
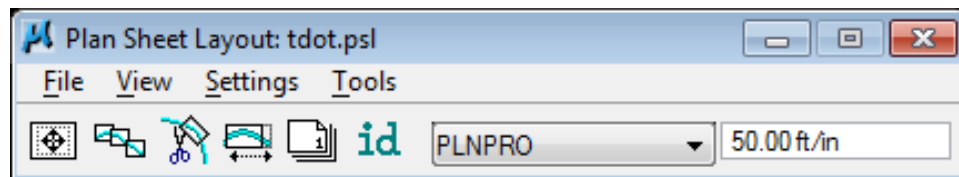
8)   **Press** the **Sheet Composition** icon (1st from left) on the Plan Sheet Layout menu bar. **Populate** the **Sheet Composition** dialog as shown below for 50 scale sheets.

         Set By Station Range: Radial and a **Station Range** of 1300 and other values are updated automatically
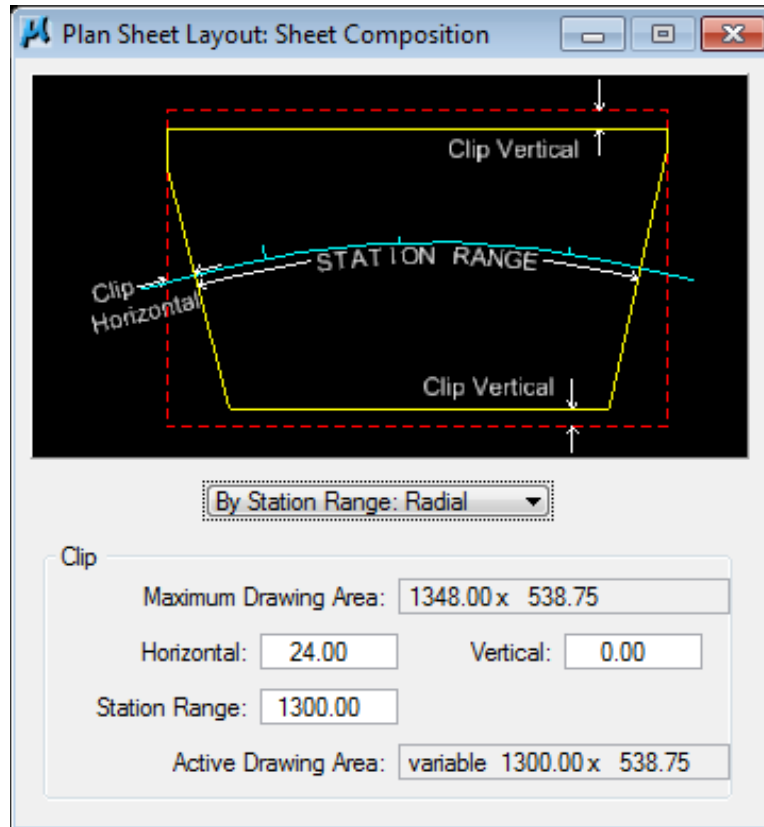
NOTE:
The normal station range for 50 scale sheets is 1300' which is determined by the limits of the grid on profile sheets. The Maximum Drawing Area indicates the area that could be used and is based on the scale being applied. By default, only station ranges in 50' increments can be set.

9) **Dismiss** the **Sheet Composition** dialog by pressing the **X** in the upper right hand corner.

III.) Sheet Layout Process

1) **Press** the **Layout Sheets** icon (2nd from left) on the Plan Sheet Layout menu bar. In the **Layout Settings** dialog your Job number should be set but if not click the browser button and **select** job number **101**.
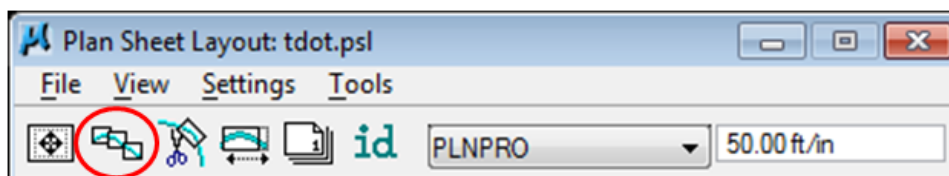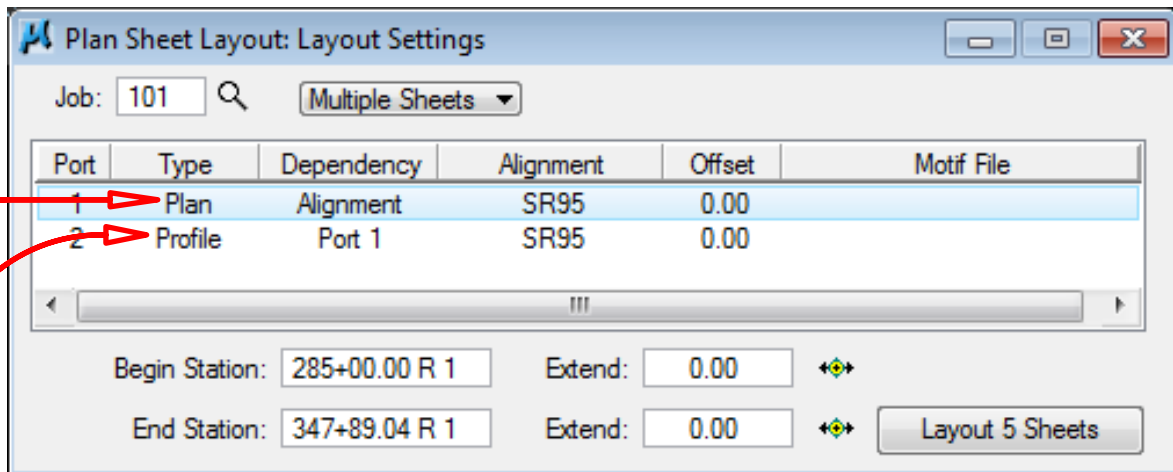
2) **Double click** on **Plan** (1ˢᵗ item in list), to set up the plan port.

Populate the **Plan Port Data** dialog as shown below. **Select** the Motif File **Plan_Motif.dgn** and then **click OK**.
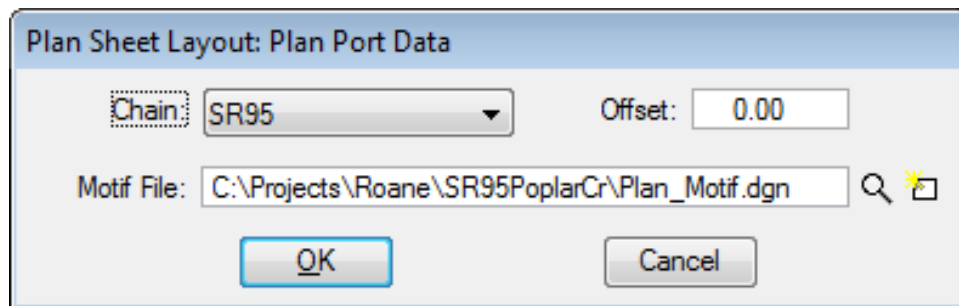

3) **Double click** on **Profile** (2ⁿᵈ item in list) to set up the profile port.

First, **select** the proposed profile **SR95**.

Then, **populate** most of the **Profile (Port 2)** dialog by pressing the **Identify Cell** button then graphically identify the profile cell. It may be necessary to turn on level **DESIGN - SHEET - Light Grid** in the alignments file to see the profile cell.

**Select** the Motif File **Profile_Motif.dgn** and then **click OK**.
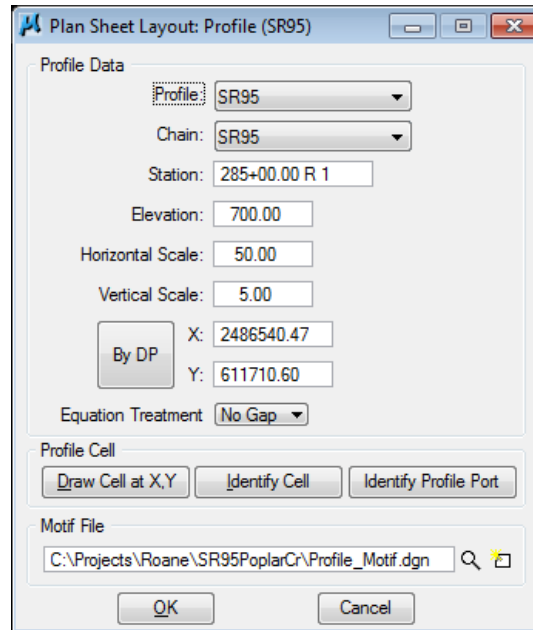
NOTE:
The X and Y coordinates may be different than what is shown in the dialog. They should match the insertion point of your GEOPAK profile cell.
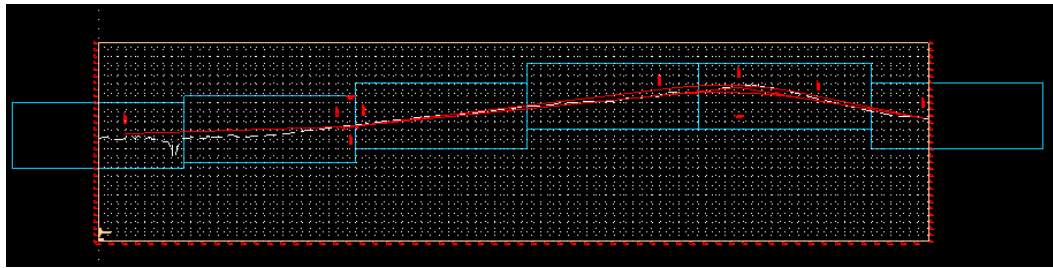
4)   In the **Layout Settings** dialog, **set** the **Extend** value for the **Begin Station** to **-650**. This will force the first sheet to begin 650' before the chain. The dialog should appear as below. **Click** the **Layout 6 Sheets** button to draw the clipping borders into the DGN file.
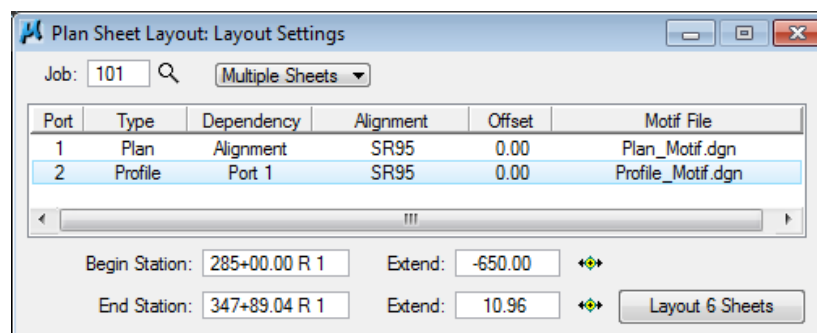
6 clipping shapes should be placed along the proposed centerline for the plan port.
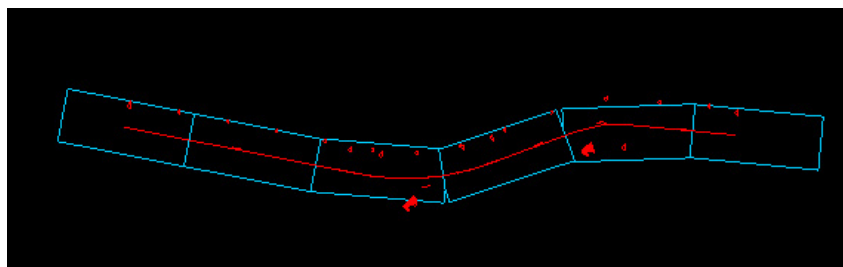
6 clipping shapes should be placed along the proposed profile for the profile port.


NOTE:

Clipping borders are placed on level **"DESIGN - SCRATCH - User 1"** so it may be necessary to turn that level on to see these shapes.

5)   **Dismiss** the **Layout Settings** dialog by pressing the **X** in the upper right hand corner.
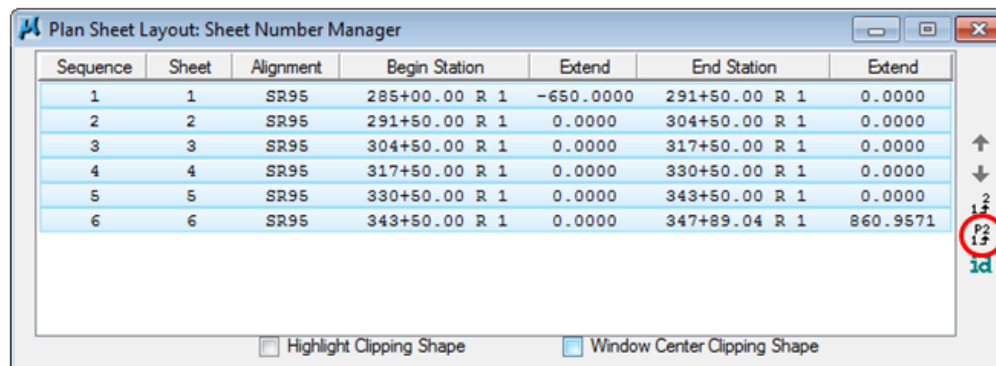
IV.)   Modify Sheet Numbers

The following steps demonstrate methods for controlling the sheet numbers applied.

1)   **Click** the **Sheet Number Manager** icon (5th from left) on the Plan Sheet Layout menu bar. This will open the following dialog.
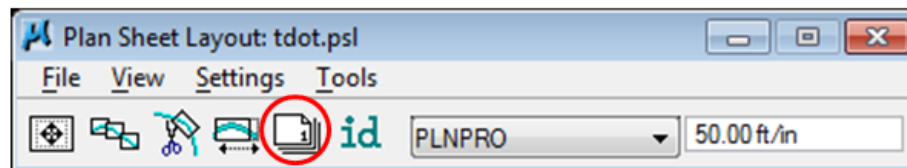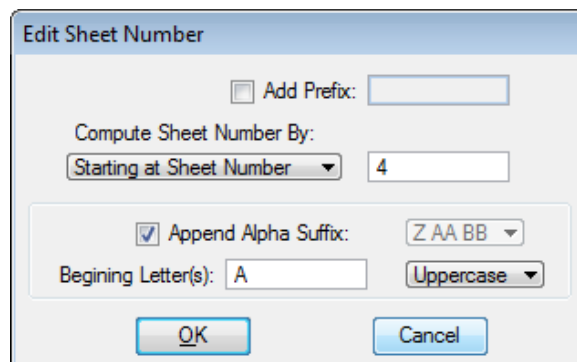

2)   **Click & hold** mouse button down while dragging the cursor to highlight all sheets. Then **click** on the **Edit Sheet Number** icon on the right.

3)   In the **Edit Sheet Number** dialog set the Compute Sheet Number By option to **Starting at Sheet Number** and set the value to **4**.

**Click** on the option to **Append Alpha Suffix**. Our sheets need the suffix "A" so under Beginning Letter(s): enter the **A**.

4) **Click OK** to apply the numbering changes. The Sheet Number Manager dialog should reflect the changes you have requested.

5) **Dismiss** the **Sheet Numbers Manager** dialog by pressing the **X** in the upper right hand corner. When prompted to Save Changes **click** the **Yes** button.

V.) Clip Sheets

1) **Press** the **Clip Sheets** icon (3rd from left) on the Plan Sheet Layout menu bar. **Populate** the **Clip Sheets** dialog as specified.
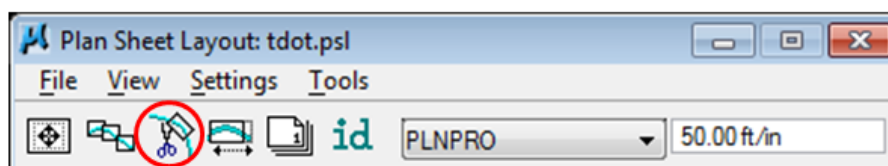
- **Set** the project **Directory** where sheet DGNs should be created.

- The **Sheet Name Prefix** field is used to control the final format for the DGN filenames which are applied. The number of characters used for the sheet number as well as the filename extension can be set.

Enter square brackets with 4 asterisks for the sheet number, **[****]** , followed by **.sht** for the filename extension. You should end up with **[****].sht**. Notice that the filename format is reflected to the right for the first sheet. See the note on the following page for an explanation of this format.

- **Set Orientation** to the **Rotate View** option.

- **Keyin** a **Sheet Title** if desired at the time of sheet generation. For this class we will specify **R.O.W.** This is the label for "TYPE" in the project data block on the upper right corner of our sheets.

- **Keyin** a **Project Number** if known at the time of sheet generation. For this class we will specify **STP-NHE-95(5)**.

- **Keyin Match Line** prefix text: **MATCH LINE STA.** & suffix text: **SEE SHT. NO.**

Make sure to include a blank space in the **Match Line** text prefix field after the period in **"STA."**. This will provide a blank space between "STA." and the computed match line station text. For the same reason you should include a space before **"SEE"** in the suffix text.

NOTE:

The number of asterisks entered within the square brackets in the **Sheet Name Prefix** field should be determined by the maximum number of characters expected in any project sheet number **plus whatever is required for suffixes in the sheets that are being created**. For a project ending in sheet number 126, that would be 3 +1 for 1 suffix letter or 3+2 if double suffix letters are required. If sheets are being created without suffixes simply base it on the highest sheet number such as sheets 31 – 36 in the 126 sheet set would need only 3 asterisks.

The software automatically embeds zeros as needed to fill out the sheet number for sheets with fewer characters which will set up the sheets in alphabetic order.

There are several reasons why the sheet files need to be named in this manner using the sheet number: the project will be easier to plot using InterPlot Organizer or other batch plotting functions since sheets will automatically be read in order alphabetically, the names of the sheet files should be the same as the sheet number so the project can be published to FileNet correctly and so other divisions, such as Right-of-Way and Construction, can find the sheets they need easily.

2)   **Click Process Sheets** button to create the plan and profile sheets.

3)   **Open** any of the newly created files to see the resulting sheets. You will need to change your Files of type to **Sheet Files [*.s*]**.
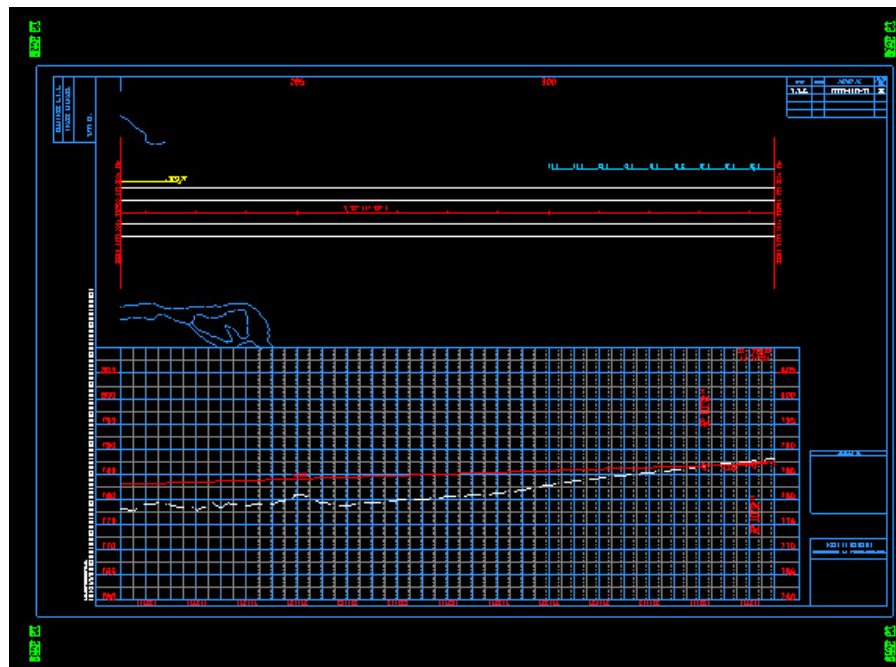
4)   **Close** the Plan Sheet Layout menu bar and save settings for the run when prompted.