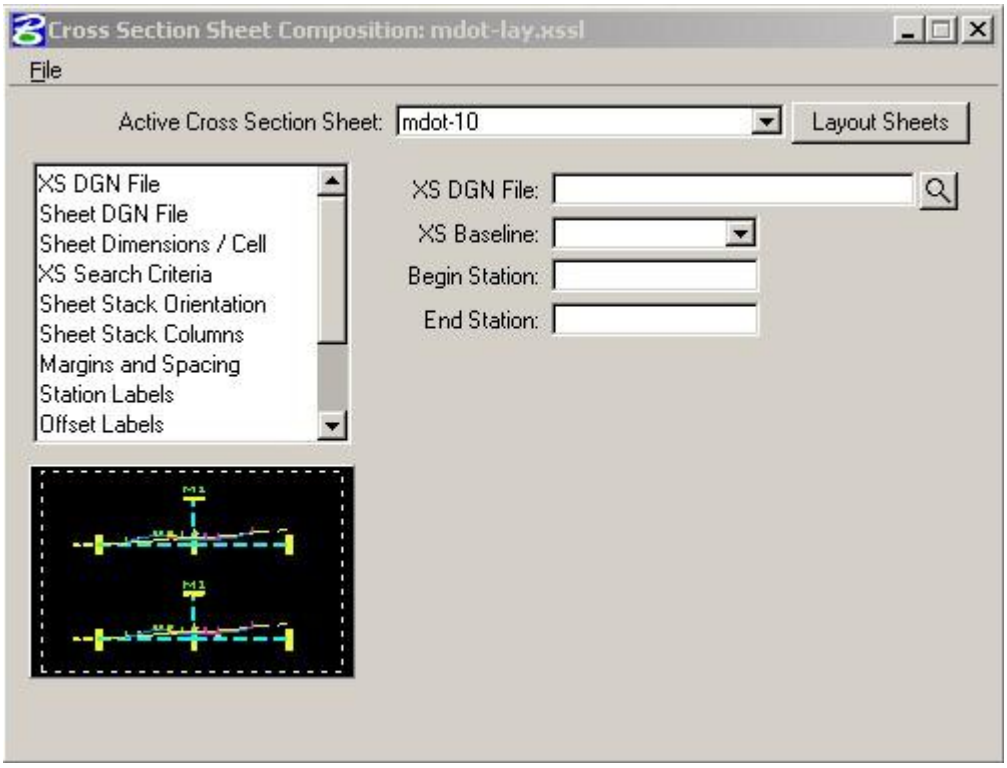
<u>XS Sheets</u> (03-01-2011)

The following steps show how to produce x-section sheets from the working x-section file. With the implementation of Microstation/GeoPak V8, the x-sections in the working x-section file are referenced to the x-section sheet file.

1. Create a 2d design file

Create a 2d DGN file (LAYroute.DGN, i.e. LAY471.DGN) and enter this file. (NOTE: USE XSSEED.DGN as the SEED DGN file.)

2. Open GeoPak's Cross-Section Sheet Composition.



3. Sheet Library

If MDOT-LAY.XSSL is not present at the top of the dialog, tag FILE-> SHEET LIBRARY -> ATTACH and choose C:\RWD\INPUT\MDOT-LAY.XSSL

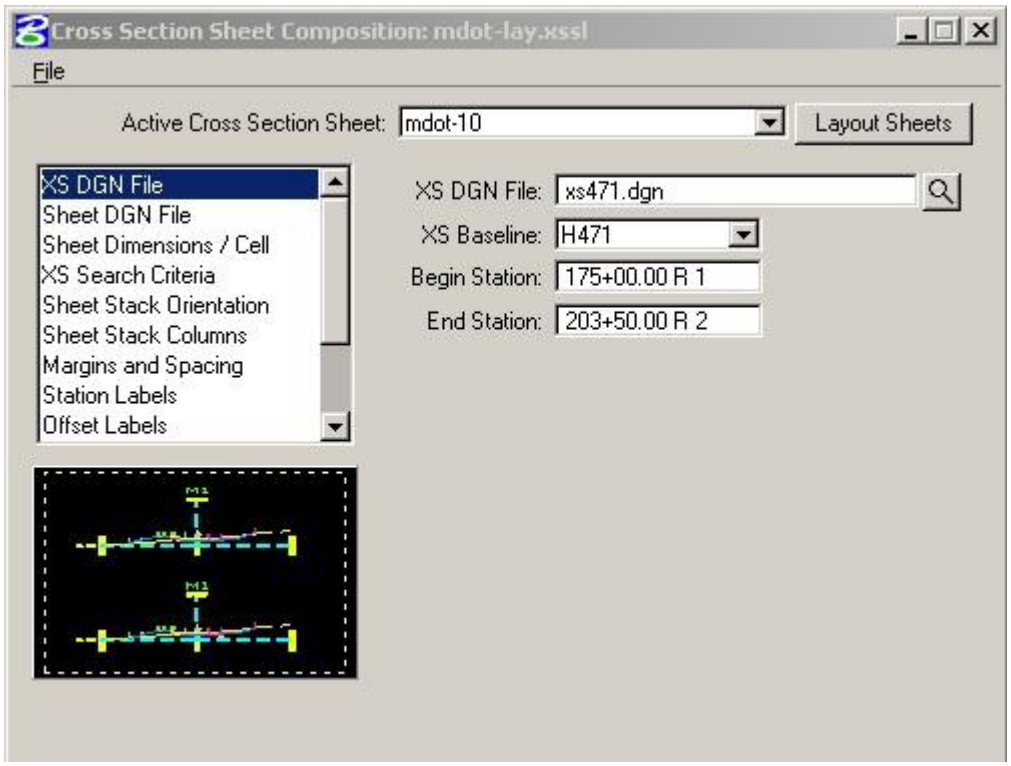
4. Active Cross-Section Sheet

Choose the ACTIVE CROSS-SECTION SHEET at the top of this dialog.

MDOT-10 -> 1"=10' <1:100 Metric(MDOT-100)> Single Stacked.
MDOT-5 -> 1"=5' <1:50 Metric(MDOT-50)> Single Stacked
MDOT-10-DS –> 1"=10' <1:100 Metric (MDOT-100-DS)> Double Stacked
MDOT-20 -> 1"=20' Single Stack (Get approval from Section Engineer for this scale.)
MDOT-10-2ew -> 1"=10' Single Stack (2 EW Phases)
MDOT-10-3ew -> 1"=10' Single Stack (3 EW Phases)

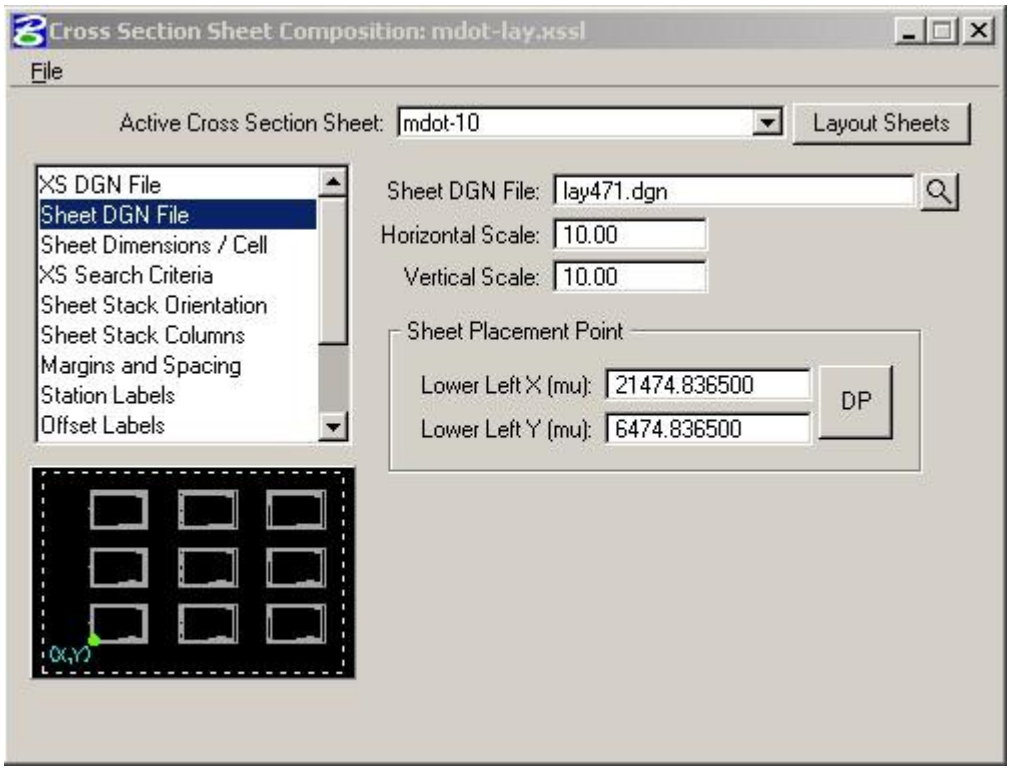
5. XS DGN Tab

Tag the XS DGN Tab on the left of the dialog and then choose your Working XS file. The XS Baseline and Begininng and Ending Stations should be filled out automatically.



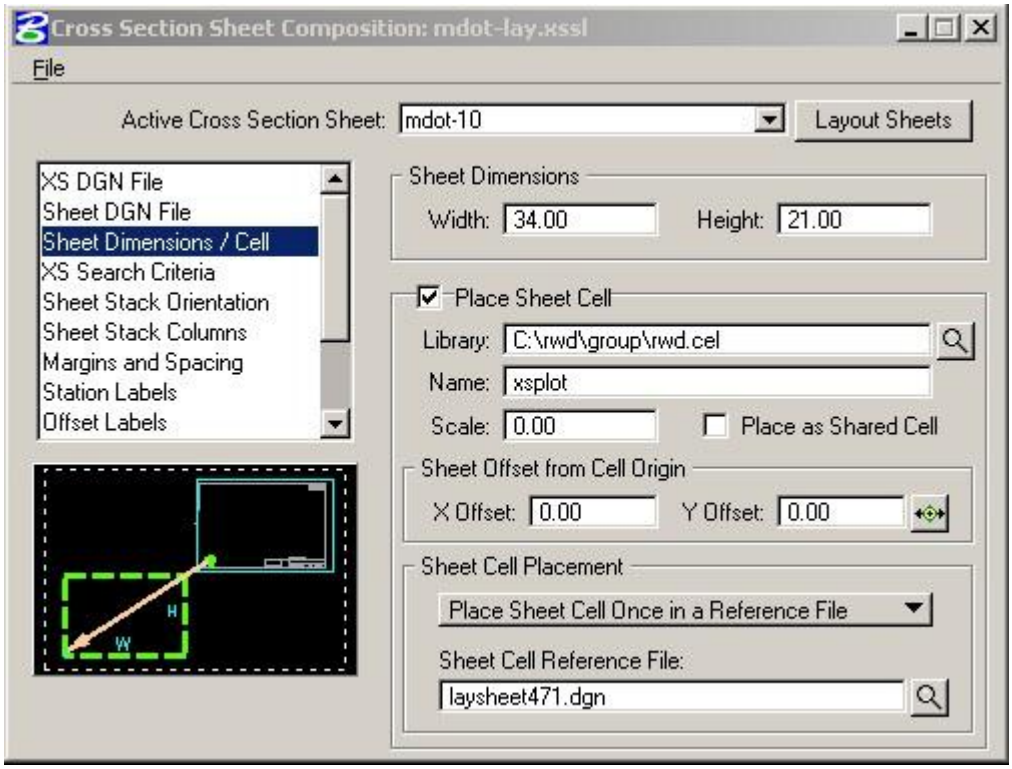
6. Sheet DGN File Tab

Tag the SHEET DGN FILE tab and choose the DGN file you want the XS Sheets created in. This will be the DGN file created in step 1.



7. Sheet Dimensions/Cell

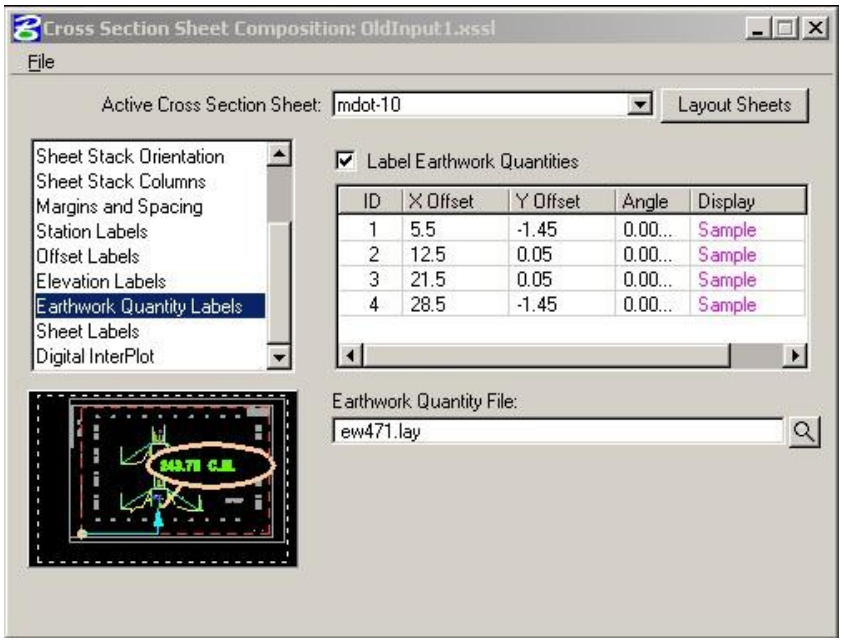
Tag the Sheet Dimensions / Cell Tab and make sure the Place Sheet Cell is checked, and then enter the name of the Sheet Cell Reference File which will be created.



Note: The Sheet cell “xsplot” or “xsplot5” will be placed in the file specified for the Sheet Cell Reference File and referenced to your XS Sheet DGN file for each XS Sheet.

8. Earthwork Quantities Tab

Tag the EATHWORK QUANTITY LABELS Tab. If you do not want to place Earthwork Quantities on your XS, turn this toggle off. If you do want to place Earthwork Quantities on your XS, choose the Earthwork Quantity File.



Phased EW formats:

Mdot-10-2ew format:

```
000000000000 111111111 222222222 333333333 444444444 555555555 666666666 777777777 888888888

610+00.0            788     267.74          1         13       1137     315.09       0.63          4

611+00.0            984     263.69          0          2       1268     369.78          0          1

612+00.0           1030     292.42          0          0       1331     349.09       0.65          1
```

Mdot-10-3ew format:

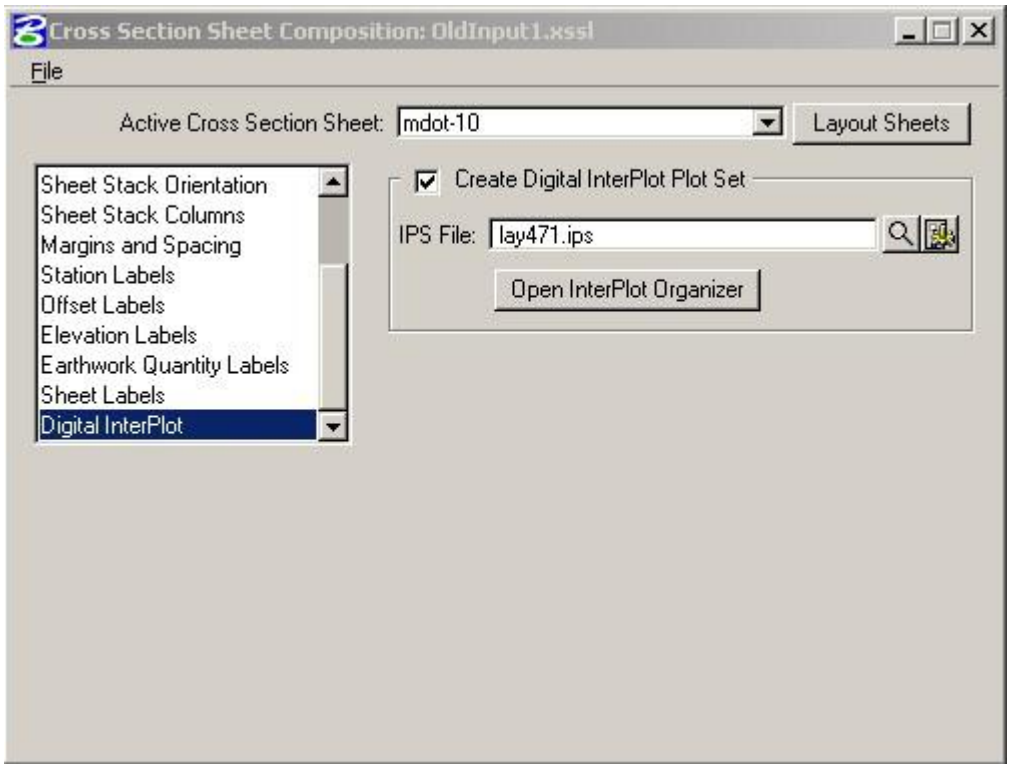
```
000000000000 111111111 222222222 333333333 444444444 555555555 666666666 777777777 888888888 AAAAAAAAA BBBBBBBBB CCCCCCCCC DDDDDDDDD

610+00.0            788     267.74          1         13       1137     315.09       0.63          4        199          0     205.02        871

611+00.0            984     263.69          0          2       1268     369.78          0          1          0          0     230.37        806

612+00.0           1030     292.42          0          0       1331     349.09       0.65          1          0          0     263.46        915
```

9. Digital Interplot Tab

If you use IPLOT and want to go ahead and create a Digital Interplot Plot Set:

a) Tag the DIGITAL INTERPLOT tab and toggle on CREATE DIGITAL INTERPLOT PLOT SET.

b) Enter the name of the IPS file to create.



c) Tag the OPEN SETTINGS DIALOG (rightmost button).

d) Choose the Printer Name.

e) Choose the Setting File Template Name (TIF.SET or OCE.SET from \rwd\group.

f) Choose LV=63(SHEET_PLOTTING_SHAPE) & CO=63 for the Plot border Search Criteria.

g) Tag OK.

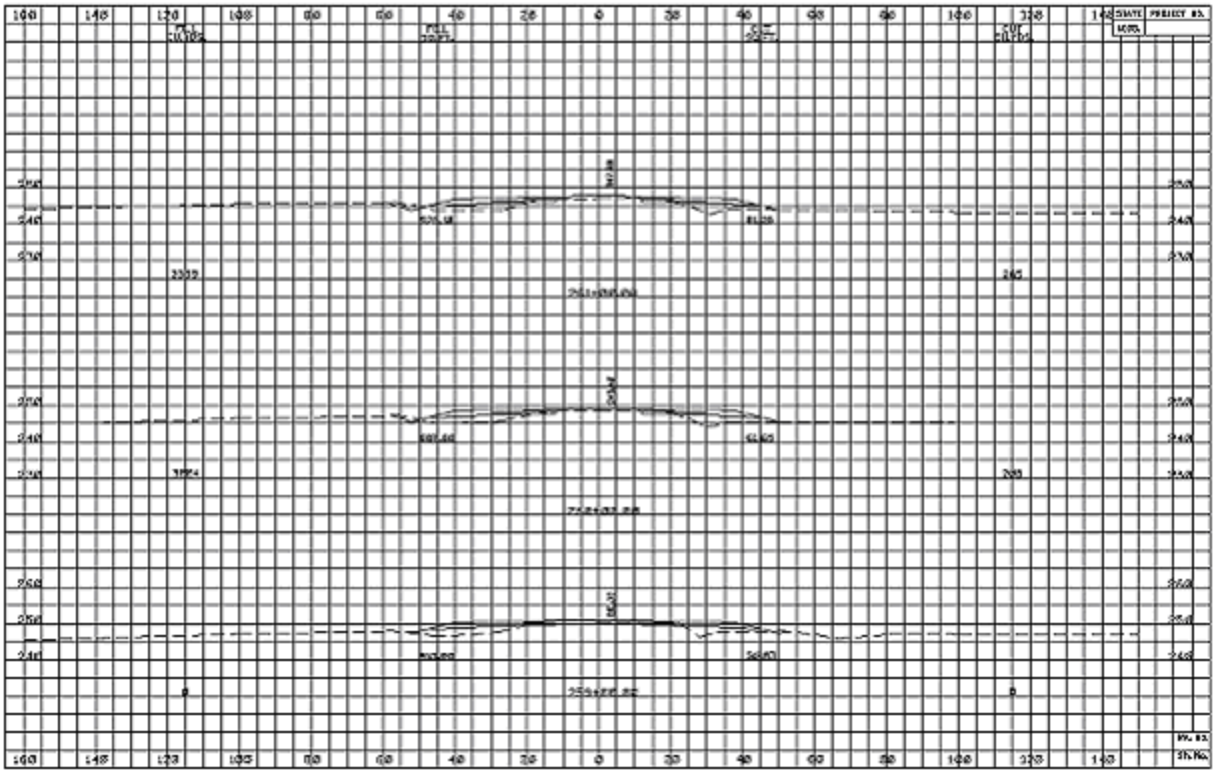
10. Layout Sheets

Tag LAYOUT SHEETS or FILE-> LAYOUT Sheets on the main dialog.

MDOT Sheets

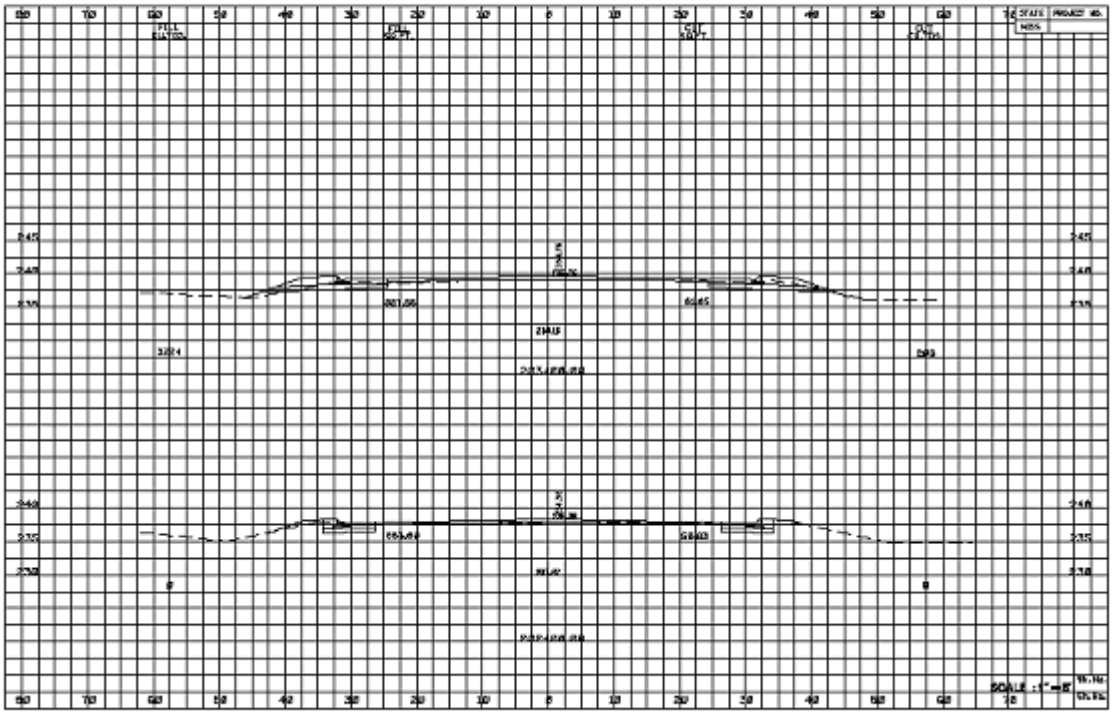
MDOT-10

SINGLE STACKED X-SECTIONS
AT A SCALE OF 1"=10' <1:100>



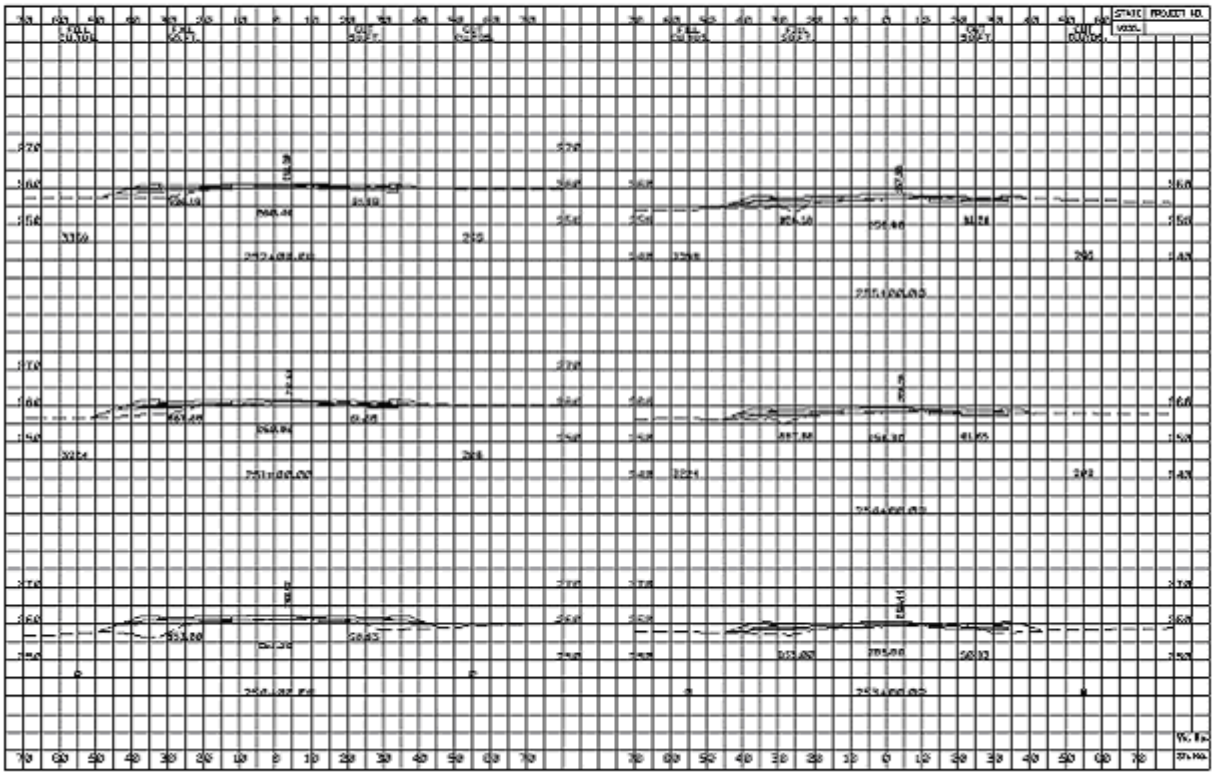
MDOT-5

SINGLE STACKED X-SECTIONS
AT A SCALE OF 1"=5' <1:50>



MDOT-10-DS

DOUBLE STACKED X-SECTIONS
AT A SCALE OF 1"=10' <1:100>



NOTE: The coverage you get if you run LAY-DS.INP is 70' left and 80' right, so the majority of local roads can have the double stack layout.

Grid Levels

1' Grid Lines are on LV=60(XS_SHEET_MINOR_GRIDS) and these can be cut off if you wish when plotting half-scale plots.

Scales other than 1"=20', 1"=10', & 1"=5'

To Lay out X-Sections at a Vertical scale other than 1"=20', 1"=10' or 1"=5', you do the following. Example: 1"=5' Vert, 1"=10' Hor.)

1. Recreate your Working X-Sections on the correct scale:

a) Plot Pattern Lines from XS.

b) Create a TIN of the Original & Proposed Surface. XS Reports -> DTM Input -> Create an Ex.dat of the Ex. Ground and a Prop.dat of the Finshed Grade.

c) DTM Tools -> Build Triangles -> Side Length 2 times the minimum distance between sections.

d) Cross Sections from surfaces. Choose both TINS and set new HOR & VERT scale. Sections on new scale are created.

2. Lay out your X-Sections

a) Choose MDOT-10 Sheet and change ELEV, OFF, & Sta text sizes to 1.5 * Hor. Scale / 10. Also change Elev Inc.

b) Scale Sheet Ref files. As = Hor Scale / 10.

To lay out x-sections at the same Horizontal & Vertical scale but other than 1”=10’ or 1”=5’ you would do the following. Example: 1”=20’ Vertical and 1”=20’ Horizontal.

1. Choose MDOT-10 Sheet and change ELEV, OFF, & Sta text sizes to 1.5 * Hor. Scale / 10. Also change Elev Inc.
2. Change the Horizontal & Vert. scale values on the Sheet DGN File tab.
3. Lay out the sections.
4. Enter Sheet Ref file and scale it. As = Hor Scale / 10. (AS=2, this example)
5. Enter you lay file and place a fence around all sheets, choose them in Ref. Manager, and then Clip Boundary.