

ODOT_XLS_SHEET.XLS

Purpose

There has been, of late, substantial interest in using Excel files in place of MicroStation files for certain plan sheets. An important consideration, though, is how to quickly and consistently produce an Excel worksheet that has the correct ODOT plan sheet border that is independent of the arrangement of the information within it. In other words, we need a plan sheet border, or borders, for Excel files that are as easy to apply as the cells that we use for the sheet borders in dgn files.

Such borders also need to incorporate some means by which all or specific parts of the border can be programmatically identified so that the Excel files may be electronically processed. In fact, it is because of the interest in being able to use the Sheet Numbering program on Excel as well as MicroStation files that the prototype work, as described in this document, on the Excel sheet border was initially undertaken.

The result of this preliminary development, ODOT_XLS_SHEET.xls, does function much like a MicroStation cell – it can be copied as a unit from one location to another, it can be identified by its name, and it contains sub-elements (called shapes in Excel) that can also be identified by name.

Requirements

Because there are no standards, as yet, for Excel plan sheet files, a few simple “givens” were assumed for the border and how it will be used. Some of these assumptions, such as the actual name of the border or the names of its pertinent sub-shapes, are easily changed as standards for Excel files are developed. Others, such as protections and locking, may take more complex programming for any applications that use it to accommodate standard requirements that differ from the assumed.

The names currently used for the border are:

- *ODOTSheet* for the border itself
- *ThisSheet* for the text frame shape within the border that is intended for the sheet number field
- *AllSheets* for the text frame shape within the border that is intended for the total sheet number field

Names have not been assigned, as yet, for the shapes that contain the text frames for the designer and reviewer initials, the sheet title and the project’s county-route-milepost.

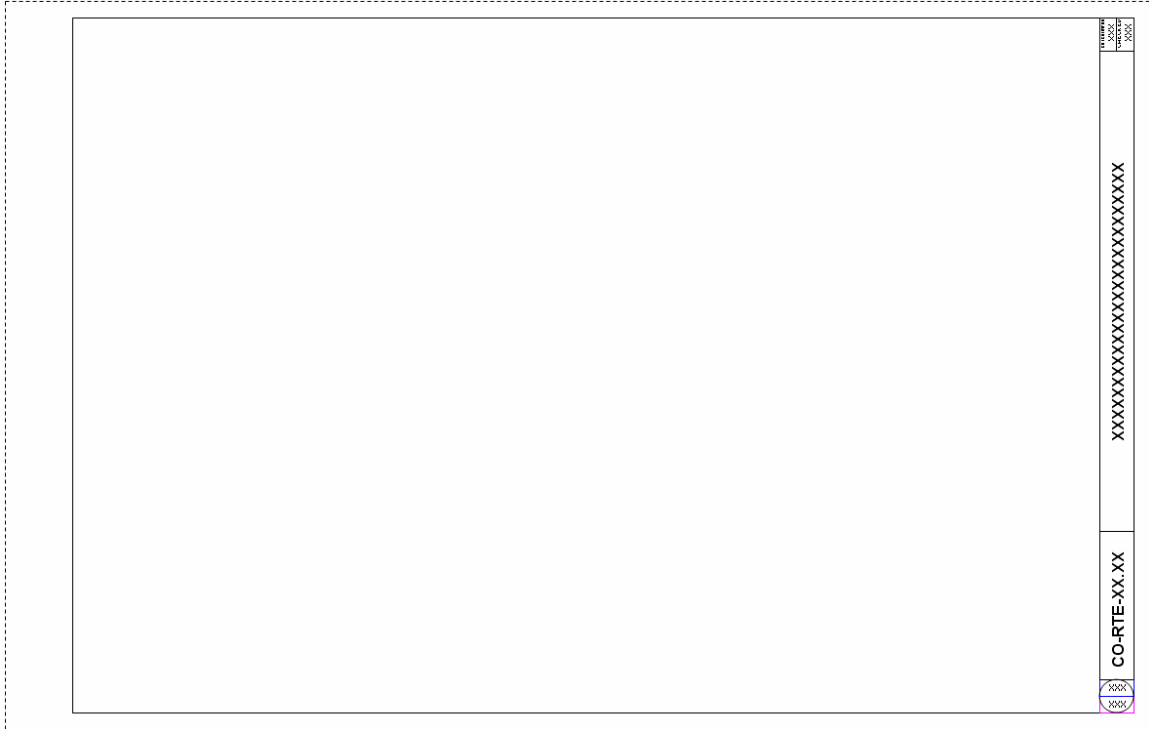
The only application, to date, that is using the prototype border, SheetNumbers.exe, does accommodate a protected file as long as there is no password protection.

General

ODOTSheet is drawn to the same dimensions as a standard plan sheet – the sheet outline, the dashed line, is 22” x 34” and the inner border is 21”x 31.5”. The right border panel that contains the text information is also drawn to the same dimensions as on our standard full sized sheets.

The circular shape around the sheet number fields is currently somewhat larger than its

counterpart in the standard sheet cells as are the font sizes. Also, there is no font in Excel that corresponds to MicroStation font 70. At present, the prototype is using Arial font, which, of course, may be changed to suit those who will be deciding any Excel standards. After the final determination of font choice and font size is made, the circular shape can be resized for better size correspondence with the MicroStation sheet cells.



To use the border shape, simply select it, copy it, and place it in the file and worksheet in which you wish to use it. Unlike cell borders, this border is cell-independent; it can be selected and copied by itself without having to copy any cells. Placement of the border shape in the new file can be "snapped to" the nearest upper left corner of a cell (relative to the border's upper left vertex) by selecting Draw>Snap>To Grid from the Drawing Toolbar. For more information about working with Excel Shapes, see Excel Help.

Development Topics

1. Apparent printing bug – the border does not preview or print correctly from within Excel, regardless of printer, printer settings, or page set-up. It appears that the Excel print algorithms are failing to establish the correct print range regardless of settings. There is definitely a failure to maintain the border's aspect ratios, even though all sub-shapes are set to maintain such. DoIT is currently investigating this matter further.