# Introduction

## Purpose

Since the advent of our Cadig site license, ODOT designers no longer need to painstakingly 'draw' (and redraw when the inevitable revisions are required) quantities and other chart data into tables in MicroStation.  We now use Excel for such work, and use the Cadig software to take care of the spreadsheets' representation in MicroStation.

Unfortunately, rather more frequently that one would expect, a lot of such data still gets drawn into MicroStation and must, at some point, be relocated to Excel – either due to one's own realization or one's bosses' direction – in order to ensure accuracy and save considerable amounts of time.

MicroStation text does not translate easily into the rows and columns of Excel.  First, MicroStation has no block copy capability – you may select rows and columns of text from your dgn file, but it will go to the clipboard as at best one column.  Furthermore, MicroStation copies or clips elements to the clipboard in the order in which they were created, not in the order in which they appear.

Program ODOT_MstaTxtBlockCopy.mvba has been developed to provide a reasonable degree of block copy capability for moving design file chart text to Excel.

## Requirements

The program runs from within the active MicroStation file and is designed to work with MicroStation version XM or V8i.

All selected text must be comprised of independent text or text node elements.  Text sub-elements of a cell are ignored.

In the design file, there must be a grid line – vertical or horizontal line element – between each text element that is selected.  These lines must be on level "SH_Data" and can be independent elements or sub-elements of a cell.

## Capabilities and Limitations

The algorithm does take view rotation and annotation scale into account.

The information sent to the clipboard can be translated into rows and columns by Excel as well as more sophisticated text processing software, such as Word or UltraEdit. Simpler text processors, such as Notepad, cannot correctly decipher the copy.

# How it Works

## General

ODOT_MstaTxtBlockCopy.mvba expects the user to identify, by way of a fence or the selection tool, the text elements to be copied to the clipboard.  Please note that regardless of the user's fence settings, the program processes as if the fence is in "inside" mode.

The program figures out the relative row and column positions of the selected text by the grid lines between them. Without grid lines, the program cannot determine a row and column structure of the text.

The selected text is incorporated into a single string along with control characters to indicate columns and rows.  This single string is then placed in the clipboard.  The user may then paste from the clipboard into Excel.

## Step by Step

### Starting the Program

The program may be started from the ODOT item on the MicroStation main menu bar.  Merely select ODOT>Drafting Apps>Block Copy to activate its starter macro.

If you do not have the ODOT menu item, you may access and start the program via the VBA Project Manager Dialog.  Select Utilities>Macro>Project Manager from the main menu bar, use the dialog's icons to navigate tot the V8istd or XMstd directory, whichever is applicable, go to the vba sub-folder, and select ODOT_MstaTxtBlockCopy.mvba.  The program may then be activated via the dialog's run icon.  For complete details on working with the VBA Project Manager, refer to the MicroStation help.

### The Main Interface
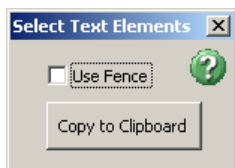


The program's sole interface is shown to the left.  It is displayed 'non-modal', meaning the user may still place a fence or create/edit a selection set while the form is visible.

Its controls are obvious – a toggle for selection by fence, a help button for access to this user guide, and a command button to process the selection into the clipboard.

### Selecting Text

As stated previously, the text to copy may be selected via the selection tool or a fence.  There must be grid lines, on level "SH_Data" or as sub-elements of a cell, to indicate the rows and columns between the selected text elements.  An example fence selection from a plan and profile sheet is shown here:

| REF NO. | STATION | | SIDE | 202 Pipe Removed, 24" and Under | 202 Pipe Removed, Over 24" | . | 001 Rock Channel Protection, Type B | 002 Concrete Masonry, As Per Plan | 003 12" Conduit, Type D | 003 18" Conduit, Type A, & Cond. 707.02 | 007 Ditch Erosion Protection |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | FROM | TO | | Lin. Ft. | Lin. Ft. | . | Cu. Yd. | Cu. Yd. | Lin. Ft. | Lin. Ft. | Sq. Yd. |
| A-1 | 513+87 | 513.88 | LT | 21 | . | . | . | . | . | . | . |
| A-2 | 515+83 | 515+83 | LT & RT | . | 50 | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . |
| D1 | 513+54 | 514+00 | LT | . | . | . | . | . | 45 | . | . |
| D2 | 514+00 | 514+54 | LT | . | . | . | . | . | . | . | 53 |
| D3 | 514+00 | 515+14 | RT | . | . | . | . | . | . | . | 95 |
| D4 | 515+54 | 515+83 | RT | . | . | . | . | . | 39 | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . |
| D5 | 515+83 | 515+83 | LT & RT | . | . | . | 62 | 68.2 | . | 88 | . |
| . | . | . | . | . | . | . | . | . | . | . | . |

Note: this picture has been rotated -90 degrees; the upper right most text in the picture would be the upper left most if viewed in the design file.

## Copying into Excel

Merely click on the "Copy to Clipboard" button to process the selection set into a block copy on the clipboard. Then, go to the desired Excel table, select the cell that corresponds to the upper left most text element in your design file selection, right click, and select copy. The results of the copying the above selection into ODOT's corresponding standard excel sheet is shown here.

| | | | | 202 | 202 | | 601 | 602 | 603 | 603 | 607 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pipe Remove d, 24" and Under | Pipe Remove d, Over 24" | | Rock Channel Protect ion, Type B | Concret e Masonr y, As Per | 12" Conduit , Type D | 78" Conduit , Type A, 16 Gage | Ditch Erosion Protect ion |
| | | | | Lin. Ft. | Lin. Ft. | | Cu. Yd. | Cu. Yd. | Lin. Ft. | Lin. Ft. | Sq. Yd. |
| R-1 | 513+67 | 513.88 | LT | 21 | | | | | | | |
| R-2 | 515+63 | 515+63 | LT & RT | | 50 | | | | | | |
| | | | | | | | | | | | |
| D1 | 513+54 | 514+00 | LT | | | | | | 45 | | |
| D2 | 514+00 | 514+64 | LT | | | | | | | | 53 |
| D3 | 514+00 | 515+14 | RT | | | | | | | | 95 |
| D4 | 515+64 | 515+53 | RT | | | | | | 39 | | |
| | | | | | | | | | | | |
| D5 | 515+69 | 515+69 | LT & RT | | | | 52 | 55.2 | | 86 | |

Again, the picture has been rotated. Also note that the text (or cell sizes) for the item descriptions will need to be edited.

## Things to Watch Out For

In copying from MicroStation, the program may do odd things for those cells where a grid line has been removed in order to create a merged-type cell. If at all possible, leave such lines in place.

Keep in mind that Excel will not permit block copy when one or more cells in the receiving range are merged. Since several of ODOT's standard Excel sheets still have merged cells in user entry areas, be sure to check your target file before using the program!

# Contacts

If you have any questions, suggestions, or problems please contact the ODOT Office of CADD and Mapping Services CADD Support team or use the following form on the ODOT web site at:

**http://www.dot.state.oh.us/Divisions/Engineering/CADDMapping/CADD/Pages/suggestions.aspx**