

UDOT Standard Summary Sheets

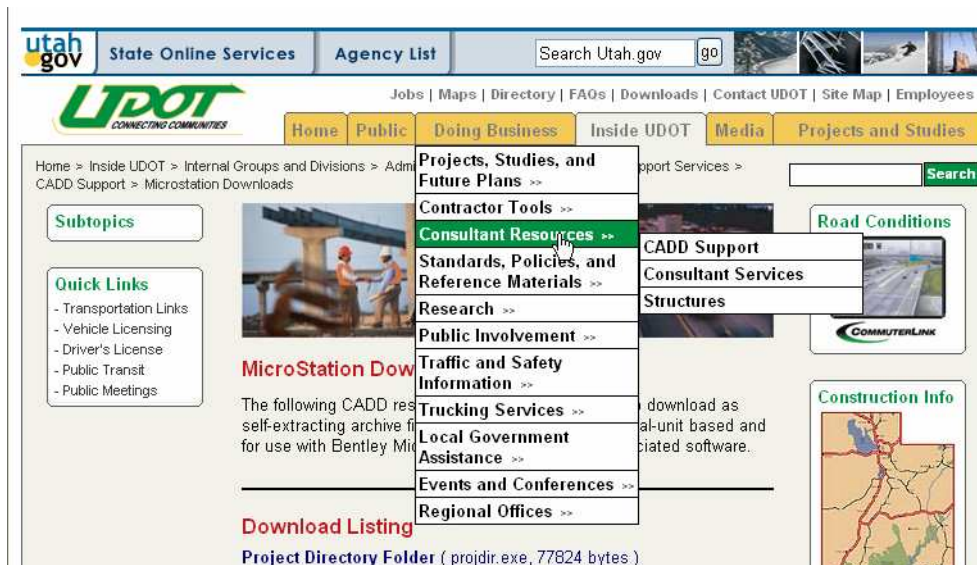
The following Excel spreadsheets are available in the M:\CAD_Standards\Resources\Summary_Sheets directory or on the internet at <http://www.dot.utah.gov> (see image below) for use as project summary sheets:

Barrier Summary Sheet.xls
Concrete Summary Sheet.xls
Delineator Summary Sheet.xls
Drainage System Summary Sheet.xls
Driveways Summary Sheet.xls
Dust Control and Watering Summary Sheet.xls
Earthwork Summary Sheet.xls
Fencing and Gates Summary Sheet.xls
Generic Summary Sheet.xls
Landscape Seeding Summary Sheet.xls
Pavement Marking Acrylic Summary Sheets.xls
Pavement Marking Epoxy Summary Sheet.xls
Pavement Marking Paint Summary Sheet.xls

Pavement Marking Removal Summary Sheet.xls
Pavement Marking Tape Summary Sheet.xls
Pavement Sawing Summary Sheet.xls
Pipe Culverts Summary Sheet.xls
Relocation Summary Sheet.xls
Removal Summary Sheet.xls
Right-of-Way Markers Summary Sheet.xls
Rotomilling Summary Sheet.xls
Sign Schedule Summary Sheet.xls
Surfacing PCCP Summary Sheet.xls
Surfacing Summary Sheet.xls
Temporary Erosion Control Summary Sheet.xls
Temporary Fence Summary Sheet.xls

These files are not automatically copied into the project when a project is created using the Cadd Utilities Program. You will need to manually copy the spreadsheets that are needed for the project to the N:\Projects\NNNNN_YY\Quantities\Summary_Sheets directory. If a spreadsheet needed for the project is not included in the standard spreadsheets, use the Generic Summary Sheet.xls as a template for the new spreadsheet.

NOTE: Always check the formulas and values used in determining quantities for accuracy. The formulas may have errors and the values used may not be applicable to your specific project. These Excel spreadsheets are provided as a template and do not replace your responsibility to calculate correct quantities for the contractor.



To access the summary sheet downloads from the home web page, select the Doing Business tab, Consultant Resources, CADD Support. In the CADD Support web page, select MicroStation Downloads in the Subtopics area and then in the Download Listing area scroll down to the Summary Sheets download.

General Comments about the Excel Spreadsheets

- The Excel spreadsheets provided by UDOT use named cell ranges to identify standard areas that are imported into the PDBS program. The named cell ranges are used by the Export Quantities to PDBS macro and are:

ItemNumberRow	This row defines which columns are exported to the text file. If a cell in this row has data, the macro will use the data for the file name and export the data from that column to the file. Hidden or empty cells are skipped. Remember to not use an * character in these cells. Replace the * in the bid item number with an S.
ItemDescriptionRow	This row is used to add a description to the include item prompt.
TopDataRow	This row defines where the macro will begin exporting data to the text file.
BottomDataRow	This row defines where the macro will stop exporting data to the text file.
AlignmentColumn	Defines column used for exporting Alignment/Line data.
FromStationColumn	Defines column used for exporting From Station data.
FromOffsetColumn	Defines column used for exporting From Offset data.
ToStationColumn	Defines column used for exporting To Station data.
ToOffsetColumn	Defines column used for exporting To Offset data.
RemarksColumn	Defines column used for exporting Remarks data.

The diagram shows an Excel spreadsheet with the following structure:

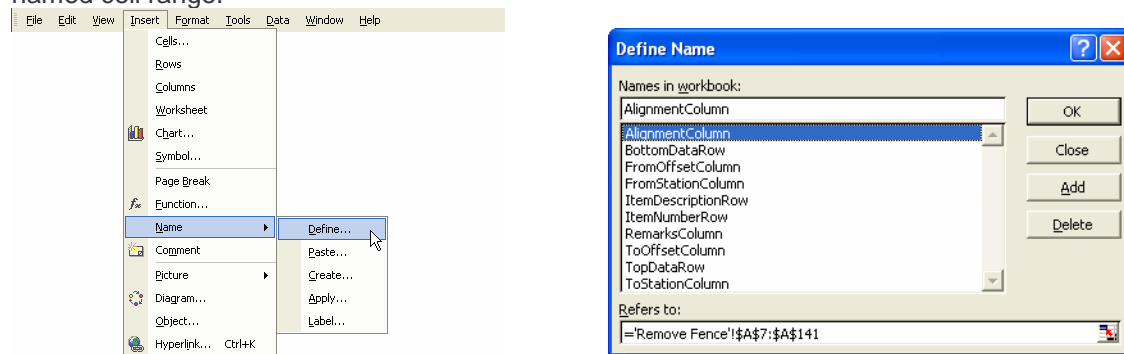
- Row 1:** Contains a button labeled "Export Quantities To PDBS".
- Row 2:** Contains a blue header cell labeled "Item Name" in column F and a red header cell labeled "Item Description" in column G.
- Row 3:** A blank row.
- Row 4:** A bold header row labeled "GENERIC SUMMARY SHEET".
- Row 5:** A header row with columns: LINE, FROM, TO, INSERT PAY ITEM NAME HERE, and REMARKS.
- Row 6:** A sub-header row with columns: STATION, OFFSET, STATION, OFFSET, FEET.
- Row 7:** The first data row, labeled "ALIGNMENT" in column A, with values in columns B through F.
- Row 8:** A blank data row.
- Row 9:** A blank data row.
- Row 10:** A blank data row.
- Row 11:** A blank data row.
- Row 12:** A blank data row.
- Row 13:** A blank data row.
- Row 14:** A blank data row.
- Row 15:** A blank data row.
- Row 16:** A blank data row.
- Row 17:** A blank data row.
- Row 18:** A blank data row.
- Row 19:** A blank data row.
- Row 20:** A blank data row.
- Row 21:** A blank data row.
- Row 22:** A blank data row.
- Row 23:** A blank data row.
- Row 24:** A blank data row.
- Row 25:** A blank data row.
- Row 26:** A blank data row.
- Row 27:** A bold footer row labeled "TOTAL" in column A, with a value in column F.

Labels and arrows pointing to the spreadsheet:

- FromStationColumn:** Points to column C.
- FromOffsetColumn:** Points to column D.
- ToStationColumn:** Points to column E.
- ToOffsetColumn:** Points to column F.
- RemarksColumn:** Points to column G.
- AlignmentColumn:** Points to column B.
- PDBS Export Macro Button:** Points to the button in row 1.
- ItemNumberRow:** Points to row 2.
- ItemDescriptionRow:** Points to row 3.
- TopDataRow:** Points to row 7.
- BottomDataRow:** Points to row 27.

- Make sure the named cell ranges are defined correctly. Named cell ranges can be edited by going to Insert>Name>Define. To change the locations of the named cell ranges, select the named cell range in the

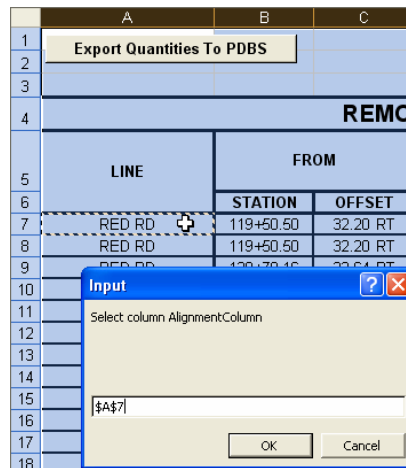
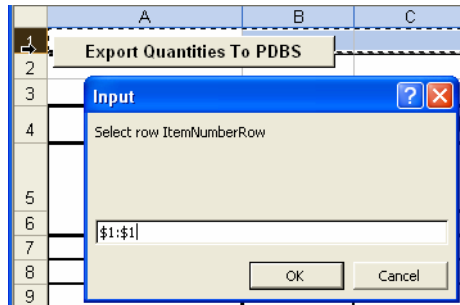
define name dialog box and change the information in the Refers to: dialog. Another way of changing the definitions is to delete all of the named cell ranges and allow the macro to prompt for the location of each named cell range.



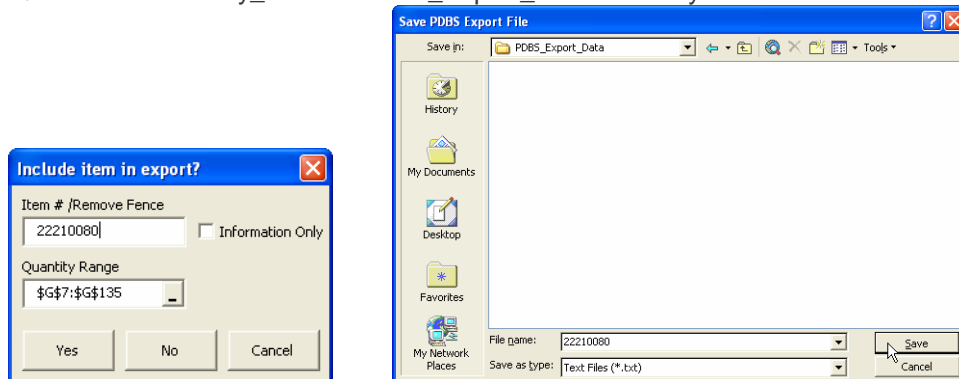
- Depending on security settings in Excel, accept the prompt to enable macros. If the macro security setting is set to high, the macro will not run. If set to medium, you will be prompted to enable the macro. There will not be any notification if the security setting is set to low.
- Hide the rows or columns that are not needed for the Excel spreadsheet. Deleting the row or column is also possible but beware of the columns that have merged cells. The text for merged cells is usually contained in the first column. Deleting the first column would also delete the text of the merged cell (Axiom Office Importer also has linking problems with the hidden column that contains the text of the merged cells).
- Add columns and rows as needed. For columns of bid items, be sure to add bid item number and bid item description in the appropriate rows.
- Enter data into Excel spreadsheet. The cells in the station and offset columns have custom formats defined that will display the numbers correctly. For stations, enter the station as a whole number (i.e. 3456.34 will display as 34+56.34). For offsets, enter the offsets as positive numbers for offsets to the right and negative numbers for offsets to the left (i.e. 23.56 will display as 23.56 RT and -23.56 will display as 23.56 LT). A zero will display as 0.00 RT.

Exporting to PDBS Text Files

- 1) **SAVE THE FILE!** Make sure the spreadsheet file is saved before executing the macro. The macro alters the file in order to create the exported text files.
- 2) To execute the macro, click on the macro button in the upper left hand corner of the Excel spreadsheet. If the named cell ranges are not defined, the macro will prompt for the location of each named cell range. For named cell ranges that specify rows, select the row desired. For named cell ranges that specify columns, select the top data cell in the column.



- 3) When the macro runs, there will be a separate file created for each bid item number displayed (not hidden) in the Excel spreadsheet. The file name will be the bid item number with the extension of .txt. For bid item numbers that are included in PDBS for information only, toggle on the information only and the code of 361 will be added to the text data. Save all text files in the N:\Projects\NNNNN_YY\Quantities\Summary_Sheets\PDBS_Export_Data directory.



- 4) After the macro has finished exporting to the different text files, notice the filename of the Excel spreadsheet. It has changed to the name of the last text file. This is the reason for saving the file before running the macro. At this point, you can close the file without saving to restore the file back to the way it was before running the macro. If you want to keep the tabs that were created by the macro, you can select File>Save As and save the file back to the original location, name and file type (notice that the file type is set to "Text (MS-DOS) (*.txt)" and needs to be changed to "Microsoft Excel Workbook (*.xls)").

Note: If an error occurs when the macro runs, it will usually exit the command and go to column Z with an error message. Common causes for the macro to crash are invalid named cell ranges and no data in between the TopDataRow and BottomDataRow named cell ranges.

For questions or support with importing the text files into the PDBS system, refer to the PDBS Estimate help. If the help file does not answer your questions, contact Thom Leholm at (801)965-4344, TLEHOLM@utah.gov or Blaine Bailey at (801)965-4343, BLAINEBAILEY@utah.gov.

Importing Excel Spreadsheets Into MicroStation

There are two methods used to import the Excel spreadsheets into MicroStation with links. The first is with the use of an MDL program from Axiom International called Microsoft Office Importer. The second method is to use the combination of the programs Microsoft Excel 2002 (with SP1) and MicroStation v8. With this combination of Excel and MicroStation versions, the windows clipboard limitation is eliminated allowing large spreadsheets to be pasted into MicroStation. All parameters included below are based on a MicroStation sheet file with the plotting scale of 1 ft = 1 in.

Axiom's Microsoft Office Importer

Note: For a detailed explanation of how the program works, consult the user guide delivered with the product which is located on the region servers at M:\Cadd_Apps\Axiom\V8\office\office.pdf

Procedure for importing links into MicroStation:

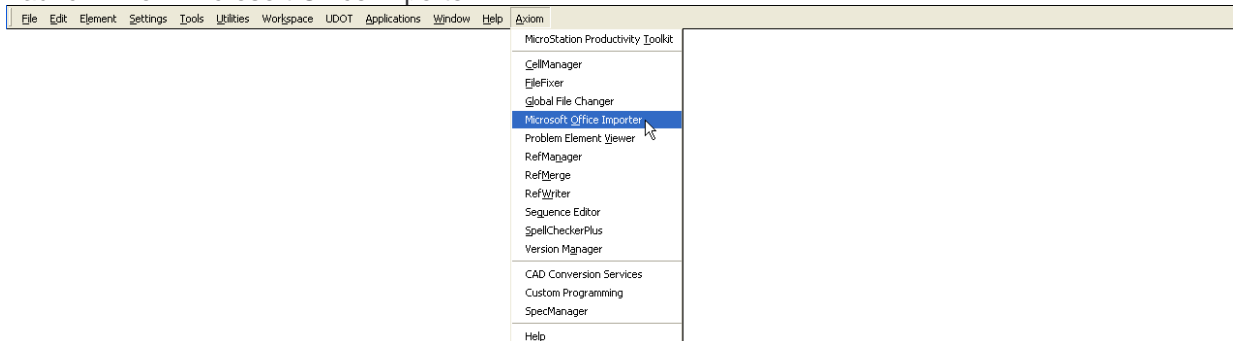
- 1) Create a sheet file and attach the border file as a reference.

In Excel, highlight the area to be linked to the sheet file and copy into the windows clipboard. Axiom recommends using a named cell range for the highlighted area. The following explanation is given:

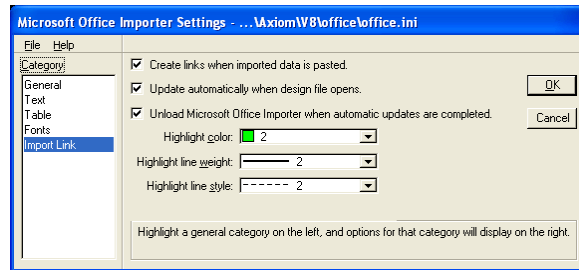
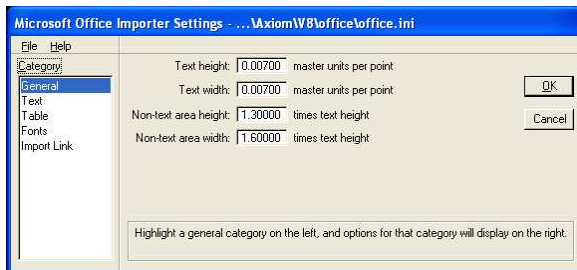
“Using a named range will result in later edits and updates showing added or deleted rows and columns in the imported area in the design file. This means the size of the imported area will expand or contract when you change the number of rows or columns during an Edit and Update.

Not using a named range when you copy Excel data will result in later Edit and Update processes not changing the number of rows or columns of the imported area. If rows or columns are deleted during the edit, rows and columns adjacent to the original copied area will be moved into the imported area to maintain the same number of rows and columns.” (Axiom International, *Microsoft Office Importer User's Guide* 2003, 34)

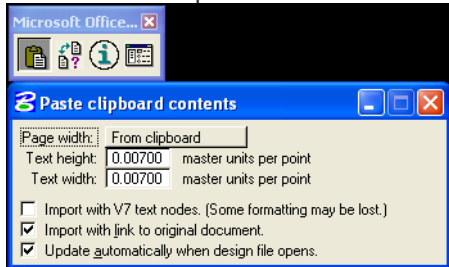
- 2) Launch Axiom Microsoft Office importer.



- 3) Check the active settings by selecting the Set Microsoft Office Importer Parameters button. The settings for text height and text width in the general category should be set to 0.007 for a medium text size and 0.006 for a small text size. Make sure the “Create links when imported data is pasted” toggle is on to have the data updated when changes are made to the spreadsheet.



- 4) Select Paste Clipboard Contents and position the contents in the border.



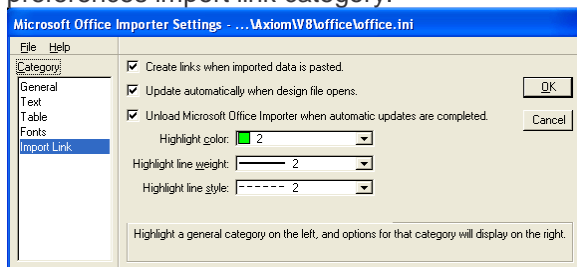
- 5) Turn on the graphic group lock if manipulation of the link is desired (i.e. move, rotate, scale, delete, etc.).

Updating Links with Microsoft Office Importer

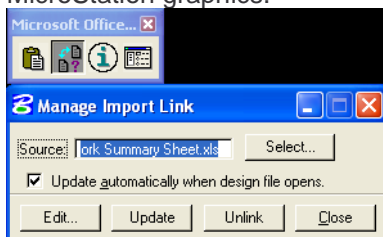
- 1) Automatic updating can be accomplished by making sure the Update automatically when design file opens toggle is selected when the link is placed in the drawing. The Axiom.cfg file that is found in the C:\Program Files\Bentley\Program\MicroStation\config\appl directory needs to have the following line added:

MS_DGNAPPS > \$(AXI)office/office.ma

This change to the configuration file will load the Microsoft Office Importer program when MicroStation is opened. If you want to have the Microsoft Office Importer program automatically unload after performing the link updates, select the Unload Microsoft Office Importer when automatic updates are completed toggle in the preferences import link category.



- 2) Manual updating is accomplished by selecting the Manage Import Link button from the main Microsoft Office Importer toolbar. With this utility, you can update the location of the source file, change the automatic updating selection, open and edit the spreadsheet designated by the source, update the link, and unlink the MicroStation graphics.



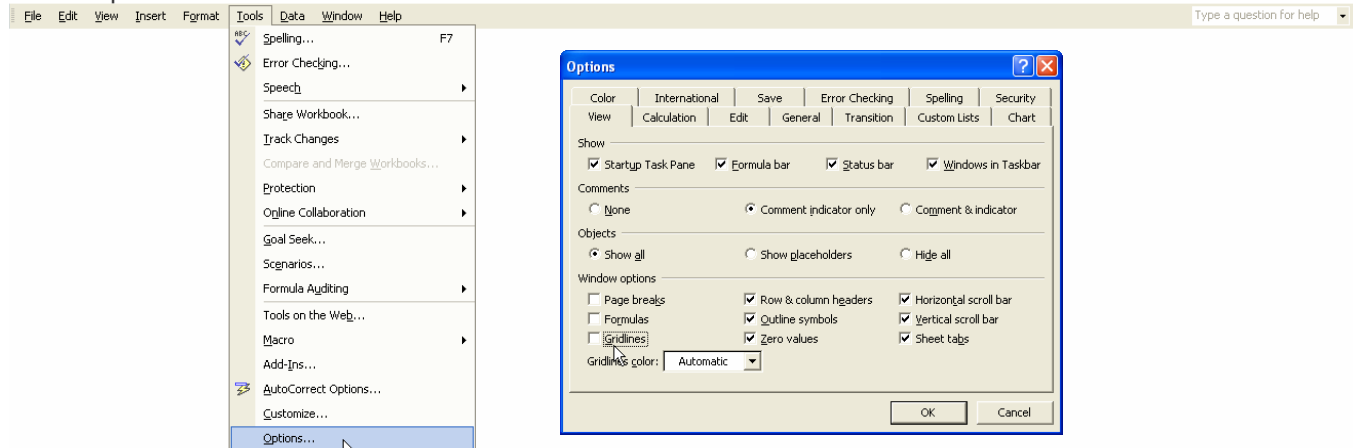
The link will only update if there has been a change in the spreadsheet file and the spreadsheet file has been saved. If Microsoft Office Importer does not detect a change in the file, it will report "The source document is up to date" in the MicroStation's Message Center.

MicroStation's Paste Special

Note: This procedure only works for large spreadsheet links if the Microsoft Excel 2002 (with SP1) and MicroStation v8 programs are used. Smaller links are possible using the same procedure described below with any versions of Microsoft Excel and MicroStation.

Procedure for importing links into MicroStation:

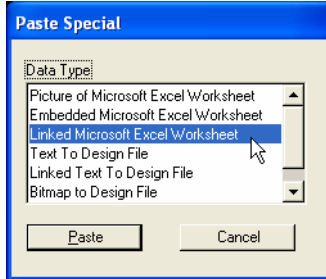
- 1) Create a sheet file and attach the border file as a reference.
- 2) In Excel, make sure the spreadsheet has the gridlines turned off in the view control found in Tools>Options>View.



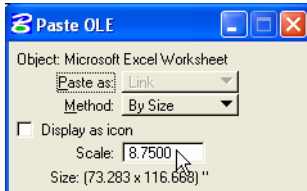
- 3) Highlight the area to be linked to the sheet file and copy into the windows clipboard.
- 4) In MicroStation, select Edit>Paste Special.



- 5) Choose the Linked Microsoft Excel Worksheet option in the Paste Special window and then select Paste.



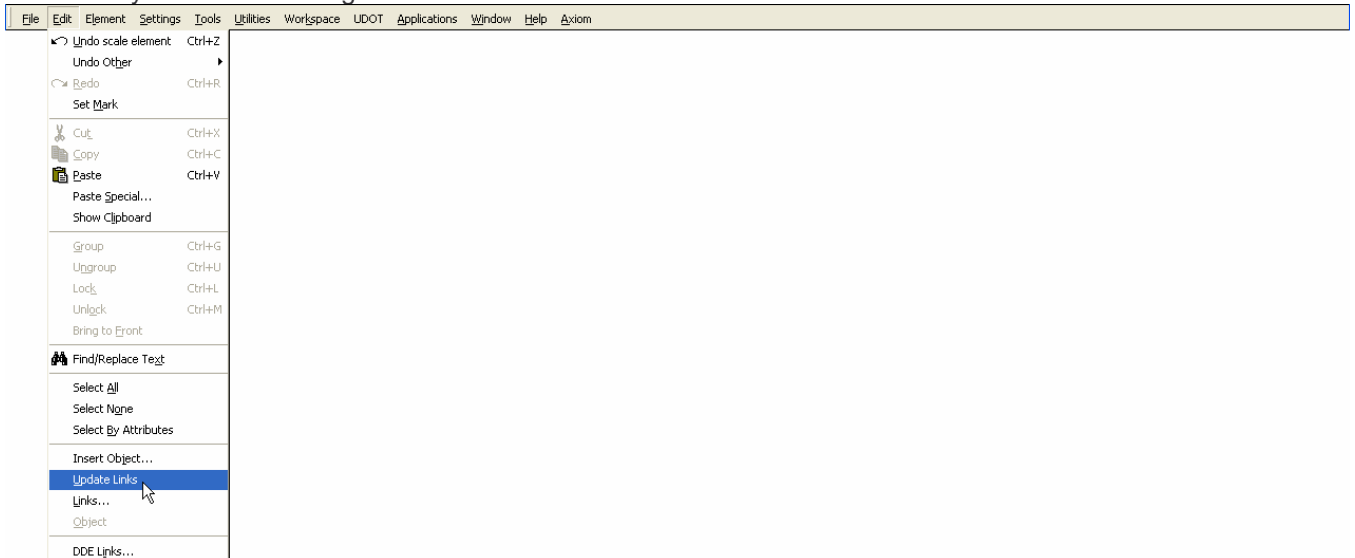
- 6) In the Paste OLE window, change the Method to By Size and change the Scale to 8.75 for medium size text or 7.50 for small size text.



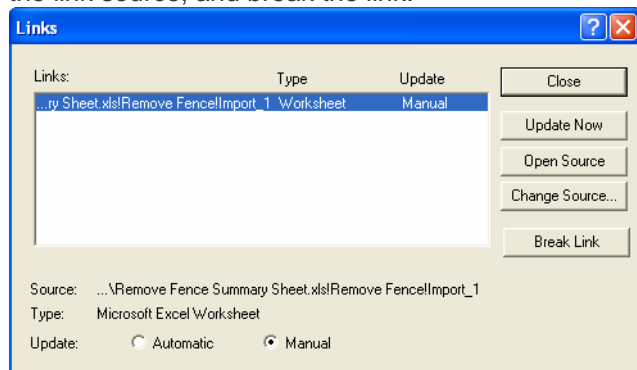
- 7) Position the contents in the border. When the link is first placed in MicroStation it has a hatching appearance which disappears after the sheet file has been reopened.
- 8) After placement, the link element can be manipulated like a shape element (i.e. move, rotate, scale, etc.).

Updating Links with MicroStation

- 1) To update the link, go to Edit>Update Links. MicroStation will automatically scan the file for links and update them if they have been changed.



- 2) To edit the link, go to Edit>Links. In the Links window, you can update, open the spreadsheet source, change the link source, and break the link.



Pros and Cons (Microsoft Office Importer vs. Paste Special)

	Microsoft Office Importer	Paste Special
Pros	Imports link as text and line graphics. Iplot Professional can print without problems.	Don't need 3 rd party software for import.
	Maintains text height when rows or columns are changed.	Follows Microsoft functionality for paste special.
Cons	Data in column headings is sometimes lost when columns are hidden.	Iplot Professional is not able to print the linked element.
	Potential of different links being combined into same graphic group. When one link is deleted, another is deleted unintentionally.	If rows and columns are altered after the link to the sheet file, the link maintains it's shape size altering the text height.
	Text can be edited in MicroStation but not reflected back to Excel. The edited MicroStation text is not maintained once the link is updated.	Displays gridlines.