

Pipe Data Spreadsheet User Guide:

Excel to MicroStation Workflow Using Axiom Microsoft Office Importer

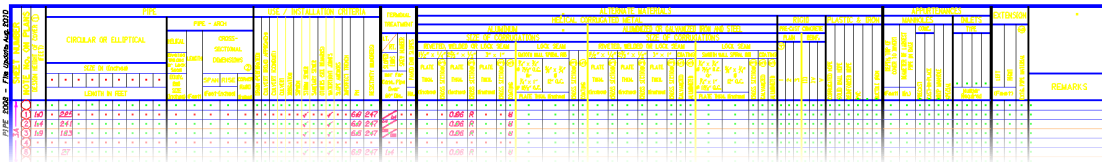
A screenshot of a pipe data spreadsheet. The spreadsheet has a complex header structure with multiple rows of column titles. The columns are organized into several main sections: 'PIPE', 'GENERAL INFORMATION', 'MATERIALS', 'CONNECTIONS', 'DIMENSIONS', 'PROPERTIES', and 'REMARKS'. The data rows contain various numerical values, text descriptions, and checkboxes. The spreadsheet is displayed in a grid format with a blue border around the header rows.

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Introduction

Pipe Data sheets can be difficult to fill out using MicroStation because of the large number of columns (80+). Axiom Microsoft Office Importer can import pipe data sheet content from an Excel spreadsheet into MicroStation. Changes made in the Excel spreadsheet can quickly be updated in MicroStation. The licensing for this tool is server based; consequently the tool is only available at the following ODOT offices:

- Portland, Flanders
- Salem, East
- Salem, TLC
- Springfield
- Roseburg
- White City
- Bend
- Klamath Falls
- La Grande

For information on content of the Pipe Data sheets refer to the Pipe Data chapter of the Contract Plans Development Guide at <https://www.oregon.gov/ODOT/Engineering/Pages/CP-Development-Guide.aspx>.

If you have not used Axiom Office Importer for the Pipe Data Sheet, see the section [#8 Configuring For Your Workstation](#) before using.

The steps for preparing a Pipe Data Sheet with Axiom Office Importer are as follows:

1. Setup an empty active sheet as described in the [CPDG](#) (Contract Plans Development Guide).
2. Copy the spreadsheet Pipe_2013.xlsm or pipe_11.xls to your project folder and enter the pipe data into the Excel spreadsheet (see 2 [Using Excel](#)).
3. Start Axiom Microsoft Office Importer in MicroStation and load the pipe data sheet settings file (see [Axiom Office Importer](#)).
4. Import the data from the Excel spreadsheet into the MicroStation pipe data sheet file (see [#4 Importing Pipe Data Sheets into MicroStation](#)).
5. Make the few simple manual edits that are needed (see [Manual Edits](#)).

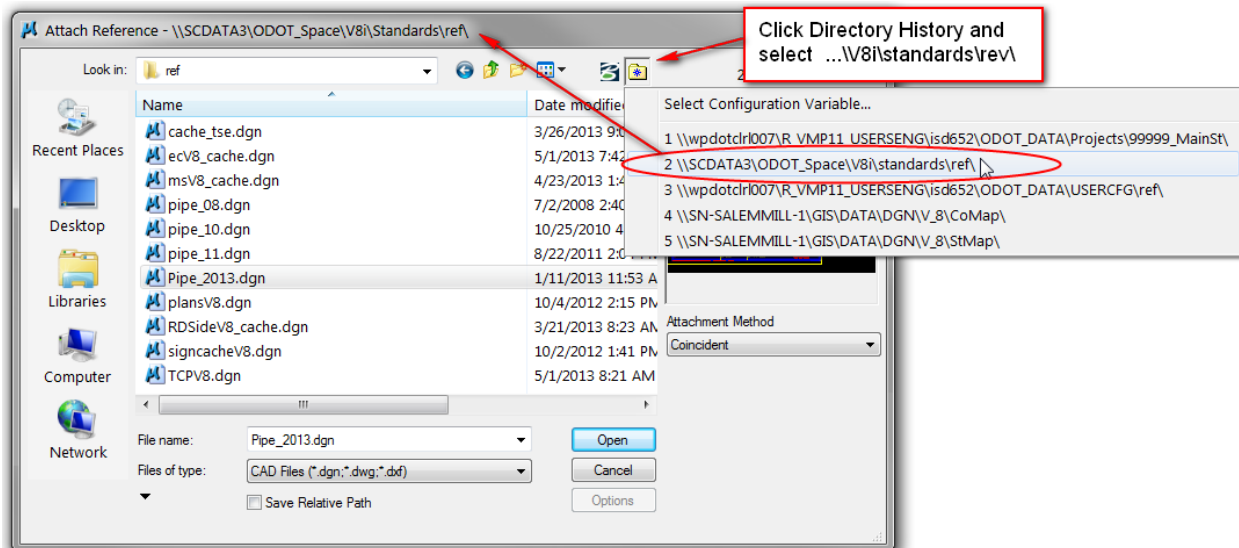
1 Getting Started

The Axiom Office Importer settings file is located on your F: drive under F:\ODOT_DATA\USERCFG\data. It is named Pipe_2013.ini. If you have not configured your .ini file, then see [#8 Configuring For Your Workstation](#) to customized the settings file for your work.

The Excel spreadsheet, Pipe_2013.xlsm and the older pipe_11.xls file are also located on your F: drive under F:\ODOT_DATA\USERCFG\data. Copy this file into your project folder. Do not work in this folder because automatic updates to these files could overwrite any work you do.

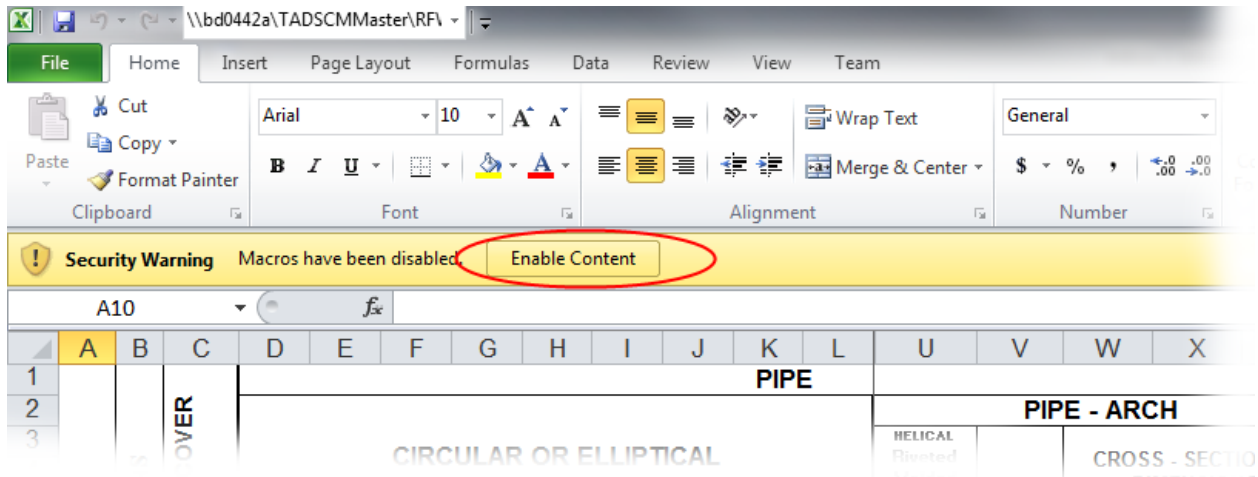
Note that the *Pipe_2013.xlsm* file name may change over time.

When attaching a standard pipe data sheet as a reference file, use the Directory History and select the ...\\8\standards\ref\ folder which is typically forth from the bottom of the list. Then select the appropriate standard pipe .dgn file as shown below.

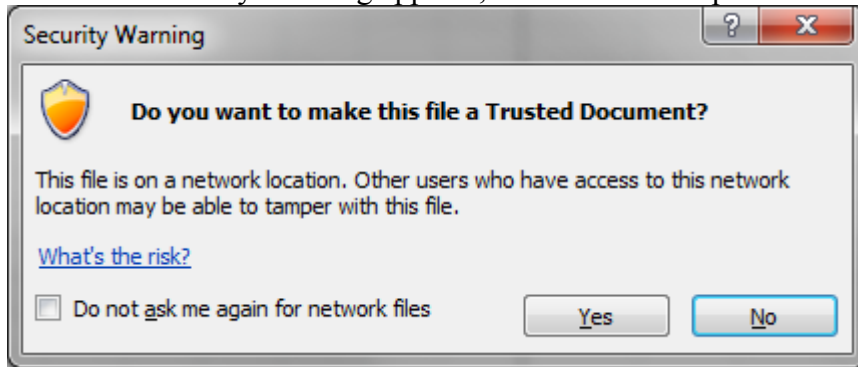


2 Using Excel

Open the spreadsheet that you copied to your project folder. A security warning may appear. Select **Enable Content**.



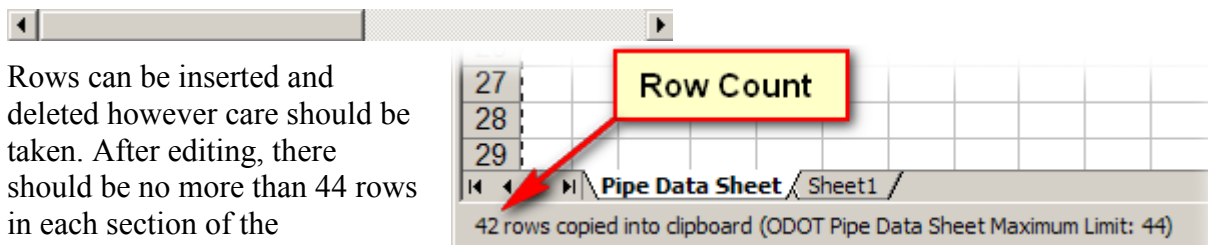
When the Security Warning appears, click Yes to accept the file as a Trusted Document.



2.1 The Spreadsheet

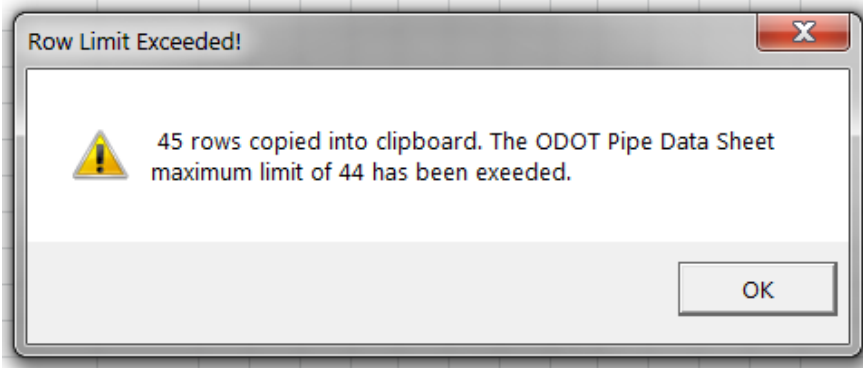
The spreadsheet is a fixed size to match the pipe data sheet. The number of rows and columns in Excel match the pipe data sheet reference file, pipe_11.dgn. Columns should not be inserted. Inserting and deleting rows is described below in this section. The cell height and width are fixed to match pipe_11.dgn and also should not be changed.

The top rows and left most columns of the spreadsheet have been frozen so the margin and headings are always displayed. Use the horizontal and vertical scroll bars to display different sections of the spreadsheet.



Rows can be inserted and deleted however care should be taken. After editing, there should be no more than 44 rows in each section of the spreadsheet. This can be

confirmed by looking at the Row Count. The row count will become visible after clicking the Copy Sheet # button.



If more than 44 rows are contained between the sheet number headings, an alert will pop up when you copy the sheet data.

Up to ten pipe data sheets can be placed in each Excel spreadsheet. The sheet number is marked at the top of each section containing rows of data.

7	SHEET N°	NOTE N°	DESIGN H (Ft.)	24				12" O.C.
8				LENGTH IN FT.				HKN. (In.)
9	Sheet 1			Copy Sheet 1			Help	
10								
11	1	1.0		225				
12	2	1.4		241				
13	3	1.9		183				

2.2 Formatting

In the spreadsheet the text should normally be Arial font at 10 point size. Some exceptions are columns B, AO, and CR. All data entered into the spreadsheet is formatted with Center/Center alignment (except for column AO, the sloped ends column). Checkmarks are also an exception which use the Wing Dings 2 font and are formatted Center/Bottom.

Sample Excel formatting can be found at the bottom of the spreadsheet. Keying in Ctrl+End will take you to the samples at the bottom of the spreadsheet. Keying in Ctrl+Home will return you to the top of the spreadsheet.

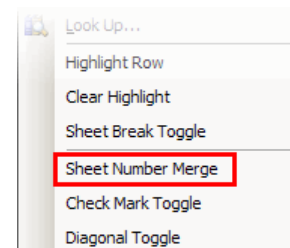
1st Column - Rotated Text:



The sheet number is typically rotated 90° and centered vertically across several pipe data rows.

To achieve this:

Enter the sheet number in the top cell. The text is already formatted to be rotated 90°. Highlight the cells to be merged. Right click on the highlighted cells. Choose **Sheet Number Merge** from the pop up menu. Use this same command to restore to the standard non rotated formatting.




2nd Column - Times New Roman Font

The font in column B is formatted as Times New Roman 10. This font will be imported into MicroStation as a vertical font that fits in the note bubble and is more truly centered within in the circle.

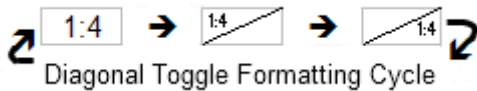
Check Marks

To make a check mark ✓, right click in the cell and select **Check Mark Toggle** from the pop up menu. To make check marks in multiple adjoining cells, highlight a range of cells, right click on them, and choose **Check Mark Toggle**. Check marks will be inserted into all the selected cells. The command will also remove an existing checkmark. Note that columns that use check marks are preformatted to the Wingdings 2, so a capital P letter can be entered to create a check mark.

Divider Line & Text

The diagonal divider line  in the Terminal Sloped Ends column is made by selecting and right clicking in the desired cell, and choosing **Diagonal Toggle** from the resulting pop up menu. Enter the slope text beginning with an apostrophe so Excel does not try to interpret the slope as time (Example: '1:3).

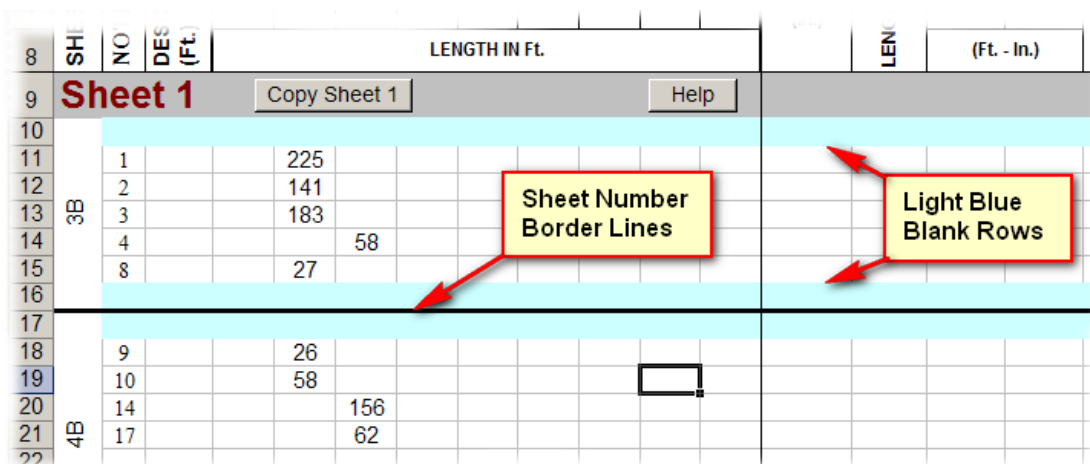
Repeating the right click **Diagonal Toggle** will cycle through the cell formatting from normal text with no diagonal line to superscript (text above the diagonal line) and then to subscript (text below the diagonal line).



If you have two different slopes and need to place text above as well as below the diagonal line, you will need to put the second slope text on a separate line and reposition it in MicroStation. (See Manual Edits section below.)

Separation Lines

To make the separation lines between sheet numbers, right click on one of the cells in the blank row typically placed below the pipe data in each sheet and select **Sheet Break Toggle** from the pop up menu. This will give you two light blue highlighted rows with a heavy border in the middle representing the blank top and bottom row with a thickened border line to visually break the pipe data between plan sheets.



8	SH	NO	DES (Ft.)	LENGTH IN FT.	LEN	(Ft. - In.)
9	Sheet 1		Copy Sheet 1	Help		
10						
11	3B	1		225		
12		2		141		
13		3		183		
14		4			58	
15		8		27		
16						
17						
18	4B	9		26		
19		10		58		
20		14			156	
21		17			62	
22						

The horizontal line between sheet numbers is one of the few elements that will have to be edited after importing the spreadsheet into MicroStation. It will come into MicroStation with a weight

of 2 rather than the desired weight of 4. (See [Manual Edits.](#)) Repeating the **Sheet Break Toggle** command in the same row will remove the bold break line and light blue shading.

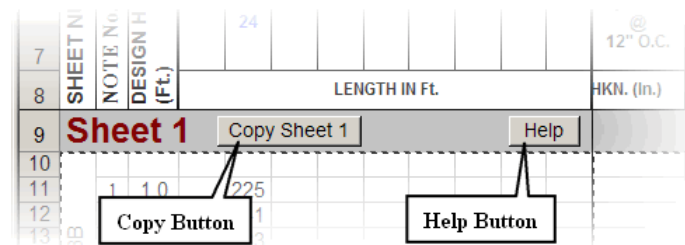
2.3 Tools

Highlight Row/Clear Line – To aid data entry and editing, a row highlight tool is available. This feature is intended to assist you with tracking across the spreadsheet while you enter rows of data.

Right clicking on any cell and selecting **Highlight Row** in the pop up menu will highlight the row in a pale yellow. Right clicking on a cell in another row and selecting **Highlight Row** from the pop up menu will move the highlight color to the newly selected row. Right clicking on any cell and selecting **Clear Highlight** will remove the highlight color.

343	1	1.0	225	✓	✓	6.9	247		0.06	R	U
344	2	1.4	241	✓	✓	6.9	247	14	0.06	R	U
345	3	1.9	183	✓	✓	6.6	247		0.06	R	U

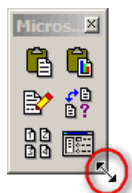
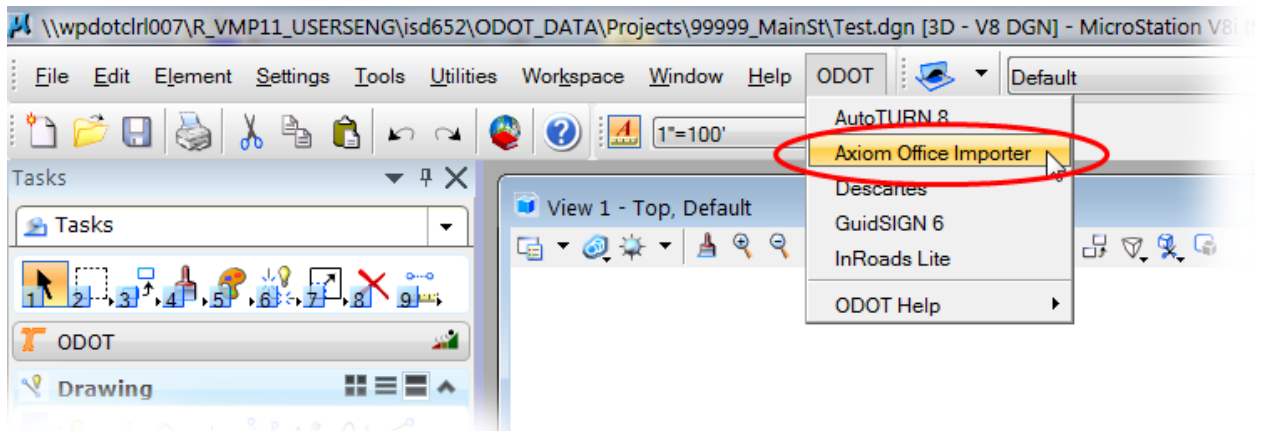
Copy Button – Each sheet has a *Copy Sheet X* button, with X representing the sheet number. This button will select all the data between the two sheet titles and copy it onto the clipboard in preparation for Microsoft Office Importer to paste it into MicroStation.



Help Button – There is a Help button on each sheet heading row that links to this help document on the EAST website.

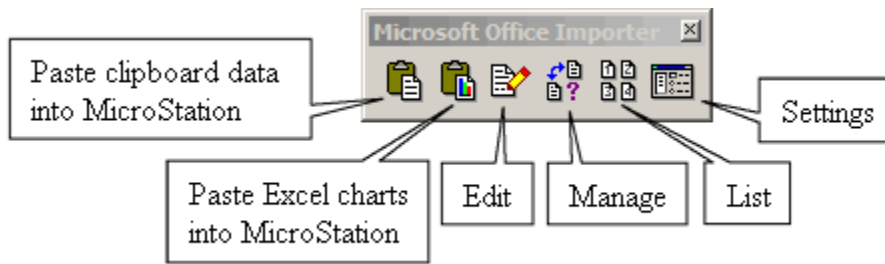
3 Axiom Office Importer

Launch the Axiom Microsoft Office Importer software by Selecting on the word **Axiom Office Importer** in the MicroStation ODOT main menu.



Reshaping the toolbar is much the same as with any MicroStation toolbar. Move the mouse pointer over one corner of the toolbar until the small black double arrow is visible, then click and drag the toolbar into the desired shape.

The Microsoft Office Importer toolbar has six buttons.



The **Paste** button, or **Paste clipboard data into MicroStation**, opens one of two dialog boxes depending on what data you have on your clipboard. If you have copied some data from a Word document onto your clipboard, the dialog box that opens will be the **Paste Word data into MicroStation** dialog box. If you have copied data from an Excel spreadsheet, you will get the **Paste Excel data into MicroStation** dialog box.

The **Paste Excel charts into MicroStation** button is for any of those bar charts or line chart you have created in Excel. This is not needed to prepared Pipe Data Sheets.

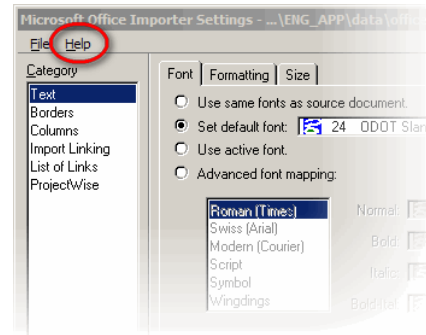
The **Edit** button, or **Edit a linked source document**, opens the source document that was previously imported into MicroStation for editing.

The **Manage** button, or **Manage an existing link**, allows you to click on elements in the MicroStation file to pull up a corresponding dialog box that allows you to manage the link.

The **List** button, or **List all links in active model**, will pull up a list of all the Office Importer links in the active model.

The last button **Settings**, or **Open the Settings box**, is where you make changes to all the setting in Office Importer.

The **Help** command in Microsoft Office Importer is not on the main toolbar, but can be accessed by selecting the Settings button, then selecting it from the menu of the resulting **Microsoft Office Importer Settings** dialog box.



3.1 Links

A link is a path and file name linking the source document or Excel spreadsheet to the MicroStation design file. Links are stored in the MicroStation design file. Selecting a link and choosing to edit the source document with one of the methods described above will cause the source document to open in its corresponding software and allow modifications. If the spreadsheet is moved or renamed, the Manage tool can also be used to correct the link.

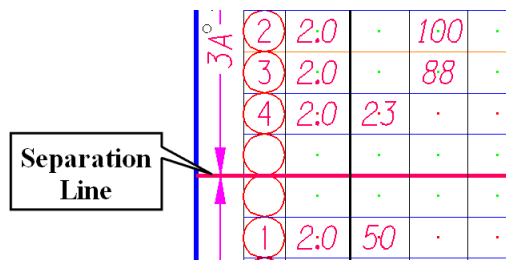
4 Importing Pipe Data Sheets into MicroStation

4.1 Importing the Spreadsheet

Open MicroStation and load your active pipe data design file (if necessary).

The first step to importing the spreadsheet is to start Axiom importer and load the settings file. Load the Axiom Office Importer Pipe Data setting file by opening the **Settings** dialog box. Select **File>Load Settings** from the menu. Select pipe_11.ini from the

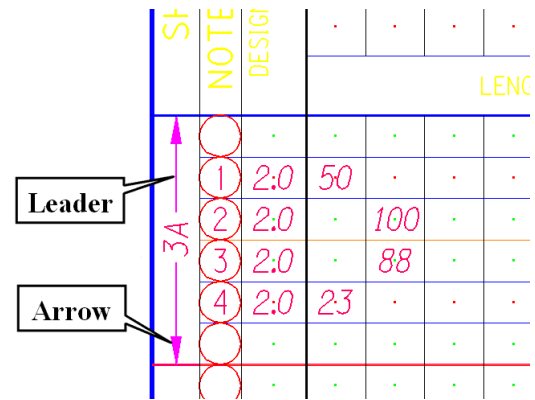
edits will be overwritten and lost. It is advised that any necessary edits be done after all updates have been completed.



The Separation Line between the sections of notes that occur on different plan sheets will import from Microsoft Office Importer with a weight of 2 rather than the required weight of 4. (To create the separation line in the excel spreadsheet, see section [2.2 Formatting.](#)) A quick method of correcting this is to use the Power Selector tool. With Method set to Line and Mode set to Add, drag a line down the left hand

side of the pipe data sheet carefully capturing all the separation lines and nothing else, then change the weight to 4 by using the drop down from the Active Line Weight tool on the Attributes toolbar.

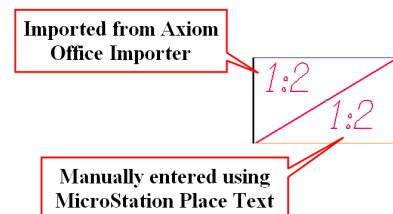
Sheet range leaders and arrows (above and below the sheet numbers on the left side of the pipe data sheet) will need to be manually drawn. One method for drawing these elements could be to set the element attributes to the current standards (line style, weight, color, and level, please see the [CPDG Vol. 2 10-Pipe Data](#)), then draw a line, using the center of the sheet number text and AccuDraw shortcut key-ins to get a reasonable offset, to the upper sheet break line, repeating the process to the lower sheet break line. The arrow on the end can be placed by selecting General>Arrows>Arrow from the ODOT>Drafting menu, then data pointing on the end of each leader to place the terminator.



D	E	F	G	H	I	J	K	L
PIPE								
CIRCULAR OR ELLIPTICAL								
SIZE IN (In.)								
18	24	36	48	60				
LENGTH IN FT.								

Any text that needs to be entered in the **column heading area** such as the pipe size cells, or the Inlet Types will have to be manually entered into the MicroStation pipe data sheet as well as in the Excel spreadsheet. The text in the header area is not copied in to the spreadsheet but resides in the reference file attached as described in the [Volume 1 Section 8 of the CPDG.](#)

In the **terminal sloped ends column** if a pipe has slopes on both ends, the second slope will need to be manually entered into MicroStation. This can be accomplished by matching the attributed of the text for the first end, then using the Place text tool to insert the text in the appropriate location.



6 Tips

Graphic Group

The imported spreadsheet elements are a single Graphic Group that allow highlighting or selecting all of the imported elements when the Graphic Group Lock is enabled.

One Way Import

Data imported from a source into MicroStation using Axiom's Microsoft Office Importer is imported in one direction only. If the data is changed in MicroStation, it cannot be exported back out to the source Excel file. For this reason it is recommended that all changes be made in the source Excel file and updated in MicroStation.

Update Multiple Sheets

To update multiple sheets at once, select the List button on Microsoft Office Importer toolbox. Select the links you want to update. Hold the Ctrl key while data pointing on the desired links. Click the update button on the bottom of the dialog box. All the selected links will be updated.

Add rows or columns to the link

To modify the range of cells from the source file that are included the link, use the Manage tool and change the Top-left and Bottom-right cell fields to the new range.

7 Trouble Shooting

Problem: In MicroStation, the text is yellow does not line up with grid.

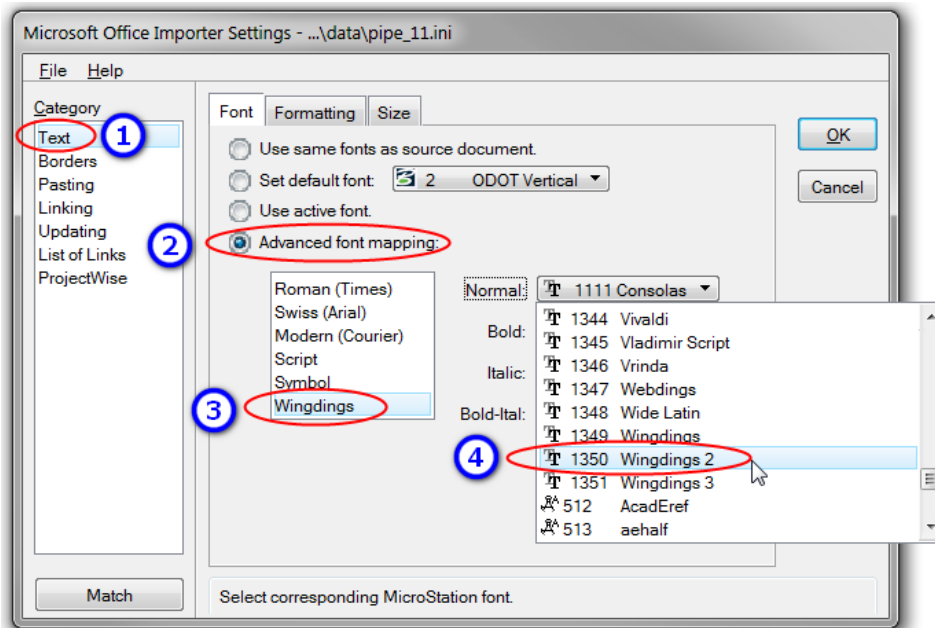
Solution: The text will not match the grid lines when the pipe_11.ini settings file is not loaded in Axiom Office Importer. This is described in the second paragraph of the [4.1 Importing the Spreadsheet](#) section above.

8 Configuring For Your Workstation

There are a couple of one time configuration items that you should do. Load the Pipe data.ini file (pipe_11.ini) if it not already loaded. In the settings main menu select: File > Load Settings...

Assign the font number for the Wingdings 2 font

The Axiom office importer settings file stores the TrueType font assignments by the MicroStation font number rather than the font name. The font number is different for each computer. The Wingdings 2 font number used to create the check mark can be assigned as follows:

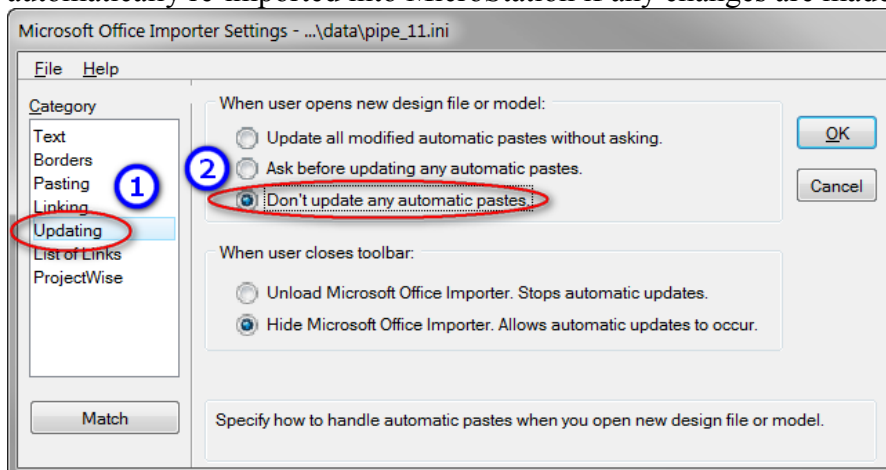


1. Select the **Text** Category
2. Select the Font tab and the Advanced font mapping.
If the Advanced font mapping is grayed out, select another font mapping, select the Advanced font mapping again and it should not be grayed out.
3. Select the Wingdings font group
4. Assign the **Wingdings 2** for each of the four Normal, Bold, Italic, and Bold-Italic settings.
Note that your font number probably will be different.

Save your changes by selecting File > Save Settings.

Disable Automatic Update

The pipe data .ini setting file sometimes is set where all changes made in Excel (or Word) will be automatically re-imported into MicroStation if any changes are made.



1. Select the Updating category
2. Under “When the user opens a new design file or model:” select “Don’t update any automatic pastes”.

Save your changes by selecting File > Save Settings.

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