



CASE STUDY

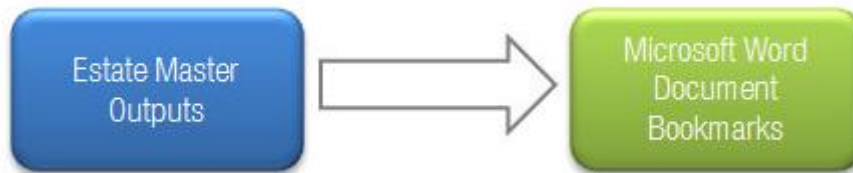
LINKING ESTATE MASTER TO WORD DOCUMENTS AND EXCEL WORKBOOKS

INTRODUCTION

Estate Master can be linked to Microsoft Word Documents and Excel Workbooks for automating data entry and reporting. This case study steps through using the standard functionality to link Estate Master to Word and Excel, and ways to customise it.

OPTION 1: USING PRE-DEFINED ESTATE MASTER BOOKMARKS IN MS WORD

The advantages of using the pre-defined 'Bookmarks' in Estate Master is that they are already included in the standard software and do not require any additional changes by the user. The standard bookmarks will meet the requirements for most users and can be embedded in reports.

**CREATING BOOKMARKS IN YOUR MS WORD DOCUMENT**

- Create your base Word Document in MS Word.
- Within the document, select a location or highlight the text you wish to turn into a Bookmark.

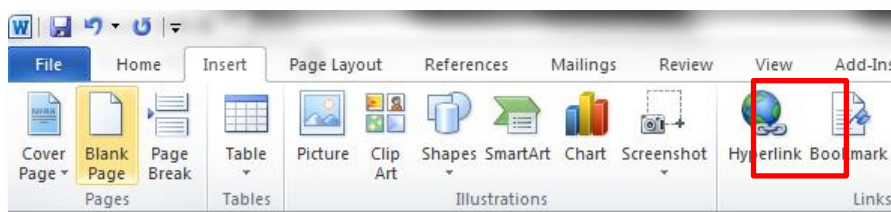


Figure 1 - Selecting location in document for bookmark

- Based on the Estate Master DF output that you want to appear in this location, type in the name of the Bookmark that corresponds to that output. For example, if you want to populate the selected location/text with the output of the 'Residual Land Value based on Target Margin' from the Estate Master DF file, the name of EMDF_RLVMgn must be given to that Bookmark. When done, press [Add].

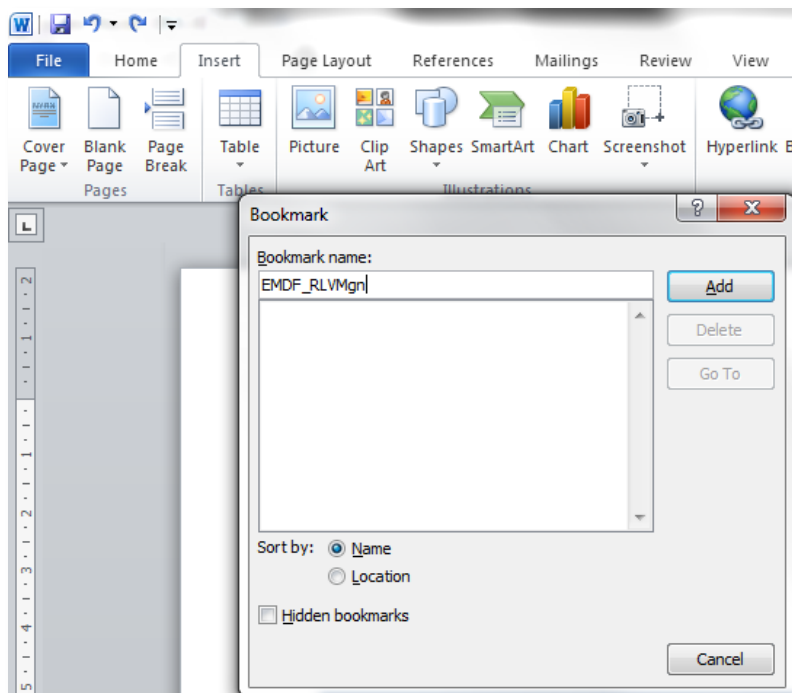


Figure 2 - Adding bookmark

- If you wish to highlight the Bookmarks in a MS Word Document so they can be easily identified, there is a setting in the Options, under the 'Advanced' section called 'Show Bookmarks'.

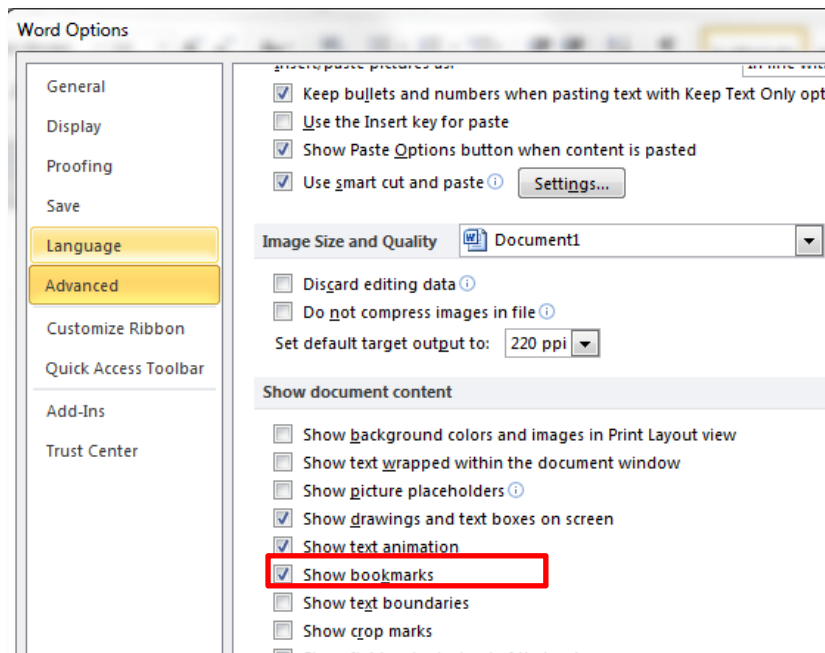


Figure 3 - Advanced Option > Show Bookmarks

- With the "Show Bookmarks" option selected, Bookmarks within the document will be identified with square brackets.

Property	[1001 Harrow Drive] [Penrit][NSW][2750]
Prepared for	[Estate Master Client]
Client	[Western Land Ltd]
Date	30 August 2011
File Reference	[P100]

Figure 4 - MS Word with Bookmarks Identified

- Once all the required Bookmarks have been created in the document make sure you 'Save' then close the file.

SETTING THE MAIN LINK FROM ESTATE MASTER TO THE WORD DOCUMENT

Once all the Bookmarks have been set in your MS Word Document, you will need to open the applicable Estate Master file and setup the main link to connect Estate Master with that Document.

- In your Estate Master file, Click on the [Word] button in the 'Office Links' menu. This will launch a dialog box. Click on the [Add New Link] button.

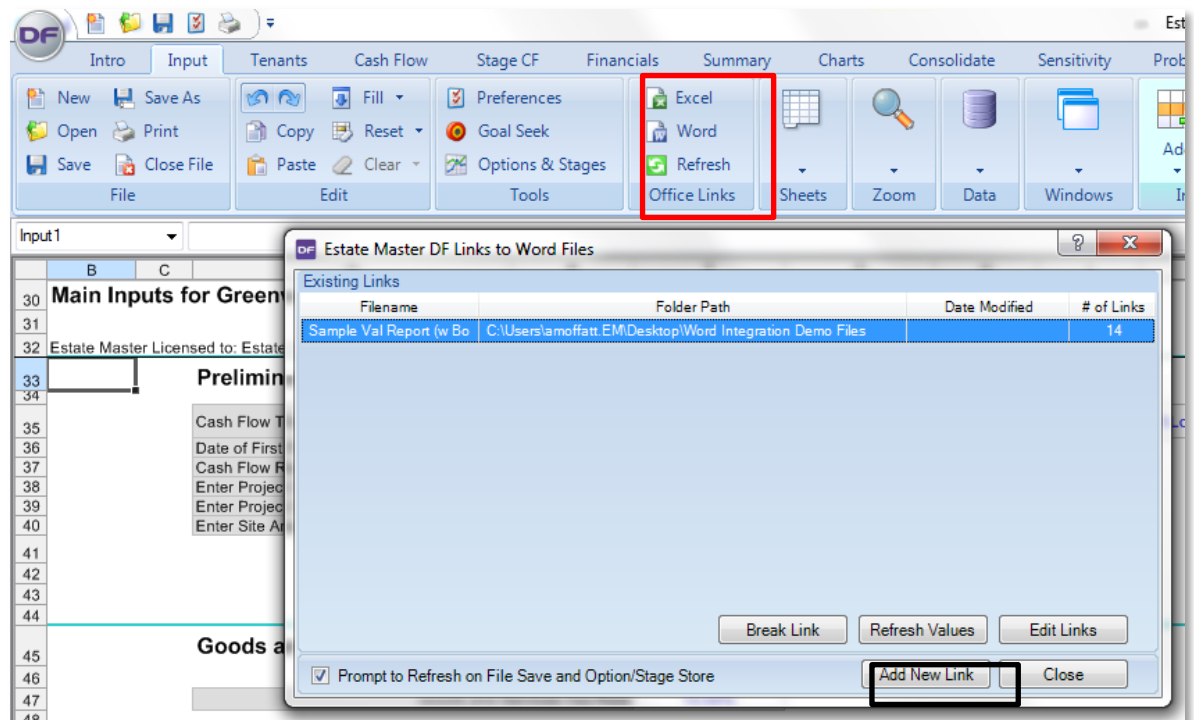


Figure 5 - Estate Master Office Links > MS Word

- Browse through your folders to identify the Word Document you want to open and create links with. Select the file and press [Open].

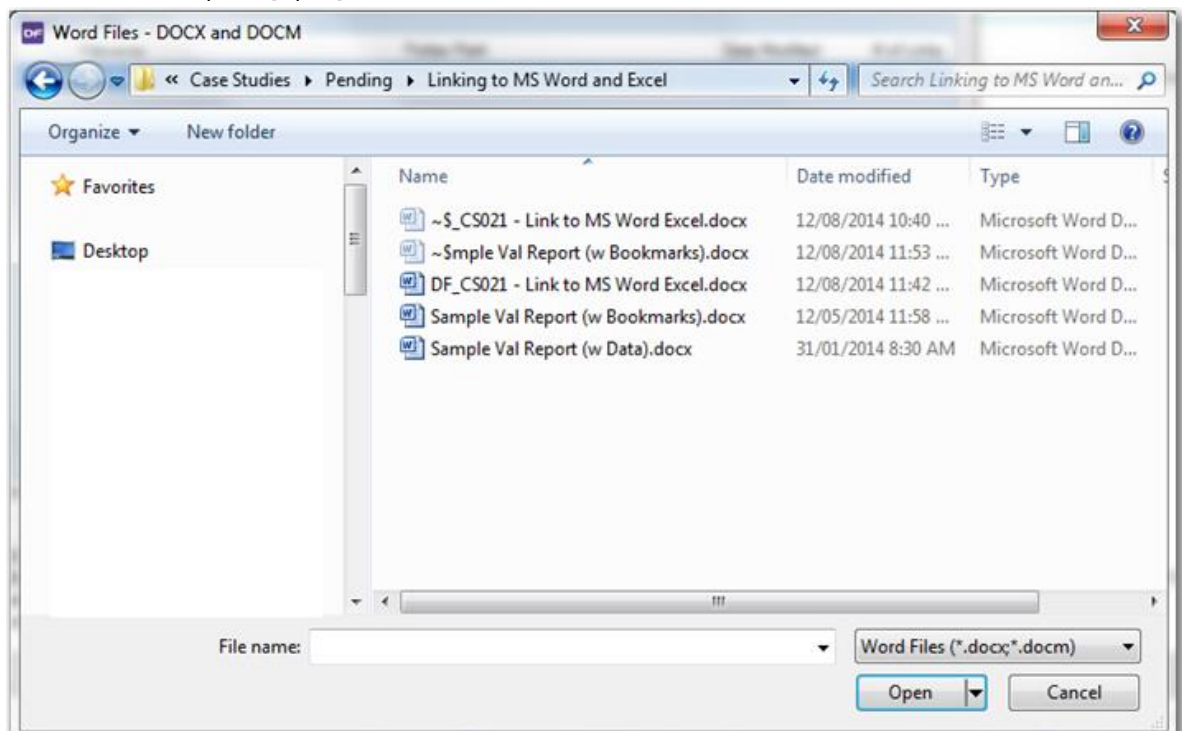


Figure 6 - Select the MS Word File

- Once the Word Document is selected another dialog box will appear. This lists all the Estate Master outputs that can be linked to a Word Document, including the section they belong to in the Estate Master file and the related Bookmark name that must be inserted into that Word Document for the link to be created.
 - The 'Status' column indicates whether a particular Bookmark exists in that specific Word Document already.
 - If the Bookmark does exist (✓), you can select it to get it updated with the Estate Master output. By default, when a new Word Document is linked to an Estate Master DF file, all Bookmarks that exist in such document will be automatically selected when this dialog loads.
 - If the Bookmark doesn't exist (✗), but you do want to link to it, you will have to close the dialog box and open your document in MS Word and add the bookmarks before you can create the link.

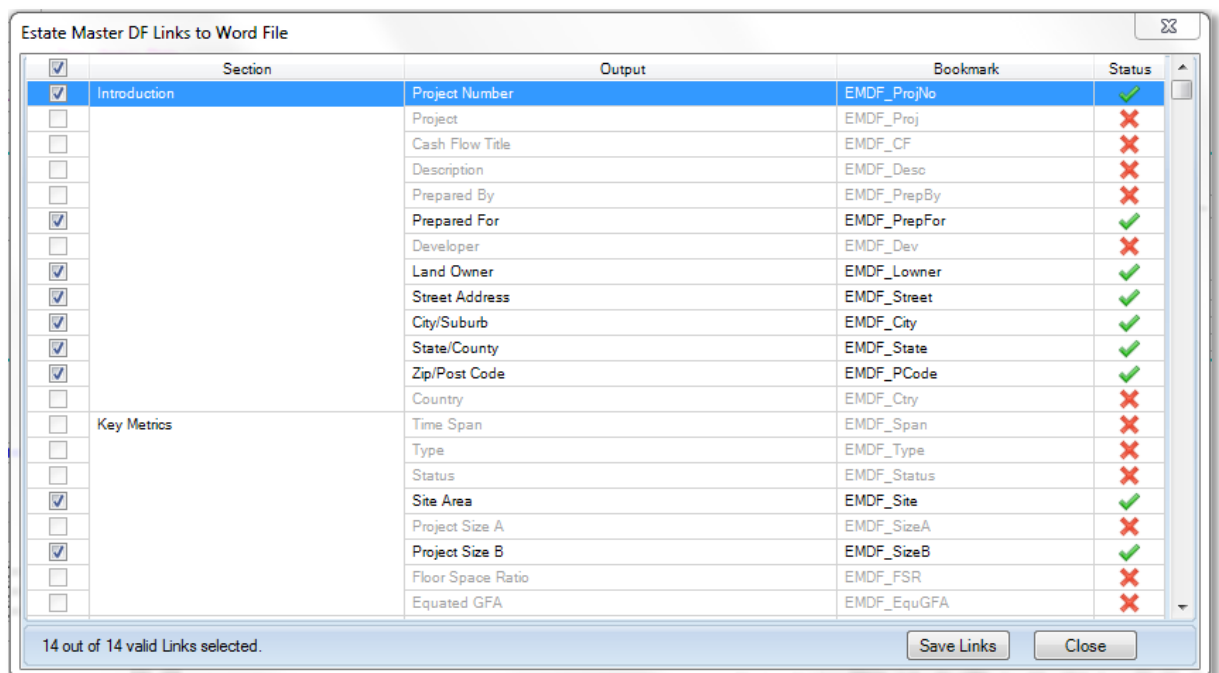


Figure 7 - Estate Master Word Links

- Once you have selected the outputs you want to link, click [Save Links]. It will prompt you to refresh the Word Document at that time.

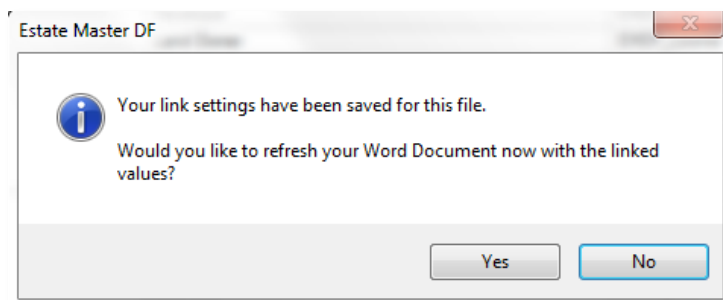


Figure 8 - Refresh Values for Estate Master Word Links

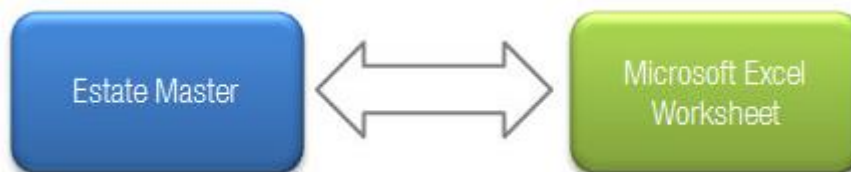
- If you click [Yes], it will programmatically update the bookmarks in that Word Document with the results of the selected outputs.
- If you open the document in MS Word, you can see the end result.
- At any time you can click on the [Word] button in the 'Office Links' menu to reload the dialog where you can:

- View a list of all files linking to the Estate Master file, where they are located and the number of outputs they are linked to.
- Click [Break Link], to remove the selected Word Document from being linked to the Estate Master files.
- Click [Refresh Values] to momentarily refresh the Bookmarks in the selected Word Document with update values.
- Click [Edit Links] to change the Bookmarks being linked to in the selected Word Document.
- Click [Add New Link] to add a link to another Word Document.
- Select an option to prompt the user to refresh current Word Links when saving a file or storing an Option/Stage to ensure that the Word Document always has the latest results.

OPTION 2: CREATING CUSTOM LINKS AND BOOKMARKS IN MS EXCEL

Estate Master provides the ability to link to MS Excel Workbooks, in a similar manner to how you would link two Excel Workbooks. You can use this feature to either create a formula in Estate Master that is referencing an external Excel Workbooks (an 'Incoming' link), or you can create a formula in an external Excel Workbooks that is referencing the Estate Master file (an 'Outgoing' link).

This option uses the same Estate Master case study file as in Option 1 and the associated MS Excel case study files.



CREATING LINKS IN YOUR MS EXCEL WORKBOOK

- Open the Estate Master file you would like to link an MS Excel Workbook to.
- In your Estate Master file, Click on the [Excel] button in the 'Office Links' menu. This will launch a dialog box. Click on the [Add New Link] button.

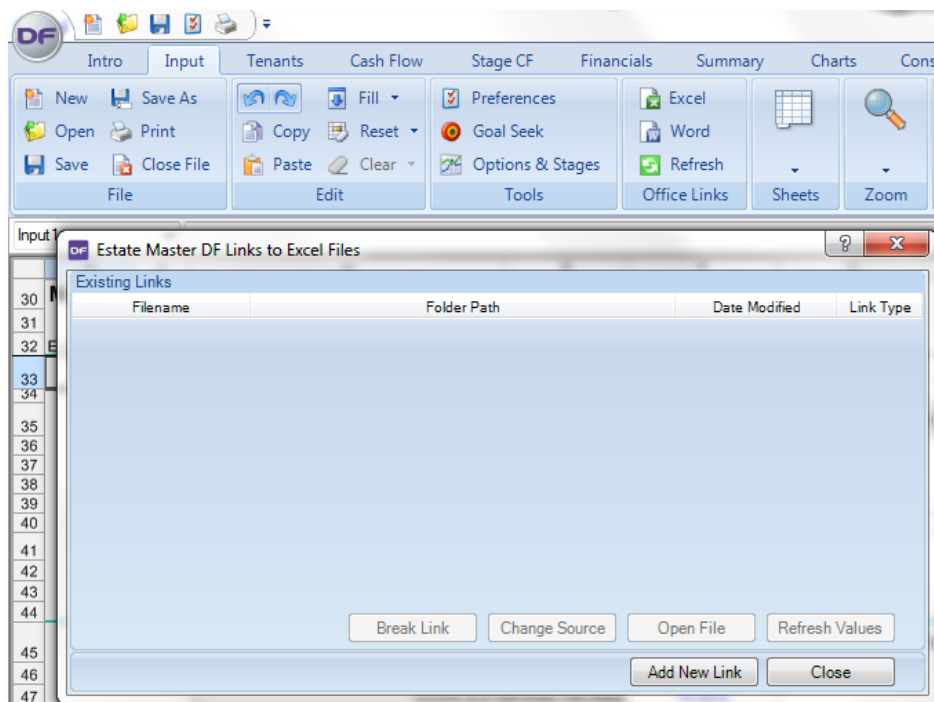


Figure 9 - Estate Master Office Links > MS Excel

Note: Only 1 Estate Master file can be open when loading an MS Excel Workbook. If there are multiple Estate Master windows open in the application, it will prompt you to close down the other windows before you will be able to add a new link.

- Browse to the Excel Workbook you want to open and create links with. Select the file and press [Open].

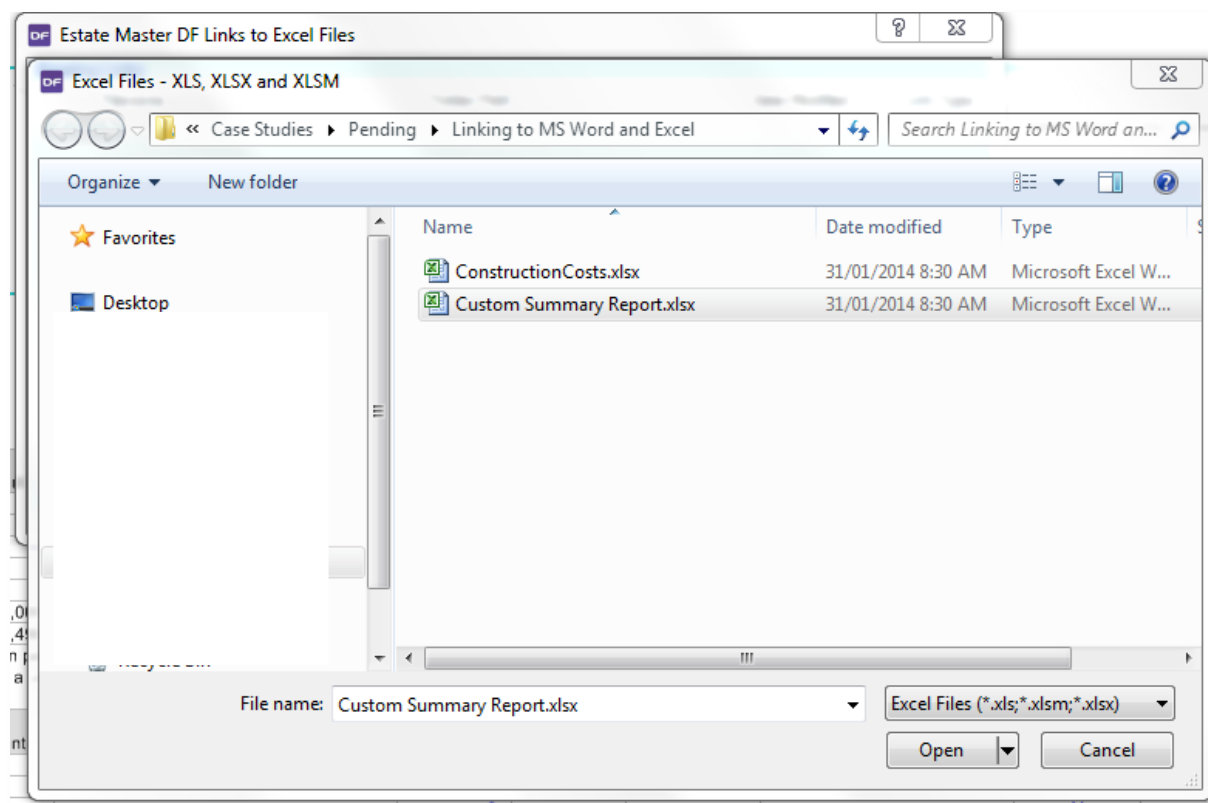


Figure 10 - Select the MS Excel Workbook

- The Estate Master DF application window will re-adjust to show the Estate Master DF file and Excel file as individual cascading windows

Figure 10 – Estate Master File and MS Excel File Cascading Windows

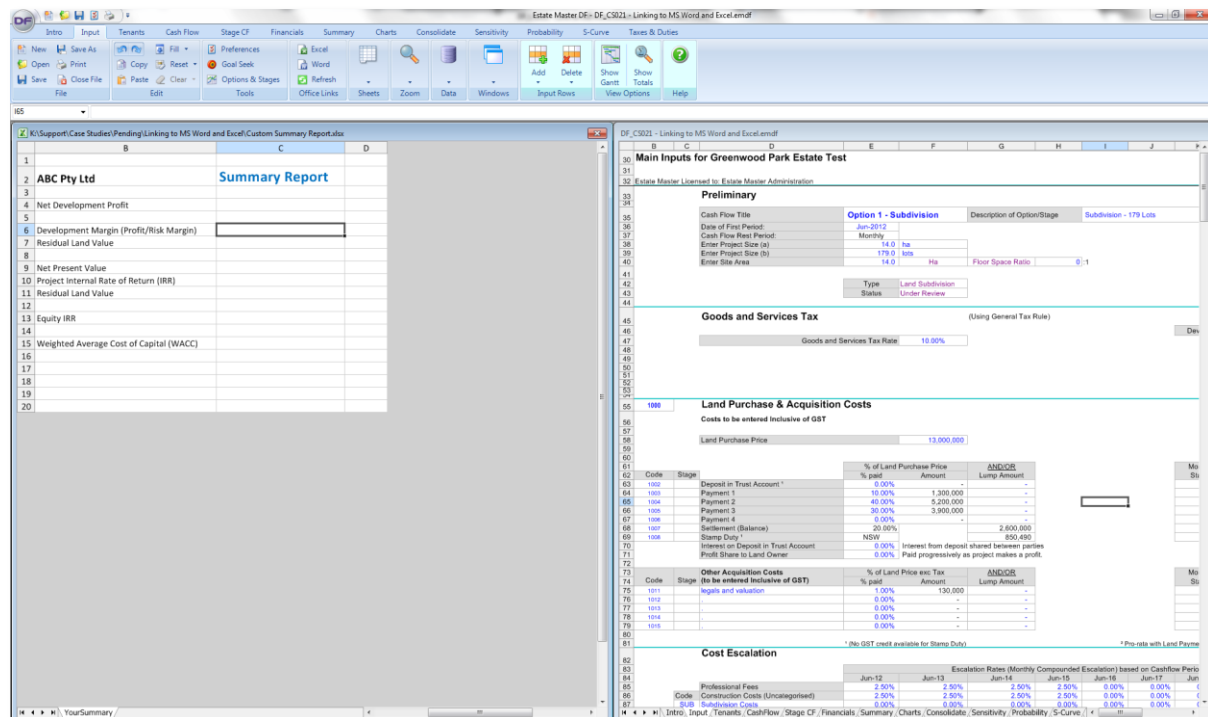


Figure 11 - Estate Master File and MS Excel Workbook Cascading Windows

- While these windows are displayed, you can write formulae in either one that reference the other, just by selecting a cell, starting to write a formula, and then selecting the other file to select a cell/range to refer to in that formula.

	B	C	D
1			
2	ABC Pty Ltd	Summary Report	
3			
4	Net Development Profit		
5			
6	Development Margin (Profit/Risk Margin)	= [DF_CS021 - Linking to MS Word and Excel.emdf]Summary!\$H\$88	
7	Residual Land Value		
8			
9	Net Present Value		
10	Project Internal Rate of Return (IRR)		
11	Residual Land Value		
12			
13	Equity IRR		
14			

Figure 12 - Estate Master File and MS Excel Workbook Writing Formulas

- When you are completed linking your files, you will need to close the Excel Workbook. This can be done by clicking on the 'Close' button (red cross) on the top right of the window. If any changes were made to the Excel file, it will ask you if you want to save these changes before closing the file.

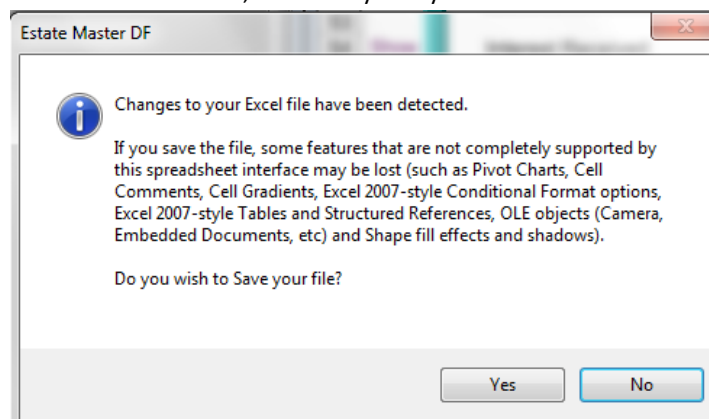


Figure 13 - Closing and Saving Linked MS Excel Workbook

- Note:** If you save the file, some features that are not completely supported by this spreadsheet interface may be lost (such as Pivot Charts, Cell Comments, Cell Gradients, Excel 2007-style Conditional Format options, Excel 2007-style Tables and Structured References, OLE objects (Camera, Embedded Documents, etc) and Shape fill effects and shadows).
- At any time you can click on the [Excel] button in the 'Office Links' menu to reload the dialog where you can:
 - View a list of all files linking to the Estate Master file, where they are located and whether they have Incoming, Outgoing or multi-directional links.
 - Click [Break Link], to remove the selected Excel Workbook from being linked to the Estate Master files. After the file is saved and re-opened, any formulas in the Estate Master file that were referencing this Excel Workbook will be:
 - On Standard Worksheets: Loaded as its last known calculated 'value' (no formula). This will allow the model to continue calculating without issues.
 - On Custom Worksheets: Converted to text, by adding an apostrophe before the '=' in the formula. This will allow the user to check and amend the formula where necessary.

- Click [Change Source], to change the location of the selected Excel Workbook. This will prompt you to browse to another file, and the program will search for all formulae where the old Excel Workbook was referenced, and replace it with the name of the newly selected Excel Workbook. During such process, if any of the formulae becomes invalid (due to worksheet or range name that existed in the old Excel Workbook, but not in the new one), the following will occur to such formulae:
 - On Standard Worksheets: Converted to its last known calculated 'value' (no formula). This will allow the model to continue calculating without issues.
 - On Custom Worksheets: Converted to text, by adding an apostrophe before the '=' in the formula. This will allow the user to check and amend the formula where necessary.
 - In addition, a warning will appear, listing the worksheets where such invalid formulae were found after the 'Change Source' process was completed, and cell comments will be added to the actual cells where the invalid formulae were processed.

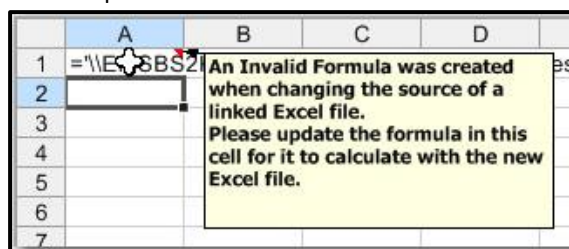


Figure 14 - Estate Master File Invalid Formula Error Message

- Click [Open File] to open the selected Excel Workbook again to change/add links.
- Click [Refresh Values] to momentarily open the selected Excel Workbook to refresh the results.
- Click [Add New Link] to add a link to another Excel file.

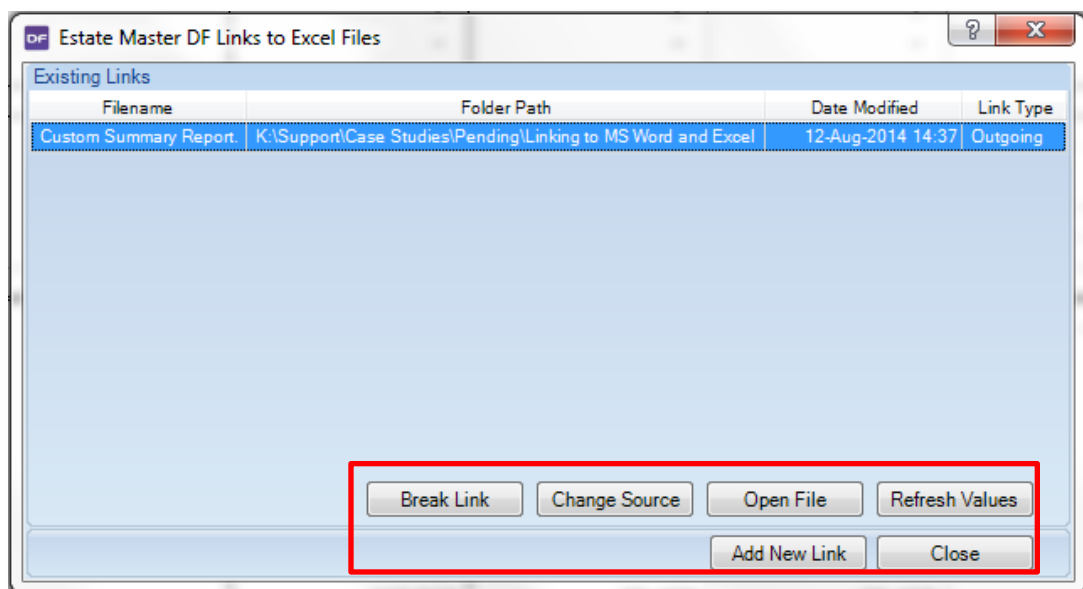


Figure 15 - Estate Master MS Excel Options

- If there are external Excel Workbooks that have 'Incoming' links (i.e. there is a formula in the Estate Master file that is referencing the Excel Workbooks), a warning will appear in the Status bar if the program has detected that the Excel Workbooks has been modified since the last refresh. Clicking this warning, will momentarily open the Excel Workbooks (s) to refresh the results.

OPTION 3: CUSTOM LINKS BETWEEN AN EXCEL WORKBOOK AND MS WORD DOCUMENT

This option will show how to set up links between MS Excel and MS Word using the “Paste Special” function. This is ideal if you want to automate outputs in your Word Document, with data that is not readily available in Estate Master as a pre-defined Bookmark. You can set up an link between Estate Master and Excel using Option 2 above, undertake some additional custom calculations in that Excel Workbook, and then link those outputs in the Workbook to a Word Document.

Note: Links can be set from MS Excel to MS Word but cannot be set in the opposite direction from MS Word to MS Excel.

HIGHLIGHT DATA IN YOUR MS EXCEL FILE

- Open the Excel Workbook and Word Document that you would like link.
- In the MS Excel Workbook, click on the cell which contains the data you would like to link to the Word Document. Press [Ctrl+C] or right click and [Copy].

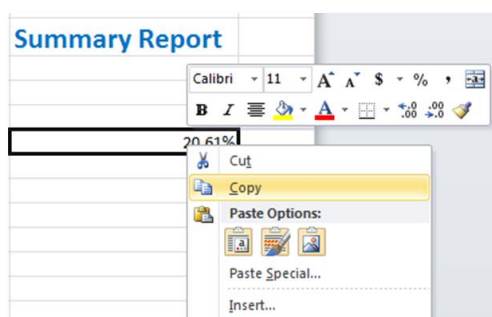


Figure 16 - Copying Data in MS Excel

- Next, open your Word Document and find the location that you would like to create the link. Click [Paste] then [Paste Special]. Then go to “Paste Link” and select “Unformatted Text”.

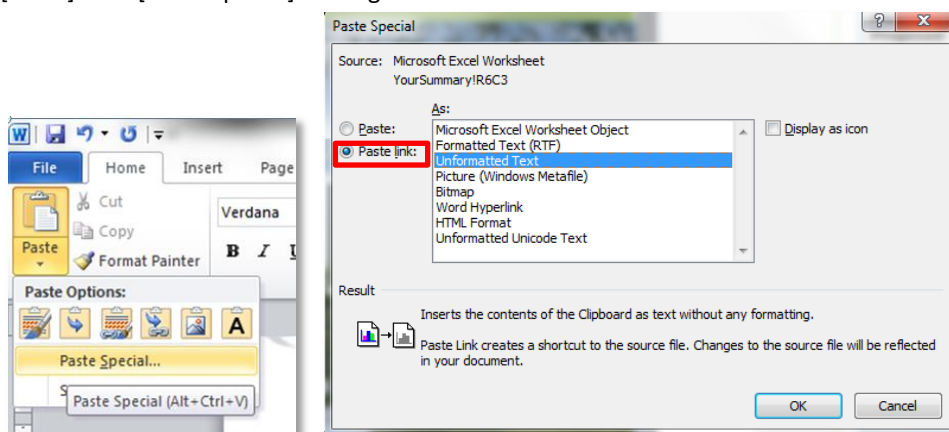


Figure 17 - Paste Special

- Repeat this process for any links you want to create between Excel Workbook and Word Document.
- Save the file and close.

USING THE SAMPLE FILES

A collection of Sample Files accompany this Case Study to demonstrate the options above:

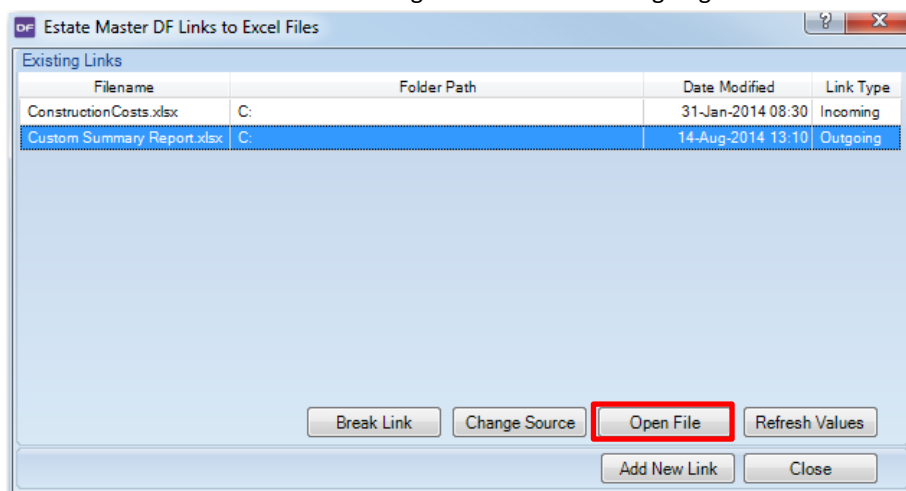
- **DF_CS022 - Linking to MS Word and Excel.emdf**: An Estate Master DF file that already has links set up to an external Excel Workbook and Word Document
- **Custom Summary Report.xlsx**: The Excel Workbook linked to the DF file with 'Outgoing' links.
- **ConstructionCosts.xlsx**: The Excel Workbook linked to the DF file with 'Incoming' links.
- **Sample Val Report (w Bookmarks).docx**: The Word Document linked to the DF file.

USING THE SAMPLE EXCEL FILES

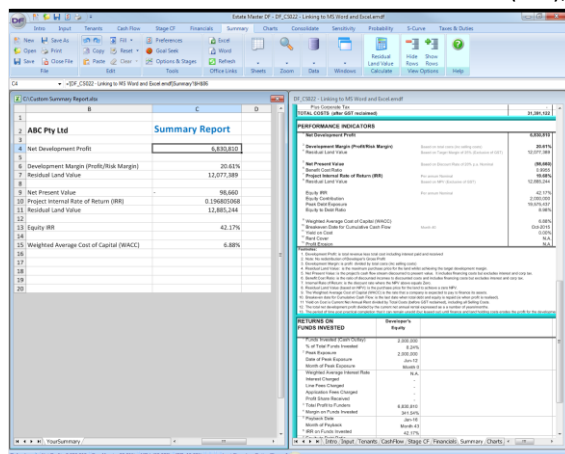
1. Save the XLSX files to **C:** (the links created in this sample DF file will not work if they are saved in any other location). So, the eventual file path should be:
 - a. C:\Custom Summary Report.xlsx
 - b. C:\ConstructionCosts.xlsx
2. Open up the Estate Master DF file, and in the ribbon menu go to 'Office Links > Excel'



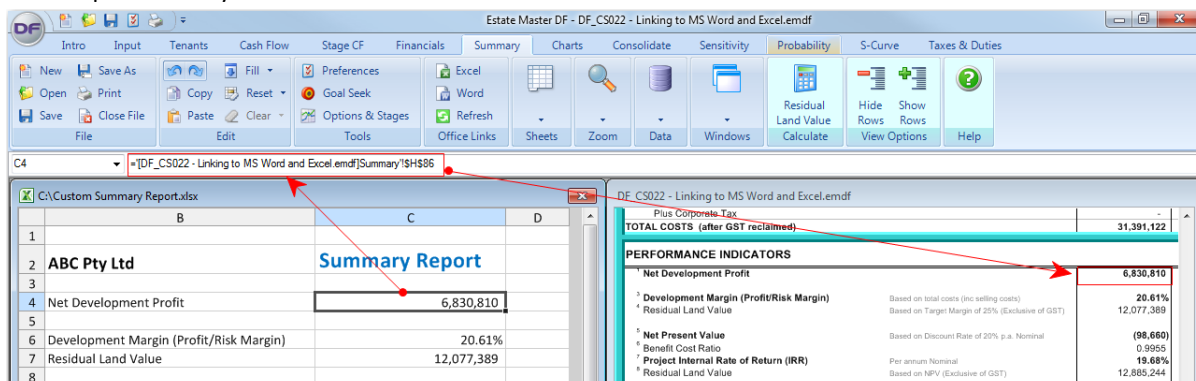
3. You will notice that there are 2 existing links. Select the 'Outgoing' link file and click on [Open File].



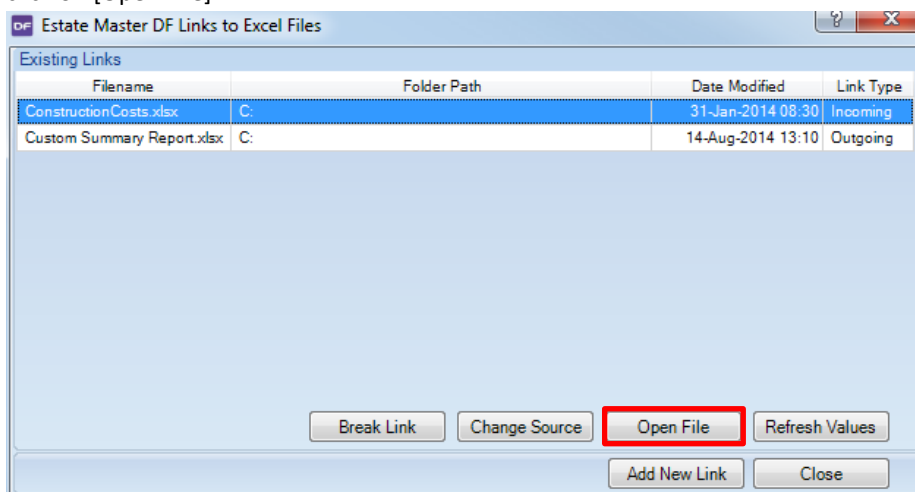
4. If you were able to put the XLSX files in your C: drive, then you will notice that the XLSX file will open within Estate Master as an additional window (left), next to the Estate Master DF window (right).



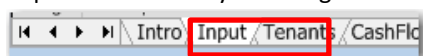
5. Select any of the cells on the XLSX file that is displaying a result, for example, the 'Net Development Profit'. You will notice that the formula in that cell is referring to a cell on the DF file 'Summary' sheet, and that the results are matching. This demonstrates an 'Outgoing' link that we have already set up in the sample files for you.



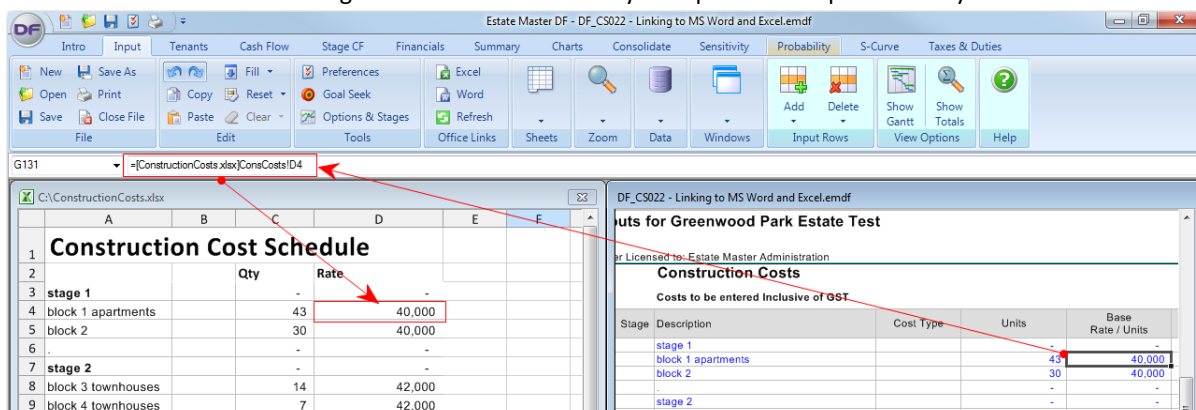
6. To create your own 'Outgoing' link, simply select a cell on the XLSX file, and start typing in a formula. When you want to refer to a cell in Estate Master DF in that formula, just select that cell in DF, no different if you were linking to Excel Workbooks together.
7. Close the XLSX window by pressing the button in the top-right corner of its Window.
8. Go back to the ribbon menu go to 'Office Links > Excel'. This time select the 'Incoming' link file and click on [Open File].



9. A different XLSX file will open in a new window. On the Estate Master DF window, navigate to the 'Input' worksheet by selecting the tab.

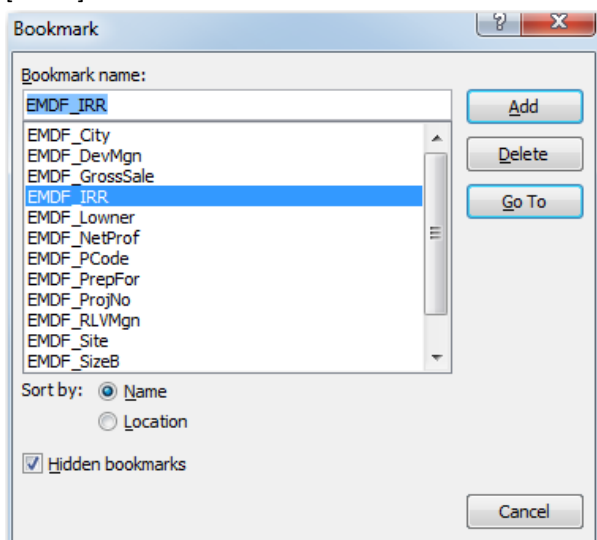


10. Scroll down to 'Construction Costs' and highlight any of the amounts in the 'Base Rate / Unit' column. You will notice in the formula that it refers to cells on the XLSX file and that the results are matching. This demonstrates an 'Incoming' link that we have already set up in the sample files for you.



USING THE SAMPLE WORD FILE

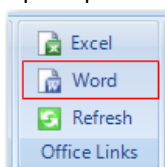
1. Save the DOCX file to **C:** (the links created in this sample DF file will not work if they are saved in any other location). So, there eventual file path should be:
2. C:\Sample Val Report (w Bookmarks).docx
3. Open the Document in MS Word and press [Ctrl+Shift+F5] to bring up the 'Bookmark' dialog. This will show all the bookmarks that have been created for this sample Document. Select any one and click [Go To].



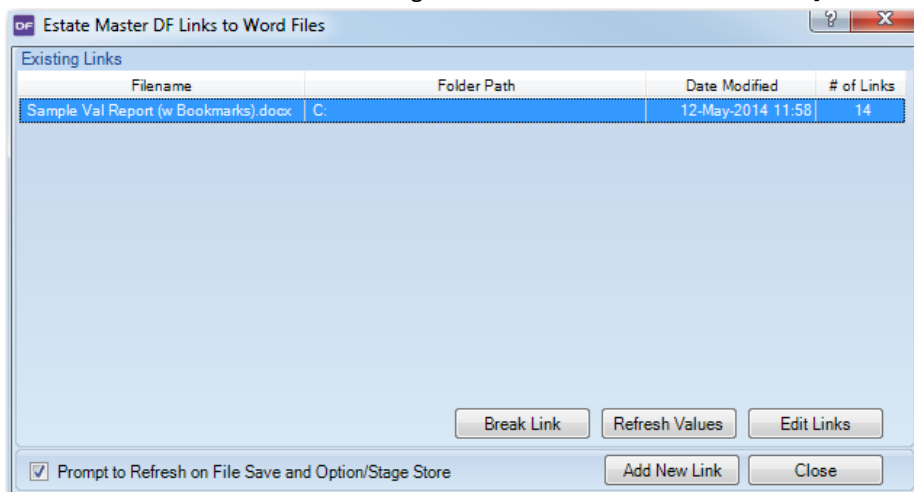
4. It will then highlight the text that is bound by the bookmark.

Development Profit	\$6,830,810	after interest.
Development Margin	20.61%	after interest.
Irr Pa Effective	19.68%	before interest.
Estimated Construction Cost	As per Quantity Surveyors dated November	
	Total Project Cost:	\$

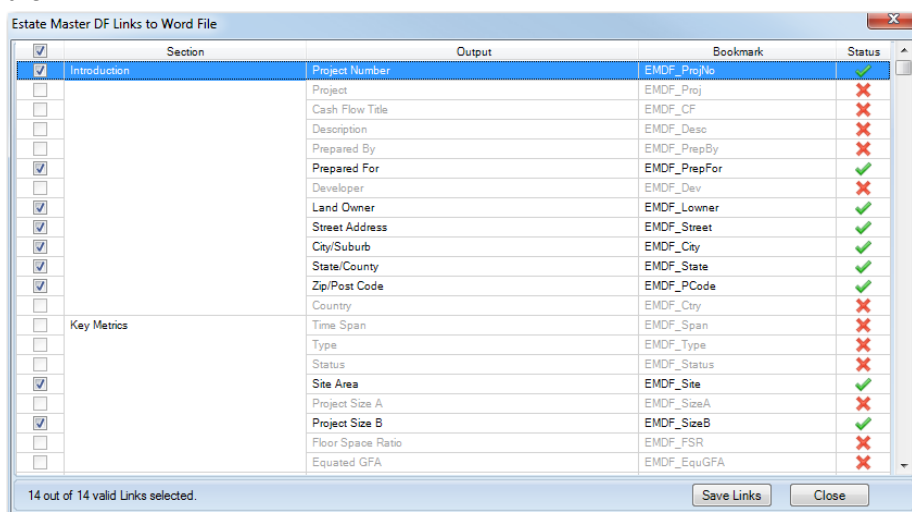
5. Close the Word Document, and return to the Estate Master DF file.
6. Open up the Estate Master DF file, and in the ribbon menu go to 'Office Links > Word'



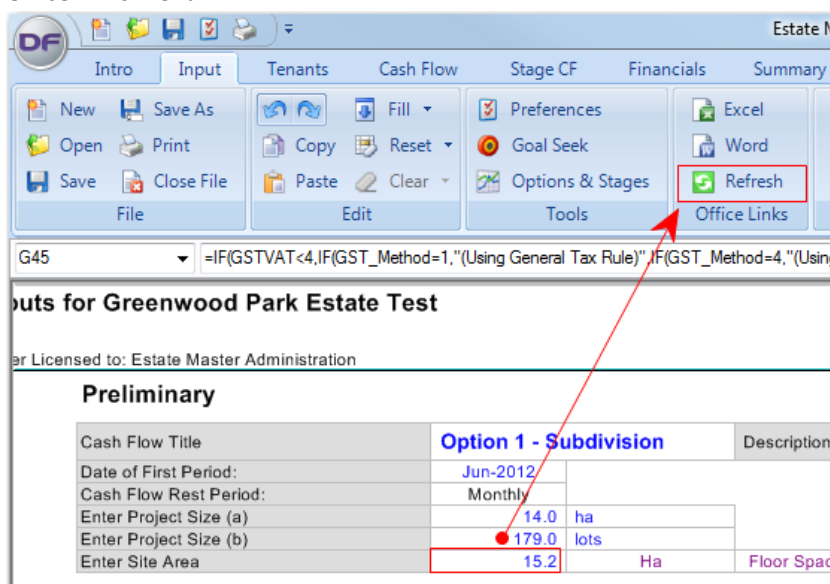
- 7.
8. You will notice that there is an existing link. Select the link file and click on [Edit Links].



9. If you were able to put the DOCX files in your C: drive, then you will notice that a dialog will open listing all the bookmarks it found in the selected Word Document with a green tick, and pre-selecting them.



10. Click [Close] and [Close] again to Estate Master DF.
11. To demonstrate how the linking works, make a change to the DF file related to one of the bookmarks, say change Site Area from 14.0 hectares to 15.2 hectares, and then press the 'Refresh' button in the Office Links menu.



12. Open the linked Document within MS Word, and go to the bookmark **EMDF_Site** – you will notice that it has been update with the new value.

Executive Summary	
Interest Valued	Fee simple in possess
Basis of Valuation	Site Value "as is" with [179. lots]
Land Area	[15.2 Ha] approximately
Town Planning	"2A Residential" unde Plan 1990.