

DEVELOPMENT VIABILITY MODEL

commissioned by Local Planning Authorities in the

Mid & South West Wales and South East Wales Regions

USER GUIDE

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1. GENERAL GUIDANCE and INTRODUCTION to the DVM

This **Development Viability Model (“DVM”)** is a toolkit designed to create a financial appraisal of primarily residential and mixed-use development projects, in the context of understanding whether a project is “viable” in Town Planning terms. **It is for use in that context only**; and is **NOT** intended to provide or support a formal valuation of any kind.

In preparing this User Guide, it has been assumed that all users of the DVM will have at least a basic knowledge and understanding of **Microsoft Excel** – the software on which the DVM is based. If you have not used Excel before, please get help from somebody who has.

Each copy of the DVM is limited to use on the particular Site that is described by the **Address, the Local Planning Authority name and the Site reference details** that are shown on the Project sheet. It can be used for the appraisal of different projects on this Site; and the development content of a project can be varied by the user any number of times (although it is recommended that different projects, or different versions of the same project, are saved with different filenames).

The copy you have received **should NOT be used for a different Site**; the site-specific details on the Project sheet are deliberately “locked” into other sheets that the DVM creates for an Appraisal.

Saving your work files

Before starting to define a development project using the DVM, save a copy of the file that you have been sent by the Local Planning Authority in a safe place, as a basic template that you can return to, if the need arises. Save subsequent copies/versions of the project appraisal you are creating with a different filename to the one used for the original template, to avoid over-writing the original. Check each time, that you are saving it as a macro-enabled workbook (*.xlsm).

It is good practice to save the file you are working on at regular intervals as you build your Appraisal. This is particularly important **before you move from one worksheet to another**, and/or before you click one of the buttons at the top of a worksheet, which will initiate one of the DVM’s macros. The DVM helps you build your appraisal by creating/opening additional worksheets, as you progressively define the detail of your proposed development in a series of logical steps. It does this by deploying a suite of specially coded macros that perform background operations within the model. Each time one of these macros is brought into play, the standard “Undo” feature in Excel is overridden, and the user is unable to go back to the settings/data prior to the operation of the macro. The importance of saving the file before you trigger a macro in the DVM, is so that you can easily retrieve that previous version of the file, should you need or want to do so.

General Guidance and “Help” feature

This User Guide has been arranged in sections, as shown on the **Contents page**. This first section is aimed at providing a general introduction to the DVM and how it works. It should also help you to plan your financial appraisal in the most efficient way. All subsequent sections give a more detailed description of the action you will need to take on other Excel worksheets that the DVM will create or open for you. All these worksheets, on which the user provides the inputs, are linked to the Cashflow sheet; which is the “engine room” of the DVM, from which the Appraisal is created as an output.

In addition to the User Guide, the DVM offers a **“Help”** feature on most of its worksheets. When you click on the button marked with a “?” at the top right-hand corner of a sheet, an abbreviated series of guidance notes/reminders and “tips” will appear in a separate window. Some individual cells will also display a short instruction or cautionary note when you lock your cursor on them.

Additional support/guidance is also available on each Local Planning Authority’s Viability webpage, in the form of **short videos/screencasts** that will talk you through the different steps in both simple and more complex development scenarios.

Users are recommended to select the “**Show Tabs**” option on the Excel ribbon (at the top of your screen, top right-hand corner). This will hide the Excel “Commands”, which are not needed to run the DVM, giving more space on your screen for the essential information in each worksheet.

Other useful/important tips for using the DVM are as follows:

- The maximum cashflow period that the DVM can accommodate is **30 years**. The default setting is 5 years, but this can be extended (or shortened) on the Project sheet, where appropriate.
- For convenience, the DVM allows you to break a development scheme into “elements”. If you want to distribute Build Costs in your Cashflow on the basis of an S-curve or Custom spread (see further explanation in section 6 below), the Build Period for an individual residential element is limited to a maximum of **5 years**. For elements involving commercial and/or investment property, the limit is **3 years**. Resi Elements with a Build Period greater than 5 years will only accept a linear distribution of Build Costs for Cashflow purposes.
- There are some other limitations on the Commercial/Investment Element sheets. If your scheme includes a substantial amount of commercial and/or investment property, you must read section 7 in this User Guide before you start creating an appraisal.
- Formulae within cells, and the proper functioning of the DVM’s macros, are protected by a series of “**error**” messages. If one of these appears on your screen, follow whatever instructions are in the message carefully. If there is no specific instruction, click “OK” to clear the message from your screen, and consider what incorrect action might have caused the message to appear; consulting this User Guide or the “Help” notes within the DVM, as necessary.
- All worksheets within the **DVM can be printed**, if required, using the normal Excel protocol. Each sheet has been given pre-defined settings (including Page Breaks), which can be previewed in the usual way. They can also be changed by the user, if required.
- An Appendix to this User Guide (see Contents page) contains links to key policy documents and to other general guidance on Viability in Planning.

Conventions and Default Settings

The following **colour conventions** are used throughout the DVM:

- Input cells, where entries can be made by the user, have a **pale-yellow background**.
- Cells already containing an entry with a **blue font** are not locked; so that the default value that is in them can be overwritten by the user, if required.
- Cells with a **grey background**, and some cells with a plain white background, are locked so that the user cannot make an entry (or inadvertently overwrite any formulae that those cells contain).
- Sometimes the background colour to a pale-yellow (unlocked) cell will change to white, indicating that the DVM has locked that cell, so that whatever is entered there cannot be changed. This will only happen as a result of particular choices that the user may have made, and is a proper part of the way in which the DVM works.
- Cells with an **orange** background, containing text that is supplemented with an asterisk (*), are fields where an entry by the user is “**mandatory**” – the DVM will not operate, and will generate an “error” message, if a macro is activated before all mandatory fields have been completed.

The DVM operates with a number of “**default**” settings. Most of these are listed on the right-hand side of the Project sheet, where they can be changed by the user, if required. Their main purpose is to save time, by avoiding the user having to make more/repeat entries on a number of worksheets within each appraisal. You should check that the default settings are appropriate to your appraisal; and if they are, there is no need to change them.

Starting an Appraisal

When you first open the file that you have received from the Local Planning Authority, you will see an initial worksheet that offers a “**Quick Guide**” to the DVM, and 3 more tabs – a **Project** sheet, into which you enter a basic outline of your development proposal; a sheet labelled “**SDT**”, containing a number of standard dwelling types (to which you can add other dwelling types of your own, if you wish); and a sheet containing costs associated with Welsh Government’s **Acceptable Cost Guidance** for affordable housing delivery and Housing Grant.

To start creating an Appraisal, open the Project worksheet and complete all fields marked with an asterisk (*) alongside text on an orange background. As explained above, these are “mandatory” fields. This first step in creating your Appraisal is described in more detail in section 2 of this Guide.

In completing the Project sheet, you need to specify whether your development is purely residential in content; or whether it includes an element of **commercial property** and/or property (commercial or residential) that will be sold or held as a **let investment**. If it does, you need to decide how many “elements” you need to break that property down into, in order to evaluate/appraise it.

If this applies to your development, please **read section 7** below, on “Commercial and Investment Elements”, before you start to complete the Project sheet. The structure of “Comm-Inv” elements is more complex than that of the Resi elements; and requires rather more forethought and planning, in order to set up the Project correctly. Additional Comm-Inv Elements cannot be added after you have clicked the “Validate and Proceed” button at the top of the Project sheet; whereas you can vary the number of Resi Elements from the Resi Overview sheet that the DVM will create for you when you leave the Project sheet.

If your development concerns only dwellings for private open market sale and/or affordable tenure, you can ignore cell H28 on the Project sheet. After completing the Project sheet, you will be asked to define the mix of dwelling types on a “**Resi Overview**” sheet, which the DVM creates when you click the “Validate and Proceed” button at the top of the Project sheet. From that sheet, you will be able to sub-divide your development (if you need to) into a number of Resi Elements, corresponding to distinct phases of the whole development or different types of dwelling (e.g. flats or bungalows as opposed to 2- or 3-storey houses). For many smaller developments, one “element” may suffice. The flexibility of the DVM is designed to make the Appraisal process as simple or as complex as the user requires. You should read **section 6** of this User Guide to gain a fuller understanding of the purpose in creating separate Resi Elements.

The Resi Overview sheet, as the name implies, is where the user defines the overall mix of dwellings in the development, the floor area and value of each dwelling type, and whether they will be units for open market sale or “affordable” homes. The extent to which you want to break down the total scheme into a number of elements is also established on the Resi Overview sheet.

It can either be populated from the standard dwelling types on the **SDT sheet** – see **section 3** of this User Guide – or by entering data directly into the Resi Overview sheet. Developers with their own standard dwelling types can also add these to the SDT sheet; and may find this the quickest and most efficient method of populating the Resi Overview sheet.

Initial entries made on the Resi Overview sheet can be changed – for a fuller explanation, see **section 4** below. This enables the user to explore a number of different options for a development, using the same DVM file.

Build Costs, as well as Build and Sales Periods, are defined by the user on **Resi Element sheets**, which the DVM creates from the Resi Overview sheet. As explained in **section 6** below, you have a choice of spreading the Total Build Cost in a linear distribution over your defined Build Period; or you can choose a typical S-curve distribution of those costs; or create your own custom distribution.

Build Cost in this context is what is often known as “plot cost”, i.e. the basic cost of constructing a dwelling, including normal foundations/substructure and superstructure; as well as site prelims and a main contractor’s allowance for overheads and profit. It does not include any other development costs, such as those associated with external site works, estate roads, sewers or landscaping; nor does it include any allowance for fees or contingencies. Separate allowance(s) will be made for these “external costs” on the “Costs” sheet, described below and in **section 9** of this User Guide.

The DVM allows you to determine the **Build Period** for your development, either according to the estimated rate of open market sales (being tied therefore to the Sales Period); or by specifying a set number of months. There is also flexibility on the Resi Element sheets to vary the monthly rate of sales from the average annual rate that the user has initially specified on the Project sheet.

When the “Validate and Proceed” button is activated on the Project sheet, the DVM also creates/ reveals other worksheets entitled “Land”, “Costs”, “Appraisal” and “Cashflow”. There is a detailed explanation of these worksheets in sections 8 to 11 below; but their function is broadly as follows:

- The “**Land**” sheet records the total price to be paid for the development site; calculates the LTT (Land Transaction Tax) that is payable on that price; and allows you to add any other costs that may be appropriate to the land purchase, including legal and agents’ fees. It also allows you to split the land purchase into tranches, where that is applicable (e.g. for large sites, where land may be drawn down as development proceeds in phases) – see **section 8** below for further details.
- The “**Costs**” sheet is where all development costs apart from land and basic build/plot costs are input and summarised. Such costs include normal external site costs, as well as any abnormal site costs associated with the development. Community infrastructure costs (CIL and/or s.106 obligations) are recorded on the Costs sheet, as well as fees and contingency sums relating to construction costs; and marketing, letting and sales-related costs. There is a final section on the Costs sheet where any grants or subsidies that are available must be recorded; although these will appear on a separate line in the final scheme appraisal – see **section 9** for further details.
- The “**Cashflow**” sheet is the DVM’s “engine room”, where all data from the various input sheets is collected to create a monthly cashflow for the development as a whole. From this sheet, the cost of financing the development project is calculated. Total revenue and costs for the development are transferred to, and summarised on, the Appraisal worksheet. A more detailed description of the process is given in **section 11** below; but additionally, the Cashflow sheet brings **transparency** to the whole Appraisal.
- The “**Appraisal**” sheet pulls together all the user’s inputs to the Cashflow and summarises them in a single sheet, showing how the resultant development profit compares with a target margin that can be set by the user. This is the DVM’s principal output sheet – see **section 10** below for a more detailed explanation. The Appraisal sheet also gives the user access to **Sensitivity Tables** to illustrate the impact on development profit arising from incremental variations in the three core inputs to the Appraisal. It also has a facility for testing the impact of percentage changes to seven separate factors in the Appraisal.

General Caveat and Disclaimer

The DVM is written to work with **Microsoft Excel for Office 365 (versions 2016 – 2019)** running on **Microsoft Windows**. It is NOT written for use with Excel online or tablet/phone apps. Although as much as possible has been done to achieve backward compatibility with 2013 and 2010 versions of Excel, we **CANNOT GUARANTEE** that the Model will run correctly on the older versions. In addition, we cannot be responsible for issues arising from the installation and configuration of Office 365/ Excel on a stand-alone PC/Laptop or on a corporate network maintained by an IT/IS Department. If you experience problems with older versions, please email admin@burrows-hutchinson.com, and we will at least see whether we can identify a simple solution. Please note that, depending on the support request, charges may be incurred.

2. PROJECT sheet

The DVM is presented to you with the **Site Address**, **Local Planning Authority** name and **LPA site reference** details already completed. These cannot be changed.

The Project sheet, when you first open the file, will look like this on your screen

The screenshot shows the MSWWR Development Viability Model (DVM) spreadsheet. The title bar reads 'MSWWR DVM Public Template - 23 April test for AB'. The spreadsheet is organized into columns A through L and rows 1 through 30. The main content area is titled 'Development Viability Model Public Version March 2020'. It includes a 'Click to Validate and Proceed' button and a 'Help' icon. A note states: 'A green background to any of the settings below indicates the default has been changed on another sheet.' The spreadsheet contains various input fields for site details, valuation, and financial settings. Key fields include Site Name, Site Address (Land adjoining Titanium Road, Waunarlwydd, Swansea), Local Planning Authority (City & County of Swansea), LPA Site Reference (SA00000), and various percentages for construction fees, lettings, and finance costs. A note indicates that green backgrounds indicate default settings.

Before you can create an Appraisal, you **must** complete all remaining fields that are marked with an asterisk (*) alongside text on an orange background. Some of these fields already contain figures in blue text, which are “default” settings; but those can be changed. However, you are advised **NOT** to change the default percentages in cells E20 and H20 unless you have good reason to do so.

The **gross and net site area** figures can be entered either as hectares or in acres – but stick with one or the other (i.e. don’t enter the gross area in hectares, but the net area in acres). Whichever you choose, the imperial or metric equivalent will automatically appear in the corresponding cell. The DVM will also automatically calculate the percentage that your net developable site area represents as a proportion of the gross area (cell H17). **Your entries on rows 16 and 17 must be for the whole site.** If your project includes commercial and/or investment property, the net developable area of that part of the site must be entered on row 18, together with the **gross** internal floor area of those uses. The DVM then subtracts the values in B18 and D18 from those in B17 and D17, to arrive at the net developable area of the residential element(s) of your project.

Enter the **total number of dwellings**[∅] in the proposed development in cell **B19**. If the scheme is non-residential, enter “0”. This number can be changed, if you want, to create a second/revised appraisal at any time; provided that a set procedure is followed (explained later in this User Guide) in order to ensure that changes are properly fed through to the Cashflow; and thus to the Appraisal worksheet.

The rate at which you expect to sell open market dwellings from a single outlet is defined in **cell B22**. The default setting is 48 dwellings a year; but can be changed to whatever rate the user decides. The entry in **B21** is to ensure that on large, strategic sites (for example) where construction and sales may be taking place in multiple areas/outlets at any one time, the combined number of sales that the user estimates from each outlet will not exceed whatever is defined (in B21) as the maximum

[∅] This is the total number of homes for open market sale, plus affordable dwellings. Exclude any dwellings in a building that will be sold or held as a let investment; and include that as a Commercial/Investment element.

capacity of the housing market for the sale of new open market homes in that location. This limiting factor operates through the Development Planner worksheet, as described in **section 5** below.

Two of the mandatory fields involve making a choice from a drop-down list of options, which you obtain by clicking on the arrow that appears to the right of the cell when you select that cell. If you attempt to make an entry in these cells that is not from the list, you will get an “error” message on your screen. If this happens, click the “Cancel” button in the “error” message box, and select an option from the drop-down list alongside the relevant cell.

If your project includes, or could include, any affordable housing, you must choose (in cell **B20**) the **ACG Band** that applies to your site. This enables the DVM to apply certain set transfer values to the affordable homes, according to Welsh Government’s ACG tables (see worksheet labelled “ACGs”). If your project has no affordable housing, choose “0” in B20.

You must enter a **Site Value in cell B23**. This can be based on any of the “options” on the dropdown list for cell B24 – if you choose “Other” you can describe that choice in whatever way you like in cell B25; including “the minimum price that the landowner will accept”, if that is appropriate.

However, a straightforward and realistic assessment of the site’s value, which can be **justified by evidence** from other comparable land sales, and/or reasoned argument, is least likely to lead to your appraisal being challenged. You should please provide whatever evidence (or other explanation) you can, to substantiate your “site value” figure.

The **Maximum Cashflow Period** (cell H27) is the total period (in years) that you anticipate for the development; from the date when the site (or the first portion of it) is purchased until the date when the final part of the development is sold. The DVM assumes that the land (or the first portion of it) is bought in the month that you specify in cell B27. It creates a monthly cashflow from that date, for the number of years specified in cell H27. The default period is 5 years; but this should be changed if you expect the development to spread over a longer period. It can also be shortened, if you wish, for smaller projects. The maximum period that the DVM can accommodate is **30 years**.

It is better to specify a period that might be a little longer than is actually needed, so that you have room later to extend your build or sales periods, if required; but don’t deliberately overdo it, or you will have a lot of blank columns in your cashflow. The DVM incorporates an automatic facility that will extend the cashflow period, if you inadvertently over-run the period you have specified on the Project sheet; but it is recommended that you avoid making regular use of this feature.

Although primarily created to appraise developments consisting of housing for open market sale (with affordable housing of just two types – social rented and intermediate/LCHO), the DVM will also appraise mixed-use schemes that include non-residential/commercial property, as well as schemes where the development includes residential property for sale as a let investment.

On **Row 28 of the Project sheet**, you must tick the “residential” box if your development includes homes for sale and/or affordable housing.

When you move on from the Project sheet, and if your scheme is a typical new housing development (i.e. new homes that will be solely for open market sale and/or “affordable” tenure), you will need to decide whether the overall development should be sub-divided into separate “elements”. Different elements can be used to represent distinct phases of a development, for example; or will need to be used if you want to apply a separate build cost rate or development period to different parts of the project. For standard residential property, the creation of different “elements” is decided on the Resi Overview sheet, which is created once you have completed the Project sheet and have clicked the “Validate and Proceed” button at the top of the Project sheet.

However, if your development includes commercial property, and/or residential property that will be let privately and sold or held as an investment, you must decide on, and specify (in **cell H28**), the number of elements into which this part of your development will be divided for appraisal purposes.

Property that will show a different yield as an investment must be categorised separately, as only a single yield can be applied to all property in a single “element”. Similarly, property to be valued on an Investment basis cannot be mixed in the same element as property where the freehold will be valued at a given rate per sqm. Only one Build Cost rate can be applied to an element, so parts of the development with different Build Cost rates must be categorised in different elements. This does not preclude you using a blended cost rate, whenever that may be appropriate, to reduce the number of “elements” that you need to create.

The DVM contains a number of “**default**” settings, tabled on the right-hand side of the Project sheet. This is designed to save the user’s time; but any of these settings can be changed, if not appropriate to the Appraisal you are undertaking, either on the Project sheet at the start of your Appraisal, or on the Costs worksheet at a later stage. If a change is made on the Costs sheet, the background colour to the relevant cell on the Project sheet changes to green.

When all mandatory entries have been made on the Project sheet, select the “Save As” option in the File menu on Excel’s taskbar, and **save the file** with a name, and in a location, of your choosing. Then click the “**Validate and Proceed**” button at the top of the Project sheet to start your Appraisal. Based on what you entered on the Project sheet, a number of additional worksheets will open, ready for your further entries.

If your project includes homes for sale, the first sheet to be completed is the “**Resi Overview**”. You can choose to populate the Resi Overview sheet with your own dwelling types; or choose from a list of “standard dwelling types” on the “SDT” sheet (with a green tab). Either choice is acceptable, there is no preferred option/method; but for simplicity, the next section in this User Guide describes the SDT sheet, and then describes actions to be taken on the Resi Overview sheet.

Important Note: once the “Validate and Proceed” button on the Project sheet has been activated, **the button will disappear**; as this process, which creates other worksheets, can be run only once. In addition, once the button has been activated, certain other entries/cells on the Project sheet will be “locked”; and cannot be changed thereafter. This includes the ACG Band and related percentages in cells E20 and H20. When a cell has been “locked”, its background colour changes to white. Entries in cells that retain their pale-yellow background can still be changed, and the DVM will take on board the effect of any such change; although in some cases you will need to re-visit other worksheets as well, to update the cashflow behind your appraisal. This is explained in more detail later in this User Guide.

3. SDT (Standard Dwelling Types)

The SDT sheet, green tab, next to Project sheet, looks like this on your screen

	A	B	C	D	E	F	G	H	I	J
1	Standard Dwelling Types									
2		Update Dwelling Type List				Populate Resi Overview sheet				
3	Dwelling Type	Include	SDT Code	Class	Bed/Occ	Levels	GIA m ²	GIA ft ²	SO	Description/Developer
4	1-bed flat		N1a	Flat	1b2p	1	50.0	538	N	Nationally described space standard
5	2-bed flat		N2a	Flat	2b3p	1	61.0	657	N	Nationally described space standard
6	2-bed flat		N2b	Flat	2b4p	1	70.0	753	N	Nationally described space standard
7	2-bed terraced		N2c	Hse	2b4p	2	83.0	893	N	Nationally described space standard
8	3-bed flat		N3a	Flat	3b4p	1	74.0	797	N	Nationally described space standard
9	3-bed flat		N3b	Flat	3b5p	1	86.0	926	N	Nationally described space standard
10	3-bed terraced		N3c	Hse	3b4p	2	86.0	926	N	Nationally described space standard
11	3-bed detached		N3d	Hse	3b5p	2	96.0	1,033	N	Nationally described space standard
12	3-bed townhouse		N3e	Hse	3b5p	2.5	102.0	1,098	N	Nationally described space standard
13	4-bed detached		N4a	Hse	4b5p	2	100.0	1,076	N	Nationally described space standard
14	4-bed townhouse		N4b	Hse	4b5p	2.5	106.0	1,141	N	Nationally described space standard
15	4-bed detached		N4c	Hse	4b6p	2	107.0	1,152	N	Nationally described space standard
16	4-bed townhouse		N4d	Hse	4b6p	3	113.0	1,216	N	Nationally described space standard
17	1-bed flat		A1a	Flat	1b2p	1	46.0	495	A	ACG dwelling type
18	2-bed flat		A2a	Flat	2b3p	1	59.0	635	A	ACG dwelling type
19	2-bed bungalow		A2b	Bung	2b3p	1	58.0	624	A	ACG dwelling type
20	2-bed terraced		A2c	Hse	2b4p	2	83.0	893	A	ACG dwelling type
21	3-bed terraced		A3a	Hse	3b4p	2	88.0	947	A	ACG dwelling type
22	3-bed semi-det'd		A3b	Hse	3b5p	2	94.0	1,012	A	ACG dwelling type
23	4-bed townhouse		A4a	Hse	4b6p	3	110.0	1,184	A	ACG dwelling type
24	4-bed detached		A4b	Hse	4b7p	2	114.0	1,227	A	ACG dwelling type
25										
26										
27										
28										
29										
30										

The dwelling types listed on the SDT sheet are a combination of nationally described space standards (for all dwellings) and recognised sizes for affordable dwelling types listed in Welsh Government’s Acceptable Cost Guidance (ACG). You can either use a selection of the dwelling types already in the sheet, or you can add your own dwelling types to the existing list by entering comparable data to that already in the sheet, within the 30 rows from 25 to 54 (see further guidance below).

To use the existing list, select a cell in Column B of the SDT sheet against the dwelling type that you want to transfer to the Resi Overview sheet. Using the drop-down list that opens when you click the arrow to the right of the cell, select “yes”; and move on to your next choice. It is not necessary to select “no” in Col B against all dwelling types that you do not wish to use; leaving Col B blank has the same effect.

When you have completed your selection, you must click the “**Populate Resi Overview**” button at the top of the sheet to transfer your choices to the Resi Overview sheet. **NB: the “Populate” button can only be used once** – it will disappear after that; but, if you want to add other dwelling types to the Resi Overview at a later stage, this can be done from the Resi Overview sheet (see instructions in section 4 below).

If you are adding your own dwelling types to the SDT sheet, create a code in Col C that begins with a capital letter (this could be the initial letter of your own organisation; but bear in mind that “A” and “N” have already been used); followed by the number of bedrooms in the dwelling you are adding, and finally a lowercase letter from “a” to “z” that distinguishes dwellings with the same number of bedrooms from each other. For example, if your organisation is called DevCo, your codes for a 3-bed terraced house, and a 3-bed detached house, might be D3a and D3d respectively. If you have more than one 3-bed terraced house type, use D3a for the smaller, and D3b for the larger, etc.

You can give a name to your dwelling type in Column J. The initial capital letter you have chosen above will automatically be repeated in Column I, for sorting purposes (see below).

Then complete Columns D to F by selecting from the dropdown lists behind each cell; and enter the gross internal area of the dwelling in square metres in Column G. The DVM automatically calculates the equivalent in square feet for you in Column H.

Decide which dwelling types are relevant to your appraisal by selecting “yes” in Column B, and click the “**Populate**” button at the top of the sheet to transfer your choices to the Resi Overview sheet.

Alternatively, when you have become acquainted with the codes listed in Col C of the SDT sheet, you can also use the drop-down list in Col B of the Resi Overview sheet to populate the latter.

Note: As described above, the “**Populate**” button can only be used once to transfer dwelling types to the Resi Overview sheet. In the transfer process, it sorts the list of dwelling types in alpha-numerical order and updates the data validation lists behind Col B on the Resi Overview sheet. If you do not want to use the automatic transfer, or you add new SDT codes after the “Populate” button has been used, you can ensure all SDT codes are available to choose in column B on the Resi Overview sheet, by clicking the “**Update Dwelling Types list**” button on the SDT sheet.

4. RESI OVERVIEW

The Resi Overview sheet looks like this on your screen, when partially populated

No. of Units	SDT Code	Dwelling Type	No. of Levels	Unit GIA Sales m²	Element No	Tenure	Hsg Mix %age	Sale/Tfr Value	£ psm	TOTAL VALUES (GDV)	Unit GIA Sales ft²	£ psf	User Notes	Warnings
10	N1a	Flat 1b2p	1	50.0	2	OM	5.7%	£135,000	£2,700	£1,350,000	538	£251		
15	N2a	Flat 2b3p	1	61.0	2	OM	8.6%	£165,000	£2,705	£2,475,000	657	£251		
15	N2b	Flat 2b4p	1	70.0	2	OM	8.6%	£190,000	£2,714	£2,850,000	753	£252		
12	N2c	Hse 2b4p	2	83.0	1	OM	6.9%	£195,000	£2,349	£2,340,000	893	£218		
18	N2c	Hse 2b4p	2	83.0	1	SR	10.3%	£74,634	£899	£1,343,412	893	£84		
30	N3c	Hse 3b4p	2	86.0	1	OM	17.1%	£215,000	£2,500	£6,450,000	926	£232		
8	N3d	Hse 3b5p	2	96.0	1	OM	4.6%	£230,000	£2,396	£1,840,000	1,033	£223		
17	N3d	Hse 3b5p	2	96.0	1	Int	9.7%	£138,180	£1,439	£2,349,060	1,033	£134		
25	N4a	Hse 4b5p	2	100.0	1	OM	14.3%	£245,000	£2,450	£6,125,000	1,076	£228		
	N4c	Hse 4b6p	2	107.0					£0		1,152	£0		

At the outset, the sheet will show the **name** you have given your project (at the top), and directly below that (on a green background) the **number of dwellings** you specified on the Project sheet. This number “counts down” as you populate the sheet, line by line, serving as a reminder of the number of dwellings that you still have to specify. The DVM also calculates (cell A4) the cumulative percentage of affordable housing in your project, as you create the schedule of dwelling types.

The purpose of this sheet is to list all the dwelling types included in your development project – all open market and affordable homes – specifying the number, size, tenure and value of each type.

You can choose to populate this table with your own dwelling types; or from the list of “standard dwelling types” on the “SDT” sheet (see previous section of this User Guide).

If you choose to enter your own dwelling types directly into the Resi Overview sheet, work along each row from left to right – starting on row 7 – following the advice given below. **You can only make an entry in a row that begins with a pale-yellow background in Column A.** When you have completed the first row in your schedule, click the “Add new row” button at the top of the sheet, and proceed to complete that row in the same way. Use the same button to add further rows until your table is complete.

Unless you have chosen to populate the Resi Overview sheet from the SDT sheet – as explained in the previous section of this User Guide – **Col B will be blank**. But its data validation list can still be used to draw dwelling types from the SDT sheet into the Resi Overview, if required.

The number of units against each row (in **Col A**), must be inserted by the user, but can be changed at any time; and can be varied, for example, to consider different dwelling mix scenarios.

The “**Copy selected row**” enables you to save time, if you want to ascribe a different tenure type (Column H) or a different value (Column J) to the same dwelling type. Select the row to be copied, click on the “**Copy selected row**” button, and all the data on the selected row will be replicated in

the row immediately below that. Note that everything in that row, including the number in Col A, is replicated in the following row; so the number of units (for example) on at least one of the lines may need to be adjusted by the user, so that the total number of dwellings in the scheme is correct.

If you make a mistake, or no longer want a particular row of data, use “**Delete selected row**” in the same way. Other buttons at the head of the sheet are explained later in this section.

When duplicating rows, do not be concerned if the colour of some entries changes, or is different from those in a previous row. Text colours will mostly return to black at a later stage in the process.

The headings (in Row 6) to each column set the information required. Columns C, D, E and H require entries from a “drop-down” list, which you obtain by clicking on the arrow that appears to the right of the cell that has been selected. The choice in **Col C** is between a House, Flat or Bungalow. In **Col D** you must categorise each dwelling type in your schedule by the number of bedrooms and number of occupants – ranging from 1-bed 1-person to 6-bed 10-person. Not all the available options appear on the screen at once; you may have to scroll up or down the list to find the one you want. If you want to specify a different dwelling type to any of those shown, select the blank space at the top of the list and then enter your own type in the relevant cell, using the same format – e.g. 8b12p.

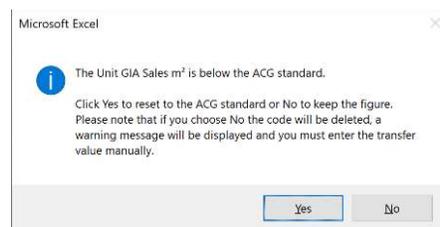
In **Col E**, the choice is between single storey (for bungalows and most flats); and 2-storey, 2.5 storey and 3-storey houses. In **Col F**, you must supply a figure (in square metres, to one decimal place) for the gross internal sales area of each dwelling type. The use of **Col G** is explained later in this section.

In **Col H**, the choice is between “OM” for dwellings that are for open market sale; and 2 categories of “affordable” tenure – Social Rent and Intermediate. The DVM automatically calculates the transfer value for both categories of affordable homes, by looking up the “acceptable cost guidance” (set by Welsh Government) for each dwelling type; applying the ACG Band and the percentage of value to cost (according to tenure) already specified on the Project sheet. By default, homes for Social Rent are valued at 42% of ACG; and Intermediate tenure at 70% of ACG.

You can opt to over-write the transfer values that are automatically calculated in this way by the DVM; by inserting a different value in Column J. For example, if you want to specify a value for an affordable dwelling of intermediate tenure by reference to a percentage of full open market value (rather than 70% of its ACG), simply overwrite the value that the DVM has inserted, with a figure of your own. A warning message will appear on your screen to say that you are departing from the ACG calculation that the DVM performs; and a message that the value is not based on the ACG standard will be recorded in Column P. To revert to calculation of the transfer value by reference to ACG, you simply reselect the affordable tenure (“SR” or “Int”) in Column H, and the DVM will recalculate the transfer value in Column J for you. The “warning” message in Col P will also disappear.

If you select “OM” in Col H, your cursor will automatically move to Col J, prompting you to insert a market value for this dwelling type. You can change this figure, if you want to, at any time; but if you do so after you have clicked the button to “Create Resi Element sheets”, you will have to “Update” and re-visit those element sheets to make sure that any change correctly transfers to the Cashflow sheet.

If you choose “SR” or “Int” for a dwelling type that is smaller than the recognised ACG standard, the following warning note will appear, in which the consequences of proceeding with your choice are explained.



As you complete the schedule of dwelling types, **Col. I is automatically populated** to show you the percentage mix of your development, by dwelling type. Columns K to N are automatically populated in a similar way.

Column O (User Notes) contains free cells that can be used to enter a description of a dwelling type – e.g. a house type name, or a description like “detached”, “semi-detached” etc – if you wish.

Column G allows the development to be broken down into separate “**elements**”. These elements can correspond to separate phases of a relatively larger scheme; or can be used where different Build Cost rates are to be applied to different types of dwelling; or where the construction timetable for different elements will be different; or a combination of these factors.

The most obvious example is where a development consists partly of houses, and partly of flats in a single block. As far as the latter are concerned, construction of the block must be completed before individual flats can be sold; whereas individual houses may be sold before the rest of the houses in the scheme have been built. In addition, the Build Cost for the flats will be calculated on the gross internal floor area of the whole block – including circulation space and common areas – whilst the income generated from the development is based on the gross internal floor area of individual flats. The user may also wish to apply one Build Cost rate (in £ psm) to the houses, and a different rate to the flats.

The DVM caters for up to 20 separate residential elements – but it is advised **NOT** to create more elements than are needed, as this will slow the speed at which the macros work and create a rather cumbersome cashflow. Be proportionate – the DVM has this facility to allow quite detailed financial assessments to be made of sites of almost any size and complexity; but there is no point in using it, if the information available to populate the appraisal is not equally detailed. In the example used in the previous paragraph, the use of a blended build cost rate (covering both houses and flats) is not precluded in appropriate circumstances; for example, where the scheme design is still at a very early stage and a suitable development mix of dwelling types has yet to be decided.

If only a single “element” is required for your development, enter “1” in Col G on every row in your Resi Overview table. If you want to break the development down into more than one element, enter whatever numbers you choose to identify different elements on each row in Col G. If you want to use the same dwelling type in more than one element – e.g. if a development of 80 houses is to be built in 2 phases – you can use the “**Copy selected row**” button to duplicate that dwelling type, and enter “1” in Col G on the original row, and “2” on the duplicated row.

Click the “**SORT rows**” button at the head of the sheet when all your entries are complete, and the DVM will re-arrange everything by element number – i.e. all dwelling types in element 1 first, then all those in element 2, etc. – and also by tenure and dwelling type within each element. The “**Add Subtotals**” button will then provide you with a breakdown of the whole development, element by element, with subtotals of dwelling numbers, floor areas and values for each element, and a grand total at the bottom. It will also show the overall percentage split between Open Market and Affordable dwelling types. Use the “**Remove**” button to remove those subtotals, and to return to the sorted schedule of dwellings. You should do this before attempting to “Create Resi Element Sheets”.

Important Note: the “**Sort**”, “**Subtotal**” and “**Create Resi Elements**” buttons will not work if there are any blanks in your table of dwelling types, other than in Column B. The DVM checks for blanks whenever you use those buttons; and will prompt you (with an error message) to fill any gaps.

When all your entries in the Resi Overview are complete – check that the number of units remaining to be specified, in the top left corner of the sheet, is “0” to avoid an error message – click the “**Create Resi Elements**” button at the top right-hand corner of the sheet. If you have chosen to subdivide your development into more than one element, the DVM will ask whether you want to use its Development Planner to draw up a programme for each element, and the development as a whole, on an additional spreadsheet. If you choose “Yes”, an additional worksheet with a yellow tab

will appear next to the Resi Overview tab on the toolbar at the bottom of your screen; together with additional worksheet tabs for each of the “elements” you have specified. If you choose “No”, you will simply see that the DVM has created the additional sheets for each of those elements, without a “Dev’t Planner” tab.

If you are using the **Development Planner**, go to **section 5** below, and then complete each of the Element sheets in turn. Otherwise, turn to **section 6** (entitled “Resi Elements”) and, opening each Element tab (from left to right) in the bottom toolbar, complete each sheet as required, before moving on to the next tab. You will be asked to **name the element** as you open each tab; and you must do so before you can complete the data in that sheet; and move on to the next sheet.

You can return to the Resi Overview sheet, to change any of your original entries. If you do, you will notice that the top right-hand button has changed, to read “**Update Resi Element Sheets**”. Any change that you make to your original Resi Overview entries will NOT transfer to the Appraisal until you use the “**Update**” button on the Resi Overview sheet. You must then **revisit** each Element sheet to ensure that the entries appearing there are still valid – making any changes that are necessary on those sheets to align with whatever changes you made to the Resi Overview – before clicking the “**Update Cashflow**” on the last Element sheet. This action transfers all the revised information to the Cashflow sheet and, via that, to the Appraisal sheet.

The DVM helps you to identify the Resi Element sheets where changes have occurred by highlighting certain cells with a blue background. But it is best to run a visual check on all the Resi Element sheets to confirm that they are still performing the correct calculations. In particular, you should check any Elements in which you specified a “Custom” distribution of Build Costs. If the GIA of those elements, or any part of their Build or Sales programmes, has altered – following changes to the Resi Overview worksheet – you will need to reassess your Custom cost distribution for those Elements.

5. DEVELOPMENT PLANNER

This sheet is primarily designed to help the user plan, and interweave, different elements/phases in larger or more complex development projects. It allows the user to produce a visual representation of how each element will fit into the overall development timeline.

When you open the sheet, you will see that the DVM has replicated your choice of Elements in Cols A and B, giving two rows to each Element. **Col A** contains a reference (R for residential, followed by the element number; and C for commercial/investment, if you opted to create any elements of that type on the Project sheet). **Col B** gives you one row on which to define your Build programme, and the next row to define your sales programme, for each Element in turn. **Col C** reminds you of the number of open market dwellings you specified for each Resi Element, on the row for each Element that is dedicated to sales. On the same row, in Col A, there is a formula that counts down as you enter your estimated sales month by month across the sheet, to show how many dwelling sales for that Element have still to be accounted for. When you reach the required total, “ok” will appear in Col A. If you overshoot the total number in Col C, a negative figure (in red) will be apparent in Col A.

Across the top of the sheet, you will see the start date for your development in cell D2, with ensuing months running off to the right, up to the total number of years set by cell H27 on the Project sheet. The number of each month is also shown, on Row 3. As you populate the sheet, Row 4 calculates the monthly total (from all the Resi Elements) of open market dwelling sales. If this total ever exceeds one twelfth of the maximum annual sales rate in cell B21 of the Project sheet, the DVM will highlight that cell with red text on a pink background; allowing the user to alter the sales programme to stay within the market capacity limit. But changing the sales programme is not obligatory. Highlighting the cell in this way simply shows the user that the capacity limit has potentially been exceeded – it could be that the totals in other months are sufficiently lower to make the extra in 1 or 2 months immaterial. **Furthermore, whatever is shown on the Devt Planner sheet does not affect the DVM’s other functions in any way.**

There is no set protocol for filling out the Development Planner sheet, but the following practice is suggested as one possible method (assuming for this purpose that the first Element on the sheet is a **Resi Element**):

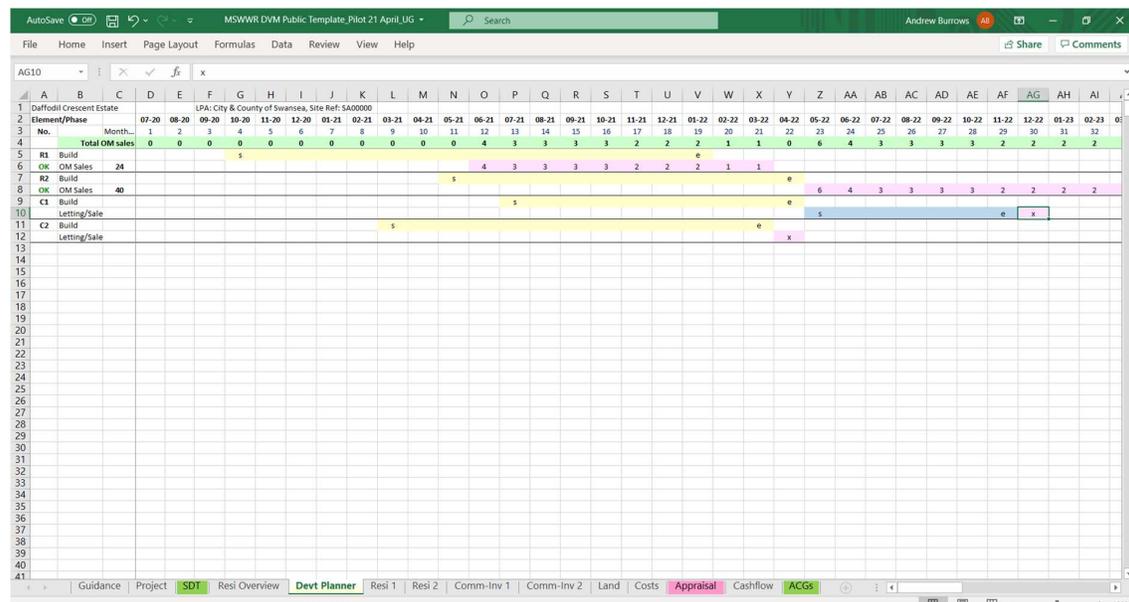
- On Row 5, enter an “s” in the month in which you expect to start building the first element of the development.
- On Row 6, enter the number of dwellings that you expect to sell in the first month of your sales programme, in the month when you expect to have completed those first homes ready for sale.
- Enter further monthly sales figures on Row 6, for each subsequent month, until the total number of open market dwellings in that Element has been reached.
- If you intend to define your Build period by the rate at which houses are sold, enter an “e” on Row 5 in the month when (viewing the sales programme on Row 6) you expect your Build period to end. It may be appropriate to leave a gap between the date when construction work ends and the date when the final houses sell; but that is for the user to decide.
- If, on the other hand, this Resi Element were a block of flats (for example), the construction of which must have reached practical completion before any dwellings can be sold/occupied, the user would need to adjust the Build and Sales programmes accordingly.

This process can be repeated for all remaining Elements. Some users may find it helps to then print the sheet (there are certain pre-defined print settings, which can be accepted or changed by the user in the normal way for any Excel spreadsheet), so that you have it handy whilst completing the Element and Costs sheets that underlie your Appraisal.

For “Comm-Inv” elements, you might use a similar protocol, as follows:

- On the “Build” row, enter an “s” in the month in which you expect to start building the element, and an “e” when the building work will be completed.
- On the “Letting/Sale” row, if the element is for immediate sale, enter an “x” in the month after the building work has reached practical completion (“e” on the “Build” row), unless there is a specific reason for postponing the sale date. The DVM assumes (by default) that a “Comm-Inv” element will be sold (i.e. its value will be realised) in the month following practical completion of the building.
- If the element is to be let and then sold (or held) as an investment, enter an “s” on the “Letting/Sale” row for the month in which the lease will begin – or the month in which the first lease(s) will begin, if there are multiple units in the element; followed by an “e” in the month when the Element is expected to be fully let – and an “x” in the month immediately following that, when the full investment value is assumed to be realised.

Some users might find that applying three different background colours to the Build, Letting and Sale Periods is helpful. That, of course, can be done by using the Fill Colour feature under Font formatting in the Excel Commands bar (see illustration below).



The contents of the Development Planner sheet are not linked in any way to subsequent sheets or calculations in the DVM – it is simply a basic way of creating an indicative timeline for all elements in a development, as a “draft” from which to co-ordinate your input on other sheets. You do not have to use this Planner; but some may find it a useful aid to setting and remembering start and end dates for different Elements, as you work through your Appraisal.

You may find that you cannot stick rigidly to your draft timeline, as the options available for defining build and sales periods within each Element sheet are less flexible (for practical coding reasons) than the “blank canvas” that the Development Planner offers. When completing Resi Element and Comm-Inv Element sheets, you must adhere to the parameters that are available in those worksheets.

If you are using the Devt Planner sheet, and decide that you want to change the number of dwellings in the development, or in individual Resi Elements – e.g. if you are making a revised appraisal of the scheme at a later date – you should change the entry in cell B19 of the Project sheet; then make the appropriate alterations to the Resi Overview sheet; and finally click the “**Update Resi Elements**” and then the “**Update Devt Planner**” buttons (in that order) on the Resi Overview sheet. **N.B.** the Devt Planner sheet will not update correctly unless/until the Resi Elements have been updated.

When you use the “Update Devt Planner” button, all data in the Devt Planner sheet will be erased before the entries in Cols A to C are updated. The DVM warns you that this will happen, with an on-screen message, offering you a chance to print your previous workings first.

As you cannot change the number of Comm-Inv elements once the “Validate” button on the Project sheet has been activated, changes cannot be made to how any Comm-Inv elements that you may be using appear on the Devt Planner sheet.

You cannot change/extend the number of months shown on the Devt Planner sheet, which derives from the entry in cell H27 on the Project sheet. Although the DVM will automatically extend the Cashflow sheet, in the event that you have under-estimated the total development period required when you completed the Project sheet, it does not extend the Devt Planner sheet.

6. RESI ELEMENTS

A Resi Element sheet looks like this on your screen, when partially populated

No. of Units	SDT Code	Dwelling Type	No. of Levels	Unit GIA Sales m ²	Element No	Tenure	Hsg Mix %age	Sale/Tfr Value	£ psm	TOTAL VALUES (GDV)
4	N2c	Hse 2b4p	2	83.0	1	OM	13.3%	£200,000	£2,410	£800,000
4	N3c	Hse 3b4p	2	86.0	1	OM	13.3%	£225,000	£2,616	£900,000
8	N4a	Hse 4b5p	2	100.0	1	OM	26.7%	£250,000	£2,500	£2,000,000
8	N4c	Hse 4b6p	2	107.0	1	OM	26.7%	£275,000	£2,570	£2,200,000
2	N2c	Hse 2b4p	2	83.0	1	SR	6.7%	£64,344	£775	£128,688
4	N3c	Hse 3b4p	2	88.0	1	Int	13.3%	£112,210	£1,275	£448,840

When you first open any Resi Element sheet, by clicking on the tab at the bottom of the screen, you will be asked to give the element a name, which you must do to move on. The name you give the Element will appear in cell A1 at the top left-hand corner of the sheet. This name can be changed at any time, should you so wish, by over-typing a different name in Cell A1.

A summary of the dwellings in each Element, drawn from the Resi Overview sheet, appears in Cols G to T of the relevant Resi Element sheet. The **actions required** from the user concern **Cols A to E**, and are as follows:

- Each Element sheet** is used to collate information about the basic Build Costs, and the Build and Sales programmes, relating to that element of the project.
- Cell B8** – you must decide whether the gross internal area of the building(s) in this Element, for build cost purposes, is the same as the gross internal sales area. For most standard house types the answer will be “yes”; hence the default setting of 100% in this cell. However, in the case of a block of flats, the aggregate sales area (of all the individual flats) will usually be less than the total gross internal area of the building, including circulation space (e.g. stairs and lobbies) and other common parts. In such a case, the entry in B8 must be changed to show the percentage that the total sales area represents as a proportion of the total area of the building. For example, if the measurement of circulation space and common areas amounts to 15% of the whole building, leaving 85% as the total gross internal area of individual flats (the total sales area), enter “85” in cell B8. The Build GIA in A10 will change accordingly.
- Build Cost** – you must now enter either a Build Cost rate (in £ psm) in cell **B10** or a total Build Cost for the Element in cell **B12**. If you choose the former, the DVM will calculate the Total Build Cost for you. If you choose the latter, the DVM will show what that represents as a rate psm in B10. The entries in these two cells are “interchangeable”; if you want to “round” the total build cost, after the DVM has calculated it from a rate per sqm, enter your preferred total figure in D10. The DVM will recalculate the rate per sqm accordingly.

Build Cost in this context is what is commonly referred to as “plot cost”, i.e. the basic cost of constructing a dwelling, including normal foundations/substructure and superstructure; and

including site prelims and a main contractor's allowance for overheads and profit. It does not include any other development costs, such as those associated with external site works, estate roads, sewers or landscaping; nor does it include any allowance for fees or contingencies.

N.B. there is also a mandatory row on the "Costs" sheet for costs associated with Building Regs requirements that are particular to Wales (see section 9b below). Such costs should be excluded from the Build Cost on the Resi Element sheets, to avoid double counting.

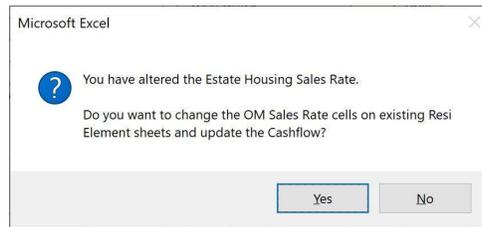
- d) **Build Start** – you must begin by specifying the cashflow month in which building work will start for this Element in **cell B12**. If the land has been purchased in Month 1 (the standard assumption made by the DVM), you may need to allow a mobilisation period of 2-3 months, say, before it is realistic for housing construction work to begin. The period may be longer, if there are significant site preparation or access works to be carried out first.
- e) **Build Period** – may be set to a specific number of months (cell **B14**), or may be defined by the rate at which you expect homes to sell (leaving B14 blank, and using entries in **B15** and **E15** to calculate the Build Period) – see "**Sales Start**" and "**Sales Overhang**" in the next sub-heading.
- f) **Sales Start** – on most housing developments, the aim will be to have the first homes ready for sale/occupation as soon as is reasonably possible after construction work begins ("Build Start"). The period between Build Start and Sales Start depends on the construction methods being used and the capacity/efficiency of different developers/builders. You must specify the month number in which you expect the first dwellings to be occupied ("Sales Start") in cell **B15**, so that the DVM can distribute costs and revenue to the Cashflow in an appropriate way.

In the case of a block of flats, where construction work on the building must be completed before individual flats can be occupied, you may choose to specify the Build Period in B14 and accept the calculation, that the DVM automatically makes in B15, of a Sales Start in the month immediately after practical completion of the building work.

In other cases, it may be more appropriate to leave B14 blank, and specify Sales Start (**B15**) and Sales Overhang (**E15**), from which the DVM will calculate the total Build and Sales Periods on the basis of the Sales Rates specified in cells B18 – B21. The "**Sales Overhang**" (E15) is the number of months after all construction work has finished and before you estimate that the final dwelling will be sold. Developers will aim to keep this period as short as possible, but some "overhang" is more or less inevitable on most projects.

- g) **Sales Rate** – this is the rate at which you expect to be able to sell dwellings on the open market. By default, the DVM will insert a monthly sales rate in cells **B18 – B21** that it calculates from the annual Sales Rate you have specified in cell B22 on the Project sheet and the number of Open Market dwellings in this Resi Element (see cell B16 of the Element sheet). This produces a totally linear cashflow, with total revenue being spread equally across each month in the Sales Period. This may be a reasonable assumption to make; but in some cases – particularly developments involving dwellings/apartments for which strong demand is expected – good marketing during the Build Period (with sales being agreed "off plan") can result in a "spike" in sales revenue in the month(s) immediately following practical completion of the building; or in the early stages of the total Sales Period of a popular housing scheme – with the sales rate tailing off in later months. The user can reflect this type of non-linear sales profile by altering the "default" figures in B18 – B21; always start with cell B18, moving down one cell at a time to B21. This enables the DVM to recalculate the total Sales and Build Periods in a logical way.

If you decide to alter the default sales rate in cell B22 of the Project sheet, after you have created the Resi Overview and Element sheets, you will see this message:



This warns you that the DVM will automatically update the Sales Rate settings in all Resi Elements to a linear distribution based on your revised annual rate on the Project sheet. It will also update the Cashflow and Appraisal sheets automatically, so that you see the impact of that alteration to the annual Sales Rate straightaway. If you want to restore any non-linear Sales Rate settings, you will have to revisit all relevant Resi Element sheets, to reinstate those; and then use the “Update” button on one of the Resi Element sheets to transfer those settings back into the Cashflow and your Appraisal. The “No” option in the dialogue box above allows you to cancel your change to B21 on the Project sheet and review any non-linear Sales Rate settings on individual Resi Element sheets, before deciding how best to proceed.

- h) **Affordable Housing Delivery** – a separate programme for the construction and delivery of all affordable dwellings in each Resi Element is defined by the entry in **cell E20**. Whatever number appears in that cell when the sheet is opened can be changed, if required, to a whole number between 1 and the total number of affordable homes (“AH”) in cell E16. For cashflow purposes, the DVM will start construction of the affordable units in the same month as construction of the open market units begins, with delivery/occupation of the first affordable unit(s) coinciding with the first open market sale/occupation(s).

To specify an alternative delivery programme for the affordable units, you would need to allocate the affordable units to a separate Resi Element. A “golden brick” approach could be achieved by appropriate settings for Build Start (B12), Sales Start (B15) and AH Sales Rate (E20) in a separate Resi Element for affordable units only.

- i) **Cost Distribution** – by default, the DVM will make a linear distribution of the total Build Cost for each Resi Element, i.e. equal monthly amounts throughout the specified Build Period. This setting can be changed though, in **cell E12**. The other options, selectable from a drop-down list for that cell, and only available if the Build Period for the Element concerned is no more than 60 months, are as follows:
- **S-curve** – this will distribute Build Costs according to a weighted S-curve, typical of the way in which many builders/developers and cost consultants would spread total costs in a cashflow forecast; or
 - **Custom** – allows the user to specify a customised monthly distribution of Build Costs. If this option is selected, a table will appear on the right of your screen showing the monthly cost distribution that would be created by the Linear and S-Curve options, and alongside that a blank column for the user to insert monthly figures. A total figure at the head of the Custom column counts down as monthly figures are entered below that.

There is space at the bottom of the sheet for you to add any relevant **notes**, e.g. explaining the basis for build cost rates and other settings that you are using.

Once all fields on the sheet have been completed to your satisfaction, you must move on to the next Resi Element sheet (unless you have only created one Element), and **complete ALL the Resi Element sheets**, before the information on them can be uploaded into the DVM’s cashflow. You do not have to follow the same assumptions on each Element sheet as you used on a previous sheet. Variations in Build Cost Rate, the method of Build Cost Distribution and a number of other factors are allowed

for in the DVM's functions – indeed such variation is a primary reason for breaking the development down into different Elements.

When all Resi Element sheets have been completed, the information in them must be transferred to the DVM's Cashflow by clicking the “**Transfer/Update**” button at the top of any Resi element sheet. The same transfer/update process must be undertaken if you subsequently change any details in the Resi Overview and/or Resi Element sheets. Without that “update” process, the DVM will not deliver a valid Appraisal.

If you attempt to “transfer/update” data before the Resi Element sheets have been fully completed, the DVM will put up an Entry Error message on your screen identifying the first Element sheet that is incomplete. If more than one sheet is incomplete, the Error message will be repeated, with another Element number; until the DVM has verified, each time you try to “Transfer/Update to Cashflow”, that all Element details on each sheet are complete.

Important Note: you can only transfer data to the Cashflow, using the “**Update**” button when **ALL** Resi Element sheets have been completed. The DVM will not create a valid Appraisal if the Cashflow is in any way incorrect and incomplete.

Please also note the last paragraph in section 4 of this User Guide, relating to the impact of changes made to the Resi Overview worksheet that may affect one or more Resi Element sheets.

7. COMMERCIAL / INVESTMENT ELEMENTS

A “Comm-Inv” Element sheet looks like this on your screen, when partially populated

Description *	Area m² *	Rate *	ERV £ pa	FH Values	Area %	Use *
Unit 1	150.0	£70.00	£10,500		10.0%	Comm'l
Unit 2	200.0	£65.00	£13,000		13.3%	
Unit 3	250.0	£64.00	£16,000		16.7%	Rent
Unit 4	400.0	£55.00	£22,000		26.7%	
Unit 5	500.0	£55.00	£27,500		33.3%	

When you open a “Comm-Inv” element, by clicking on the worksheet tab, you will be prompted to give the Element a name (as with the Resi elements). The dialogue box on your screen will also ask you to decide whether the use is Commercial or Residential Investment. If you select “Commercial”, you will also have to choose whether the Element contains one or more units that will be (a) let and then sold/held as an Investment (click “Rent”), or (b) sold for owner-occupation (click “FH Value”). The dialogue box looks like this

Commercial-Investment Element

Descriptive name for this Element:

Is this Element sheet for Residential Investment use or Commercial use?

Use Resi Investment Commercial

Are the Commercial units in this Element for Rent, or Sale for Owner-Occupation (i.e. at FH Values)?

Rent FH Value

Note: the DVM only accepts a single date of sale (or realisation of value) for a Comm-Inv element. If you are developing several commercial units for sale to owner-occupiers, you must give each unit its own Element sheet.

You must then complete the details for the Element, starting with a description of the units (which could be individual shops in a parade, or a collection of light industrial workshops, for example) in cells A3 to A8. Note that, as explained in the introduction to this User Guide, the number of units per element is limited to 6. These cells are “free text” – i.e. the DVM accepts any description you want to enter, as long as it doesn’t infringe standard Excel protocols.

As you move on from cell A3, the DVM will prompt you to confirm the selection you made initially on the type of element. This provides an opportunity to revise the choice you made, if you need to; as from this point on, that choice will be fixed.

Entries in **cells B3 to B8** will normally show the net lettable (or sales) area of each unit. For retail units, the user must decide whether values in B3 to B8 and C3 to C8 are expressed in terms of Zone A (ITZA) or as gross internal areas (GIA). If the units are to let, the user's entries in **C3 to C8** should be rental values (in £ per sqm); and formulae in Col D will automatically calculate the rental value (ERV) for each unit. If the unit is for sale to an owner-occupier, your entry in Col C must reflect a freehold value (in £ per sqm) instead; and the DVM will calculate and show a total value for that unit in Col E.

Where appropriate, **for investment property**, allowances can be made against gross rents, for voids, management costs and or other outgoings in cells **K10 to K12** (if you want to calculate the allowance as a percentage of gross rent) or **M10 to M12** (if you want to specify the allowance as a fixed annual sum). There is a "free text" area beneath these cells in which you can make any background notes on the allowances, e.g. the reason for, or nature of, Other Outgoings. The total of such allowances will appear in cell **D9**; and will be automatically deducted from the total of cells D3 to D8, to give the Net Rental Value in D10.

For investment property, you must specify the expected yield in cell **B11**. From this, the DVM works out the Net Development/Investment Value (cell E14) allowing for LTT and legal/agents' costs.

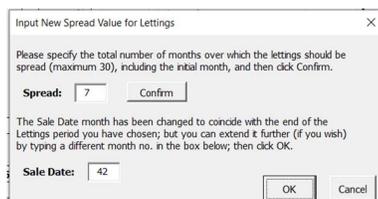
The total of your entries in B3 to B8 appears in cell B16. If the gross internal area of the building(s) to be costed for construction purposes differs from this figure, you must specify a net to gross ratio in cell **B17**. If you don't know the exact percentage for that, but do know the overall Build GIA, B17 will accept a standard Excel formula; e.g. =G/N, where G is your known Build GIA (in sqm), and N is the value showing in B16. You cannot make a direct entry in E17.

You can then either enter a Build Cost Rate in cell **B19**, from which the DVM calculates a Total Build Cost for the Element in E19; or you can enter a Total Build Cost in **E19**, and the DVM will calculate the cost per sqm in B19. As with the Resi Element sheet, an alternative entry made in either of these cells will automatically re-calculate the value in the other.

A **Build Start** date must then be entered in cell **B21**, followed by the anticipated **Build Period** in **B22**. The Build Start date is the month within the overall programme for the whole of your development in which you expect to start construction of this particular Element. This is one example of how use of the Devt Planner sheet can be beneficial.

The DVM calculates the date for practical completion ("PC") of the building work from B21 and B22; and assumes that lettings will commence (if it is investment property) in the month following PC (see **B24**). With lettings, you have the option, if there is more than one unit, to spread the take-up over a period of up to 30 months; or, if the development in this Element is entirely pre-let, you can specify take-up in the month following PC by accepting the **default percentage in E24 of 100%**.

If the Element concerns several units to be let, some of which have been pre-let, you can use the data in cells G3 to G8 to decide on a percentage to enter in **E24** as the proportion of the Element's floor area that will be occupied in the month following PC. If a value of less than 100% is entered in E24, the DVM will prompt you (with a dialogue box) to state the number of months (**maximum 30**) over which you want to spread the take-up of the remaining percentage of the Element. The prompt looks like this



When you confirm the take-up spread, the DVM will offer you a sale/realisation date that is 1 month after the end of your letting period. You can extend that date (i.e. to a later month in your overall development programme), but you cannot shorten it.

The “lettings spread” function works on the following assumptions:

- Rents received in the first month of the lettings period will be the annual net rental (D10) divided by 12, multiplied by the percentage in E24.
- In subsequent months, the monthly receipt will increase on the basis that the remaining floor space is taken up on a linear (straight-line) progression over the remainder of the lettings period. For example, if you have specified a 50% take-up (with pre-lets) in the month following PC of the building work (cell **E24**), and a 6 month lettings spread (**E25**), the DVM will calculate the monthly rental receipt on the basis of 50% of D10/12 in the month shown in B24, 60% of D10/12 in the next cashflow month, 70% of D10/12 in the month after that; and so on until 100% of D10/12 in the sixth and final month of the lettings period.

If an allowance for tenant’s improvements or incentives is required, this can be entered in the area at the bottom right-hand corner of the Element sheet (see first image in this section, on page 21). An entry cell is created for each of the units you have specified at the top left-hand corner of the sheet; together with a line immediately below in which a “free text” explanation/record can be given of whatever amount you enter in **Col M**. The value entered in Col M should be the aggregate value of all improvements/incentives. For example, if a 3-month rent-free period is given to the tenant, the value entered in Col M for that unit should be one quarter of the ERV for that unit.

The DVM works on the principle that the Total TI Costs must be defrayed from rents receivable (as calculated by the “lettings spread” function – see above) before any net rental income is credited to the development cashflow. Any such surplus net income ceases at the sale/realisation date in B25; but accrues to the DVM’s Cashflow sheet on a monthly basis prior to that date. If TI Costs have not been fully defrayed prior to that date, any balance not yet been covered by the net rental income is deducted from the Net Development/Investment Value (E14) in the month that is received, on the DVM’s Cashflow sheet.

If the Comm-Inv Element concerns a **building that will be sold freehold to an owner-occupier**, the cells relating to lettings will be blanked by the DVM, and locked so that they cannot be used. The DVM assumes that the building will be sold (i.e. the Gross Value in **E11** will be realised) in the month immediately following PC of the building work (see cell **B25**); but this can be changed by inserting a different month number in B25, if you wish. Be aware that the “default” formula written into B25 will be “lost” on that Element sheet, and cannot be restored, if it is overwritten in this way.

By default, the DVM will apply a linear distribution to the Total Build Cost (**E19**) across the Build Period specified in **B22**, from the Build Start month specified in **B21**. This setting can be changed though, in cell **E12**. The other options, selectable from a drop-down list for that cell, and only available if the Build Period for the Element concerned is no more than 36 months, are as follows:

- **S-curve** – this will distribute Build Costs according to a weighted S-curve, typical of the way in which many builders/developers and cost consultants would spread total costs in a cashflow forecast; or
- **Custom** – allows the user to specify a customised monthly distribution of Build Costs. If this option is selected, a table will appear on the right of your screen showing the monthly cost distribution that would be created by the Linear and S-Curve options, and alongside that a blank column for the user to insert monthly figures. A total figure at the head of the Custom column counts down as monthly figures are entered below that.

There is space at the bottom of the sheet for you to add any relevant **notes**, e.g. explaining the basis for build cost rates and other settings that you are using.

As with the Resi Element sheets, **ALL** Comm-Inv Element sheets must be completed before the “Transfer/Update to Cashflow” button at the top of any Comm-Inv Element sheet can be activated.

8. LAND

The Land sheet looks like this on your screen, when partially populated

The screenshot shows an Excel spreadsheet with the following data:

TOTAL SITE COSTS		£1,432,750	No. of Tranches *	2	Value	LTT rate
Land Price/Cost		£1,350,000	(max 20)		up to £150,000	0%
Land Transaction Tax (LTT)		£59,500	Linked transactions		from £150,001 to £250,000	1%
			Enter Amount OR % to have Amount calculated *		from £250,001 to £1,000,000	5%
Acquisition Fees *		£20,250	£ Amount	1.50%	remainder above £1,000,000	6%
Site Surveys		£3,000	link to Tranche no. *	1	Acquisition fees will be calculated at the %age rate in E10 or may be overwritten with a lump sum in B10. Enter any other Site Costs (such as those in A11 and A12) in rows 11 to 17; first replacing the headings in A11 to A13, if they are not relevant. DO NOT LEAVE GAPS if you do not use all rows.	
Planning/Promotional Costs			link to Tranche no. *	1		
			link to Tranche no. *	1		
			link to Tranche no. *	1		
			link to Tranche no. *	1		
			link to Tranche no. *	1		
			link to Tranche no. *	1		

Tranche No.	Value (£) *	Element *	Build Start *	£0 Land Value difference	No. of Mths before	£44,500 LTT (£)	£20,250 Acq. Fees	£1,414,750 Total Cost
1	£950,000	Resi 1	3					
2	£400,000	Resi 2	2			£36,000	£14,250	£1,000,250
						£8,500	£6,000	£414,500

This sheet records the total price to be paid for the development site; it also calculates the LTT (Land Transaction Tax) that is payable on that price; and it allows you to

- add any other costs that may be appropriate to the land purchase, including legal and agents' fees that may be payable; and
- split the land purchase into tranches, where that is applicable (e.g. for large sites, where land may be drawn down as development proceeds in phases). The DVM caters for up to 20 residential land tranches, and up to 10 commercial/investment tranches.

Suggestions on the sort of other costs that might be specified on this sheet are given on rows 11 and 12; but these can be ignored (if inappropriate) or overwritten. In effect, there are 7 free-entry rows available for you to use. If the total land purchase is being split into more than one tranche, the user must specify to which tranche each cost shown on rows 11 to 17 relates.

By default, the DVM assumes that the whole site will be purchased in one lot; and that all the costs shown on the Land sheet will be incurred in the first month of the development cashflow (i.e. the month you have specified as the Development Start Date in cell B27 of the Project sheet).

If your site will be purchased in more than one tranche, enter the number of tranches in cell E6, and additional rows will appear at the bottom of the sheet asking you to specify the value of each land tranche. The figure that appears in cell B21 counts down to "£0" as you complete the cells below.

The DVM links each land purchase to the start of one of the Resi or Comm-Inv Elements you have specified; and asks you to attribute which Element each land tranche is connected with (Col C). It also asks how many months before the Build Start date for that Element the land purchase should be scheduled for in the Cashflow (Col D). The default setting in Col D is 3 months.

In some circumstances, separate land transactions may be “linked” for LTT purposes; such that LTT is assessed on the total consideration in the “linked” transactions, rather than on the value of each transaction individually. The DVM allows you to choose whether all transactions are either linked or separate at the next/final stage of completing the Land sheet.

The Land Price/Site Value and associated costs, as recorded/specified on the Land sheet, do not transfer automatically to the Cashflow – until you click on the “**TRANSFER Site Costs to Cashflow**” button at the top of the Land sheet. You should not do this until you are satisfied that all entries in the Land sheet have been made correctly.

When you click on the “Transfer” button, if you have specified that the land purchase will take place in more than one tranche/transaction, the DVM will show you a dialogue box asking whether all the transactions are “linked” for LTT purposes or not. The implications of your choice (“Yes” or “No”) are explained in the dialogue box; and the choice you have made will be recorded in cell C8.

Note: as part of the futureproofing of the DVM, it is possible to change the LTT rates in cells I7:I10 of the Land sheet. Care should be taken NOT to inadvertently over-write the current values in these cells; unless they have been officially changed by Welsh Government. It is also possible to vary the LTT rate bands in H7:H9, but a password is required to unlock those cells. This will be posted on LPA websites, in the event of Welsh Government announcing a change to the upper and/or lower limits to those bands.

9. OTHER DEVELOPMENT COSTS

The upper section of the “Costs” sheet looks like this on your screen, when partially populated

Row	Item	£	Total CIL/s106	£4,464 /dwelling	Linked to:	Month	Notes	
4	COMMUNITY INFRASTRUCTURE	£781,250						
5	Primary Education	£218,750	cost per dwelling	£1,250	Sales			
6	Secondary Education	£350,000	cost per dwelling	£2,000	Build			
7	Other Education	£87,500	cost per dwelling	£500	Single	24		
8	Active Travel				Sales			
9	Highway Measures	£50,000			Single	6		
10	Public Transport				Sales			
11	Public Open Space (POS)	£75,000			Single	18		
12	Leisure/Recreation (excl POS)				Sales			
13	Biodiversity/Nature Conservation				Sales			
14	Other Planning Obligations				Sales			
15					Sales			
16					Sales			
17					Sales			
18					Sales			
19					Sales			
20	CIL Residential	£0	m ² @		Build			
21	CIL Retail	£0	m ² @		Build			
22	CIL Commercial	£0	m ² @		Build			
23								
24	Entering a % or unit cost in Col E will automatically calculate the amount in Col B. Or a lump sum may be inserted in Col B if that is more appropriate; if so the % or unit cost will be removed, but can be entered again.							
25	NORMAL SITE COSTS	£3,400,250	£203,861 /net acre	£19,430 /dwelling				
26	Site Preparation/Clearance	£50,000	E Amount		Yes			
27	External Site Costs *	£2,375,250	E Amount	or % 15.00%	Yes			
28	Extra Bldg Regs requirements *	£525,000	E Amount	or £ £3,000	Yes			
29	Major Internal Roads (if any)	£450,000	E Amount	or E	No	3	15	
30	Active Travel Routes	£0	E Amount	or E	Yes		450 lm @ £1,000	
31	SUDS	£0	E Amount	or E	Yes			
32		£0	E Amount	or E	Yes			
33		£0	E Amount	or E	Yes			

The whole sheet is divided into the following 6 categories:

a) Community Infrastructure (CIL or s.106) – 15 s.106 fields and 3 CIL fields are available on rows 5 to 22. Suggested/possible s.106 obligations are listed on rows 5 to 14 as an *aide memoire*, but do not have to be used and/or can be overwritten in Col A. The entries on rows 5 to 7 can be computed, if appropriate, by entering an amount per dwelling in Col E (which will apply that rate to all dwellings in the development) or as a single sum in Col B.

If CIL applies, enter the total GIA of the development (net of any credit for existing buildings under Regulation 40(7) *et seq*) against the relevant use in Col C, and the rate of the levy in Col E. The DVM will calculate the CIL Liability in Col B.

For each of the s.106 obligations on rows 5 to 19, the timing of payment can be linked to OM Resi Sales, or to Build Costs; or can be set as a Single cost in the Cashflow. To help the user, the timing of OM Resi Sales and Build Costs is displayed at the head of Col G (rows 2 and 3). If you select the Single payment option, your cursor will be moved to Col H, prompting you to enter the month in which the payment will be made. If a particular s.106 obligation involves payment in, say, 2 separate tranches, you can decide to use 2 rows (one for each instalment), attributing a single payment month to each instalment.

The cost per dwelling of all Community Infrastructure is calculated by the DVM and displayed at E4.

Use the Notes section in Cols K to O to record the basis for your calculations or assumptions, where appropriate.

b) Normal Site Costs – some examples of typical costs in this category are given on the first 6 rows (out of 12) under this heading. The following two are mandatory, and must be completed:

- **External Site Costs** refer to works that are associated with all developments, outside the buildings themselves, but within the development site. They include the connection of standard utilities

(e.g. water, electricity, gas) to a dwelling, as well as foul and surface water drainage services; the provision of access, parking and other hard-standings; gardens, boundary fences/walls between dwelling plots, and for the site as a whole; and general landscaping within the development, and incidental public open space.

- Extra Bldg Regs requirements refer to requirements that are particular to Wales, but not yet to other parts of the UK. Currently, these are sprinklers within dwellings, and ULEV charging points. They are shown as “extras” because, if the rate you have used for Build Costs is based on the BCIS database, that rate will not yet include the cost of these requirements.

External Site Costs may be calculated as a percentage of Build Costs, and are often estimated in that way. The percentage in cell E27 is taken from the Default Setting at K10 of the Project sheet. It will calculate an estimated figure as soon as Build Costs have been defined; but the percentage can be overwritten with a different one in E27 of the Costs sheet, or a lump sum can be inserted in cell B27.

Important Note: the default calculation by the DVM is based on 15% of total Resi Build Costs. If your appraisal includes a significant amount of commercial and/or investment property, some additional allowance might need to be made for “external costs” on that part of the site. This could be shown by a supplementary entry on a free row (29 to 37) of the Costs; or by entering a total figure for both residential and commercial “externals” in cell B27, with an explanation of how that figure has been arrived at in the Notes section on row 27.

On larger development sites, a separate cost allowance may need to be made for arterial roads that give access to different groups of dwellings; but the cost of a road and associated footways, servicing a group of up to 15 dwellings, would normally be included in the allowance for External Site Costs.

With all costs in this section of the Costs sheet, a cost rate can be inserted in Col E (to calculate the total cost in Col B), or a lump sum can be inserted in Col B.

By default, the distribution of these costs will be linked to the distribution of Build Costs within the Cashflow. You can change this by entering the month in which you want these costs to start (Col H) and the number of months over which the costs should be spread (Col I) on any of the 12 rows in the section; and the DVM will distribute that cost in a linear spread over the months you have specified. If this is done, the entry in Col G changes from “Yes” to “No”, to show that the default link has been broken. The link to Build Costs can be restored by simply deleting the entries in Cols H and I.

c) Abnormal Site Costs – this section operates in a very similar way to the Normal Site Costs section explained above, and contains up to 20 cost headings for the user (if required). The first 7 rows contain some examples of Abnormal Site Costs; but will not apply by any means to all sites. As a general principle, one would expect any costs entered in this section to have some impact on the Land/Site Value, by comparison with a site that is not affected by “abnormal” works/costs.

Once again, the cashflow distribution of these costs is linked, by default, to Build Costs; but in many instances, it may be more appropriate to specify a different start date and duration for these costs, using Cols H and I.

d) Construction Fees & Contingency – the percentage in cell E64 is applied to the aggregate of total Resi Build costs and External Site Costs to produce the figure in B64; but can be replaced with a lump sum (if preferred) in B64. If any Commercial/Investment elements are included in the appraisal, the percentage in E65 will be applied to the total of all Commercial/Investment Build Costs; but can also be replaced with a lump sum in B65 by the user. Total fees relating to other Construction Costs (B66) are based on the percentage in E66 applied to all other Normal and Abnormal Development Costs in the Project. The contingency sum (B67) is based on the aggregate of all Build/Construction Costs and fees.

The percentages in E64 to E67 are drawn from the default settings on the Project sheet, but can be changed, either on the Costs sheet or on the Project sheet, as explained above. As with costs under

the previous two headings on this sheet, their distribution in the Cashflow is linked to Build Costs by default; but this can be changed by making entries in Cols H and I.

e) Letting/Sale Fees & Marketing Costs – the first 4 rows apply to the Resi elements of your Project; and the last 7 rows to any Commercial/Investment elements.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
62							Build Costs	Start Month	Duration (months)		Notes					
63	CONSTRUCTION FEES & CONTINGENCY						Enter Amount OR Percentage									
64	Fees on Resi Build Costs	£1,124,115	E Amount	%	6.00%		Yes									
65	Fees on Commercial Build Costs	£478,750	E Amount	%	5.00%		Yes									
66	Fees on other Construction Costs	£85,000	E Amount	%	10.00%		Yes									
67	Contingency	£1,542,406	E Amount	%	5.00%		Yes									
68																
69							Link to Sales	Start Month	Duration (months)		Notes					
70	LETTING/SALE FEES & MARKETING COSTS						Enter Amount OR Percentage									
71	Agency Commission on OM sales		E Amount	%	1.00%		Yes				NB: OM Resi Sales start in month 12 and end in month 42					
72	Marketing/promotion costs	£626,500	E Amount	%	2.00%		Yes				always linked to OM sales					
73	Legal Fees on OM Resi Sales	£91,000	E Amount	cost per dwelling	£650		Yes				always linked to OM sales					
74	Legal Fees on AH Transfers	£22,750	E Amount	cost per dwelling	£650		Yes				always linked to AH transfers					
75											NB: Commercial Sales start in month 22 and end in month 44					
76	Agents' letting fees (Commercial)		E Amount	%	10.00%						If you change these % you must click the UPDATE button on a Comm-Inv sheet to transfer the updated values to the Cashflow.					
77	Legal fees on Commercial Lettings		E Amount	%	5.00%						always linked to Comm-Inv sale					
78	Agents' letting fees (Residential)		E Amount	%	10.00%						always linked to Comm-Inv sale					
79	Legal fees on Residential Lettings		E Amount	%	5.00%											
80	Agents' sale fees (investment)		E Amount	%												
81	Legal fees (investment sale)		E Amount	%												
82	Marketing/promotion costs	£0	E Amount	%			Yes									
83																
84							Build Costs	Start Month	Duration (months)		Notes					
85	CAPITAL GRANTS / SUBSIDY		£0													
86			E Amount				Yes									
87			E Amount				Yes									
88			E Amount				Yes									
89			E Amount				Yes									
90			E Amount				Yes									
91			E Amount				Yes									
92			E Amount				Yes									

The percentages/costs per dwelling in Col F are drawn from default settings on the Project sheet, but can be changed. The DVM always links fees recorded on rows 71, 73 and 74 to the timing of revenue from open market and affordable homes in the Cashflow. Marketing/promotion costs (row 72) are also linked to revenue from open market sales, by default; but can be spread linearly over a different period, by entering values in cells H72 and I72.

The same applies to row 82 for Commercial/Investment elements of a Project. Note that if you want to change any of the default percentages in cells F76 to F79, **you must click the "Update" button** on one of the Commercial/Investment sheets in order to register the effect of this in the Cashflow.

f) Capital Grants/Subsidy – these appear on the Costs sheet, rather than on a separate sheet, for convenience only. If grant, or other form of subsidy/capital sum, is receivable, enter the amount(s) and a description in this section. Ten rows are available to allow for the possibility that grant might be receivable in instalments. Receipts can be linked to Build Cost, or defined as a payment over a set number of months (using Cols H and I) – for single lump sum payments, enter "1" in Col I and the month in which the payment will be received in Col H.

that the site will be purchased in more than one tranche/phase, you must first return to the Land sheet (after altering the value in M5 on the Appraisal sheet) and review the apportionment of the revised land value between tranches. The “Transfer Site Costs” button at the top of the Land sheet must then be used to change the Cashflow, which then allows the DVM to update the results on the Appraisal sheet. If you change the Total Site Value in cell M5 of the Appraisal sheet, the background colour to cell B23 on the Project sheet will automatically change to green.

The DVM also generates pre-defined **Sensitivity Tables** to show the impact on Residual Profit of a range of incremental variations in the core assumptions – Residential Open Market Values, Build Costs and Land Value. These tables are opened by clicking the “**Display Sensitivity Tables**” button in the lower right-hand part of the Appraisal sheet. The tables on the left side of the Sensitivity sheet show changes in Profit (also expressed as a percentage of GDV); whilst tables on the right-hand side of the Sensitivity sheet display profit as a percentage of all development costs.

Resi GDV / Build Costs		Variation in Residential Gross Development Value									
Development Profit (€)	-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
-10.00%	6,409,963	7,442,405	8,474,847	9,163,142	9,507,289	9,851,436	10,195,584	10,539,731	11,228,025	12,260,467	13,292,909
-7.00%	5,847,906	6,880,348	7,912,790	8,601,084	8,945,231	9,289,379	9,633,526	9,977,673	10,665,968	11,698,410	12,730,852
-4.00%	5,285,848	6,318,290	7,350,732	8,039,027	8,383,174	8,727,321	9,071,469	9,415,616	10,103,910	11,136,352	12,168,794
-2.00%	4,911,143	5,943,585	6,976,027	7,664,322	8,008,469	8,352,616	8,696,764	9,040,911	9,729,205	10,761,647	11,794,089
-1.00%	4,723,791	5,756,233	6,788,675	7,476,969	7,821,116	8,165,264	8,509,411	8,853,558	9,541,853	10,574,295	11,606,737
0.00%	4,536,438	5,568,880	6,601,322	7,289,617	7,633,764	7,977,911	8,322,059	8,666,206	9,354,500	10,386,942	11,419,384
+1.00%	4,349,086	5,381,528	6,413,970	7,102,264	7,446,411	7,790,559	8,134,706	8,478,853	9,167,148	10,199,590	11,232,032
+2.00%	4,161,733	5,194,175	6,226,617	6,914,912	7,259,059	7,603,206	7,947,354	8,291,501	8,979,795	10,012,237	11,044,679
+4.00%	3,787,028	4,819,470	5,851,912	6,540,207	6,884,354	7,228,501	7,572,649	7,916,796	8,605,090	9,637,532	10,669,974
+7.00%	3,224,971	4,257,413	5,289,855	5,978,149	6,322,296	6,666,444	7,010,591	7,354,738	8,043,033	9,075,475	10,107,917
+10.00%	2,662,913	3,695,355	4,727,797	5,416,092	5,760,239	6,104,386	6,448,534	6,792,681	7,480,975	8,513,417	9,545,859

Profit on GDV (%)		Variation in Residential Gross Development Value									
Profit on GDV (%)	-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
-10.00%	13.96%	16.20%	18.45%	19.95%	20.70%	21.45%	22.20%	22.95%	24.45%	26.70%	28.94%
-7.00%	12.73%	14.98%	17.23%	18.73%	19.48%	20.23%	20.98%	21.72%	23.22%	25.47%	27.72%
-4.00%	11.51%	13.76%	16.01%	17.50%	18.25%	19.00%	19.75%	20.50%	22.00%	24.25%	26.50%
-2.00%	10.69%	12.94%	15.19%	16.69%	17.44%	18.19%	18.94%	19.69%	21.18%	23.43%	25.68%
-1.00%	10.29%	12.53%	14.78%	16.28%	17.03%	17.78%	18.53%	19.28%	20.78%	23.02%	25.27%
0.00%	9.88%	12.13%	14.37%	15.87%	16.62%	17.37%	18.12%	18.87%	20.37%	22.62%	24.86%
+1.00%	9.47%	11.72%	13.97%	15.46%	16.21%	16.96%	17.71%	18.46%	19.96%	22.21%	24.46%
+2.00%	9.06%	11.31%	13.56%	15.06%	15.81%	16.55%	17.30%	18.05%	19.55%	21.80%	24.05%
+4.00%	8.25%	10.49%	12.74%	14.24%	14.99%	15.74%	16.49%	17.24%	18.74%	20.98%	23.23%
+7.00%	7.02%	9.27%	11.52%	13.02%	13.77%	14.52%	15.26%	16.01%	17.51%	19.76%	22.01%
+10.00%	5.80%	8.05%	10.29%	11.79%	12.54%	13.29%	14.04%	14.79%	16.29%	18.54%	20.78%

The range of the pre-set variation increments in the Sensitivity Tables can be altered by the user; in any of the cells containing blue text on a yellow background. Corresponding settings in other parts of the Tables will change accordingly. Be careful to ensure that any changes you make follow a logical sequence, or the Excel-based formulae behind the Tables may not function correctly.

At the bottom of the Sensitivity sheet are tables that consider the impact on the percentage profit margin of changes in the percentage of affordable housing (as a proportion of the total number of dwellings in the development); and changes in the percentage split of affordable homes between social rented and intermediate forms of tenure. This last facility can be useful in cases where the profit margin for a development is on the borderline of viability, such that a change in the tenure mix (i.e. favouring more intermediate units) will help to achieve a viable scheme. In circumstances where the Appraisal shows some surplus profit (above the target margin), these tables can be used to estimate the extent to which additional affordable housing – or a higher proportion of social rent – might be achieved, without jeopardising the overall viability of the development.

If you make changes to other parts of your Appraisal, on other sheets in the DVM, clicking on the Sensitivity tab, to open the tables, automatically updates the Sensitivity Tables and takes account of the changes made on other sheets.

11. CASHFLOW

This sheet is the “engine room” of the whole DVM. Inputs from the Project, Resi Overview, Land, Costs, and all Element sheets feed into the Cashflow; and the outputs on the Appraisal sheet are derived from the Cashflow sheet. A primary purpose of the Cashflow is to calculate (a) the capital requirements of the development project, and (b) the costs of financing that requirement.

However, the Cashflow can also be used to “sense check” the development programme and other assumptions that have gone into creating the Appraisal. It is recommended that users should make such “sense-checking” a standard procedure, before finalising an Appraisal.

The upper rows in the Cashflow (the number of rows varies according to the complexity of the Appraisal inputs) record the revenue stream(s) that you have defined in the Element sheets. This section of the sheet typically looks like this

The screenshot shows the 'RESIDENTIAL SALES' section of the Cashflow sheet. The table has columns for months from July 2020 to September 2021. Rows include:

- Cashflow - Daffodil Crescent Estate** (Total: £13,227,528)
- RESIDENTIAL SALES** (Total: £13,227,528)
- Residential Revenue:** OM Dwellings (£5,900,000), AH Units (£577,528), OM Dwellings (£6,750,000).
- RESIDENTIAL BUILD COSTS** (Total: £6,185,000)
- Residential Build Costs:** OM Dwellings (£65,592), AH Units (£47,091), OM Dwellings (£3,335,000).
- COMMERCIAL/INVESTMENT** (Total: £795,473)
- Commercial Revenue:** Sales Revenue (£991,160), Net Rental Income (£4,313), Build Costs (£825,000).
- Bespoke Business Unit** (Sales Revenue: £9,375,000; Build Costs: £8,750,000).
- TOTAL SITE COSTS** (Total: £1,417,750)
- Site Costs:** Land Price/Cost (£1,350,000), Land Transaction Tax (LTT) (£44,500), Acquisition Fees (£20,250), Site Surveys (£3,000).
- COMMUNITY INFRASTRUCTURE** (Total: £337,500)
- Community Costs:** Primary Education (£87,500).

Beneath that are recorded all development costs (and any grants/subsidies receivable) based again on the information you have provided in the Element sheets, as well as in the Land and Costs sheets.

The screenshot shows the lower section of the Cashflow sheet, including:

- CONSTRUCTION FEES & CONTINGENCY** (Total: £439,365)
- Letting/Sale Fees & Marketing** (Total: £225,350)
- CAPITAL GRANTS / SUBSIDY** (Total: £0)
- BORROWING** (Total: £0.00%)
- DEVELOPER'S EQUITY INPUT** (Total: 40.00%)
- Debt Funding Fees** (Total: £401,300)
- Cumulative Equity Balance** (Total: £401,300)
- Monthly Interest** (Total: £2,007)
- Total Interest** (Total: £311,519)
- Maximum Call on Equity** (Total: £1,126,565)

At the bottom of the Cashflow sheet (see second image on previous page), the DVM calculates the monthly cashflow for the development as well as the cumulative funding requirement on a monthly basis. This part of the Cashflow is based on a format that allows that funding requirement to be split between 2 sources – external borrowing and internal equity. However, for the purposes of assessing the Viability of a development in a Town Planning context, it is customary to apply a single rate of interest to the total funding requirement; which is what the DVM does.

The debit interest rate, used to calculate the monthly cost in interest when cumulative debt and/or equity balances are negative, is drawn from the default setting in cell K23 of the Project sheet; but can be changed/overwritten in the Cashflow sheet. This is the cell (B130 in this example) highlighted with a yellow background in the second image on the previous page. If the interest rate is changed, the Cashflow automatically re-calculates the interest costs for each month, and for the development as a whole.

Similarly, a credit interest rate is applied in months where the cumulative equity balance is positive; so when the debit interest rate does not apply. The credit interest rate is drawn from the default setting in cell K24 of the Project sheet; but can be changed/overwritten in the Cashflow sheet (see cell B131, highlighted with a green background in the second image on the previous page). The DVM assumes that all external borrowing is paid off as the cashflow allows, before any surplus is credited to the internal equity account.

It has been customary, in many Financial Viability Assessments for Planning purposes, for the debit and credit rates of interest used to be treated as “all-in” rates, i.e. inclusive of funder’s arrangement, exit and management fees. The default rates in the DVM reflect that. However, the DVM also has the facility to apply a separate allowance for debt funding fees (cell K25 of the Project sheet), based on a percentage of the maximum debt facility shown in the Cashflow. If this is used, the rates in K23 and K24 on the Project sheet would need to be reviewed/adjusted appropriately. If an allowance for debt funding fees is made, the cost will always appear in the first month of the cashflow (i.e. in C140 in the example shown on the previous page).

Column widths on the Cashflow sheet can be varied/adjusted by the user. This may be necessary if the values in any column are not wide enough to display any large negative or positive figures – as illustrated by the ##### notations in the example below.

		Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	
1	Cashflow - Daffodil Crescent Estate																	
2																		
3	Total																	
4																		
101	Fees on Commercial Build Costs	(£478,750)	(£9,444)	(£23,498)	(£34,810)	(£43,379)	(£49,205)	(£52,288)	(£53,737)	(£53,106)	(£49,320)	(£42,377)	(£32,278)	(£19,024)	(£5,544)	(£4,837)	(£3,718)	
103	Contingency	(£997,918)	(£45,588)	(£42,222)	(£37,725)	(£32,096)	(£24,196)	(£24,196)	(£24,196)	(£24,196)	(£16,835)	(£16,835)	(£16,835)	(£16,835)	(£16,835)	(£16,835)	(£16,835)	
104																		
105	LETTING/SALE FEES & MARKETING	(£440,350)																
106	Agency Commission on DM sales	(£13,250)	(£7,395)	(£7,395)	(£7,395)	(£7,395)	(£17,278)	(£12,272)	(£12,272)	(£12,272)	(£12,272)	(£12,272)	(£10,603)	(£10,603)	(£10,603)	(£10,603)	(£10,603)	
108	Legal Fees on DM Res Sales	(£91,000)	(£2,148)	(£2,148)	(£2,148)	(£2,111)	(£5,019)	(£3,565)	(£3,565)	(£3,565)	(£3,565)	(£3,565)	(£3,080)	(£3,080)	(£3,080)	(£3,080)	(£3,080)	
109	Legal Fees on AH Transfers	(£22,750)	(£1,264)	(£1,264)	(£1,264)	(£1,264)	(£1,264)	(£1,264)	(£1,264)	(£1,264)	(£1,264)							
110	Agents' letting fees (Commercial)	(£8,900)																
111	Legal fees on Commercial Lettings	(£4,450)																
117																		
118	CAPITAL GRANTS / SUBSIDY	£0																
129																		
130	Debit Interest Rate (p.a.)	6.00%																
131	Credit Interest Rate (p.a.)	0.50%																
132	Monthly Cashflow	(£233,448)	(£459,537)	(£604,799)	(£682,040)	£346,061	(£212,850)	(£243,269)	(£230,024)	(£150,505)	(£24,063)	£23,285	£301,629	#####	£599,552	£623,063	£65	
133	BORROWING	60.00%	(£140,069)	(£275,722)	(£362,879)	(£409,224)	£346,061	(£127,710)	(£145,961)	(£138,015)	(£90,303)	(£14,438)						
134	Repayment	100.00%					£346,061					£23,285	£301,629	£1,599,109				
135	Cumulative Debt	(£616,262)	(£895,066)	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	
136	Monthly Interest	(£3,081)	(£4,475)	(£6,312)	(£8,390)	(£6,701)	(£7,373)	(£8,140)	(£8,871)	(£9,367)	(£9,486)	(£9,417)	(£7,956)					
137	Total Interest	(£188,065)																
138	Maximum Debt	(£2,913,375)																
139	DEVELOPER'S EQUITY INPUT	40.00%	(£93,379)	(£183,815)	(£241,920)	(£272,816)		(£85,140)	(£97,308)	(£92,010)	(£60,202)	(£9,625)		£8,735,606	£599,552	£623,063	£65	
140	Debt Funding Fees																	
141	Cumulative Equity Balance		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	
142	Monthly Interest	(£772,888)	(£11,256)	(£12,231)	(£13,502)	(£14,933)	(£15,008)	(£15,509)	(£16,073)	(£16,613)	(£16,997)	(£17,131)	(£17,216)	(£17,302)	£5,257,852	£5,859,594	£6,485,099	£7,14
143	Total Interest	(£272,888)																
144	Maximum Call on Equity	(£3,460,451)																
145																		

The print settings in the DVM allow the Cashflow sheet to be printed with all rows on a single page; and with the headings in Column A repeated in the left-hand margin of each page. Page numbering is also applied. These settings can be varied, if required.

APPENDIX

Policy Framework, Guidance and Core Principles of Viability in Planning

There are four cornerstones to Welsh Government policy on Viability in Planning:

1) **Planning Policy Wales Edition 10**, published in December 2018 and available at

<https://gov.wales/sites/default/files/publications/2018-12/planning-policy-wales-edition-10.pdf>

One of the key policy statements, an extract from paragraph 4.2.19 of PPW 10, is reproduced here as follows:

“As part of demonstrating the deliverability of housing sites, financial viability must be assessed prior to their inclusion as allocations in a development plan. At the ‘Candidate Site’ stage of development plan preparation land owners/developers must carry out an initial site viability assessment and provide evidence to demonstrate the financial deliverability of their sites.”

The DVM has been designed to help land owners, developers, and site promoters generally, deliver financial assessments of their development proposals in a format that can be readily analysed by Local Planning Authorities; and in which those assessments can be debated, if necessary, prior to the attainment of an appropriate degree of “common ground”.

The creation and use of the DVM also reflects advice in the RICS Professional Statement entitled *Financial viability in planning: conduct and reporting* (May 2019) that “consideration should be given to presenting in a standard industry model.”

2) **Welsh Government’s Development Plans Manual (Edition 3)**, published in March 2020 contains a specific section on Viability Testing for a Development Plan, in Chapter 5, and is available at

<https://gov.wales/development-plans-manual-edition-3-march-2020>

3) **A Longitudinal Viability Study of the Planning Process**, published in February 2017, contains several policy recommendations aimed at developing a shared understanding of development economics and site viability between the house building industry and local planning authorities, and is available at: <https://gov.wales/viability-study-planning-process>

4) **RICS Guidance Note GN 94/2012: Financial Viability in Planning**, published in August 2012^o and available at

<https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/land/financial-viability-in-planning-1st-edition-rics.pdf>

This includes the statement that “*Site Value should equate to market value subject to the following assumption: that the value has regard to development plan policies and all other material planning considerations and disregards that which is contrary to the development plan.*”

Land owners, developers and all parties interested in buying land for development are reminded that the cumulative cost of all relevant planning policies must be taken into account when agreeing a price for such land. In no circumstances should a price paid for land be put forward as a justification for failing to meet the requirements of all relevant planning policies.

From these 4 publications may be deduced too the following four core principles for the assessment of financial viability in a Planning context:

a) **Evidence based judgement:** assessing viability requires judgements, informed by the relevant available facts. It requires a realistic understanding of the costs and the value of development in the local area, and an understanding of the way the market operates. Understanding past performance too, in relation to build rates (for example) and the scale of historic planning obligations, is a useful starting point; as is the form and scale in which new development has generally come forward. Direct engagement with the development sector/industry and other key stakeholders is also helpful and desirable for accessing evidence.

- b) **Collaboration:** as outlined in Welsh Government’s LDP Manual Ed.3, a collaborative approach involving the local planning authority, business community, developers, landowners and other interested parties will improve understanding of deliverability and viability. Transparency of evidence should be encouraged wherever possible. It is important to look ahead, in conjunction with the stakeholders just mentioned, and to make any reasonable adjustments to past performance that may be appropriate and necessary to achieve future aims and objectives.
- c) **A consistent approach:** local planning authorities should be encouraged to ensure that their LDP evidence base is fully supported by a comprehensive and consistent understanding of viability across their areas. This can be achieved, for example, by the assembly of a County-wide database of development costs and values. It is also important that the methodology used in carrying out the financial viability assessments should be applied in a consistent fashion across each County and its Region; and that Councils should be able to demonstrate that.
- d) **Current costs and values:** as a general rule, financial viability assessments should be based on estimates of costs and values that can be supported with market evidence. In cases where an element of “place-making” is expected to enhance current market values, and may be essential to the delivery of infrastructure that is appropriate/necessary to make development sustainable, it can be acceptable to apply some projection (or real growth) modelling to an assessment. The estimates of costs and values used in an assessment should aim to reflect industry benchmarks; and should generally disregard either benefits or disbenefits that may be unique to a particular landowner or developer.

∅ The RICS Guidance Note GN 94/2012 is currently being reviewed, to align it with the changed emphasis in Government policies. A 2nd Edition of the Guidance Note is expected shortly.