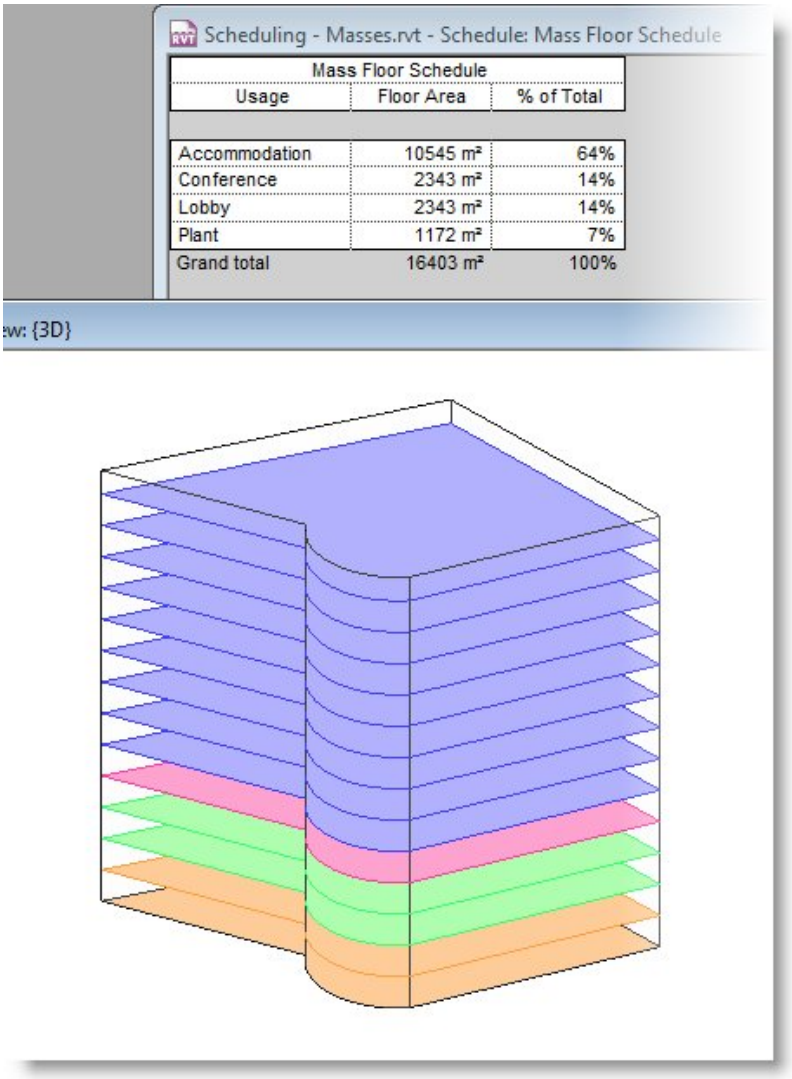
This Month:

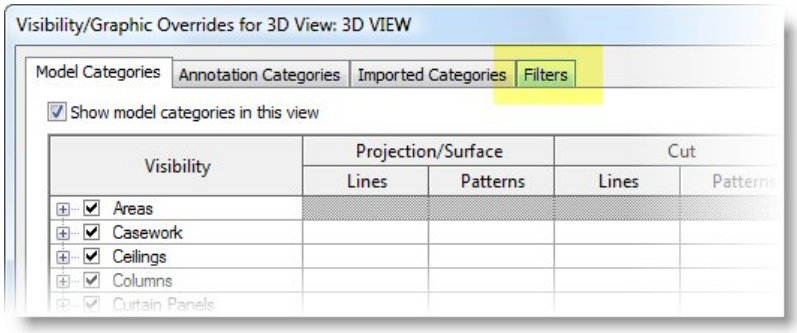
Scheduling (part 2)

Welcome to **INFOCUS**, C3 Consulting Solutions' Monthly Newsletter. This month, we continue our work on Scheduling.

Last month we started to take a look into scheduling, using a simple mass to explore what could be achieved. We finished with the image right, colour-coding each floor by **Usage**.

To achieve the colour-coding, all we need is to apply a filter to the 3D view. It will need to determine the **Usage** parameter's value for each mass floor, and apply a graphic override accordingly.



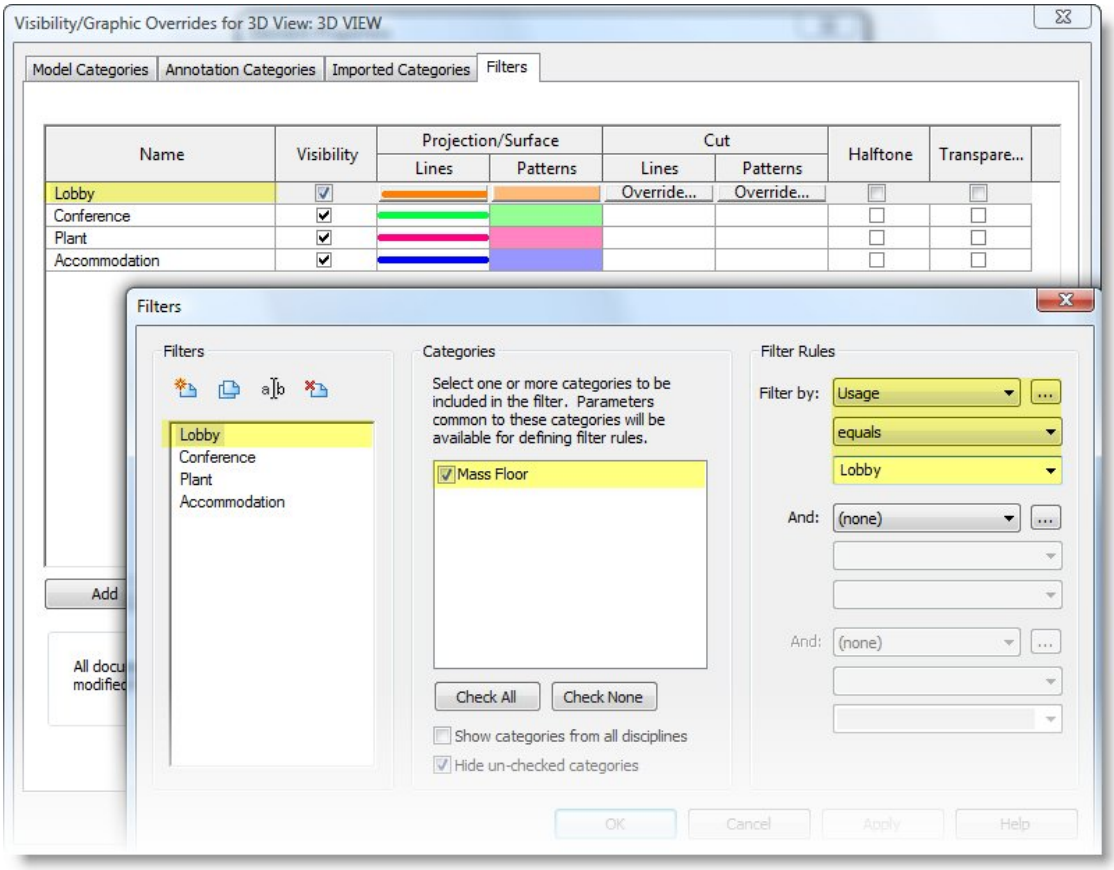


To add the filter, go to the Visibility/Graphics settings for your 3D view, and select the Filters tab.

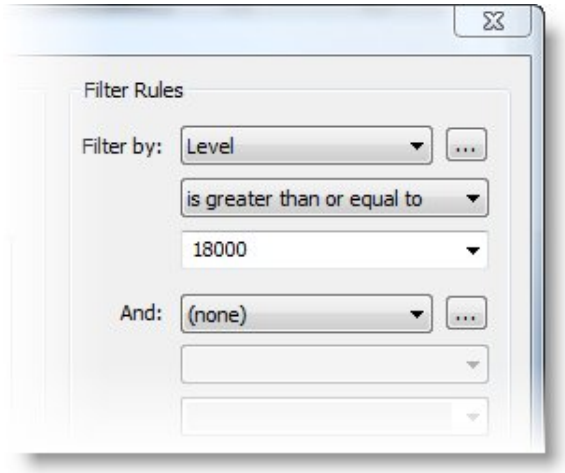
Click Add, then Edit/New, and create a new filter. You can name it anything you want, but make sure it is clear for others who may come across this work later.

The category that the filter should apply to is Mass Floor, and the Filter Rules should be set to filter by **Usage**, where it **equals** the appropriate Usage value for the filter (in the image below, this has been determined as 'Lobby'.

Then, when the filter has been created, ensure it is inserted into the filter list, and provide graphics overrides as desired. The most critical override to set is the projection pattern, as this will have the most obvious effect. If using a solid pattern, pale, lighter colours work better than darker, deeper ones.



Repeat this as many times as you need until you have each floor Usage's value accounted for. The image above shows the finished series of filters – one per floor **Usage**.

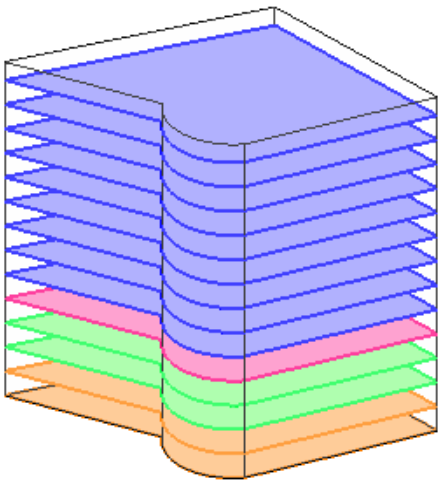


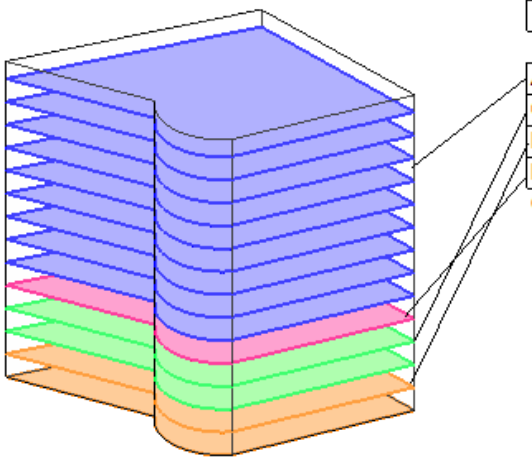
You can also apply filters by other values – for example, where the **Level** (height) is greater than or equal to a specified value. Note that when using multiple filters that their precedence applies according to their listed order (from top to bottom).

The finished result should look similar to the 3D image below (though with your own choice of colours, and building form, of course).

Now, what of the schedule? So far, it looks a little bland on the sheet, and could be improved a little. The schedule is currently ordered by the Usage (alphabetically), and there is no clear understanding of the link between the two. The lines in the image below connect the schedule items to the corresponding portions of the 3D view, but without these, it's not obvious. There must be a better way!

Why not re-order the schedule, to read consistently with the 3D View?





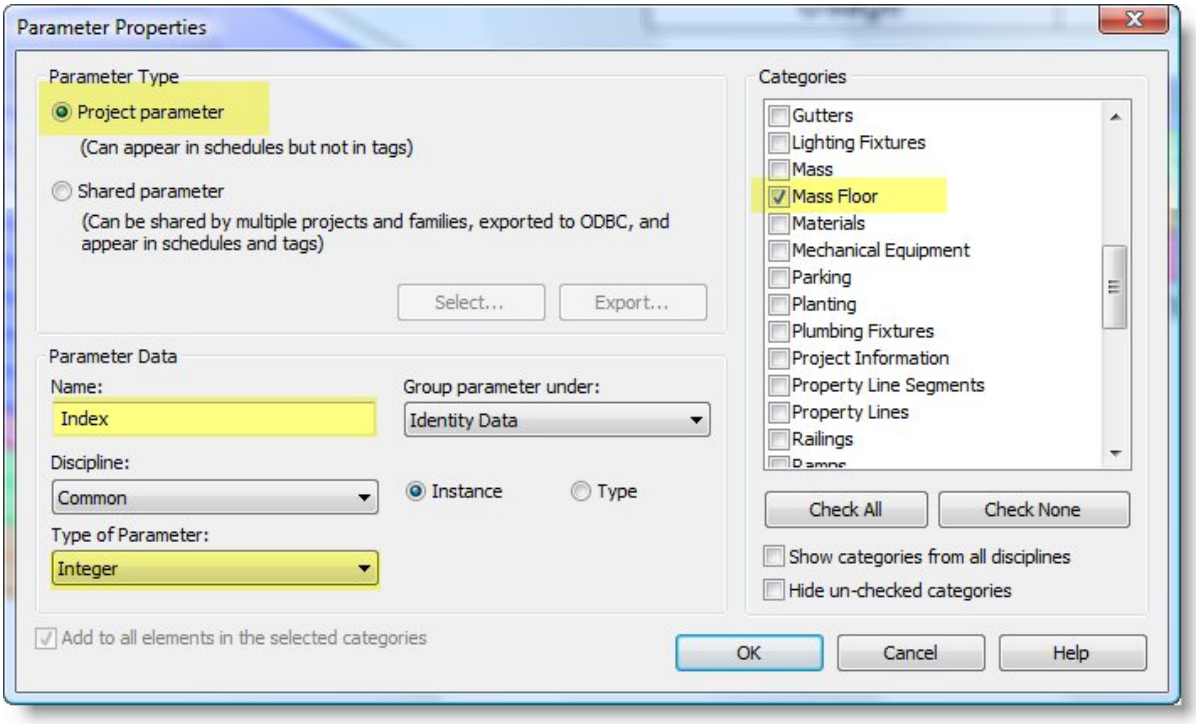
Mass Floor Schedule		
Usage	Floor Area	% of Total
Accommodation	10545 m²	64%
Conference	2343 m²	14%
Lobby	2343 m²	14%
Plant	1172 m²	7%
Grand total	16403 m²	100%

1 3D VIEW

Because this example is so simple and explanatory, this next step will help. In practice, with a real building (and particularly one more complex than this), you may find this exercise to be superfluous. In any case, just so you know – here's how it can be done:

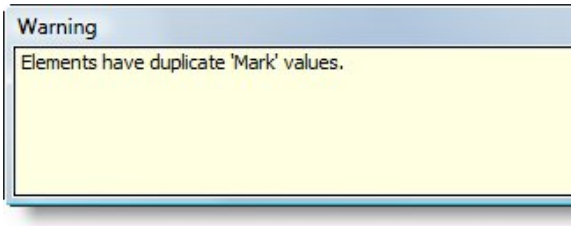
Your schedule currently is set to sort by **Usage**, but you can't get usage to sort by its own physical location (top to bottom). You can't sort the schedule by **Level** first, and then by Usage, as that simply doesn't yield the desired results.

If, however, you add an additional parameter (either as one unique to the project (shown below), or as one sourced from a shared parameters file) that would allow you to index the values, you could assign it to the Mass Floors category, and then sort by this parameter – effectively allowing you to sort in a custom fashion.



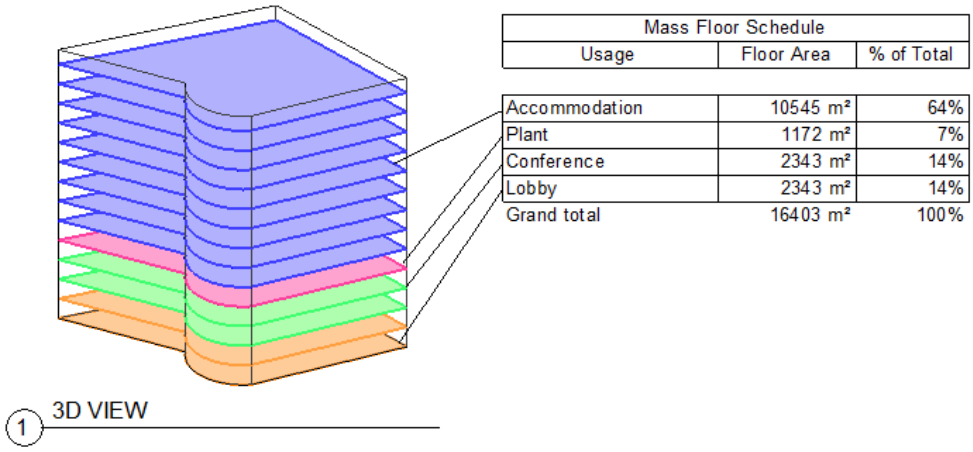
Each Mass Floor in this case will then carry an '**Index**' value. All the Accommodation floors will carry an index of 1. You can save time in applying these values by leaving 'Itemize every instance' Unchecked. Applying these values directly through the schedule rather than by the element properties of each Mass Floor will be most efficient.

Given that we're applying an integer value to each Mass Floor element, you might think you could simply use the '**Mark**' parameter instead. Technically, you'd be right, and you could avoid the addition of a new parameter specifically for this process. However, Revit does not believe the assignment of duplicate **Mark** values to be good practice, and will warn you so.



This is why the additional (custom) parameter has been added – as you can then avoid these issues, while still having full control of the order of your scheduled elements.

Remember, if your schedule order changes, you may need to update your drafting view accordingly – to preserve the colour assignment. The finished result with the schedule re-ordered can then look like this:



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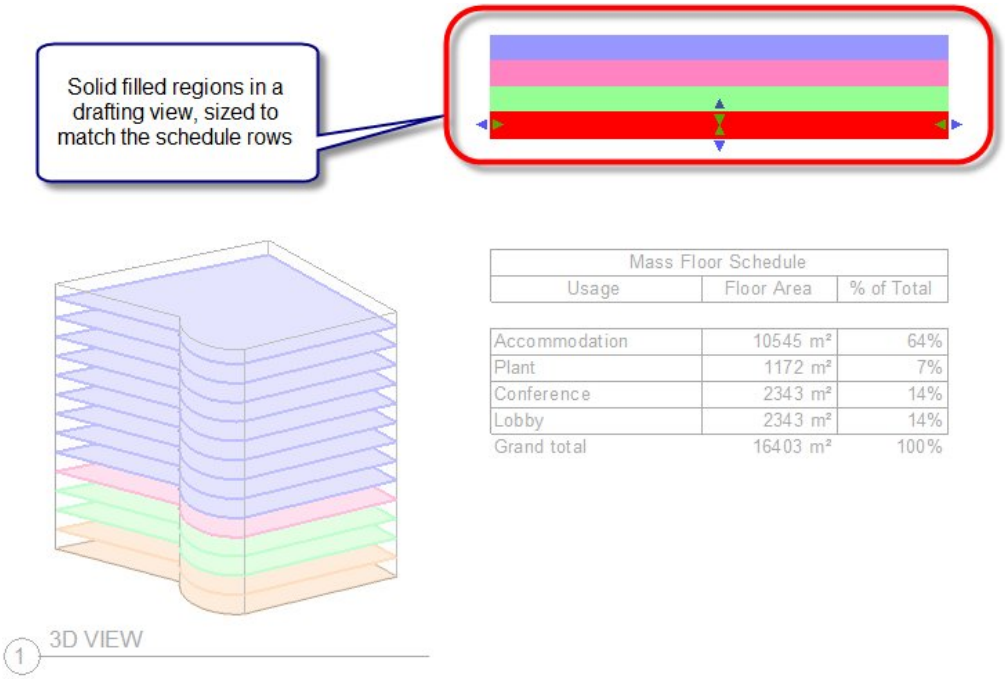
The lines connecting the Mass Floor Usage to the corresponding colour on the 3D view show that the schedule is now in the same order as the 3D view.

Lastly, we want to colour-code the schedule. Strictly speaking, this can't yet be done, but if you use a carefully concocted drafting view, you can create the *illusion* that the schedule is coloured.



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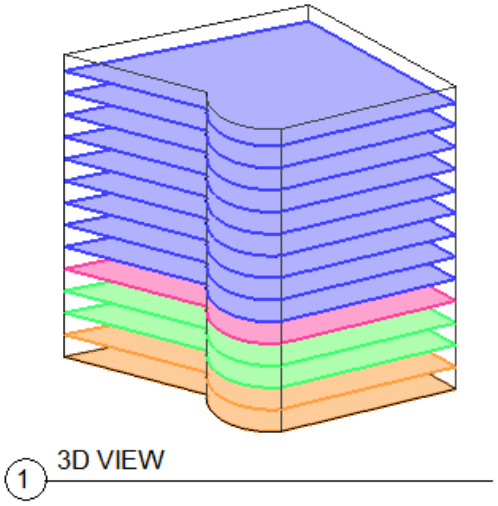
Place a drafting view on the sheet adjacent the schedule, and edit its contents in-place by first activating the viewport (right-mouse click on the viewport).

Create one filled region, the size and shape of which matches one row or cell from the schedule. Get it as correct as you can (by eye – there is no snapping here), and then duplicate it. Set each one to the appropriate colour (ensure these colours match what you've used in your filters from the 3D view), and place the drafting view underneath the schedule.



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You may need to remove the schedule from the sheet and place it again to get the display order correct. The finished product should look something like this.

Voila! The colour and the schedule order match the 3D view – clearly indicating the areas of each floor and the percentage of total (by usage).

Now, scheduling doesn't get too much more complex than that. Most of the issues you will face when dealing with schedules will be about formula syntax (in the case of calculated values), or filtering by particular parameters. Whatever the category of objects (even if your schedule is a multi-category schedule!), the methods and limitations largely remain the same. If you apply what has been explained from this and the previous edition of INFOCUS, there won't be much scheduling you cannot do.

In the mean time, if you have any more ideas for discussion, or scheduling difficulties that you simply cannot solve, feel free to submit the issue, as we may be able to assist – perhaps even highlight the problem AND the solution in future editions! STAY TUNED!

In the next edition, we'll finish our look at schedules by addressing some other finer points, such as schedule filtering, and scheduling elements from linked files and design options.

Feel free to contact us if you have any questions or feedback relating to this newsletter.

Don't forget to check out our online Knowledgebase.

C3 Consulting Solutions
PO Box 2127, Spotswood VIC 3015 Australia
info@c3consulting.com.au
www.c3consulting.com.au

