



Retro Pixel **KINGDOMS** **INSTRUCTIONS**

Also available as a video on YouTube:

<https://youtu.be/XhquuTfnjC8>



Retro Pixel Kingdoms

INSTRUCTION INTRODUCTION

Welcome to this instructions/tutorial document, with best practice tips for building your worlds with the **Retro Pixel Kingdoms** asset pack.

Keep in mind that this suggested workflow will vary in usability depending on the setup of your project. Try your way towards whatever works best for you!

Throughout this document, we'll be looking at how the Desert Village demo level is built up. We'll be tackling layer by layer. Hopefully, this'll give you an idea of how to make towns and villages with depth and variety. For this setup to work, it's important that you follow the suggested transparency sort mode and sort axis, as well as the suggested sorting layers to use for the different tilemap layers.



Please note that this asset pack requires the 2D Extras from Unity, [available here](#). It is also important that the sorting layers are sorted correctly, refer to the image above.

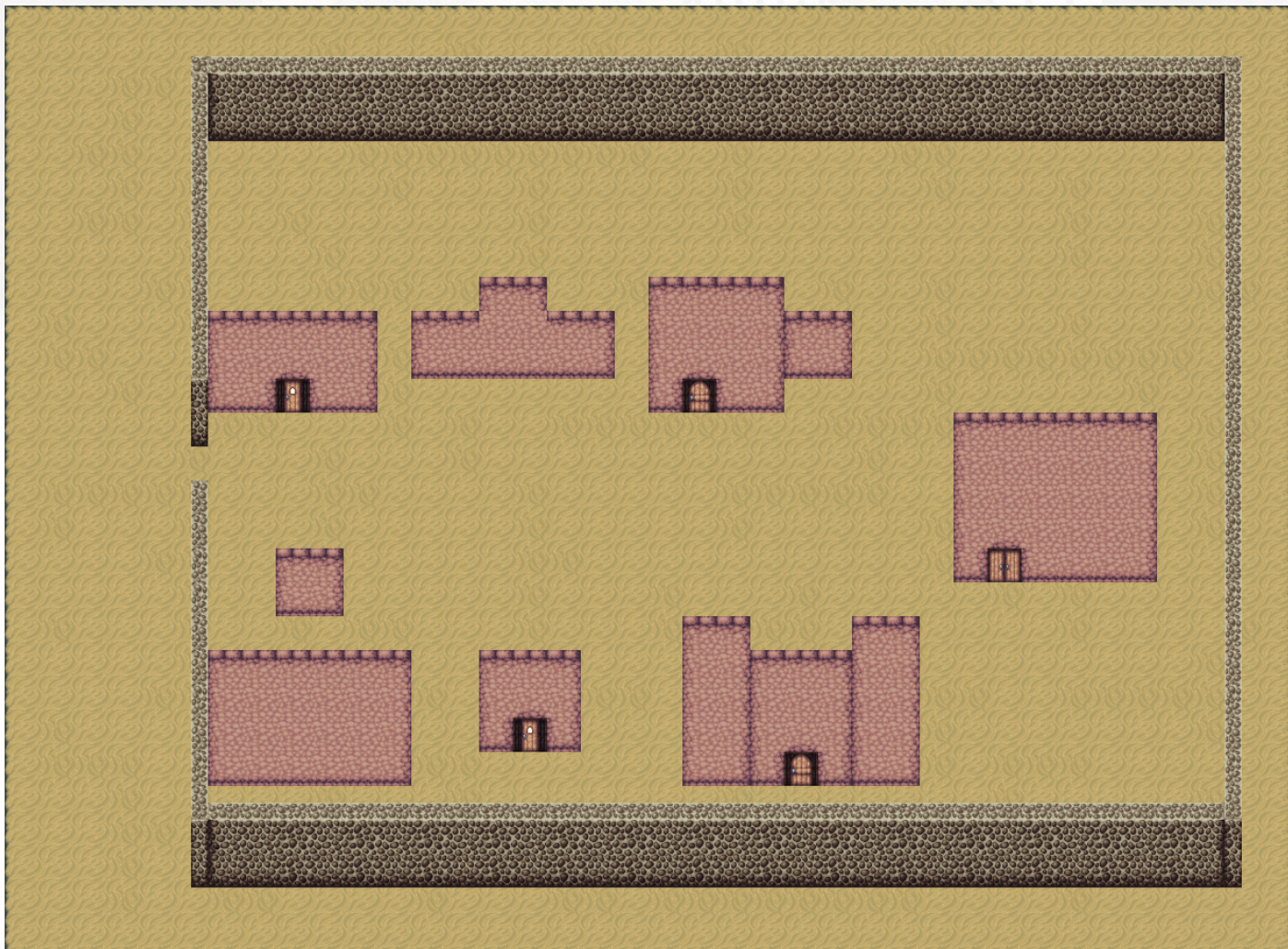
Let's get started!

BUILDING A VILLAGE



First and foremost, the level starts with a basic Background layer. This is simply filled with the desert ground rule tile, as a guide to the general size of the tilemap overall. The sorting layer is set to, you guessed it, Background.

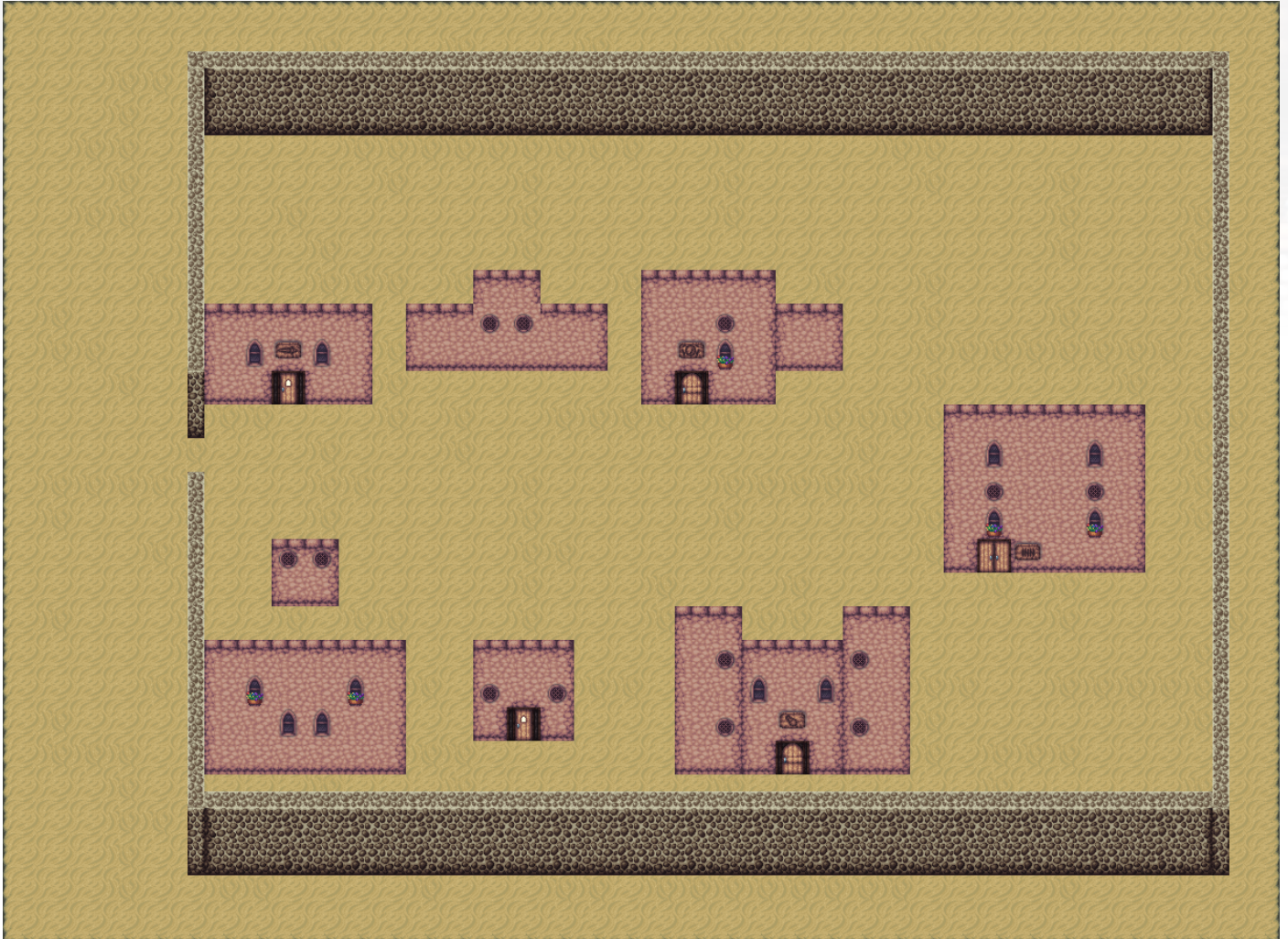
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Next up is the Walls layer. This contains the house walls, doors and outer wall on the map, sorted on the Wall sorting layer. There's another few components added to this, namely the Tilemap Collider 2D component, the Rigidbody 2D and the Composite Collider 2D.

This works perfectly for the wall tiles layer, as we don't want the player to be able to walk through any of the walls. The "Used By Composite" option is set to true, as it generates a cleaner looking collider. This is completely optional though, as you can just as well use only the Tilemap Collider 2D on its own.

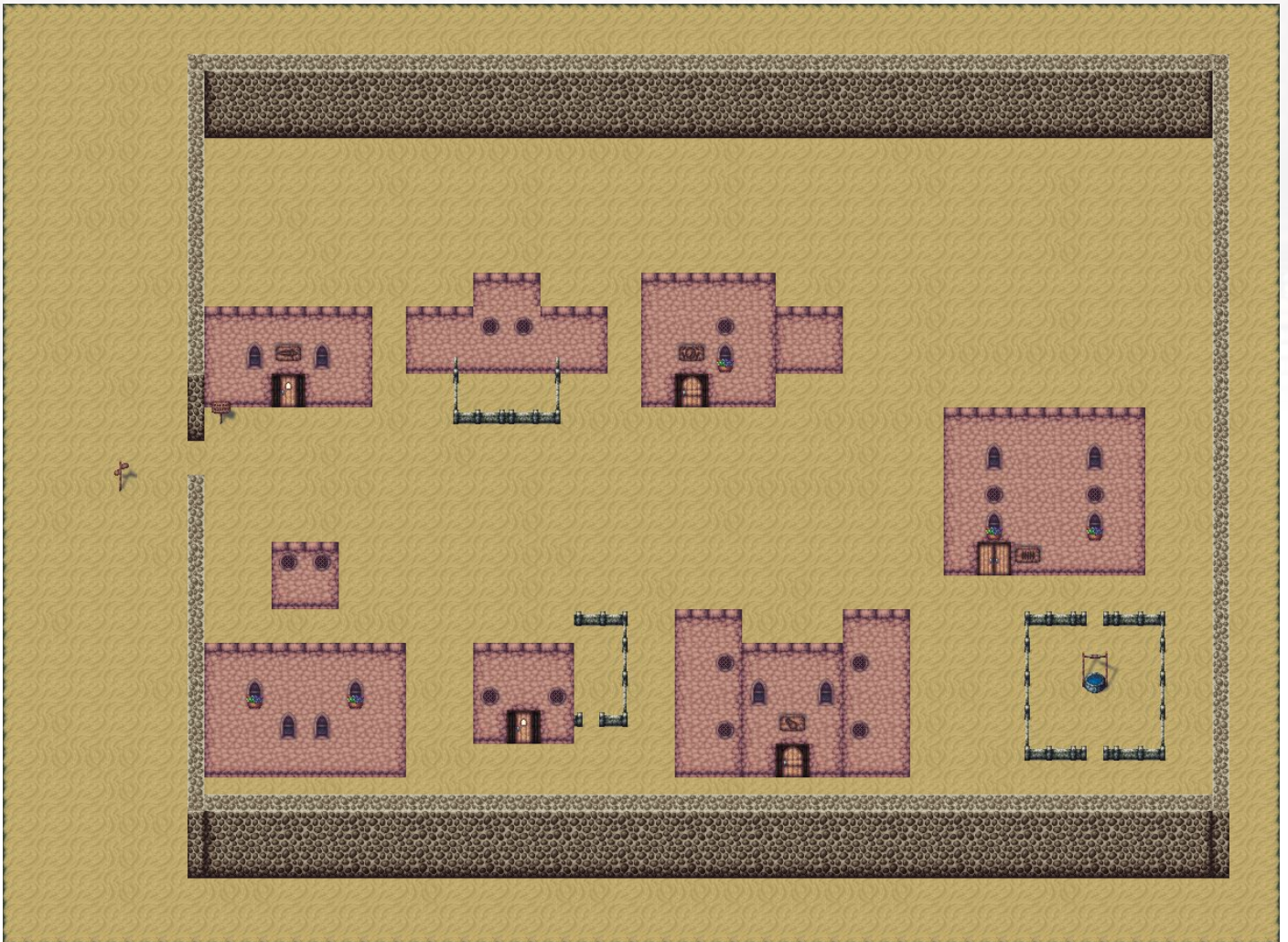
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Next in order is the Windows & Signs layer, sorted on the Wall sorting layer, with an Order in Layer value set to 1. You can find the Order in Layer variable in the Tilemap Renderer component.

This layer describes itself very well, the windows and signs on the houses are featured here. The higher Order in Layer value makes the windows and signs appear on top of the house walls.

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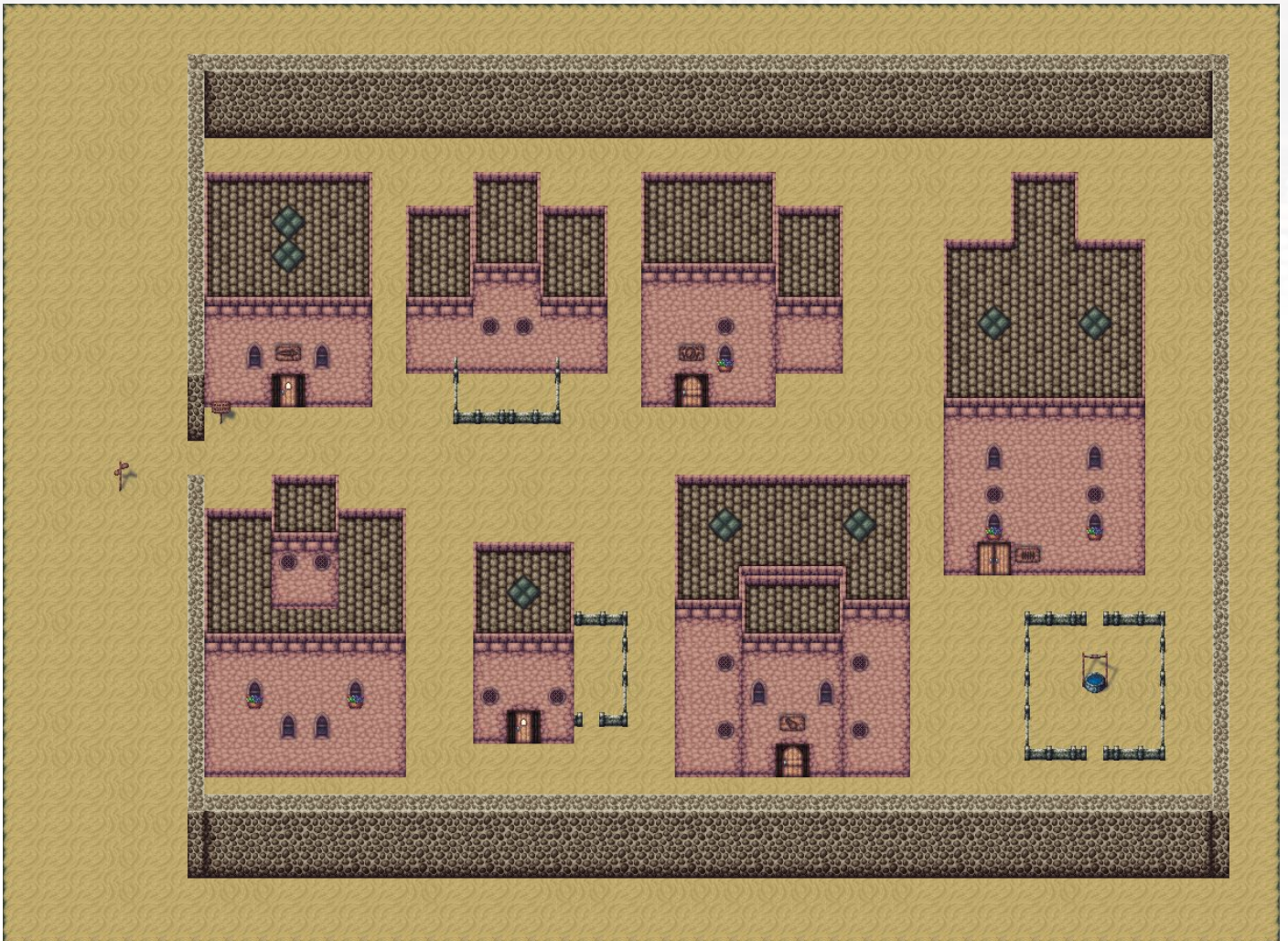


Next up is the Deco layer. Some of the decoration objects are on this layer. Fences, signposts and the well are placed on this layer, which uses the Default sorting layer. Using the sample layering and sorting setup, this will work well together with characters from, for instance, the Retro Pixel Characters and Retro 2D Characters packs. Your character will sort behind or in front of the object for an added illusion of depth. That is, provided you pay attention to an additional setting that we haven't touched upon before!

To get the sorting correct, you'll need to set the Mode of the Tilemap Renderer component to Individual, as opposed to Chunk. As you might notice, this layer also uses the Tilemap Collider 2D component. Most of the deco objects contain custom collision shapes.

You might notice that this is far from all the decoration objects visible in the map. We'll get to that later!

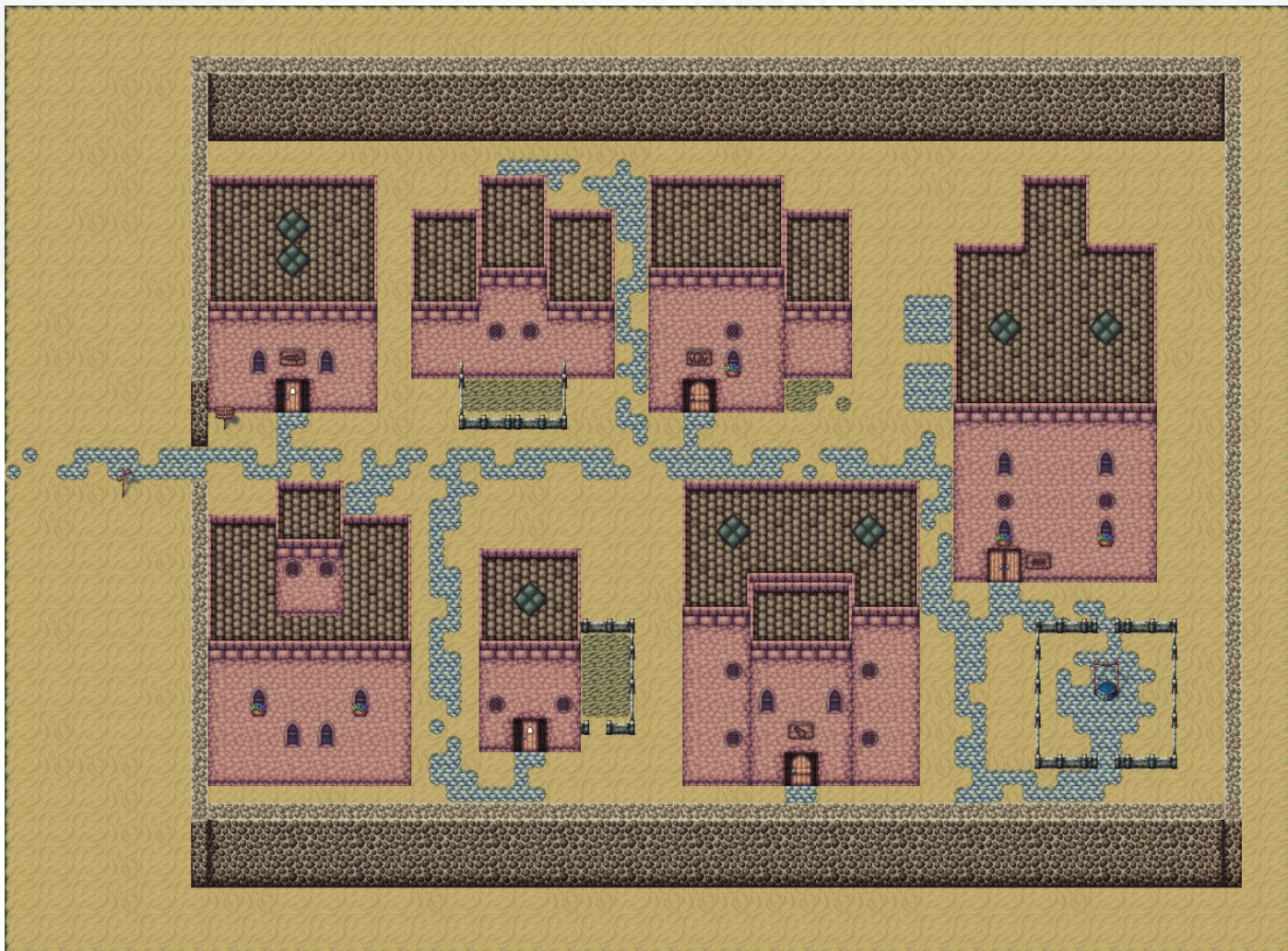
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Roofs is the last layer in the Grid group. The roof tiles are painted on this layer, which uses the Foreground sorting layer. Using the suggested order of the sorting layers, this will make player characters on the Default layer able to walk behind the tiles on this layer.

This also uses the combination of Tilemap Collider 2D with a rigidbody and Composite Collider 2D component. There's another thing to note on this layer though, and that is the offset in the Composite Collider 2D component. The Y-offset is set to minus one. This simply shifts the collider down one tile, so that objects may move behind the tiles.

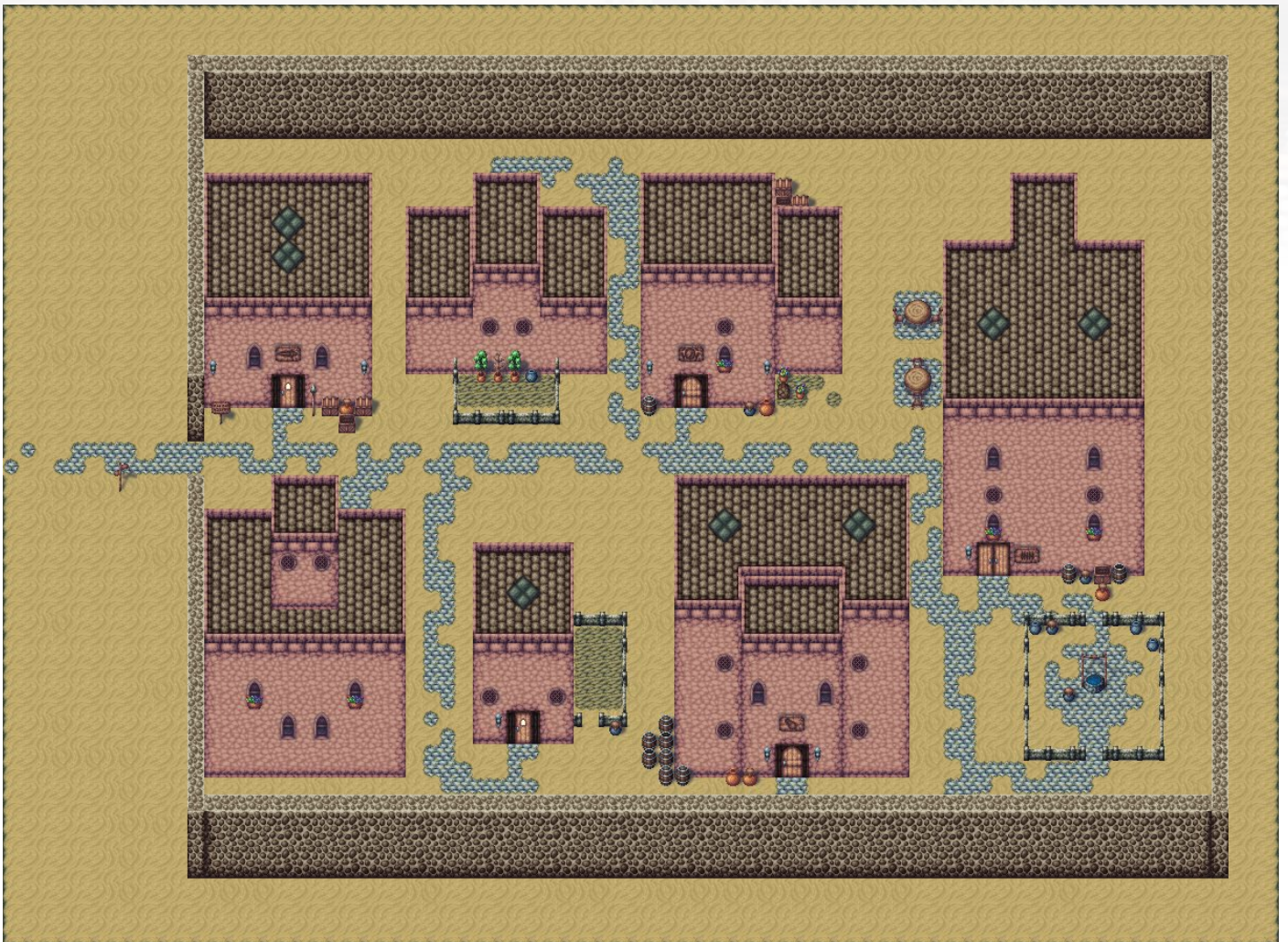
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Next up is a whole separate Grid group! The “½ Grid” tilemaps use a smaller Cell Size in the Grid component. The cells are only half-size (0.5 x 0.5), which makes placement of objects both more dense and varied. A tilemap grid with half-sized cells is also necessary for the Paths rule tiles to appear correctly, so that’s why it’s used on this layer.

Both the Sand-Brick paths and some Sand-Sandstone dirt patches are painted on this layer. This greatly enhances the sense of direction throughout the village and makes it feel more lived in. The Ground sorting layer is used here.

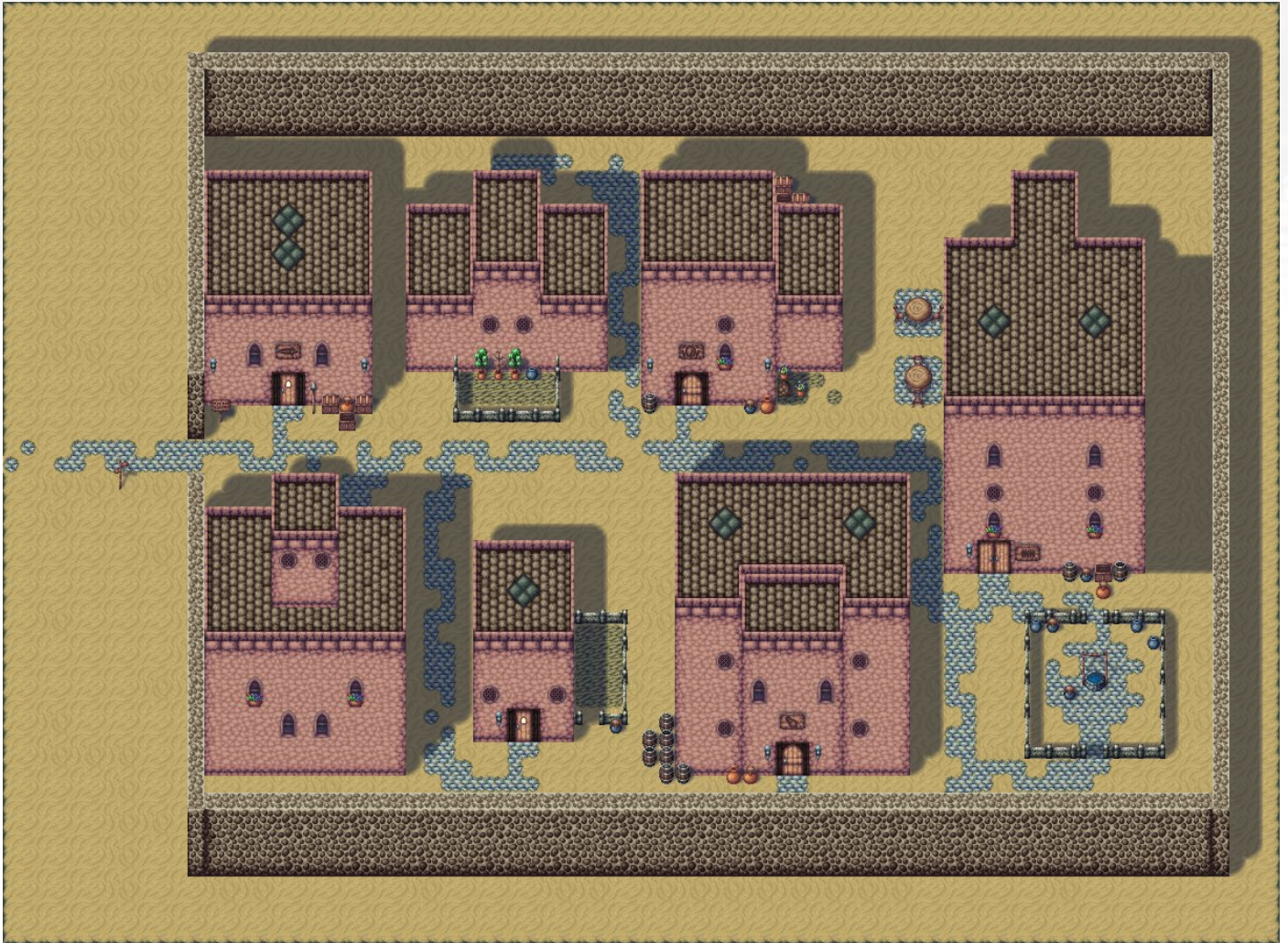
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Now we have another Deco layer! This contains most of the decoration objects. Barrels, pots, boxes and more are on this layer. As mentioned before, using a halved cell size makes it possible to place more objects closer to one another.

This also uses the Default sorting layer and a Tilemap Collider 2D component.

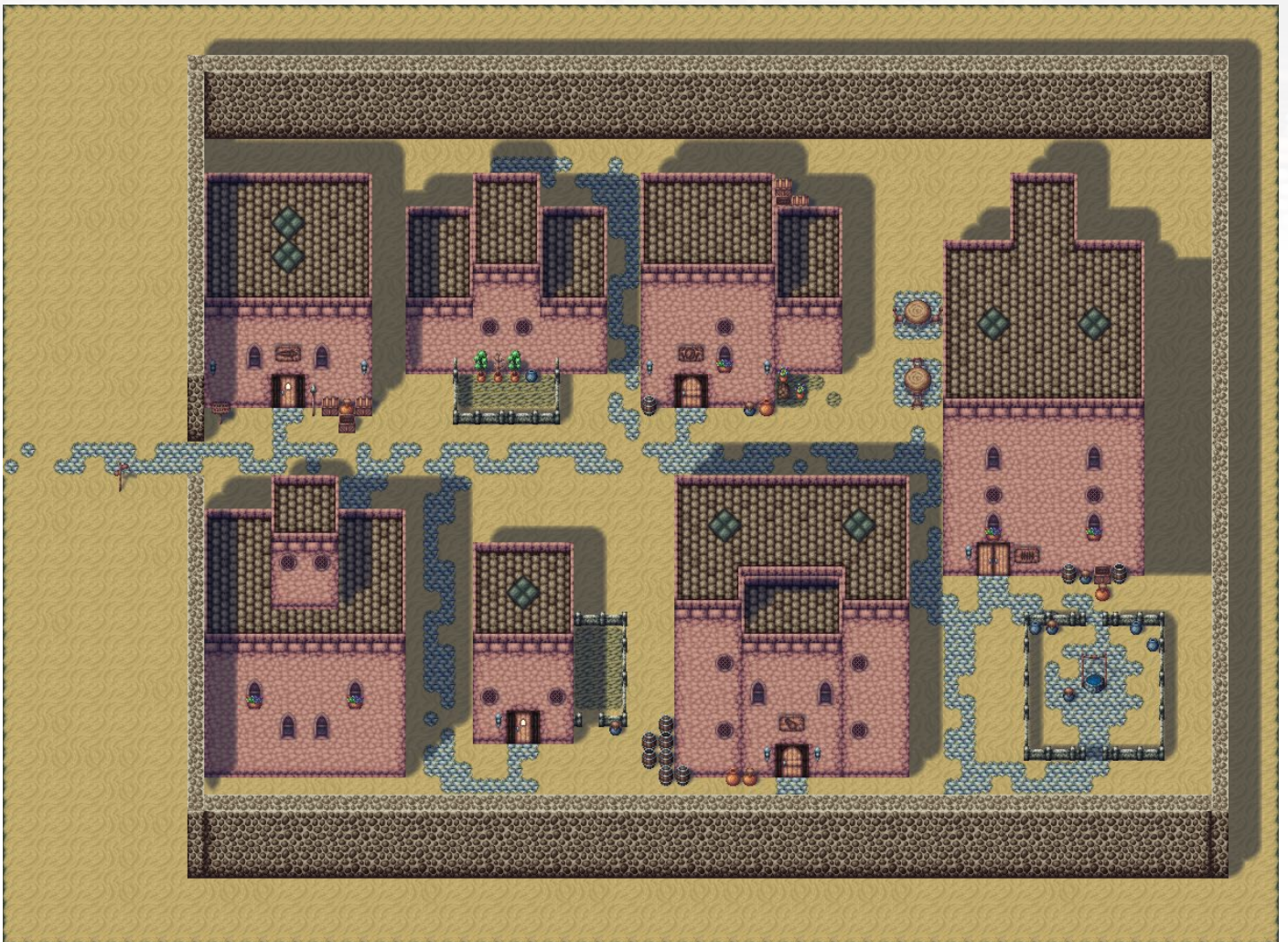
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Let's really add some visual depth to the scene! The Shadows layer uses the new light and shadow half-tiles. With these tiles, it's possible to paint fairly detailed shadow and light shapes, while still staying true to that retro aesthetic. You're very encouraged to play around with how you paint these layers, it's a lot of fun and adds a lot to the map!

This layer is sorted on the Ground sorting layer, with an Order in Layer of 1, so that it renders on top of the ground and paths. Keep in mind to also give the Tilemap component a dark, transparent color that suits the scene.

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Last in order is the Shadows-Foreground layer. This is simply another shadow layer, but sorted on the Foreground sorting layer, allowing us to paint shadow shapes on top of the roof tiles. Here too, the Order in Layer is set to 1, so that the shadows render on top.

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Just one more thing to mention, and that is using the light/shadow half-tiles to paint highlights, light shafts and the like. For this example, take a look at the House Interior sample scene.



More specifically, take a look at the two Light layers in the ½ Grid-group. To get that soft, bright light, you need to ensure two things. One, use a bright, preferably warm color with a slight transparency in the Tilemap component. Second, assign the included RPK - Sprite Light material in the Material tab of the Tilemap Renderer component. That's it, all that remains is to paint away and experiment with those light shapes!

And that's all there is to it! This is only one possible way to set up your homey towns and villages. If you combine Retro Pixel Kingdoms with the Retro Pixel Landscapes pack, you can use the tilesets from Landscapes to paint trees, hills, flowers, bushes and so on. Hope that this document helps you get started with building beautiful kingdoms!

Feel free to share your own ideas or maps! If you have any issues with the pack, use the following e-mail: marcus@perdiv.com