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Training Lesson TRANSCRIPT

BEST PRACTICES COURSE – WEEK 14 – PART 6
Managing the 3D Window: Setting and Saving Precise 3D Viewpoints & Views

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Hello, this is Eric Bobrow. And in this lesson, we'll take a look at how you can set precise 3D viewpoints that you can return to whenever you wish, as well as 3D views, which would be viewpoints associated with layer combinations and other attributes. We'll be working with the Camera tool, but first I need to change my layer combination from the plan to one that has the model with a building and a site. [0:00:26]

Now I'd like to take a view from the end of this walkway, so I'm going to open up the More group of tools in the toolbox and then double click on the Camera tool. That opens up the Camera Settings dialog. Unlike Wall Settings, Roof Settings, Window Settings, etc., this is a floating dialog that we can leave open while we're working. Instead of having the OK button and then able to draw, we can actually leave this open, and we'll need to click the Apply button in the bottom right when we want to make a change to one of the selected cameras. [0:00:58]

Now to place a camera is very simple I click where I would like to place it, click where I would like it to look, and a camera appears. You can see the camera icon here on the right. When I select it using one of the handles, which would be at its lens position or its target bubble, then you can see some other information show up. There is a V, that is the cone of vision. That is set by the View Cone attribute here. So that means that in this particular case, I'll be looking towards the front door, but I'll miss part of the right corner of the building. [0:01:33]

There's also a sun position that we can adjust manually that would right now be sent from the bottom right of the screen, which would be over the left hand shoulder of the person who's standing at this location. So let's take a look at what this view brings up. We'll go to 3D by clicking on the Open 3D Window icon in the toolbar or by clicking F3. And you can see that we've got a view of the front door, and as I mentioned, we're cutting off part of this right hand corner of the building. Now if I click on the Navigator Preview icon in the bottom left of the Navigation area, you can see a view of the top down of the project. [0:02:17]

And you can see where I was standing here. And if I were to adjust the cone of vision, you can see by moving this slider, I can change this to whatever value I might like. So this corresponds directly to what we have in the camera. Now, let's go and place a different camera position. So I'm going to go back to

the floor plan. And let's say that I deselect this camera by hitting the ESC key, activate the Camera tool, and say that I wanted to look from this corner of the building. This way. [0:02:48]

So I'll now select this camera and go to 3D by hitting F3, and you can see now I'm looking at the corner of the building. But let's say I wanted to adjust it, so I'll just grab the Navigator Preview here and just pull this wherever I like. Now I'm now getting a view that I think may be a little bit better, where I can see the whole building as well as some context with a tree. So perhaps I want to adjust that camera that is on the floor plan to record this particular view. So I can go to the View menu, 3D Navigation Extras, and say that I'd like to modify the selected camera. Let's see what that does. [0:03:25]

When I go back to the floor plan, you'll see the camera is now way off screen, meaning that it has moved position further away from the building. And it's now in a position that is going to recreate that view. If I select the first camera and go to 3D, we'll see the original view. And if I go back to the floor plan and select the next camera, then we can go back and forth between these views very easily. Let's say that we want to create another view that is going to be in addition to these two. So what I'll do is perhaps move around here to the back part of the building, until I get a view that I like. Maybe I'll move this Navigator Preview to a convenient location here. [0:04:07]

Now I'll go to the View menu and go to 3D Navigation Extras and say "Insert a new camera after the selected one". So now if I go back to the floor plan, you'll see that there is a third camera showing. And of course I can go between any one of these by selecting the camera. But there's also another option. If I go to 3D -and let me just move the navigator preview a little bit off screen - I can go to the View, 3D Navigation Extras, go to the previous camera. And again, 3D Navigation Extras, go to the previous camera. So I can jump from one camera to another using that menu. [0:04:42]

But you'll also see in the Project Map that the three cameras are listed in the 3D section of the Project Map. So if I double click on any one of these, it will jump me from one view to another. Now these cameras just have numbers rather than say names that you can give them. The numbers are there, and they're important when you're working on a fly through or an animation in a particular path. So you'll notice actually this path is called "None". Let me just go back to the floor plan and we'll see that this word "None" here shows up. [0:05:14]

If I change it to one of the other ones in the popup, street and interior, you can see some other cameras show up. Or the key frame fly by you can see some other ones. And if I zoom out a little bit you can see that this is actually going to go around in a circle. Now the path that we're seeing right now is something that is important when you're working on a fly through or a walk around or walk through. But we don't really need that right now, so I'm going to go switch this back to the one that we were starting to work on here and click the Path button to give it a name. [0:05:48]

So I will call it "Exterior Views". And to switch our display options from showing the path to just showing the cameras only. And I will click OK. Now you can see I'm just seeing the cameras and not the line that we might walk between them. If you want to hide the cameras at any time, you can go to the path button and change it to show "none". So basically not show the cameras. The cameras do not have a

layer, so there's no other way to turn them on or off other than switching from one path to another or going to the path options and saying that we want to turn the cameras on or off. [0:06:22]

Now let's take a look at the concept of saving a view. So right now we're jumping from one viewpoint to another, and all of them have the same layer combination. So let's say take this particular view, go to 3D, and let's save it as a view in the View Map. So what I'll do is just switch to the View Map, click on Save Current View, and give it a name. So let's say "Front Corner with Trees". Now let me go to the plan and select the one in the back. And let's go to 3D here. Perhaps I don't want this tree to be included, so I might want to switch my layer combination to Model Building Only, so I don't have that tree showing. [0:07:12]

And now I can go and save this view, and we'll call this "Back Corner without Trees". So we can give it whatever name we want here. Now note that when I'm creating these views, they have a number here. That means they are associated to the camera that I have. So if I go back to the floor plan and let's say take this camera here - and let me just move this, I'll just drag it to a different place. So I'll just make it quite different. Now when I double click on Front Corner with Trees, it's quite a different view. I'm now further away from the building. So this view is associated with a particular camera. [0:07:56]

Now if I want to have a view that is not associated with the camera, what I would do is deselect all cameras, then be in 3D and take whatever view I want. So let's say that I pan around, and I'll take more of a side view here, and I'll go and save this current view. So you notice how it says "Generic Perspective". The source is now a generic one rather than one associated with a camera. So let me just call this "Side View". And you can see how it looks different here. When I double click on it, it brings up that view, double click on any of the other ones and it will bring up the one that is associated with that particular camera. [0:08:38]

And as with elevations or section views or any other views in the View Map, when I double click, it's going to switch layer combinations if necessary as it's working. Now other thing that you can do is you can create views for axonometric rather than just perspective. So if I go back to the option here for axonometric, I've now got an orientation here that might be interesting. Let me go and save this view, and we'll call this "Front Axo". And then I'll rotate it around to another view here and we'll save that as "Back Axo". [0:09:21]

So now by double clicking on any one of these, it'll just take me to whichever view, whether it's in perspective or in axo view. Now you'll notice that the lighting here has got the one side of the building in shade. Let's look - I double clicked on the view that is associated with the camera. When I go back to the floor plan, what you'll see is that camera is selected. And I can then modify there, I can change some of the settings in the camera settings, or I can do it manually. And what I mean by manually - if I zoom in on this, you'll see that the sun position is indicated, and I might just want to press down on it and use the pet palette option to change the angle of the sun. [0:10:06]

So now I'm changing it so that it's going to be coming from the left shoulder of the viewer. And when I go back to 3D, you can see how that's updated. Now that actually is recorded in this particular view, so if I double click on the Front Corner With Trees, we're going to see that the light is coming from this

front side, but when I go to Back Corner Without Trees, the light is now coming from the back. So each one of these views records not only the layers, in this case, no trees; but also where the sun is. And of course the current position or viewpoint of the camera. [0:10:43]

Now if I want to do an axo, often what I'll do for some of these axos of is I'll do a cutaway. So let me go and create a marquee, let's say for the back part of this building here which has the kitchen. And then I'll take the 3D view that shows just the marquee here, and maybe zoom in and rotate around. So this might be a view you might want to show a client to talk about how the kitchen relates to the building. And let me just go ahead and save this view. So we'll just call this "Cutaway Axo" and create it. Now, when I double click on any of the other ones, I will get back the full model. [0:11:33]

When I double click on the cutaway axo, it has recorded this particular marquee cutaway. If fact, if we look in the settings here, you'll see in the 3D only area that it's recorded things about the 3D view being limited by the marquee. It's also recorded all of these other things. Now let's say that we decided we like this, but we wanted to have it from a slightly different angle. Well maybe I'm going to rotate this around, just whatever angle, so now it's a little bit more straight on to the kitchen. And I'll go to the settings of the currently selected view and I'll say 3D Only. I'll say Redefine Image Settings with Current. [0:12:17]

So what that will do is for the 3D information, it will pick up that information that I've currently got and record that. So now when I go to full view, and I go back to the cutaway, you can see the cutaway is on this new angle that I've got. So each view can save a view point, whether it's a camera position or an axo view or a generic perspective, just some point in space. If it is attached to a camera, then if the camera moves, the view will also update. We can have the views associated with layer combinations of course as well as things like cutaways. [0:13:01]

Now if you want to place one of these views on a sheet, for example, you want to print out some views for your client, we can go to the Layout Book. And let me just create a new layout here. And we'll go and just literally drag the cutaway right onto here. Or we'll drag the front axo on there. So each of these views then will automatically update. If the design changes, then these views will automatically be regenerated just the same way that an elevation or a section can be done. So these are very powerful tools for returning to a view for design purposes to study something or for presentation meetings with clients, and also even for placing these types of illustrations on the sheets. [0:13:54]

Now finally, these views are using the 3D window information. If I go back to let's say this front axo that I just grabbed, this is an interesting little confusing thing. We are looking at the correct view, but the editing plane is obscuring it. So what does that mean? In ArchiCAD 15, we have the option under the View menu, under 3D View Mode, to show or not show the editing plane, which would be the base of drawing new walls or new elements if we were to place them. And the editing plane can be displayed in a variety of ways; it can be opaque or transparent. But let me just turn off the editing plane display, and now we'll see that this is the same view that we just had on the sheet. [0:14:42]

So this view here, in terms of the settings, if we go to the settings for this particular view, has the option in 3D of am I going to go to the 3D window or am I going to go to the photo rendering window. So if you

wanted to create a photo rendering for placing on a sheet, we could - let me just create a new view that will be say "Front Axo Rendering" - and then I'll go into the 3D settings here and choose Photo Rendering Settings. Now what it's going to use is the current photo rendering settings for the project. So you can see that it's generating this view that now has a little bit more realistic lighting and shadow and things like that. [0:15:30]

And that view, if we were to place this on a sheet here, let's go back to the sheet. If we were to place that rendering view onto the sheet, then every time that you update it, it's going to bring up the 3D window and rerender it. Now you can see how it looks somewhat different, it has a background with a gradated color here. And we could decide that we wanted to make it bigger. This is certainly possible by just using the option to resize it here. The resolution would be set in the photo rendering settings. So these are all things that will be getting into in a later section of the course when we're looking at presentation images and fly throughs and other ways that you can show the project creatively. [0:16:18]

So I'd like to return to finish up one part that I didn't cover. I'm going to go back to the floor plan, and let's take a look at the settings associated with cameras. So for example, if I select this camera here, the camera is currently selected. You can see one is selected and it's editable. It has a base height or basically where we are looking from, and a target height. Now let me just change this up to a higher value and say Apply. And then we'll take a look at here in 3D. So I'll just select this camera without the marquee and go to 3D. [0:16:57]

And we're now seeing that we're looking up in towards the top of the building. And if you look closely you'll see the building walls are sort of slanted a little bit because of the perspective. They're going to have a vanishing point; they're going to meet up above the viewer. Now if I go back to the floor plan, we can change the target Z to another value. And let's try making it nice and even with the camera and say apply that. Now if I go back to 3D with that selected, we'll see that the building looks somewhat different as I look straight across, and the walls are now looking purely vertical, or the corners where the walls meet are all purely vertical. [0:17:41]

So if you have the opportunity to set the target value, even with the camera height, then you're going to get this nice, clean result. Sometimes you have to look up or look down to include in the view whatever you want, but this can be a really useful thing to do. Now, let's just take a look at a couple other settings that are important. You saw how I moved the sun around to a different orientation. The sun azimuth can be set numerically here, and we can also go into the Sun button and set a location for the project, as well as a date and time. And it will automatically move the sun into that position. We'll be looking at that when we get into walk throughs and presentation images, because that will be a very important part of it there. [0:18:36]

We can adjust the sun manually here. We can also change the sun altitude to make it higher in the sky or lower. And we've already talked about the view cone. Roll angle we won't actually need until you do certain types of fly arounds, because it actually will tilt the camera as this picture indicates. Now the azimuth here is set, basically it's the angle of the camera in relationship to the target. So simply by

moving or rotating the camera, this will update, and the distance is also automatically calculated from the camera to the target. And you can manually adjust that, but basically I just move it on the screen and it will just calculate that. [0:19:17]

The most important ones are the cameras Z and target Z, because those need to correspond to your project heights. In other words, if you want to be looking at the main floor, then you want to be at one height. If you want to be looking up on the roof level or up on the third floor inside the building, then you would need to set these camera positions or heights to the appropriate location. So these are the most important controls in the Camera Settings that we need to go over right now, and we'll go over some other ones later when we get into presentation images. [0:19:52]

So this concludes our training lesson on setting precise 3D viewpoints and 3D views. This has been Eric Bobrow; please post your comments and questions on the page down below, thanks for watching.

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