

LINKING A SCALE BAR TO A VIEWPORT

How many times have you opened a drawing file and looked at the scale and it was not the same as the viewport? Let's take fields one step further and link to a viewport, adding a formula to modify the scale bar. We are going to open up our drawing and create a viewport and set the viewport scale to 1=10 in decimal units and a custom scale name of 1"=10'. Within our drawing we also have a typical scale bar as shown in Figure 12. This scale bar can be a block with attribute values or just an object within AutoCAD.

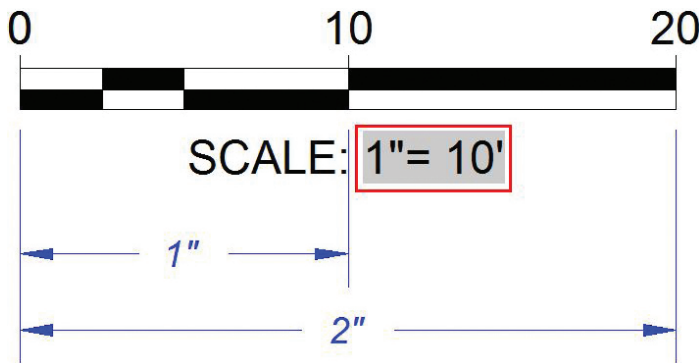


Figure 12: Standard scale bar

Start by moving to the text area after the SCALE: designation as shown in Figure 12. Right-click and, using the same method as before, select the object, then the viewport. After the viewport has been selected move down to custom scale, then select use scale name as shown in Figure 13.

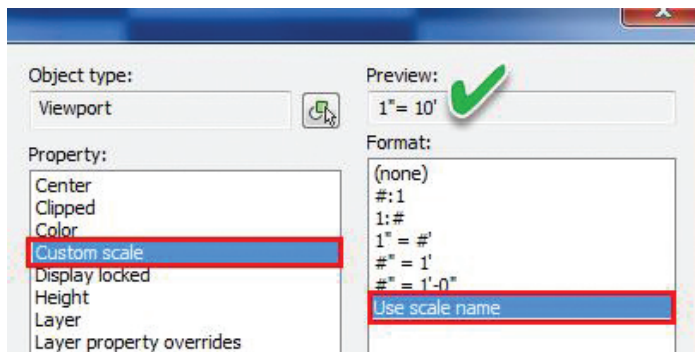


Figure 13: Custom scale name

We now have the correct scale name shown below the bar; change the viewport scale and watch this change. Keep in mind the name you give the scale is what will appear in the field. Next we have to make sure the numbers correspond with the scale we have selected. Right-click the first number (10) on the scale bar and hit Insert Field—again, using the same technique as before but adding a few new steps as shown in Figure 14. In step 4 we will highlight the text in the field expression—right-click and copy. Under the field category section move to the formula selection under field names.

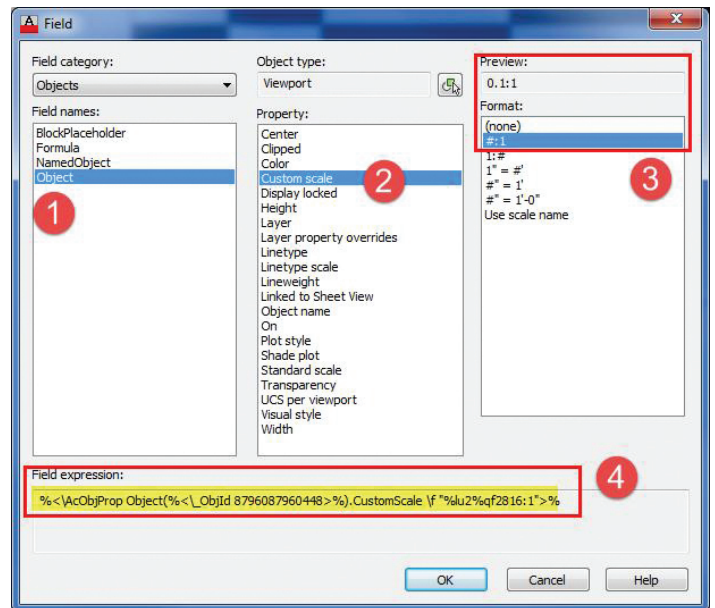


Figure 14: Custom scale fields

As shown in Figure 15, select Formula, then in the window shown in step 2 paste the formula that you copied from the previous section. One thing we need to do here is in front of the greyed out section type 1/. You need to add this part to the formula in order for AutoCAD to calculate the scale. Remember we are using the value #:1, which means we will have to divide that by one to retrieve the whole number. Finally, in Step 3 change the precision back to 0 for a clean scale.

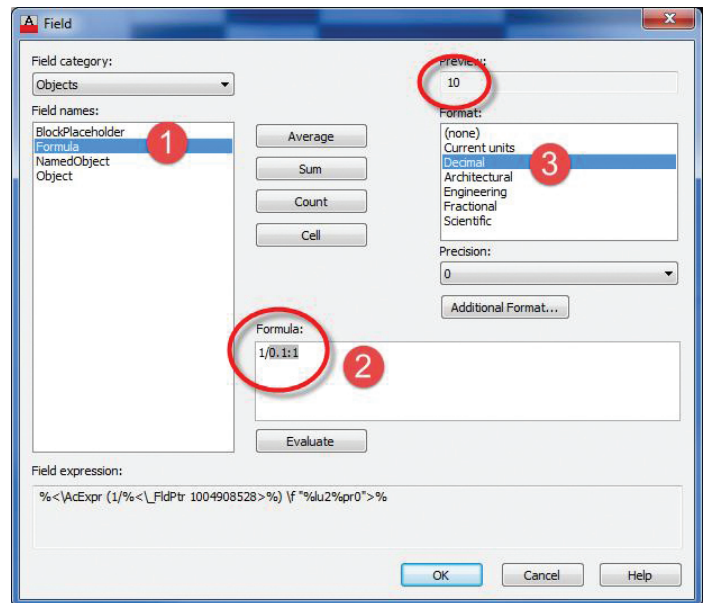


Figure 15: Custom scale name

To get the last part of the scale bar, simply copy your field (number 10) over to the section where you want the number doubled (in this example 20). Add the multiply by 2 after your formula as shown in Figure 16 and your value will be double what the first selection was; in this example, 20.

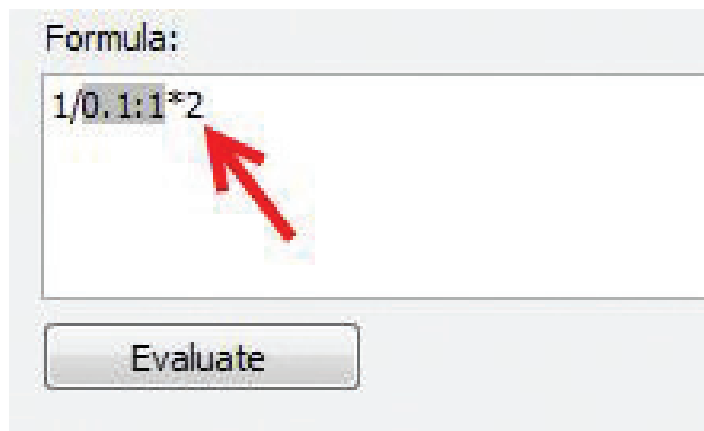


Figure 16: Multiply value of second text string

With a little manipulation you can use architectural, scientific, and engineering units to receive the same results. Look at the number and perform the necessary calculations to get accurate results.

Your final scale bar will have fields as shown in Figure 17. This scale bar can be used in a template where it is linked to the viewport within the template file. If you plan to use it on a current drawing you will need to follow the steps selecting the viewport and changing the formula for that object.

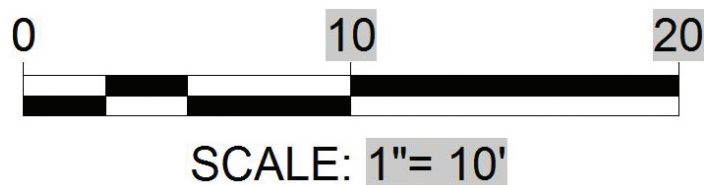


Figure 17: Final Scale Bar with Fields

CONCLUSION

Take a look at the photo of the field at the beginning of this article. Look closely and think of all the possibilities that can be done with a field. You can play a baseball game, plant trees, or even build a house. The possibilities are endless.

To me, AutoCAD fields are just like looking at that photo. Think about all the data that can be extracted from a drawing file, and then how it changes during the design process. Can using a field help you become more accurate and efficient by pulling data and having it change dynamically? You will be surprised how effective this tool can be.

Registration for Autodesk University 2014 has started. Go out and grab that "Convince Your Manager Toolkit" from Lynn Allen, submit it to your boss, and prepare to network with your peers during the most wonderful time of the year. I will be there and look forward to meeting each and every one of you.



Sam Lucido is a CAD Services Manager with Haley and Aldrich, Inc. He has more than 20 years experience involving design, user support, and customization. Sam is professionally certified in AutoCAD and will be speaking again at AU 2014. He uses his vast knowledge about AutoCAD to help provide support to engineering and design teams with monthly tip sheets and online training. You can find him at CADProTips.com and he can also be reached at slucido@haleyaldrich.com

