

AS500203

Managing Tool Palettes in a Network Environment

Brian J. Hailey, PE
GEI Consultants

Learning Objectives

- Learn how to create tool palettes that can be shared among all users on your network
- Learn how to access specific tool palettes from the ribbon or other user interface
- Learn how to enable users to create custom tool palettes while protecting the company-standard tool palettes
- Learn how to update tool palettes for all users

Description

Tool palettes are an extremely versatile way for CAD/BIM managers to provide tools to users. In this class, you'll learn how to manage tool palettes so network users can get the most from them, and how to update palettes for all users at the same time.

Speaker(s)

In 1998, armed with a Bachelor of Science in Civil Engineering from Colorado State University, I began my career working at a general civil engineering firm using Land Desktop LDT. Within a short time, I became the resident self-taught expert in LDT and AutoCAD and then learned AutoCAD Civil 3D upon its release. Today, as a registered professional engineer in the State of Colorado and CAD Manager, it's my goal to deliver best-in-class support for GEI's CAD staff using AutoCAD Civil 3D, InfraWorks and other software solutions. To that end, I am professionally certified in Autodesk software, have taught at Autodesk University eleven times since 2007 and won the AUGI Top DAUG competition at AU 2011. With a strong technical skillset and experience as a Civil Engineer and instructor, I regularly provide custom, effective trainings for any size firm. These training sessions include AutoCAD, AutoCAD Civil 3D, AutoCAD Map3D, and InfraWorks 360.

AUTODESK UNIVERSITY

Introduction

Tool palettes are a very convenient way to access blocks, hatches, commands, and more. Keeping your tool palettes consistent for all users in an organization can be difficult at times. We want all users to have access to the same tools organized in the same way and we don't want people using old, outdated tool palettes that have tools that are no longer a part of our standards. The goal of this session is to provide different techniques to keep all our users up to date with any changes that are made to the tool palettes with no effort on their part.

Create Tool Palettes

When creating tool palettes for an organization, there are a couple schools of thought on where to store the files for the tool palettes: 1) On the company network or 2) On the local computer. There are advantages and disadvantages to both approaches.

File Path Location – Network

This is probably the most common way organizations distribute tool palettes to their users. They simply place all the tool palette files up on the network, point everyone to this location, and you're done. So what are some of the advantages and disadvantages of this system?

Pros

- Much simpler to update

Cons

- Users must always be connected to the network for the tool palettes to work
- User permissions on the folder must be controlled so accidental changing of the palettes doesn't occur.

File Path Location – Local

Another option is to store the tool palette files locally on each user's computer. This is a bit trickier because relying on each user to manager their tool palettes really isn't that desired but it does come with some advantages (and disadvantages) as well.

Pros

- Can continue to work even when network connection is lost
- Often time local is faster than network (though with most tool palette functions this isn't noticeable)

Cons

- Still must have a central location on the network for the original files copied to each computer
- Must have a way to update the local files when changes are made

If the tool palettes are to be stored locally on each user's machine, then there must be a way to push the files to the individual computers. One method of doing this is to use the Microsoft program ROBOCOPY. There is an excellent class by Steven Sluka here on this topic: <https://www.autodesk.com/autodesk-university/class/Keep-Your-CAD-Customizations-Local-Rather-Making-Global-Mistake-2018>

Setting File Path in CAD

Once the storage location of the files has been determined, we must change the settings within CAD to reference this location. This is found on the Files tab of the Options dialog box (a simple way to access the Options dialog box, simply type OPTIONS at the command line). In the “Search paths, file names, and file locations:” section, scroll down and expand out the “Tool Palette File Locations” category.

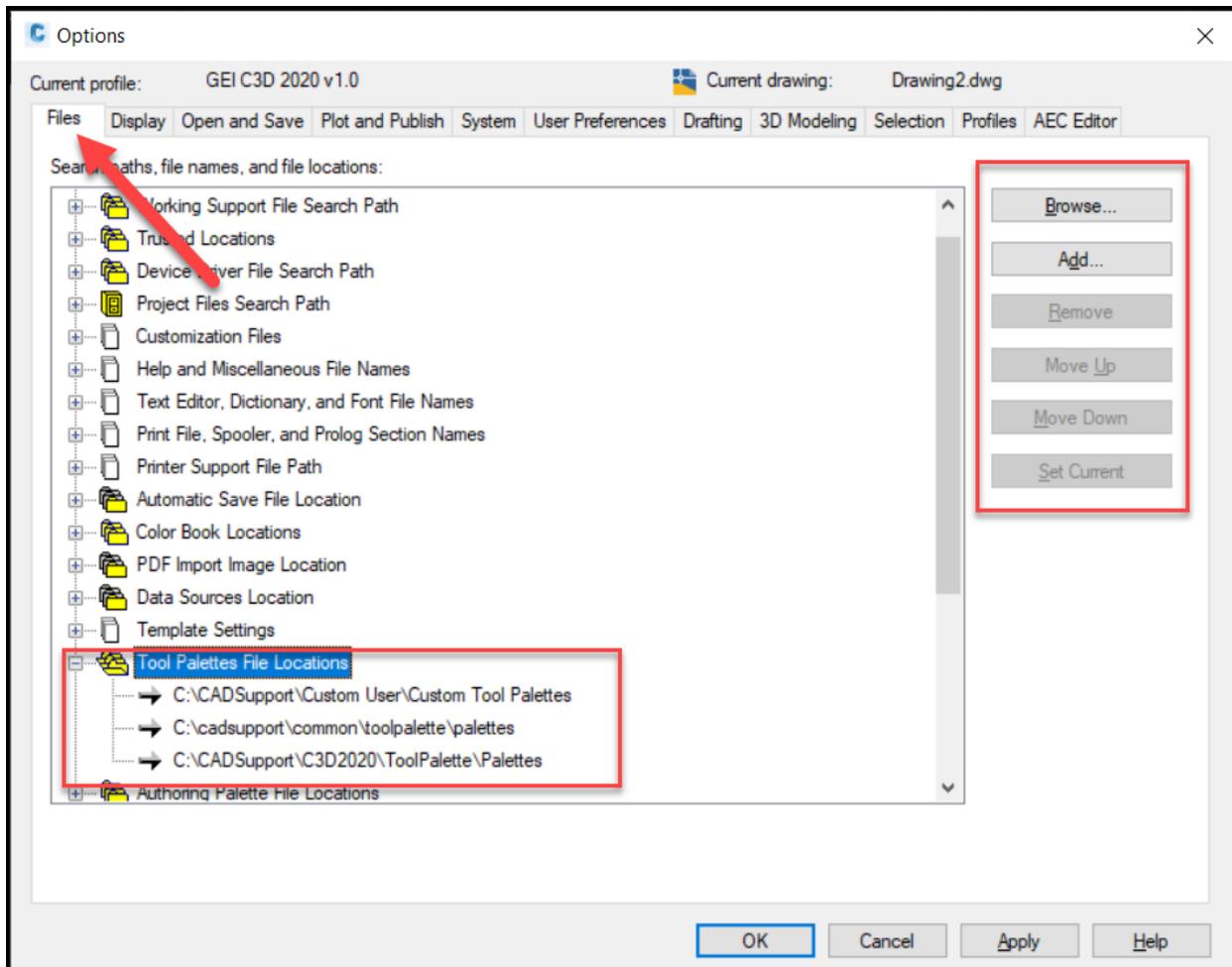


Figure 1 - Tool Palette File Locations

The current paths where the tool palette files are stored are listed under the “Tool Palette File Locations” category. These can be changed, edited, removed, and reordered using the buttons on the right side of the dialog box.

Tools on the Tool Palette

There are several different types of tools that can be placed on a tool palette (creating the tools and tool palettes is beyond the scope of this class). The following tools can be accessed via the tool palettes:

- Blocks
- Commands

AUTODESK UNIVERSITY

- Hatches
- Custom Vertical Options (i.e., Civil 3D Subassemblies)

Access Tool Palettes from Ribbon

Having a lot of tool palettes available for users is a great time saver but navigating between the different palettes can be difficult at times. A good organization scheme needs to be developed and this will vary depending on the type of work done. One of the worst ways to have users access the tool palettes is to have them manually switch to different tool palette groups or (even worse in my opinion) is to have every palette listed in the tool palettes window. Setting up buttons on the ribbon will make accessing the different tools much easier.

Organizing Tool Palettes

Prior to setting up the ribbon to access the tool palettes, they must be organized and grouped. Common tool palettes should be grouped together in a way that switching between them is minimized.

There are two different ways to organize your tool palettes, tool palette groups and folders on the drive. Just like most things in life, there are pros and cons to both methods.

Tool Palette Groups

Tool palette groups are probably the most common way tool palettes are organized. Right clicking on the tool palette will bring up a menu (to get this menu, right click on the tool palette where the text “Tool Palettes” is displayed) that will show you all the groups that are currently available. There is also an option in the right click menu to “Customize Palettes...”. This will allow you to create, edit, and remove groups.

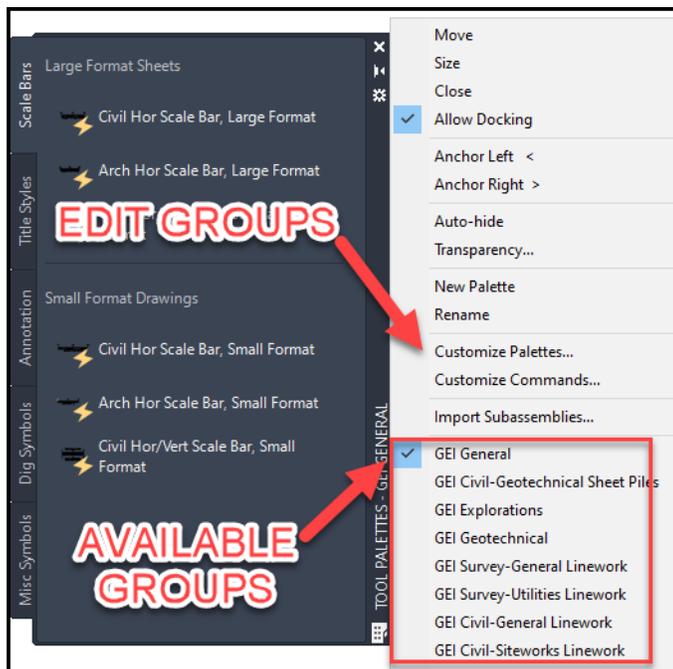


Figure 2 - Tool Palette Groups

AUTODESK UNIVERSITY

Folders

Tool palettes can also be organized into different folders. To switch to different tool palettes, the path to the tool palette folders would need to be changed (see Figure 1 - Tool Palette File Locations).

Pros and Cons

- Tool Palette Groups
 - Pros
 - Easier to navigate
 - No custom commands needed to switch
 - All files in one folder
 - Cons
 - Groups stored in user profile – difficult to update
- No Groups (Folders)
 - Pros
 - Very easy to update and add new palettes
 - Cons
 - Different folder for each “group”
 - Must use custom commands to change to different “group” or edit the file path in the Options

Accessing from the Ribbon

Once the method of organizing the tool palettes has been determined, the ribbon can be set up to give quick access to the different tool palettes. Although setting up the ribbon is beyond the scope of this class, (there are always great classes on it at the Autodesk University website), creating the command to go on the ribbon is not.

Ribbon Command for Groups

The command line can be used to switch to a different tool palette group and to a specific tool palette within that group. The command to do this is TPNAVIGATE. When running this command, it will ask which palette to display with an option to switch to a different group. To add this to a button on the ribbon depends on if you want to simply specify the group or if you want to switch to a specific palette on a specific group.

The syntax for a specific group and palette would look like this: **^C^C(command “tpnavigate” “g” “<name of tool palette group>” “<name of tool palette>”)** where you would replace **<name of tool palette group>** with the name of your group and **<name of tool palette>** with the name of your palette.

If you don't want to specify a specific palette, the syntax is almost identical except for specifying the name. Be aware, if you just end the command without a palette name, the command will still be active at the command line so you must end it with a couple of escapes (^C). It will look like this (replacing the obvious bits as mentioned above) **^C^C(command “tpnavigate” “g” “<name of tool palette group>”) ^C^C.**

Ribbon Command for Folders

If folders are being used to manage the tool palettes, then to switch to a different set of tool palettes, the search path for the tool palettes must be changed. Just like when

AUTODESK UNIVERSITY

changing the tool palette group, there is a command in AutoCAD that will allow you to specify new search paths for the tool palettes in the options. The command is `*_TOOLPALETTEPATH`. Yes, there's an asterisk and underscore in front of the command. If those aren't included, it will return an unknown command. After entering the command, AutoCAD will prompt for the path (or paths) for the tool palettes. This should be entered all at once as a single string in quotations marks, with the paths separated by semi-colons, and should look something like this: "C:\PATH 1;C:\PATH 2". To put this onto a command on the ribbon, the syntax all together will look like this:
^C^C(command "*_toolpalettepath" "C:\path 1;C:\path 2;C:\path 3")

Ribbon Command

For either of these methods, the syntax mentioned above will go in the macro section of the command like this:

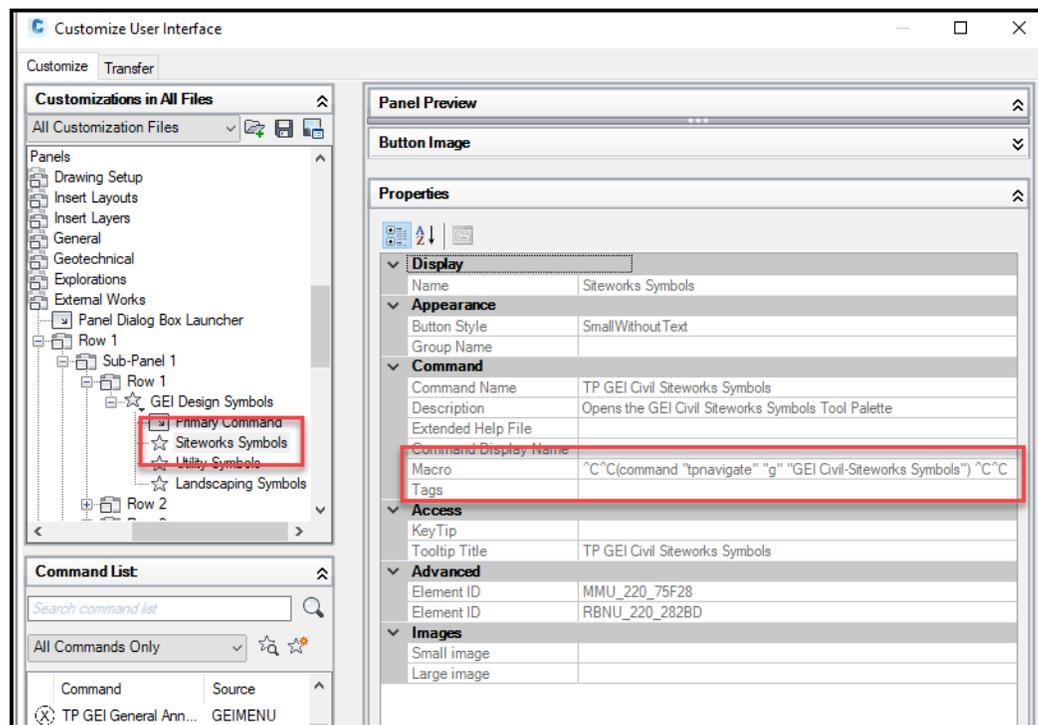


Figure 3 - Palettes on the Ribbon

User Custom Tool Palettes

Setting up standards is important. It allows everyone in an organization to be able to work on any project and have them all come out looking the same. Standards should not (in my opinion) prevent people from customizing their CAD. Being able to customize CAD is one the huge advantages AutoCAD has over other drafting programs. With that being said, tool palettes is one of those areas that users can customize. The problem is then, if all the tool palettes are on a network drive or regularly updated when the CAD Manager makes changes to them, how can a user keep their custom tool palettes?

AUTODESK UNIVERSITY

The solution is quite simple. All that needs to be done is create a folder on the user's hard drive that contains the custom palettes and have that be the first path in the search path. When creating new tool palettes, AutoCAD will place the new files for the tool palette in the first path in the search path.

If tool palette groups are being used to organize the tool palettes, this should work just fine as the tool palette groups are stored in the user's profile (AutoCAD profile, not Windows profile). If the folders are being used, each command to switch between folders will need to have the path to the custom folder included as the first item and should look something like this:

^C^C(command “*_toolpalettepath” “C:\custom user path;B:\company path 1;B:\company path 2”).

If the option to store the tool palette files on the user's local hard drive is being used and a tool such as RoboCopy is used to update those folders, make sure that the users custom tool palette path is not included in the update routine because that can overwrite any custom palettes the user creates.

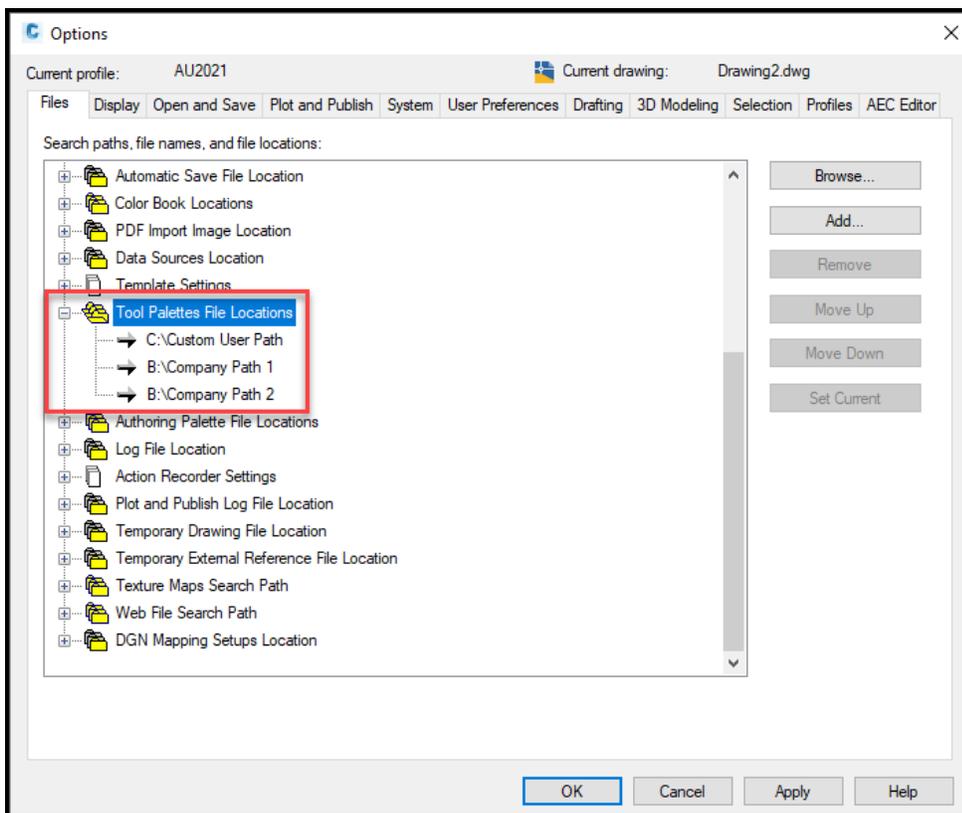


Figure 4 - User Custom Tool Palette Path Example

Update Tool Palettes

When it's time to update the tool palettes, the general process is straight forward. Simply update the tool palettes and then copy the tool palette files to the location in the search path.

AUTODESK UNIVERSITY

One primary hurdle that will need to be overcome is if groups are being used to organize the tool palettes and the groups are changed. This is because the groups (not the palettes) are stored in the user's profile (AutoCAD profile, not Windows profile) for each user on each machine. To update the groups there are two methods, 1) Replace the user's profile with a new profile specifying the groups and 2) Export out the groups and then import them into the AutoCAD profile.

Replacing the user's profile is not very desirable as most users tend to customize those little things like the size of their cross hairs, the background color of the model space, the pickbox size, etc. Importing a new profile will overwrite the user's current profile and will reset all these settings.

Exporting the groups also isn't very desirable as it's a very manual process. To export and import tool palette groups, go into the customize option of the tool palettes (as shown in Figure 2 - Tool Palette Groups), right click on the tool palette to export, and choose "Export...". Once all the groups have been exported, import the group using the same method, right click and choose "Import...".

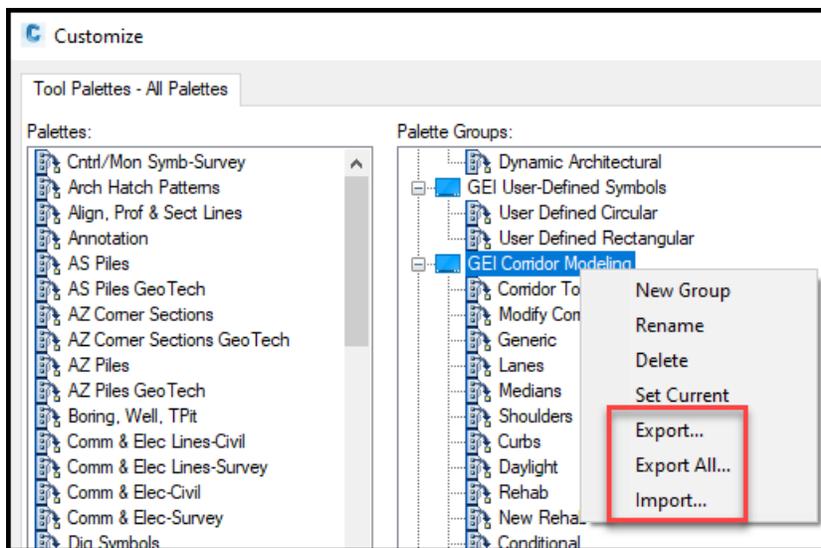


Figure 5 - Importing and Exporting Palette Groups

If anyone has a better way of updating the groups for a user without manually exporting/importing the groups or overwriting the profile, please contact me. I would greatly appreciate it!