# CADD FILE MANAGEMENT PROCEDURES FOR WORKING REMOTELY

*UPDATED 4/1/2020*

***This procedure applies to AutoCAD, Civil3D, and MicroStation; and is designed for situations where users do not have access to collaboration tools such as ProjectWise or BIM360.***

This procedure is applicable when working on files from the server or from VPN results in significant negative impacts on users' ability to work effectively, and multiple users on a project team are working on the CADD files.

When multiple users are working on the same set of CADD files, **communication is critical!** The first step in the process is to determine who "owns" each file. Coordinate with PM and other members of project team to plan out which files (or groups of files) will be assigned to each team member, noting that only the "owner" of each file will be allowed to work on it.

## KEY DETAILS

There are a few key items that users need to be aware of before getting started working with CADD files from home:

- You must be connected to the VPN for everything to work. Your CADD software license, client workspace files, linestyles, details, etc. live on the server so you will need to be connected to VPN to access them.
- You must connect to and open the drive where CADD resources (linestyles, client workspace configurations, etc.) are stored – Some drives named with letters (I:\, K:\, etc.) do not connect until first use. This means that each user must go to their My PC window and double-click on it to open ***prior to opening your CADD program***.
- Rename folders only, not individual files. Many of our projects include dozens of linked CADD files. In order to minimize the potential for errors when renaming files, these procedures are designed around ***renaming folders instead of files***.
- Refrain from using sheets sets, particularly in C3D 2018. If a user tries to detach an existing sheet set to create a new one after moving files to OneDrive, it won't actually detach and causes errors. ***This is a known Autodesk bug.***
- Make sure that the power options on your laptop are set so that your hard drive never goes to sleep when plugged in.
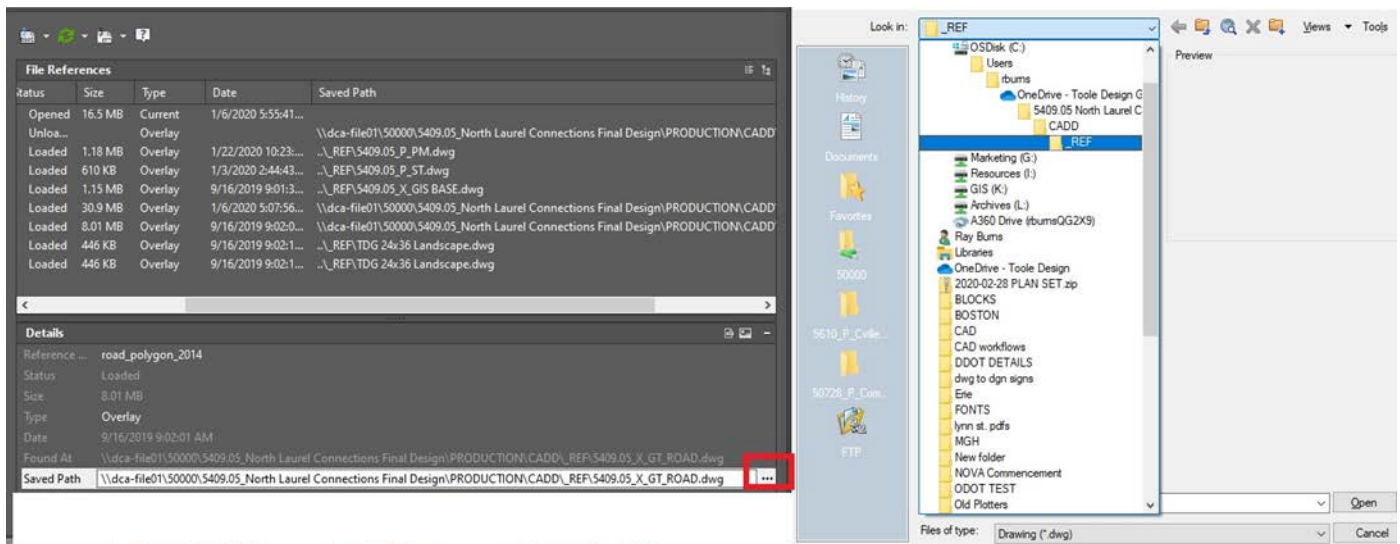
## REFERENCE PATHS

If the original drawing's reference files have been set up with relative paths, they should appear as normal in the copied drawing file on One Drive. Occasionally you will have to temporarily re-path a reference as necessary if it is also going to be edited. (This will have to be set back to its original location once operating from the server again.)

Ideally, this would be done prior to leaving the office, while still working from the server.

**Note that OneDrive has a file size limit of 15 GB. If you are working with large files like aerial images or city/countywide GIS, those reference files may need to be placed at another location on your C:\ Drive and the reference path adjusted accordingly.**
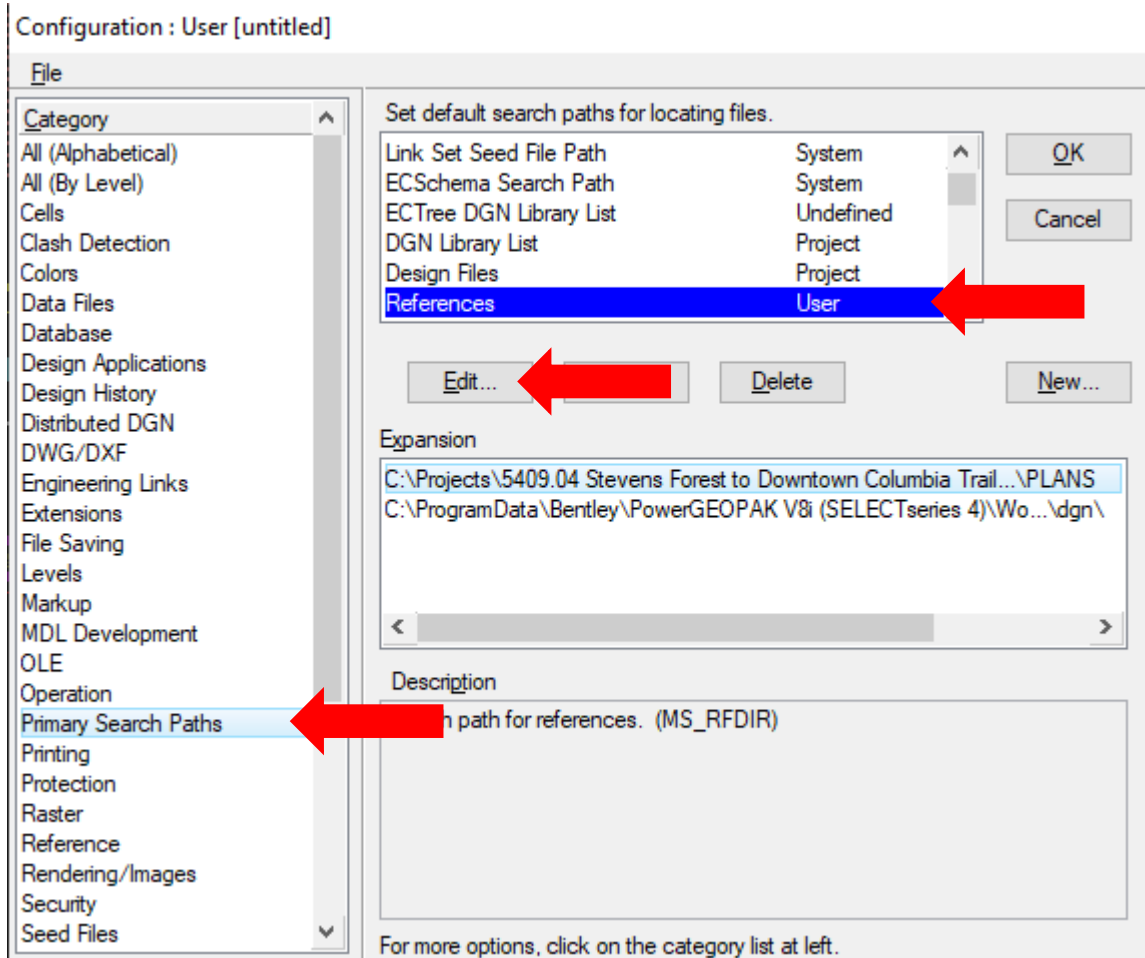
*AutoCAD and Civil3D*

In the image below a reference points to the server. You can change the path in AutoCAD by selecting the reference file from the list. The saved path displays at the bottom in the details box. Select the ellipsis at the end of the row to select a new path that points to the reference folder on the One Drive.



If you need to re-path multiple reference files, or if you are already working from home, use Autodesk Reference Manager.
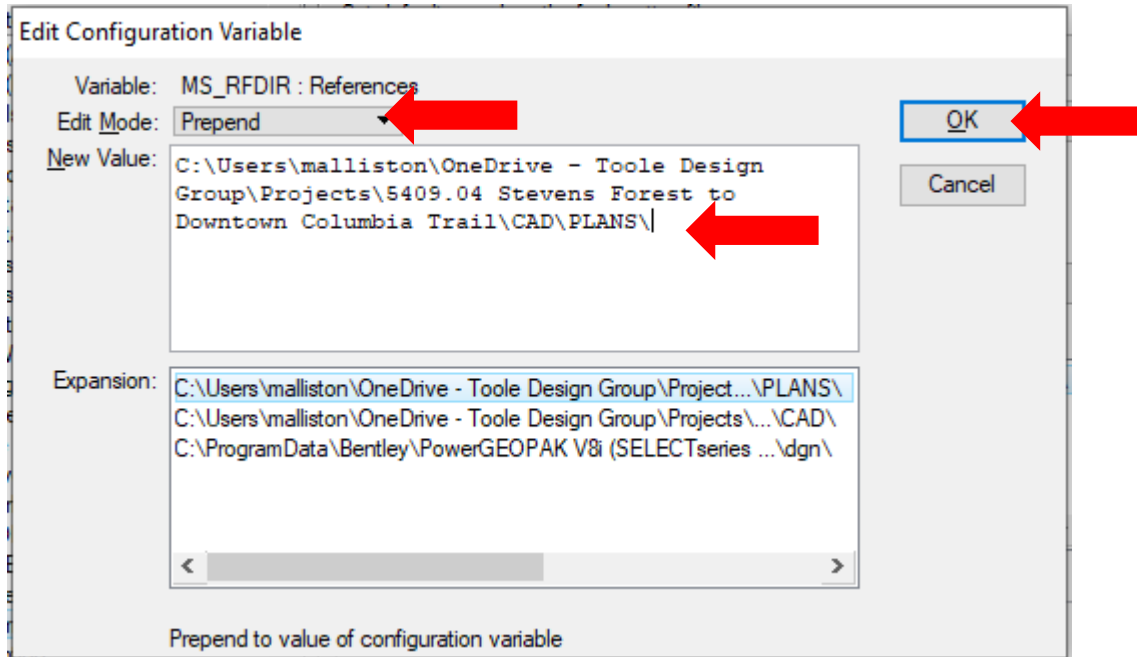
*MicroStation*

For MicroStation, you can temporarily add one or more reference file search paths to your



Primary Search Path configuration variable for reference files. Start by selecting ***Workspace --> Configuration***

On the menu that comes up, select ***Primary Search Paths*** in the left-hand column, scroll down and select ***References*** in the top right box, and click ***Edit***.

On the next screen that pops up, select *Prepend* as the *Edit Mode,* copy and paste the path to the location of the reference files on your computer, and click *OK*. Note that the new path *must* end with a **\ (backslash)**.
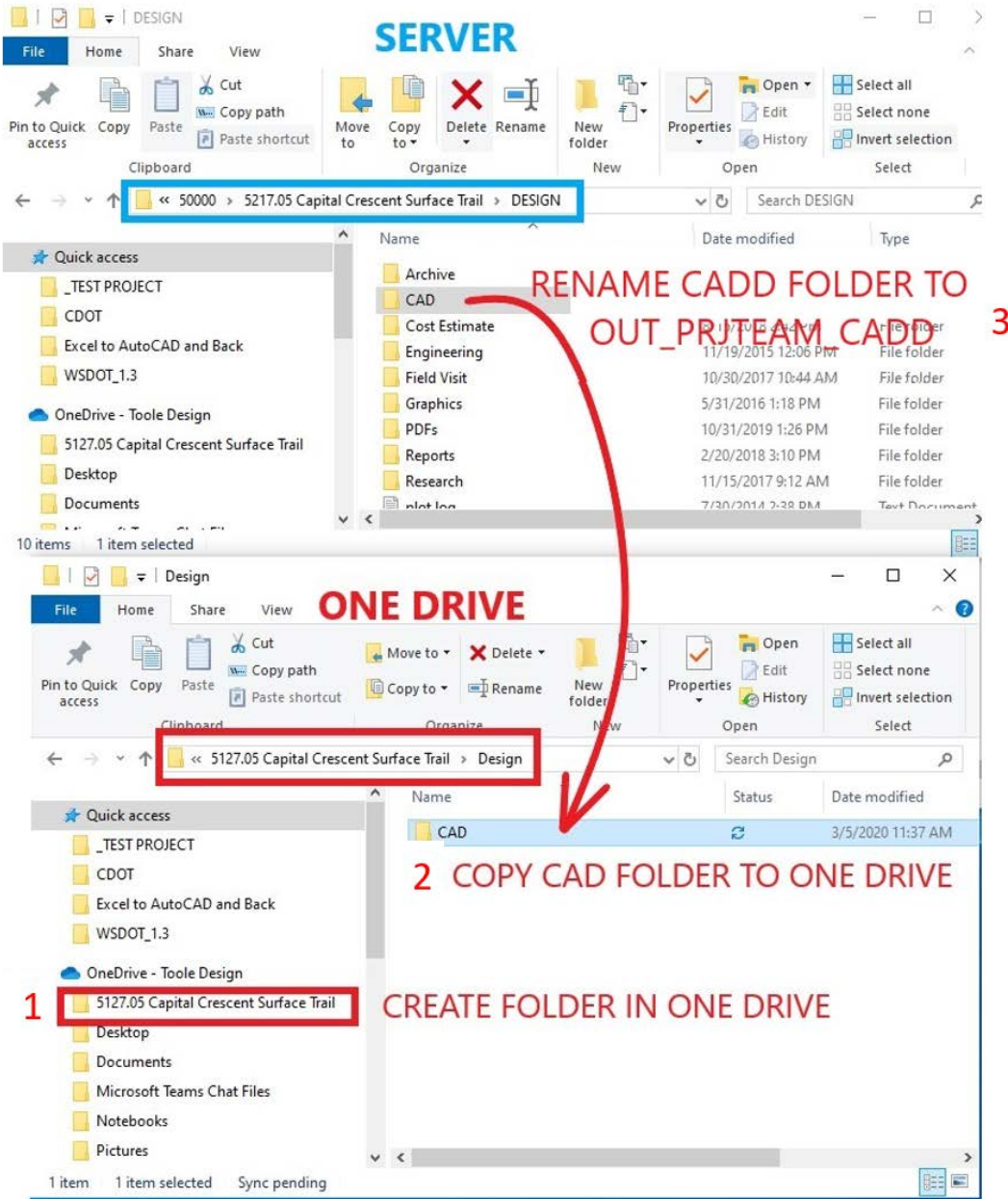


When asked if you want to save the configuration changes, click OK.

Multiple search paths can be added, and must be separated by a *; (semicolon)*. While it is possible to add all the search paths for all of the projects you are working on, it is recommended that you add no more than 4-5 search paths to this variable at a time to avoid confusion. (Note that MicroStation will search each path in the order it is listed.)

## COPYING FILES FROM THE SERVER TO YOUR ONEDRIVE FOLDER

1. Begin by creating a project folder on your One Drive and give it the project number corresponding to the project number on the server. *(Note that this is the OneDrive folder on your PC, not OneDrive folder that you access from the web.)*
2. Rename the CAD folder in the project on the server to OUT_PRJTEAM_CADD
3. Copy the entire CAD folder from the server into the new folder in the One Drive
4. For reference files and images in Excess of 15 GB copy those files to a separate, similarly named folder on your C:\ Drive. Re-path large reference files as described above.
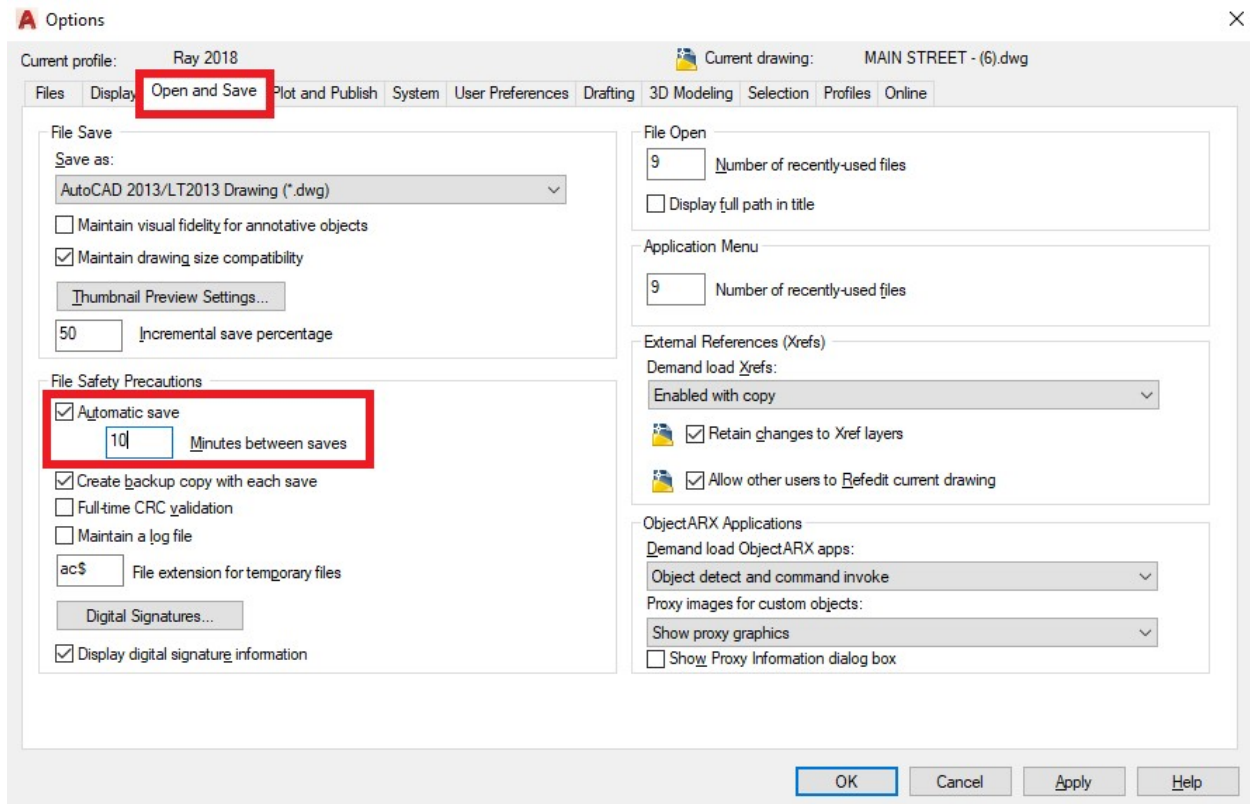
**Each project team member should copy the entire CADD folder including all subfolders and files to your personal OneDrive folder and edit as needed.** *NOTE DATE AND TIME FILES WERE COPIED FROM THE SERVER! (THIS WILL BE THE ONLY WAY YOU CAN TELL IF SOMEONE ELSE WORKED ON THEM WHILE YOU HAD THEM CHECKED OUT!)* **Each team member should only work on the files assigned to them.**

For non-cad linked data, such as aerial photos, it may be possible to copy them into the same file as the CADD files you are working on (typically in the _XREF or Plans folder), so they will show up without having to reset reference file paths. If this does not work or files are too large, copy the folder where the linked data is stored to the project folder on your C:\Drive in its

entirety, and re-path those reference files as described above. If data is editable by others, rename the server folder, adding OUT_PRJTEAM_ to the beginning of the folder name.

## AUTOMATIC SAVES IN AUTOCAD

You may now open the CAD files on your One Drive and begin editing. Be sure to set the automatic save interval to 10 minutes. You can do this by entering OP at the command line in AutoCAD or Civil 3D. this will open the Options dialog box.
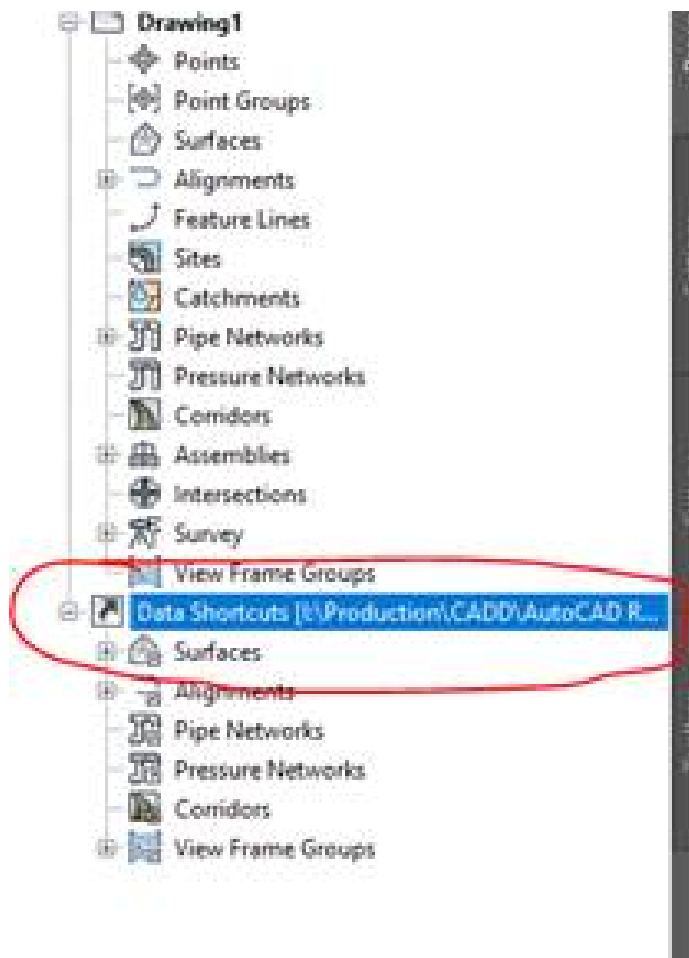


Select the Open and Save tab as shown above and check on Automatic Save and enter in 10 for minutes between saves.

## SHEET SET CONSIDERATIONS

**Do not use an existing sheet set to navigate between or plot drawings stored on your OneDrive folder. In some versions of AutoCAD/Civil3D, there is a known software bug that will not allow detaching one sheet and creating a new one for files on your local drive. Do not attempt to create any new sheet set or modify an existing sheet set while files are stored in your OneDrive folder.**

# DATA SHORTCUTS



For small projects with few files and few data shortcuts, users are encouraged to try and work from the server, so that data shortcuts remain intact. However, for larger projects that have many files and more than 3-4 data links, the effort to recreate all of them every time you copy files back and forth form the server can be very cumbersome. In that case, leave the data shortcuts on the server and do the following:

1. Copy the design file(s) down as shown below.
2. Rename the project folder to break the links. Leave them links themselves alone. Do not delete them. They will reconnect once the folder is restored to its original name.
3. Make changes or create new C3D items, but do not create or update data shortcuts from your C drive. Only make changes after the file is moved back to the server and folder name has been restored.
4. When finished making edits, upload design file(s) back server and restore folder to its original name.
5. Data shortcuts in Toolspace will likely have a yellow warning symbol. Validate data shortcuts from the bottom menu (seen below) in Toolspace.

6. Synchronize once data shortcuts are validated.

## COPYING FILES BACK TO THE SERVER

When you have finished making edits to the CAD files and are ready to place them back on the server, *check server versions of any modified files to ensure date/time on the server are earlier than the date/time when files were checked out*. If yes, copy only modified files back to server and remove "OUT_PRJTEAM_" from folder name. *If no, coordinate with other members of project team and determine the best strategy for merging information if needed.*

**Each team member should update their assigned files on the server at the end of each workday at a minimum, or as agreed by the project team. Before beginning work the following morning, each team member will need to download the most recent copy of other users updated files to ensure each user is working with the most recent reference and data files.**

Once all changes have been made, and files are ready to be permanently transferred back to the server, rename the project folder on OneDrive and any project folders on your C:\Drive by adding the word ARCHIVE to the folder name. This will prevent CADD from finding reference files on your personal hard drive, but will allow you to hang onto the local copy until you are sure everything is safely back on the server.

MicroStation users should delete any extraneous reference file search paths from their workspace configuration by using the process described above, and selecting the "*Overwrite*" Edit Mode instead of "*Prepend*."