

CES223210

7 Easy Ways to Speed Up Drawings

Derek Gauer
Gauer and Associates

Prem Joseph
SolidCAD

Learning Objectives:

- How to recognize drawing corruption
- How to keep DWG files clean from corruption
- How to use Autodesk tools to keep your files clean
- How to prevent corruption in the first place

Description

Have you experienced any of these issues with AutoCAD products: slow opening of drawings, crashing, pausing within AutoCAD, and slow plotting?

Clients, sub-consultants, and approving agencies often have DWG™ files that get corrupted. This can cause loss of work and missed deadlines. Drawing corruption can range from small annoying issues to being unable to open or print files. This corruption can affect your files and spread across your projects rapidly. In this session, we will explore methodologies and workflows to prevent files from getting corrupted due to internal and external factors. We will review 7 things that cause drawing slowness, and we'll show how to repair the drawings.

Speaker(s)

Derek Gauer – Gauer and Associates

Derek Gauer has more than 25 years of CAD Management experience and is currently an independent Technical Consultant for the AEC industry in Canada.

Consultant services offered by Derek Gauer:

- CAD/BIM Management
- Project workflow setup
- CAD Standards creation and deployment
- Advanced Autodesk license server optimization
- Automation of software installs/uninstalls using Microsoft system center configuration manager
- Projectwise, Revit Server, BIM 360, AutoCAD/Civil 3d file cleanup and optimization

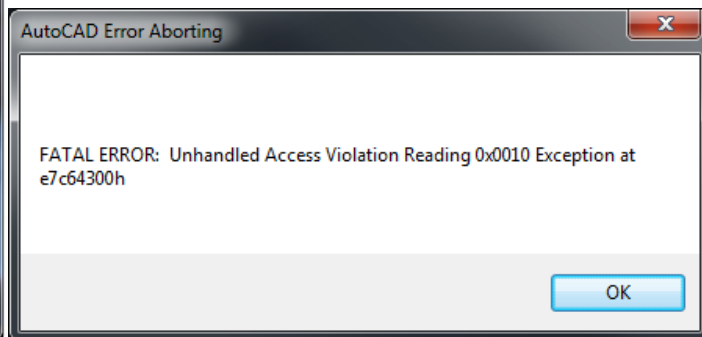
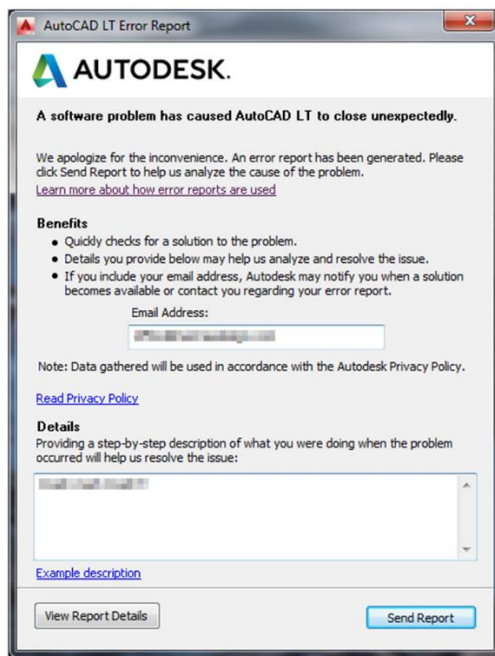
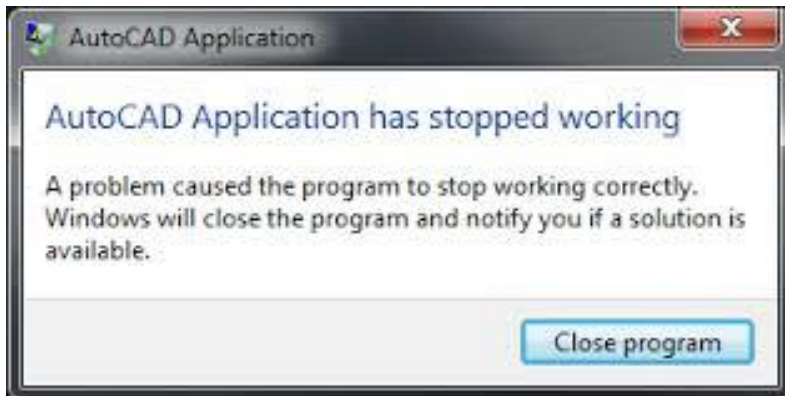
Prem Joseph - SolidCAD

- Bachelor's Degree in Civil Engineering
- 22 years of combined experience
- 18 years in Autodesk Reseller Channel
- Autodesk Certified Trainer & Implementation Expert
- Consulting focus on transportation, municipal engineering and land development
- Founder of the Ontario Civil Infrastructure Users Group (www.GBUG.ca)
- Believe in Civil BIM (BIMfrastructure)

Session timeline for this 60-minute class

- PowerPoint presentation 30 minutes
- Demo 15 minutes
- Questions 15 minutes

Have you experienced any of these issues with AutoCAD™ products: slow opening of drawings, crashing, pausing within AutoCAD™, panning /zooming and slow plotting?



What is the issue?

What does Autodesk say?

AutoCAD or AutoCAD vertical (.DWG) file corruption can be seen through one or more of the following symptoms:

File will not open

File will open with errors

File hangs or crashes AutoCAD

Slow performance when editing and manipulating the file

Error messages when working in the file

Commands do not work or there is considerable delay in operation

Unexplained file size increases

Display/ Regen problems

Drawing elements missing or shown incorrectly”

<https://knowledge.autodesk.com/support/autocad/troubleshooting/caas/sfdcarticles/sfdcarticles/AutoCAD-File-Corruption.html>

What is the Cause?

File Corruption

This could be caused by hidden corruption in the files and they can spread from one file to another like a virus, either by referencing or copying objects between files.

There seems to be a recent increase of this type of file corruption. How big and wide spread is this issue?

Autodesk™ has taken it seriously and has released various free tools to clean up drawings. We will be demonstrating some of these cleanup tools in this class.

What Autodesk Says

Causes:

“Corruption can be introduced in numerous ways; some examples are listed below:

Third-party applications running inside AutoCAD

DWG files created or saved by non-Autodesk or non-RealDWG products

AutoCAD terminated while saving the drawing

Old drawings used repeatedly over long time periods

Network anomalies (transmission errors, file locking, latent writing of data)

Storage media degradation (bad sectors on a hard drive)

Defective or failing RAM

Operating System issues

Power surges

Outdated software”

<https://knowledge.autodesk.com/support/autocad/troubleshooting/caas/sfdcarticles/sfdcarticles/AutoCAD-File-Corruption.html>

Why is this happening?

A few theories

- The adoption of a BIM process. Companies are now sharing more data rapidly than ever before and using the data without reviewing it first. Some of this data is corrupted and can spread to other files.
- The use of Non-Autodesk products to produce DWG™ files or the conversion files between software platforms.
- Saving files to previous versions without cleanup.
- Unpatched software.
- Sloppy workflows – incorrect use of copy paste.
- More complicated software and novice users.
- Opening files from Cloud based systems.

What does corruption look like?

Corruption

What does corruption do and look like in drawings? Some of the common issues in drawings are:

- Corruption in blocks
- Corrupt viewports
- Corrupt layouts
- Excessive register applications
- Excessive scale lists

- DGN linetypes
- Bad linetypes or Shapefiles

We will be presenting 7 Easy Ways to Speed Up Drawings

1. Drawing setup
2. Standards setup
3. Corruption cleanup in single files in within AutoCAD products
 - Audit
 - -Purge (Regapps)
 - -Purge (Orphan objects)
 - Remove missing fonts
 - Overkill
 - MapClean
 - Civil 3d styles
 - Overkill
 - Save
4. TrueView
 - Cleaning multiple files using TrueView
5. Regapp ID cleanup Utility for AutoCAD
 - Cleaning multiple files using Regapp ID Cleanup Utility
6. Scale lists Cleanup Utility
 - Scale list Cleanup utility for AutoCAD
7. Autodesk Batch Save Utility
 - Autodesk Batch Save utility for Civil 3d

1. Drawing Setup

- Too many layouts or viewports in paper space or irregularly shaped viewports
- Use solid hatch instead of cross hatch or dots. Excessive hatch in drawings
- Transparency left on, turn off transparency when not required
- Too many xref's or broken xref links

- Use file clipping – xclip, imageclip, (XLOADCTL set to 3 default)
- Remove missing fonts in drawings

2. Standards Setup

Bad setup/standards for AutoCAD based products

- Opening boated or corrupt templates on startup (Reduce size of template and ensure the files are clean)
- Too many lisp routines running and or 3rd party applications running (Reduce lisp routines on startup or on file open)
- Pointing network drives or remote servers for file locations (point file locations to local server or local computer)
- Opening files from remote server or cloud file system
- Standards checker constantly running (turn off standard checker when not necessary)

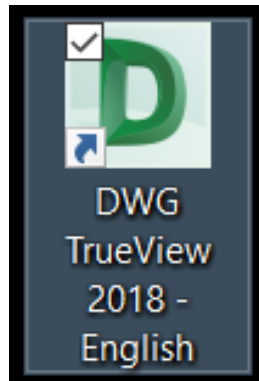
3. Corruption cleanup in single files within AutoCAD based products

Perform a full save before running any of these commands!

- AUDIT
- -PURGE (“R” Regapps)
- -PURGE (“O” Orphan objects)
- SCALELISTEDIT (“R”for rest, then “Y” for yes)
- Remove missing fonts
- OVERKILL (AutoCAD command use with caution)
- MAPCLEAN (AutoCAD Map/Civil 3d)
- Civil 3d styles (remove styles or corrupt styles)
- Save (patched Civil 3d or AutoCAD with Object Enabler)

4. Trueview

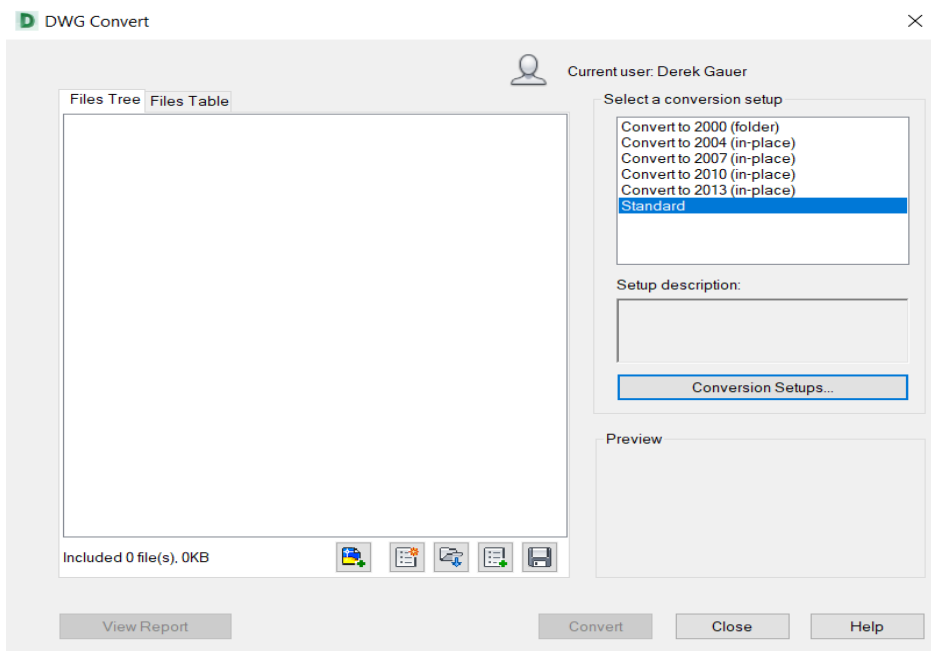
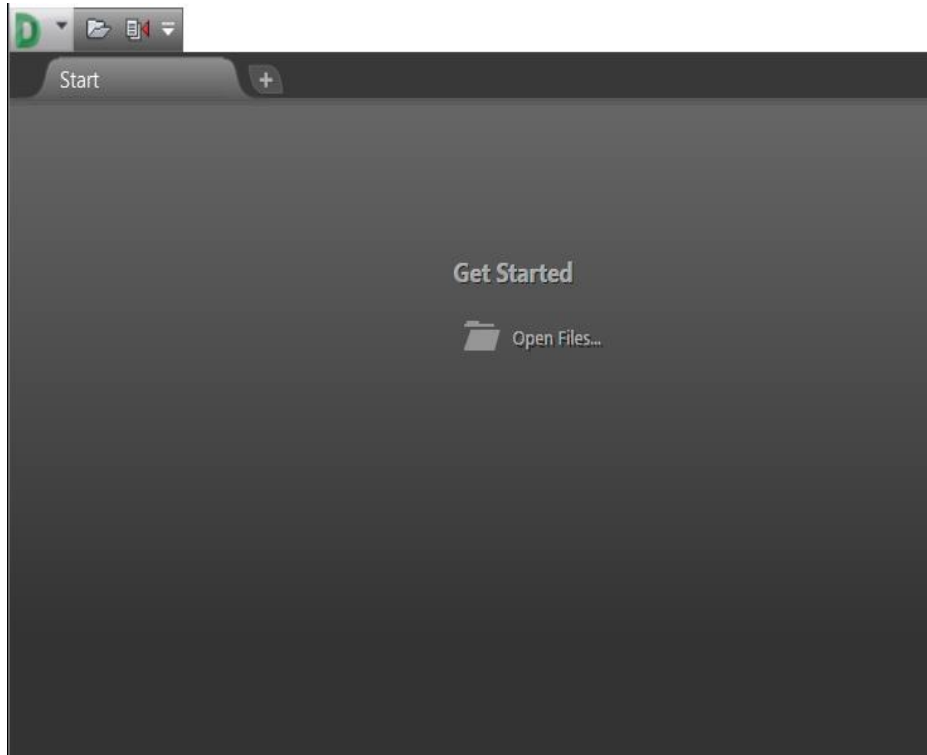
Cleaning multiple files using TrueView 2018. I have not found a download for a 2019 version.

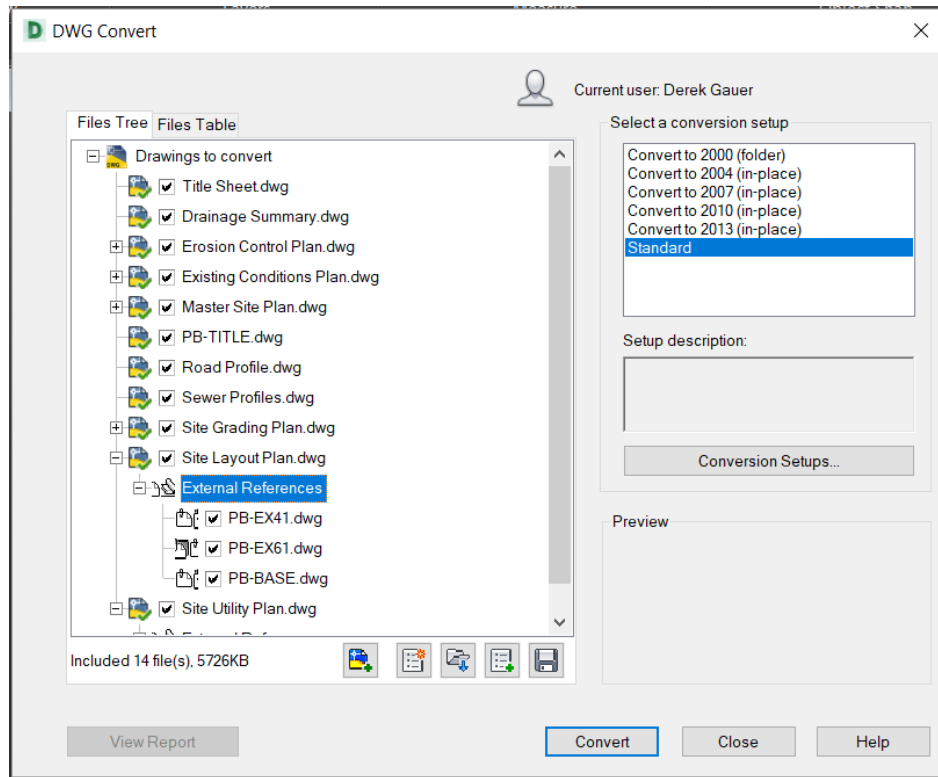
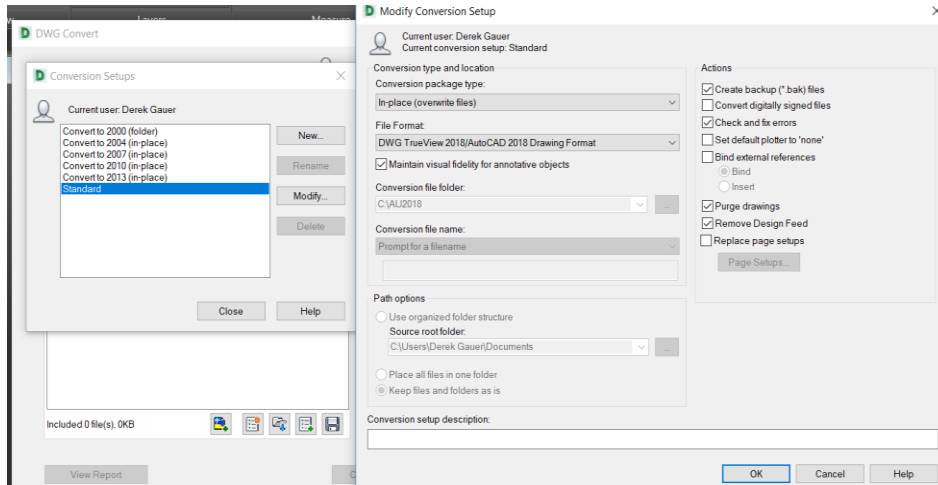


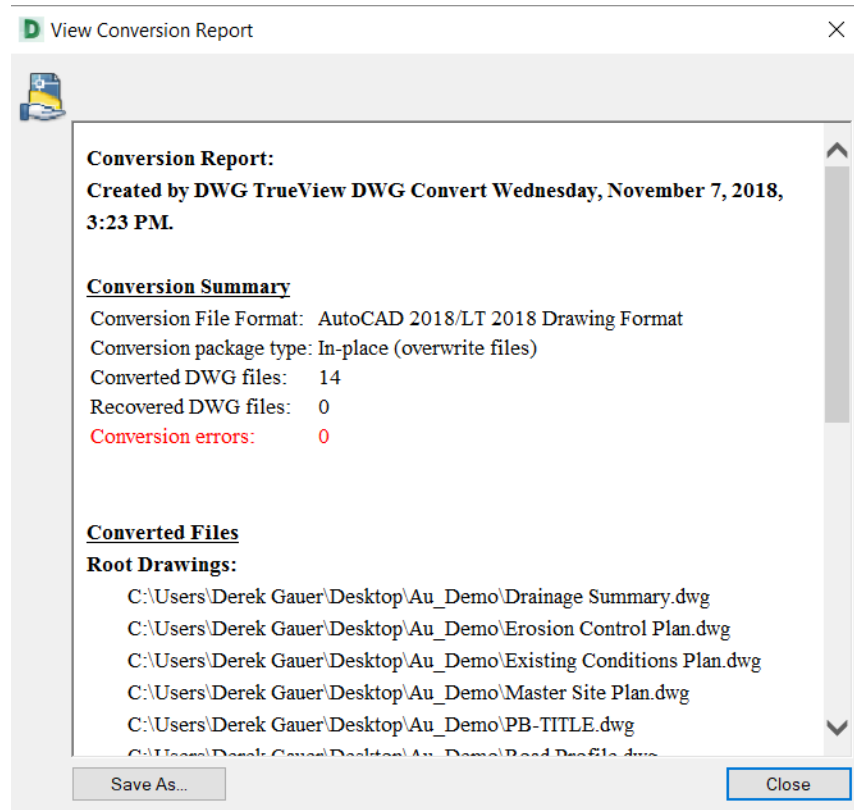
<https://knowledge.autodesk.com/support/dwg-trueview/learn-explore/caas/sfdcarticles/sfdcarticles/How-to-download-DWG-TrueView.html>

What can you do with TrueView

- You can clean multiple files including any xref's
- Create Backup (*.bak) files
- Convert digitally signed files
- Check and fix errors (Audit)
- Set default plotter to none
- Bind external references
- Purge drawings
- Remove design feed
- Replace page setups
- Remove saved reference paths







5. Regapp ID Cleaner Utility for AutoCAD

Clean multiple drawings with Regapp ID Cleaner for AutoCAD



<https://knowledge.autodesk.com/support/autocad/learn-explore/caas/sfdcarticles/sfdcarticles/How-to-install-the-Regapp-ID-Cleanup-Utility-for-AutoCAD.html>

What are Regapps?

“Regapp is short for “registered application.” Using one of the Autodesk-provided APIs (AutoLISP, ObjectARX, .NET, and so on) it is possible to attach Extended Entity Data (XData) to objects in a drawing. This XData allows different types of information to be associated with specific objects and extends data storage options in AutoCAD. XData is grouped by registered application name and a registered application name is required to identify the XData. In order for an application to store and retrieve XData, it must reference a unique regapp ID. A regapp name (or ID) is an identifier of XData that that is (or was) attached to objects in the drawing.

When objects with attached XData are deleted from a drawing, the associated regapp IDs become unreferenced and persist in the Application ID (APPID) symbol table until they are manually purged from the database. When a file contains a large amount of unreferenced regapp IDs, they can add considerably to file size and can negatively affect performance. If you xref attach a drawing that contains regapp IDs, those IDs are cloned into the host drawing and can remain in the host even after the xref has been detached. To correct this issue, the unreferenced regapp IDs need to be purged from the drawing.”

<https://knowledge.autodesk.com/support/autocad/troubleshooting/caas/sfdcarticles/sfdcarticles/Excess-unreferenced-regapp-IDs-causing-performance-issues.html>

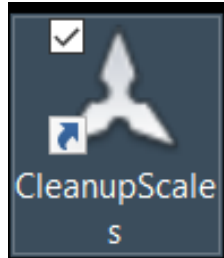
Why should we care?

I have personally seen drawings with in excess of 250, 000 Regapps in one drawing. This will bloat the drawing size and cause the drawing operate extremely slowly, and possibly crash. These Regapps can then spread to other drawings via xrefs, and copy pasting objects.

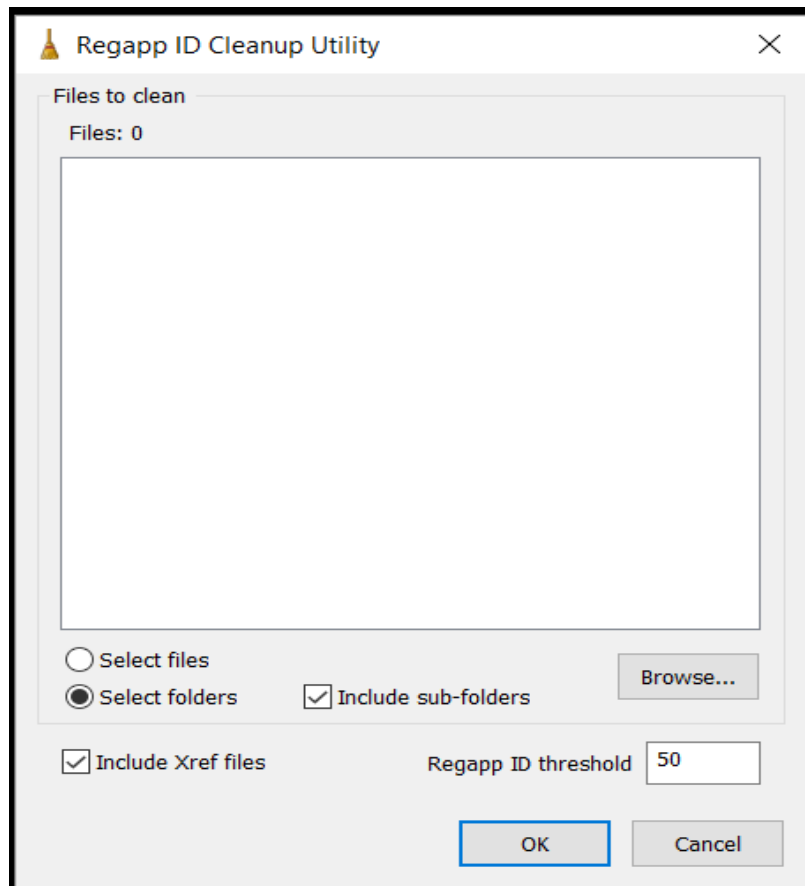
A normal number of Regapps is less than 50.

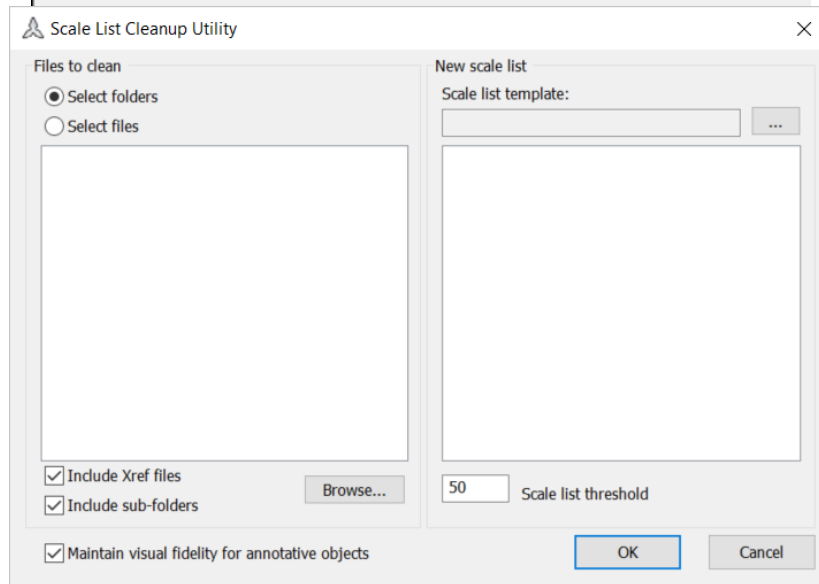
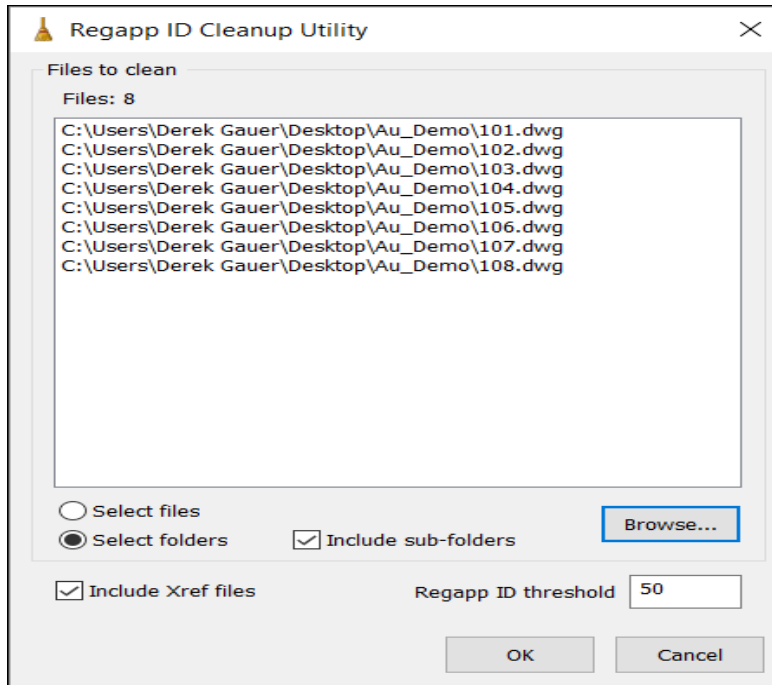
Clean multiple drawings with Regapp ID Cleaner. Remove excessive Regapps from multiple drawings outside of AutoCAD based products.

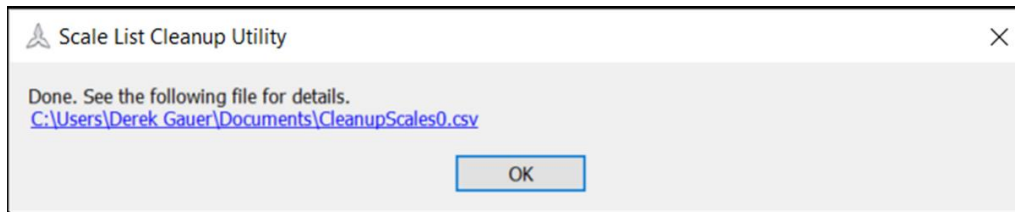
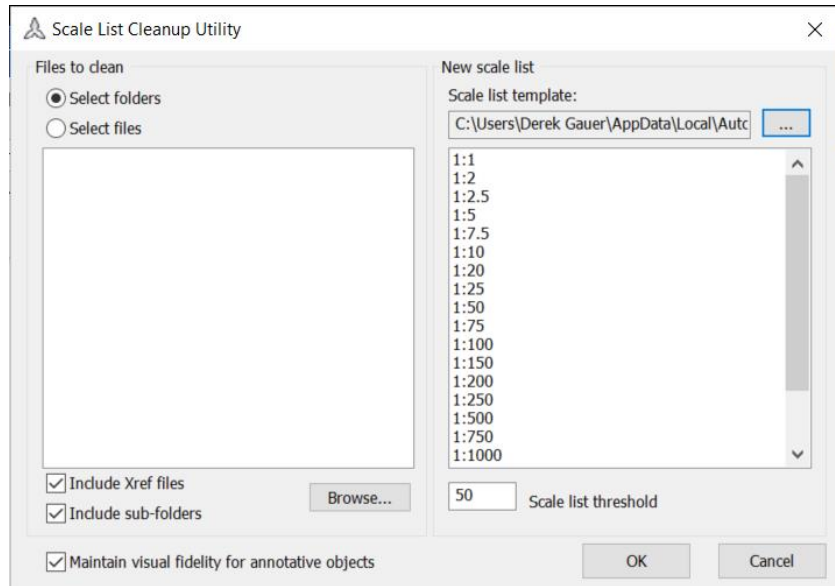
6. Scale List Cleaner Utility for AutoCAD



<https://knowledge.autodesk.com/support/autocad/learn-explore/caas/sfdcarticles/sfdcarticles/How-to-install-the-Regapp-ID-Cleanup-Utility-for-AutoCAD.html>

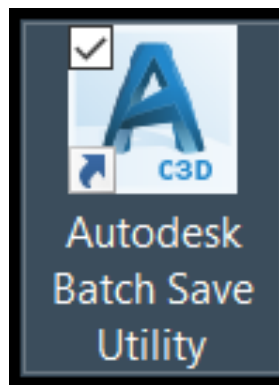






7. Autodesk Batch Save Utility

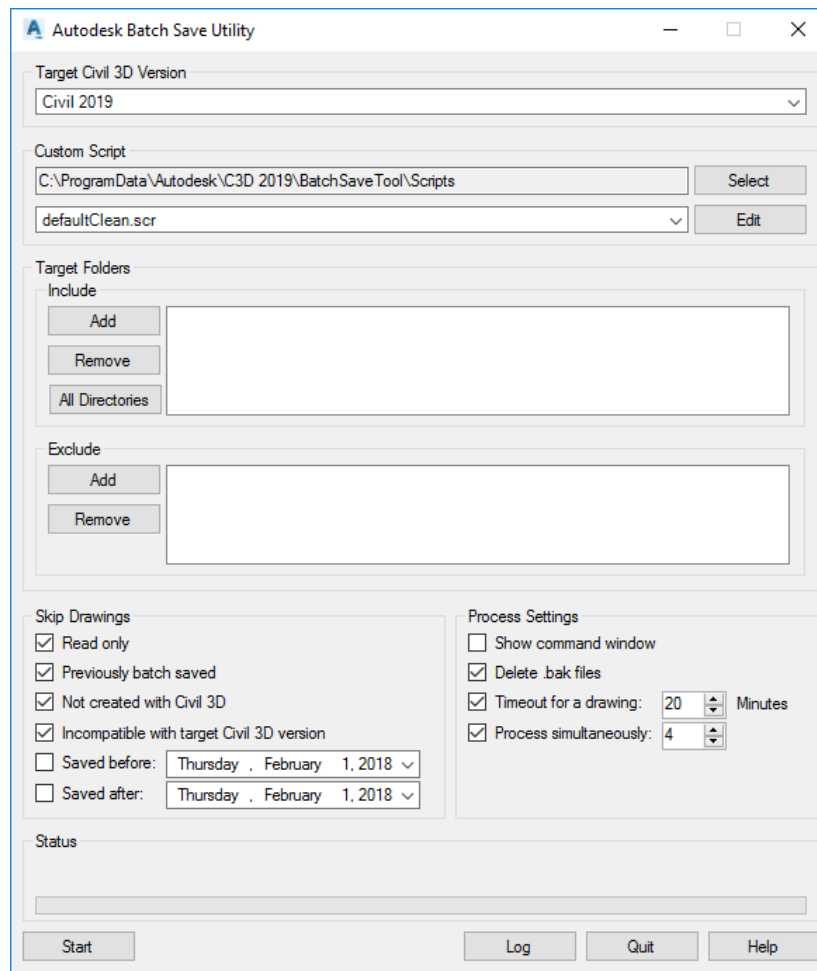
Clean multiple drawings with the Autodesk Batch Save Utility. Clean multiple drawings outside of Civil 3ds.

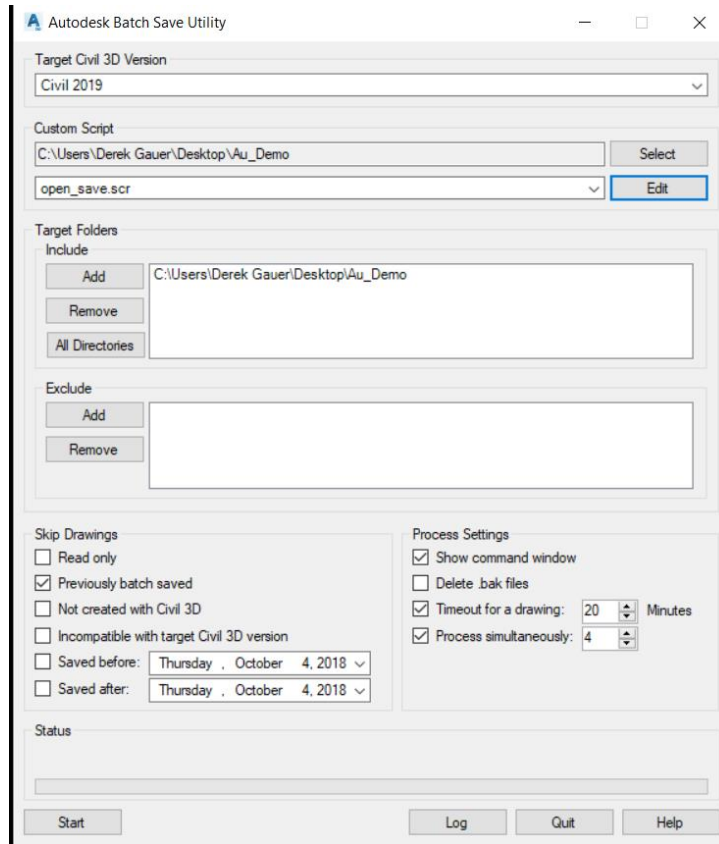


<https://knowledge.autodesk.com/support/civil-3d/learn-explore/caas/CloudHelp/cloudhelp/2019/ENU/Civil3D-UserGuide/files/GUID-81E641AD-1512-4DCC-84D6-6F4C23067B0C-htm.html>

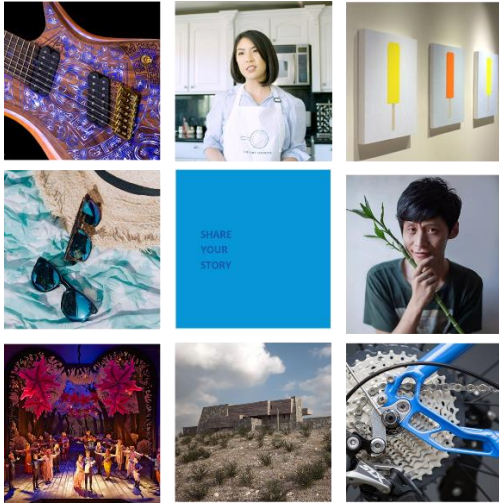
<https://knowledge.autodesk.com/support/civil-3d/learn-explore/caas/CloudHelp/cloudhelp/2019/ENU/Civil3D-UserGuide/files/GUID-6B116C2F-25C3-45F4-B3FF-2C7801A99C95-htm.html>

You need Civil 3d on your machine to run this application. If you own AEC collection, it includes Civil 3d.





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We want to hear your story!

Go to: autode.sk/autocadstory

We know that the best way to tell the AutoCAD story is to tell the stories of you, the people who use it. Tell us your project for a chance to be featured by AutoCAD.

Thank You

Derek Gauer
Title: Technical Consultant
E-mail: dgauer@cogeco.ca

Prem Joseph
Title: Technology Consultant
E-mail: prem.joseph@solidcad.ca