MONTANA
Department of Transportation

Project Development & Delivery - Digital Design and Modeling Services

Tip Guide

Application/Tool(s):	AutoCAD / Civil 3D
Version(s):	13.6.2123.0 Civil 3D 2024.4.6 Update
Environment:	MDT Civil 3D State Kit r2024 v2.3.1
Released/Revised:	3/11/2026

SUPPORT
Open a Case

DISABLE STORING OF REFERENCED SURFACE IN DRAWING

This document applies to large surfaces within Civil 3D drawings, particularly the existing ground survey surface (***[UPN]000CSDTM00X***). The surface settings can be adjusted so that the referenced surface will not be stored within the drawing, which substantially reduces file sizes.

Revisions

3/11/2026	Updates for ADA Accessibility

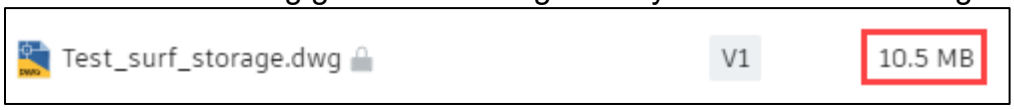
DISABLE STORING OF REFERENCED SURFACE IN DRAWING

Disable Stored Reference Surfaces Within a Drawing

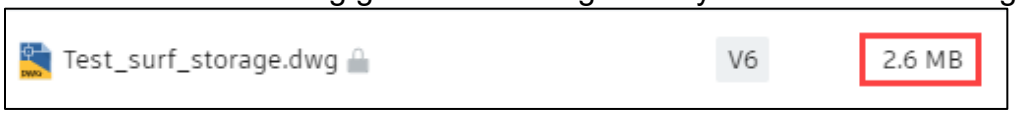
Large surfaces that are inserted into a file via data references take up space in the file, due to a surface setting within the drawing settings. This surface setting is set to save the geometry of the referenced surface(s) within the drawing rather than as a link to the source drawing. The intent with this is that even though the drawing will become larger, it will open more quickly unless the source surface has changed. The referenced surfaces will be visible even if the source drawings are not available. Although the drawing is supposed to open more quickly than if a surface's geometry is not stored in the drawing, there are numerous reports of this not being the case, especially with surfaces stored on BIM 360.

If the setting is set to not store the geometry in the drawing, the reference is checked every time the drawing is opened. The drawing will be smaller but may open more slowly if the reference has changed. For upload/download of the active design file, users will not have to sync/upload a large existing surface unless the existing surface is likely to change.

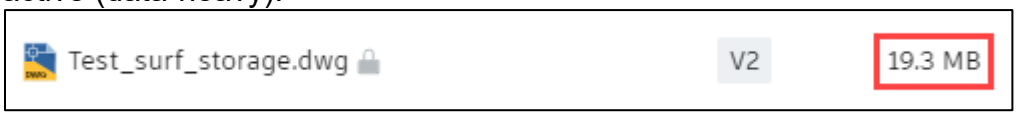
File size with existing ground surface geometry stored in the drawing:



File size without existing ground surface geometry stored in the drawing:



File size with surface geometry stored in the drawing and surface set to triangles style active (data-heavy):



File size without surface geometry stored in the drawing and surface set to triangles style (data-heavy):



Note that files saved with the surfaces set to a triangle style can increase the file size significantly. *It is recommended to set the surface style to a less data-heavy style, such as a border style when triangles and contours are not necessary for design.*

To disable the storing of a referenced surface in a drawing, perform the following steps:

1. In the *Toolspace* palette, select the *Settings* tab.

DISABLE STORING OF REFERENCED SURFACE IN DRAWING

2. Expand the *Surface* line, then expand the *Commands* line.
3. Right click ***CreateSurfaceReference*** and select ***Edit Command Settings….***
4. In the *Edit Command Settings* popup, expand the *Surface Creation* line. Change the *Store Referenced Surface in Drawing* from ***Yes*** to ***No***. Then select ***Apply*** to close out of the popup.

NOTE: If this process is applied to an existing file, the existing ground surface needs to be deleted from the file and brought in as a data reference again. Once the file is saved with the new data, the file size will reduce.

