



Wisconsin Department of Transportation

**October
2022**

Update WisDOT C3D

Administrator's Guide

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OVERVIEW

The Wisconsin Department of Transportation (WisDOT) utilizes Autodesk Civil 3D as their highway design application. They have developed download package that contains their standards, resources, and customizations necessary for completing plans in Civil 3D that conform to WisDOT standards. To better manage these resources, WisDOT has developed an external application for installing, updating, and removing the WisDOT standards for supported versions of Civil 3D. The WisDOT resources are stored in locations that are normally in write accessible locations on the local C drive so that a typical user can perform the installs and updates without IT intervention.

NOTE: Autodesk uses the term State Kit to refer to a Civil 3D resources for a state DOT. WisDOT refers to their resources as a Configuration Package.

INSTALLATION

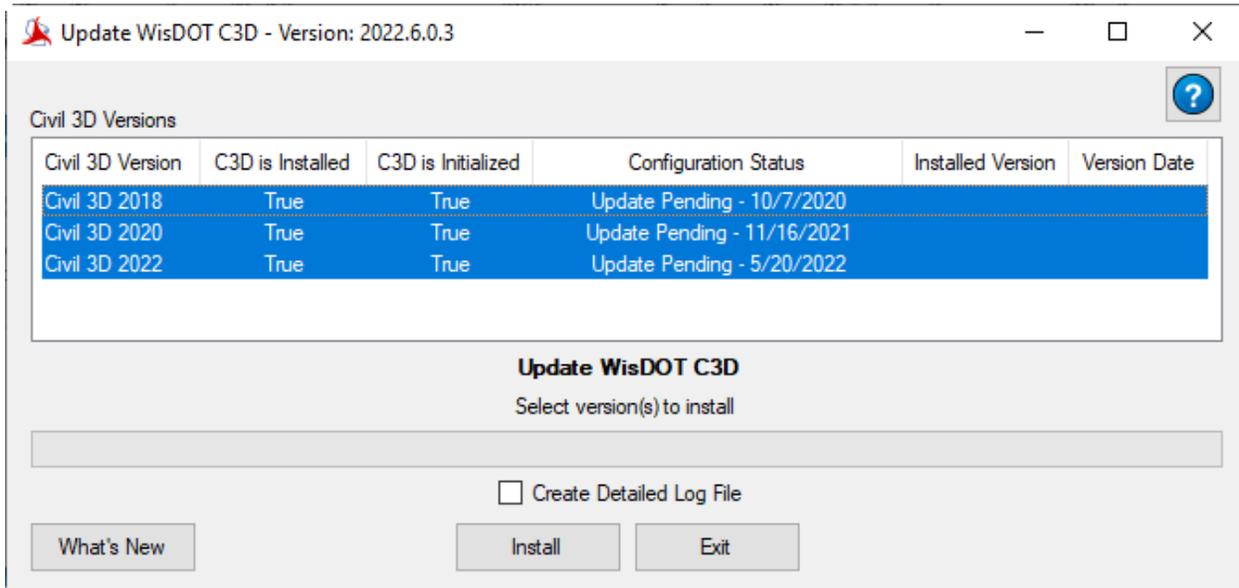
The Update WisDOT C3D program can be installed via a Windows MSI installer program, or by downloading the UpdateWisDOTC3D.zip file and simply copying the contents of the zip archive to the desired folder (see *Upgrading the Update WisDOT C3D Application* section later in this document).

The default installation folder for the MSI is **C:\Program Files\Wisconsin DOT\Update WisDOT C3D**

OPERATION

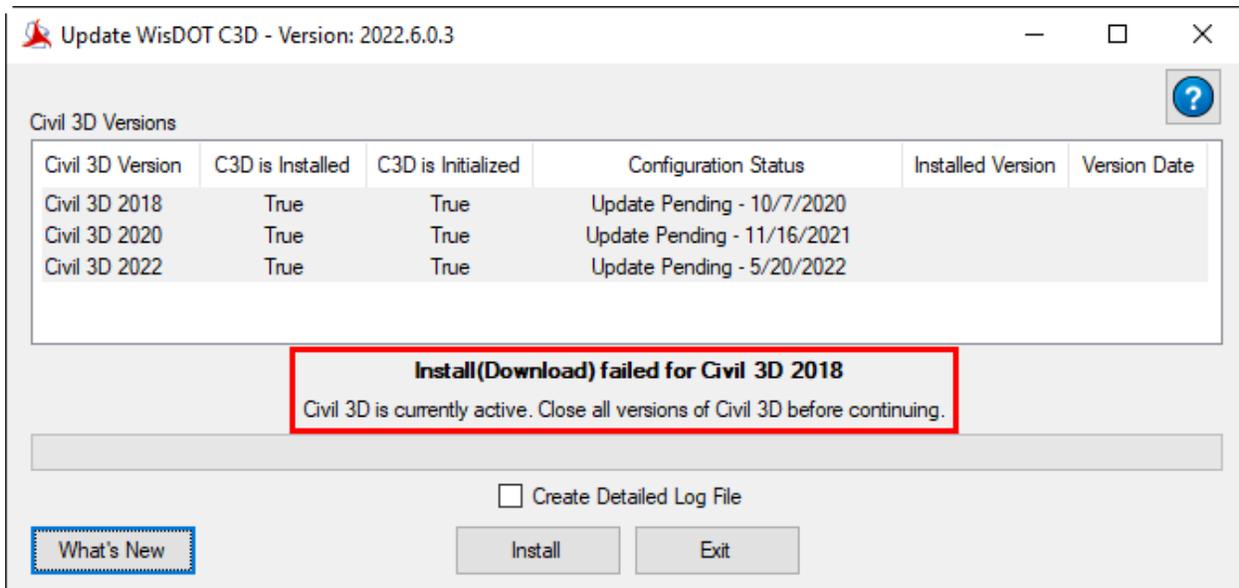
The **Update WisDOT C3D** application can be launched from the Windows Start menu, a Desktop shortcut, or via a user login script. Once launched, the main dialog is displayed showing the installation statuses for the supported Civil 3D versions.

It is designed to work with current and future releases of Civil 3D, as shown below.



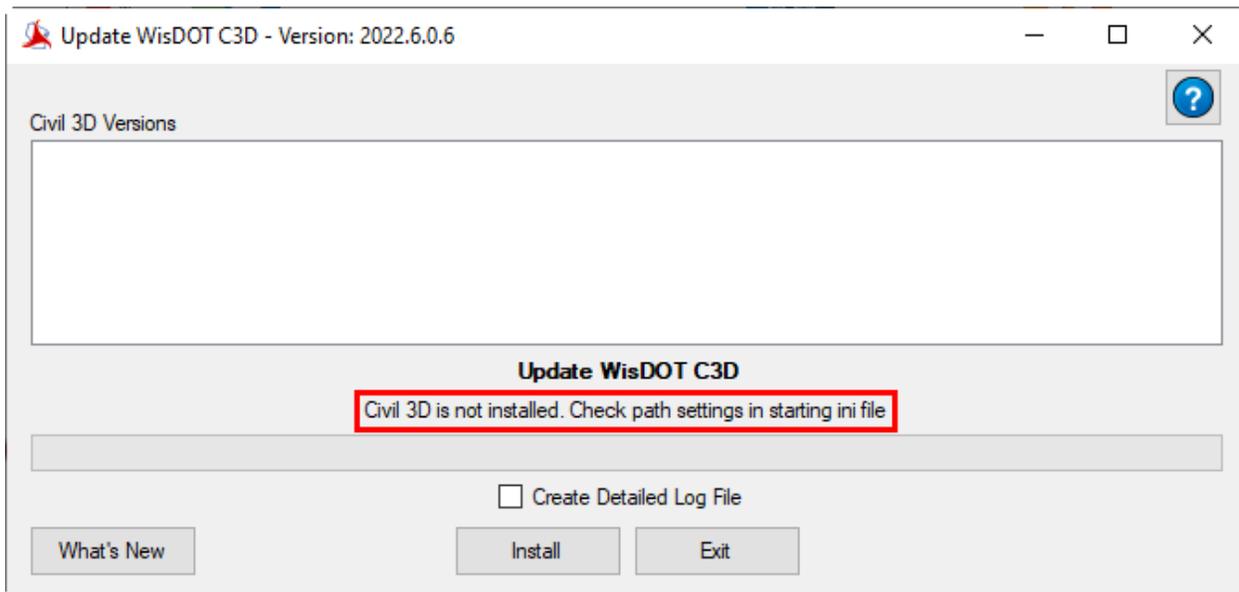
When the user has made their selections, they simply click the **Install** button. After the installation is complete the dialog automatically closes and the program exits.

No versions of Civil 3D can be running on the local computer during the install process. The program will check for any active Civil 3D sessions and present the following message.



To continue the user must save their active drawings, exit Civil 3D, then select **Install** again.

If the Civil 3D Versions list comes up empty, that indicates you do not have a supported version of Civil 3D installed, or Civil 3D is installed to a non-standard location.



Check the **SupportedVersions** value and the **Civil3DPath** settings in the **StandardDesktopConfiguration.ini** file.

LIST VIEW COLUMNS

CIVIL 3D VERSION

Shows the versions of Civil 3D for which there is a WisDOT download package available.

C3D IS INSTALLED

Notifies the user if this version of Civil 3D is installed on their computer. If Civil 3D is not installed the entry is grayed out and not available for selection.

C3D IS INITIALIZED

This column is set to **False** if the current user has not yet launched Civil 3D on this computer. When this column is False, both the Storm and Sanitary as well as Civil 3D applications are initialized prior to installing the resources.

CONFIGURATION STATUS MESSAGES

- **Up to date** – The Configuration Package is installed and is up to date with the downloaded version, or version on the server.
- **Update Pending** – The Configuration Package is either not installed, or is not up to date with the version on the web/server. The new version number to be installed is listed.
- **Civil 3D Not Installed** - This version of Civil 3D is not installed on this computer.

Versions with the **Update Pending** status are automatically selected for installation when the dialog is displayed.

INSTALLED VERSION

Displays the version number of the Configuration Package -NOTE: The WisDOT package uses the package date as the version.

VERSION DATE

Displays the date of the currently installed Configuration Package.

CONFIGURATION

There are two separate .ini files used by the Update WisDOT C3D program, a Startup configuration file and a Deployment configuration file.

STARTUP CONFIGURATION

The program will be delivered with a **StandardDesktopConfiguration.ini** file to set the initial parameters for the program. This file will be set up for the default consultant use of the program.

```
[GLOBAL_OPTIONS]
StartUpdateAutomatically = False
UpdateInSilentMode = False
AddDesktopIcon = True
SupportedVersions = 2018,2020,2022
DownloadsFolder = C:\WisDOT\Downloads
StateKitHomeFolder = C:\WisDOT\Stnd
WhatsNewURL = http://www.c3dkb.dot.wi.gov/Content/c3d/c3d-vrsn.htm
HelpFile = https://c3dkb.dot.wi.gov/Content/c3d/fil-sftwr-mgt/fil-sftwr-mgt-updt-wisdot-c3d.htm
StateKit_HasApps = True|
[C3D_VERSION_ID]
2018 = R22.0
2020 = R23.1
2021 = R24.0
2022 = R24.1
[PROFILE_FOLDERS]
2018 = ACAD-1000:409
2020 = ACAD-3000:409
2021 = ACAD-4100:409
2022 = ACAD-5100:409
[C3D_APPS]
Apps_SourceZIP=http://c3dkb.dot.wi.gov/Content/doc/c3d-64bit/Stnd/Apps/wisdotapps.zip
AppsFolder = Apps
AppsShortcut = C:\WisDOT\Stnd\Apps\WisDOT Civil 3D Apps.lnk

[C3D_2022_OPTIONS]
ForceUpdate = False
UpdateGroupPolicy = False
ScriptToRunBeforeDownload = ""
ScriptToRunAfterDownload = ""
ScriptToRunBeforeUpdate = ""
ScriptToRunAfterUpdate = ""
ProfileName = 2022wisdot
StateKit_SourceZIP=http://c3dkb.dot.wi.gov/Content/doc/c3d-64bit/Stnd/2022/WisDOTC3D2022.zip
StateKit_DateFile=http://c3dkb.dot.wi.gov/Content/doc/c3d-64bit/Stnd/2022/update2022.txt
StateKitFolder_Download = C3D 2022
Downloaded_Standards_Source = Stnd
RegistryTextFile_Download = WisDOT_REG.txt
StateKitIni_Download = Stnd\C3D2022_Local\C3D2022_bundle\Wi24.1.bundle\Res\deploywiconfig.ini
StateKitIni_Deployed = C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle\Res\deploywiconfig.ini
Civil3D_Shortcut = C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle\Res\Civil 3D 2022 WisDOT.lnk
Civil3DPath = C:\Program Files\Autodesk\AutoCAD 2022\acad.exe
StormAndSanitaryPath = C:\Program Files (x86)\Autodesk\SSA 2022\StormSanitary.exe
```

The program will automatically search for the **StandardDesktopConfiguration.ini** file in the same folder as the .exe file. Different startup configuration files can be used by specified using a -ini switch on the starting command/target line.

C:\Program Files\Wisconsin DOT\Update WisDOT C3D\Update WisDOT C3D.exe -ini=<full path to Startup ini file>

Different .ini files may be used to direct administrators to test Configuration Packages prior to the formal roll out, or development versions for new versions of Civil 3D.

INI FILE SECTIONS

GLOBAL OPTIONS

- **StartUpdatesAutomatically** – when set to TRUE the installs will be processed automatically for any versions with an **Update Pending** status. Adding the program command line to the users' login script and setting the StartUpdateAutomatically option to TRUE in the .ini file, the program will run every time the user logs in to their computer. If an update is pending it will automatically be installed.
- **UpdateInSilentMode** – used in conjunction with **StartUpdatesAutomatically**. When both are set to TRUE the installs will start automatically and no dialogs will display, nor will any user interaction be required. The program will exit automatically at the completion of the installs. If there is an error during the install process the main dialog will display with the applicable error message.
- **SupportedVersions** – a comma separated list of Civil 3D versions for which an WisDOT Configuration Package is available.
- **DownloadsFolder** – full path to where the resource zip packages are downloaded, and from where they are available for installing.
- **StateKitHomeFolder** – home path to where the Configuration Package is installed.
- **WhatsNewURL** – path to WisDOT web page containing information on updates and versions.
- **HelpFile** – path to WisDOT web page, or local pdf, to the user help for the application.
- **StateKit_HasApps** – set to TRUE if there is a separate download for accompanying external applications.

C3D_VERSION_ID AND PROFILE_FOLDERS

These sections are used for locating the Civil 3D Profile information in the Windows Registry. These should not be modified. They are in the INI file for ease of upgrading the installer for future versions of Civil 3D.

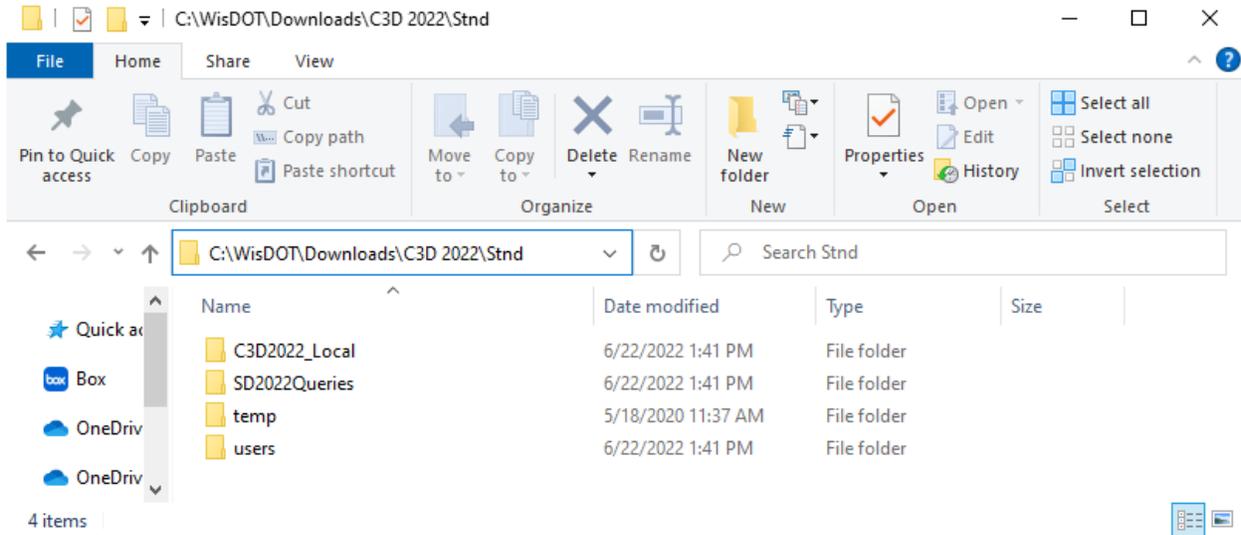
C3D_YEAR_OPTIONS

- **UpdateGroupPolicy** – when set to TRUE the `gpupdate /force` process is run during the install.
- **ScriptToRunBeforeDownload** – full path to a script, or .exe, file to be run prior to downloading the zip package from the web.
- **ScriptToRunAfterDownload** – full path to a script, or .exe, file to be run after downloading and extracting the zip package.

- **ScriptToRunBeforeUpdate** – full path to a script, or .exe, file to be run prior to installing the update.
- **ScriptToRunAfterUpdate** – full path to a script, or .exe, file to be run after installing the update.
- **ProfileName** – name of the Civil 3D profile associated with the Configuration Package.
- **StateKit_SourceZIP** – full path to the Configuration Package zip file. The default is to download from the WisDOT website. Consultants may wish to download the zip file and place on a LAN server. The Source Zip path can then be modified to the server location.
- **StateKit_SourceDateFile** – full path to a .ini text file containing the update date of the source zip file and optional version/build number. This file is downloaded at program launch. The date in this file is compared to the date of the installed Configuration Package to determine if an update is needed. Like the Source Zip file, this file can be downloaded and placed on a local server and the path can then be modified to the server location.
- **StateKitFolder_Download** – the folder name [under the general **DownloadsFolder** specified in the GLOBAL_OPTIONS section] where the Configuration Package files are found.
 - In this example the Configuration Package files will be found under
 - *DownloadsFolder* – C:\WisDOT\Downloads
 - *StateKitFolder_Download* – C3D 2022
 - *Full path to resource files* - C:\WisDOT\Downloads\C3D 2022
- **Downloaded_Standards_Source** – the path under which the Configuration Package is extracted. The default value is **Stnd**. Using the above example, the Configuration Package files are located in **C:\WisDOT\Downloads\C3D 2022\Stnd**
- **StateKitIni_Download** – name of the Configuration Package Deployment configuration .ini in the downloads folder.
- **StateKitIni_Deployed** – full path to the installed version of the Configuration Package ini file. During the install process the StateKitIni_Download file is copied to the StateKitIni_Deployed location. On program startup the StateKitIni_Deployed file is compared to the StateKitIni_Download file to determine if the Configuration Package is installed, and is up to date.
- **RegistryTextFile_Download** – (optional) relative path under the download folder specifying the name of a text file that contains registry edits.
- **Civil3D_Shortcut** – full path to startup Windows shortcut for launching Civil 3D. This file will be copied to the user’s Windows Desktop.
- **Civil3DPath** – the full path to the Civil 3D executable file (acad.exe). If you install Civil 3D to a non-standard location you will need to modify this value to reflect the custom path.

- **StormAndSanitaryPath** – the full path to the Storm and Sanitary executable file. If you install Storm and Sanitary to a non-standard location you will need to modify this value to reflect the custom path. If SSA is not installed this path is not used.

Example of the Downloads folder for a specific version of Civil 3D.



CONFIGURATION PACKAGE DEPLOYMENT CONFIGURATION

The path to the Configuration Package Deployment configuration file is specified in the Startup configuration file. The purpose of this .ini/.txt file is to direct the program where to find the different Configuration Package components in the downloads folder, and their corresponding install locations.

```
[CONFIGURATION]
SECTIONS=12
1=C3D2022_BUNDLE
2=LOCAL_C3D2022
3=LOCAL_PROGFILES
4=LOCAL_PROGDATA_C3D
5=LOCAL_PROGDATA_FOP
6=LOCAL_PROGDATA_SUBS
7=LOCAL_PROGDATA_SSA
8=LOCAL_USERDATA
9=LOCAL_WIPROJTEMP
10=SURVEY_DATABASE
11=STND_USERS
12=TEMP_FLDR
***

[C3D2022_BUNDLE]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\C3D2022_Local\C3D2022_bundle\Wi24.1.bundle
target=C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle
***

[LOCAL_C3D2022]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\C3D2022_Local\C3D2022
target=C:\WisDOT\Std\C3D2022
***

[LOCAL_PROGFILES]
ClearFirst=FALSE
CreateFolder=TRUE
Overwrite=TRUE
source=\C3D2022_Local\Program Files\Autodesk\AutoCAD 2022\Drv
target=C:\ProgramData\Autodesk\AutoCAD 2022\Drv
***
```

There may be additional sections at the top of this .ini file, but they are not used by this version of the application.

CONFIGURATION SECTION

The CONFIGURATION section and corresponding processing sections of the deployment ini file that follow are a dynamic listing of all of the different sections to be processed.

```
[CONFIGURATION]
SECTIONS=12
1=C3D2022_BUNDLE
2=LOCAL_C3D2022
3=LOCAL_PROGFILES
4=LOCAL_PROGDATA_C3D
5=LOCAL_PROGDATA_FOP
6=LOCAL_PROGDATA_SUBS
7=LOCAL_PROGDATA_SSA
8=LOCAL_USERDATA
9=LOCAL_WIPROJTEMP
10=SURVEY_DATABASE
11=STND_USERS
12=TEMP_FLDR
***
[C3D2022_BUNDLE]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\C3D2022_Local\C3D2022_bundle\Wi24.1.bundle
target=C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle
***
[LOCAL_C3D2022]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\C3D2022_Local\C3D2022
target=C:\WisDOT\Std\C3D2022
***
```

The SECTIONS value defines how many processing sections will follow. Each number definition will define the name for the processing section. Each of the processing sections must be named exactly as defined in the CONFIGURATION section.

PROCESSING SECTIONS

For each section defined in the Configuration section above, there must be a corresponding processing section definition.

```
[C3D2022_BUNDLE]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\C3D2022_Local\C3D2022_bundle\Wi24.1.bundle
target=C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle
***
```

- **ClearFirst** – when the *target* is a folder, a setting of TRUE will remove the files and subfolders in the *target* folder prior to copying in the new/updated files.
- **CreateFolder** – when set to TRUE the *target* path is created during the install if it does not already exist.
- **Overwrite** – when set to TRUE existing *target* files are overwritten with the new update files.
- **source** – this is the relative path under the *DownloadsFolder* + *StateKitFolder_Download* + *Downloaded_Standards_Source* path defining a source file or folder to be copied. For folder definitions all files and subfolders under that path will be copied.
- **target** – this is the full corresponding destination path for the file/folder defined in the *source* definition.

DATE FILE

The date file is typically downloaded from the same path as the accompanying zip file. The file is a single line text file specifying the date/version of the Configuration Package.

```
05/20/2022
```

- **Date** – this required field is the last update date of the Configuration Package zip file. The date value in the downloaded date file is compared to the date value in the date file in the installed Configuration Package bundle folder to determine if an update is pending.

INSTALLATION PROCESS

When the user initiates the install process the follow steps are performed:

- Checks for any active Civil 3D process – stops if found and notifies user
- Remove any previous download for the selected version if found
- Download the Configuration Package zip file from web or server to the Downloads folder
- Unzip the downloaded Configuration Package zip package
- Update date in the deployment .ini file with date from date file
- Checks for any active Civil 3D process – stops if found and notifies user
- Initializes Storm and Sanitary if necessary
- Initializes Civil 3D if necessary
- Executes script prior to update if found
- Deletes any files, folders, and registry keys defined in the FileRemoveList
- Installs updates as defined in the *StateKitIni_Download* file as defined in the startup configuration file
- Removes any previous WisDOT Profile information from the Windows Registry
- Adds any registry entries defined in the StateKit_reg.txt file
- Executes script after update if found
- Updates Group Policy if selected.

PROCESSING LOG FILE

A processing log file is created detailing every action of the installer program. This file can be referenced to verify files are being copied correctly, or review for any error messages. The log file is created in the user's TEMP folder under:

Wisconsin Department of Transportation\Update WisDOT C3D\ Update WisDOT C3D.log

Sample log file output:

Copying Updates

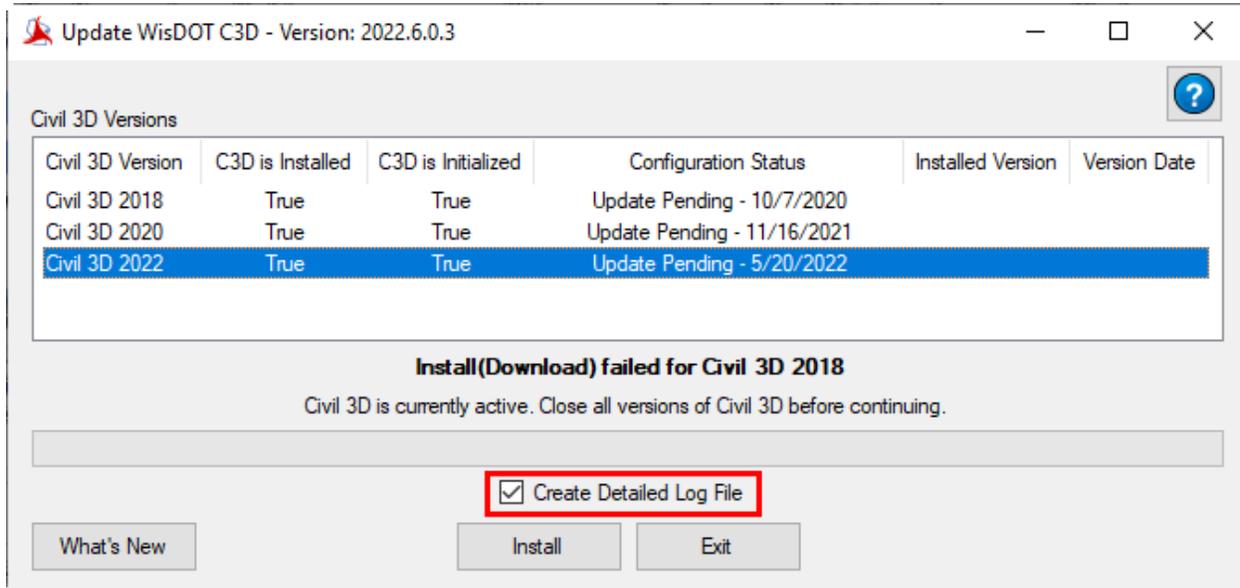
```
.....
Configuration Section 1
--> Name: C3D2022_BUNDLE
--> Source: C:\WisDOT\Downloads\C3D 2022\Std\C3D2022_Local\C3D2022_bundle\Wi24.1.bundle
--> Target: C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle
--> Create: True
--> ClearFirst: True
--> Overwrite: True
    ---> Source is a folder
    ---> Removing any existing files/and subfolders
Creating folder C:\ProgramData\Autodesk\ApplicationPlugins\Wi24.1.bundle

.....
Configuration Section 2
--> Name: LOCAL_C3D2022
--> Source: C:\WisDOT\Downloads\C3D 2022\Std\C3D2022_Local\C3D2022
--> Target: C:\WisDOT\Std\C3D2022
--> Create: True
--> ClearFirst: True
--> Overwrite: True
    ---> Source is a folder
    ---> Removing any existing files/and subfolders
Creating folder C:\WisDOT\Std\C3D2022
```

ADDITIONAL OPTIONS

CREATE A DETAILED LOG FILE

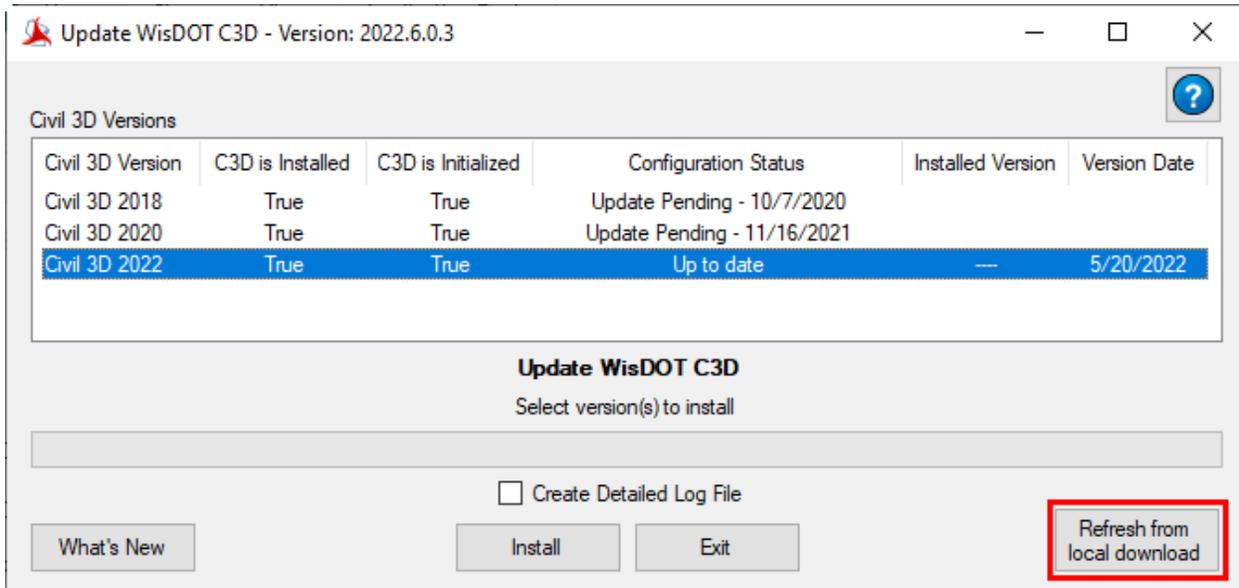
If there are problems during an installation or update you may be asked to rerun the installation and check on the Create Detailed Log File setting. When this option is set the log file is generated with a greatly expanded set of processing messaging. Sending this expanded log file to support will help to isolate the issues you are having.



Please Note: Turning on this option will significantly slow down the installation process. You will only want to turn this on when requested to do so.

REFRESHING AN INSTALLATION

When previous unzipped Configuration Package download is found in the Downloads folder for any version the **Refresh from local download** button will be visible in the lower right corner of the main dialog.

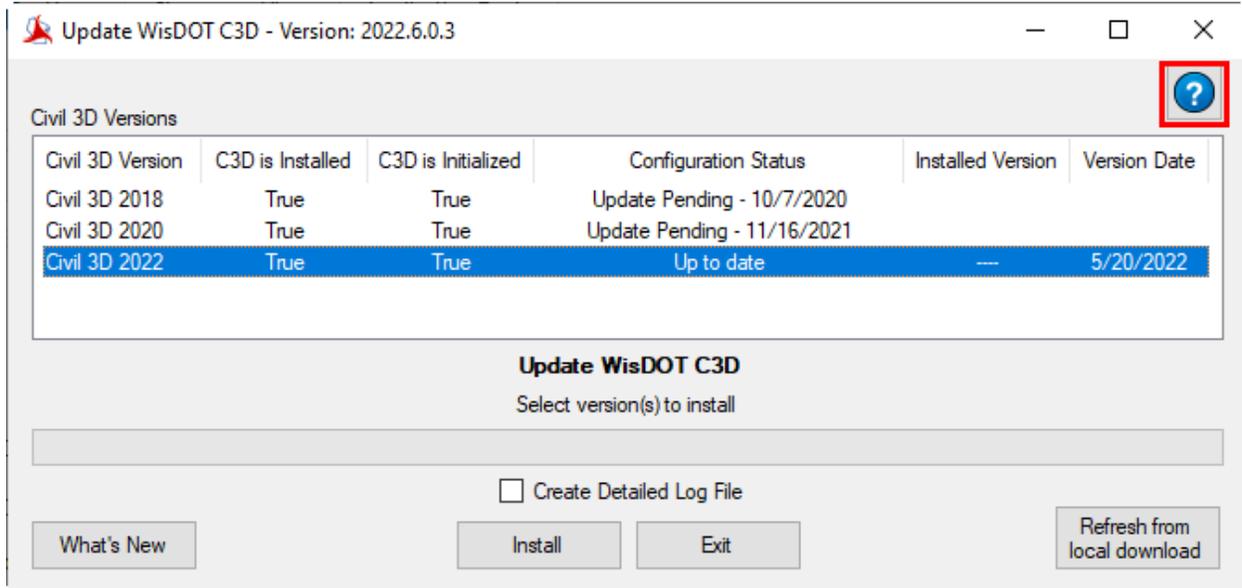


Selecting this option will allow the user to update the new or installed Configuration Package from the previous download. It will bypass the downloading and unzipping of the Configuration Package.

There are two main reasons a user may want to perform a Refresh:

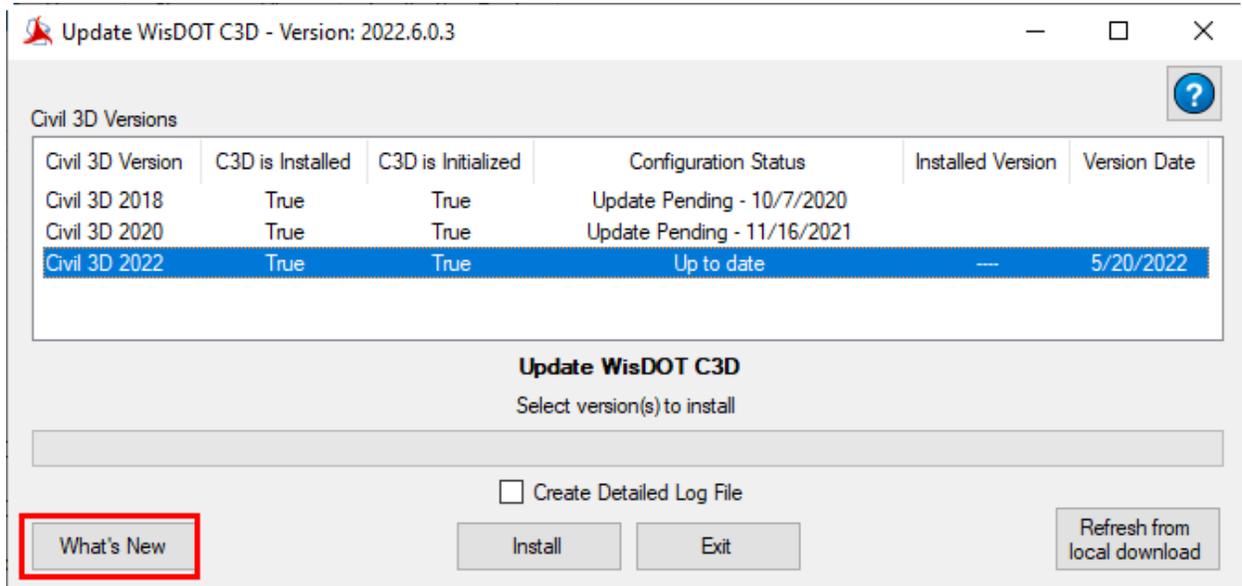
1. An installation was aborted after downloading and unzipping the Configuration Package.
2. An existing Configuration Package installation may have become corrupted.

HELP



When the **Help** icon is selected, the user help documentation is displayed. The HelpFile field in the startup.ini file sets the web path/file that is displayed. If not defined, the default help pdf delivered with the application is displayed.

WHAT'S NEW

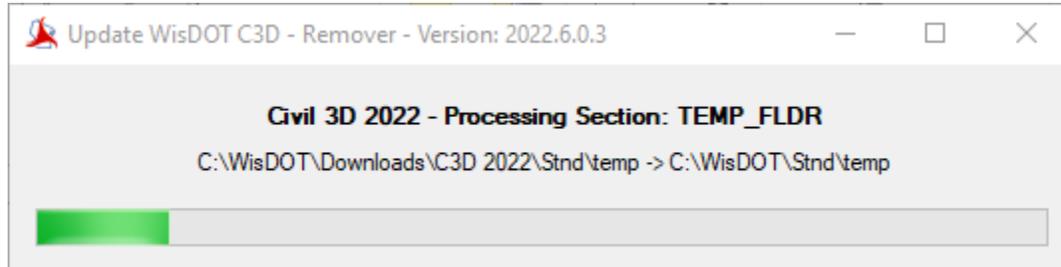


The **What's New** button is displayed when the WhatsNew field in the startup .ini file has a value defined. When the user clicks on this button the URL defined will be opened in the user's web browser.

CLEARING THE WISDOT CONFIGURATION

The **Clear WisDOT Configuration** program is available from the Windows Start menu.

This program removes all of the downloaded and installed WisDOT C3D configurations, but leaves the **Update WisDOT C3D** application installation as-is.



This same application is run when uninstalling the Update WisDOT C3D application from the Windows Uninstall Programs dialog. The installed WisDOT C3D configurations are removed along with the application.

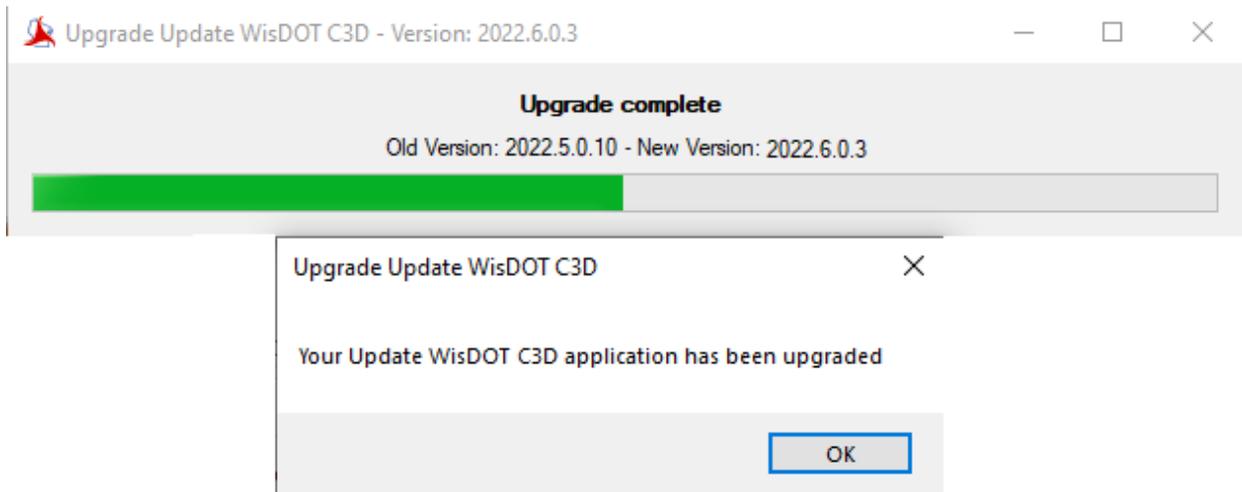
NOTE: Running this application either through the Window Start menu, or Uninstall Programs dialog, may not remove all of the installed desktop shortcuts if you have Microsoft OneDrive configured to manage your Windows Desktop.

UPGRADING THE UPDATE WISDOT C3D APPLICATION

The **Upgrade Update WisDOT C3D** program is available from the Windows Start menu.

This application will download the latest **Update WisDOT C3D** application files in a zip file from the WisDOT website. The application files will be extracted from the zip file and copied to the correct Program Files folder location.

When completed you will get confirmation of the old and new versions



Using this program eliminates the need to uninstall the entire Update WisDOT C3D application and reinstall the updated Windows msi installer.

NOTE: Use of this application requires administrator access on the local computer or write/modify/delete access to the C:\Program Files\Wisconsin DOT folder.

The downloaded zip file contains all of the files required for the Update WisDOT C3D application. The zip file and extracted contents will remain in the user's temp folder (typically C:\Users\\AppData\Local\Temp) under the sub folder **Wisconsin Department of Transportation\Upgrade Update WisDOT C3D**. The contents of this folder, excluding the .zip file and .log file may be pushed out to other user's computers by IT admins using their scripting method of choice to update all users at the same time.