ODOT Confidence Point Report

By Kevin LaVerdure, PLS

Overview

This workflow will document the steps to prepare a Confidence Point Analysis Report from an OpenRoads or OpenSite Designer (ORD/OSD) Terrain using the “Points>Analyze Elevation” tool and the Custom Report Stylesheets. It will also document the steps to Import the Processed Confidence Point text file into the ORD/OSD DGN for display and evaluation.

Required

- Project Terrain file (3D). (i.e. S_K99999_TERR_e_pub_01.dgn)
- Confidence Points for Project, as a separate *.csv data file stored on a local drive/crew network server share or included with the Survey terrain data imported to the Survey Field Book in the active DGN.

Project Procedure

This document will be divided into three general sections. The ODOT Confidence Point Report workflow steps are in sections A and B. Section C contains supporting documentation.

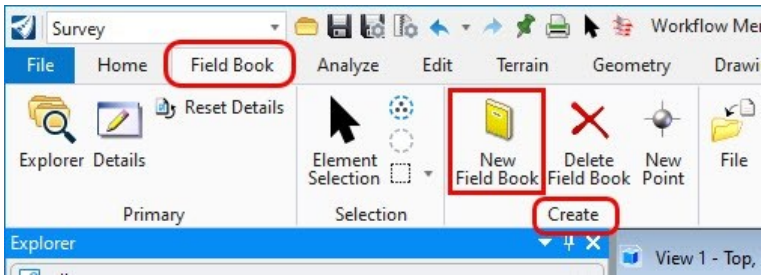
NOTE: It is recommended that all Point Data Files (*.csv), Report Files (*.html), and Processed Point Files (*.txt) be stored on a non-PW drive, i.e. Local C: drive or other crew server.

A – Generating the report and processed point file.

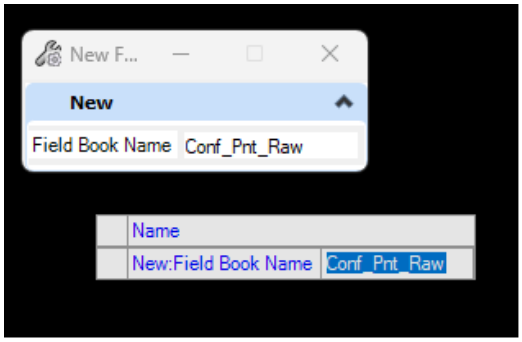
1) Open the file that contains the Terrain, (i.e. S_K99999_TERR_e_pub_01.dgn) using ORD/OSD.

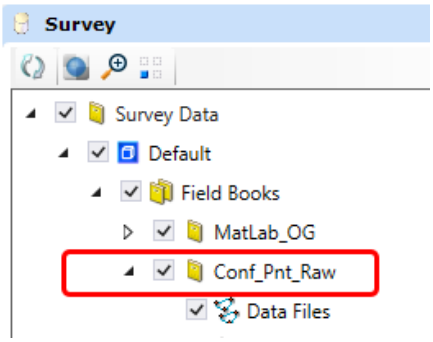
2) Import the Confidence Point Data into a Field Book. If the Confidence Point Data has already been imported or included with the Terrain Data Field Book, then go to Step 3.

   a. Create a new Field Book; choose **Field Book > Create > New Field Book**.

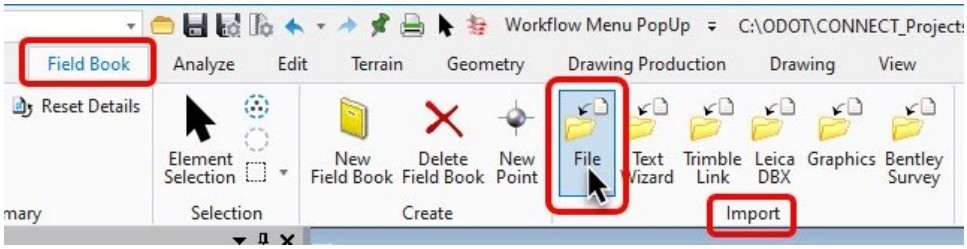


   b. Follow the onscreen prompts to create the new Field Book for importing the Confidence Point Data, enter a name for the Field Book of 'Conf_Pnt_Raw'.

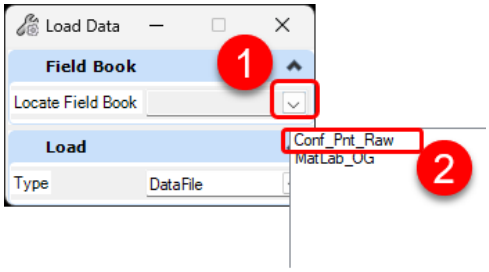




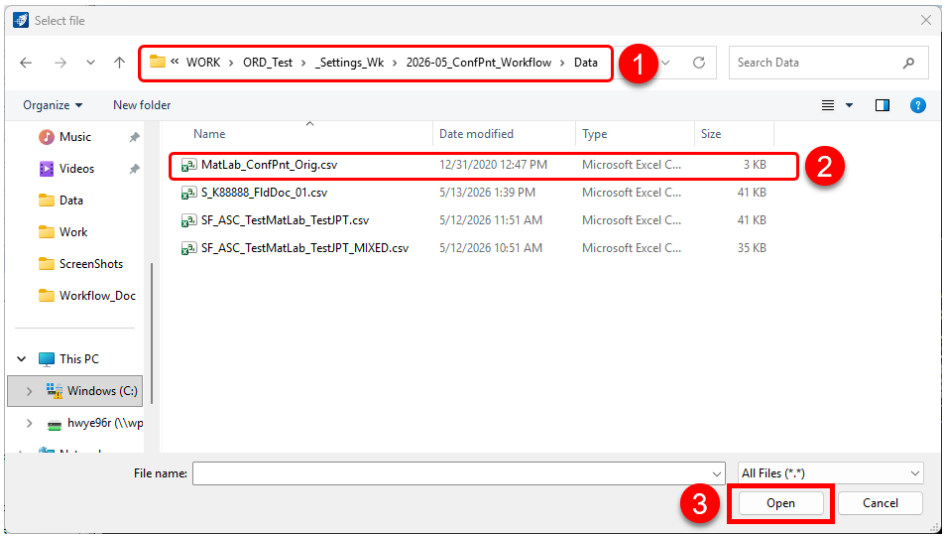
   c. Choose **Field Book > Import > File**



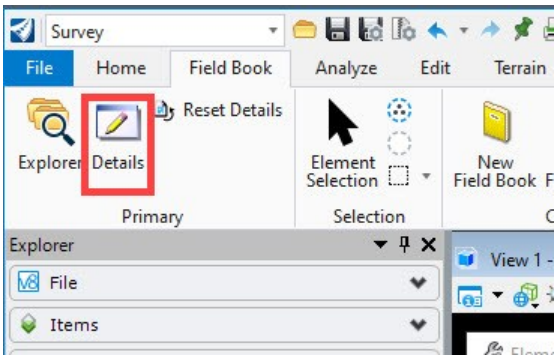
d. Follow the onscreen prompts, Locate Field Book = Conf_Pnt_Raw



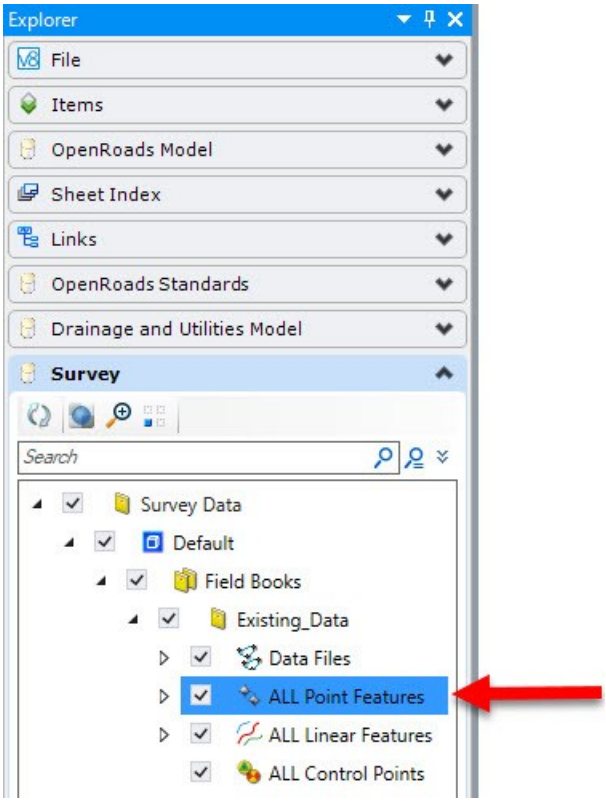
e. Navigate to the folder on your local drive that contains the Confidence Point data file (*.csv), select the data file, and click the 'Open' button.



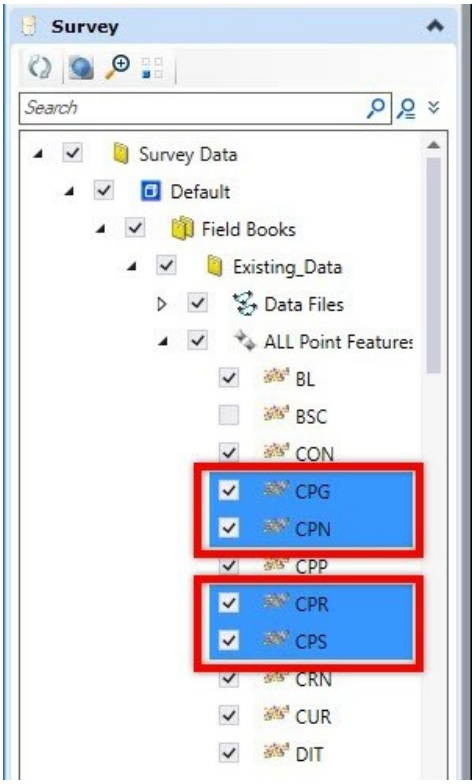
3) Open the Survey Details dialog from the **Survey** Ribbon Workflow.
Field Book > Primary > Details.



4) In the Survey section of the Explorer, drill into the Survey Data and expand the "ALL Point Features" section of the Field Book that contains the confidence points.

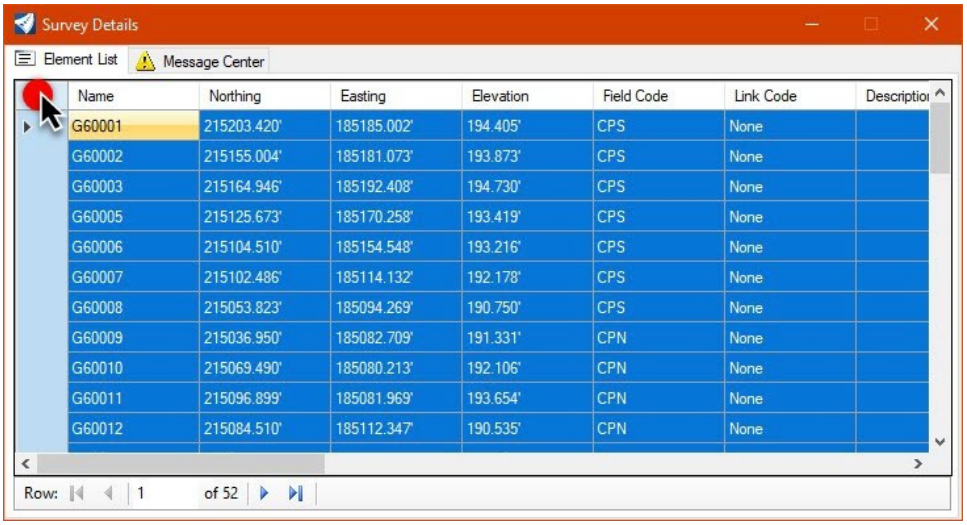


5) Within the ALL Point Features section, select the first Confidence Point code that you want to report on, then while holding the <Ctrl> key, select all other codes that you want to report on. (CPG, CPN, CPR, CPS) This will display all points with the selected codes in the Survey Details dialog.

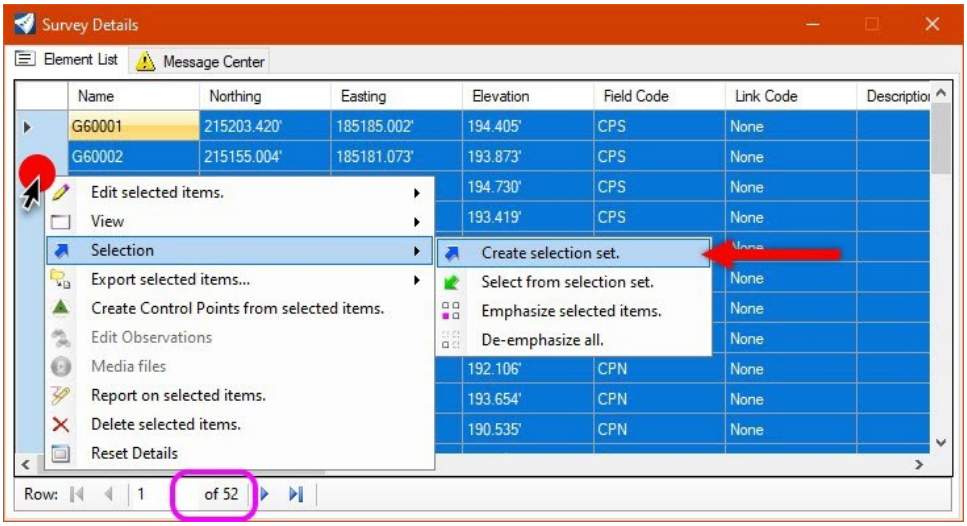


NOTE: You can also use the Survey Filters to select the Confidence Points and display them in the Survey Details if you are familiar with the operation of the Survey Filters.

6) In Survey Details left click, or data point, in the upper left corner of the table to select all points shown in the Survey Details dialog.



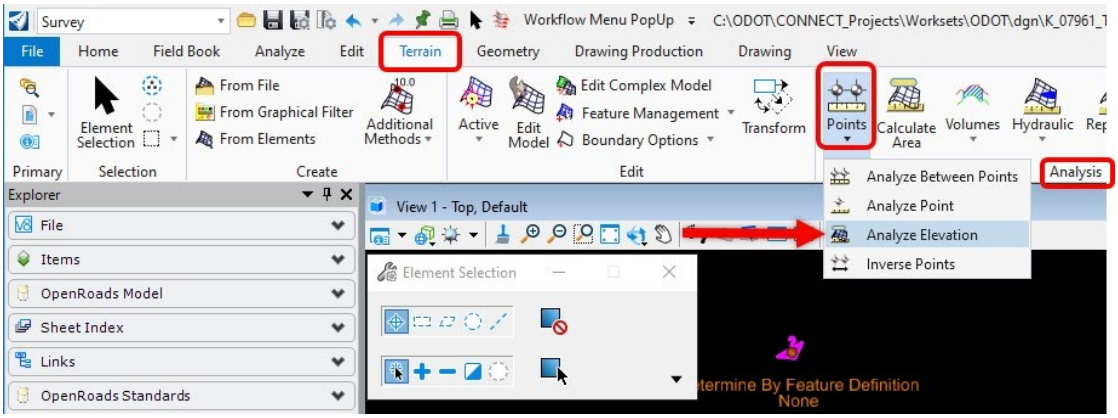
7) Right click on the left bar/column and choose 'Selection > Create Selection Set.'



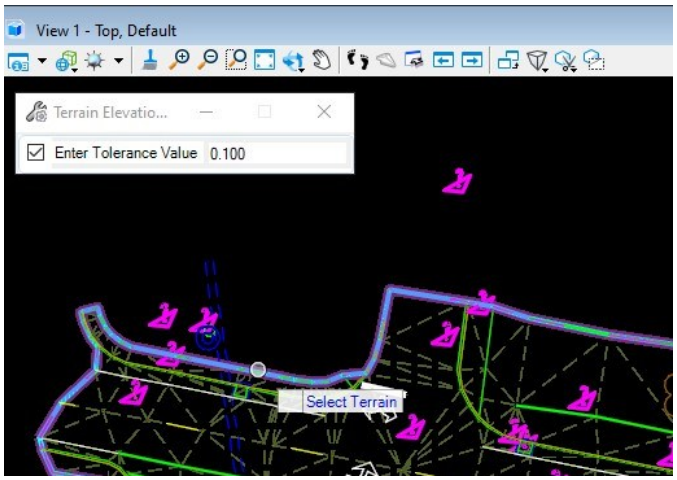
Verify in the ORD/OSD Selection Set box along the lower right edge of the application, that you have objects selected. The value in the bottom row of the survey details and the Selection Set box should match.

8) Select **Terrain > Analysis > Points > Analyze Elevation**

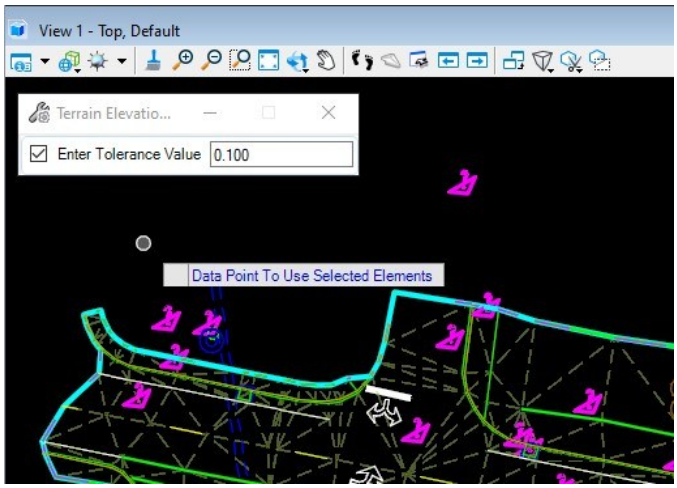
NOTE: You must have an active Terrain and it must be visible to allow for selection of the Terrain to perform the following steps.



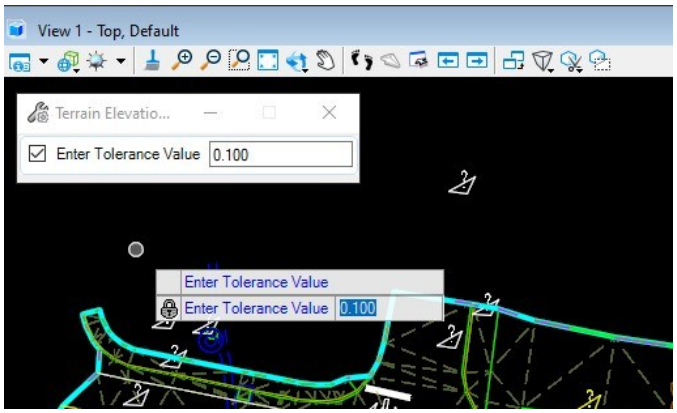
9) Follow the screen prompts in the ORD status bar at the lower left edge of the application to:
   a. 'Select Terrain'



   b. 'Data Point To Use Selected Elements'

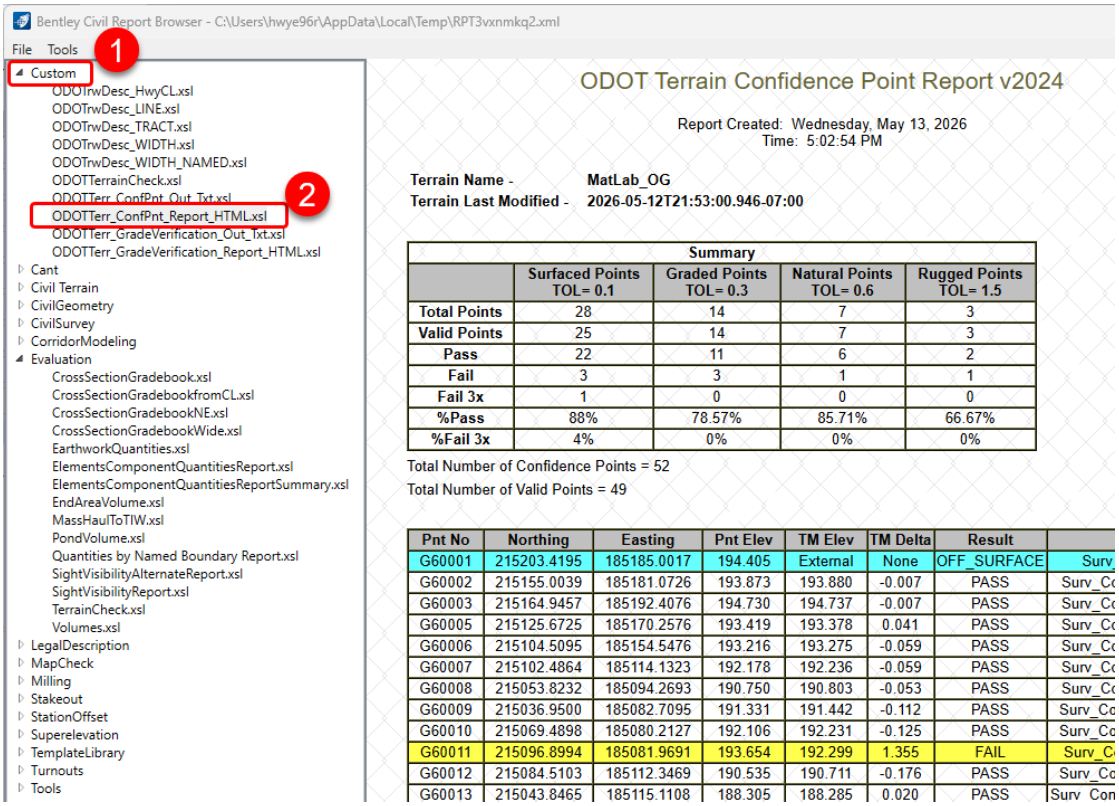


   c. 'Enter Tolerance Value'

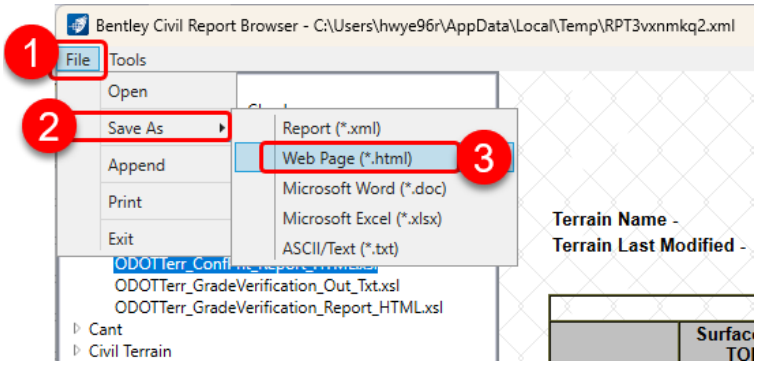


   NOTE: The value entered here is not critical since the tolerances will be set by the report process, using a general value of 0.10' works.

10) Once the Bentley Civil Report Browser opens, expand the 'Custom' folder in the upper left portion of the dialog and choose 'ODOTTerr_ConfPnt_Report_HTML.xsl' for the report.

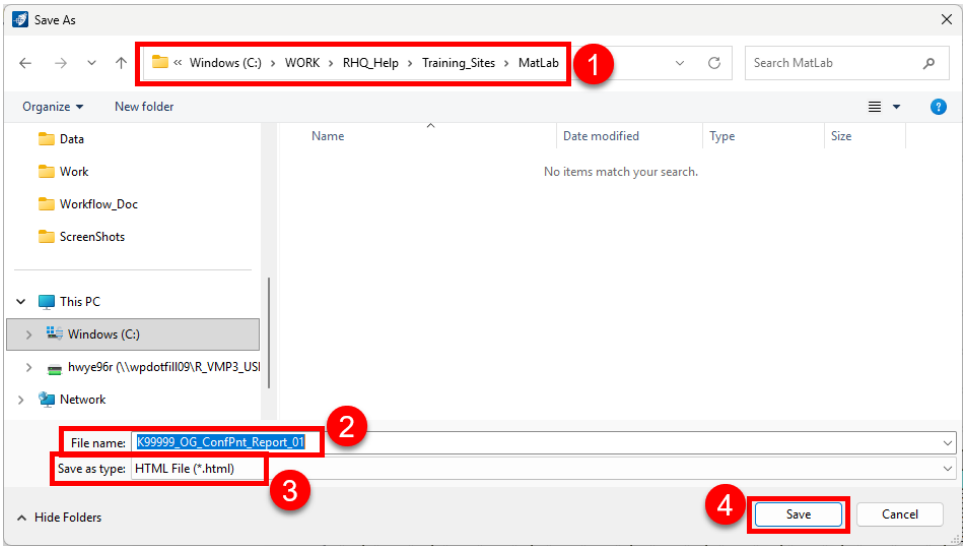


11) Select File > Save As and choose the Web Page (*.html) option.

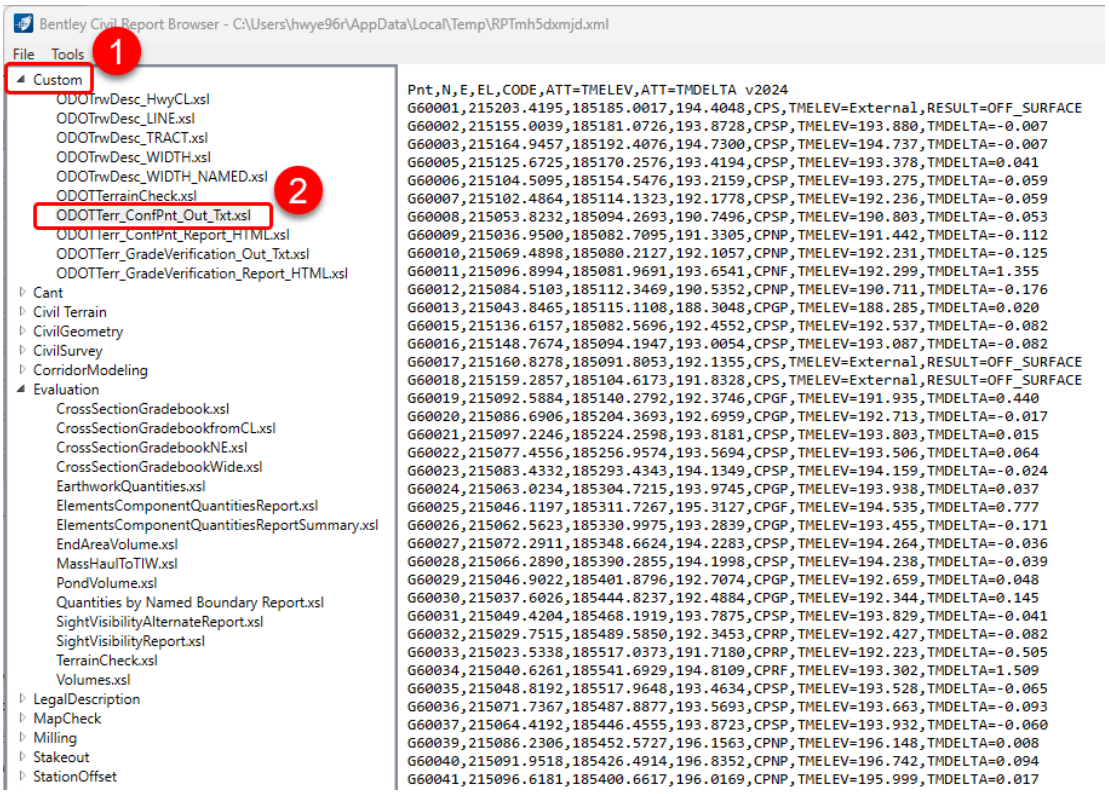


12) In the Save As dialog navigate to the correct folder in your Project work area, name the file '*K#####_NAM*_ConfPnt_Report_01' (K##### = project key number & *NAM* = terrain name or identifier), confirm that the 'Save as type:' is set to HTML File (*.html), and click the 'Save' button.

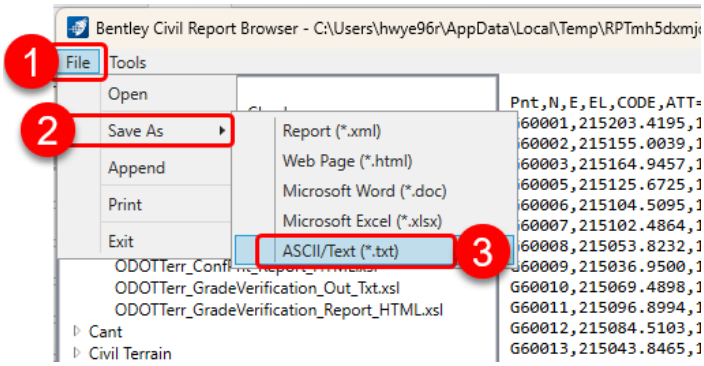
NOTE: The '01' in the file name is a counter and should be incremented each time the terrain or points are updated during the iterative Confidence Point process.



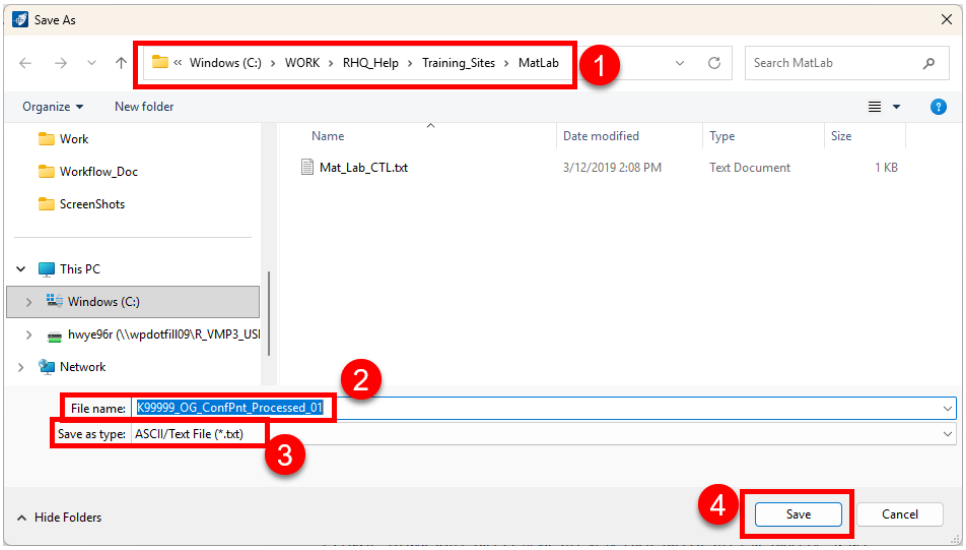
13) Still in the Bentley Civil Report Browser and the 'Custom' folder, choose 'ODOTTerr_ConfPnt_Out_Txt.xsl' for the processed point file.



14) Select File > Save As and choose the ASCII/Text (*.txt) option.



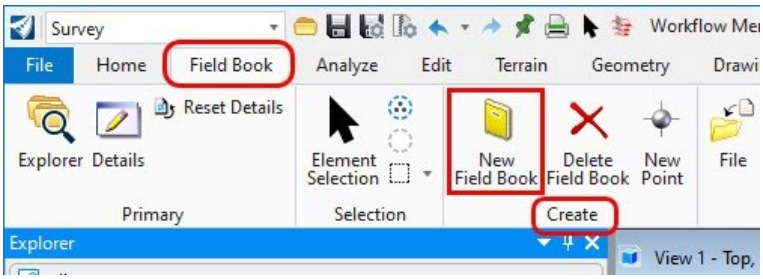
15) In the Save As dialog navigate to the correct folder in your Project work area, name the file '*K#####_NAM*_ConfPnt_Processed_01' (K##### = project key number & *NAM* = terrain name or identifier), confirm that the 'Save as type:' is set to ASCII/Text File (*.txt), and click the 'Save' button.



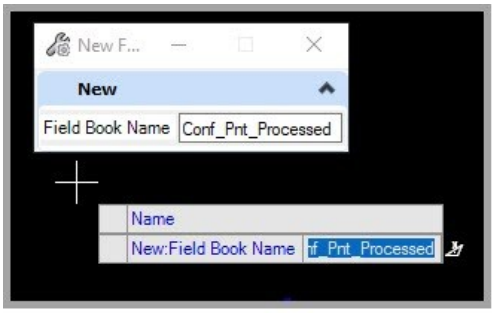
16) Close the Bentley Civil Report Browser and clear the selection set in ORD/OSD.

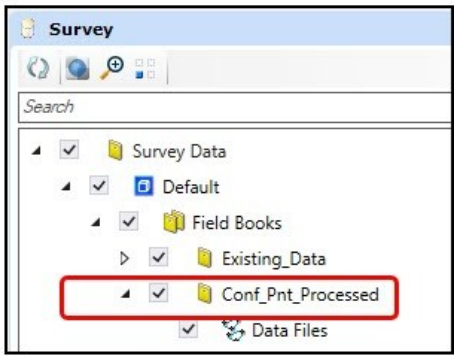
B – Importing the processed data into the Terrain file for analysis.

1) With the Active Terrain file or a Working Analysis file open in ORD/OSD, choose **Field Book > Create > New Field Book**.



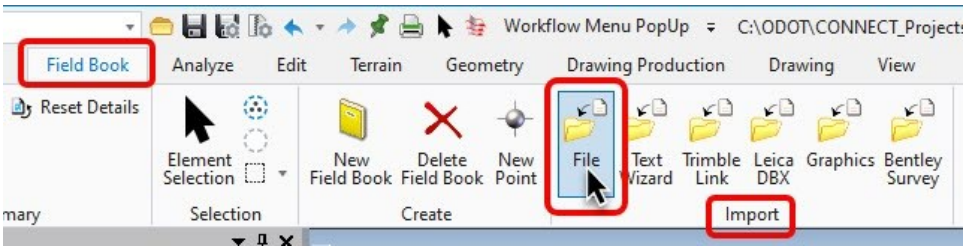
2) Follow the onscreen prompts to create the new Field Book for importing the Processed Confidence Point Data, enter a name for the Field Book of 'Conf_Pnt_Processed'.



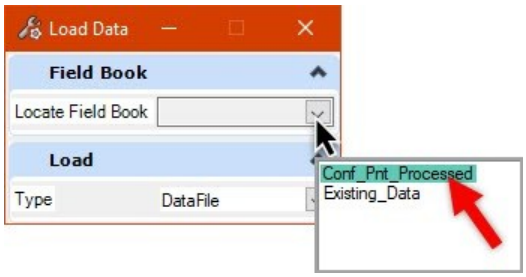


NOTE: Processed Confidence Point data should not be imported into the same Field Book that contains the field data that was used to create the terrain. Because the Processed Confidence Points have been analyzed in relation to a Terrain they are no longer original raw data and need to be separated from the original raw data. They can be imported into a separate DGN which can then be referenced into the original Terrain DGN or they can be imported into the original Terrain DGN but within a separate Field Book.

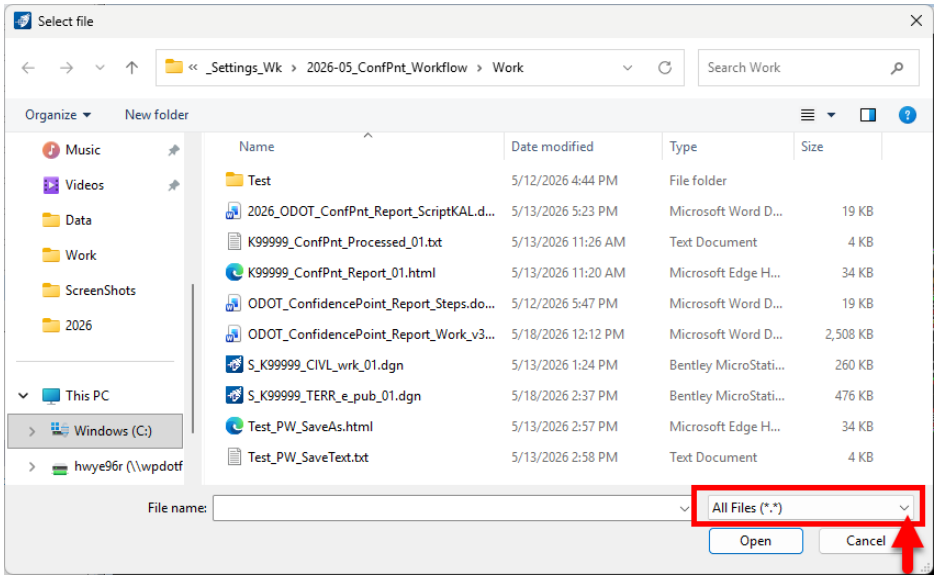
3) Choose **Field Book > Import > File**



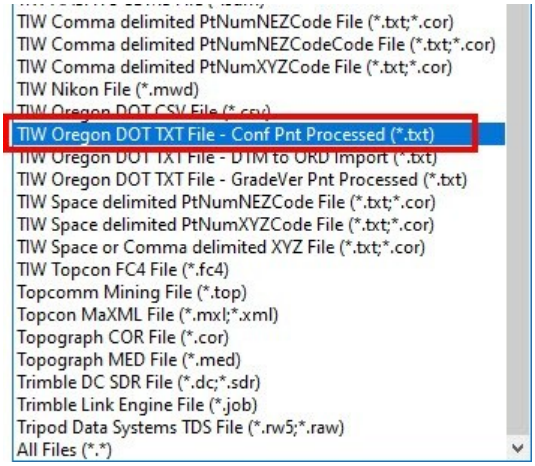
4) Follow the onscreen prompts to:
   a. Locate Field Book = Conf_Pnt_Processed



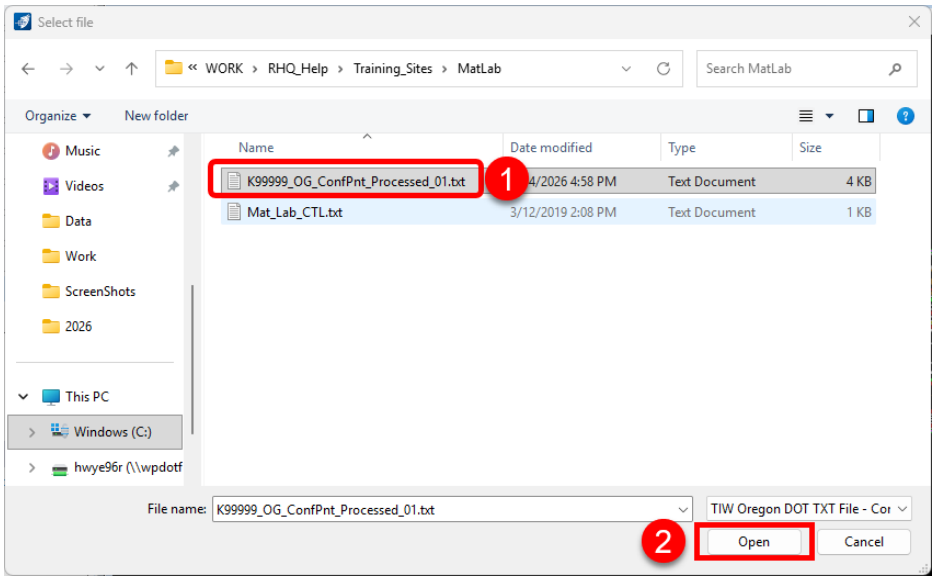
   b. When the Select file dialog opens, click the dropdown arrow for the file type selection (box above the Open & Cancel buttons)



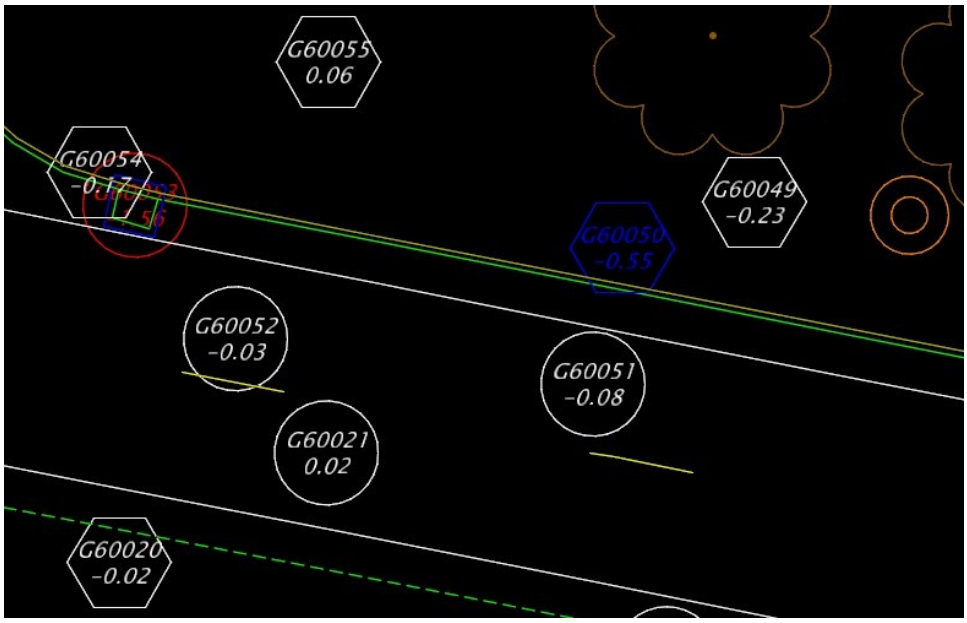
   c. Select/choose the 'TIW Oregon DOT TXT File - Conf Pnt Processed (*.txt)' option from the list. This will load the correct text import format file and filter the displayed files in the file folder for the correct extension.



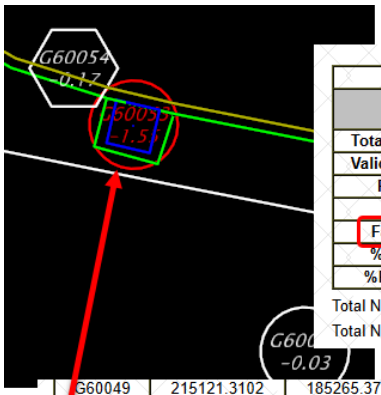
d. Navigate to the folder where the report and processed files were Saved, select the '*K#####_NAM*_ConfPnt_Processed_01.txt' file, and click the 'Open' button.



➢ The processed Confidence Points will be imported into the Field Book and displayed in the DGN with the corresponding symbology. Along with the proper symbols and colors, text labels will be added to all points, displaying the point ID and the terrain delta value.



5) Review the report and processed graphics in the DGN to identify failing or problem areas in the Terrain.

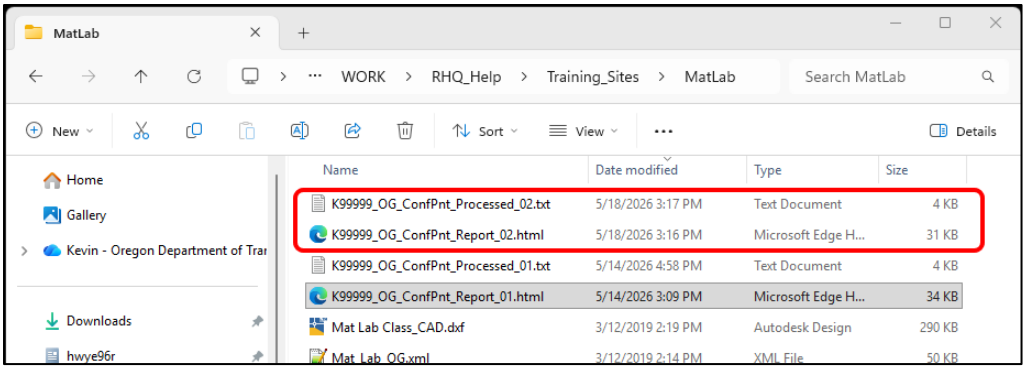


Summary				
	Surfaced Points TOL= 0.1	Graded Points TOL= 0.3	Natural Points TOL= 0.6	Rugged Points TOL= 1.5
Total Points	28	14	7	3
Valid Points	25	14	7	3
Pass	22	11	6	2
Fail	3	3	1	1
Fail 3x	1	0	0	0
%Pass	88%	78.57%	85.71%	66.67%
%Fail 3x	4%	0%	0%	0%

Total Number of Confidence Points = 52
Total Number of Valid Points = 49

G60049	215121.3102	185265.3724	194.724	194.949	-0.224	PASS	Surv_Conf_Pt_Graded_Pass
G60050	215116.9280	185252.6912	193.943	194.495	-0.552	FAIL	Surv_Conf_Pt_Graded_Fail
G60051	215103.8373	185249.8886	193.852	193.933	-0.081	PASS	Surv_Conf_Pt_Surf_Pass
G60052	215108.1915	185215.5267	193.766	193.794	-0.029	PASS	Surv_Conf_Pt_Surf_Pass
G60053	215121.0126	185205.8482	191.995	193.550	-1.554	FAIL3X	Surv_Conf_Pt_Surf_Fail3X
G60054	215124.2022	185202.4595	193.950	194.117	-0.167	PASS	Surv_Conf_Pt_Graded_Pass
G60055	215134.7694	185224.4583	195.088	195.033	0.055	PASS	Surv_Conf_Pt_Graded_Pass

6) After correcting any issues with the Field Book data and Terrain, re-run the ODOT Confidence Report analysis starting at step A.3 to process the Original Confidence Points against the updated Terrain. Make sure to increment the names on your report and processed files so that your results and edits can be saved to document the project process.



ODOT Terrain Confidence Point Report v2024

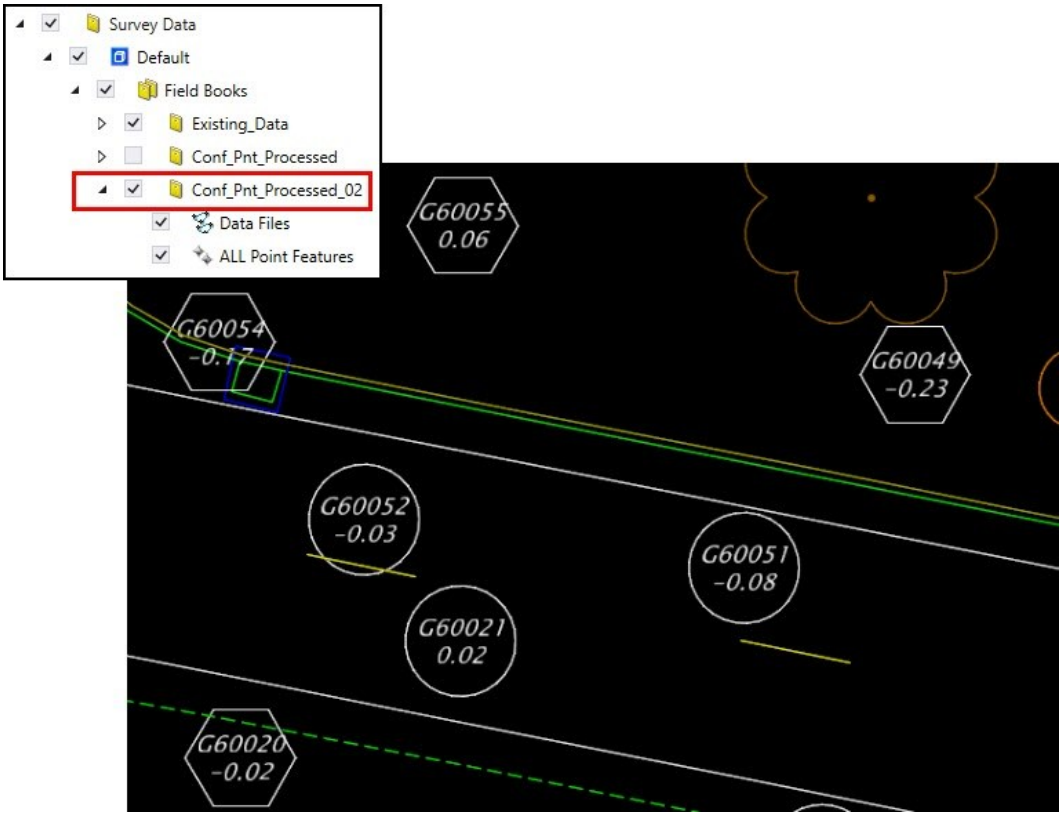
Report Created: Monday, May 18, 2026
Time: 3:16:20 PM

Terrain Name - MatLab_OG
Terrain Last Modified - 2026-05-12T21:53:00.946-07:00

Summary				
	Surfaced Points TOL= 0.1	Graded Points TOL= 0.3	Natural Points TOL= 0.6	Rugged Points TOL= 1.5
Total Points	24	14	7	3
Valid Points	24	14	7	3
Pass	22	11	6	2
Fail	2	3	1	1
Fail 3x	0	0	0	0
%Pass	91.67%	78.57%	85.71%	66.67%
%Fail 3x	0%	0%	0%	0%

Total Number of Confidence Points = 48
Total Number of Valid Points = 48

When processing additional Confidence Point results and importing the points into the original Terrain DGN, additional 'Conf_Pnt_Processed_XX' Field Books can be created with incrementing numbers to match the Confidence Point file names. Alternatively, the data file which was imported for the previous results can be deleted from the 'Conf_Pnt_Processed' Field Book before importing the new file into the existing 'Conf_Pnt_Processed' Field Book.



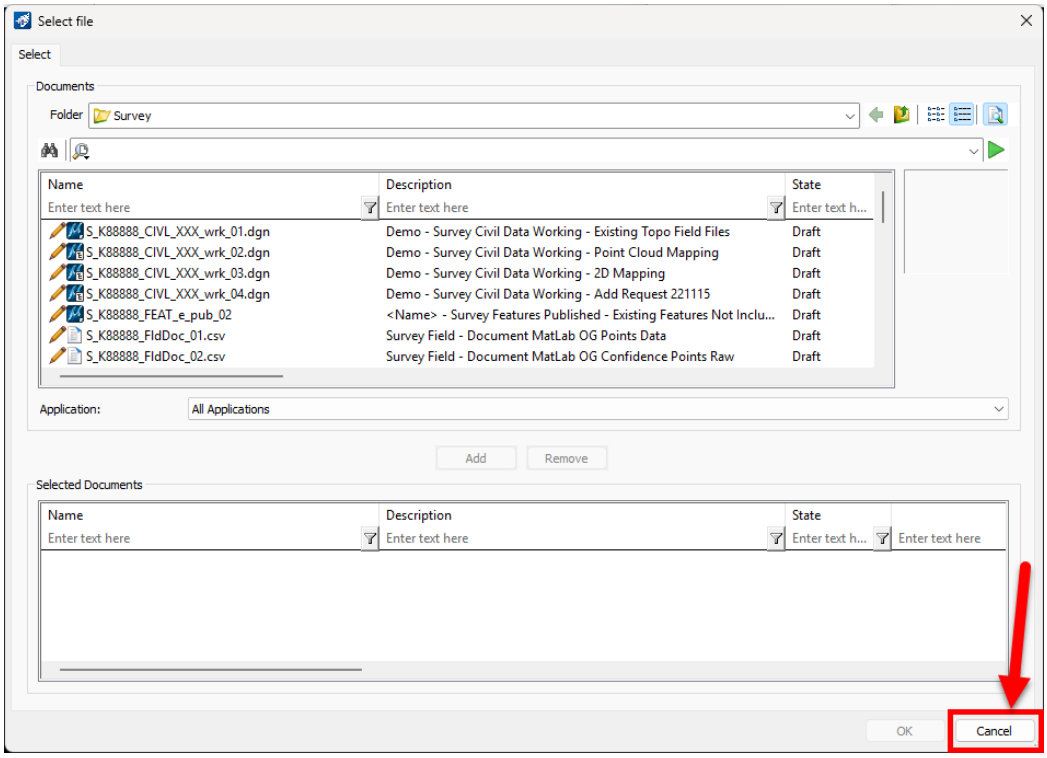
C – Differences in File Dialog Display with ProjectWise.

When working with a DGN in the ProjectWise (PW) environment, file dialogs (Load & Save) will appear differently and function differently from the default Windows 11 dialogs. To use the Windows 11 dialogs, you must 'Cancel' the PW dialog/dialogs.

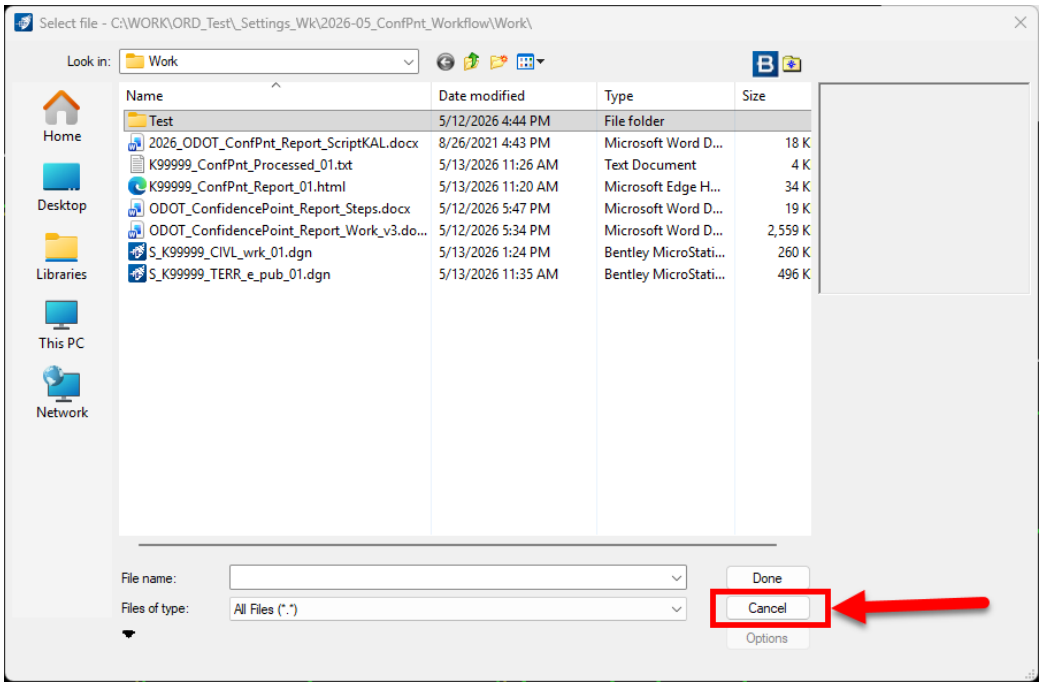
It is recommended that all file loads and saves for the Confidence Point Process use the Windows 11 dialogs. And that all Point Data Files (*.csv), Report Files (*.html), and Processed Point Files (*.txt) be stored on a non-PW drive, i.e. Local C: drive or other crew server share.

The following images will show examples of the PW file dialogs, how they change with the 'Cancel' button, and how many 'Cancel' commands are needed before the Windows 11 dialog appears.

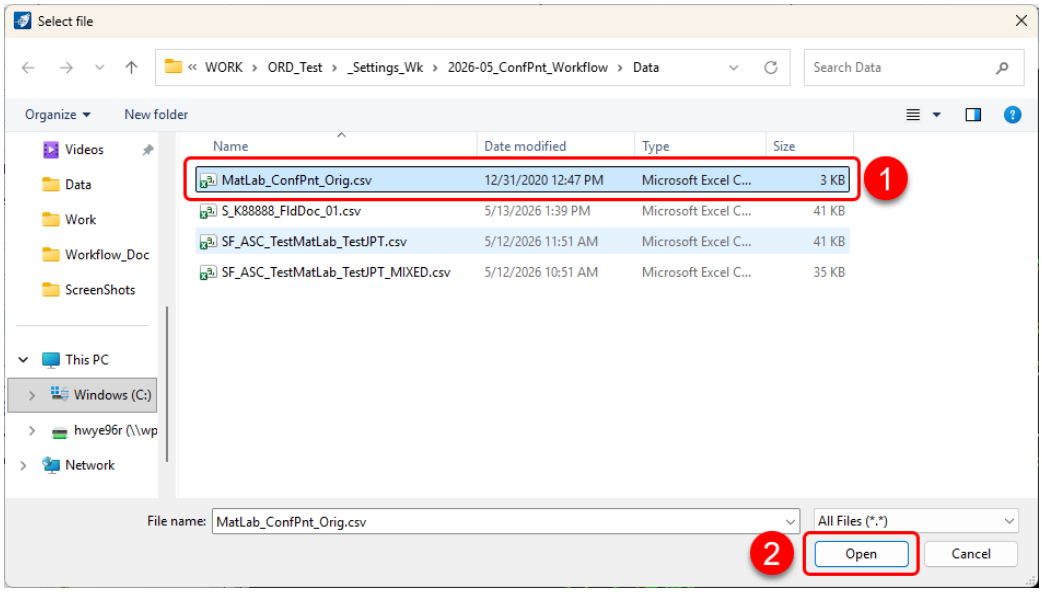
1) Import/Load Survey Point Data File (*.csv)
   a. The first dialog that appears is the full PW dialog. You are only able to select files from the PW Environment and there is no option to select a File Type filter or Text Import Wizard Template. Select 'Cancel' to close this dialog and move to the second.



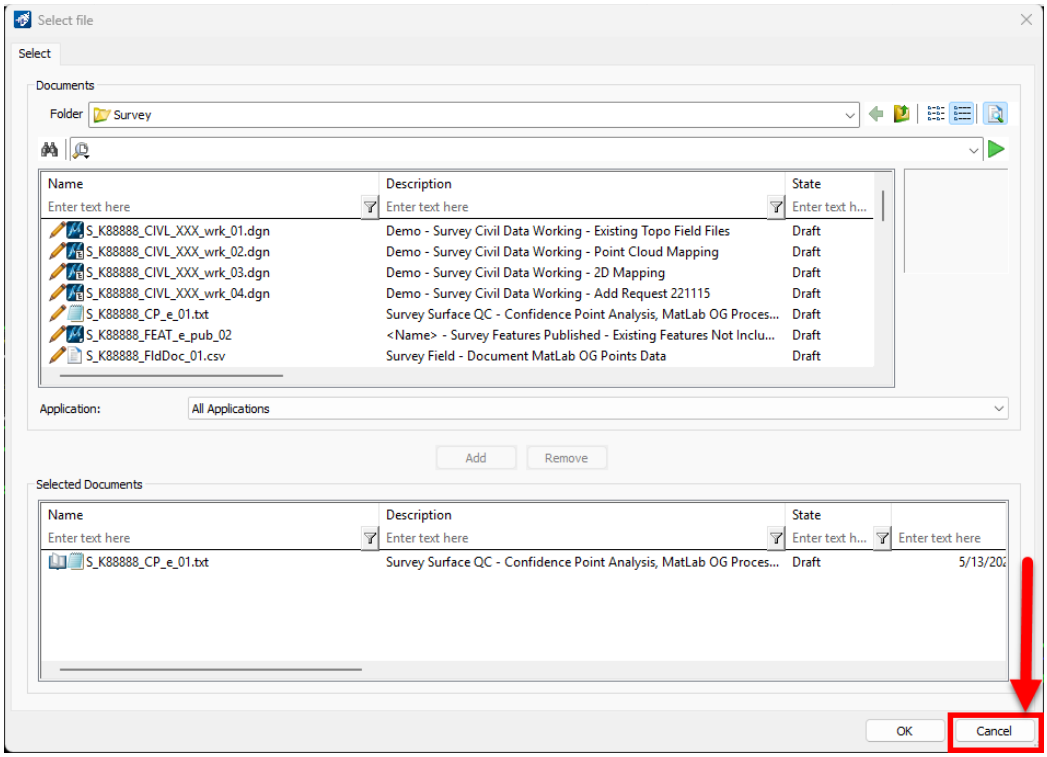
b. The second dialog that appears is a PW dialog but with an old Windows 7 look. You can select files from any local or mapped drive but there is no option to select a File Type filter or Text Import Wizard Template. The *.csv can be loaded from here and it will import properly but there is no way to filter the files displayed in the selected folder. Select 'Cancel' to close this dialog and move to the third.



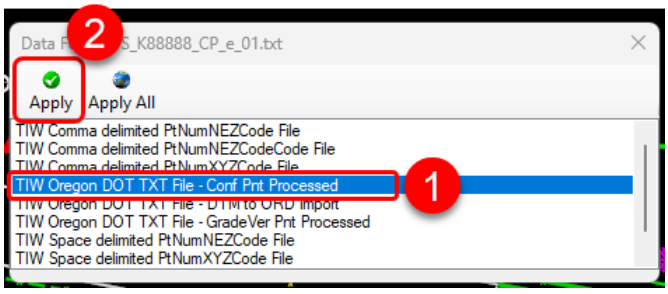
c. The third dialog that appears is the Windows 11 dialog. You can select files from any local or mapped drive, and you can select a File Type filter or Text Import Wizard Template. Select the *.csv file and then select 'Open' to load the data into the DGN.



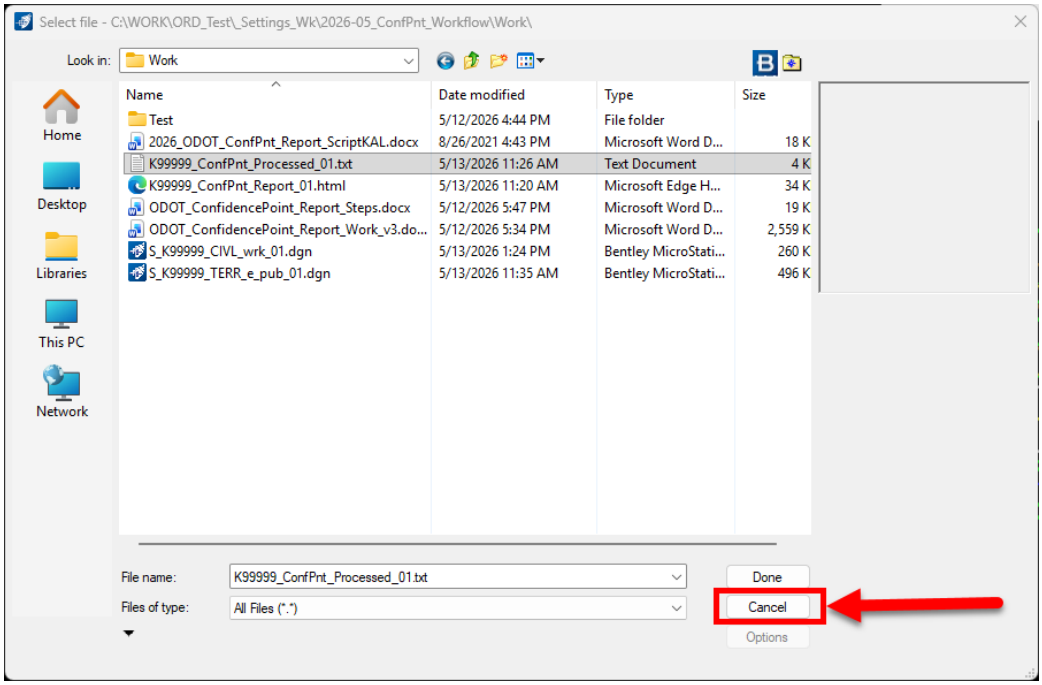
2) Import/Load Processed Point Data File (*.txt)
   a. The first dialog that appears is the full PW dialog. You are only able to select files from the PW Environment and there is no option to select a File Type filter or Text Import Wizard Template. Select 'Cancel' to close this dialog and move to the second.



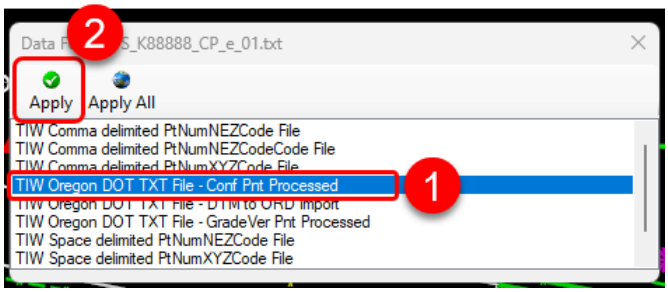
   b. If you do have a *.txt in the PW Environment and select it to load, then a secondary dialog will pop up, allowing you to select the correct Text Import Wizard (TIW) template. Select the TIW template and then select 'Apply' to complete the import process.



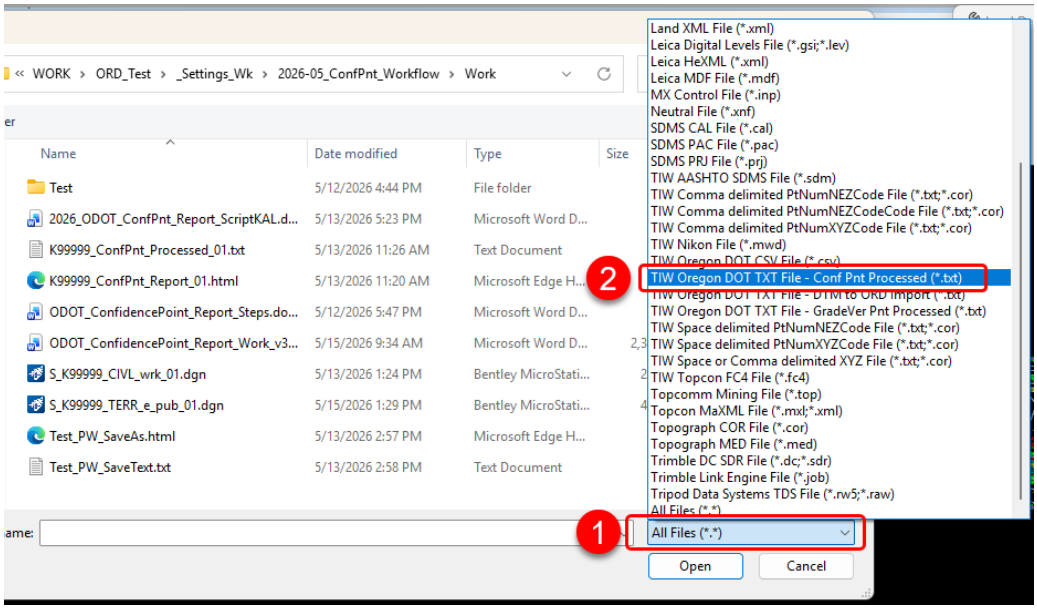
c. The second dialog that appears is a PW dialog but with an old Windows 7 look. You can select files from any local or mapped drive but there is no option to select a File Type filter or Text Import Wizard Template. Select 'Cancel' to close this dialog and move to the third.

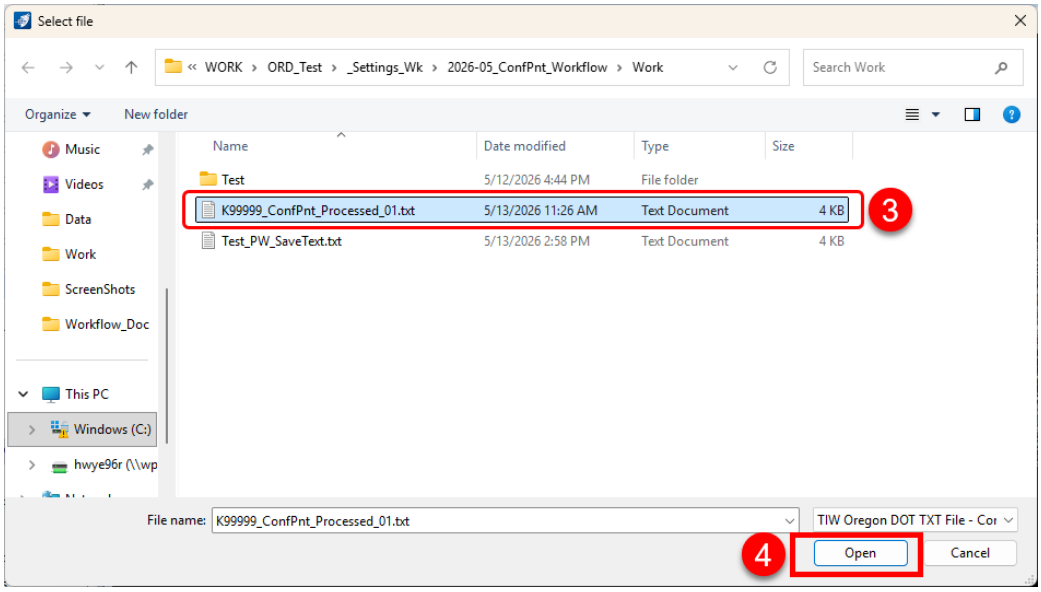


d. If you select a *.txt file to load, then a secondary dialog will pop up, allowing you to select the correct Text Import Wizard (TIW) template. Select the TIW template and then select 'Apply' to complete the import process.



e. The third dialog that appears is the Windows 11 dialog. You can select files from any local or mapped drive, and you can select a File Type filter or Text Import Wizard Template. Select File Type filter drop down, choose the correct TIW Template, select the *.txt file, and select 'Open' to load the data into the DGN.

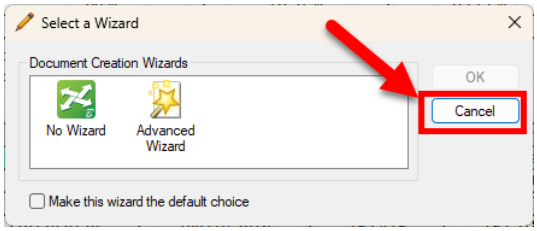




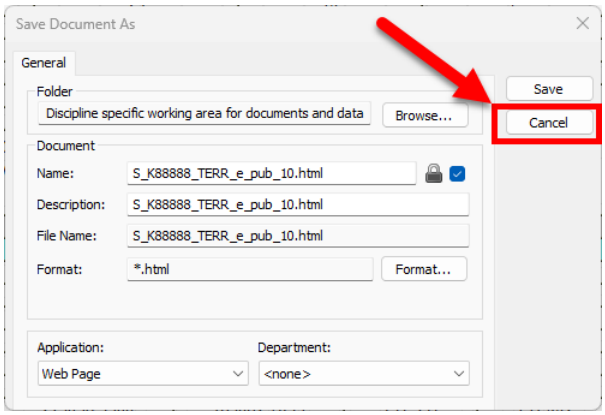
NOTE: If the File Type Filter is not set to a TIW Template before loading the *.txt file the same pop up dialog shown in (2b) and (2d) above will allow you choose the correct TIW for the data type.

3) Save an HTML or Text File

a. The first dialog that appears is the PW Naming Wizard dialog. Select 'Cancel' to close this dialog and move to the second.



b. The second dialog that appears the general PW Save As dialog. It is **NOT** recommended to save these files in PW because the naming convention does not allow for a good descriptive name on these working data files. Select 'Cancel' to close this dialog and move to the third.



c. The third dialog that appears is the Windows 11 dialog. Navigate to the desired folder or network location. Enter an appropriate name for your file in the 'File name:' box. Select 'Save' to complete the process.