

# **Converting T.D.O.T. Design Division**

## **V7 Project Files to V8**

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## **General Information**

The methods and standard files presented in this document represent the needs & recommendations for projects developed by T.D.O.T. Design Division personnel and consultants doing projects for the Design Division. Other divisions within T.D.O.T. may require that other actions be taken in regards to converting project data. It is recommended that consultants contact their T.D.O.T. Managers from those other divisions as needed to determine the proper course of action concerning their specific project files.

Throughout this document V7 refers to MicroStation or GEOPAK software version 7 which TDOT has used for the past few years. V8 refers to MicroStation or GEOPAK software version 8 which is now being implemented.

The methods used to link Office documents to MicroStation for the creation of 2<sup>nd</sup> sheets have not changed very much but the way that MicroStation does this has changed. Due to the changes in the way MicroStation displays these documents it will be necessary to change the format, fonts, spacing, etc. in existing project documents. Special conversion macros have been developed to convert Word & Excel project documents to their new formats. This document includes descriptions of those macros and other pertinent information concerning the conversion to use MicroStation V8 with Office 2003 or 2007.

## MicroStation

The most notable change in MicroStation V8 is the expanded level structure. Several old V7 levels have been expanded to multiple levels. This will allow more precise control on what is shown on our plans sheets as well as providing more flexibility when developing those plans. However when converting V7 project data to V8 it is **not** necessary to take the time to move all graphics to their new level locations. In some cases you may wish to move some graphics in order to take advantage of these new levels and of course all standard functions will automatically use them but you do not have to move old graphics. Most old V7 levels still contain the same type of data they did previously and as such are still included on the sheets where they were used in V7. One exception to this are the levels for profile graphics which are now on all new levels. A special level filter is provided that includes both V8 and V7 levels for profile graphics so that you do not have to move those graphics to their new levels either

### Original V7 DGN files

It is recommended that copies of your original V7 DGN files be kept temporarily in case of problems that may show up after conversion to V8. Some files may have hidden corruption which doesn't create a problem in V7 but may prevent some elements from functioning correctly in V8. When corruption is found it can usually be corrected in the original file and then be re-converted to V8. Other situations may come up requiring re-conversion of the original V7 copy.

A step to create folders for the original V7 DGN files is included as part of the recommended procedures to convert project DGN files in a batch mode. If a V7 DGN file is converted on the fly by opening with V8, then the user must note or set the location where a back up copy of the file is placed.

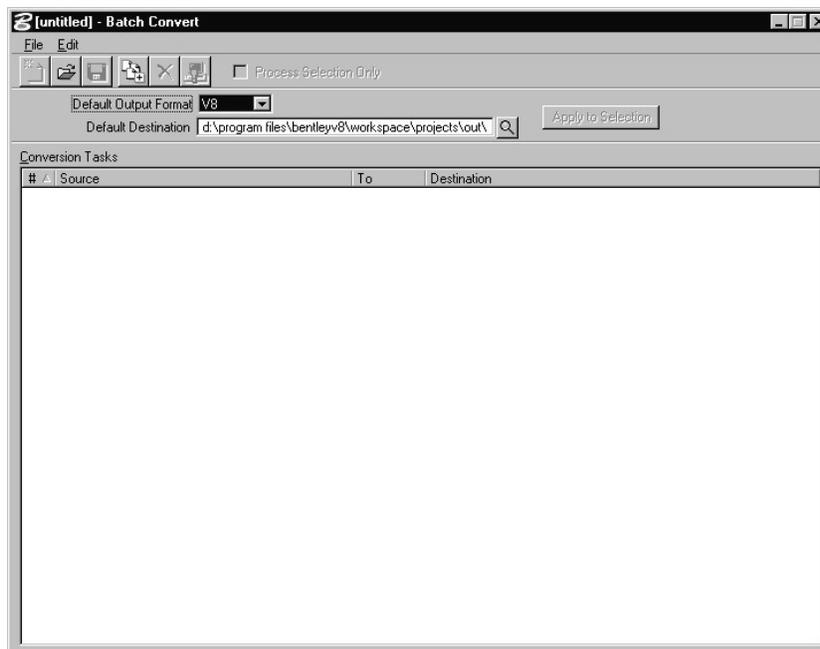
### Converting by opening V7 DGN files with MicroStation V8

If a V7 DGN file is opened with MicroStation V8 the user is prompted to convert the file but if you do so in this manner then the levels generated for the file **may not** be the correct standard levels. The on the fly conversion is set up to map regular non-cross section DGN files only. If cross section DGN files are converted in this manner then the wrong level names will be defined. If you have done this and need to correct the level names in the new V8 cross section DGN file see **Re-Mapping MicroStation Level Names** in this document. The recommended method of conversion of all DGN files is in a batch mode as described in the next section.

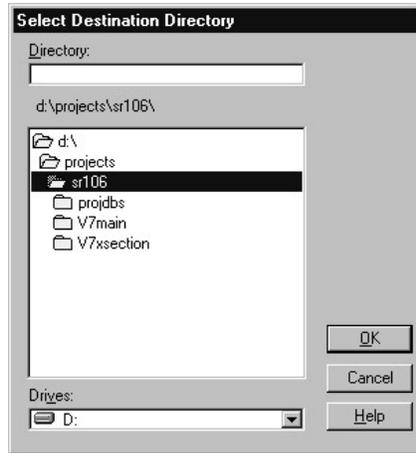
## Converting Multiple V7 DGN Files to V8 Format & New Levels 1-63

Take the following steps to convert V7 DGN files in a batch mode while applying the correct level names.

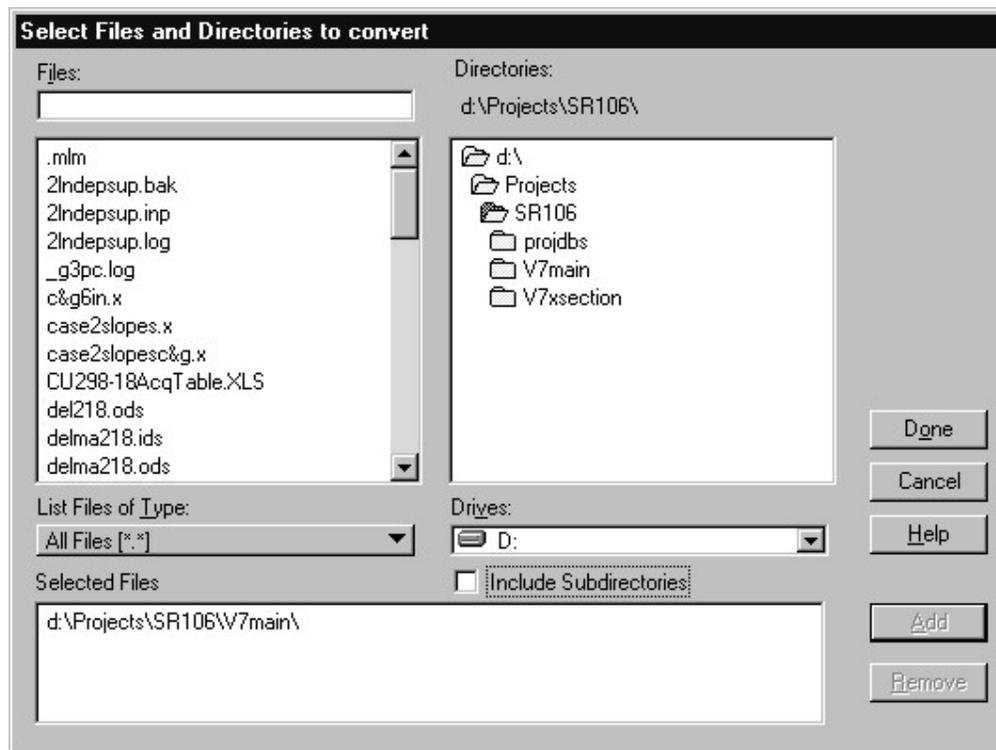
1. Make sure the standard T.D.O.T. Design Division level library is downloaded to  
**C:\Program Files\Bentley\Workspace\system\dgnlib**  
On the V8 web page it is the **Dgnlib.exe** archive file under MicroStation which includes:  
**TDOTmain.dgnlib**      **main design file level library**
2. Make sure the standard T.D.O.T. Design Division level conversion files are downloaded to  
**C:\Program Files\Bentley\Workspace\system\data**  
On the V8 web page it is the **Data.exe** archive file under MicroStation which includes:  
**TDOTV8main.csv**      **main level conversion\re-mapping file**  
**TDOTV8xsections.csv**      **cross section level conversion\re-mapping file**
3. **Prior to conversion** ...In an Windows Explorer window create new sub folders under your project directory named **V7main** and **V7xsection**. Move all project MicroStation DGN files **except for** cross sections and cross section sheets to the **V7main** folder. Then move all cross sections and cross section sheet DGN files to the **V7xsection** folder. The cross section file levels 1-63 are different and so must be converted/re-mapped separately.
4. Start MicroStation V8 and create a new DGN file in your project directory to work from. The name of the file does not matter.
5. When MicroStation opens the DGN file go to **Utilities>Batch Converter**.



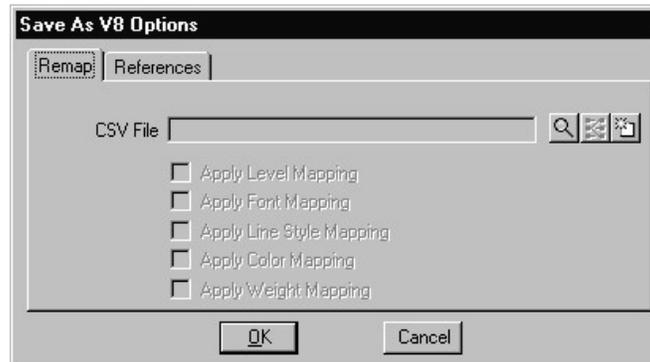
- In the **Batch Convert** dialog set the **Default Output Format** to **V8**.
- Click on the **Default Destination** browse button and go your project directory where you wish the new V8 files to go. Click **OK** to set.



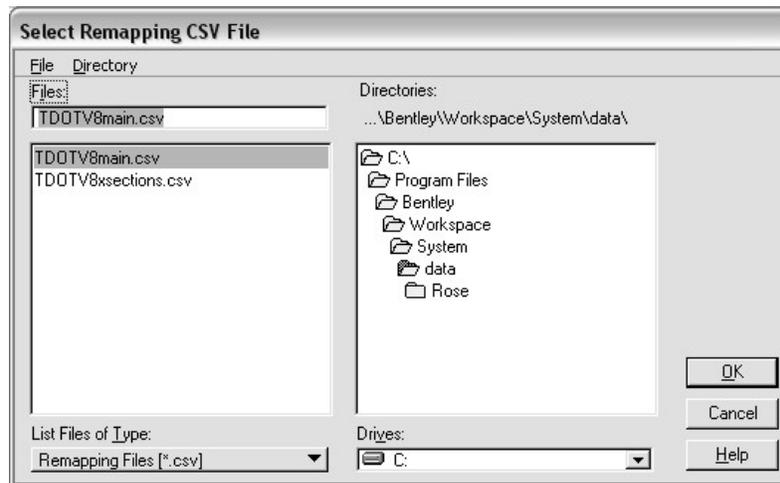
- Click on the **Add Files or Directories to Convert** icon to open the **Select Files or Directories to Convert** dialog. Go to your project folder. Click on **V7main** in the folder tree on the right and click on **Add** at the bottom. This adds that folder to the collection box at the bottom. Click on **Done** to return to the batch conversion dialog.



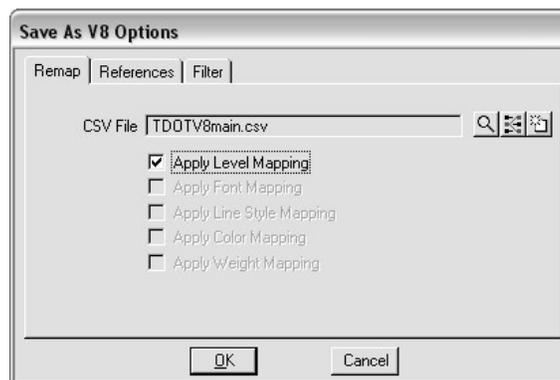
9. In the batch conversion dialog click on the drop down option **Edit>V8 Save Options....**  
The **Save As V8 Options** dialog opens.



10. In the **Save as V8 Options** dialog click on the browse button (icon to the right of **CSV File**) and go to the data folder **C:\Program Files\Bentley\Workspace\system\data** and select the conversion file **TDOTV8main.csv**.

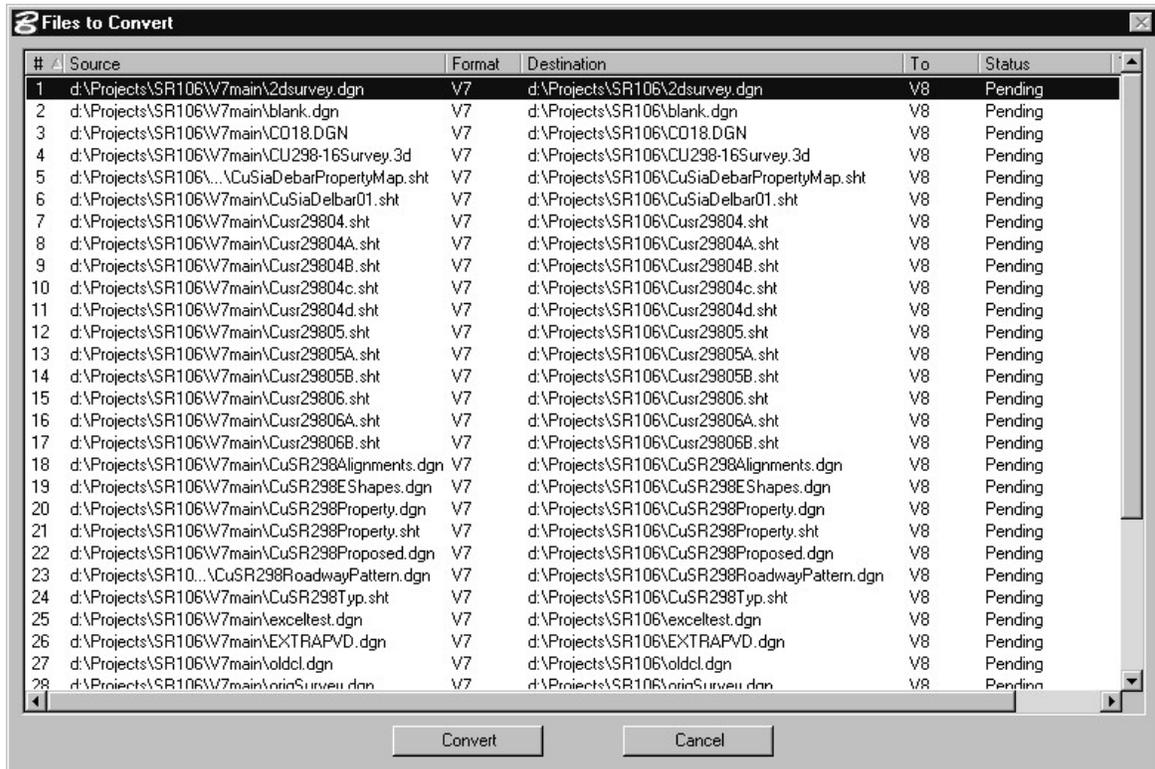


11. Back in the **Save as V8 Options** dialog make sure **Apply Level Mapping** is clicked on and then click on **OK**.



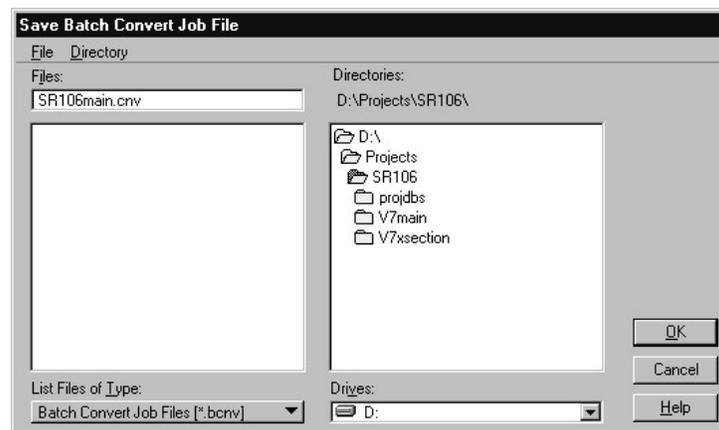
12. We are now ready to convert the files, click on the **Process Batch Convert Job** icon

13. In the **Files to Convert** list, all files are listed with their current status which should be **Pending**. Click on the **Convert** button at the bottom to start the file conversions.

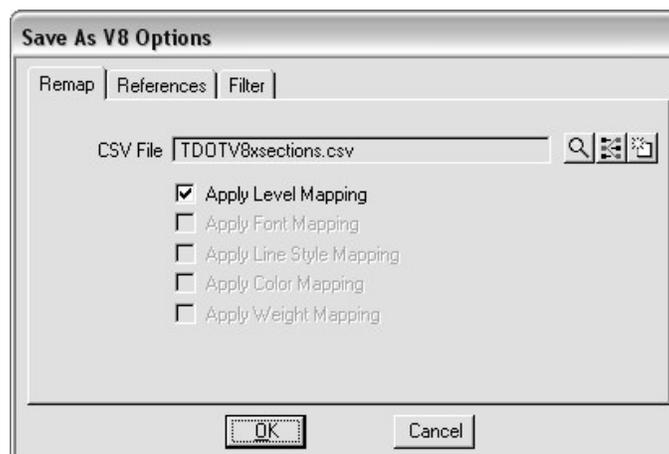
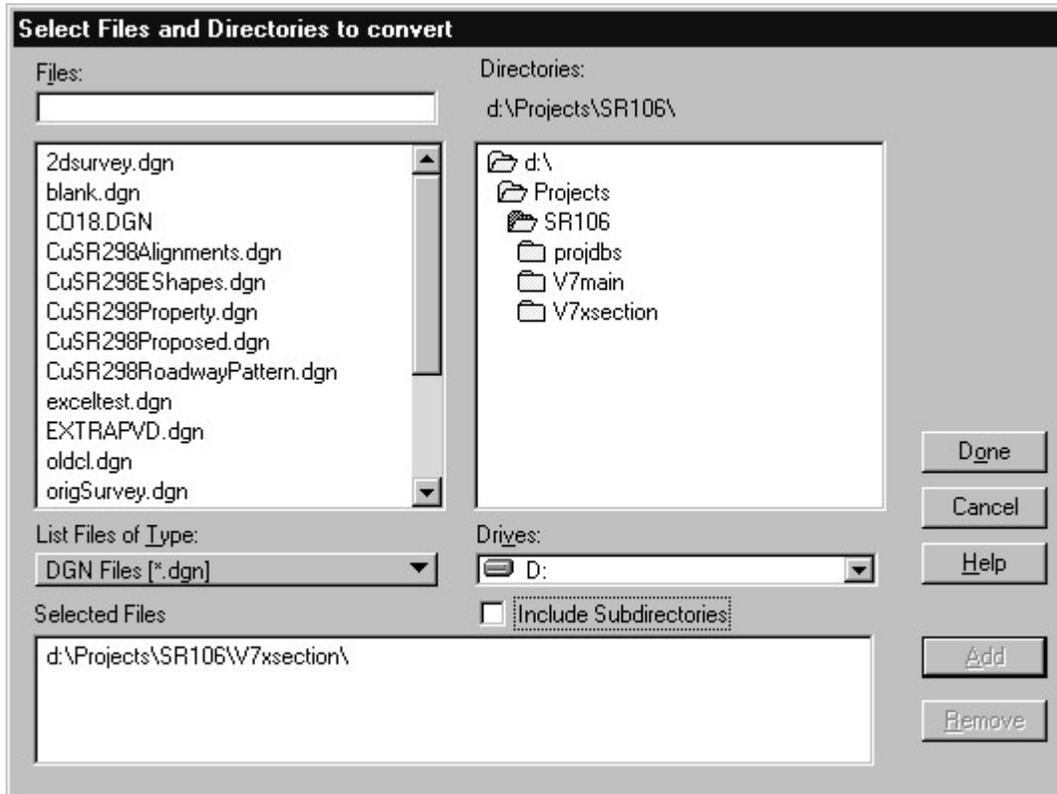


14. When completed click on the **Done** button (the Convert button changes to Done when processing is complete).

15. In case you need to convert these files again, in the Batch Converter dialog go to the drop option **File>Save As** and save the set ups just done in a batch conversion file in the default location given or perhaps in your project directory.



16. If you have no cross section DGN files to convert, skip to **Importing Additional V8 Settings in Batch Mode**.
17. Repeat steps 5-15 to convert cross section DGN files by accessing folder **V7xsection** and using conversion file **TDOTV8xsections.csv** as shown below. If you are in the Batch Converter dialog you can click on the **New Batch Convert Job** icon to start a new set up for the cross sections.



## Cross Section DGN files just prior to converting

#	Source	Format	Destination	To	Status	Tim
1	d:\Projects\SR10...\CuSR298Delbar\Sections.dgn	V7	d:\Projects\SR106\CuSR298Delbar\Sections.dgn	V8	Pending	
2	d:\Projects\SR106...\CuSR298Delbar\Sheets.dgn	V7	d:\Projects\SR106\CuSR298Delbar\Sheets.dgn	V8	Pending	
3	d:\Projects\SR1...\CuSR298Mainline\Sections.dgn	V7	d:\Projects\SR106\CuSR298Mainline\Sections.dgn	V8	Pending	
4	d:\Projects\SR1...\CuSR298Mainline\Sections.sht	V7	d:\Projects\SR106\CuSR298Mainline\Sections.sht	V8	Pending	
5	d:\Projects\SR10...\CuSR298mainline\Sheets.dgn	V7	d:\Projects\SR106\CuSR298mainline\Sheets.dgn	V8	Pending	
6	d:\Projects\SR106W...\CuSR298Stout\Sheets.dgn	V7	d:\Projects\SR106\CuSR298Stout\Sheets.dgn	V8	Pending	
7	d:\Projects\SR106...\CuSR298Tabor\Sections.dgn	V7	d:\Projects\SR106\CuSR298Tabor\Sections.dgn	V8	Pending	
8	d:\Projects\SR106W...\CuSR298Tabor\Sheets.dgn	V7	d:\Projects\SR106\CuSR298Tabor\Sheets.dgn	V8	Pending	
9	d:\Projects\SR106\W7xsec...\delpvdrive\Sheet.dgn	V7	d:\Projects\SR106\delpvdrive\Sheet.dgn	V8	Pending	
10	d:\Projects\SR106\W7xsection\delpv\S.dgn	V7	d:\Projects\SR106\delpv\S.dgn	V8	Pending	
11	d:\Projects\SR106\W7xsection\mainline3pvdxs.dgn	V7	d:\Projects\SR106\mainline3pvdxs.dgn	V8	Pending	
12	d:\Projects\SR106...\MAINLINE3PVDXSHEETS.dgn	V7	d:\Projects\SR106\MAINLINE3PVDXSHEETS.dgn	V8	Pending	
13	d:\Projects\SR106\W7xsection\pipe\Section.dgn	V7	d:\Projects\SR106\pipe\Section.dgn	V8	Pending	
14	d:\Projects\SR106\W7xsection\pvdxs.dgn	V7	d:\Projects\SR106\pvdxs.dgn	V8	Pending	
15	d:\Projects\SR106\W7xsection\stpvdxsheet.dgn	V7	d:\Projects\SR106\stpvdxsheet.dgn	V8	Pending	

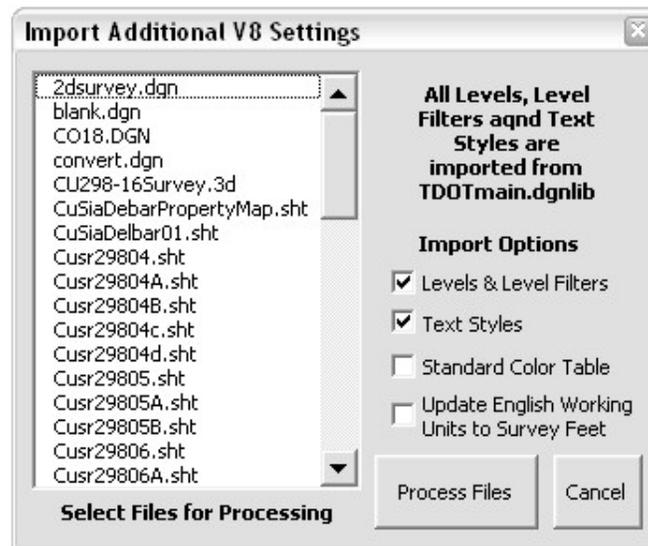
18. At this point all project DGN files are in V8 format and all graphics are on new V8 levels 1-63. Files could be used as they are now but to be fully functional in V8 the steps in the next section should be taken to import additional V8 settings.

## Importing Additional V8 Settings in Batch Mode

After using MicroStation's Batch Converter for the initial conversion of the DGN files with levels 1-63, several additional settings need to be made in order to make the files fully functional in V8. A vba program, **V8\_Import.mvba**, has been developed to delete old V7 level filters, import additional V8 levels & level filters, import V8 text styles, attach the new V8 color table and to update English working units to use Survey Feet. This program processes multiple DGN files in a batch mode. Immediately following the description of this program are sections describing the steps to add these settings manually to individual files.

This program **should not** be used on un-converted V7 DGN files. If a V7 DGN file is encountered during processing, MicroStation alerts the user that it is a V7 DGN file and must be converted or opened as Read Only. **Always click on the Cancel button** if this happens. Processing will continue on the remaining files. If the V7 DGN file is converted on the fly during processing the original levels 1-63 will not be set up with their correct names.

1. Access the import program by choosing the drop down option **TDOT > V8 – Import Additional Settings** or from Geopak's D&C Manager **Drafting Standards>Tools > V8 Import**
2. When the command is first started the **Import Additional V8 Settings** dialog is displayed.



3. Under **Import Options**, choose which of the V8 additional settings are desired for import. By default levels, level filters & text styles are turned on. Since these files have just been converted we need to apply all options so click the others on.

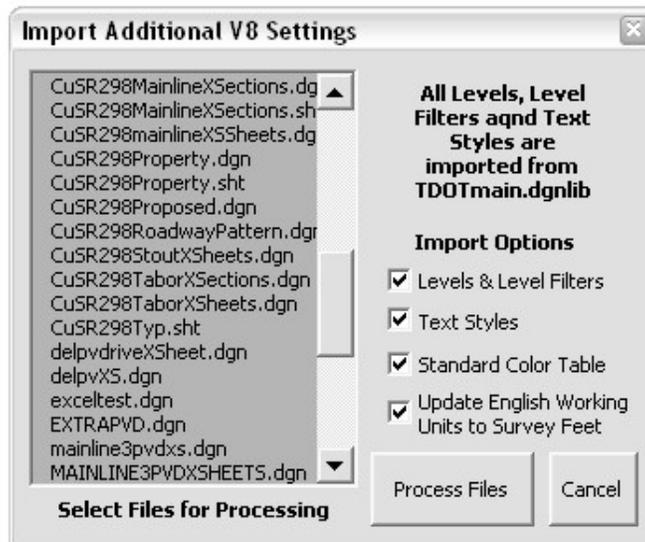
## Notes on Updating English Working Units To Survey Feet

The change of English working units to use survey feet is required to ensure compatibility with aerial survey data based on survey feet. This was not an issue in V7 DGN files but due to changes in the way MicroStation V8 DGN files are set up it is now necessary. There is only a small difference between the international foot and the US survey foot (1.000002 foot = 1 Survey Foot) so only large numbers such as those encountered with coordinate values are effected. This update will make all graphics reference together correctly.

The only problem this change might create would be in the case of referencing either an un-converted V7 DGN file or a V8 file w/o the survey feet change to a correctly converted or new V8 DGN file in which case the coordinates will not line up. For this reason it is recommended that **all DGN files to be used in MicroStation V8 should be converted to the new V8 format and then have their working units updated to use survey feet.**

When processing metric DGN files, the option to update English working units to use Survey Feet is ignored even if this option is clicked on since it is not required in those files.

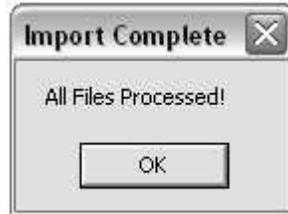
4. Use standard selection methods to highlight the DGN files to be processed. Single click for one file, shift key with clicks at each end for groups of files or the control key with clicks to pick various files. To un-select a file hold the control key down and select it again.



Since all of the project DGN files have just been converted and need the additional settings, use the shift key and select all of the files.

Only files with DGN, MFC, 2D, 3D or SHT extensions from the open DGN file's folder are included in the file list. Any MicroStation design files with DTM graphics that use the old extension DTM should be renamed with a DGN extension. The DTM extension is ignored since InRoads surface files also use that file extension but are not MicroStation design files.

5. When files to be processed have been selected, click on the **Process Files** command button to start the import of additional settings. Each file is opened and processed.
6. When finished a completion message is given. Click **OK** to dismiss the message.



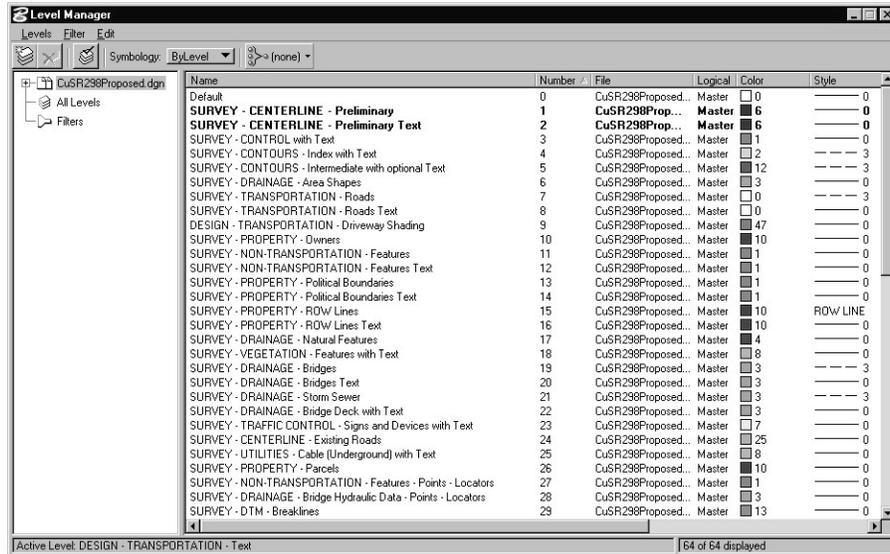
7. Click on the **Cancel** button to dismiss the dialog.

The DGN files are now ready for use in MicroStation V8. If new graphics are to be added to the project DGN files which will be using the new V8 levels, skip to **Updating Sheet Reference Levels**, which describes how to update reference file attachments to show the additional new V8 levels in sheet DGN files.

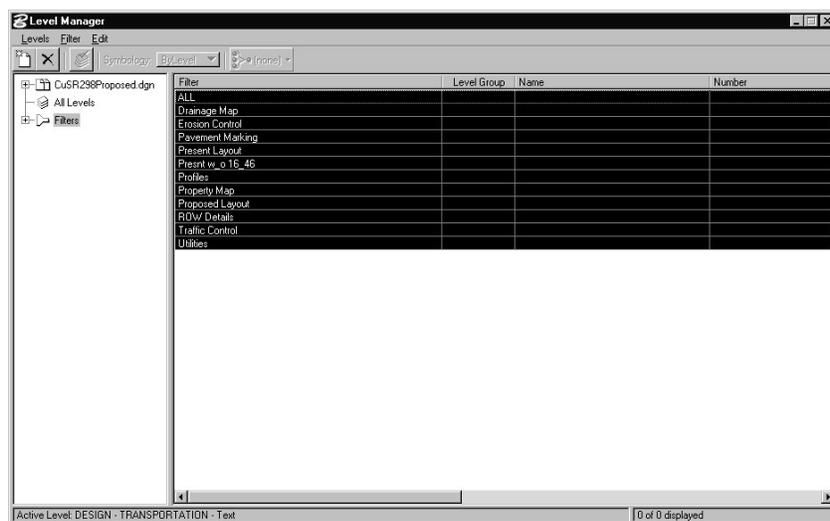
## Adding Additional V8 levels & Level Filters – Manual Method

It is **not** necessary to take these steps if Levels & Level Filters were imported using the vba macro, **Import Additional V8 Settings**.

1. Open the DGN file in MicroStation V8 and go to **Settings>Level>Manager**



2. In the tree on the left click on **Filters** which will display the filters currently in the file. Several old filters will probably be listed. These are from our old V7 level library and will **not** reflect all of the new levels.
3. Right click in the area below the filter list on the right and pick option **Select All**. Right click again and pick **Delete**.



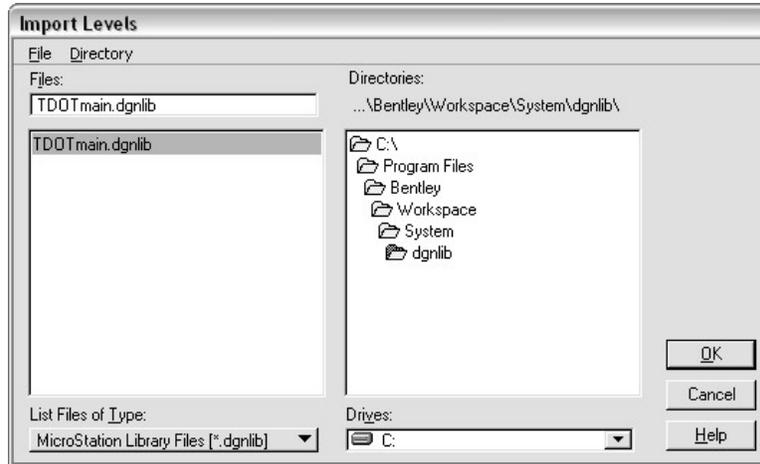
4. In the tree on the left, click on the DGN's filename at the top.

- Go to the drop down option **Levels>Import**

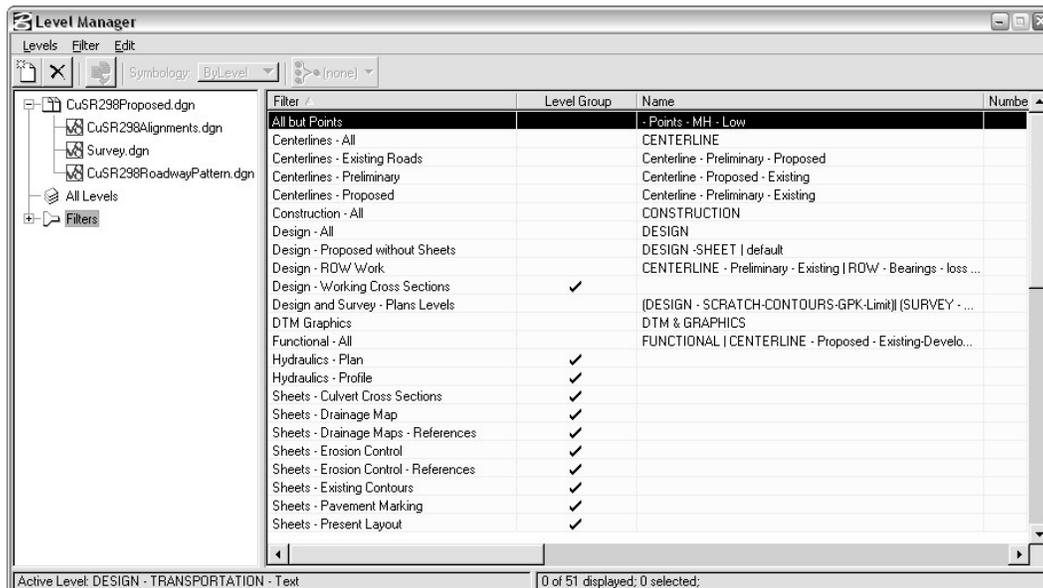
**Note:**

We **do not** use the dgnlib file as an attached library. All levels should reside in each design file.

- In the Import dialog which opens set the type at the bottom to **dgn** or **dgnlib** and browse to the dgnlib folder **C:\Program Files\Bentley\Workspace\system\dgnlib** and select the level library, **TDOTmain.dgnlib** for all DGN files.



- Click on **OK** to import levels and level filters. Level Manager or the Level Display dialogs can now be used to review levels and filters.

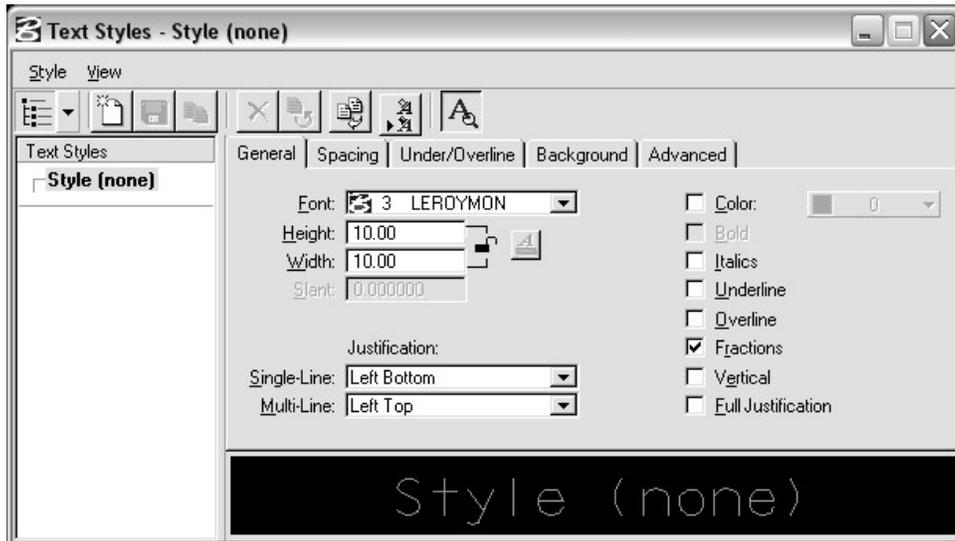


- Prior to leaving the DGN file click on the MicroStation drop down option **File>Compress>Design** to remove deleted elements.

## Importing Standard Text Styles – Manual Method

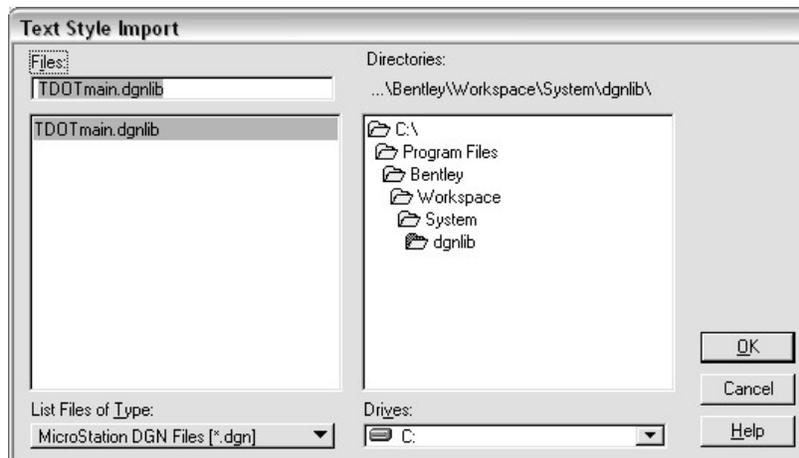
It is **not** necessary to take these steps if Text Styles were imported using the vba macro, **Import Additional V8 Settings**.

1. In MicroStation go to the drop down option **Element>Text Styles**. The **Text Styles** dialog will open.

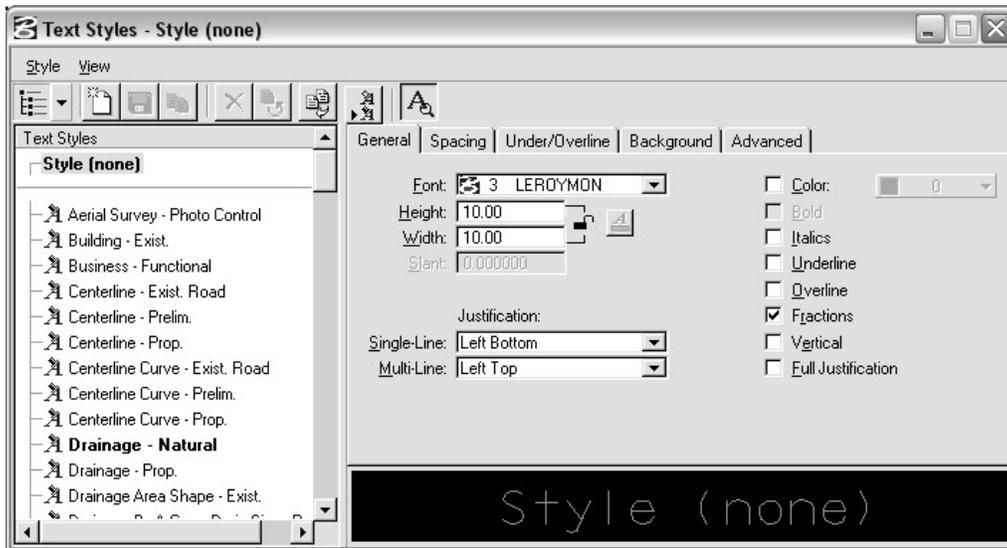


2. In the dialog go to the drop down option **Style>Import**.

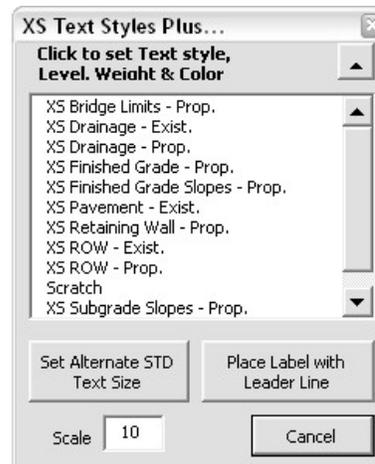
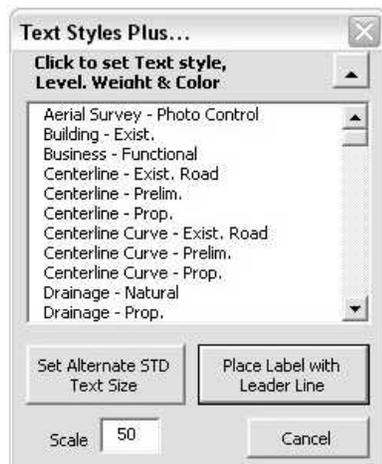
In the Import dialog which opens, browse to the dgnlib folder **C:\Program Files\Bentley\Workspace\system\dgnlib** and select the dgnlib file, **TDOTmain.dgnlib** for all DGN files.



3. Click **OK** to accept the dgnlib file and all standard text styles are imported into the file and are listed in the Text Styles dialog. These can now be used in conjunction with the Design Division's **Text Style Plus** tools to set text parameters prior to placement.



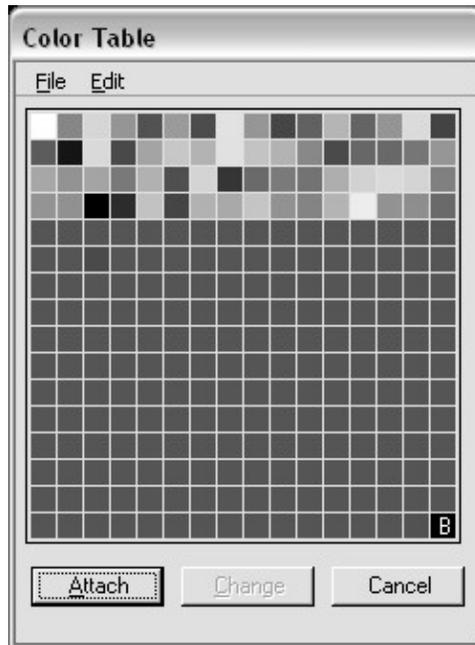
The Text Styles Plus tools for regular or cross section DGN files are available from the TDOT drop down menu, Geopak's D&C Manager or the TDOT Design Division Toolbox. The key advantage to applying text styles from these tools prior to using any text placement function is that the correct levels and weights are set as well as the basic text parameters.



## Attaching V8 Color Table – Manual Method

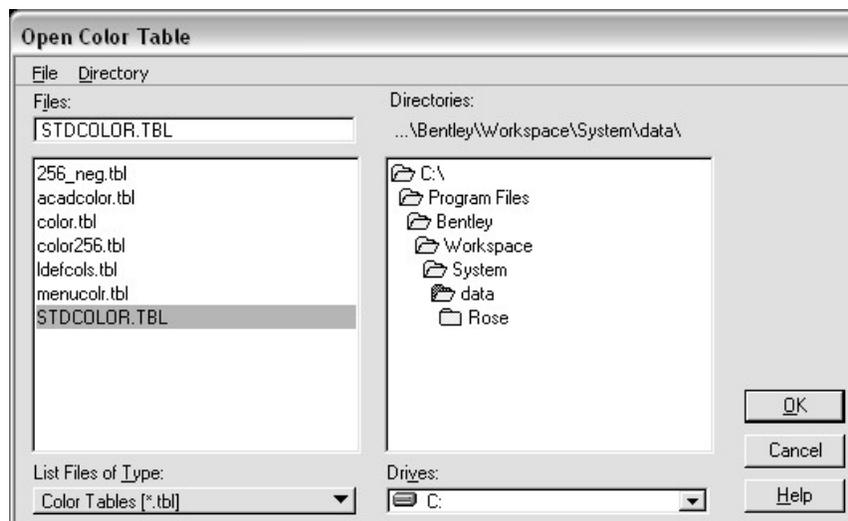
It is **not** necessary to take these steps if the new color table was attached using the vba macro, **Import Additional V8 Settings**.

1. In MicroStation go to the drop down option **Settings>Color Table**. The **Color Table** dialog will open.

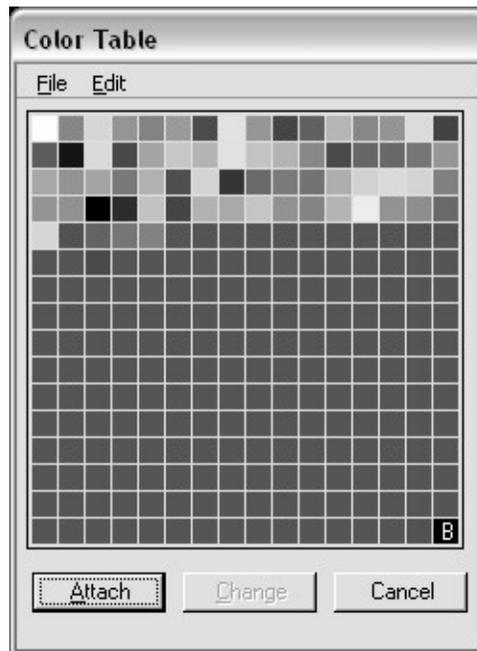


2. In the dialog go to the drop down option **File>Open**.

In the Open Color Table dialog which opens, browse to the data folder **C:\Program Files\Bentley\Workspace\system\data** and select the TDOT Design Division standard color table, **STDCOLOR.TBL**. Click **OK** to accept the file and load it.



3. Back in the **Color Table** dialog, click **Attach** to apply the new colors to the DGN file.



**Note:**

Changes in the new V8 color table include lightening of colors 4 (dark sky blue) and 12 (dark tan) and addition of new colors 64 (off white, urban features), 65 (blue, old color 4), 66 (dark brown, old color 12), 67 (dark green, TDOT Logo) and 68 (light green, TDOT Logo).

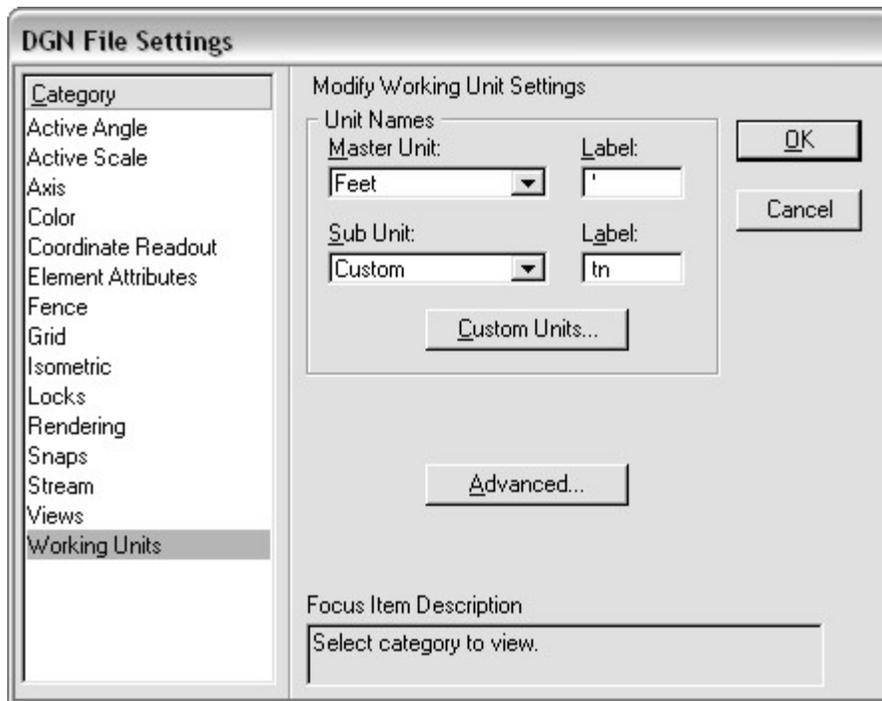
## Updating English Master Units to Survey Feet – Manual Method

It is **not** necessary to take these steps if the master units were updated to Survey Feet using the vba macro, **Import Additional V8 Settings**.

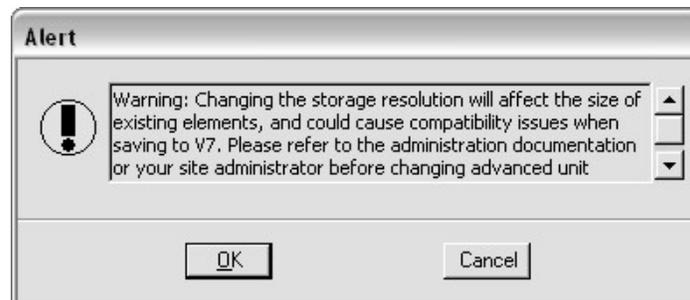
1. Make sure the standard T.D.O.T. Design Division unit definition file is downloaded to **C:\Program Files\Bentley\Workspace\system\data**  
On the V8 web page it is the **Data.exe** archive file under MicroStation which includes:

**units.def**            **T.D.O.T. unit definition file with Survey Feet master unit enabled**

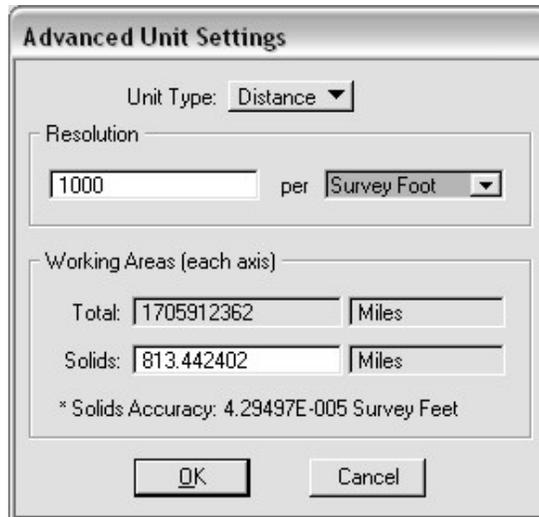
2. In MicroStation go to the drop down option **Settings>Design File**. The **Design File Settings** dialog will open. Click on the **Working Units** option at the bottom of the list on the left of the dialog.



3. In the dialog click on **Advanced**. An Alert message is displayed warning of problems that might occur when storage resolution settings are changed. Click **OK** to proceed.



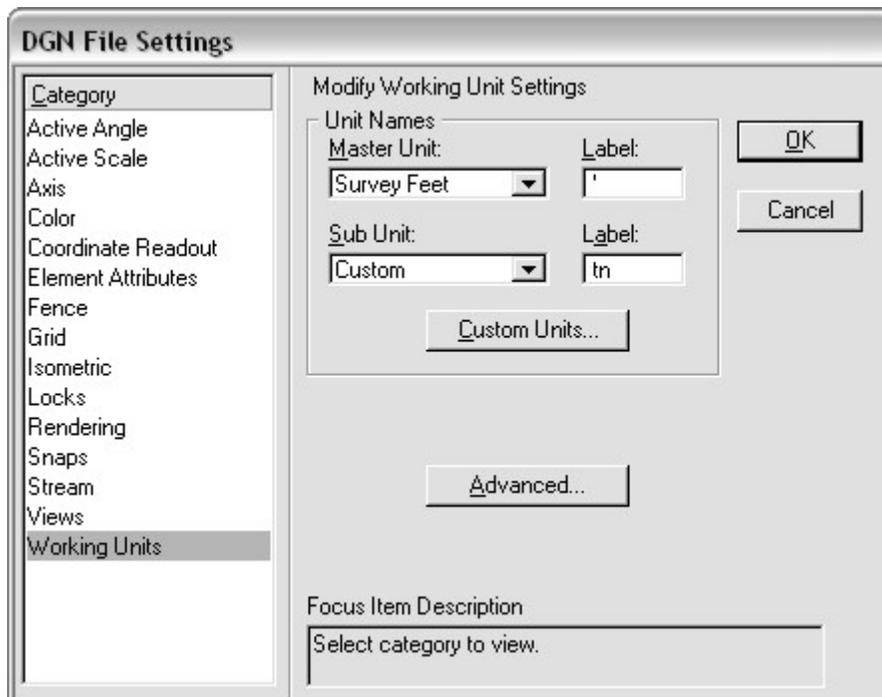
- In the **Advanced Unit Settings** dialog, click on the per unit drop down list and change it from Foot to **Survey Foot**. The Working Areas at the bottom of the dialog will automatically update. **Do not change any other values**. Click **OK** to accept the change.



**Note:**

The previous Alert message warned about changing the length of elements when these settings are changed. Since 1.000002 foot (international foot) = 1 Survey Foot (US Survey Foot), no appreciable change in length will be applied to MicroStation elements.

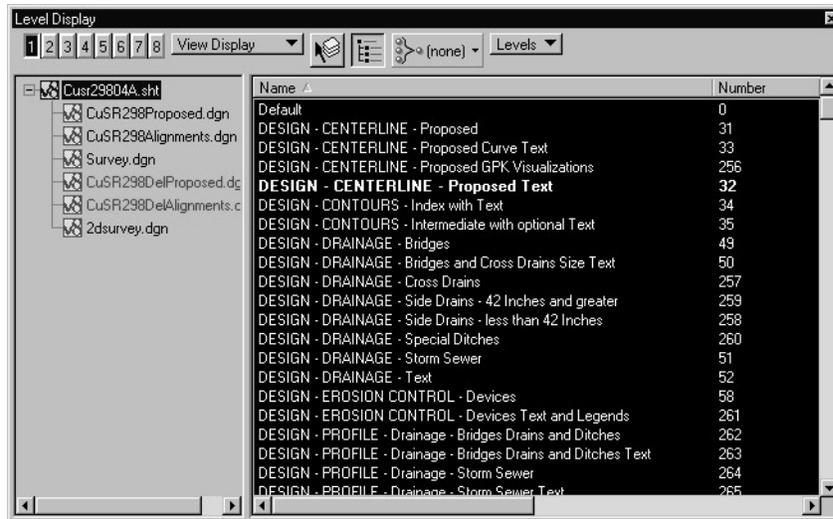
- Back in the **Design File Settings** dialog, click on the **Master Unit** drop down list and change it from Feet to **Survey Feet**. Initially the unit label will be changed to sf. Highlight that setting and change it back to the single quote foot mark ' label. Click **OK** to accept all changes.



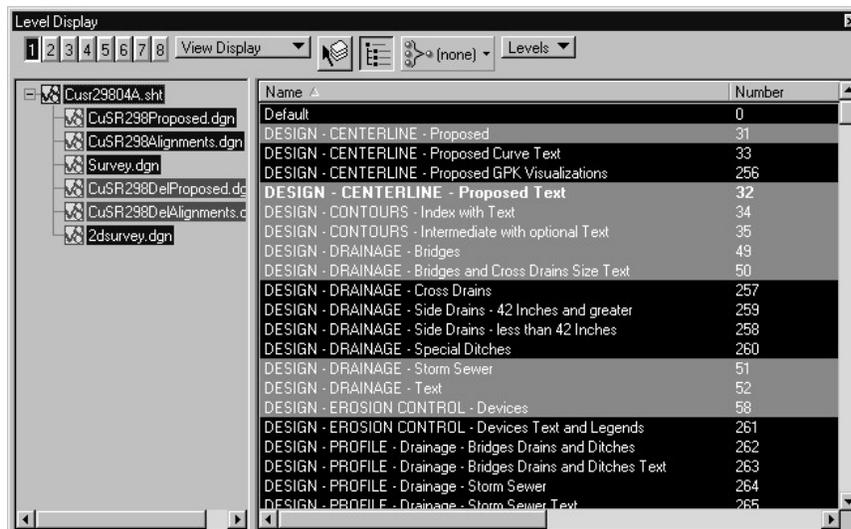
## Updating Sheet Reference Levels

This section describes how to update reference file attachments to show the additional new V8 levels in sheet DGN files. This is **not** necessary unless new graphics are to be added which will be using those new levels.

1. Open the **Level Display** dialog from the Primary toolbox or from the MicroStation drop down option **Settings>Level>Display**.

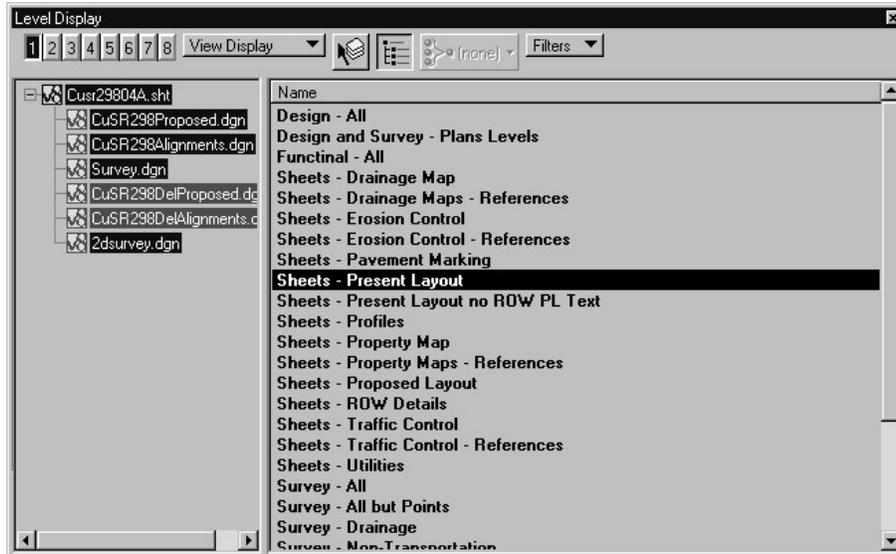


2. In the file tree view select all of the DGN files (or whichever files need to be updated). You can right click in the tree area and pick the **Select All** option.



3. Change the Show control option from Levels to **Filters**.

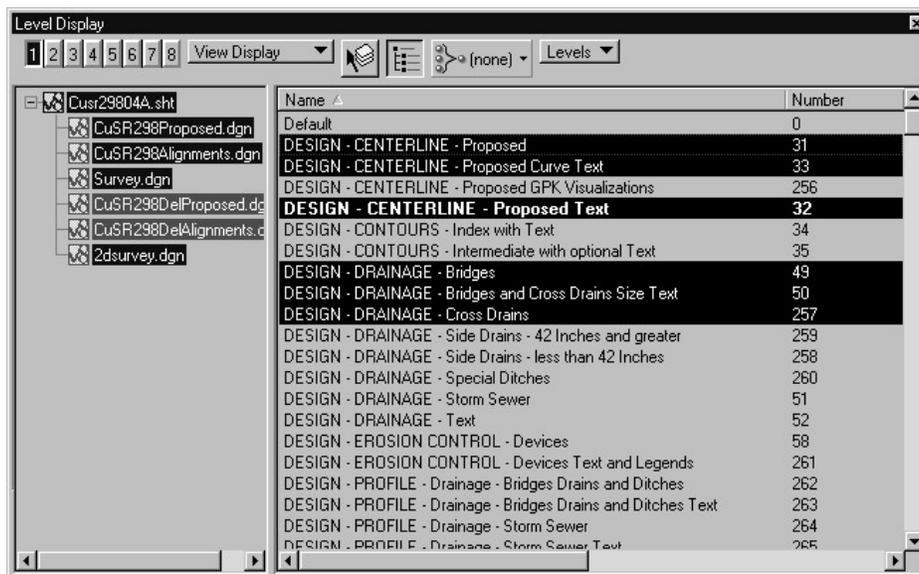
Pick the appropriate filter for the sheet.



**Note:**

Large scale sheets such as Property Maps have special filters for references which do not turn on text levels. Use these special filters on files where the text is set up at a different scale than that used on the sheet.

4. Go back to **Levels** display and if needed adjust levels displayed for the sheet. As long as standard settings were used no adjustment should be necessary.



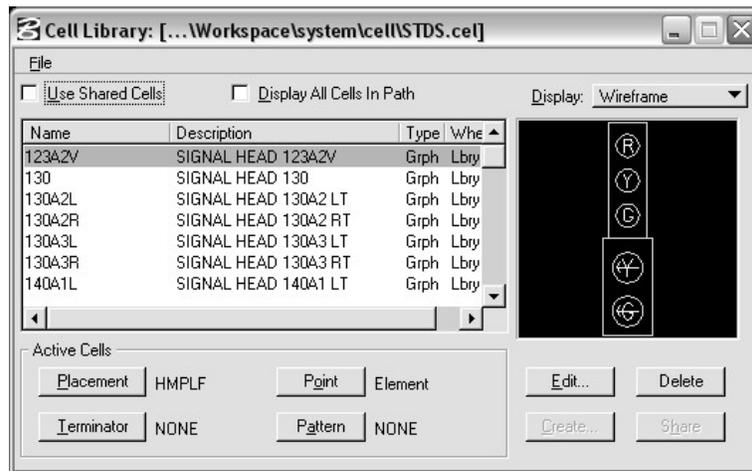
5. Click on MicroStation drop down option **File>Save Settings**.
6. Repeat steps 1-5 for each sheet file where reference levels need to be updated.

## Converting V7 Cell Libraries to V8

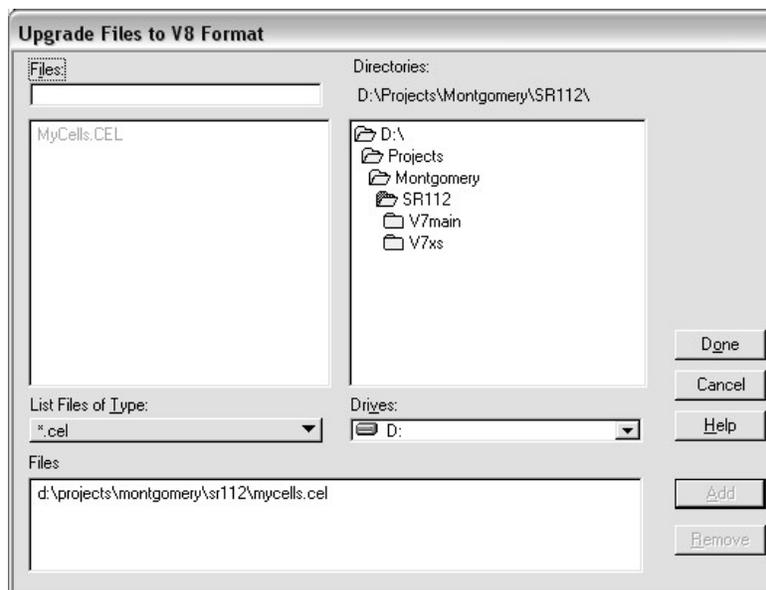
All standard cell libraries have been converted and upgraded for V8. If you are prompted to convert/upgrade a standard cell library, cancel and quit. This indicates you are using an older V7 version of those files. Go to the Design Division's V8 CADD web page and download the V8 standard cell libraries.

This workflow is provided for guidance in converting cell libraries that users may have developed and used in MicroStation for their personal work. Engineers will need to use this to convert the cell library that contains their official seal for use on the plans.

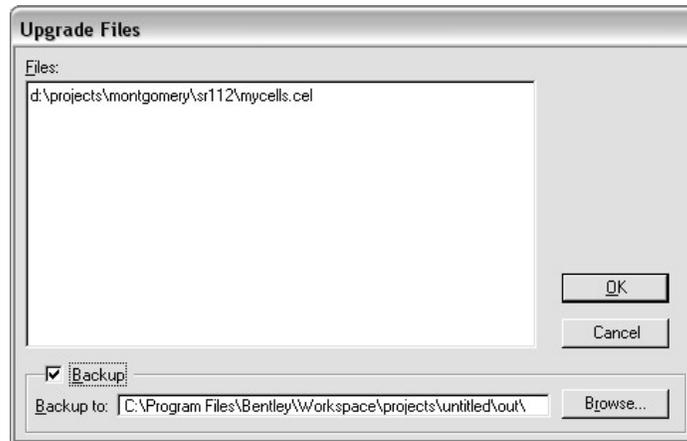
1. In any DGN file, go to **Element>Cells** and open the **Cell Library** dialog.



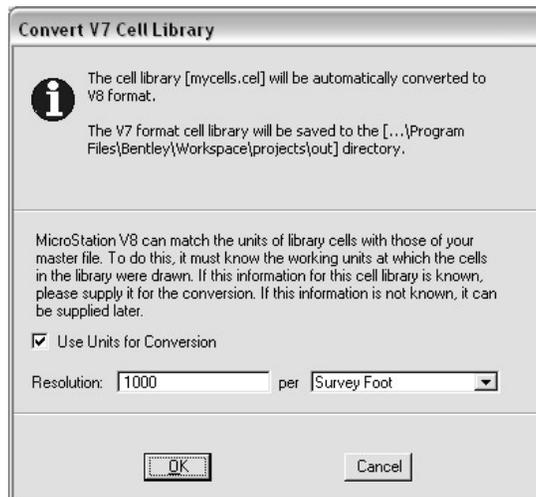
2. In the Cell Library dialog go to the drop down option **File>Upgrade Files to V8...**. In the file dialog navigate to your cell library's folder, highlight the filename and click **Add** to put it in the file collection area at the bottom. Click **Done** to continue.



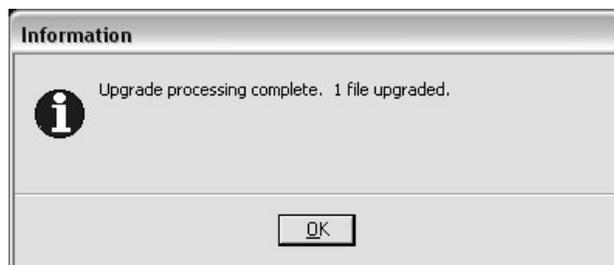
3. The **Upgrade Files** dialog is opened and if desired you can set a backup location for your original file or just use the default setting. Click **OK** to continue.



4. The **Convert V7 Cell Library** dialog opens and gives the user the opportunity to set the resolution for the cells in their library. For cells developed in standard Design Division DGN files this should be **1000 per Survey Foot** for English cell libraries(or 10000 per Meter for metric). Since we used the unit Foot in V7 it will be necessary to switch to Survey Foot to ensure compatibility with other English V8 files. Click **OK** to continue.



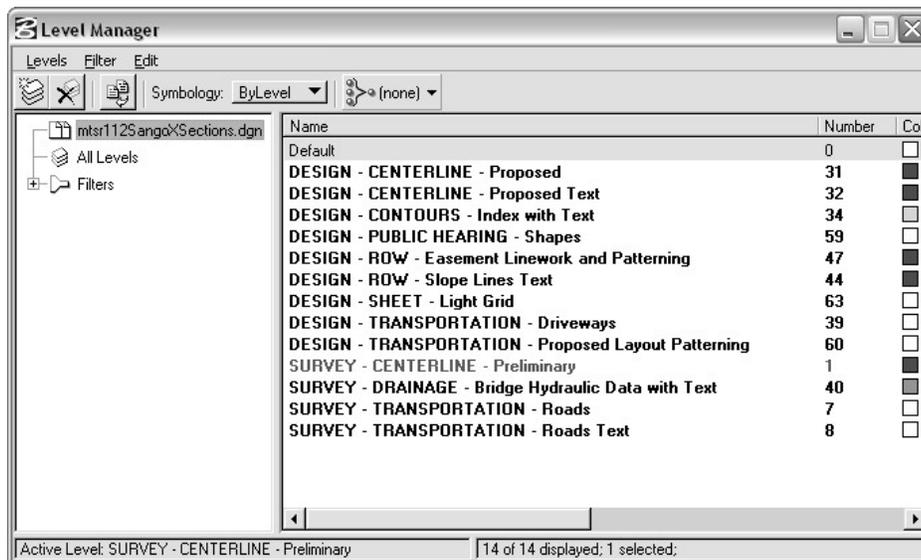
5. When the completion message box comes up click **OK** and you are now ready to use your cell library in V8.



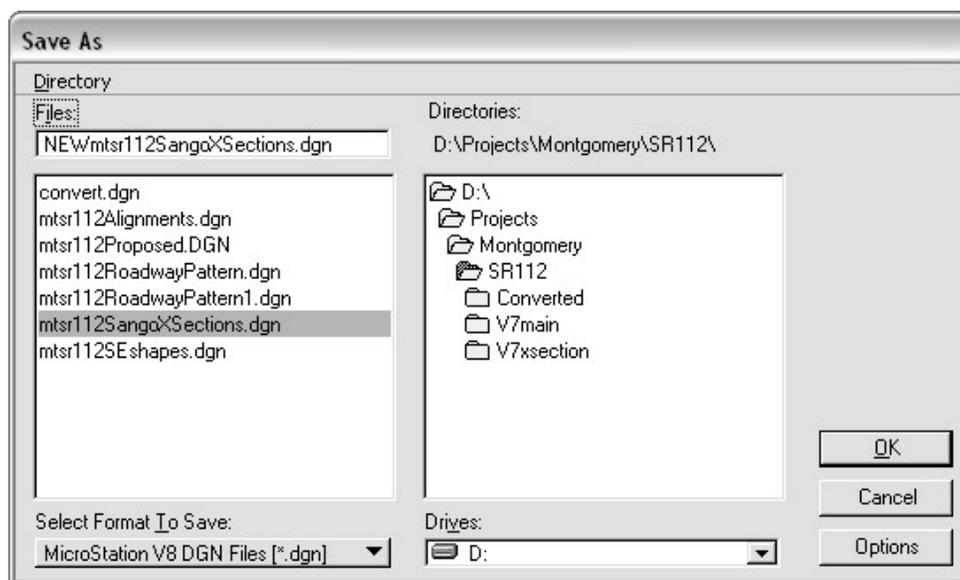
## Re-Mapping MicroStation V8 Level Names

If a V7 file is converted to V8 on the fly without setting the correct standard level names or if level names have been altered and need to be corrected take the following steps to re-map the level names.

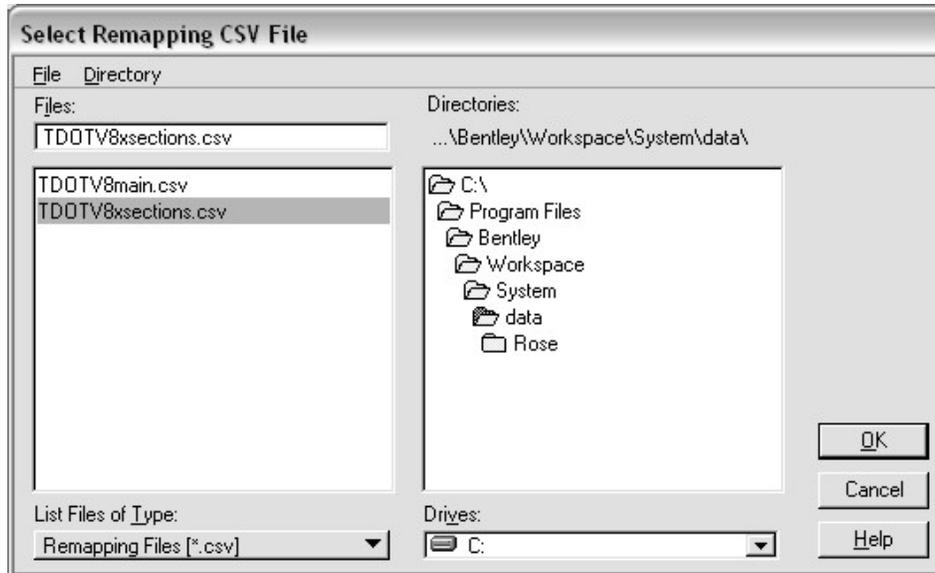
1. Open the DGN file in question. A review of the levels using Level Manager or Level Display will show the current level names. In this example a V7 cross section DGN file was converted on the fly and has been mapped with non-cross section level names.



2. Access the MicroStation drop down option **File>Save As**. In the dialog temporarily give the file a new name. Click on the **Options** button at the lower right of the dialog.



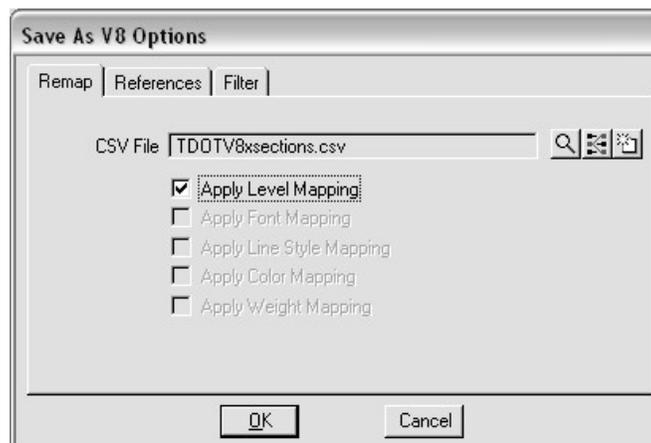
3. The **Save As V8 Options** dialog is opened. In the dialog click on the browse button (icon to the right of **CSV File**) and go to the data folder **C:\Program Files\Bentley\Workspace\System\data** and select the conversion file **TDOTV8main.csv** or **TDOTV8xsections.csv** as needed.



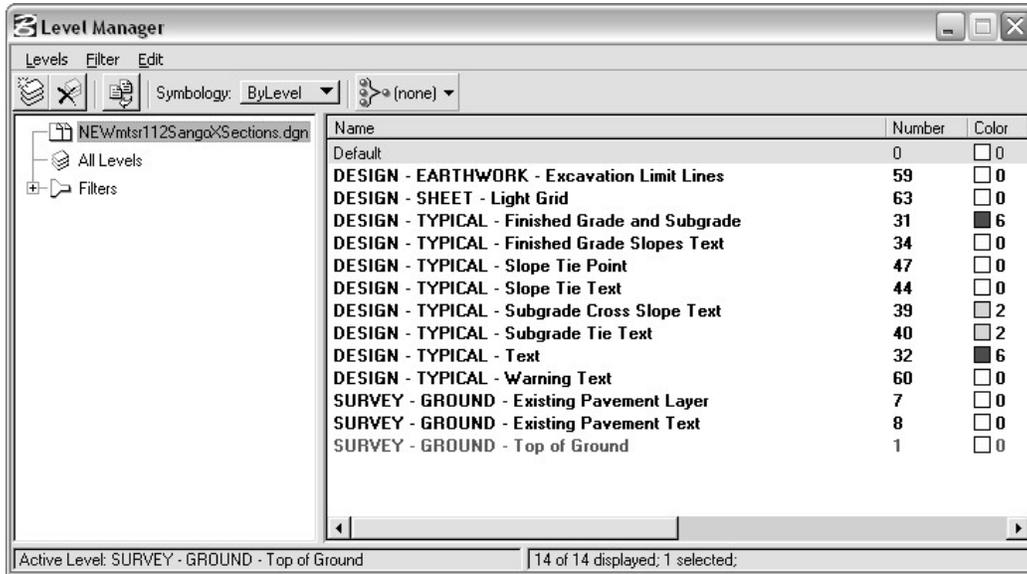
**Note:**

The conversion file **TDOTV8xsections.csv** is **only** used for level mapping cross section files that were developed in V7 or in V8 prior to June 2009. At that time all V8 levels were combined in to a single level structure. All files developed in V8 after June 2009 including cross section files should use the conversion file **TDOTV8main.csv**.

4. Back in the **Save as V8 Options** dialog make sure **Apply Level Mapping** is clicked on and then click on **OK**.



- Back in the **Save As** dialog click **OK** to create a new copy of the DGN file with the correct level names. The new file is automatically opened and a review of the level names will show their new definition.



In this example of correcting an on the fly conversion of a V7 file the user would now need to follow through with adding the remaining V8 levels, etc. as illustrated in the previous section, **Importing Additional V8 Settings in Batch Mode**.

- To finish the process of correcting level names, close the DGN file, delete the old in-correct version of the file and then re-name the new DGN file with the original filename.

## **GEOPAK**

Most GEOPAK project files will work as is with no conversion needed.

Cross section criteria files have been updated to take advantage of the new MicroStation V8 levels and several minor fixes have been applied during the V8 development period. If further development of proposed cross sections is planned then you will need to update those project files. A MicroStation VBA has been developed to automate this process and is described in the next section, **Updating V7 Project XS Criteria Files to V8 Versions**.

Any runs that include symbology settings for graphics may need to have the level(s) corrected as new graphics are produced since standard settings take advantage of the MicroStation V8 expanded level structure. Refer to the document **TDOT GEOPAK Road Course Guide.pdf** for guidance as needed to set the appropriate levels.

Most GEOPAK functions have not changed much and will still use your old V7 runs. Cross section sheet generation is the one exception to that rule since it has been completely revised in Geopak V8. Refer to chapter 16 in **TDOT GEOPAK Road Course Guide.pdf** for the new cross section sheet generation workflow to set up new runs.

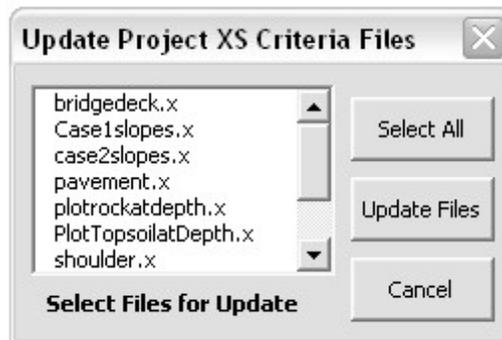
All standard files set up for GEOPAK have been converted for V8. If you get a message that a standard file needs to be converted, cancel and quit. This indicates you are using an older V7 version of that file. Go to the Design Division's V8 CADD web page and download the V8 standard files for GEOPAK. If this problem persists then you may be experiencing it due to software folder changes which may occur for some users who previously had MicroStation & GEOPAK loaded directly on C:\. Review the sections under the section, **GeopakStandards Folder Changes** for workflows to correct these situations.

## Updating V7 Project XS Criteria Files to V8 Versions

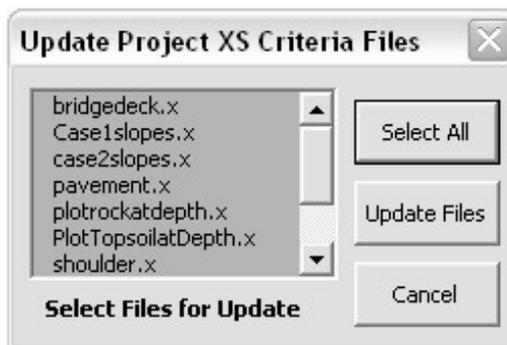
After the new V8 versions of the cross section criteria files have been downloaded from the web, this program is used to update the project cross section criteria files found in the project folder. A file named **UpdateCriteriaFiles.bat** is created in the project folder with commands to copy the selected files from the default criteria folder to the project folder and then this batch file is processed..

The default criteria folder is determined by the setting for the MicroStation configuration variable `GPK_MY_CRITERIADIR`.

1. Open a DGN file from the folder where criteria files are to be updated.
2. Access the update program by choosing the drop down option **TDOT > Cross Sections> Update Project XS Criteria Files** or from Geopak's D&C Manager **Drafting Standards>Cross Sections > Update Criteria**
3. When the command is first started the **Update Project XS Criteria Files** dialog is displayed.



4. Click on the **Select All** command button..



5. Click on the **Update Files** command button. A DOS command window is briefly displayed during this process.
6. Click **Cancel** to dismiss the dialog.

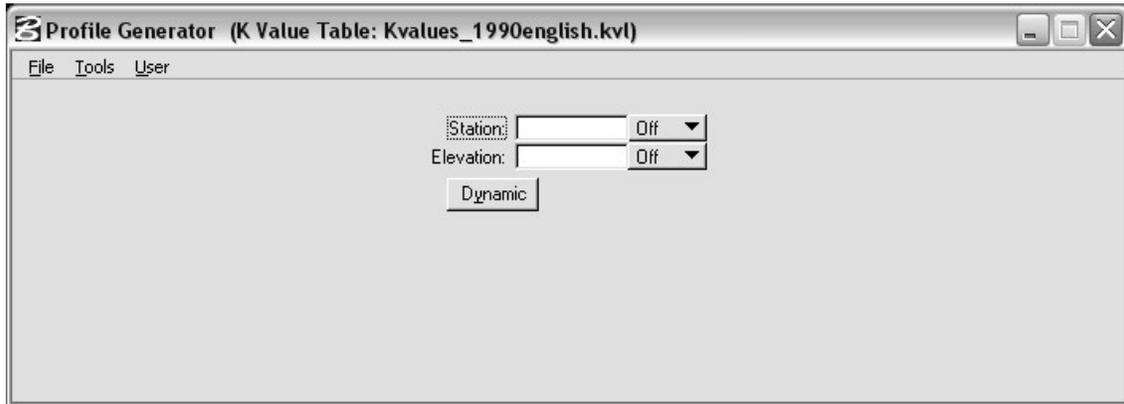
## Cross Section Sheets

Refer to chapter 16 in **TDOT GEOPAK Road Course Guide.pdf** for the new cross section sheet generation workflow in order to set up new runs for creating cross section sheets. You can take advantage of the new standard cross section sheet libraries which make all required settings except for any project specific information.

However, a method has been provided by GEOPAK to convert cross section sheet input files **created from runs in V7** into a new cross section sheet library. This is a long process with limited advantages. If you choose to use this method remember the input file **must** be created while using the V7 software. See Geopak help in MicroStation J (V7) for instructions

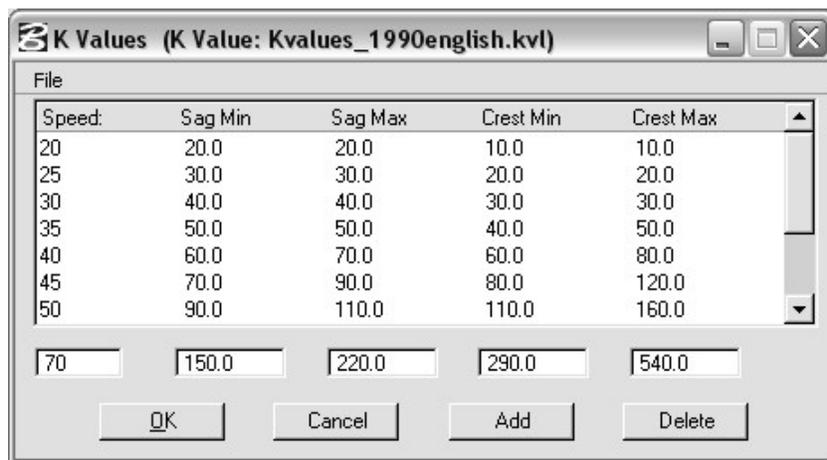
## Vertical Curve K values

Since the new Geopak V8 software has just been loaded, the **Vertical Alignment/Profile Generator** tool will load the default K value table provided by Geopak. The appropriate K value table for T.D.O.T. Design Division projects will need to be loaded before proceeding with the vertical alignment design.



To set the appropriate K values:

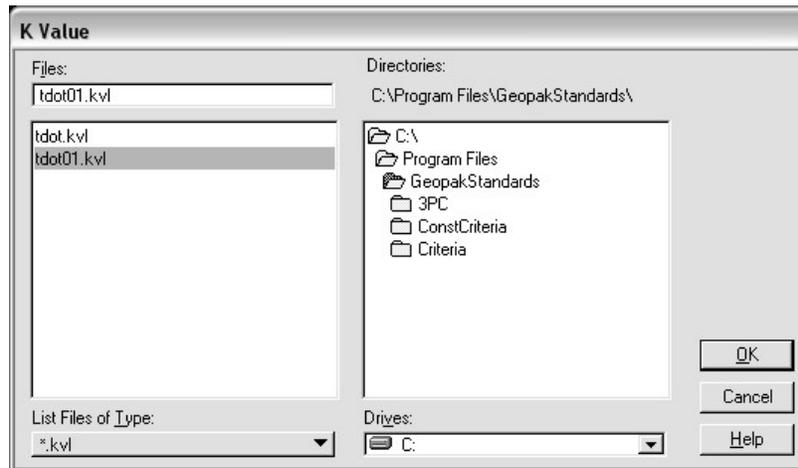
1. Open your Geopak project and open the **Profile Generator** tool, **Vertical Alignment** on the Project Manager dialog.
2. In the **Profile Generator** dialog go to the drop down option **User>K Values**.



3. In the **K Values** dialog, go to the drop down option **File>Open** and browse to the folder **C:\Program Files\GeopakStandards**, choose either **tdot01.kvl** or **tdot.kvl** and click **OK**.

**tdot01.kvl** for projects based on RD01 standard roadway drawings  
(all projects started after October 2002)

**tdot.kvl** for projects based on RD standard roadway drawings



4. Back in the **K Values** dialog, click **OK**.
5. At this point you can continue with your vertical alignment design. The current K value table is saved in a resource file (.rsc) used by the Profile Generator tool and will be re-loaded whenever the tool is used again.

## **GeopakStandards Folder Change**

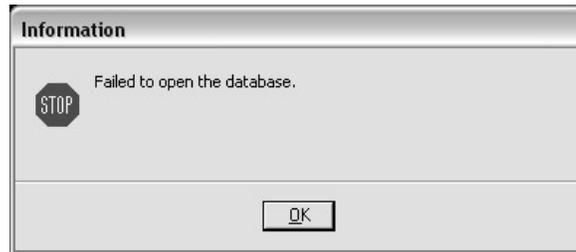
The new default location for T.D.O.T. Design Division's **GeopakStandards** is under **C:\Program Files** and for many users the following sections should be reviewed as this effects their old project data. Errors will occur when standard files cannot be found or if the V7 version of the file is found is incompatible with the V8 software.

Users who already had their V7 software loaded under **C:\Program Files** should not experience these situations as long as the new V8 standard files have been downloaded to replace the older files for V7.

Consultants who do not use the standard T.D.O.T. Design Division folder locations may not experience these problems if they maintain standard file folder locations when they switch from V7 to V8. If these folder locations do change with V8 then the following methods can be applied to correct them.

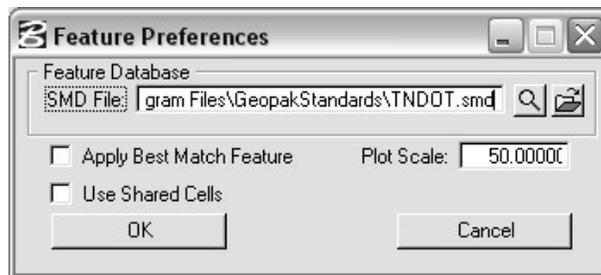
## SMD file access in COGO

Old Geopak projects will point to **C:\GeopakStandards** for the file **tndot.smd**. Since that file is now located in **C:\Program Files\GeopakStandards**, errors will occur when COGO is started since that file cannot be found.



To correct this problem:

1. In the Geopak Project Manager dialog **single** click on your project file (*projectname.prj*) and then go to the drop down option **Projects>Edit**.
2. Click on the **Preferences** button in the **Project Info Edit** dialog.
3. In the **GEOPAK User Preferences** dialog click on the **Feature Preferences** button.
4. In the **Feature Preferences** dialog click on the **Select** button to specify the location of the SMD file as **C:\Program Files\GeopakStandards\tndot.smd**. Once this is set click **OK**.
5. Click on the **OK** button in the **GEOPAK User Preferences** dialog and again on the **Project Info Edit** dialog. Your project is now reset to look in the correct location.



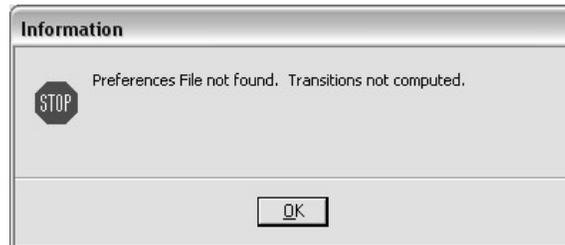
6. To take care of any new projects which you create later, go to the drop down option **Applications>Geopak Road>User Preferences** in MicroStation. Repeat steps 3 & 4 and click **OK** to accept new settings.

### Note:

If step 6 is done without resetting the preferences for your project as shown in steps 1 through 5 then everything will work correctly for the current session of Geopak but will revert back to the in-correct setting when the project is loaded the next time.

## Preference file access in Superelevation Runs

Old Geopak superelevation runs will point to **C:\GeopakStandards** for standard superelevation files. Since these files are now located under **C:\Program Files\GeopakStandards**, errors will occur when you try to generate the super input file.



To correct this problem:

1. Open your Geopak project and open your first run under **Calculate Superelevation**.
2. In the **GEOPAK Automated Superelevation** dialog go to the drop down option **File>Directories**.
3. Click on the **Default All** button at the bottom of the settings. **Preference Files Path, e Files Path** and **Length Files Path** will be reset to the correct location **C:\Program Files\GeopakStandards\**.



### Note:

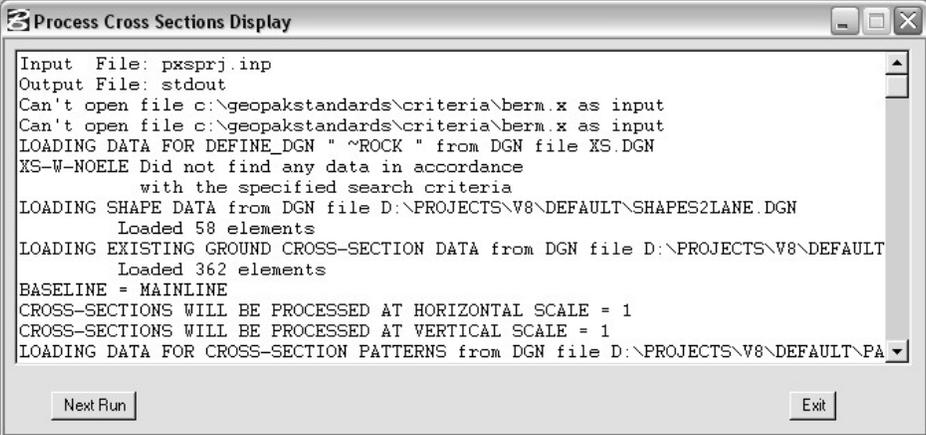
These default directory paths are set in the configuration file **TDOT.cfg** which is normally downloaded under **C:\Program Files\Bentley\Program\MicroStation\config\appl**.

4. Click on the **OK** button at the bottom to keep the new settings.
5. Exit the run and click on **Yes** to save the changes to the run.
6. Repeat steps 1 through 5 for each superelevation run you have.

## Criteria file access in Proposed Cross Section Runs

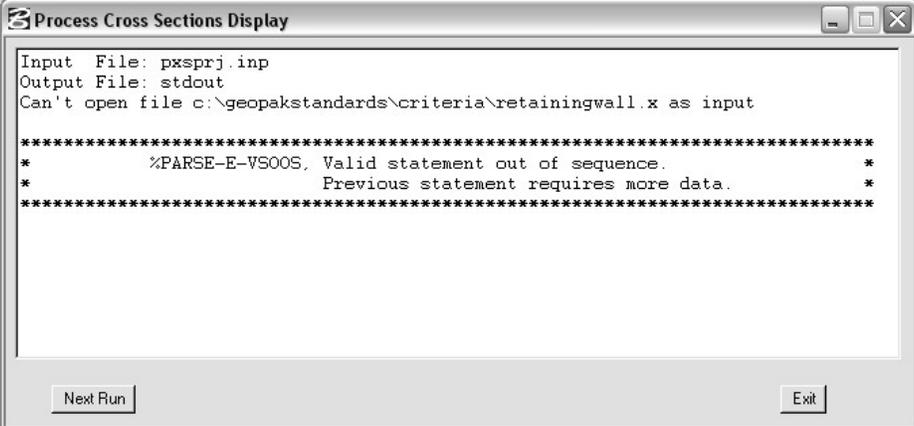
When you use the **Typical** function in the proposed cross section dialog the criteria files are copied to your project directory and those files should still be found without problems. In special cases you may have used the **Add** button to put in special criteria files from the **C:\GeopakStandards\criteria** directory which will no longer be found since those files are not located there. Some examples of this situation might be the use of the RetainingWall.x or Berm.x criteria files.

Most of the time your proposed cross section runs will still function but your cross sections will leave out some portion of the proposed section, review the output screen when running proposed cross sections and near the top you may see the error message **Can't open file c:\geopakstandards\criteria\filename.x as input.**



```
Process Cross Sections Display
Input File: pxsprj.inp
Output File: stdout
Can't open file c:\geopakstandards\criteria\berm.x as input
Can't open file c:\geopakstandards\criteria\berm.x as input
LOADING DATA FOR DEFINE_DGN " ~ROCK " from DGN file XS.DGN
XS-W-NOELE Did not find any data in accordance
with the specified search criteria
LOADING SHAPE DATA from DGN file D:\PROJECTS\V8\DEFAULT\SHAPES2LANE.DGN
  Loaded 58 elements
LOADING EXISTING GROUND CROSS-SECTION DATA from DGN file D:\PROJECTS\V8\DEFAULT
  Loaded 362 elements
BASELINE = MAINLINE
CROSS-SECTIONS WILL BE PROCESSED AT HORIZONTAL SCALE = 1
CROSS-SECTIONS WILL BE PROCESSED AT VERTICAL SCALE = 1
LOADING DATA FOR CROSS-SECTION PATTERNS from DGN file D:\PROJECTS\V8\DEFAULT\PA
```

OR

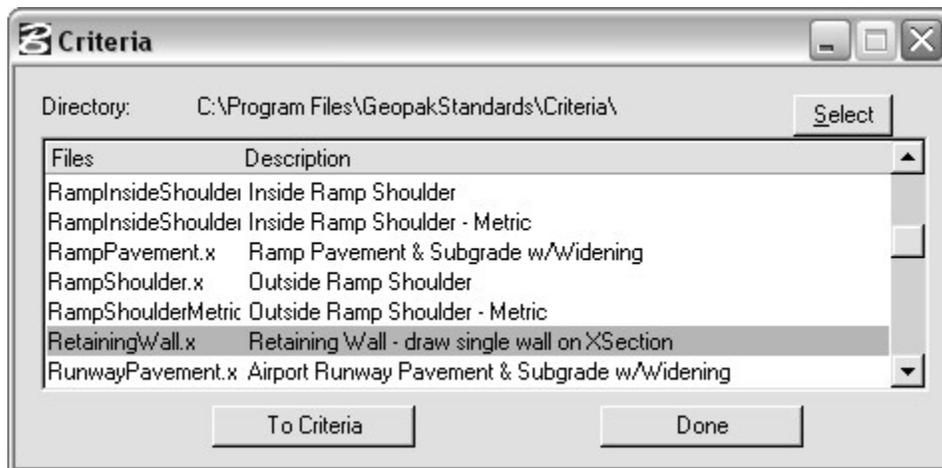


```
Process Cross Sections Display
Input File: pxsprj.inp
Output File: stdout
Can't open file c:\geopakstandards\criteria\retainingwall.x as input
*****
*          %PARSE-E-VS00S, Valid statement out of sequence.          *
*          Previous statement requires more data.                    *
*****
```

Take the following steps to correct it:

1. In the **Proposed Cross Sections** dialog go to the **Shape Clusters** section by clicking that option in the list on the left.

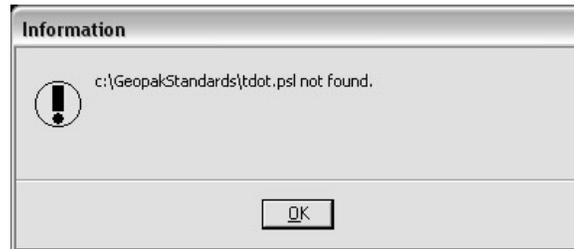
2. Click on each roadway cluster in the upper right list box and then review the criteria files listed below for the left and/or right sides looking for any place where the criteria file listed in the error message is used. In most cases these special criteria files are only used in 1 or 2 locations and you will probably know where to look for them.
3. When you find the criteria file use the **Delete** button to remove the file from your criteria list and be sure and note its position in the criteria list. Click **Yes** in the message box to confirm the deletion.
4. Click on the **Add** button, which will open the **Criteria** selection dialog.
5. Click on the directory **Select** button and go to **C:\Program Files\GeopakStandards\criteria**.
6. Click on any criteria file listed and click the **OK** button.
7. Back in the **Criteria** selection dialog scroll through the list and highlight the criteria file you are replacing.



8. Click the **To Criteria** button to add it back into your criteria file list at the bottom.
9. Finally use the **Up** and **Down** buttons to place the criteria file at the correct location in the list.
10. Repeat steps 2 through 9 for any other instances of that criteria file or other criteria files not found. You can leave the **Criteria** selection dialog up during this process and if you do, close it, the correct directory will still be set when it is re-opened.
11. Once these corrections are made, exit the run and click on **Yes** to save the changes to the run.

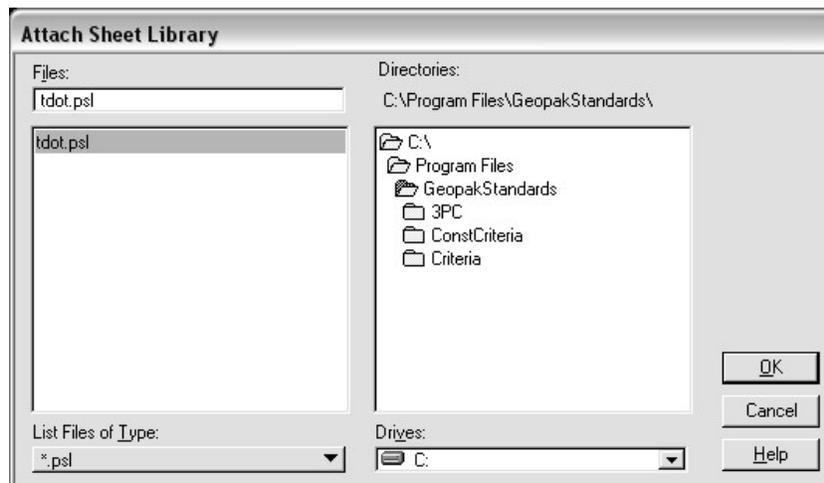
## Plan Sheet Library access in Plans Sheet runs

Old Geopak plans sheet runs will point to **C:\GeopakStandards** for the standard sheet library file **tdot.psl**. Since this file is now located under **C:\Program Files\GeopakStandards** an error message box will come up when you open these runs saying that it cannot be found.



To correct this problem:

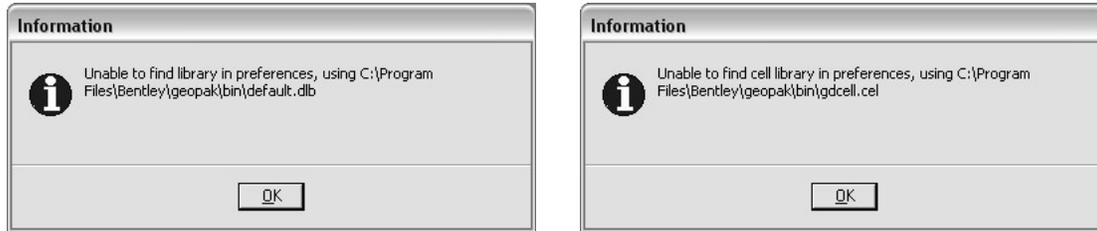
1. Open your Geopak project and open your first run under **Plan & Profile Sheets**.
2. When the error message pops up saying that **C:\GeopakStandards\tdot.psl is not found**, click on the **OK** button to dismiss the message.
3. In the **Plan Sheet Layout** dialog go to the drop down option **File>Sheet Library>Attach**.
4. In the **Attach Sheet Library** dialog, go to **C:\Program Files\GeopakStandards**, choose **tdot.psl** and click **OK**.



5. Exit the run and click on **Yes** to save the changes to the run.
6. Repeat steps 1 through 5 for each plan sheet run you have.

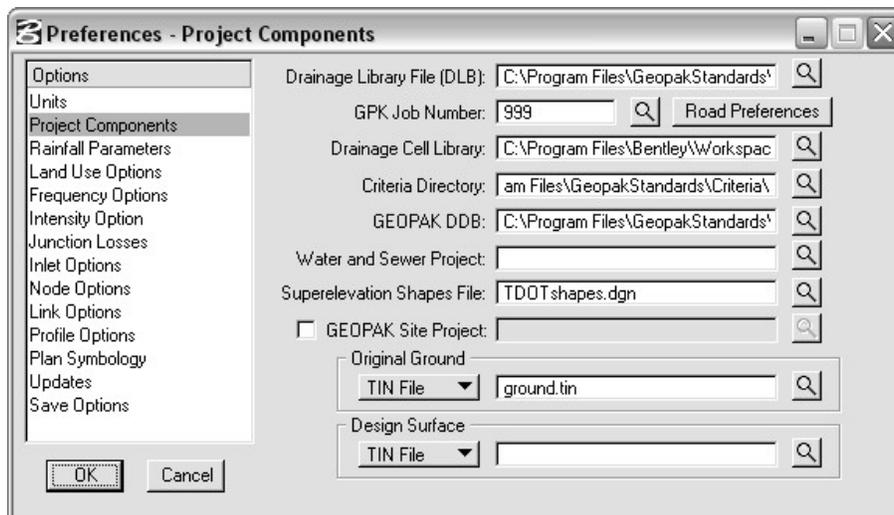
## Standard file access in Geopak Drainage

Old Geopak drainage projects will point to **C:\GeopakStandards** & **C:\Bentley...** for different standard files. Since these files are now located under **C:\Program Files...**, errors will occur when you open your drainage project since they cannot be found.

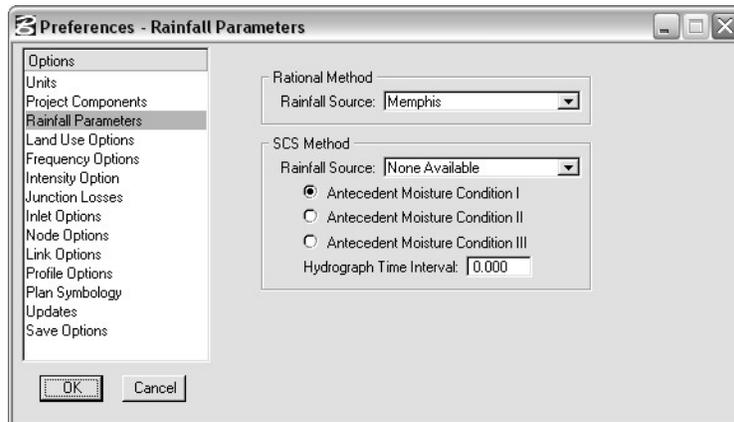


To correct this problem:

1. Open your Geopak drainage project. You will get an error message(s) since it cannot find the drainage library. Click **OK** to dismiss the message(s).
2. Under the **Drainage** drop down menu, go to the drop down option **Project>Preferences**.
3. In the **Preferences** dialog click on the **Project Components** option in the list on the left.
4. Reset the location for the **Drainage Library File (DLB)** by clicking on the browser icon and going to **C:\Program Files\GeopakStandards\TDOTEnglish.dlb**.
5. Reset the location for the **Drainage Cell Library** by clicking on the browser icon and going to **C:\Program Files\Bentley\Workspace\system\cell\STDS.cel**.
6. Reset the location for the **Criteria Directory** by clicking on the browser icon and going to **C:\Program Files\GeopakStandards\criteria\**.
7. Reset the location for the **GEOPAK DDB** by clicking on the browser icon and going to **C:\Program Files\GeopakStandards\tdot.ddb**



8. In step 1 the software had to load the GEOPAK default drainage library in order to open your drainage project which automatically resets your rainfall settings. Click on **Rainfall Parameters** and reset as needed for your project.



9. Click on **OK** to close the Preferences dialog.
10. Under the **Drainage** drop down menu, go to the drop down option **Project>Save** to save the changes just made.

## Office / MicroStation

**Very Important!** The embedded OLE Word attachments **must** be opened and saved as separate documents from MicroStation V7 before converting the design file to MicroStation V8. The embedded Word document is only available from inside of MicroStation V7. The OLE attachment will **not** be available in MicroStation V8.

The OLE (object link and embed) attachments from MicroStation V7 files are NOT converted when the design file is converted to MicroStation V8. For this reason, all of the V7 OLE Office 97 attachments must to be linked again in the MicroStation V8 design files.

The OLE attachments between Office 97 and MicroStation V7 were done by mapping the Office 97 elements to MicroStation V7 graphic elements. The procedure for attaching Office 2003 or 2007 to MicroStation V8 is done the same, but the Office document is attached as a picture of the Office document. Because the OLE attachment is different between V7 and V8, the formatting in the Office file needs to be different to appear correctly in MicroStation.

For instructions on the set up of Office 2007 and detailed instructions on OLE attachments, see **2ndSheetsV8.pdf** which is available at the TDOT Design Division CADD web page in the Documentation section.

### Set up Office 2003

Following are brief instructions for setting up Office 2003 when using TDOT Design Division Office templates linked to MicroStation V8. These directions and some of the convert programs will not work correctly until these changes are made.

1. In Word 2003, go to **Tools> Options... >File Locations > User Templates** and set to **C:\Program Files\Microsoft Office\Templates**

This will set the default template location for both Word and Excel so that the TDOT template folders will be available when creating new documents.

2. In Word, go to **Tools> Options> Security >Macro Security...** Set the Security Level to **Low**.

In the same menu, uncheck **Make hidden markup visible when opening or saving**.

3. In Word, go to **Tools> Options> Track Changes** and set **Use Balloons (Print and Web Layout):** to **Never**.

4. In Excel, go to **Tools> Options> Security >Macro Security...** Set the **Security Level** to **Low**.

5. In Excel, go to **Tools> Options> Error Checking ...** Click on the color option bar and set the **Error Indicator Color** to **white** on lower right of color options.

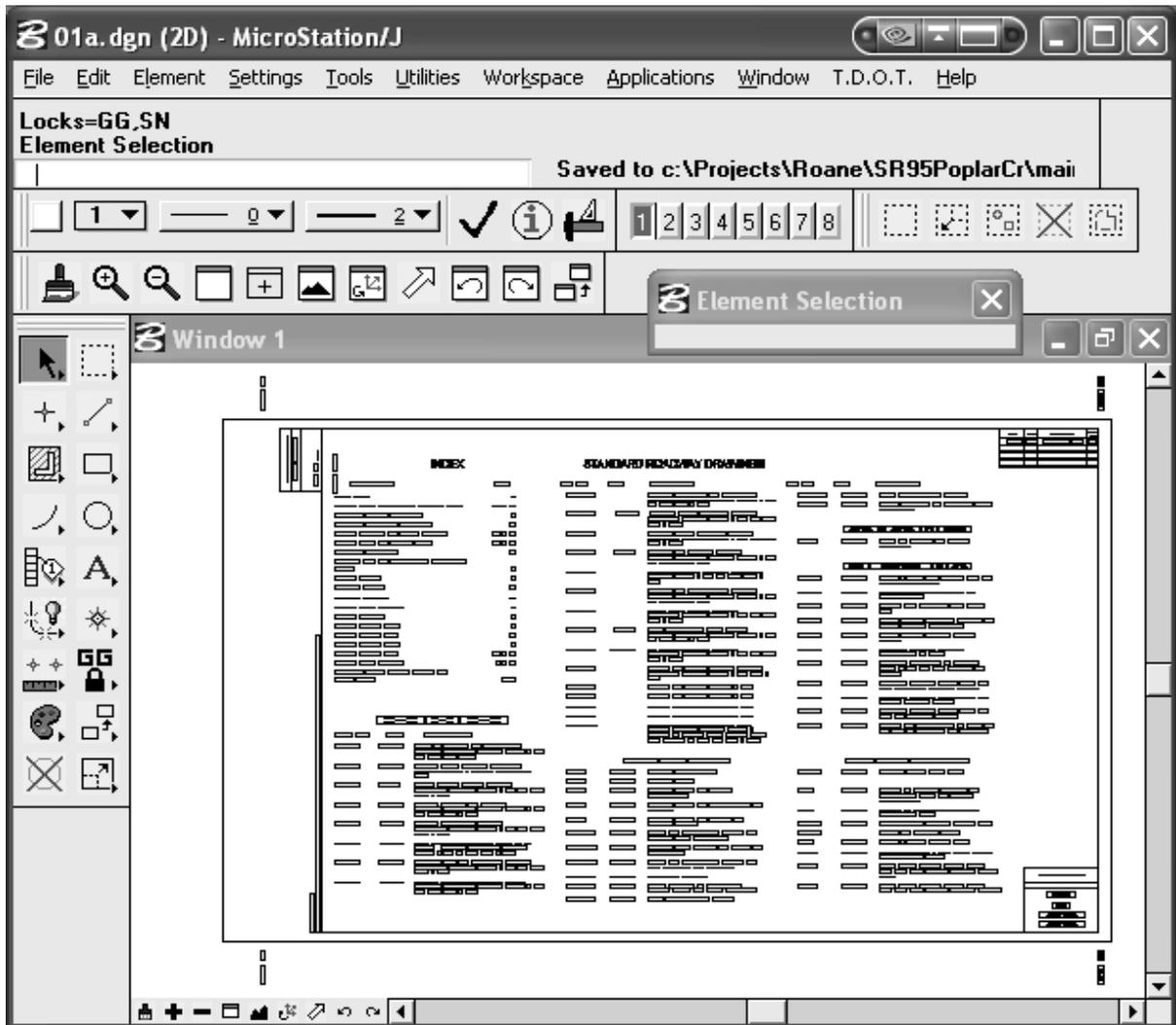
**Note:** The convert programs are written to access files at **C:\Program Files\Microsoft Office\Templates\TDOT 2nd Sheets**, which is the default location for the TDOT Design Division Office program files. If the TDOT Office templates are not downloaded to this folder, these directions and program will not run correctly.

## Convert Embedded Word OLE Attachments

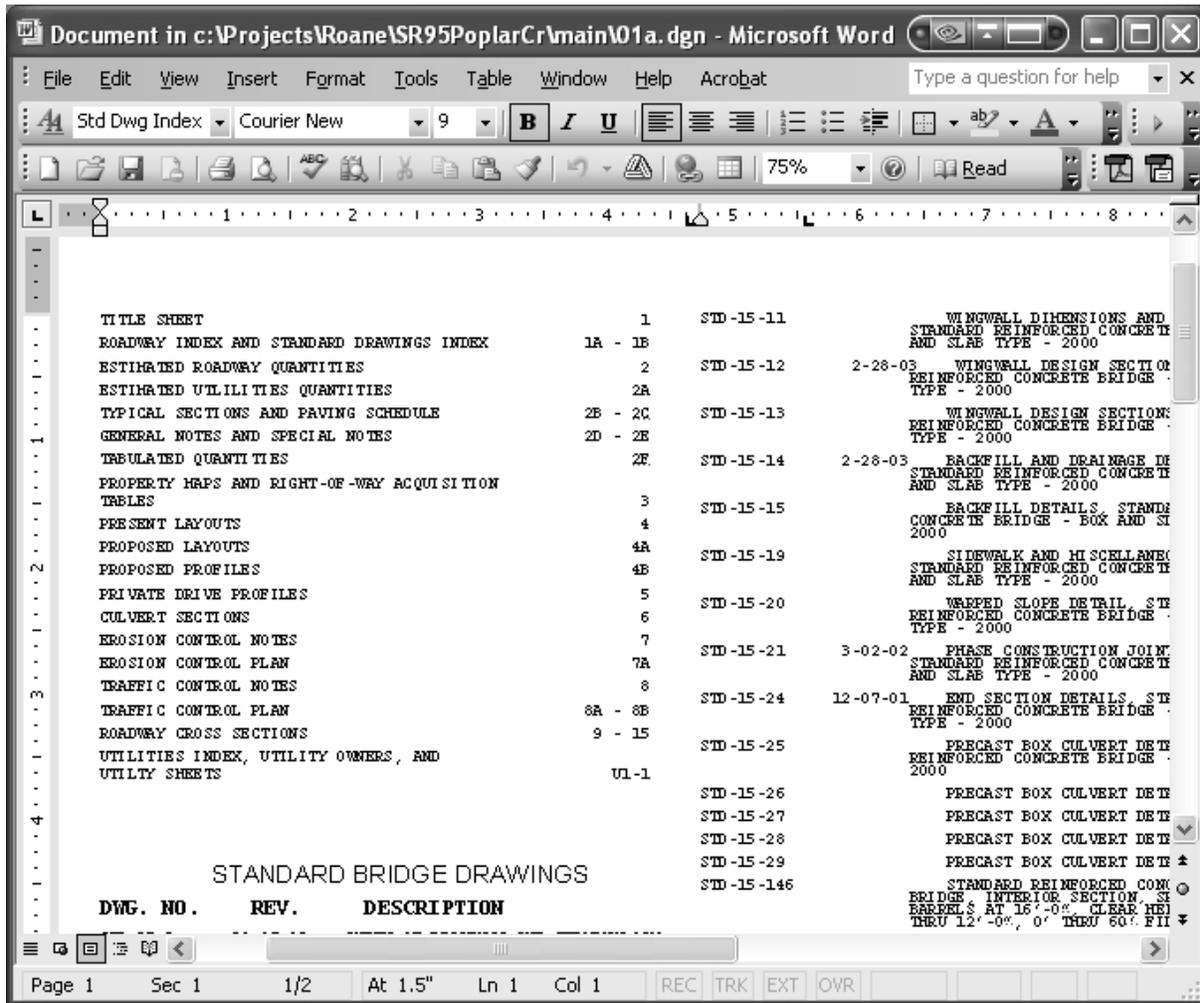
The embedded Word OLE attachments in MicroStation J V7 (version 07.01.04.10) can be opened only in MicroStation V7, so it is important to **create a separate Office document from the embedded OLE attachment before upgrading MicroStation to V8.**

The following work flow goes through the process to convert 1 Word document embedded in a MicroStation V7 file and then to attach it in a MicroStation V8 file. In the actual process of converting multiple project DGN files with Word documents you may wish to repeat the individual steps.

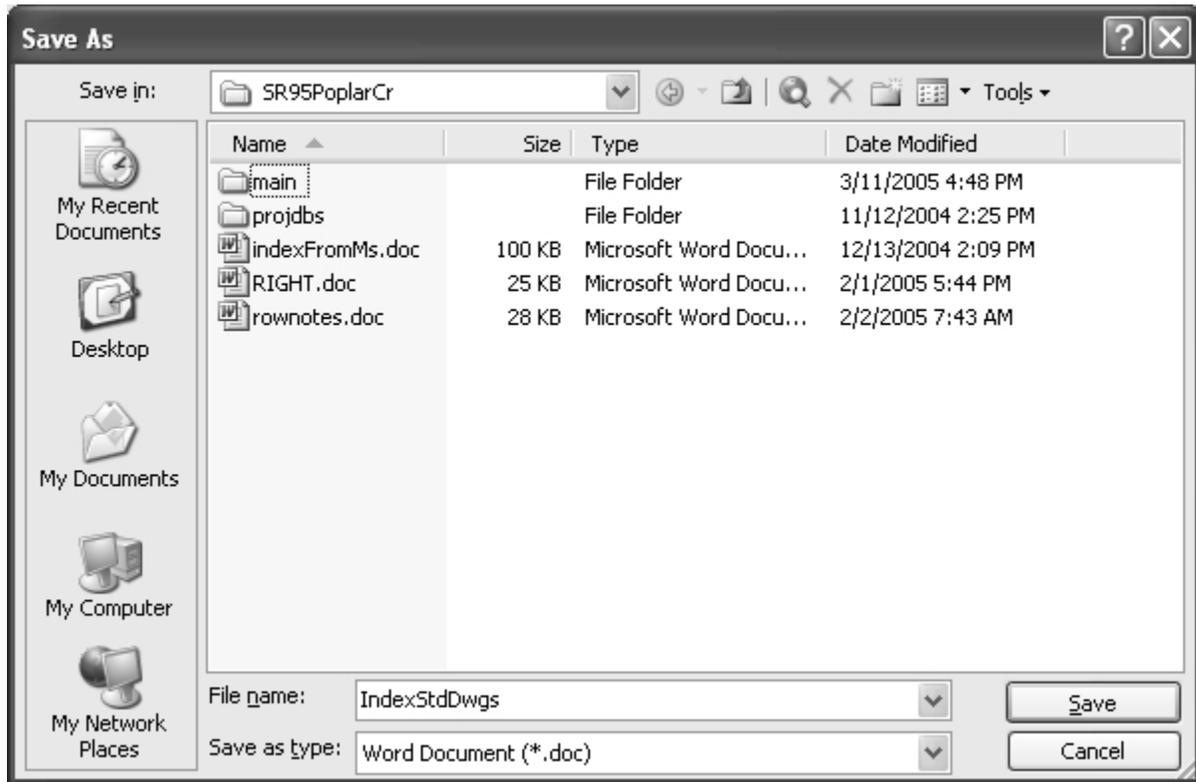
1. In **MicroStation V7**, open the dgn file that has the embedded Word OLE attachment.



2. Activate the Word OLE attachment.



3. In Word, go to **File> Save Copy As** and save to your project folder.

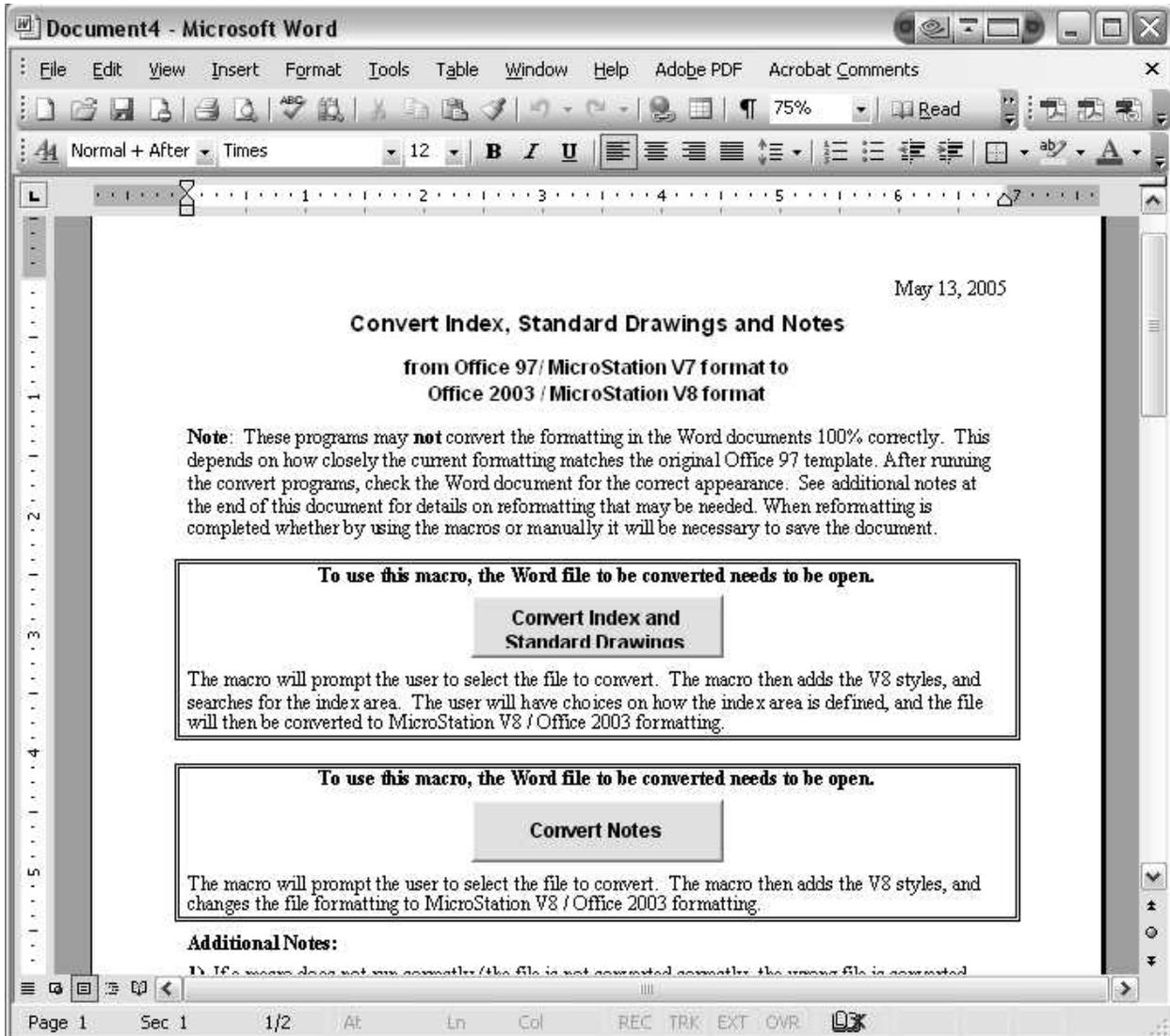


4. Close the **Word** document in the design file and close **MicroStation V7**.

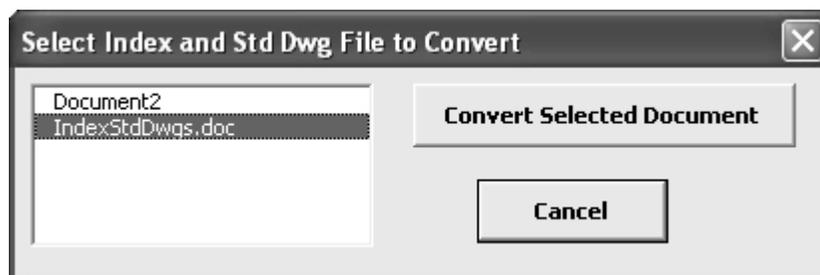
**Note:**

The embedded OLE attachment is saved in the MicroStation V8 file, but the OLE link cannot be accessed in V8. If the MicroStation V8 file is saved back out as a V7 design file, the embedded OLE attachment will again be available to MicroStation V7. MicroStation V7 should be on at least one machine in each office and that machine could be used to access the embedded OLE Word documents in the MicroStation V7 file. If MicroStation V7 is not readily available, the file can be recreated using the MicroStation V8 seed files for the V8 index and standard drawings or notes. This method could be just as fast depending on the situation.

- Open the saved Word document.
- In Word, create a new, temporary document from the “ConvertWordToV8.dot” template. Go to **File> New> On My Computer> TDOT 2nd Sheets> ConvertWordtoV8.dot**.

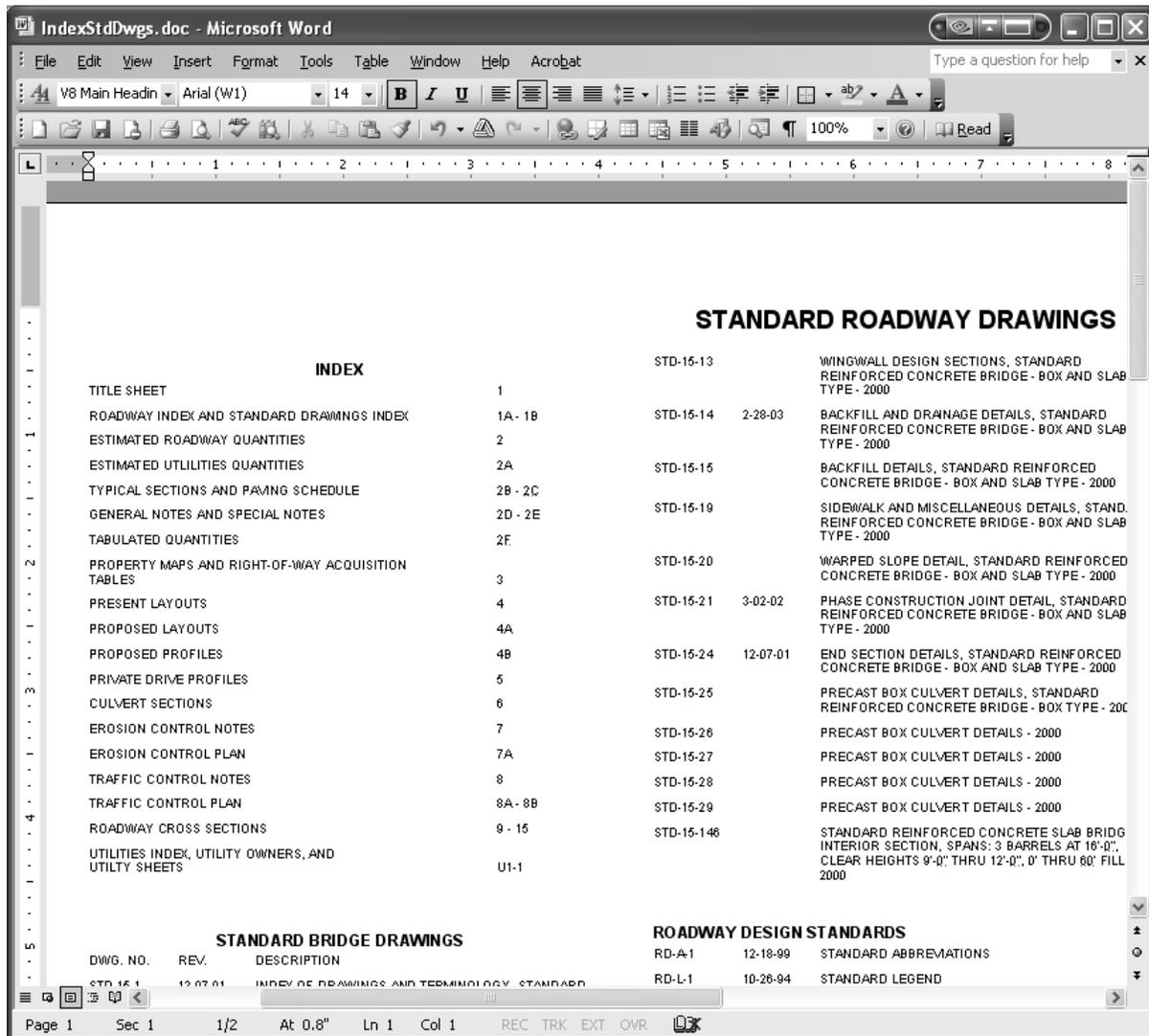


- Select the macro button for the type file to be converted, Index and Standard Drawings or Notes. The macro program will then list the open Word files. Select the file to be converted.



- The convert program for the index and standard drawings will search for the index area and prompt the user to confirm the index area as correct, define the index area or run as standard drawings only. Headings are also added. The general notes conversion program is less involved and simply formats the file selected.

**Note:** See the document created from the **ConvertWordToV8.dot** template for more details about converting Word documents.



- Save the converted project Word document. The Word document created from the **ConvertWordtoV8.dot** with the programs can be closed and does **not** need to be saved.
- Open the MicroStation V8 sheet file that the converted Word document will be attached to. Delete or move the text graphics from the MicroStation V7 OLE Word attachment. Most of the text graphics will move or delete as one piece with graphic group lock on. A fence move can be used to move or delete the headings text also.
- In the converted Word document, go to **Edit> Select All**, and then **Edit> Copy**. This will put the entire document into the Windows Clipboard and make it available to MicroStation.

### **Finalizing Word Formatting:**

If blank paragraph marks were used to add space or to push the following paragraphs to the next column then some adjustment may be needed. Since the font has changed these will no longer generate the same amount of space. To make a paragraph go to the top of the next column, go to the drop down option **Insert>Break** and choose **Column break** from the list. To add extra space between paragraphs, highlight either one and then right click and choose the option **Paragraph**. Under the **Indents and Spacing** tab, increase the **Before** or **After** values for Spacing.

If for any reason the Word file does not convert correctly, the formatting can be done manually. The standard formats are as follows:

#### **Text styles for the Index and Standard Drawings:**

V8 Main Heading, font size 14, bold, center justified

V8 Section Headings, font size 9, bold, center justified

V8 Index Body, font size 7, left justified, a 3.2" tab to the sheet number

V8 Section Headings + Left, font size 9, bold, left justified

V8 Std Dwg Body, font size 7, left justified, tab stops at .7" for the date and 1.3" for the description

#### **Text styles for General Notes:**

V8 Main Heading + Left, font size 18, bold, left justified

V8 Section Headings + Left, font size 9, bold, left justified

V8 Notes Body, font size 7, a 0.32" tab to the note, numbered 1,2,3 ...

To format the text using text styles, highlight the text to be changed and select the text style wanted.

Text Styles can be selected from two menus.

1. The first menu is the **Formatting** toolbar.  
Open the formatting toolbar at **View> Toolbars> Formatting**.
2. The second menu is the **Styles and Formatting** menu.  
Open this menu from **Format> Styles and Formatting**

## Link Word 2003 to MicroStation V8

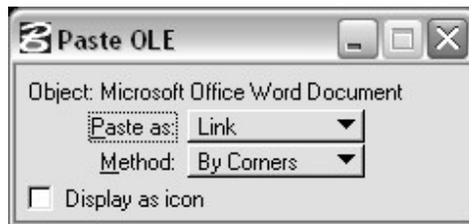
MicroStation DGN seed files which include Word attachments are built by embedding the documents. Often when embedding Word 2003 documents, special formatting is lost. For that reason we recommend using a link to the Word 2003 documents as described below when rebuilding project 2<sup>nd</sup> sheets in MicroStation V8.

For instructions on embedding Word 2007 documents, see **2ndSheetsV8.pdf** which is available at the TDOT Design Division CADD web page in the Documentation section.

1. In MicroStation, go to **Edit> Paste Special... > Linked Microsoft Office Word Document** (The OLE attachment will be placed on the active level.)



2. Select **Paste as: Link** and **Method: By Corners**.



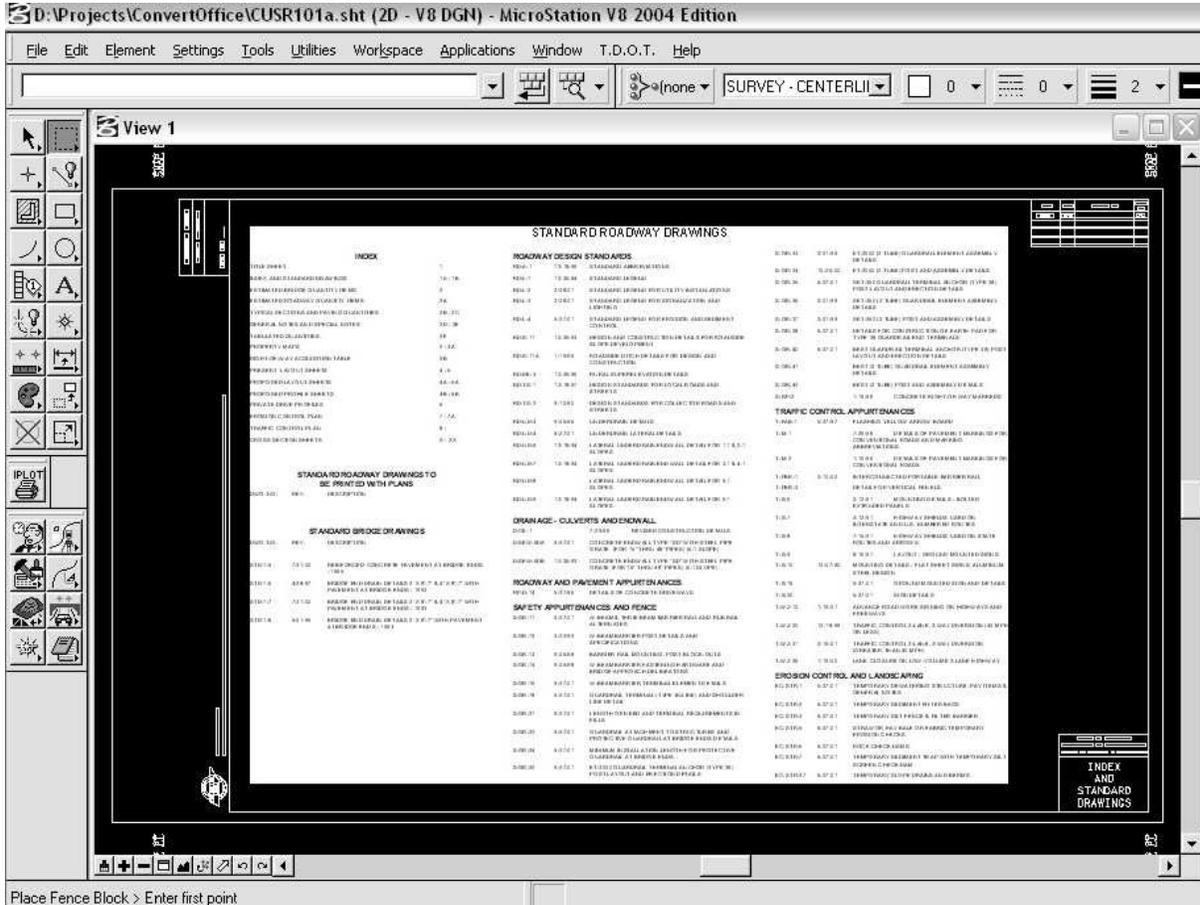
3. To place the document centered on the sheet, tentative snap to the upper left corner of the inside border of the sheet and then in the MicroStation keyin field enter **dx=0.74,-0.97** (or dx=.019,-0.027 for metric). This sets the first corner and you are prompted to **Select Rectangle Corner**.
4. In the MicroStation keyin field, enter **dx=26** (or dx=.66 for metric). The document now appears on the sheet. The dx=26 keyin yields 0.14 tall body text when plotted at a scale of 1.

The By Corners method is used for Word documents to ensure that the text comes in at the correct size. The By Scale method does not yield consistent results when used with Word attachments. That method is used with Excel attachments.

The second keyin given only specifies the dimension across the sheet. Depending on the contents of the Word document the height will vary while the width remains constant based on the width of the sheet in Word.

If smaller text sizes are acceptable or space is tight, use the keyin **dx=22 for 0.12** body text or **dx=18 for 0.10** body text. For metric jobs use **dx=.56 for 0.12** or **dx=.46 for 0.10**.

- In MicroStation, use the **Move Element** command to re-position the attached document in the sheet border as needed.



### Notes on Word Links:

The OLE link is displayed as a 'picture' of the Word document. It is defined as a cell and has a shape around the edge. The OLE link can be copied, moved or scaled using the graphics commands. The OLE link is 'view independent', which means it will display top up for any view rotation. It is no longer necessary to attach and then reference to get a notes to appear horizontally on a rotated sheet as in the case of R.O.W. or Erosion Control notes.

To attach Word documents to sheets at scales other than 1, simply take the attachment dimension used for 1 scale sheets and multiply by the plan sheet scale. Example for 50 scale sheet:  $26 \times 50 = 1300$ , use keyin  $dx=1300$ .

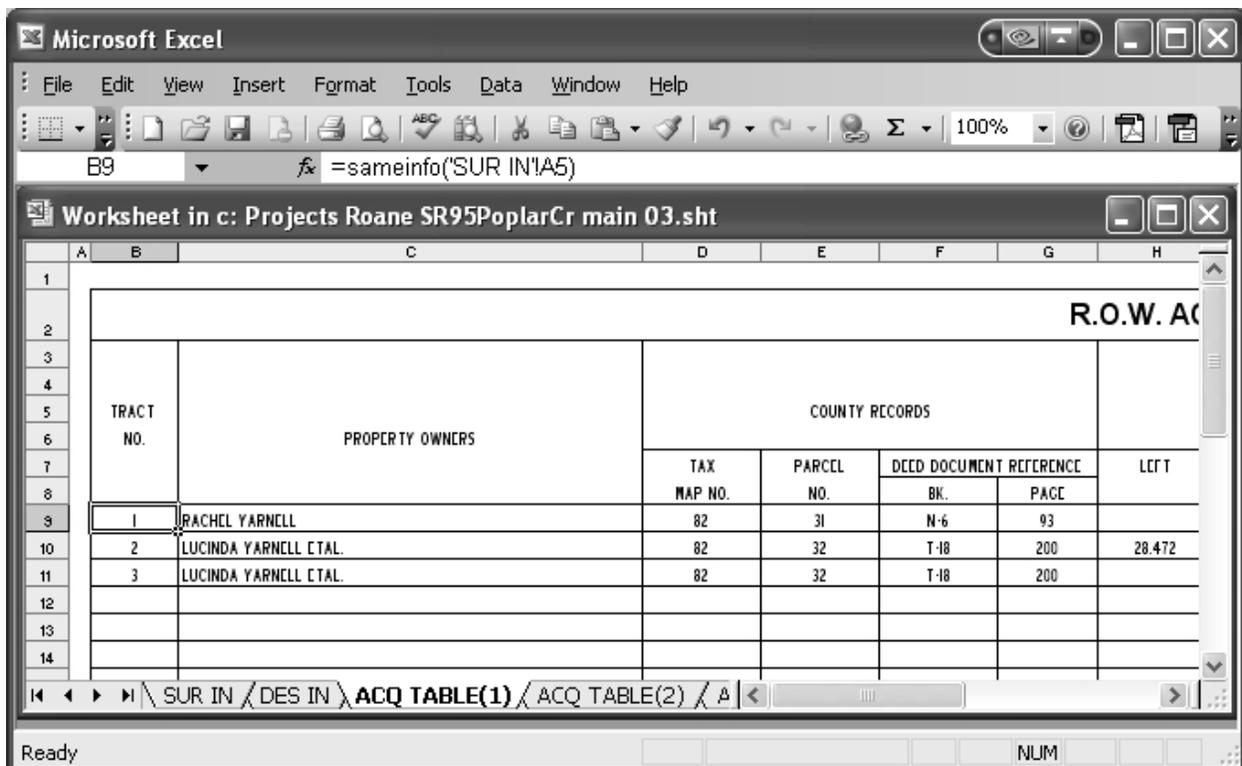
Dimensions used when attaching Word documents in the previous steps were based on a sheet size in Word of 11" X 17". For attaching 8 1/2" X 11" sheets from Word, take the values given and divide by 2 since  $17/8 \frac{1}{2} = 2$ . Example:  $26 / 2 = 13$ , use keyin  $dx=13$

## Convert Linked Excel OLE Attachments

### In MicroStation V7:

Before converting MicroStation V7 design files to MicroStation V8, the 2nd sheet file Excel attachments must be reviewed and a note made of the Excel filename and worksheet that is attached. This will be the only record of what Excel workbook and worksheet is used for the link.

**Note:** Each Excel attachment should be reviewed to confirm that it is a **linked** Excel file and not **embedded**. If the link is embedded, when the link is opened in Excel, the sheet name will say “**Worksheet in dgn path and filename.**” If this is the case, do a **File> Save Copy As ...** and save a copy of the embedded Excel file to your project folder.



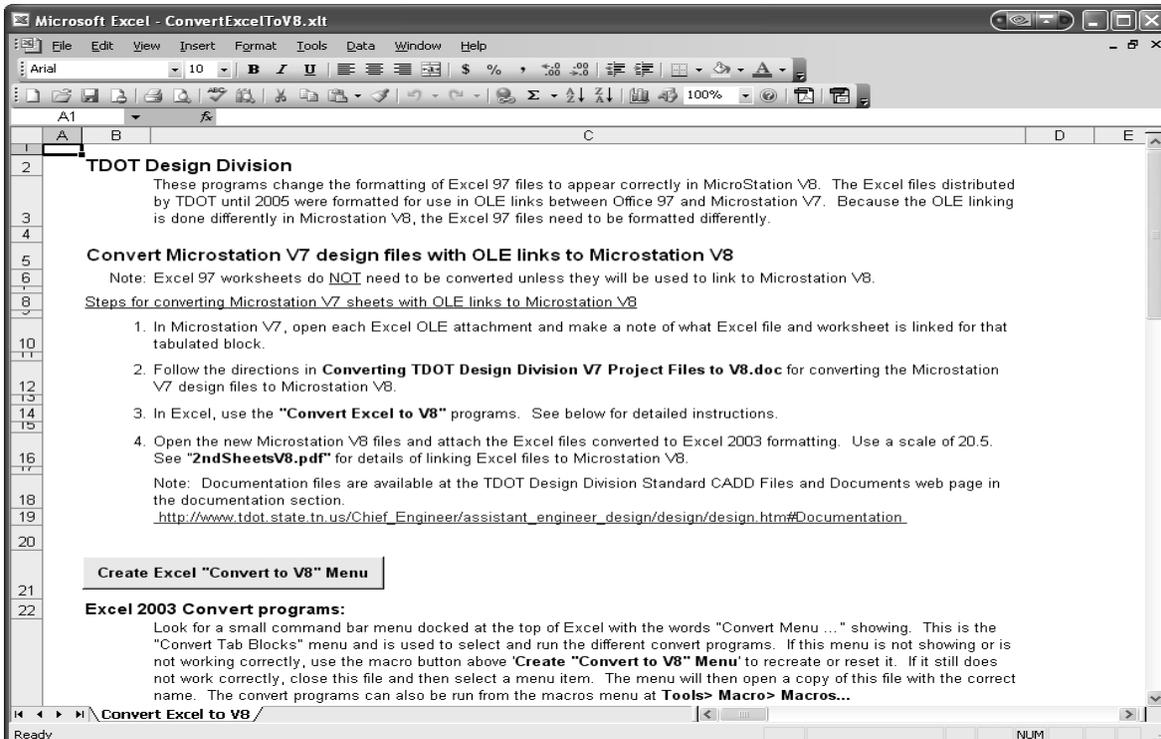
The screenshot shows a Microsoft Excel window titled "Worksheet in c: Projects Roane SR95PoplarCr main 03.sht". The active cell is B9, containing the formula `=sameinfo("SUR IN!A5")`. The worksheet contains a table with the following data:

TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS				LEFT
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT REFERENCE		
				BK.	PAGE	
1	RACHEL YARNELL	82	31	N-6	93	
2	LUCINDA YARNELL ETAL.	82	32	T-18	200	28.472
3	LUCINDA YARNELL ETAL.	82	32	T-18	200	

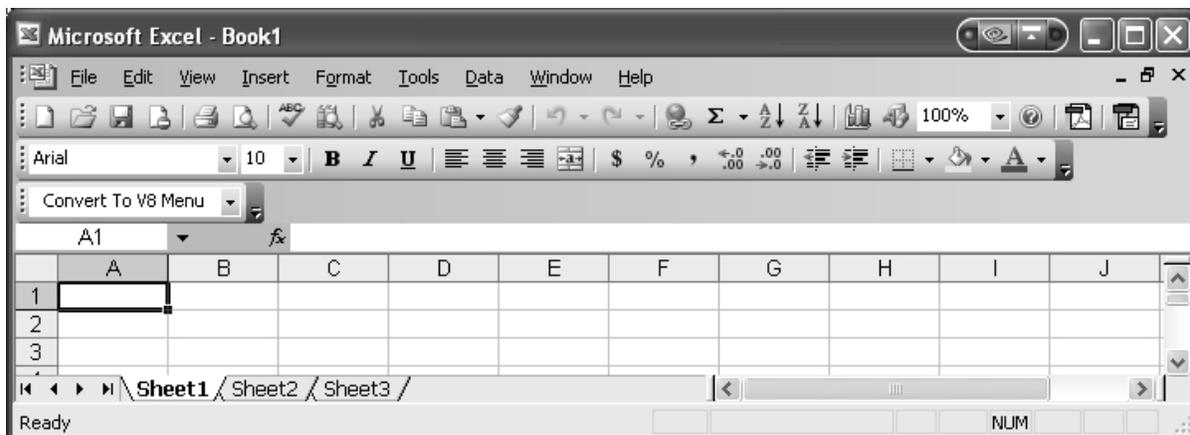
## In Excel:

**Note:** If an Excel file will not be used in the plans then the formatting does not need to be changed.

1. Open the Excel files to be converted to Office / MicroStation V8 formatting.
2. In Excel, go to **File> New> On my computer... > TDOT 2nd Sheets** and select the **ConvertExcelToV8.xlt** template.

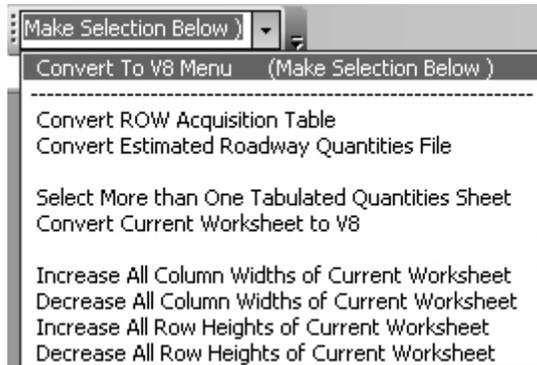


3. Select the macro button to **Create Excel "Convert to V8" Menu**. This will create a pull down menu docked in the upper menu bar area at the left named **Convert To V8 Menu**. Close the **ConvertExcelToV8** file created.

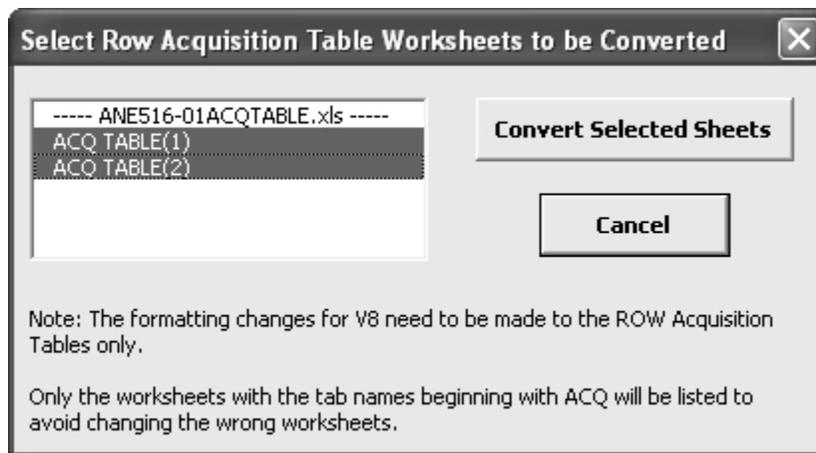


The **Convert to V8 Menu** will now be available in any Excel file. When the **Convert to V8 Menu** is accessed, it will open **ConvertExcelToV8.xlt** to run the convert programs. **ConvertExcelToV8.xlt** does **not** need to be saved and should be closed **without** saving after running programs.

The **Convert Menu** has eight programs for use in converting Excel file formatting to Office for MicroStation V8. For more detailed documentation on the programs, see the **ConvertExcelToV8.xlt** file.



1. **Convert ROW Acquisition Table** - This program lists all of the worksheets with names that start with ACQ. One or more worksheets can be selected. A backup copy is made with \_bak on the name before any changes are made.



Only the worksheets that will be linked to MicroStation V8 need to have the formatting changed. The “SUR IN” and the “DES IN” worksheets do not need to be changed. When the program is run, the fonts are changed to Arial, the row and column sizes are increased and indents are added. This is done so the graphical display in MicroStation V8 will have the correct size and appearance when linked at a **scale of 17** (0.14 body text).

2. **Convert Estimated Roadway Quantities File** – This program opens a dialog box to allow selection of the estimate file to be converted.



The program creates a new Microsoft Office Excel file by copying the information from the existing estimated roadway quantities excel file into a new estimated roadway quantities file. The existing estimated roadway quantities file is not changed. The new file has "\_V8" in the filename. This makes the new Excel formatting macros found in the estimated roadway quantities template available for future use.

Excel worksheets that are not named "Col \*" will be copied by sheet to the new file but no formatting changes will be done to the worksheet.

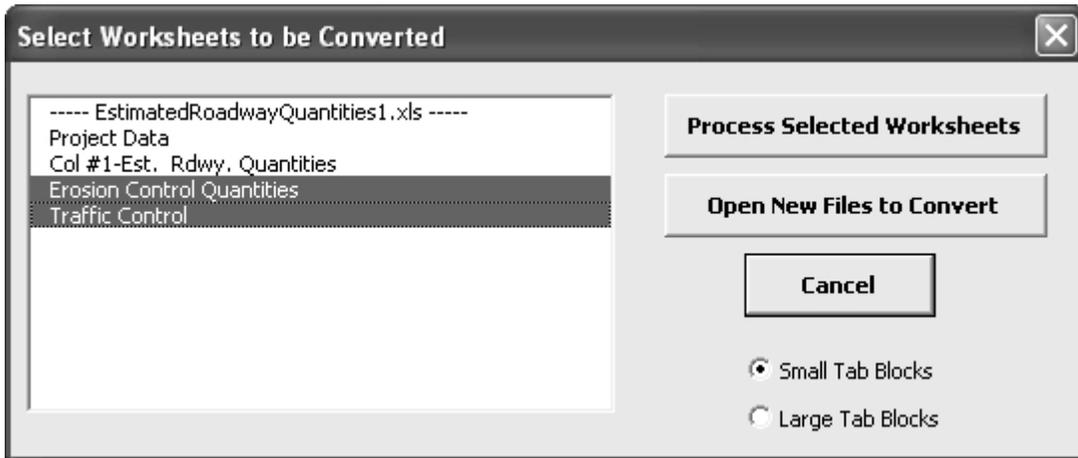
**Note:** The Excel estimated roadway quantities file is used as an input file for the T.D.O.T. database program in the **Program Operations Office**. The **“Project Data”** worksheet name should not be changed. The worksheets names for the estimated roadway quantities need to begin with the letters **“COL”**.

After converting the estimated roadway quantities file some additional cleanup may be needed. Use the **Format Notes Area** macro to trim your main quantity blocks and format its footnotes correctly.

**Carefully review all footnotes.** The text size of the footnotes has been increased and depending on how footnotes were originally entered, they may be getting cut off at the end of the line or at the bottom of the note. If the entire note is entered in one cell, adjust the row height so that all lines of the note appear. If separate lines of text were entered, you can either combine the text in the first cell or just add any cut off words to the next line. Short, single line footnotes should not be affected by this.

Prior to using the macros described next to re-format your tabulated quantities blocks, it is recommended that you close the original estimated roadway quantities file (without \_V8 at end of name) to avoid picking the wrong set of worksheets for converting.

3. **Select More than One Tabulated Quantities Sheets** – Opens a dialog so that several tabulated quantity block worksheets can be selected.



**First option: Process Selected Worksheets**

This program converts each worksheet selected to the new Office format. A backup copy of each file selected is made with \_bak on the name before any changes are made. If no sheets are selected, the program ends. This program saves each file as it is processed.

**Second option: Open New Files to Convert**

This program opens a dialog box to select Excel files to open. After files are picked, it opens each file and then returns to the "Select Worksheets to be Converted" dialog box with all of the worksheets in all of the open Excel files listed.

**Third option: Cancel**

Exits program.

**Fourth option: Small Tab Blocks or Large Tab Blocks**

The default is Small Tab Blocks. This will convert the worksheet from column and row A1 to AG65. This covers the area of all standard tabulated quantities blocks and the area that will fit on a plan sheet. If needed, the large tab block option can be selected to process tabulated blocks that are larger.

4. **Convert Current Worksheet to V8** – Converts the active worksheet to V8 formatting.

This program converts the current active worksheet to the new Excel formatting. This includes changing the fonts to Arial, increasing the row heights and column widths, and setting indents on left and right justified cells. No backup files are created and the file is not saved by the program.

**Note:** If the tab blocks do not look correct, the following macros can be used to make small adjustments to all columns or rows.

5. **Increase All Column Widths of Current Worksheet** – Increases the column widths of the current active worksheet.
6. **Decrease All Column Widths of Current Worksheet** - Decreases the column widths of the current active worksheet.
7. **Increase All Row Heights of Current Worksheet** - Increases the row heights of the current active worksheet.
8. **Decrease All Row Heights of Current Worksheet** - Decreases the row heights of the current active worksheet.

#### **Final Tabulated Quantity Sheet Adjustments:**

To adjust column widths or row heights for individual columns or rows, click on the column letter or row number and then right click and choose options **Column Width** or **Row Height** to adjust.

If any Sub-headings are not centered correctly, check for extra spaces at the beginning and end of the text. These spaces can also cause breaks to appear in block lines. If no spaces are found when centering appears incorrectly, highlight all cells across the area text is to be centered on including the cell with the text and then right click and choose the **Format Cells** option. Under the **Alignment** tab go to **Horizontal** and set to **Center Across Selection**.

Save the Excel workbooks when the conversions are complete.

If an Excel file does not convert correctly, the formatting can be done manually. The standard formats are as follows:

1. All fonts are **Arial**.
2. Body text and footnotes are size **10**, not bold.
3. The main heading text is size **15, bold**.
4. The sub heading text and TOTALS text are size **10, bold**.
5. The body horizontal lines are light weight.
6. The heading borders and vertical lines are medium weight.
7. Select cells and set justification as wanted.

## Link Excel to MicroStation V8

1. Open the MicroStation V8 DGN sheet file with the Excel attachments. Delete or move the text and graphics from the old Excel attachment. The attachment graphics will move or delete as one piece with graphic group lock on.
2. In the reformatted Excel workbook, select the block wanted, and go to **Edit> Copy**. This will put the selected block into the Windows Clipboard and make it available to MicroStation. When selecting the block in Excel, select one column and row past the outside border so the display of the outside border line weight is not cut in half.

**Note:** The Excel file must be saved on the users system before the OLE linking will work. The Excel file should be saved to the project folder.

3. In MicroStation, go to **Edit> Paste Special... > Linked Microsoft Office Excel Worksheet**. The OLE attachment will be placed on the active level.



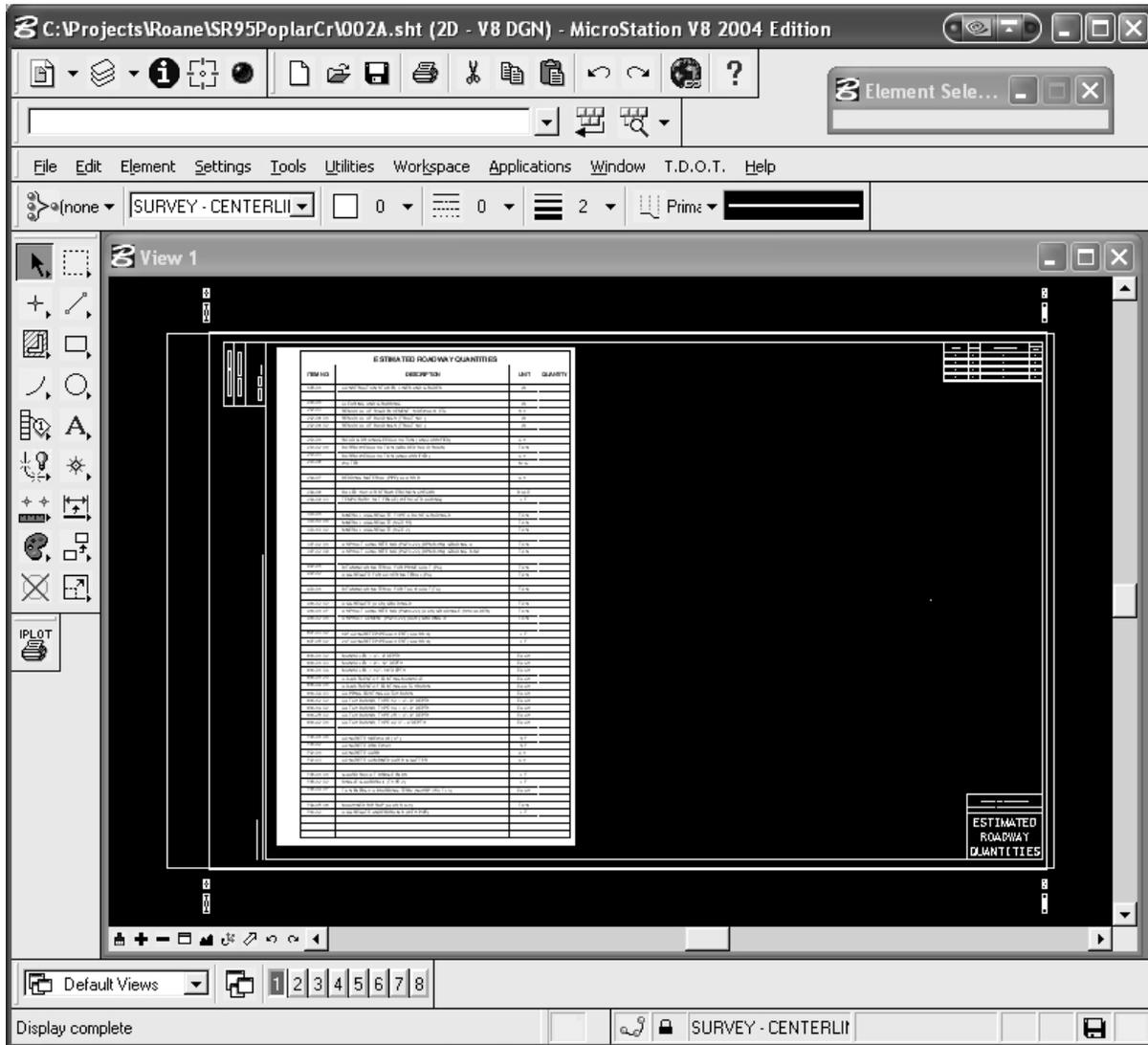
4. Select **Paste as: Link** and **Method: By Size** and **Scale: 17** (1.4 for metric). Use the 17 scale for a 1-scale sheet border. For sheet borders at other scales, multiply the 17 by the plot scale for the sheet border. The body text letters should measure approximately 0.14' and plot at 0.14".



**Note:**

If smaller text sizes are acceptable or space is tight, use a scale of **15 for 0.12** body text or **13 for 0.10** body text. For metric jobs use a scale of 1.2 for 0.12 or 1.0 for 0.10.

- The OLE link can be moved as needed to position in the sheet border. See **2ndSheetsV8.pdf** for detailed instructions on OLE attachments.



- Repeat the previous steps to link other blocks from Excel into MicroStation V8

### Notes on Excel Links:

The OLE link is displayed as a ‘picture’ of the Excel document. It is defined as a cell and has a shape around the edge. The OLE link can be copied, moved or scaled using the graphics commands. The OLE link is ‘view independent’, which means it will display top up for any view rotation. It is no longer necessary to attach and then reference to get a block to appear horizontally on a rotated sheet as in the case of R.O.W. acquisition tables on some projects.

To attach Excel blocks to sheets at scales other than 1, simply take the attachment scale used for 1 scale sheets and multiply by the plan sheet scale. Example for 50 scale sheet:  $17 \times 50 = 850$ .

### **Opening and Updating Office 2003 Links:**

The changes made to the Office files outside of MicroStation will not be changed in MicroStation until the links have either been opened or updated.

1. To update all of the linked files, go to **E**dit> **U**ppdate Links. This will update all of the Office links in the file without opening the links.
2. To open an Office link, use the **E**lement **S**election tool and double click the linked graphics.

Or use the tools under **E**dit> **L**inks... or **E**dit> **W**orksheet **O**bject. (The link must be selected for the **W**orksheet **O**bject tools to be active.)

Changes made in Excel **will not** be updated in MicroStation until the Excel file is saved and closed.

### **Possible problem when Double Clicking Office Graphics to update:**

If the file contains macros the macro warning message will appear in the MicroStation program window. Click on the Enable Macros button and then if it appears to freeze up, click outside of MicroStation and the Office file will open.

For instructions on opening and updating **Office 2007** attachments, see **2ndSheetsV8.pdf** which is available at the TDOT Design Division CADD web page in the Documentation section.