LAB 8 - Create 3D Utility Graphics

In this example, you'll create a Utility model file, work with references, and then place proposed 3D utility lines using the CDOT Menu and the parallel copy tool. You'll also modify the graphics as necessary.

Chapter Objectives:

After completing this exercise you will know how to:

- Work with nested references
- Use the Copy Attachment option for references
- Use the CDOT Menu to place custom line styles (Utility lines).
- Place elements in 3D using **Depth Lock**
- Manipulate elements using the **Parallel Copy** tool
- Modify elements using the Trim tools

Lab 8.1 - Create the Utility Model File

- 1. Open the MicroStation Manager and set the Project to 12345.
- 2. Set the directory to \Utilities\Drawings\Reference Files.

📕 File Open - C:	\Projects\12345\D	Design\Drawings\Reference_Files	N .		X
Look in:	Reference_Fil	es 🗸	G 🤌 📂 🛄 🗸	i) 🗟 🖲	3D - V8 DGN
C.	Name	*	Date modified	Туре	
Recent Places	12345UTIL_N	/lodel.dgn	2/18/2010 10:32 AM	MicroStat	
Desktop					
Libraries					
	•	III		Þ	
Network	File name:	12345UTIL_Model.dgn	•	Open	User: CDOT User 💌
	Files of type:	CAD Files (*.dgn;*.dwg;*.dxf)	-	Cancel	Project: 12345
		Upen as read-only		Options	Interface: CDOT •

- 3. Open the file **12345UTIL_Model.dgn**. The blank Utility model file opens.
- 4. Select File > Save As...
- 5. Set the Directory to **\Utilities\Working**.

- Save As C:\Projects\12345\Design\Drawings\Reference_Files\ X Save in: 📗 Working 🌀 🤌 📂 🛄 🗸 * • Name Date modified Туре 9 No items match your search. Recent Places Desktop e e Libraries Computer (È Network CU12345UTIL_Model.dgn Save File name: Save as type: MicroStation V8 DGN Files (*.dgn) Cancel Options
- 6. Change the file name to CU12345UTIL_Model.dgn and select Save.

The new file is created in the *Working* folder.

Lab 8.2 - Attach References

1. Select **References** from the **Primary** toolbar.

Primary Tools	3
<mark> </mark>	
References	

2. From the *References* dialog box, select Tools > Attach and select the 12345DES_Model.dgn file from the \Design\Drawings\Reference Files folder.

Attach Referen	nce - C:\Projects\	12345\Design\Drawings\Ref	erence_Files\		×
Look in:	Neference_F	iles	▼ 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 🗈	3D - V8 DGN
(Arra)	Name	*	Date modified	Туре	
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	🕌 12345DES_Ir	ntersec100SH86.dgn	11/20/2007 4:08 PM	MicroStation V8 X.	
	🖊 12345DES_N	/lodel##.dgn	11/1/2010 1:02 PM	MicroStation V8 X.	
Desktop	12345DES_N	/lodel.dgn	11/1/2010 1:03 PM	MicroStation V8 X.	
	🕌 12345DES_P	hasing.dgn	11/20/2007 7:47 AM	MicroStation V8 X.	
	🖊 12345DES_P	rof03.dgn	11/20/2007 7:47 AM	MicroStation V8 X.	
Libraries	🖊 Elbert.dgn		11/20/2007 7:47 AM	MicroStation V8 X.	
Computer Computer Network					Attachment Method Interactive
	File name:	12345DES_Model.dgn	•	Open	
	Files of type:	CAD Files (*.dgn;*.dwg;*.dxf)	-	Cancel	
	•	Save Relative Path		Options	

3. Verify the *Attachment Method* is set to Interactive and select Open.

4. In the *Attachment Settings* box, keyin a *Logical Name* of *Design* and a *Description* of *Design Model Plan*. Make sure *Display Raster Reference* is *on*. Set the other options as shown and select OK.

Reference Attachment	eference Attachment Settings for 12345DES_Model.dgn				
File Name: 1234 Full Path:\Dr Model CDO Logical Name: Description: Globa	5DES_Model.dgn awings\Reference_Files\12345DES_Model.dgn T Default				
Orientation:					
View	Description				
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Coincident - World	Global Origin aligned with Master File				
Standard Views					
Saved Views (none)					
Named Fences (nor	ne)				
Detail Scale: Sc <u>a</u> le (Master:Ref):	1"=100' 1.000000 : 1.000000				
Named Group:	•				
Revision:					
Level:					
Nested Attachments:	No Nesting Depth: 1				
Display Overrides:	Allow				
New Level Display:	Use MS REF NEWLEVELDH				
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Drawing Title					
Create	Display Raster References				
Name:	Drawing				
	<u>QK</u> Cancel				

5. Fit the view.

The Design reference graphics, along with the raster photos, appear in the Utility model file.



Lab 8.3 - Raster Images

Since *Display Raster References* was turned on when attaching the reference, the aerial photos were attached with the design model file (they were turned on in the Design Model file from the last lab). You can quickly turn them off from the *Reference* dialog instead of opening the *Raster Manager*.

1. In the *References* box, highlight the **Design** reference and toggle **Display Raster** References *off.*





Lab 8.4 - Work with Reference Files

1. Window in on the Intersection.



2. On the **Reference** dialog, change **No Nesting** to **Live Nesting** and set **Depth** to **1**.

References (1 of 1 unique, 1 displ	ayed)		
Tools Settings			
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Hierarchy	Slot 🏱 🛅 File Name	Model Description	Logical Orientation
E-M CU12345UTIL_Model.dgn	2 12345DES_Model.dgn	CDOT Default Global Origin align	e Coincident
12345DES_Model.dgn			
	٠ [•
	Scale 1.000000 : 1.000000	Rotation 00°00'00''	
	Offset <u>X</u> 0.000 <u>Y</u> 0.000	<u>Z</u> 0.000	
	🖸 🛃 🍋 🛄 🎢 🤣 🐓 🏢 🔊 🖓	Live Nesting Allow O	verrides 💌 <u>D</u> epth: 1
	New Level Display: Config Variable Georet	ferenced: No	

3. In the *Hierarchy* pane, select the **Design** reference file as shown below. On the right, select the **Survey/Topo** nested reference and make sure that **Display** is toggled **on**.

References (2 of 2 unique, 2 displ	layed)			
Tools Settings				
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Hierarchy	Slot 🏱 🛅 File Name	Model	Description	Logical 💽 🎜 🔭
E-100 CU12345UTIL_Model.dgn	1 12345SURV_Topo100.dgn	CDOT Default	Global Origin aligne	\checkmark \checkmark \checkmark
Brace [22345UES_Model.agn]				
	Scale 1.000000 : 1.000000	Rotatio	on 00°00'00''	
	Offset X 0.000 Y 0.000	<u>Z</u> 0	.000	
	🖸 🚅 💦 🖓 🖑 🏢 🗟 📢	<u>A</u> Live Nesting	Allow Overrid	es ▼ <u>D</u> epth: 1
	New Level Display: Config Variable	erenced: No	•	

4. Open the *Level Display* box, make sure the *Show Target Tree* button is **On**, and select the **Survey/Topo** Reference. Right click on the bottom pane and choose **All On** to turn on all reference levels.

🥩 Level Display - View 1					x
🖵 🕱 View Display 🔻					
(none) - Levels -	-				
CU12345UTIL_Model.dgn					
Name	Number File		Logical	Used	•
Default	Set Active	URV_Topo 100		•	E
TOPO_BUILDING_Concrete-Pad	 Jump To Active Level	URV_Topo 100		•	
TOPO_BUILDING_Deck-W-Roof	Create Display Set	URV_Topo 100		•	
TOPO_BUILDING_Frame-House	Create Display Set	URV_Topo100		•	
TOPO_BUILDING_Office-Business	All O <u>n</u>	URV_Topo100		•	
TOPO_BUILDING_Pump-Island	All Off	URV_Topo100		•	
TOPO_BUILDING_Pump-Island-Canop	Invert On/Off	URV_Topo 100		:	
TOPO_DUILDING_Sneds-barns		URV Topo 100			
TOPO CULVERT Corr-Steel-Pipe-Oth	Off By Element	URV Topo 100			
TOPO CULVERT End-Sec-Corr-StI-Pi	All Except Element	URV Topo 100		•	
TOPO CULVERT End-Sec-RCP	Caulo Eilter	URV Topo 100		•	
TOPO_CULVERT_Reinforced-Concret	Jave Filler	URV_Topo 100		•	
TOPO_CURBGUTR_Curb	Level <u>M</u> anager	URV_Topo 100		•	
TOPO_CURBGUTR_Curb-Gutter-Type-	-2-I 3531 12345	SURV_Topo 100		•	
TOPO_CURBGUTR_Curb-Gutter-Type-	-2-I 3511 12345	SURV_Topo100		•	
					- T

The nested Survey/Topo graphics are displayed.



5. Back in the Reference dialog box, select the upper-level CU12345UTIL_Model.dgn master file in the *Hierarchy* pane. On the right, select the 12345DES_Model.dgn reference and toggle off *Display*.

Both Design and Survey/Topo are turned off since Survey/Topo is nested.

6. Turn the display of the **Design** reference back **On**.

7. How would you turn off the Design graphics and leave the Survey/Topo graphics on? Currently, as nested references, you can't do this. However, in the next section you will accomplish this using **Copy Attachments**.

Use the Copy Attachments Option

Many times, especially in Model files, you want all your references to be upper level references (as opposed to nested references) so that you can turn on/off the display of individual reference files. To accomplish this you can either reference all the nested files one by one or you can use the **Copy Attachments** option.

1. With the *Design* reference selected on the right, change the Live Nested option to Copy Attachments.

References (2 of 2 unique, 2 displ	ayed)			X
Tools Settings				
🔃 - 陸 🕵 👌 🛒 🖘	🄄 🗗 🗗 🚹 🐉 🛱 📅 🛈	🔀 <u>H</u> ilite Mode: 🖪	oundaries 👻	
Hierarchy	Slot 🏲 🛅 File Name	Model	Description	Logical 💽 🎜 🔭 🔒
E-10 CU12345UTIL_Model.dgn	2 12345DES_Model.dgn	CDOT Default	Global Origin aligne	V V V
⊞-12345DES_Model.dgn				
	Scale 1.000000 : 1.000000	<u>R</u> otatio	on 00°00'00''	
	Offset X 0.000 Y 0.000	No Nesti	na	
	Now Loud Diantary Config Variable -		ting Allow Oven	rides ▼ <u>D</u> epth: 1

Note: Notice that in the Hierarchy pane of the **References** dialog box both the Design and the Survey/Topo references are now upper level references. As a result of changing *Live Nesting* to *Copy Attachments*, the nested Survey/Topo reference was copied in as a direct attachment.

References (2 of 2 unique, 2 displ	ayed)				-	x
Tools Settings						
🔃 - 🖄 🖗 🗎	🄄 😷 🔂 🚹 🔂 👘 🕲	🗙 Hilte Mode: Bo	oundaries 👻			
Hierarchy	Slot 🏱 🛅 File Name	Model	Description	Logical 💽	2 1	6
CU12345UTIL Model.don	1 .\.\R\12345SURV_Topo100.	dgn CDOT Default	Global Origin aligne	Ref √	1 1	
⊕-12345DES_Model.dgn	2 12345DES_Model.dgn	CDOT Default	Global Origin aligne	1	1 1	
- Ref,\\ROW_Survey\Dra						
	Sgale 1.000000 : 1.000000 Offset X 0.000 Y 0.000	<u>R</u> otatio	n 00°00'00"]		
< Þ	Image: Second secon	No Nesting	Allow Overri	ides 💌 <u>D</u> ep	th: 1	

2. On the right-hand side of the *References* box, select the reference for the **Design** model and toggle the *Display* off.



With both references as direct attachments, each reference can be individually turned on/ off. In this example the Design reference is turned off while the Survey/Topo graphics remain on.

Note: As a rule of thumb for Model files, you can reference nested to avoid having to attach multiple times. Then, once the nested references are attached, use the **Copy Attachments** option to make all nested references direct attachments. For Sheet files (see Chapter 9), you should typically use nested attachments.

3. Turn the *Design* reference display back **On**.



Lab 8.5 - Drawing in 3D (Using ACS Plane Snap Lock)

In the next series of steps, you will practice placing utility graphics from the CDOT Menu with and without *ACS Plane Snap lock*. The ACS Plane Snap lock sets the elevation of the graphics are placed in a 3D file.

Place overhead electrical lines

1. To check your active depth, key in *az=\$* then *<D>* in the view.

The default active depth for the CDOT for the Utility model file is **0.00**.

Select the Locks button on the status bar and verify that ACS Plane Snap lock is turned Off.



With *ACS Plane Snap lock* turned off, you will pick up the elevation of elements you snap to in a 3D file.



2. Zoom in on the south side of the intersection cross road.

- 3. On the CDOT Menu highlight the **Utilities** group and set *Status* to **Proposed**.
- 4. Select the **Electric** category.
- 5. Set the *Filters* category to All.
- 6. Select the **Overhead Line** item.

CDOT Menu		_	• 🗙
CDOT Groups CDOT Tools	Options Help		
Drafting Bridge Construction	Status	Proposed	?
···· Design ···· Geometry ···· Hydraulics ···· Landscape Environmental	Utilities		
Materials Geotechnical	Electric	Overhead Line	
Utilities	Gas		lard
	Sanitary Sewer	 ✤ Fire Alarm Box ✤ Guy Wire 	
< <u> </u>	Telephone	☆ Lighting Post ☆ Manhole	
	Television	☆ Miscellaneous	
	Water	 ☆ Power Pole ☆ Relocated Light Stands 	ard
		☆ Tower ☆ Vault	
Settings			

Note that the active level is automatically set to *UTIL_ELECTRICAL_Overhead* and the *Place SmartLine* command is started.

7. AccuSnap to the end of the existing North/South overhead line at the power pole as shown.



8. AccuSnap to the end of the existing east/west overhead line at the power pole as shown.



- 9. **<R>** to complete this line.
- 10. Turn Off the display of the Topo/Survey reference to better see the proposed graphics.



11. <T> on the end of the proposed overhead electrical line you just placed.

- **Note:** Even though the active depth is 0, since **Depth lock** is turned off the line was placed at the elevation of the existing overhead line (6627.317).
- 12. <T> on the other end of the proposed overhead electrical line to check its elevation.

3279695.272, 1555897.262 6623.081 KeyPt

Place proposed gas lines

- 1. Turn **Off** the display of the **Design** reference and turn **On** the display of the **Survey/Topo** reference.
- 2. On the CDOT Menu, select the *Gas* category.

3. Select the Gas Line item.

🚆 CDOT Menu			_ 0 🔀
CDOT Groups CDOT Tools	Options Help		
Drafting Bridge Construction	Status	Proposed	?
···· Design ··· Geometry ··· Hydraulics ··· Landscape Environmental	Utilities	∖A* 	AII
Materials Geotechnical ROW Survey	Electric	Gas Line	ine
	Fiber Optic	A <new strin<br="" text="">☆ Manhole</new>	ig>
	Gas	∜ Valve ☆ Vault	
	Sanitary Sewer	* Vent-Pipe	
	Telephone		
	Television		
	Water		
Settings			

- 4. $\langle T \rangle$ on the end of the existing gas line on the east side of the road.
- 5. Place data points to draw the gas line in the approximate location shown.
- 6. $\langle \mathbf{R} \rangle$ when done.







<T> snapping to an existing element positions the starting point of the new element at the elevation of the original element. Subsequent points that are not snapped to are placed at the *Active Depth* (Elevation) *of 0*. In this case, what you see is a proposed gas line that goes from an elevation of +/- 6622 to an elevation of 0 making the utility much longer than it should be. Because there are now so many "G" symbols in a line that is over 6000' long, it gives the appearance of a thick line.

- 7. **Delete** the proposed gas utility line you just placed.
- 8. Select the Locks from the status bar.
- 9. Toggle On ACS Plane Snap Lock.



10. On the Snap Mode toolbar, toggle AccuSnap Off.



- **Note:** AccuSnap doesn't work consistently when **Depth Lock** is on. Therefore, to ensure Depth lock works correctly, toggle AccuSnap off.
- 11. Place the proposed gas line again by a <T> on the end of the existing gas line and then placing the other data points in the approximate location shown.
- 12. <T> anywhere on the proposed gas line you just placed and note the elevation.



Since ACS Plane Snap lock is on, the proposed gas line was placed at an elevation of **0**.

Note: To return to the default settings, turn *ACS Plane Snap lock* Off and toggle *AccuSnap* back On.

Place fiber optic lines using parallel copy

Follow the steps below to place a fiber optic line by copying parallel an existing telephone line.

Locate reference graphics for copying

1. Turn off the TOPO_TERRAIN_Break-Lines level in the SurveyTopo reference.

2. **Window** in on the existing overhead electrical line in the southeast quadrant of the intersection as shown.



- 3. Select the Move Parallel tool from the *Main* task toolbar.
- 4. In the *Tool Settings* box, set the options as shown below.

Tasks	₽ × [View 1 - Top, CDOT Default
🔎 Tasks		;;;,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	🞜 🖧 🗐 🗙 🚎	
🔛 Colorado 🗆 🗗	1 Сору	Move/Copy Parallel
🗣 Roundabor 🖽	2 Move	Mode: Miter
Z Civil Geom	3 Scale	Distance: 6.000
🕅 Data Acqu	4 Rotate	Vise Active Attributes
V Drawing	5 Mirror	
	6 Array	
Ê 🌽 🖻	7 Align Elements By Edge	
w 🗆 📿 🗄	3 Stretch	
E 🔾 🔾 🚶	9 Move Parallel	
R 🖉 🎱 (^D	0 Move To Contact	
т 🎝 🖓 т 🎞	Open 'Manipulate' as Toolbox	

- 5. **<D>** on the existing overhead line
- 6. Move the cursor down to specify the direction of the parallel copy.

7. $\langle \mathbf{D} \rangle$ to place the copy.



- **Note:** When copying graphics from a Topo file, elements will maintain a hard coded linestyle scale and thus appear at the incorrect scale. This scale needs to be adjusted using the Element Info tool. In this example the linestyle scale of the new utility line need to be changed from a value of 100 to 1.
- 8. Select the new graphic and **<D>** on the *Element Info* tool.



- 9. Expand the *Extended* category and *Line Style Parameters* sub-category.
- 10. Change the value of the *Scale* option to **1**.

📙 Element Info	
Selection>	
General	8
Geometry	3
Groups	\odot
Extended	٤
Model	CDOT Default
Last Modified	8/18/2009 3:11 PM
Snappable	Snappable
Modified	Modified
New	New
Locked	Unlocked
Thickness	0.000
Line Style Parameters	
Scale	1.00000
Width Mode	None
Shift Mode	None
Corner Mode	From Line Style
Raw Data	<u> </u>

11. Close the Element Info

Change element attributes

Change the overhead electrical line to an underground fiber optic line using the *Change Element Attributes* command.

1. Set the active level to UTIL_FIBEROPTICS (hint: use a filter to help you set the level).

Attributes	UTIL_FIBEROPTICS Filter: Utilities.Fiber Optic				
	UTIL_FIBEROPTICS		~	0	
	UTIL_FIBEROPTICS_Overhead		~	0	
	UTIL_FIBEROPTICS_Symb		~	0	
	UTIL_FIBEROPTICS_Text		~	0	

- 2. Select the Change Element Attributes command from the *Main* task toolbar.
- 3. Set *Method* to Change.
- 4. Toggle On Use Active Attributes.
- 5. Toggle On *Level* (this picks up the active level).

Tasks # X	📦 View 1 - Top, CDOT Default
🗲 Tasks 👻	□ -
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Colorado DOT	🖇 Change Attributes
Roundabouts	Use Active Attributes
∠ Civil Geometry ◆	✓ Level: UTIL_FIBEROPTIC
🕅 Data Acquisition 🔹	Color: 69 💌
	Style: UTIL_CABLE_Fibe -
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N 2 ∞ + N N N << H	Transparency: 0 💌
Q	Priority:
	Class: Primary 💌
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	Make Copy
r 💯 🕸 🙈 🍡 🗳 🚄 🗭 🔕	Change Entire Element

6. **<D>** on the overhead electrical line you just copied as the element to change.

7. $\langle \mathbf{R} \rangle$ when done.



Since the *Use Active Attributes* option was turned on, the element was changed to the active level UTIL_FIBEROPTICS.

Set the elevation

1. **<T>** on the fiber-optics line you just placed.

```
3279913.476, 1555958.930 6616.131 KeyPt
```

The proposed fiber-optics line is in the 6615 elevation range (your exact elevation may be vary depending on where you placed a tentative point). This elevation is wrong for the fiber optic line since you copied the overhead electrical line. For now, you can set the elevation of this line to 0 and later, it can be placed as a feature in the InRoads surface at the correct elevation. One way to set the elevation of an element is to use the **ModElev** command on the CDOT Menu.

2. On the CDOT Menu, select CDOT Tools > ModElev.



3. In the *ModElev* tool settings box, set the elevation to *O*.

📕 Mod Elev 🗖 🗉 🎫
Elevation: 0.000000
Single Fence All

- 4. Select **Single** (to identify a single element).
- 5. **<D>** on the new fiber-optics line you created.
- 6. $\langle \mathbf{D} \rangle$ to accept.
- 7. $\langle \mathbf{R} \rangle$ when done.
- 8. **<T>** on the fiber-optics line to check its elevation.

3279531.734, 1556062.755 0.000 KeyPt

The Z value is now at 0. Use the ModElev command to easily set the elevation of any element or group of elements (selected with a fence).

Trim graphics

The new fiber optic line is only going in on the east side of the intersection cross road. Follow the steps below to use the *Extend Element to Intersection* command to trim the fiber optic graphics.

1. Select the Trim to Element tcommand from the Main task toolbar.



2. **<D>** on the fiber optic line to the right of the intersection, this is the section we wish to keep.



3. **<D>** on the north/south proposed overhead electrical line as the cutting element.

The fiber-optics lines are trimmed as shown.



- 4. Turn off the display of the **Survey/Topo** references.
- 5. **Fit** the view.



Only the proposed gas, electric and fiber-optic utility graphics should appear in the *CU12345UtilityModel01.dgn* file.



6. Turn the display of the *Design* reference **On** and window into the intersection as shown.

Move the utility model to the Reference Files folder

Move the utility model so that other groups can reference your work.

- 1. Select File > Save As and set the directory to the project's \Utilities\Drawings\Reference_Files folder.
- 2. Remove the **CU** initials from the file name and select **Save**.

📕 Save As - C:\P	rojects\12345\Util	ities\Drawings\Reference_Files\			×
Save in:	Reference_File	es 🔻	G 🤌 📂 🖽 -	*	3D - V8 DGN
æ	Name	*	Date modified	Туре	
Recent Places	12345UTIL_N	lodel.dgn	11/2/2010 9:20 AM	MicroStation V8 X.	
Desktop					
Libraries					
					1
Network	•			4	
	File name:	12345UTIL_Model.dgn	-	Save	
	Save as type:	MicroStation V8 DGN Files (*.dgn)) 🔹	Cancel	
				Options	4

The file is saved to the new location.

- **Note:** The project template delivers standard dgn's for model and sheet files as starter files. Use caution when prompted to confirm saving over an existing file as you could lose data.
- 3. Select **File > Close**.
- 4. In the *MicroStation Manager* verify that the file was saved to the *Reference_Files* folder.

File Open - C:\	Projects\12345\U	tilities\Drawings\Reference_Files\				X
Look in:	Neference_File	es 🔻	3 🌶 📂 🖽	") 🗟 🗈		
9	Name	A ladel dap	Date modified	Type MicroStat		
Recent Places	F* 125450 IIL_IV	louenugri	11/2/2010 9.20 AW	Microstat		
Desister						
Libraries						
					1	
Computer						
	•	III		۴		
Network	File name:	CU12345UTIL_Model.dgn	-	Open	User: CDC	T User 🔻
	Files of type:	CAD Files (*.dgn;*.dwg;*.dxf)	•	Cancel	Project: 1234	45 🔻
		Open as read-only		Options	Interface: CDC	▼ T0

- 5. Set the directory to **\Utilities\Working**.
- 6. **Right-click** while hovering over the file and select **Delete** to delete the file from the Working folder.

📕 File Open - C:	\Projects\12345\Uti	ilities\Working\			×
Look in:	\mu Working	•	G 🤌 📂 🖽 🗸	i) 🗟 🗈	3D - V8 DGN
(Fe	Name	*	Date modified	Туре	
Recent Places	K CU12345UTIL	Model.dan Select	11/1/2010 2:48 PM	MicroStat	
		Open			
Desktop		Scan for Viruses			
Libraries		Open with Restore previous versions			
		Send to	•		
Computer		Cut Copy			
	•	Create shortcut		۲	
Network	File name:	Delete	-	Open	User: CDOT User 🔹
	Files of type:	Rename	-	Cancel	Project: 12345 💌
		Properties		Options	Interface: CDOT 🔹
					đ

7. Cancel the MicroStation Manager to exit.