Table of Contents

CHAPTER 9: REFERENCE FILES

- 9.1 Introduction to Reference Files
- 9.2 Reference Preferences
- 9.3 Attachment Properties
- 9.3.1 Attachment Method
- 9.3.2 Relative Path
- 9.3.3 Nesting Depth
- 9.4 Motif Files
- 9.5 True Scale
- 9.6 Update Sequence
- 9.7 Annotation Scale in References
- 9.8 Activate References for Manipulation

CHAPTER 9 – REFERENCE FILES

9.1 – Introduction to Reference Files

A **reference** attachment is a model, or a MicroStation file (.dgn) attached to and displayed with the active model for plotting or construction purposes. You can attach, as a reference, a model that resides in either the open DGN file, some other DGN file, or a DWG file. A reference cannot be modified with default attachment settings. However, it is now possible in V8i to "activate" a reference file, make edits, "deactivate" the file, and return to original file session. This chapter covers some of the key features for reference files and what is the preferred method or "standard practice" is for using these features on EFLHD projects.

9.2 – <u>Reference Preferences</u>

There are user preferences that affect reference file operations. These can be found from the MicroStation main menu, under **Workspace > Preferences**. The figure below shows the default EFLHD settings. These default settings do not dictate what the standard practice is, but do allow the user control of reference operations.

Preferences [untitled	
Preferences [untitled Category Database Input Look and Feel Mouse Wheel Operation Position Mapping Raster Manager Reference Spelling Tags Task Navigation Text View Options - Civil View Options	Name for preferences Set Reference Preferences. Y Use Color Table Y Remap Colors on Copy Cache When Display Off Cancel Reload When Changing Files Save Settings to Save Changes Jenore Update Sequence Defaults Jenore Update Sequence Output Allow Editing of Self References Copy Levels During Copy: Set Default Attachment Preferences Snap Set Default Attachment Preferences Ignore When Live Nesting Manigulate as Element Use Lights Y True Scale Plot As 3D Y Save Relative Path
	✓ Irue Scale Plot As <u>3</u> D

9.3 - Attachment Properties

When the attach command is selected within the Reference dialog, a new Attach Reference dialog appears. From this dialog a user can select a file for attachment and specific properties on how that file is attached.

Attach Referen	nce - C:\SPENCE	R_MISC\CADD_C	COORD\test\CADD\					2 🛛
Look jn:	CADD			• 6) 🌶 🖻 🖽	- 3	۲	2D - V8 DGN
My Recent Documents Desktop My Documents My Computer	GEOPAK GEOPAK GOPAK GOPOIDS Crodbs Crodbs Crodbs Crodbs OI-EFLHD_bdr. OI-NC 2011-1(OI-NC 2011-1()	1)_des.dgn 1)_dxs_dgn 1)_dxs_Site1.dgn 1)_pro.dgn 1)_sym.dgn 1)_wrk_PIPE5.dgn (1)_ttl.dgn (1)_ttl.dgn (1)_loc.dgn)_typ.dgn)_qty.dgn)_g&p.dgn	🔊 Work Profile.dgn					Attachment Method Interactive
	Sur_ft2D.dgn test.dgn File <u>n</u> ame: Files of <u>type</u> :	01-NC 2011-1(1)_ CAD Files (*.dgn,*	.dwg;*.dxf)		v	<u>Optic</u>	cel	

9.3.1 – Attachment Method

The Attachment Method sets the view of the model being attached. Each method has an effect on how and where the model is placed into the active drawing.

- Interactive Opens the Reference Attachment Settings dialog box for each file selected. This method allows placement of a model that is not geographically located with the active file. An example of use with the Interactive model would be when attaching a profile drawing to a plan and profile sheet.
- Coincident Aligns the references with regard to design plane coordinates only.
- Coincident World Aligns the references with the active model with regard to both Global Origin and design plane coordinates. (This method is recommended for most attachments, especially when attaching overall design or survey files.)

• Top (3D files: Right, Front, Isometric, Bottom, Back, Left, Right Isometric) — Sets the views used to attach the reference. If the file being attached is 2D, you can choose only the Top view.

It is necessary to use either Coincident or Coincident



World methods when developing design which may be used for control, staking, coordinates, stationing or offsets, etc.

Scaling, rotating or moving referenced files removes the ability to obtain accurate control and/or quantities from design files and is not recommended.

9.3.2 – <u>Relative Path</u>

For Architect-Engineer (A/E) consultants, saving the relative path when attaching a reference file is particularly important. If this setting is on, the relative path to the DGN file that contains the model/file to attach is saved in the attachment data. This is recommended if you do not expect the internal directory structure of your workspace's project component to change, but the overall location of the file does change. This is the case when final electronic files are delivered to EFLHD and put on their CADD server. EFLHD recommends that all files are attached with the "Save Relative Path" toggled on. Additionally, this is another reason why following the directory structure for EFLHD projects is mandatory.

9.3.3 - Nesting Depth

When a MicroStation design file used as a reference has its own attachments, they become nested references. The links between these files can be maintained through many levels (depths) of nesting, so that if you open only one file, you can view the contents of many files. The individual references can be updated, and the changes will be shown in the master (or parent) file. When you attach a parent reference to your model and turn on live nesting, you can also control how many levels of nested references are attached to the model.

Once a model/file is referenced, it can be highlighted and then the nesting properties changed. This can also be done when attaching a model with the Interactive Method.

References (1 of 1 unique, 1 displayed)		
<u>T</u> ools <u>S</u> ettings		
`≣ - 📴 😪 🗅 🛒 🗇 🗁 🗗 🗗) 🚹 🚼 🛱 📳 🕲 🗙 Hilite Mode: 🛛 None 🕞	
Slot 🏹 🏲 🛅 File Name	Model Description Logical Orie Presentation 💽 🎜 🦎 🔒	<u>A</u>
1 🗸 test.dgn	US_Sur_ft2D Global Origin aligne 2 Coir Wireframe 🗸 🗸 🗸	\sim
Scale 1.000000 : 1.000000	Botation 00°00'00'' Offset X 0.0000 Y 0.0000	
<u>G</u> eoreferenced: No ■ Solution (No ■ Solution (No	No Nesting Allow Overrides Depth: 1 New Level Display: Config Varial Live Nesting Conv Attachments	ble 💌

The V8i CPG does not control the use of nesting. If properly used, nesting can be a good solution. However, if used incorrectly nesting can create errors within a MicroStation file. If nesting is used, EFLHD recommends maintaining a simple use of the feature. Levels of nesting should normally not exceed 2. Additionally, do not use nesting when the parent file references itself. Doing this may cause nested loops, which can make a file inoperable.



EFLHD does not recommend using nesting levels that exceed 2. Additionally, loops or complexity can be a result when a file references itself and nesting is used and therefor is not recommended.

9.4 – Motif Files

A "Motif" is a MicroStation file that establishes "Settings" for reference file attachments. Reference file displays and level displays can be fixed to be used in the production of grouped plans (i.e. Erosion Control Plans, or P&P sheets). Motif files can be an enormous aid in plan production because the user can manipulate a single file that affects the appearance of multiple sheets all at once.

The standard practice for creating Motif files is to have one file without containing any active elements. All reference files that are needed for plan production are attached. Then, all level and display settings are made to those references. Once this Motif file is referenced with Live Nesting = 1, all desired files and levels are correctly viewed.

It is highly recommended to not use a design file for the purpose of a Motif. In a design file, changes occur regularly and this can change plans sheets to be incorrect. Once a Motif file is created and properly set, no additional modifications are needed.

9.5 - True Scale

The most common way to attach a reference is to attach it coincidentally, which means that the coordinates of the referenced model's design plane, and optionally its Global Origin, are aligned with those of the active model, without any rotation, **scaling**, or offset.

EFLHD recommends that a user turns on True Scale to set the units in the active model to align one to one with units in the reference. Understandably, this will not always be the wanted result. Sometimes scaling a reference file is needed. An example is when referencing a model within a detail or when attaching a border sheet.

9.6 – <u>Update Sequence</u>

When updating a view, MicroStation follows the following update sequence by default: the active model, and then the references in their attachment order. A user can customize the update sequence used with the active model using the Update Sequence dialog box. The customization capability is used to prioritize the display of overlapping elements. The importance of this feature mostly is exercised when a design or plan sheet has a shape or area type element.

An example of its use would be on a construction phasing detail where a shaded shape was placed to designate a specific phase during construction. The shape would be placed on the bottom of the sequence where the design line work and text were above and on top of the shape to be displayed.

The sequence for reference file updates can be modified from the References dialog by choosing **Update Sequence**.

Up	date Sequence		
Slo	ot File Name	Model	Logical Name
1 2	test.dgn test.dgn 01-EFLHD_bdr.dgn	US_Sur_ft2D US_Sur_ft2D US Customary Border	Active Design File 2 2-1
3	A02-NC 2011-1(1)	US_Sur2D	2-2
	Default	<u> </u>	Cancel

9.7 – Annotation Scale in References

EFLHD highly recommends the use of Annotation Scale when placing text, notes, and dimensions. Using this ensures the correct styles and scales. The reference file support of Annotation Scale is new in MicroStation V8i.

Now the active model's annotation scale applies to annotations in references, too. If you change the scale of the annotations on the sheet, the scale of the annotations in the references changes as well. To make a reference's annotations use the active model's annotation scale, the option must be turned on.

In the References dialog there is a new column named Use Active Annotation Scale. If the setting for annotation scale is not visible, "Right-click" in the column headings and turn it on. To turn on this option for a reference, click in this column to make a check mark appear.

References (3 of 3 unique, 3 displayed)						
<u>T</u> ools <u>S</u> ettings						
Ē - 📴 😪 🗅 🕺 🗇 🗇 🖆 🍄	🔁 🐮 🛱	💾 🛈 🗙 💷	e Mode: None	~		
Slot 🏹 🏲 🛅 File Name	Model De	escription I	Logical C)rie Presentation	💽 🎜 🐧	I 🔓 🧘 🛛
3 A02-NC 2011-1(1)_sym.dgn	US_Sur2D GI	lobal Origin aligne	2-2 C	Coir Wireframe	\checkmark \checkmark \checkmark	
2 01-EFLHD_bdr.dgn	US Customa GI	lobal Origin aligne 🔅	2-1 C	Coir Wireframe	1 1 1	1
1 √ test.dgn	US_Sur_ft2D GI	lobal Origin aligne 🗄	2 C	Coir Wireframe	1 1 1	1
S <u>c</u> ale 1.000000 : 1.000000	Rotation 00°00	D'00'' Offset >	0.0000	Y	0.0000	
	Nesting 💌	Allow Overrides	Depth: 1	Ne <u>w</u> Level D	isplay: Confi <u>c</u>	Variable 💌
<u>G</u> eoreferenced: No						

9.8 – Activate References for Manipulation

This will allow you activate an attached reference file (dgn) to make changes to that reference. This is done without opening the reference file.

1. Open the **References** tool.

You will see a list of all attached references.

References (3 of 3 unique, 3 displayed)						
Tools Settings						
🗄 • 隆 💁 🚿 🗇 🗇 🕈 🕯	් 🔂 🐔 ්	ù 🔛 🛈 🗙 E	lite Mode: Nor	ne 🔽		
Slot 🕤 😚 📘 🚹 Rame	Model	Description	Logical	Orie Presentation	• 🎿	K 🔓 🚣
3 / 02-NC 2011-1(1)_sym.dgn	US_Sur2D	Global Origin aligne	2-2	Coir Wireframe	\checkmark \checkmark ,	\checkmark
2 1-EFLHD_bdr.dgn	US Customa	Global Origin aligne	2-1	Coir Wireframe	\checkmark \checkmark .	\checkmark \checkmark
1 vist.dgn	US_Sur_ft2D	Global Origin aligne	2	Coir Wireframe	V V .	~ ~
Scale 1.000000 : 1.000000	Rotation 0	0°00'00'' Offse	t <u>×</u> 0.0000	Y	0.0000	
Georeferenced: No	No Nesting	Allow Overrides	<u>▶</u> Depth: 1	Ne <u>w</u> Level D	isplay: Conf	ig Variable 💌

2. The third column in the tool box is the **Activate Status** setting. Highlight the reference file you want to activate. (all other references become grayed out)

3.

Double-click the highlighted file in the Activate Status column.

Elements in the activated reference file can now be modified, as if you had opened that file. D03-vi30(35)_p&p.dgn [2D - V8 DGN] - MicroStation V8i (SELECTseries 2) AUX_02 💌 📃 7 • 🚟 0 • 🚍 2 • 🚱 0 • 🖄 0 • 4. When finished, Ele Edit Element Settings Loois Utilities Worlspace Applications Window Help lew 1, US_Sur_ft2D (01-vi30(35)_c2 double-click the 0 4 · 1 9 9 8 1 1 4 0 Activate Status **N**, **₽, ₽, ₽, ₽, ₽, ₽, ₹** ₩*₽, 14* **4 2**, column again to C D release the 4 reference file. 1 -You will be asked . if you are sure you 2 8: Sewer Workfl want to release +NN the file: HL 0000 0 13 21 Alert 3 3 8 Are you sure you want to release the write lock for this 9 reference? ABC A AND THE 1 The B I I I Not Hille Mode. Non You will be unable to undo any changes prior to the last change メ # to that file. • vi30(35]_c2_des.dg IS_Sur_R2D 0 US_SurJD US_Sur_R2D US Customa... vi30(35)_c2_wrk.dgn vi30(35)_C2_bdr_p&p.dan Do not display again. 1111 <u>0</u>K Cancel 114 9 11 2 -2 4 DTM Tools 😋 • 😳 - 🍐 • 🖆 US_SUE 020 VIN 🕶 🔂 🖬 2 3 4 5 6 7 8 👘 🗖 D ction > Identify o J G ALK 0

Note that you will be unable to undo the changes you just made to the reference file.

These changes are reflected in the activated reference attached and any other files with this file attached.

If you do not "release" the activated reference file when exiting your file, the activated reference is considered to be an open dgn file.



This would mean, the file would be read-only when you attempt to open the reference file directly.

5. Hit **OK** to release the file.