

5 Detail Drawings

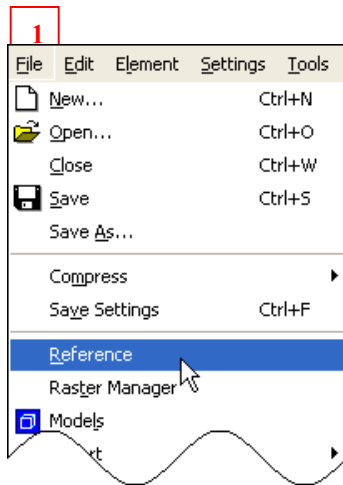
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5.1 Detail Drawings

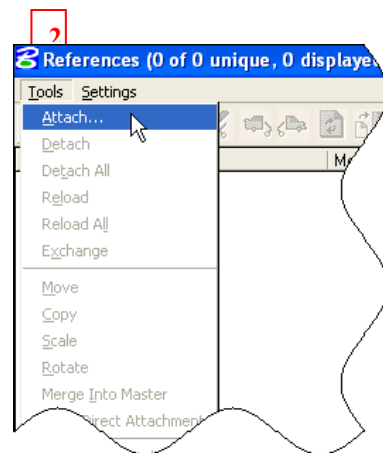
A Detail Drawing is an edition of a special drawing that remains static once it is merged into the Project File. A Detail Drawing includes detailed instructions for certain items of work.

5.1.1 Merging Detail Drawings

Merging a Detail Drawing ensures that certain elements remain consistent. These consistent elements allow Contractors and Project Managers to have identical plans after something has been edited in the Master Detail Drawing. To make a drawing static and merge it with the Project File follow the steps below.

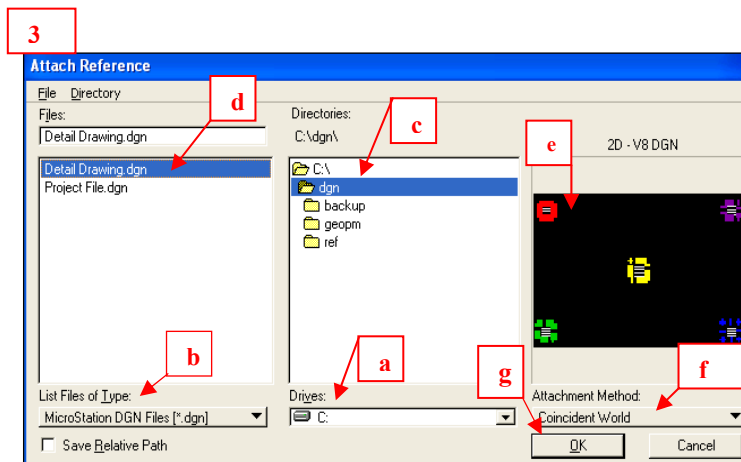


1. Move your cursor to the upper-left hand corner of the MicroStation Window and left click on File to open the menu. Move your cursor down the menu and left click on Reference. This will open the Reference Window, which will remain open until you close it manually.

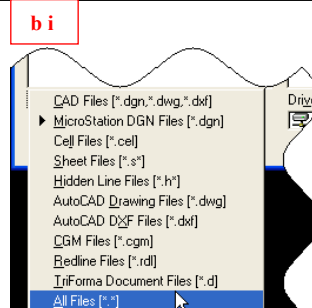
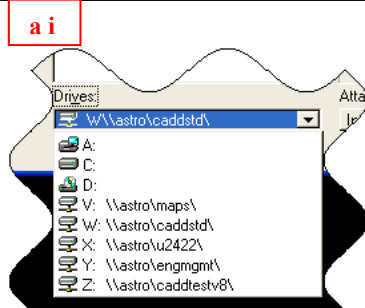


2. Move your cursor to Tools in the upper-left hand corner of the

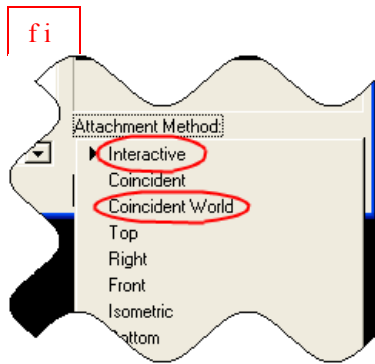
Reference Window, and left click to open the menu. Move your cursor down the menu to Attach, the first option on the drop down menu, and then left click on Attach. This will open the Attach Reference Window.



3. To find your desired detail drawing you want to attach, you must browse the Attach Reference Window. First make sure that MicroStation is searching under the correct drive to find your desired file. If you need to change the drive under which you are searching, left click in the lower-middle section of the Attach Reference Window anywhere on the white bar or down arrow under the text Drives:. (a) A menu will appear listing the A:\, C:\, and D:\ drives, along with any other drives that are mapped out on your



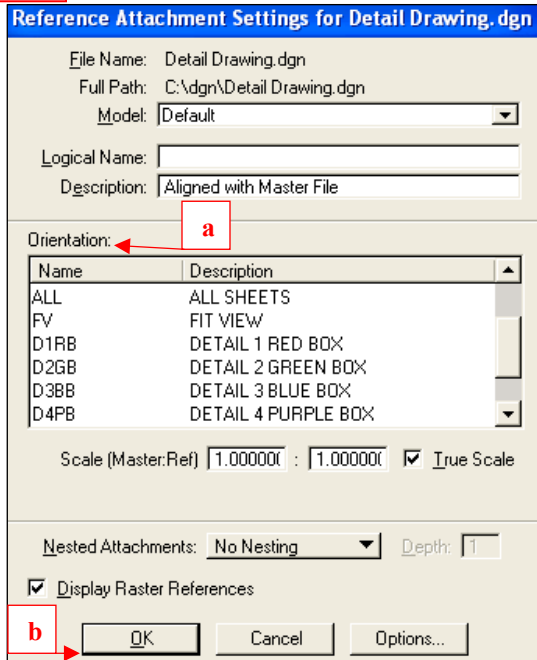
computer. Select the appropriate drive by moving your cursor along the menu until the right drive is highlighted, and then left click. This will select the drive. (a i) Now you need to make sure that MicroStation will look for the proper file type. In the left most third of the window, left-click on the bar, under the text List Files of Type: (b i) This will open up a menu. (b i) Scroll through the menu until you find the correct file type. If you are unsure of which file type you are looking for, or the file type you need is not listed, select All Files [*.*] at the bottom of the menu. Once you have the right drive and file type selected, then you must browse the file tree in the under the file **Directories**, located in the center pane of the Attach Reference Window. (c) To select a file to open, move your cursor over the file and double-click the left mouse button. This may show the appropriate files in the leftmost pane section of the Attach Reference Window, (d) or you may have to navigate further into the file tree. If you go too far just double-click the left mouse button on a file higher up in the file tree to back up to that file. When you find the right folder with the file you want, click on the file name in the leftmost pane, (d) and a preview of the file should appear in rightmost pane of the Attach Reference Window. (e) Then you must choose the Attachment Method by clicking on the bar in the lower-right



corner of the Attach Reference Window, under the text Attachment Method. (f) This will open a menu. (f i) At MDT the only options that are used are Interactive or Coincident World. Interactive allows you to choose where in the view the detail drawing will appear as well as select which Saved Views will be used, which will be explained in Step 4. Coincident World places the detail drawing at a predetermined x, y coordinate within the view. Select the appropriate attachment method by moving your cursor over it until it highlights and then left click the mouse. Once the Attachment Method has been selected left click **OK**. The Attach Reference Window will automatically close. (g)

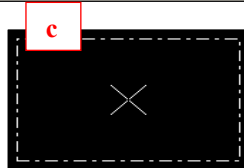
- If you are selecting Interactive, go to Step 4.
- If you are selecting Coincident World, go to Step 5.

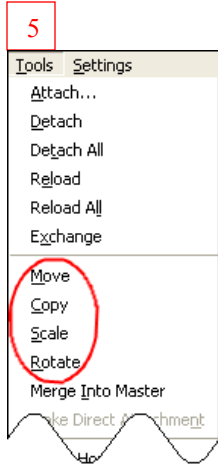
4



4. Within the Reference Attachment Settings for Detail Drawing Window are all the Saved Views, or previously set sections of a larger drawing. To find the Saved View that you need, use the scroll bar to the left of the central pane under the text **Orientation:** until you find your desired Saved View. (a) Left-click on your desired view, and then left click to **OK**. (b) The Reference Attachment Settings for Detail Drawing Window will automatically close. Now your cursor, when it hovers over the view, will have changed to an X surrounded by a dotted line. (c) Left click on the View where you want the Detail Drawing to be placed.

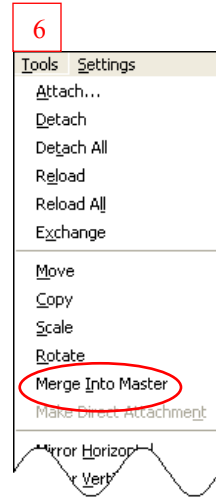
- If the Detail still needs adjusting, go to Step 5.
- If the Detail is as required, go to Step 6.





5. Go back the Reference Window. In the main pane of the Reference Window, left-click on the Detail that you want to adjust. Left-click on **T**ools in the upper-left corner. You have four adjustment options in the second section of the menu. **M**ove allows you to change the position of the Detail. **C**opy allows you to create a duplicate of the Detail. **S**cale allows you to enlarge or reduce the size of the Detail. **R**otate allows you to turn the Detail at an angle.

6. To disconnect the Detail from the original file and make it part of your project file. Go back to the Reference Window, left-click on the Detail that you want to make part of your file. Left-click on **T**ools in the upper-left corner. Then move you cursor down the menu and left click on **M**erge **I**nto **M**aster. Then you must left click anywhere on the View to finalize the merge. An Alert Window may pop up, (a) making sure that you want to merge the detail. Left click **O**K.



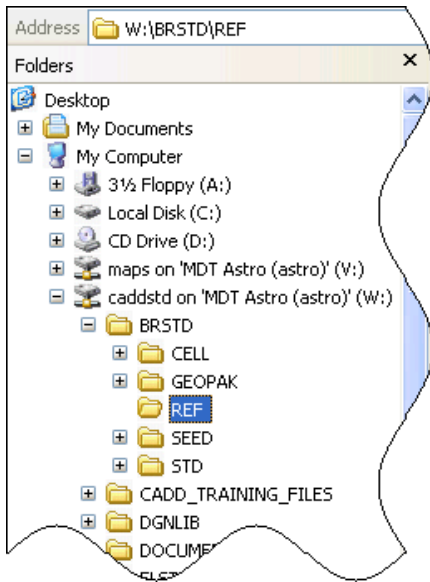
Now you have Merged the Detail Drawing into your Project and the elements will remain unaffected by changes made to the parent file. Further, unlike a reference file, the user can alter a merged Detail Drawing.



5.2 Detail Drawing by Section

5.2.1 Bridge Bureau Standard Detail Drawings

The Bridge Standard Detail Drawings can be found in W:\BRSTD\REF.



Reference file name	Types of notes and details
EREF.REF	Standard English notes and details
MREF.REF	Standard Metric notes and details

5.2.1.1 Saved Views in EREF.REF and MREF.REF

Saved View	Description
ABAR	ANCHOR BOLT ASSEMBLY
ABD	ANCHOR BOLT DETAIL
BDR TOD	BRIDGE DECK REPAIR AND THIC
BEAMDE	BULB T BEAM DETAILS
BED	BARRIER END DETAIL
BJCD	BULB TEE JOINT CONNECTION
BOS1	BILL OF REINFORCING S
BOS2	BILL OF REINFORCING L
BTELEV	BULB TEE ELEVATION
BULBTN	BULB TEE NOTES
CSWP	CUTTING SHOE
DD	DIAPHRAM DETAIL
DETA	BULB TEE END BENT CONNECTI

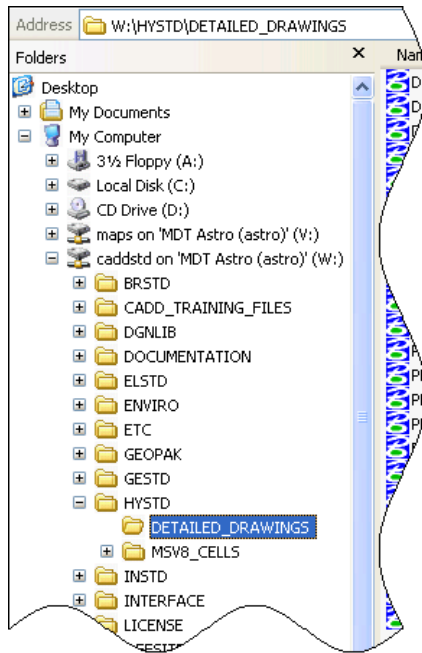
Saved View	Description
DP	DELAMINATION PLAN
DRNDC2	DRAIN DETAIL CONC.1 20
DRNDC3	DRAIN DETAIL CONC.1 30
DRNSTP	DRAIN DETAIL WITH STRAP
DWG	STANDARD BORDER
EBNOTE	END BENT NOTES
FLTPSP	FLUTED PILE SPLICES
FPNOTE	FOOTING PLAN NOTES
FSD	BULB T FIXED SHOE
GAD	GUARD ANGLE DETAIL
GLNOTE	GENERAL LAYOUT NOTES
HPILE	HP PILE EXTENSION
HPWP	HPILE POINT
IBNOTE	INTERMEDIATE BENT NOTES
JCC	JOINT CONFIGURATION AT CURB

Saved View	Description
JSDC	JOINT SEALANT CONCRETE
JSDCN	JOINT SEAL NOTES CONCRETE
JSDP	JOINT SEALANT POLYMER
JSDPN	JOINT SEAL NOTES POLYMER
JSDS	JOINT SEALANT STEEL
JSDSN	JOINT SEAL NOTES STEEL
MECD25	MET EXP. CAP 25 DIA
MECD32	MET EXP CAP 32 DIA
MECD38	MET EXP. CAP 38 DIA
NAD	NOSE ANGLE DETAIL
OTCDD	OVERLAY TREATMENT AT CURB
OTDD	OVERLAY TREATMENT AT DECK
PPILE	PIPE PILE EXTENSION
RHNOTE	REHAB NOTES
RSPG	END BENT REINF GUIDE
SCJ	SLAB CONSTRUCTION JOINT

Saved View	Description
SEMAS	STEEL EDGE MEMBER
SLD	SPIRAL LAP DETAIL
SPS	SLAB POURING SEQUENCE
SSD	SHEAR STUD DETAILS
TBD	TIE BAR DETAIL
TFENOT	ELASTOMERIC PAD NOTES
TRP	T101 REINFORCEMENT
WD	WATERSTOP DETAIL
WTCD	WELD TIE CONNECTION DETAILS
bed2	barrier end for median barrier
bed3	barrier end for median barrier new construction
cdp	conical driving point
epnote	erection plan notes
pg	profile grade examples

5.2.2 Hydraulics Detail Drawings

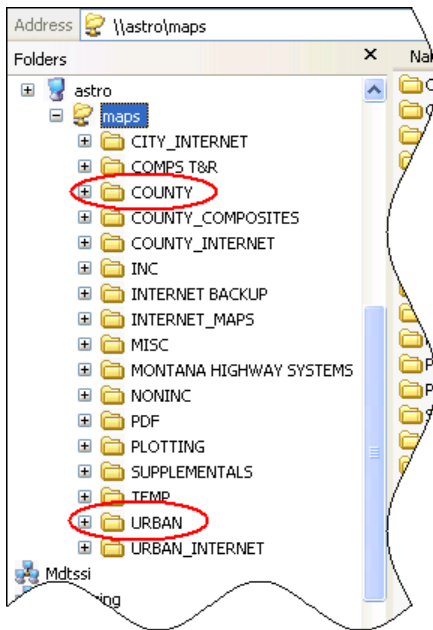
The Hydraulics Detail Drawings can be found in W:\HYSTD\DETAILED_DRAWINGS.



Reference file name	Types of notes and details
DBLBOX.DGN	Detail of double cell reinforced concrete box culvert. (English units)
DBLBOXM.DGN	Detail of double cell reinforced concrete box culvert. (Metric units)
FISHHYDET001.DGN	Detail of fish passage design at road culverts. (Metric units)
HDSE.DGN	Hydraulic data summary. (English units)
HDSM.DGN	Hydraulic data summary. (Metric units)
HYDFRAMES.DGN	Drop inlet relocation detail. (Metric units)
IRRSYPE_V8.DGN	Irrigation siphon detail. (English units)
IRRSYPM_V8.DGN	Irrigation siphon detail. (Metric units)
PREBOX.DGN	Single cell reinforced concrete box culvert. (English units)
PREBOXM.DGN	Single cell reinforced concrete box culvert. (Metric units)
RIPRAPAPRE.DGN	Outlet riprap apron detail. (English units)
RIPRAPAPRM.DGN	Outlet riprap apron detail. (Metric units)
SYPHONE_V8.DGN	Siphon pipe detail. (English units)
SYPHONM_V8.DGN	Siphon pipe detail. (Metric units)
TRANSI.DGN	Pipe transition detail. (English units)
TRANSIM.DGN	Pipe transition detail. (Metric units)

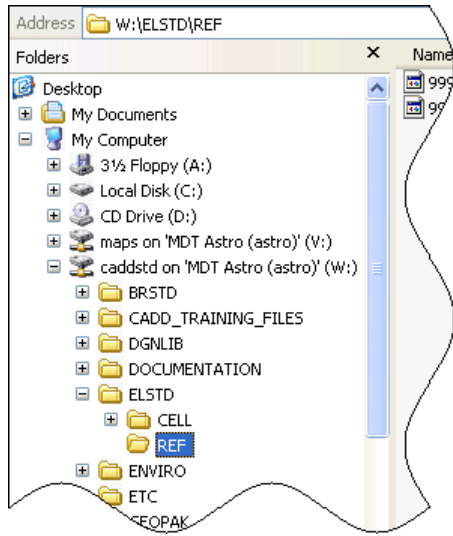
5.2.3 Road Design Detail Drawings

Road Design Detail Drawings can be found in the [\\astro\maps](#) drive, under either the COUNTY or URBAN folder. Road saves the county maps as .CNT files and urban maps as .URB files.



5.2.4 Traffic Electrical Detail Drawings

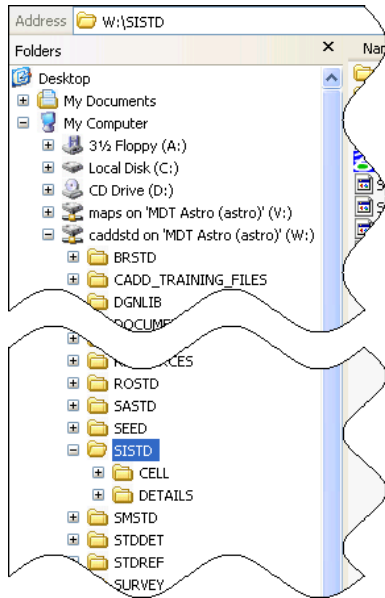
The Traffic Electrical Detail Drawings can be found in W:\ELSTD\REF.



Reference file name	Types of notes and details
9999ELDETENG.REF	English Batch Print/Plot Borders
9999ELDETMET.REF	Metric Batch Print/Plot Borders

5.2.5 Traffic Signing Detail Drawings

The Traffic Signing Detail Drawings can be found in W:\SISTD\DETAILS



Reference file name	Types of notes and details
MPLANSHE.TRS	Metric Signing & Pavement Marking Details
MPLANST2.TRS	Metric Signing & Pavement Marking Details
PLANSHEE.TRS	US Customary Signing & Pavement Marking Details
PLANSHT2.TRS	US Customary Signing & Pavement Marking Details