Appendix E – Auxiliary Applications
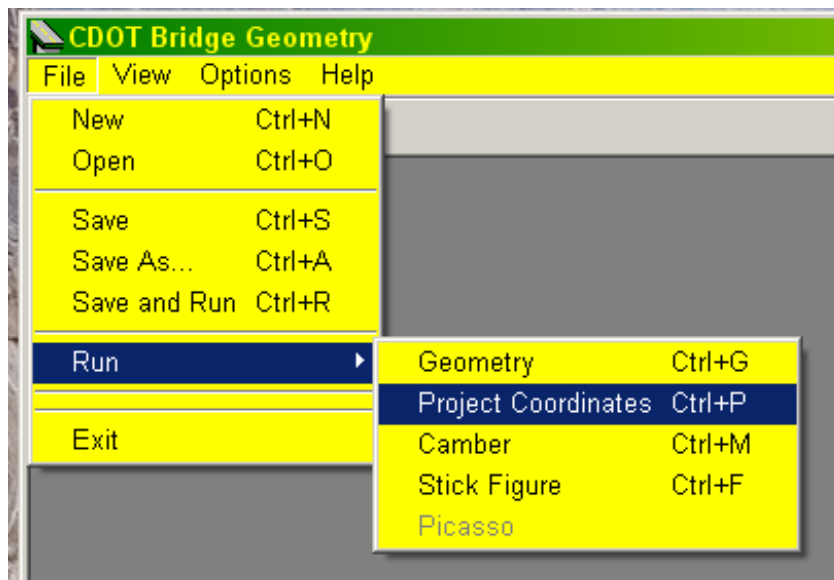
1. PROJECT COORDINATES APPLICATION

This application shall be run for all projects to provide coordinates on the deck elevation drawing sheets.

The Bridge Geometry program needs to be run first to produce a .lis file. Do not edit this .lis file prior to running Project Coordinates application.
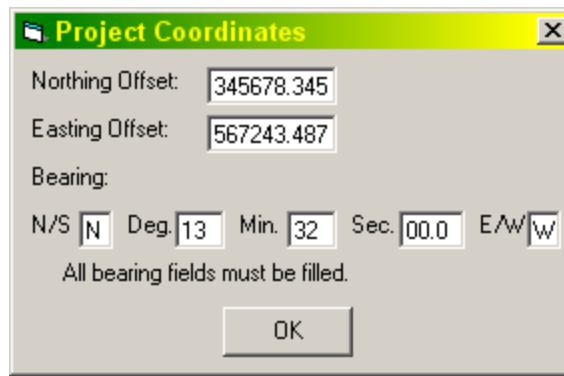
File names and folder names in the path must follow the MSDOS convention: no more than 12 characters including the dot and the file extension, which limits the file name to eight characters. Spaces and most ASCII characters (#, $, ^, *, <, etc.) will not work with the MSDOS file names, but underlines (A_B) will work. The Windows desktop is a temporary workable location for files.

To use the application, the State Plane Coordinates of the intersection of the Layout line and the Reference line in the Bridge Geometry must be determined, as well as the bearing of the Layout line. Coordinates may be determined mathematically from a COGO output obtained from the region, graphically from the roadway line sheets, or by graphically inputting the pertinent data into a CAD drawing. The bearing may be determined using the same general method.

To run the application, go to the Bridge Geometry input window, click on File, then Run, then Project Coordinates.

In the Project Coordinates window enter the Northing and Easting coordinates, and the bearing of the layout line. Use explicit decimal points in the Northing and Easting, and in the seconds portion of the bearing. All fields must be filled. Click OK.

In the Select Output file, select the desired *.lis file, and click on Open. The *.pcf file will appear in the same folder with the same file name, but with the *.PCF suffix.
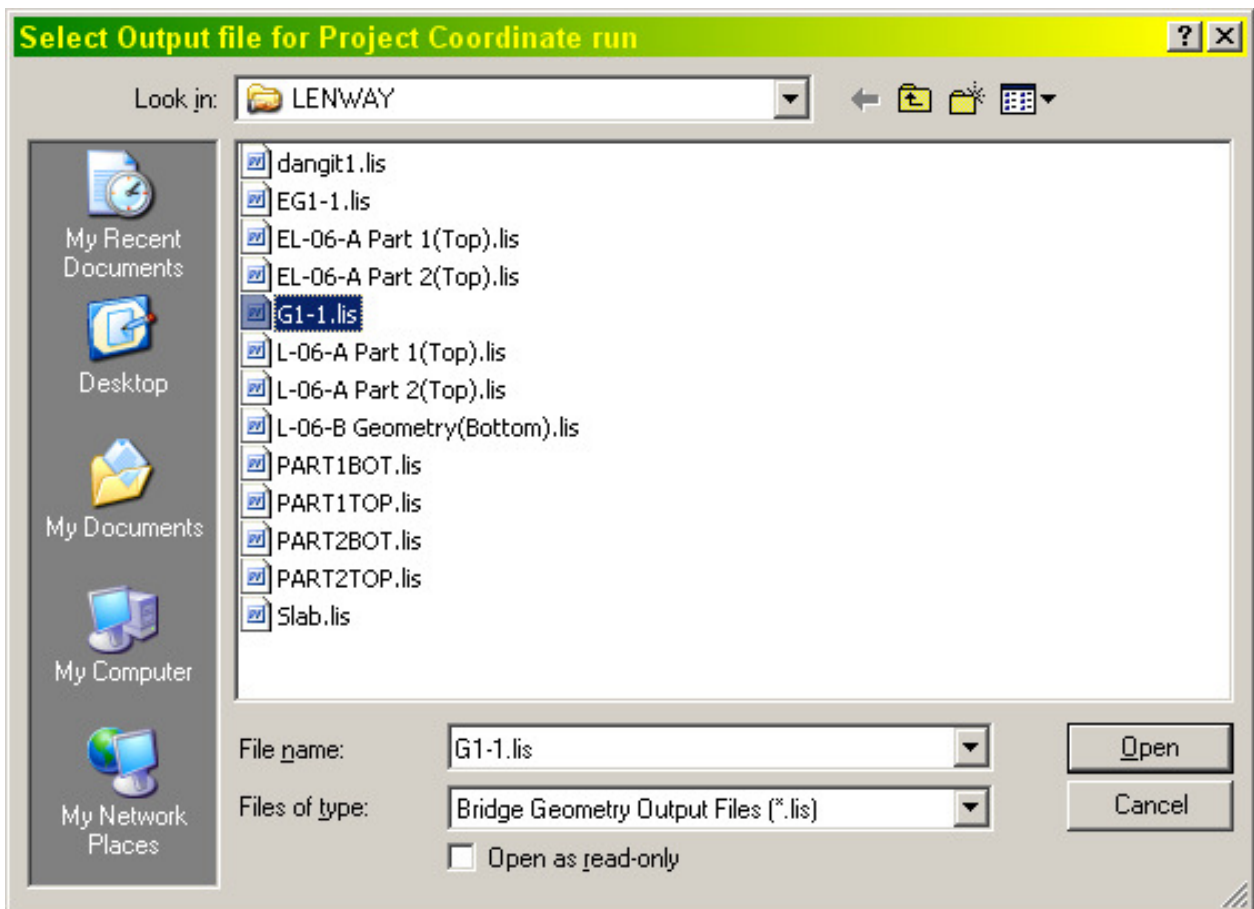
2. CAMBER APPLICATION

This application is for developing camber cutting and blocking information for steel bridges for fabrication shop use only.

File names and folder names in the folder path must follow the MSDOS convention: no more than 12 characters including the dot and the file extension, which limits the file name to eight characters.   Spaces and most ASCII characters (#, $, ^, *, <, etc.) will not work with the MSDOS file names, but underlines (A_B) will work. The Windows desktop is a temporary workable location for files.

First, run Bridge Geometry.

- Code girder lines with girder names containing "GIR" and the number for the girder such as CL GIRDER or GIR 3. The camber utility will not run with the alpha girder designations; they should be edited into the camber output
- Code abutment lines as CL ABUT and the number
- Code splices as CL SPL and the number
- Run Bridge Geometry with total dead load deflection at 10th or 20th points.
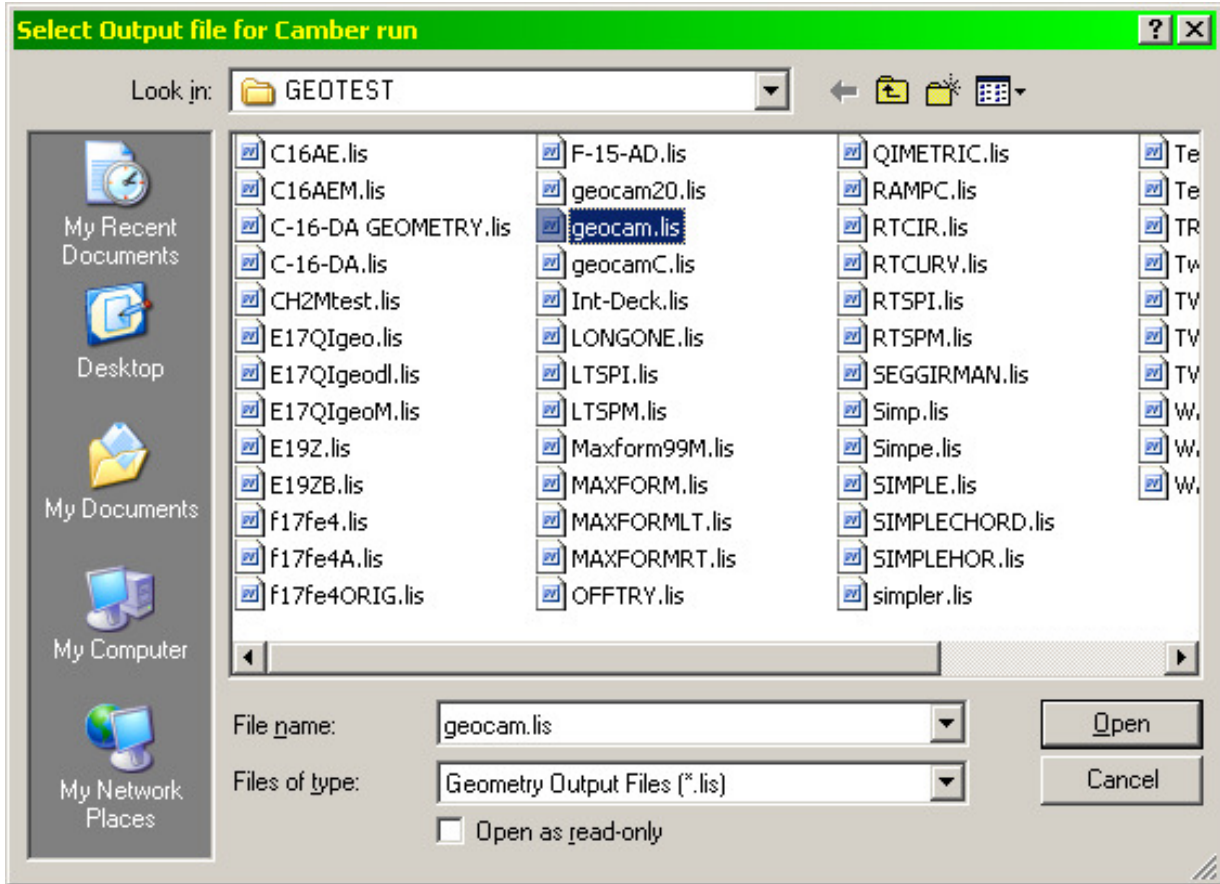
Then, run Camber by selecting "File", "Run" and then "Camber" from the Bridge Geometry Menu
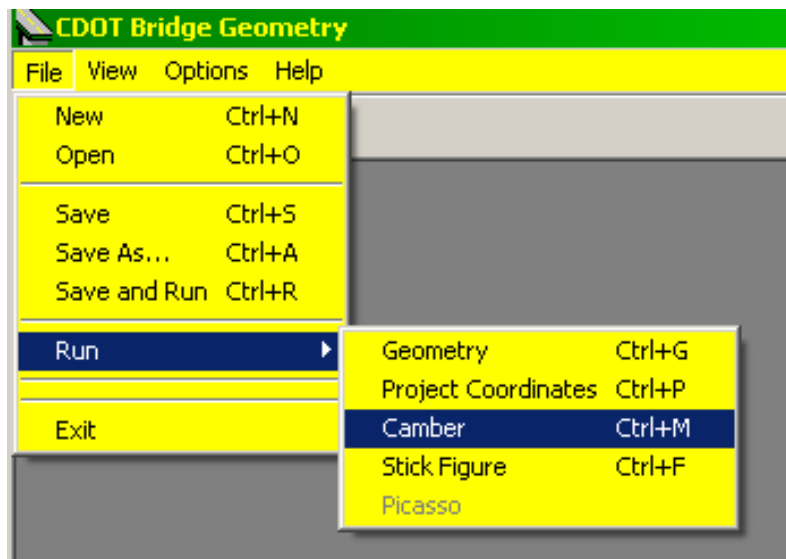
Input girders desired for Camber run (there is no prompt for available girder numbers).
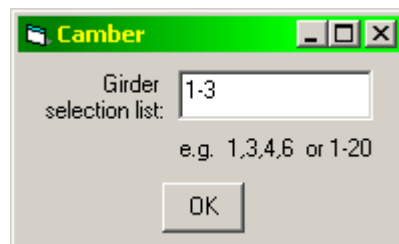
Select the *.lis geometry file from the geometry run. The camber output file will have the same name as the input file with a .out suffix. There will be no message that the program has finished.

3. STICK FIGURE APPLICATION

This application is for creating a 3-dimensional wireframe model from a Bridge Geometry run. It may be used to see if everything looks "right", i.e. a graphical approach to check input. It may be also used as a layout guide for superstructure and bent layouts.

File names and folder names in the folder path must follow the MSDOS convention: no more than 12 characters including the dot and the file extension, which limits the file name to eight characters.   Spaces and most ASCII characters (#, $, ^, *, <, etc.) will not work with the MSDOS file names, but underlines (A_B) will work. As an alternative, the *.lis may be copied to the Windows desktop as a temporary workable location for files.

Step 1- Run Bridge Geometry.

In order for the longitudinal lines and bent lines to be produced by the Stick Figure application, the Bridge Geometry input file will have to contain certain codes, as shown below:

- Longitudinal lines shall CONTAIN the following codes as enclosed by quotes

Command Name	*Codes*
Outside line	"RIGHT OUT"
	"LEFT OUT"
Girder line	"GIR"
Curb line	"RIGHT CURB"
	"LEFT CURB"
Control line	"CONT"
	"CTRL"
Center line bearing	"CL BRG"
Center line bottom (girder, etc.)	"CL BOTT"
Centerline Expansion device	"CL EXPN"

- Bent lines shall BEGIN with the following codes as enclosed by quotes.

Common name	*Codes*
Intermediate points	"F", "D", "E", "X"
Splice points	"SP"
Center lines	
Abutment	"CL ABUT"
Bearing	"CL BRG"
Pier	"CL PIER"
Diaphragm	"CL DIA"

Temp bent line	"CL TEMP"
Wing walls	"WW"
Retaining walls	"RET"
Flange	"FLANGE"
End	"END"
Back Face Abutment	"BF ABUT"

Note that Stick Figure runs in the MS-DOS format, which means that files and folders are limited to 12 characters, with no spaces or special characters.

Step 2 - Run Stick Figure by selecting "File", "Run" and then "Stick Figure" from the Bridge Geometry Menu
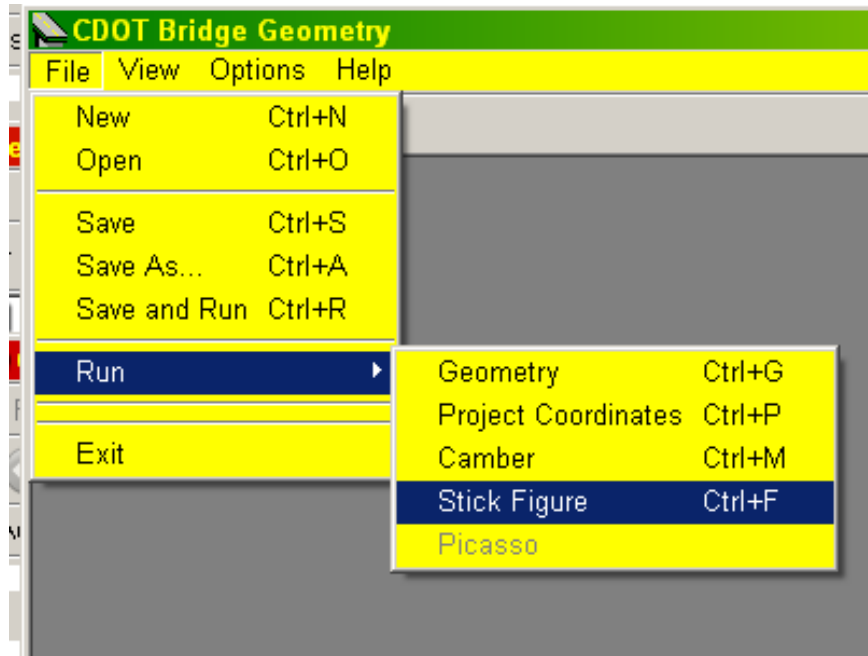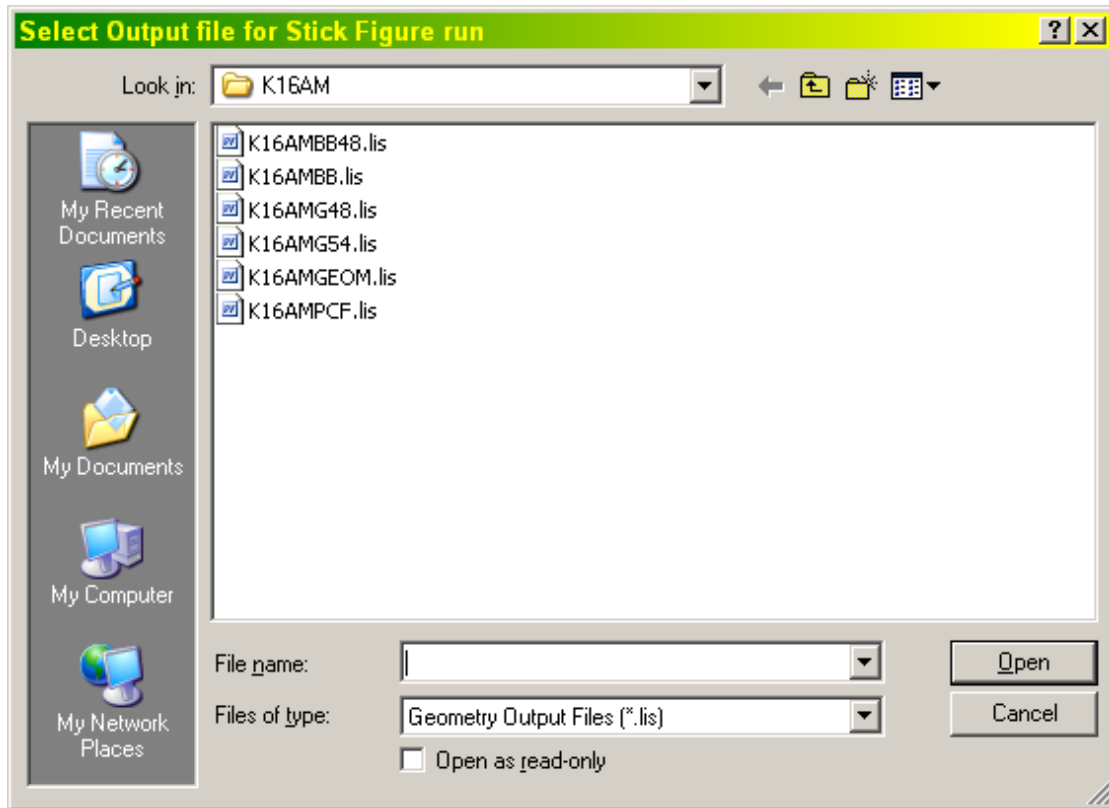

This will result in a few output choices; while AutoCAD Script is preferred for AutoCAD, AutoCAD DXF will also work. AutoCAD DXF is the only choice for MicroStation. The other two choices were formats for applications long departed.
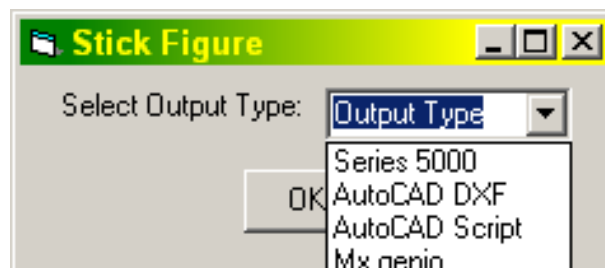
After making the selection, click "OK".

This results in a list of available *.lis files.

Choose the one of interest and click on "Open". This creates a file in the same directory and the same name, but with a .DXF or .SCR file extension. There will be no confirmation that the job is finished.

Step 3 - Place in a graphics file

For MicroStation, double-click on the DXF file. This results in a graphics file with the same filename and the .DXF extension. Save this with a .DGN extension   For AutoCAD simply drag and drop the .DXF or . SCR file into a blank AutoCAD screen, and save to a desired filename.