

Exporting Shapefile Elevation Data to AutoCAD in ArcGIS 10.2.2

Florida - ASPRS

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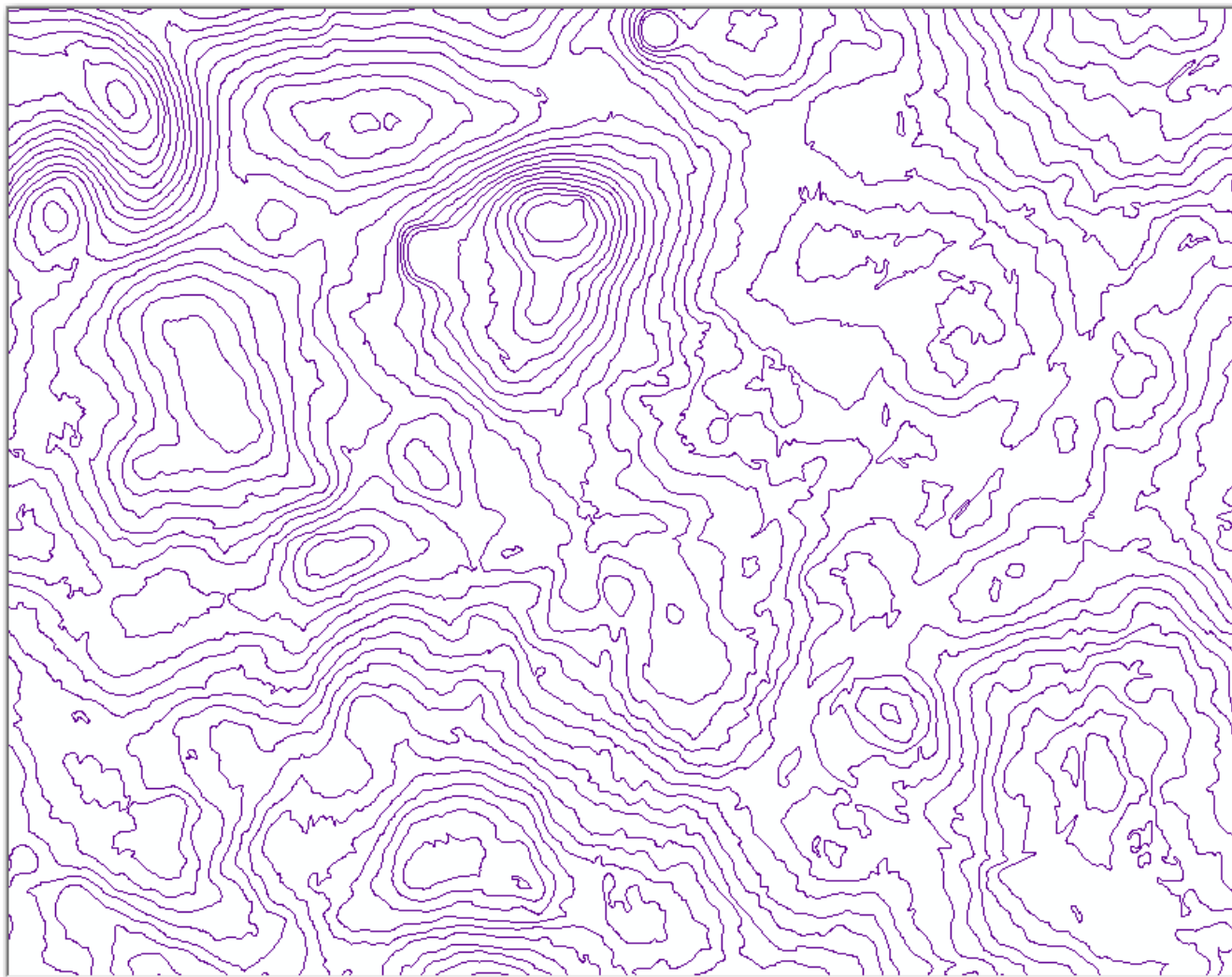
SWFWMD Disclaimer:

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As with all Geographic Information System workflows, multiple workflows may be used to accomplish similar results. The workflows presented in these Webinars represent the most common workflow used at the SWFWMD.

The District strongly recommends that all contour representations of surfaces be used for cartographic purposes and not for measurements, engineering design, or Hydrological/Hydraulic Modeling.

Step 1 – Make and Smooth Contours



Step 2 – Check Attribute Table

Table

Smoothed Contours

FID	Shape *	Elev	LType
0	Polyline ZM	69	2
1	Polyline ZM	69	2
2	Polyline ZM	70	1
3	Polyline ZM	71	2
4	Polyline ZM	72	2
5	Polyline ZM	72	2
6	Polyline ZM	73	2
7	Polyline ZM	74	2
8	Polyline ZM	75	1
9	Polyline ZM	76	2
10	Polyline ZM	77	2
11	Polyline ZM	78	2

(0 out of 72)

Table

Smoothed Contours

FID	Shape *	Elev	LType	Length
0	Polyline ZM	69	2	558.611
1	Polyline ZM	69	2	6.424
2	Polyline ZM	70	1	825.179
3	Polyline ZM	71	2	1049.15
4	Polyline ZM	72	2	85.611
5	Polyline ZM	72	2	837.904
6	Polyline ZM	73	2	984.524
7	Polyline ZM	74	2	1081.638
8	Polyline ZM	75	1	1284.903
9	Polyline ZM	76	2	1768.627
10	Polyline ZM	77	2	1737.936
11	Polyline ZM	78	2	1779.456

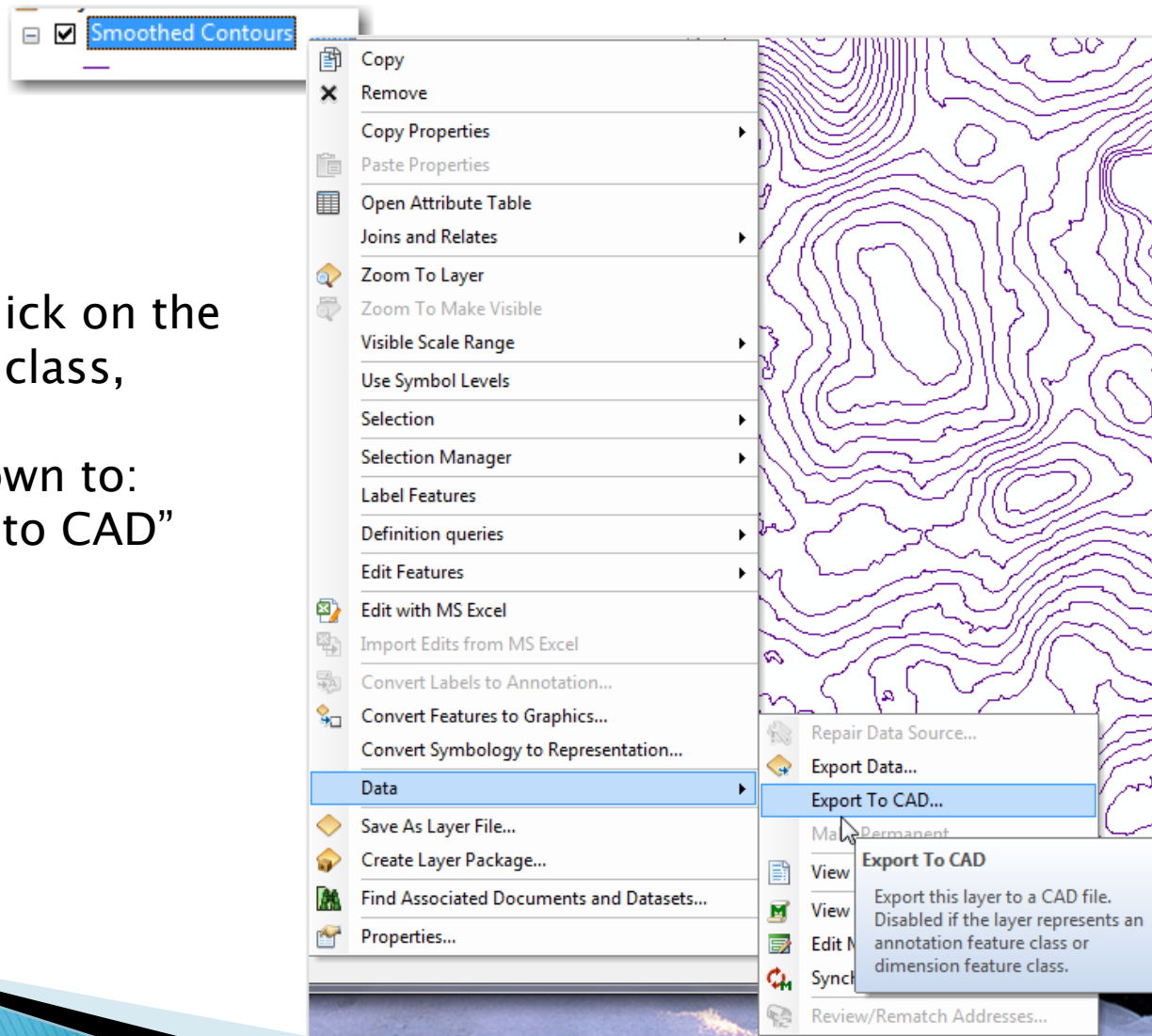
(112 out of 729 Selected)

Make sure that Elevation Field is present (and populated),
Select and Remove Contours < 150'

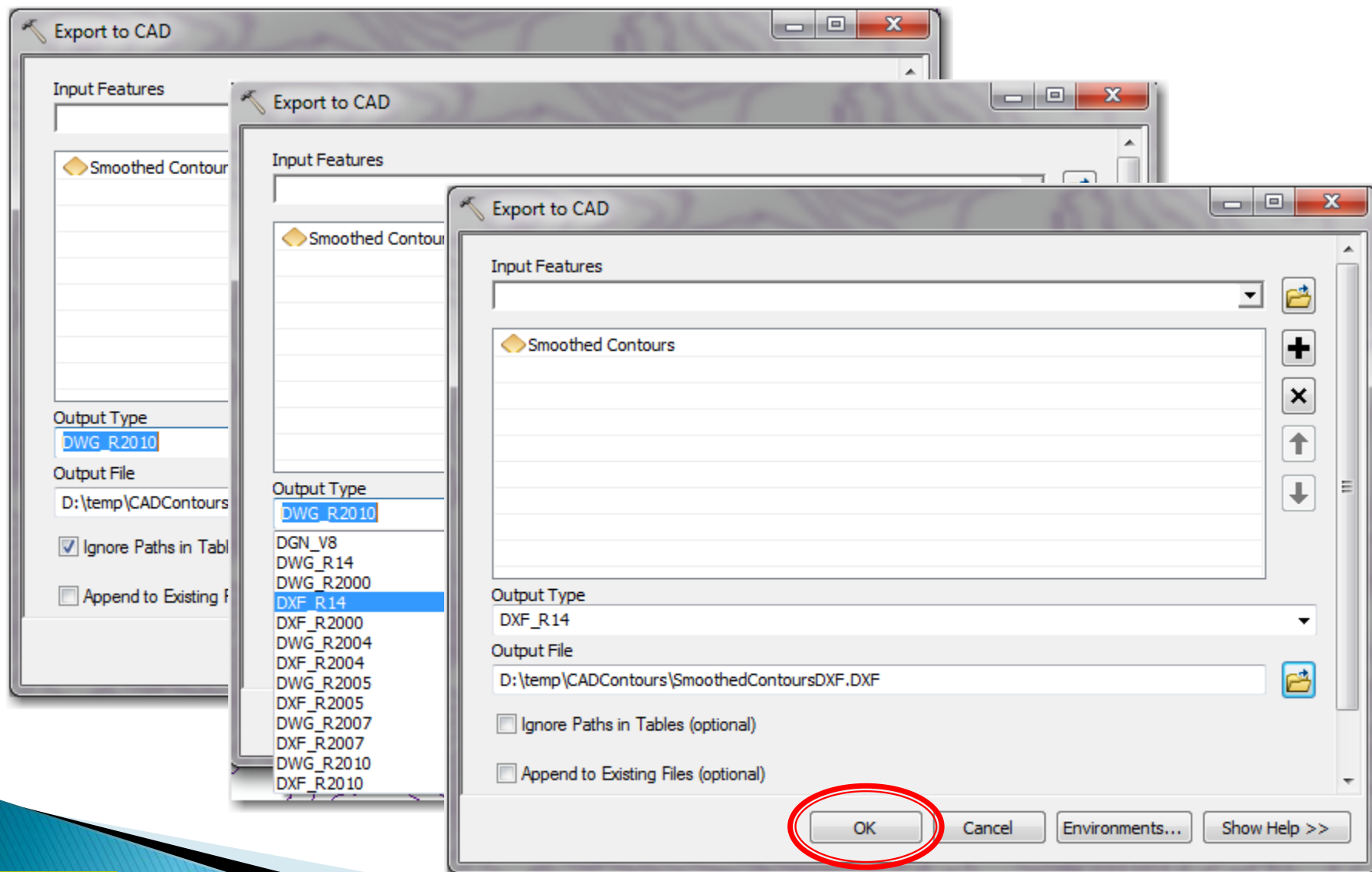
Step 3 – Export to DXF

Right-click on the
Feature class,

Drag down to:
“Export to CAD”



Step 3 – Export to DXF, con't.



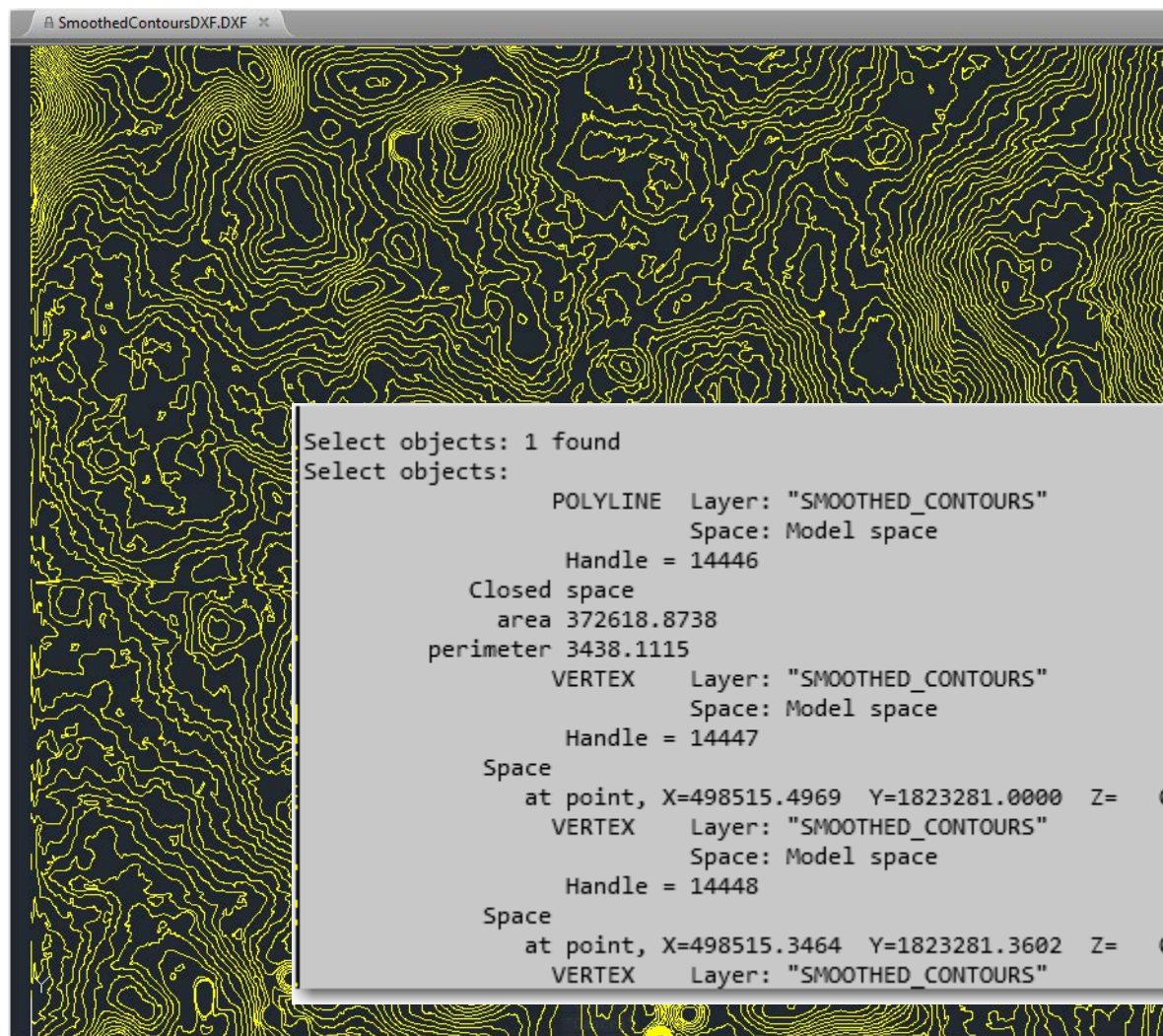
Step 4 – Examine Results

The screenshot displays a GIS application window. On the left is a 'Table Of Contents' panel with a 'Layers' list. The 'Layers' list includes 'Smoothed Contours', 'Contours1ft.shp', 'SmoothedCo...', 'Point', 'Polyline', 'Polygon', 'MultiPatc...', and 'Annotatic...'. The 'Polyline' layer is selected. In the center, a 'Table' window is open, showing a table with 10 columns: FID, Shape, Entity, Layer, Color, Linetype, Elevation, LineWt, and RefName. The table contains 12 rows of data, all representing 'Polyline' entities in the 'SMOOTHED_CONTOUR' layer. The 'Elevation' column for all rows is 0. At the bottom of the table window, it says '(0 out of 729 Selected)'. The background of the application is a topographic map with contour lines.

FID	Shape	Entity	Layer	Color	Linetype	Elevation	LineWt	RefName
1	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
2	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
3	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
4	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
5	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
6	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
7	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
8	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
9	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
10	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
11	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	
12	Polyline	3DPolyline	SMOOTHED_CONTOUR	206	CONTINUOU	0	25	

Oops... no “elevation” field in the CAD table!

Step 4 – Examine Results – AutoCAD

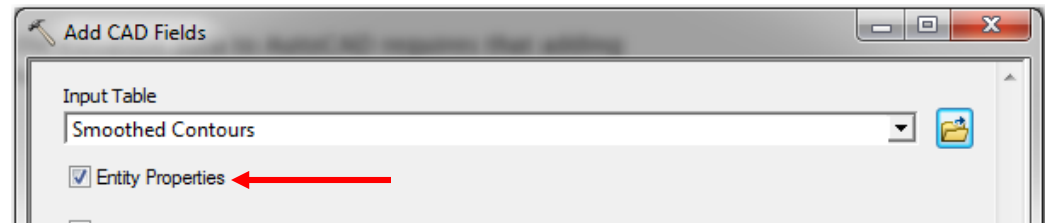
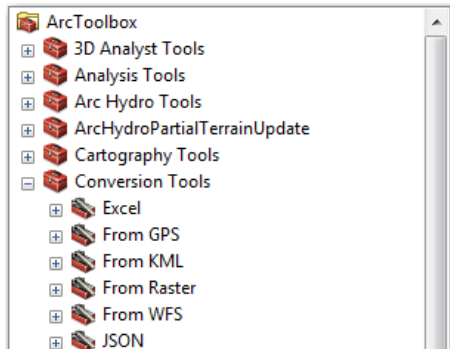


No Elevation Data, Again!

So... The EASY way does not seem to work.

Step 5 – Add AutoCAD Fields to the Esri Feature Class

To Export the elevation data to AutoCAD requires adding AutoCAD fields to the Esri shapefile table.

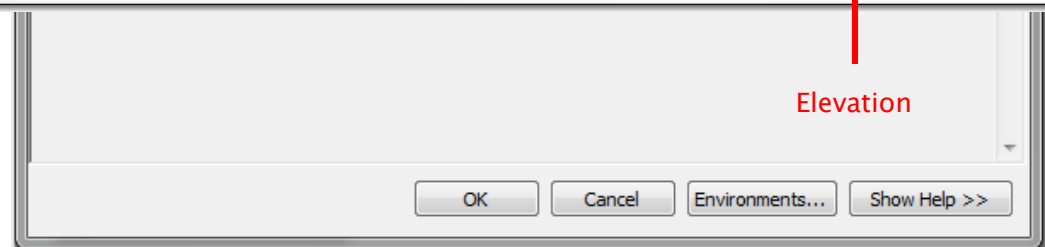
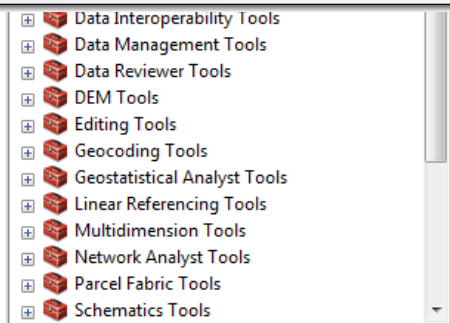


FID	Shape *	Elev	LType	Lngth	DocID	OwnerID	CadType	Level	Color	LineWt	Layer	Handle	RefName	Class	Linetype	LTScale	Width	Thickness	CadAngle	CadModel	ExtX	ExtY	ExtZ	ScaleX	ScaleY	ScaleZ	QrotW	QrotX	QrotY	QrotZ	Elevation	FillColor	GGroup
0	Polyline ZM	69	2	558.611	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
1	Polyline ZM	69	2	6.424	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
2	Polyline ZM	70	1	625.179	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
3	Polyline ZM	71	2	1049.15	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
4	Polyline ZM	72	2	85.611	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
5	Polyline ZM	72	2	837.904	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
6	Polyline ZM	73	2	984.524	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
7	Polyline ZM	74	2	1081.638	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
8	Polyline ZM	75	1	1284.903	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
9	Polyline ZM	76	2	1768.627	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
10	Polyline ZM	77	2	1737.936	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	
11	Polyline ZM	78	2	1779.456	0	0		0	0	0						0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	

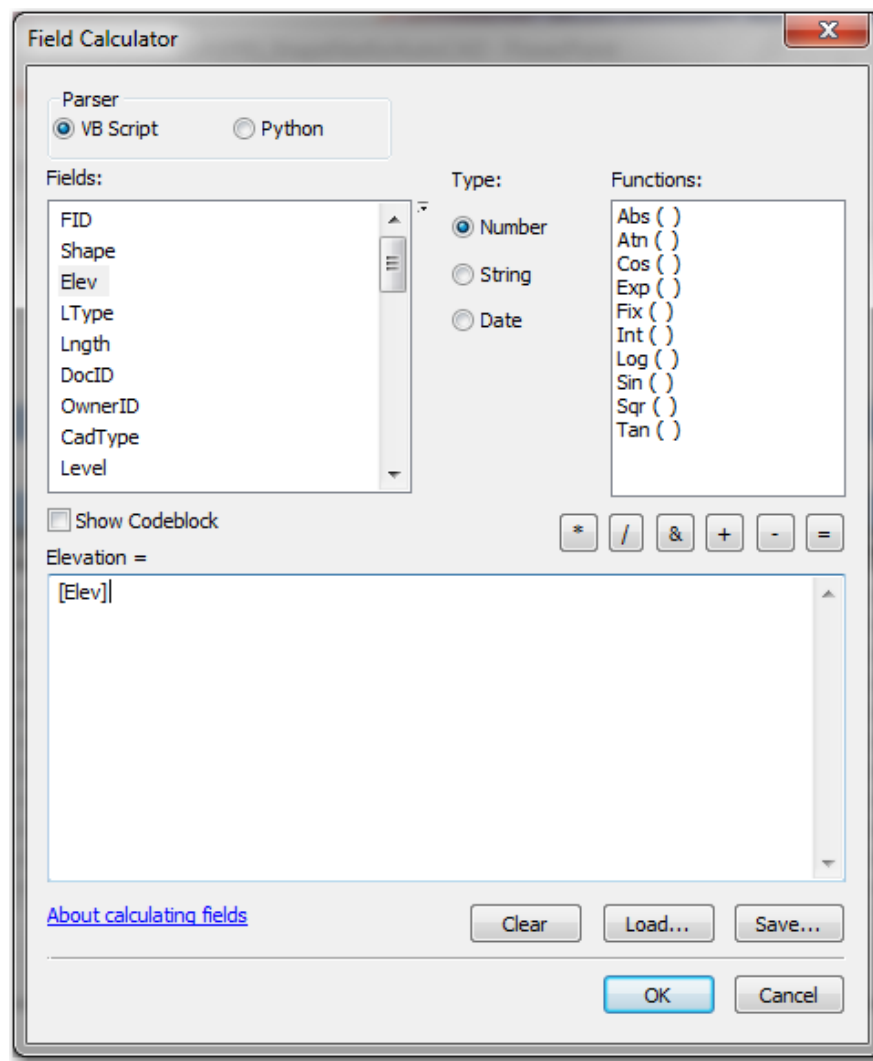
1

(0 out of 729 Selected)

Smoothed Contours

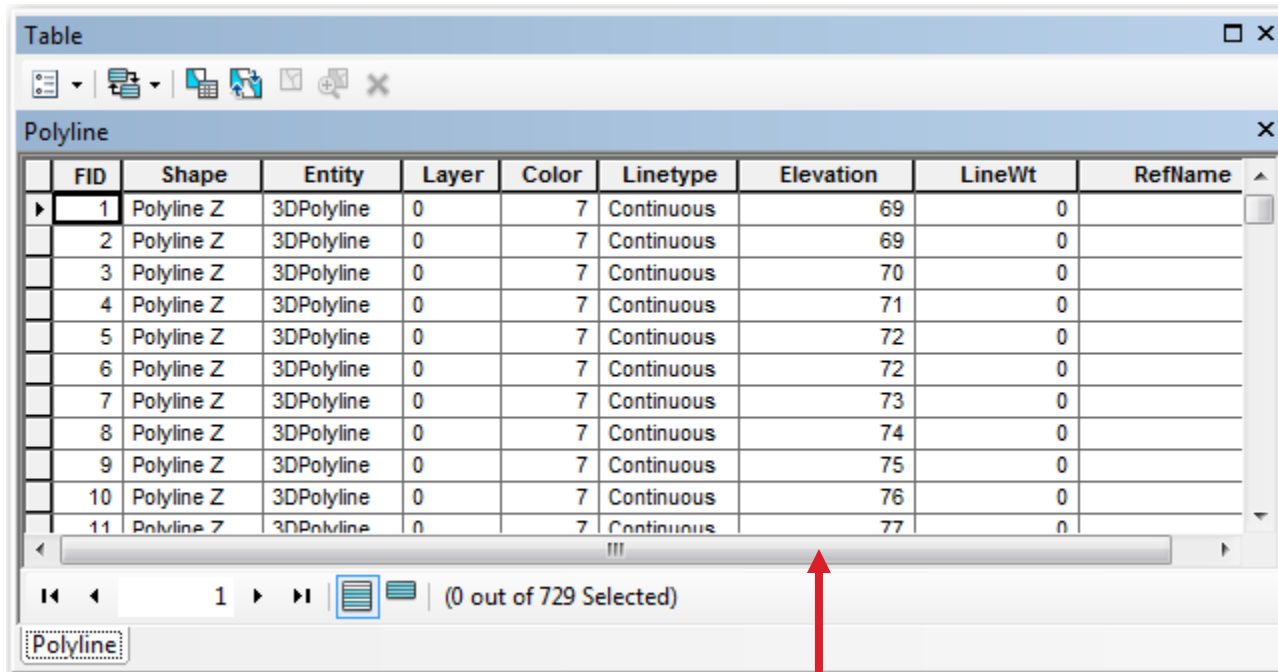


Step 6 – Calculate the AutoCAD “Elevation Field” to equal the Esri “Elev” Field



Option: Delete all non-essential fields from the Esri Feature Class

Step 7 – Export to CAD (as in Step 3) but now ...



The screenshot shows the AutoCAD Table tool palette. The 'Polyline' table is open, displaying a list of 11 polylines. The table has columns for FID, Shape, Entity, Layer, Color, Linetype, Elevation, LineWt, and RefName. The 'Elevation' column contains values ranging from 69 to 77. A red arrow points to the 'Elevation' column header.

FID	Shape	Entity	Layer	Color	Linetype	Elevation	LineWt	RefName
1	Polyline Z	3DPolyline	0	7	Continuous	69	0	
2	Polyline Z	3DPolyline	0	7	Continuous	69	0	
3	Polyline Z	3DPolyline	0	7	Continuous	70	0	
4	Polyline Z	3DPolyline	0	7	Continuous	71	0	
5	Polyline Z	3DPolyline	0	7	Continuous	72	0	
6	Polyline Z	3DPolyline	0	7	Continuous	72	0	
7	Polyline Z	3DPolyline	0	7	Continuous	73	0	
8	Polyline Z	3DPolyline	0	7	Continuous	74	0	
9	Polyline Z	3DPolyline	0	7	Continuous	75	0	
10	Polyline Z	3DPolyline	0	7	Continuous	76	0	
11	Polyline Z	3DPolyline	0	7	Continuous	77	0	

Data in the AutoCAD “Elevation” Field

And in AutoCAD ...





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