

COLORADO CULTURAL RESOURCE MATRIX TEAM  
SHAPEFILE CREATION GUIDE



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RGFO

is to blame for this document

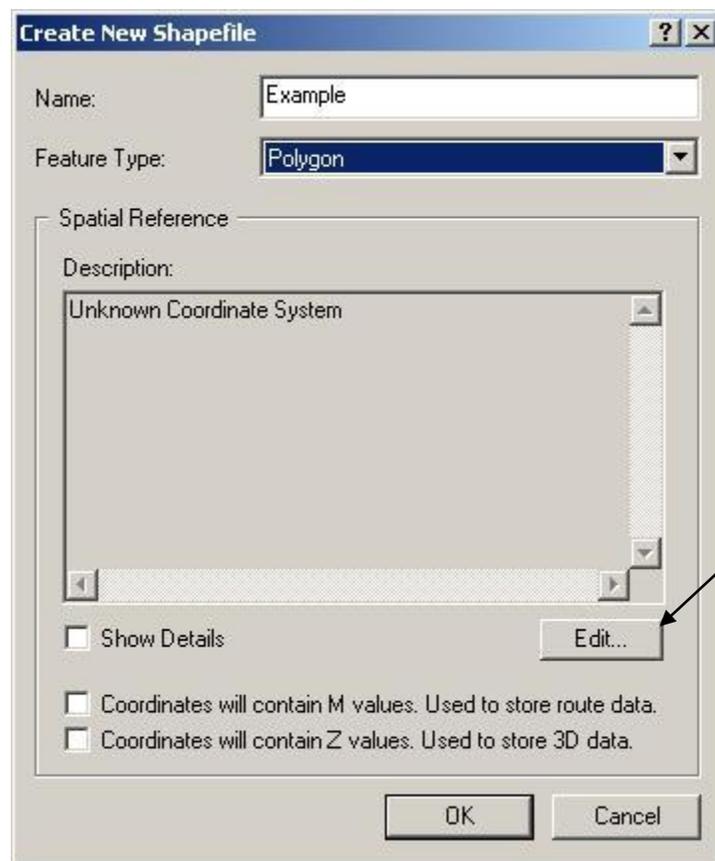
Call me with questions:

(719) 269-8557

1. Create map background. You will have to consult your GIS coordinator for your specific location of maps. There are also indices that you can add to your GIS table of contents (PLSS, Sections, 24K Index, 100k Index, NAIP—airial photos—by county). For example, my 24 k maps are in T:\gisdata\image\drg24k. Unfortunately, they are organized by some nutso numbering system, but you can find out what number you need by adding an index or two. To add a map you poke the add data button:  , navigate to where your map is, and press add.

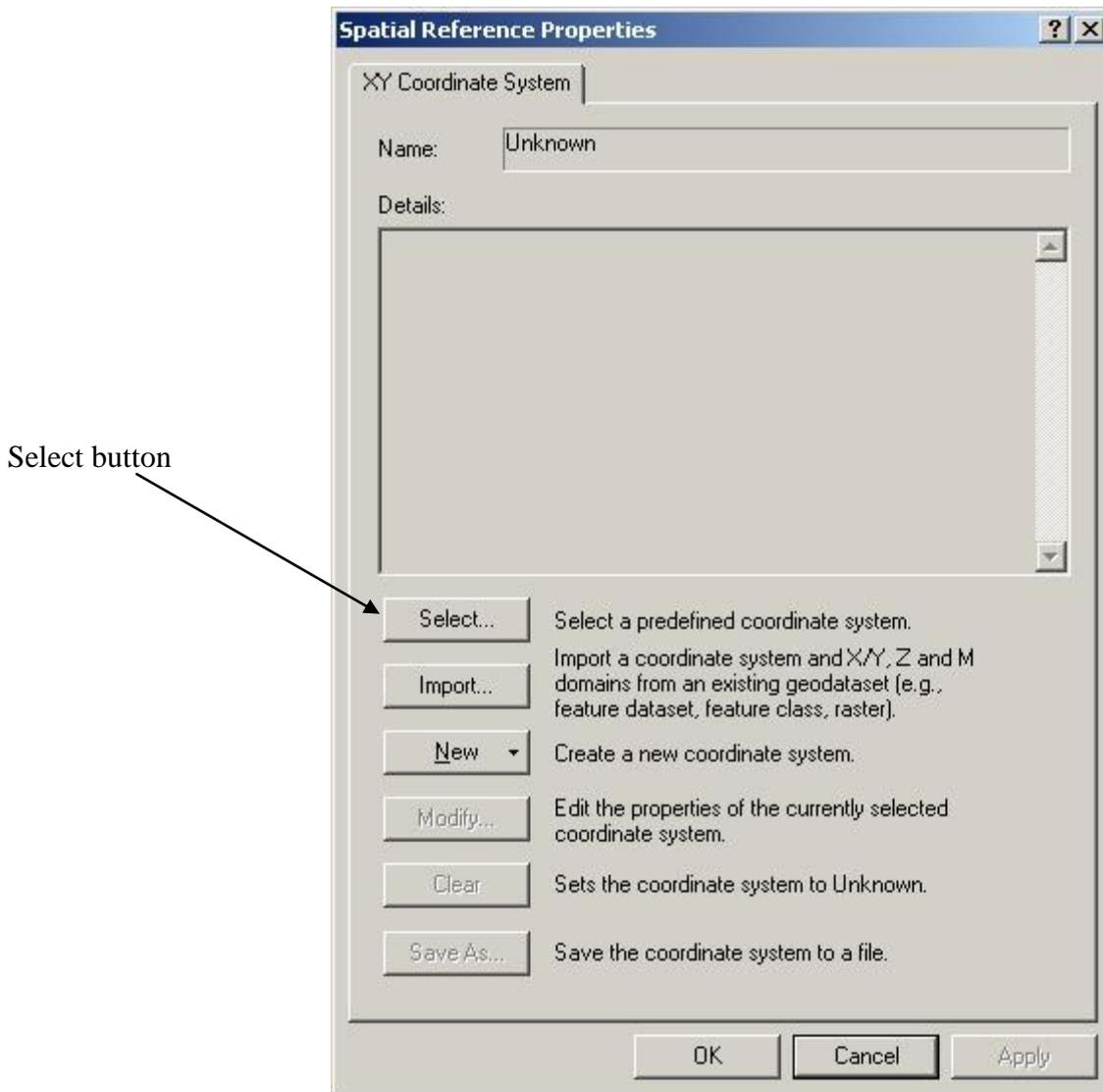
2. Create a polygon (shapefile).

a. **Open ArcCatalog.** The icon looks like a file cabinet  , and takes a while to come up. First, navigate to where you want to place your shapefile. Then select: file—new—shapefile. Fill in the name (“example”), under “feature type”, select “polygon” from the dropdown list.



Press the “edit” button.

In the “spatial reference properties” popup, press “select” button, then go through the series of popups, making the following selections: “projected coordinate systems”, “utm”, “NAD 83”, “NAD1983UTM Zone13N”, then press the “add” button.



When the “spatial reference properties” popup returns, press “apply”, then “ok”.

From the ArcCatalog window, you may grab your new shapefile and drop it into the top of your Table of Contents (TOC) with your mouse (or use can use the add data button). Close ArcCatalog.

b. **Edit your shapefile.** You can create multiple features in one shapefile. All of my surveys are in one shapefile (something like 2500), which I archive quarterly (in case something happens to it). I recommend doing this so that you can set up your attribute table just once, but if you want a shapefile for each project, that is also possible.

Make sure your editor toolbar is up. If it is not, right click in a blank gray area of a toolbar that is already up, and check “editor”.

On the editor toolbar, select editor—start editing. Navigate to the location of your shapefile and press “ok” button.

In the editor toolbar, make sure the name of your shapefile appears in the “target” box. If not, use the dropdown arrow to select the right one. If it still isn’t there, make sure that you opened the correct directory (close the editor by pressing the editor button, then “stop editing”, then try again).

“Create new feature” should show in the “Task” box. Click on the pencil icon and draw the polygon on the screen, just as you would with a pencil on a topo map, but using points (vertices). When you are done, double click.

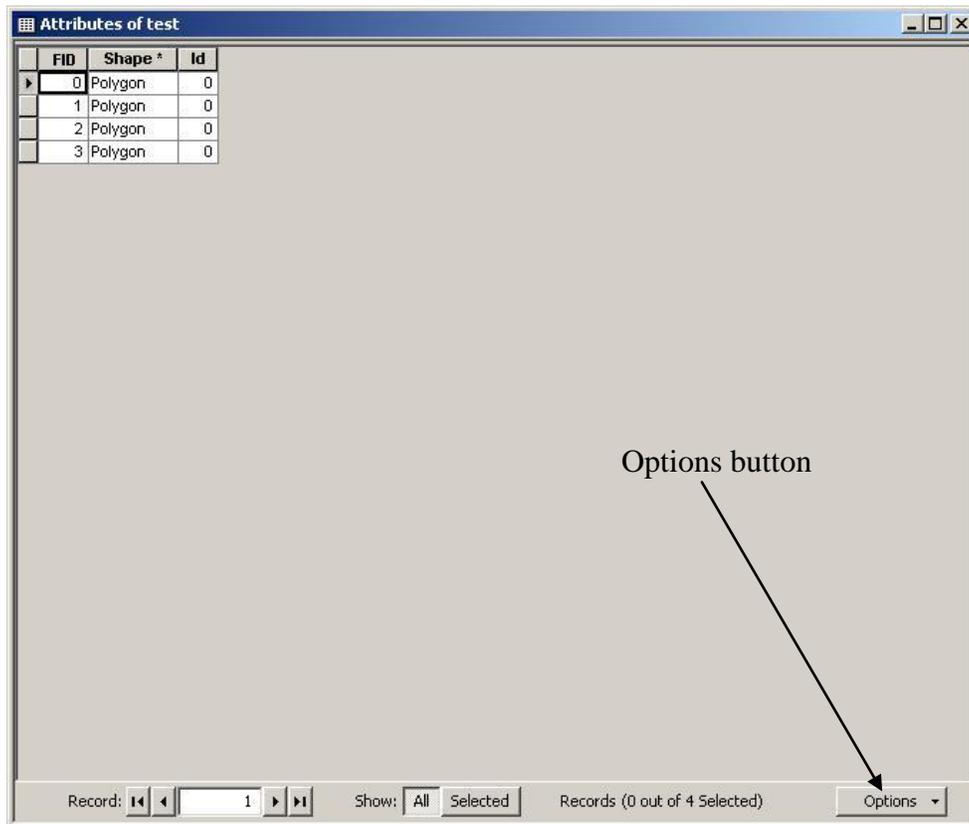
If you need to move a vertex (point), change the “Task” box to “modify feature”. Click on the little black arrow in the editor toolbar (if it doesn’t show up, click on the selection tab at the bottom of your TOC and make sure your shapefile is checked). Hold the cursor over the vertex until a square surrounded by little arrows appears. You can now move it, or, using your right mouse button, you can delete it, or move to another place in the line to add a vertex.

When done, click outside the feature. Then click the “editor” button again, choose “save edits”, then “stop editing”.

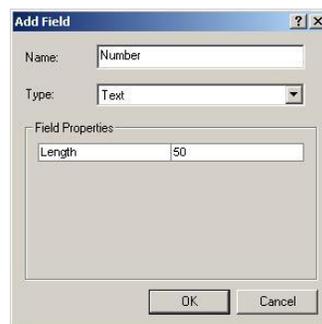
SAMPLE MAP HERE

c. Create an Attribute Table.

1. To set up: make sure you are NOT in edit mode or you will experience great frustration. Select your shapefile in the TOC, hit the right mouse button and select “open attribute table”. On the bottom right, push the “options” button, then choose “add field”.



Name the field, select “text” as the type, and change the length (if you don’t like the default of 50). I have many fields, but at a minimum, you need project number and name:

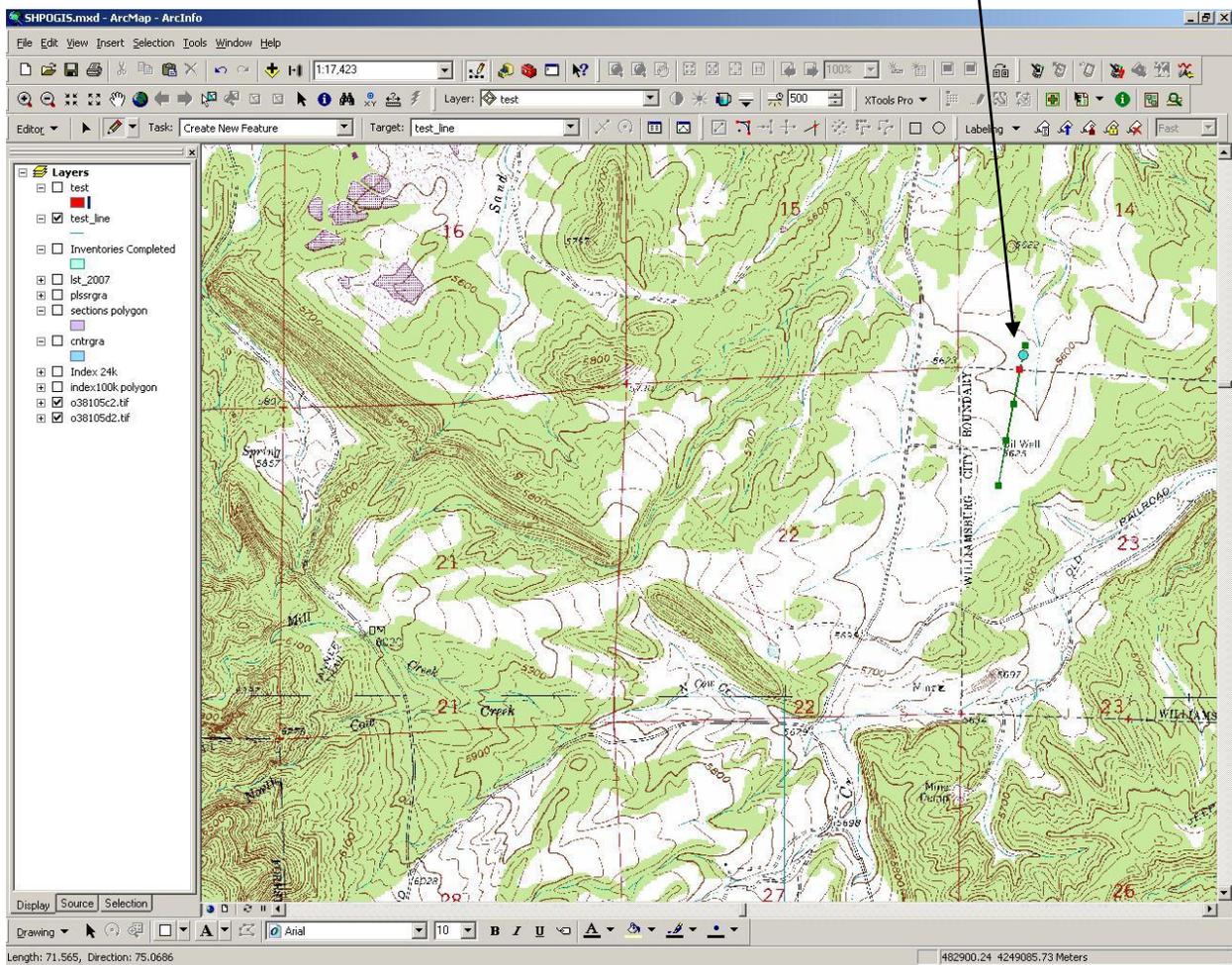


2. To edit the attribute table: Get back into edit mode, select your shapefile in the TOC, and click the right mouse button. Select “open attribute table”. Click in the cell in which you want to enter information and do so. When you are done, click in another empty cell to submit the data. Next, click the editor button and “save edits”. Click the editor button again, and “stop editing”.

FID	Shape *	Id	number	title
0	Polygon	0	CR-RG-08-096 (P)	stinkfish
1	Polygon	0	CR-RG-08-097 (N)	poopoo
2	Polygon	0		
3	Polygon	0		

Record: 3 Show: All Selected Records (0 out of 4 Selected) Options

3. Create a Linear Polygon. You might need to do this for a linear survey. Make a polygon shapefile (see #2 above). Draw a very thin, narrow polygon, but not so thin that it disappears.



Double click it to save it. Stay in edit mode, and make sure the new polygon is selected (using the little black arrow in the editor toolbar). Next, click the editor button, and “buffer”. When the small “distance” window comes up, type in “15.2”<sup>1</sup> (for 15.2 meters, which will result in a 100’

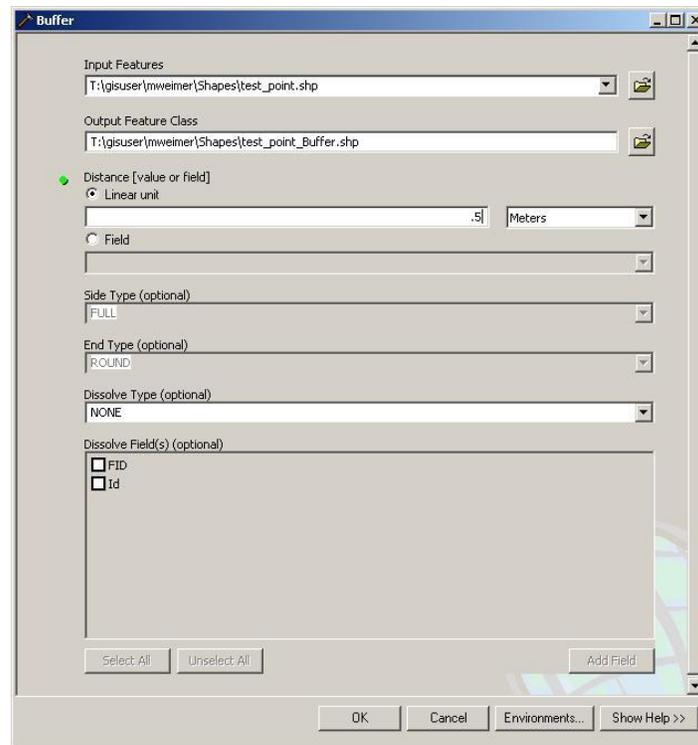
<sup>1</sup> If your display units are in meters. To check, double click the word “layers” in the TOC, then under the “general” tab look at the “units of measure” and change if necessary.

wide corridor), and hit enter



In order to save lines in your attribute table, select the feature so that it includes the polygon and the buffer, then the editor button, then merge, and ok. You will have one, vs. two, features.

4. Create a polygon from a point. You will want to do this for isolated finds, and you may choose the diameter of the polygon. Create a point shapefile (see #2 above, only change the feature type to point. Go into edit mode, and enter your points, then save edits. Next, select them all, using the little black arrow. Open ArcToolbox (the little red toolbox) . Go to the following: analysis tools—proximity, then double click “buffer”. Navigate to your point shapefile by clicking on the yellow folder to the right of the “input features” window. The program will automatically create the output name for you. Choose a linear distance, but remember that it will be a radius, so if you want one meter, enter 0.5 in the “linear unit” window. Then click ok. Wait for the little “executing buffer” window to disappear.

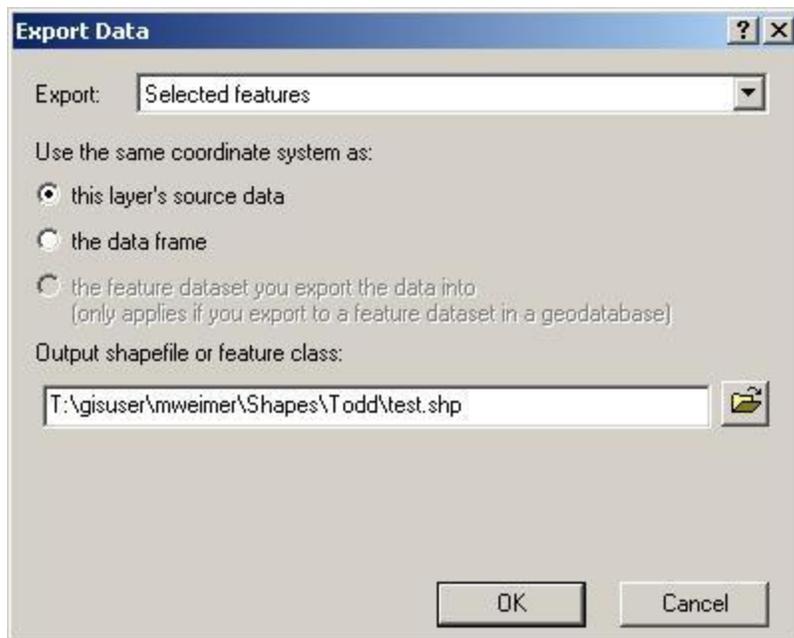


If you don't see anything, and you made the points really small, you have to zoom in to see them. Now you might want to copy those new polygons into your main surveys shapefile, if you are set up that way (in edit mode, select the features to be copied, click on edit—copy in the main menu toolbar; save edits, stop editing, then start editing your main shapefile, make sure your main shapefile shows up in the “target” window and choose edit—paste from the main menu toolbar).

5. Send your new survey shapefile or new features to Todd McMahon at the SHPO. It is easiest for them to keep track if you wait until you are about to submit your report.

--If you are creating individual shapefiles for each survey, make sure you attach ALL the relevant named files to the e-mail (usually 5 or 6). This easy because they are small.

--If you have added features to a main shapefile, use the following process: in non-edit mode, select the relevant features using the select features button . Highlight the relevant layer in the TOC and hit your right mouse button, then select “data”, then “export data” from the lists. Make sure that the “export” window shows “selected features”, then input (or navigate to) the location where you want the new shapefile end up (as you can see, I have a “Todd” folder).



Then make sure you attach ALL the relevant named files to the e-mail to Todd (usually 5 or 6). This easy because they are small.



Note: for political reasons, survey shapefiles go to Todd, and SITE shapefiles go to Mary Sullivan. Don't ask me, I don't work there.

In the e-mail to the SHPO, include the project number and name, and the fact that it is in NAD 83 (they are still in 27).