

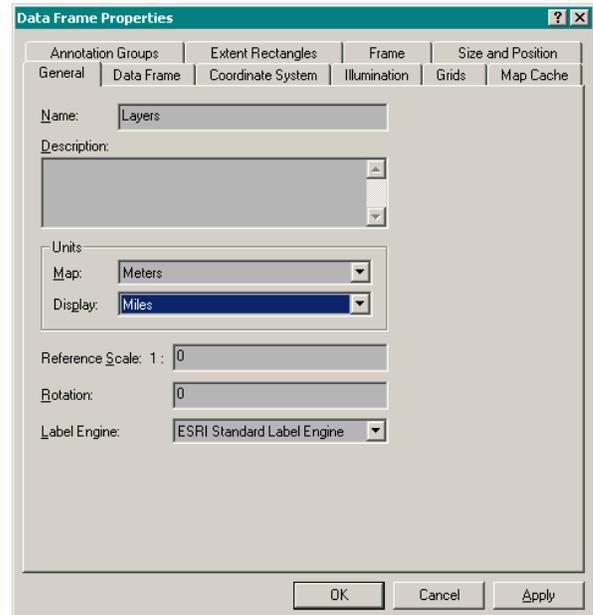
## #5b – Add Fields and Calculate Values

**GOAL:** The goal of this lab is to add fields to the attribute table of a spatial dataset and populate with useful information. The end result will be the same shapefile (or dataset) but whose attribute table now contains more information than the original dataset included

**Data Sources:** Previously created “**farm\_fields.shp, roads.shp, farmsteads.shp**”

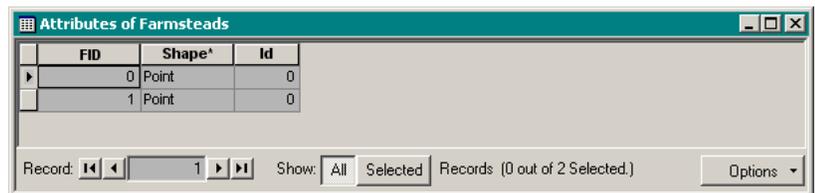
### Initial Project Setup:

1. Open ArcCatalog.
2. Create a new folder called **AddFields** under your **Projects** folder on your C drive.
3. To Begin and Save your Project:
  - Open ArcMap.
  - Open **Digitize.mxd**.
  - Click on **File - Save As – AddFields.mxd**. *Make sure you navigate and save this project to your C:/Projects/AddFields folder.*
4. Right-Click on the Data Frame – Properties – General and set your Units to Meters and Miles (see diagram at right). Click OK and close.



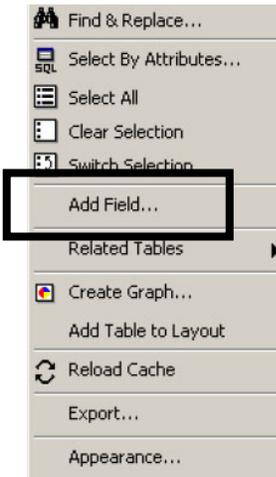
### Begin the Project:

5. Open up the Attribute Table for the “**farmsteads.shp**” shapefile and take a look at the various fields.
  - there are only 3 fields, all generated by the software when the new shapefile was created.
  - Our goal is to add fields and populate with useful information.



FID	Shape*	Id
0	Point	0
1	Point	0

6. To get started, click on the Options button in the lower right corner (below).

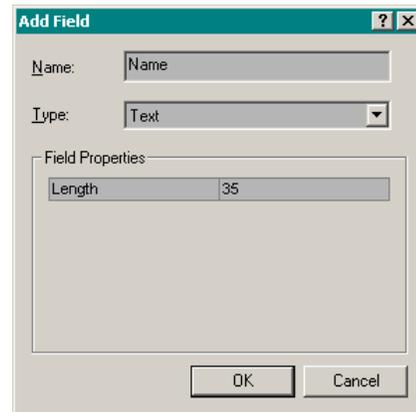


The context menu (at right) opens up.

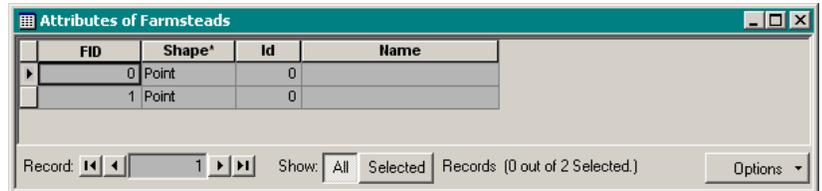
Click on “Add Field...”

7. You should know ahead of time what fields will be important to collect information for. For our purposes, we’ll begin with collecting the Name of the Farmstead.

- Fill in the new Add Field dialog box as shown at right. We are adding a field called “Name” and giving it a type of “text” with a length of 35 characters.

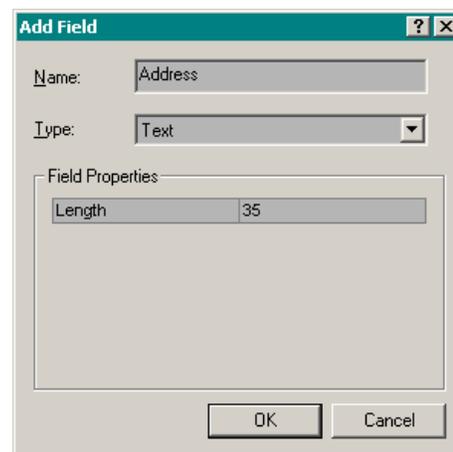


8. Click OK and check that the field has been added to the very end of your attribute table.



10. Click on Options again and add a new field

- Name = **Address**
- Type = **Text**
- Length = **35** characters



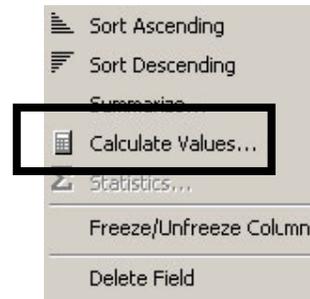
11. Click OK and check the attribute table.



## Begin Calculating Field Values:

There are a couple of ways we can do this. One way is quick and simple, but cannot be undone if you calculate in error. The second method takes a couple of extra steps, but if you have not “saved” then you can exit out and get rid of any bad calculations. We’ll walk through both methods. For the Name field, we’ll calculate the quick way. For the Address field, we’ll use the 2<sup>nd</sup> method.

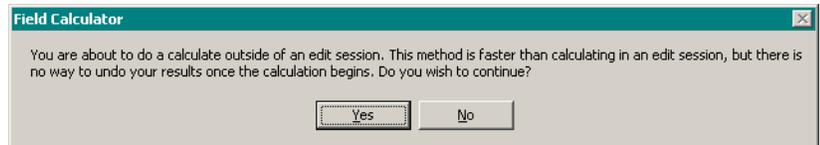
12. Right click on the “Name” field.
  - a. Notice there are a number of things we can do. For our purposes, though, we’ll just use the “Calculate Values...”
  - b. **Don’t do anything just yet**, just click off to the side to close.



13. First, we must select the row that we want to add the values for. Just click on the grayish box to the very left, on the 1<sup>st</sup> row. When you click on it, the row will highlight (your color may be different than mine).



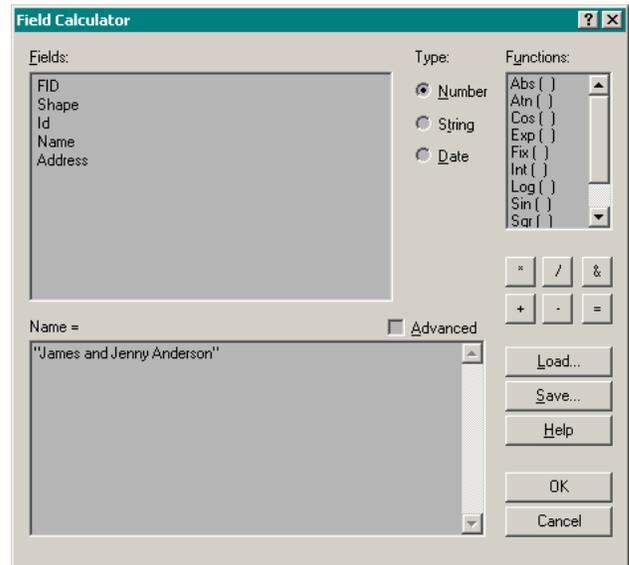
14. Next, right click on the “Name” field and click on **Calculate Values...**



15. You will get the following Field Calculator warning message. This is just telling you that you can’t undo your calculations. Click **“YES.”**

16. The Field Calculator dialog box will now pop open and you must enter whatever information you want captured in the “Name” field’s cell for that record.

- Type in **“James and Jenny Anderson”** and INCLUDE the quotes.
- This is a text field and, consequently, a string type field. All strings require a quote before and at the end of whatever text you’re adding. (Numeric fields do not require the quotes.)
- Click **OK**.



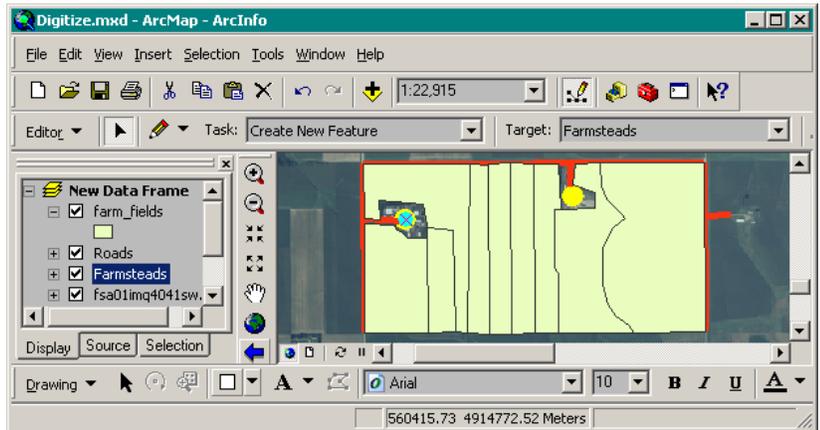
17. Your attribute table should like this. Repeat Steps 14 – 16 and choose whatever name you wish to add for the second record.



So, now we'll try the 2<sup>nd</sup> methodology for the Address Field. In this Method, we must open the Editor Toolbar. (Recall from the Digitizing exercise you previous did.) We will set the table to editing and then we can add our information directly to the cell itself. No right-clicks and context menus.

18. Click on **View – Toolbars – Editor**.

- Click on the Editor down arrow and select **Start Editing**.
- Set your **Target** to **Farmsteads**.
- Don't be concerned with Task as we won't be digitizing or editing anything.



19. Open the Attribute Table again. Notice the white column headings. This is telling us that those are the only columns we can edit. We cannot edit the FID or Shape\* fields as these are generated by software and uneditable.

FID	Shape*	Id	Name	Address
0	Point	0	James and Jenny Anderson	
1	Point	0		

20. This time, hit your F2 button (at the top of your keyboard), and then just click your cursor in the cell. You are now able to just type in the information.

FID	Shape*	Id	Name	Address
0	Point	0	James and Jenny Anderson	
1	Point	0	Bill and Nancy Smith	

21. You can also, at this time, make any edit changes. So, if Jenny's name should be Mary, just hit F2 and click in the cell to change.

FID	Shape*	Id	Name	Address
0	Point	0	James and Mary Anderson	1450 Glacial Ridge Drive
1	Point	0	Bill and Nancy Smith	7983 Meadow Pond Place

**That's it – you've added 2 new attribute fields and calculated original or new values to each cell.**

**To Hand In: Open up your attribute table and take a screen shot of the table showing your new edits.**