



# Editing in ArcMap: An Introduction

Lisa Stanners, Phil Sanchez

Technical Workshop

# Overview

- **Background**
- **Authoring your map for Editing**
- **Creating New Features**
- **Editing Existing Features**
- **Q & A J**

# Editing Background

## Introduction to editing

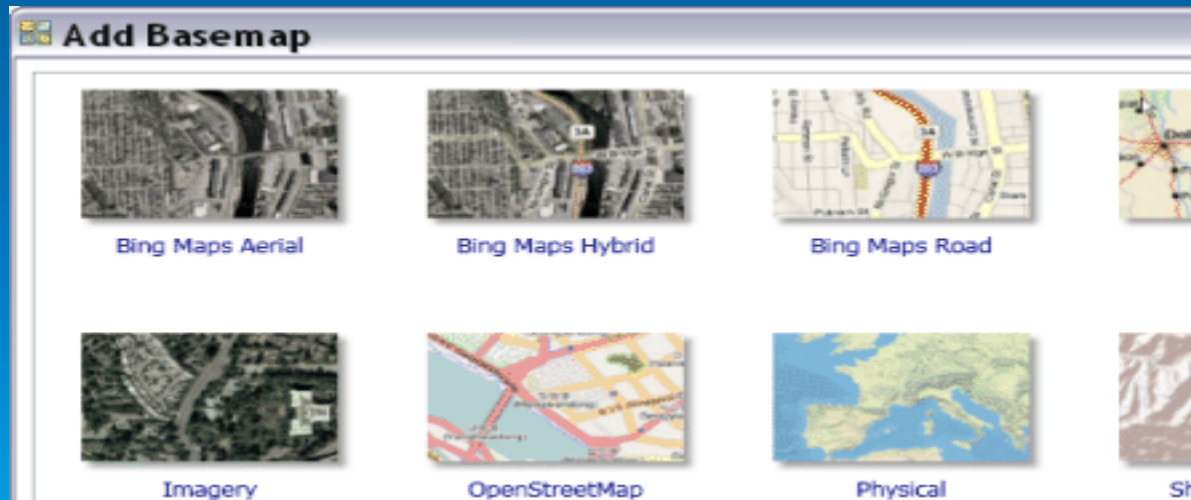
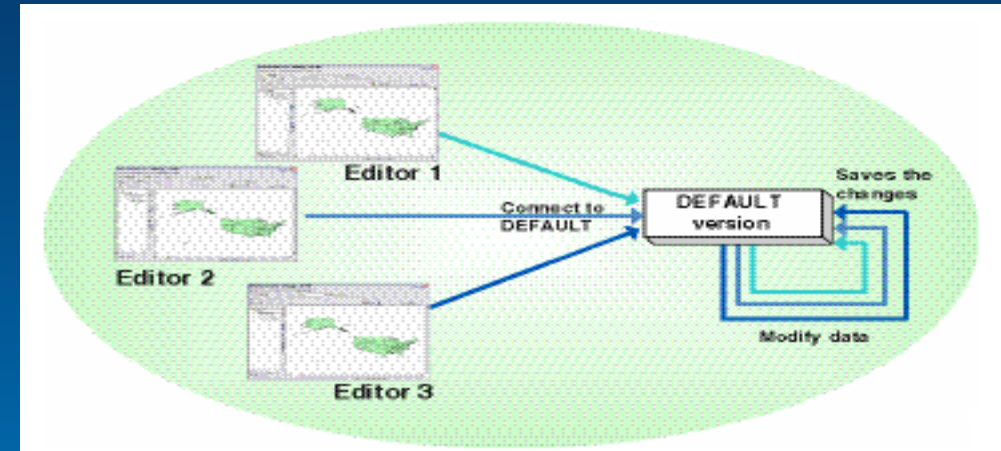
- **Compiling Geographic data**
- **ArcMap editing tools maintain integrity**



# Editing Background

## Introduction to editing

- Multi-user editing
- Basemaps

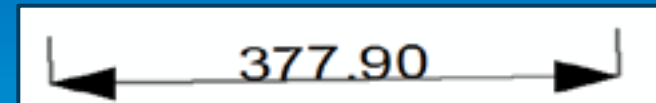
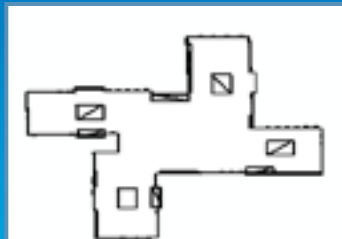
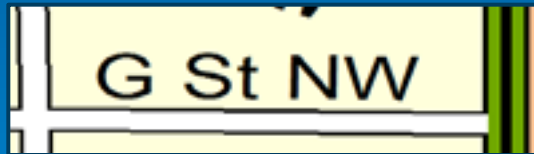


# Editing Background

## What you can edit

- **Editable data sources**

- **File, Personal and SDE Geodatabases, Shapefiles, some table formats**
- **Import other formats (CAD, coverages)**



# Editing Background

Taking advantage of the Geodatabase

- Editing to maintain a valid database
  - Attribute domains and subtypes

Attributes	
Feature ID	28
FACILITY_ID	40
PW_ID	96770 96724
MATERIAL	Ductile iron
DIAMETER	24"
WNM_TYPE	<Null>
PWTYPE	30"
H_DATE	24"
	10"

# Editing Background

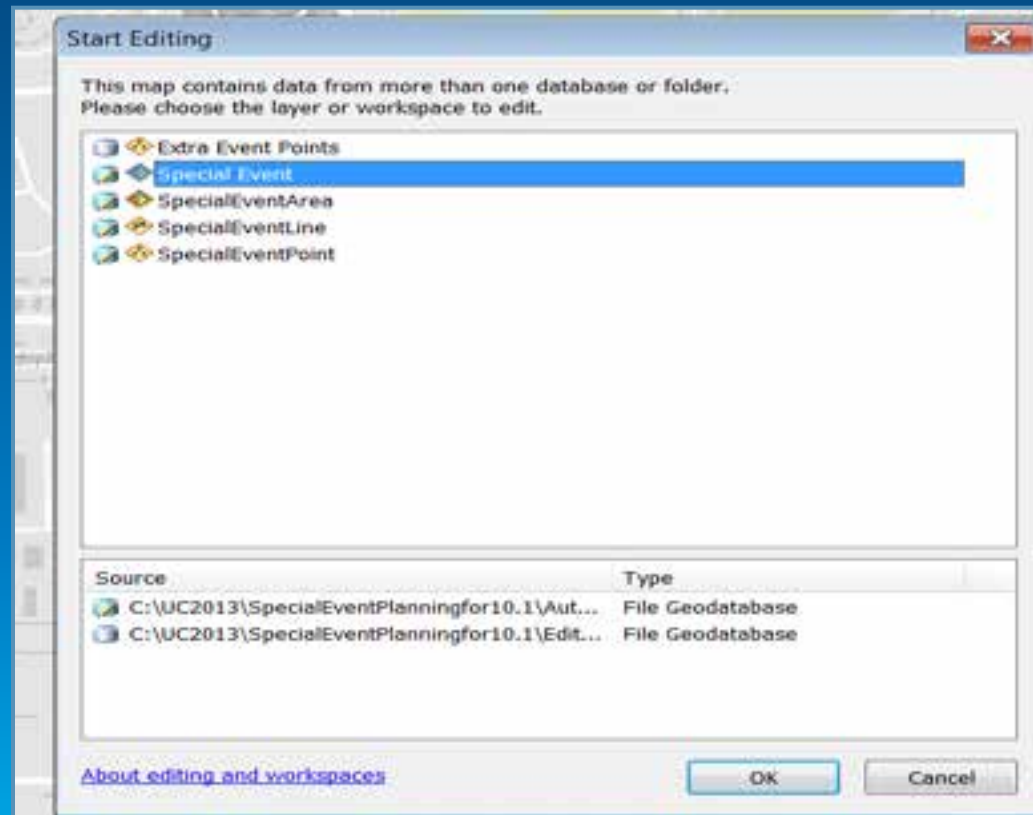
## Editor tracking

- **The name of the user who created it.**
- **The date and time it was created.**
- **The name of the user who edited it.**
- **The date and time it was last edited.**

# Editing Background

## Edit Session Management

- Start editing
- Single workspace





# Editing Background

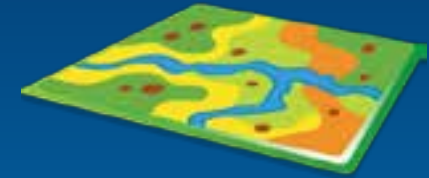
## Licensing

- **ArcGIS for Desktop Basic, Standard or Advanced**
- **Using ArcGIS for Desktop Standard or above you can also use a Geodatabase Topology.**

# Authoring a Map for Editing

## What are Layers?

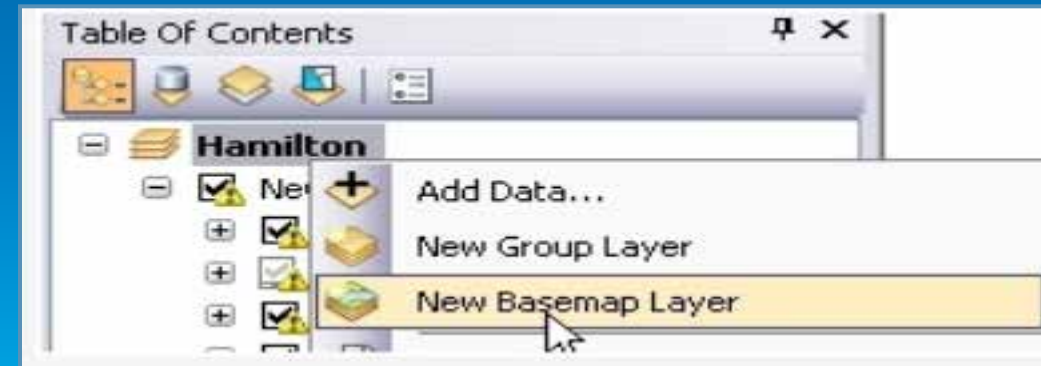
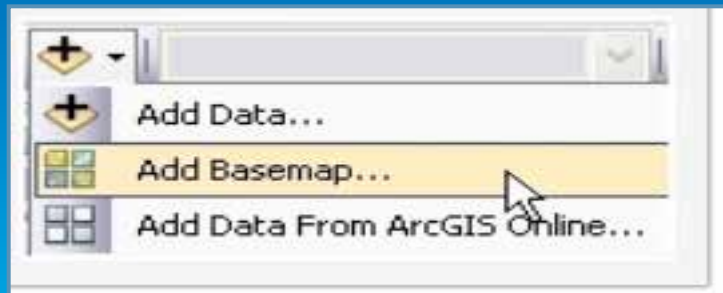
- **Editor is layer based at V 10**
  - **Layers reference a dataset**
  - **Provides symbols and labels**
  - **Listed in the TOC by drawing order**
  - **Feature, Raster, Service, GP and Basemap Layers**



# Authoring a Map for Editing

## Basemap layers

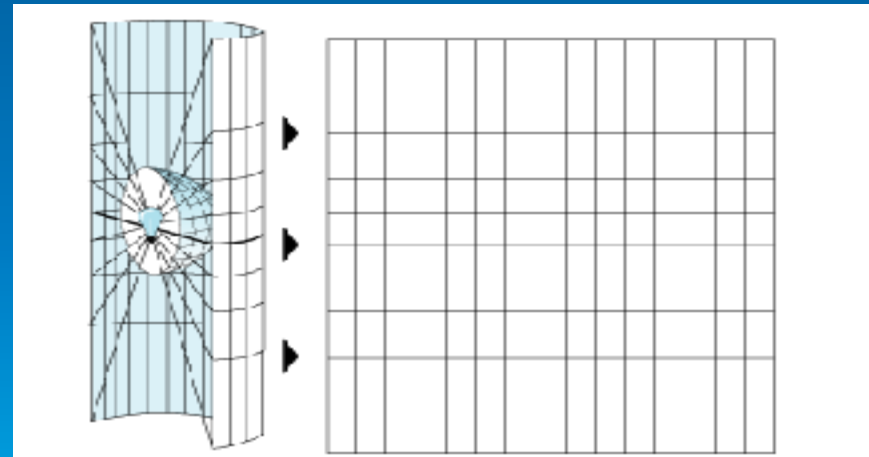
- BaseMaps Layers in the Editing Map
- Map performance, turn any layer into a base map
- Internet connection
- Snapping



# Authoring a Map for Editing

## Layers Properties and their Purpose

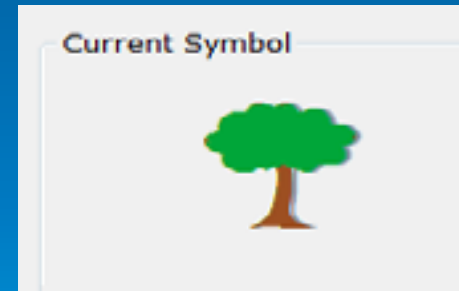
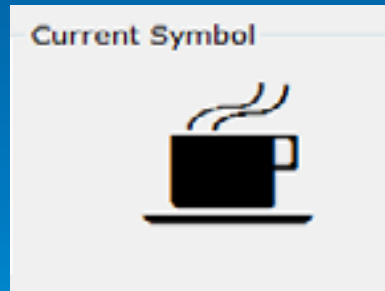
- **Projection**
  - **Editing in data's Native projection is best**
  - **Lower accuracy when projecting PCS into GCS**



# Authoring a Map for Editing

## Layer Properties and their Purpose

- **Symbology**
  - Finalize symbology before start editing
  - Single symbol and categories for editing



# Authoring a Map for Editing

## More layer properties

- **Scale Range**
- **Display Expression**
- **Definition queries**
- **Layer Visibility**

**Scale Range**

You can specify the range of scales at which this layer will be shown:

Show layer at all scales

Don't show layer when zoomed:

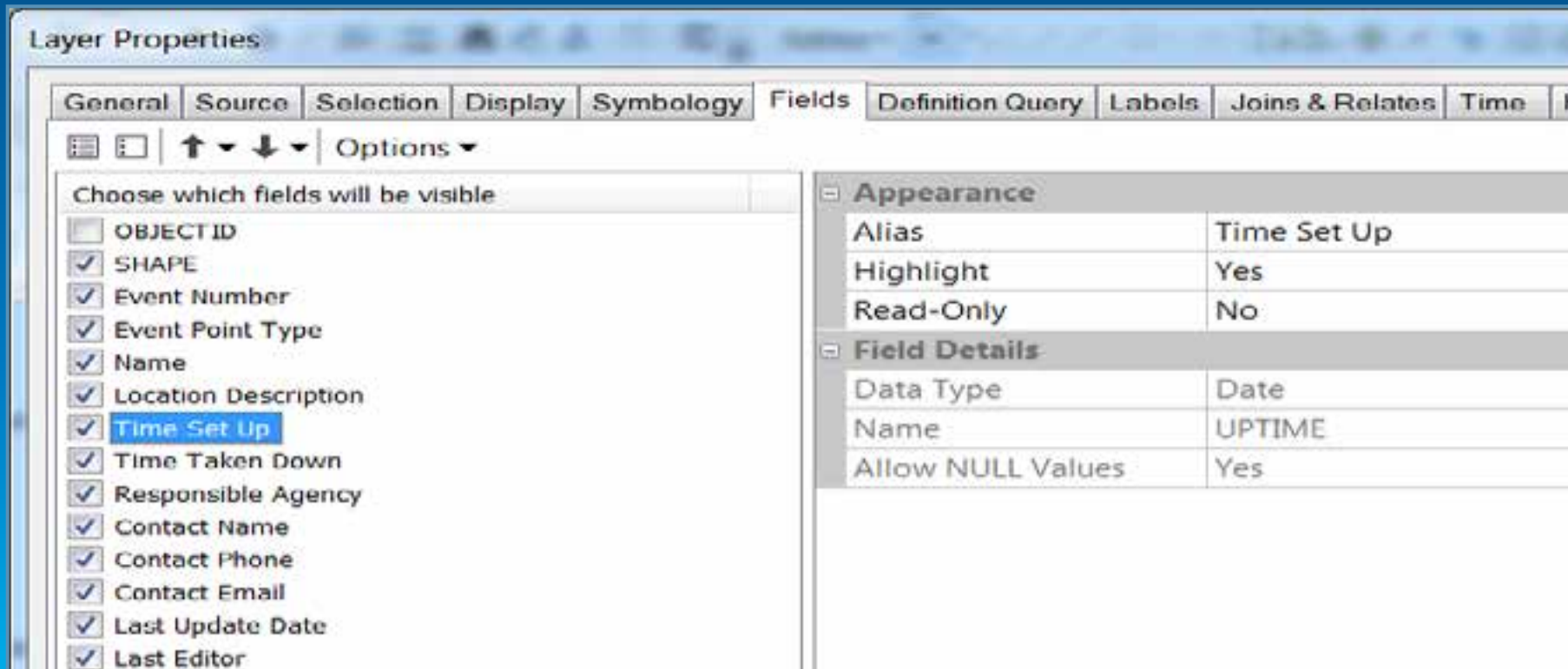
Out beyond:  (minimum scale)

In beyond:  (maximum scale)

# Authoring a Map for Editing

## More Layers Properties and their Purpose

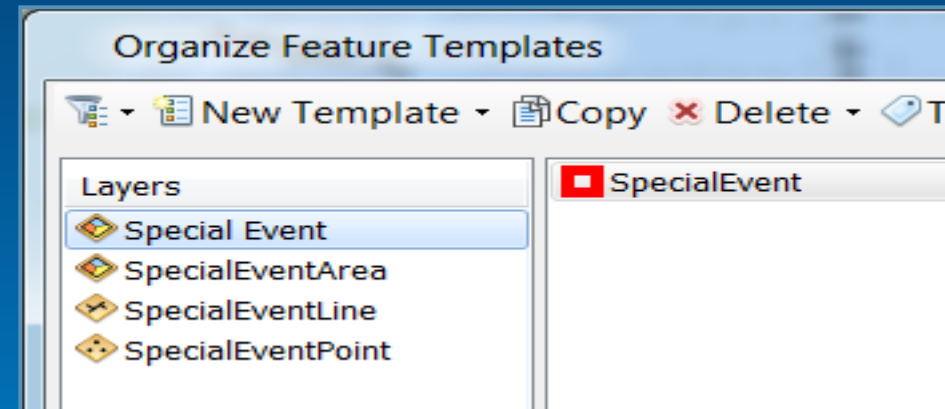
- Field properties
  - Alias, Highlight, Read-only



# Authoring a Map for Editing

## Feature Templates

- Feature Template Basics
- Creating feature templates
  - Automatically
  - Manually

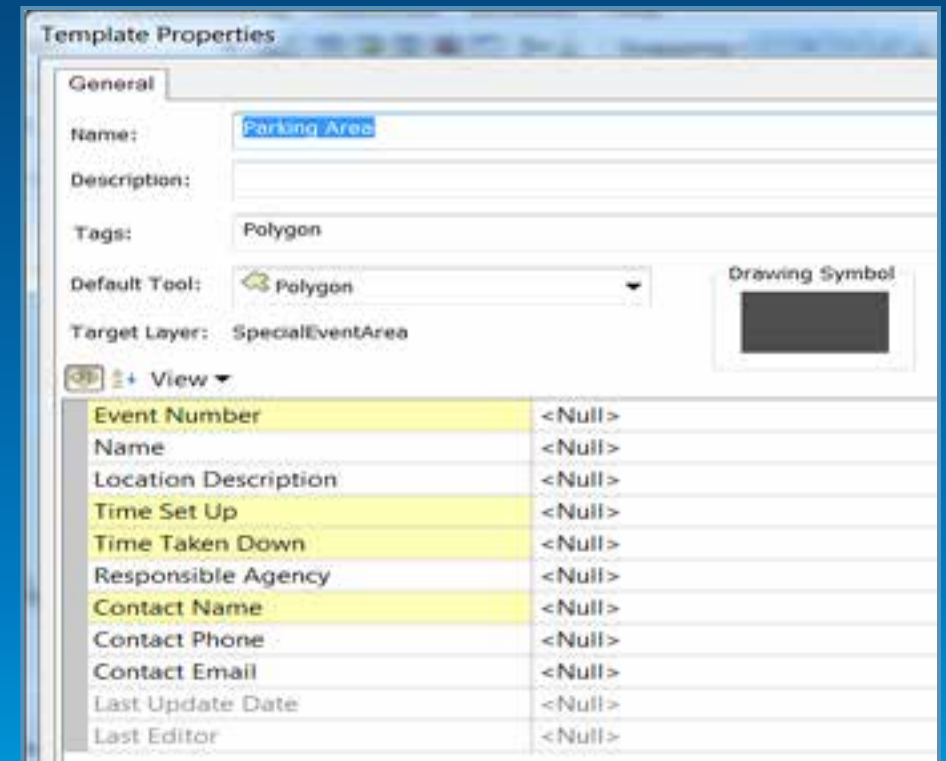




# Authoring a Map for Editing

## Changing Template Properties

- **Feature Template Properties**
  - Template properties dialog
  - Name, Tags and Description
  - Default construction tools
  - Default attribute values
  - Click OK to save changes



# Authoring a Map for Editing

## Sharing feature templates

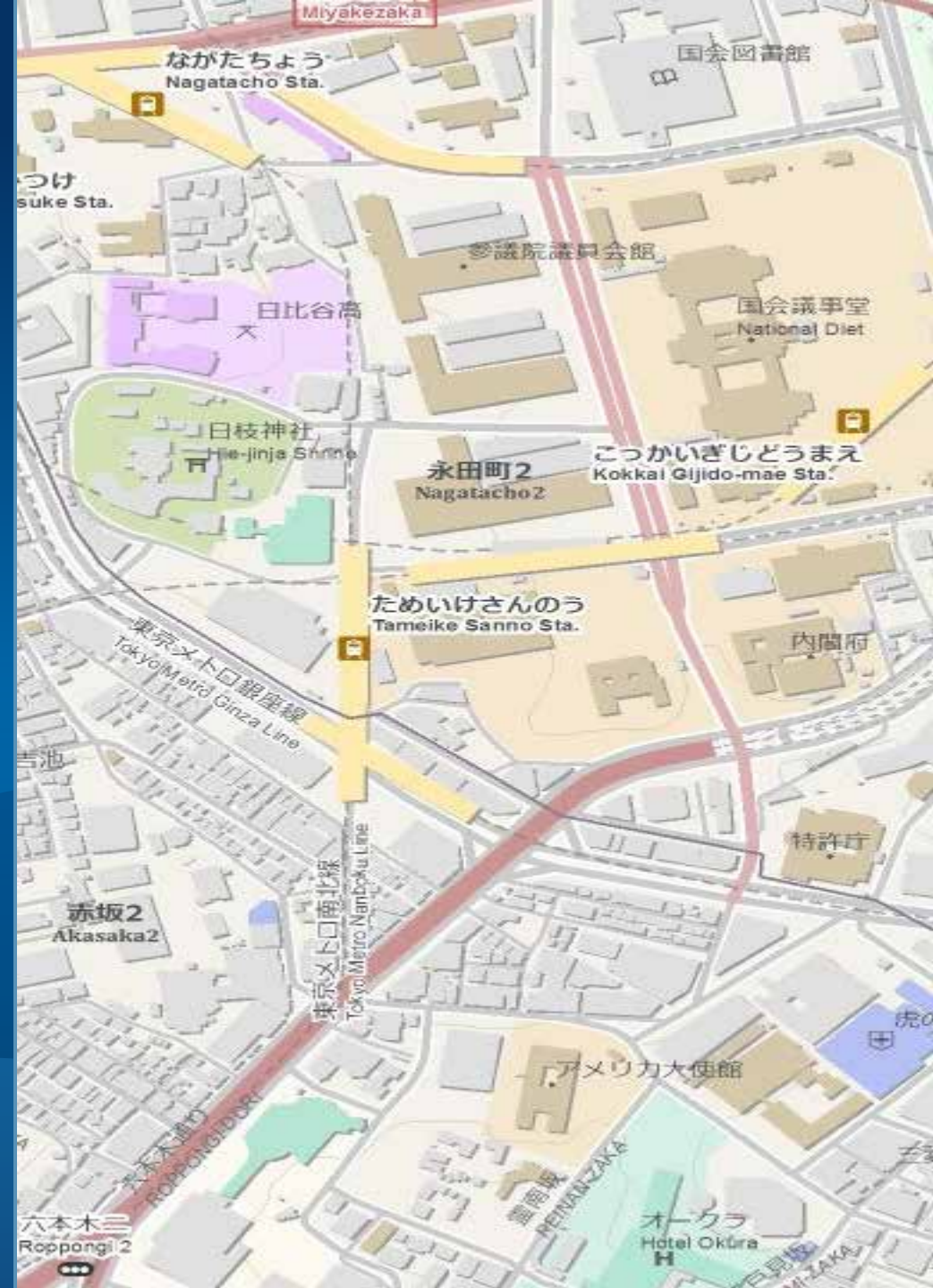
- **Saving and Sharing**
  - **Layer package or Map package**
  - **Map Document (.mxd) or layer file (.lyr)**



Demo

# Authoring an Editing Map

Lisa



# Creating New Features

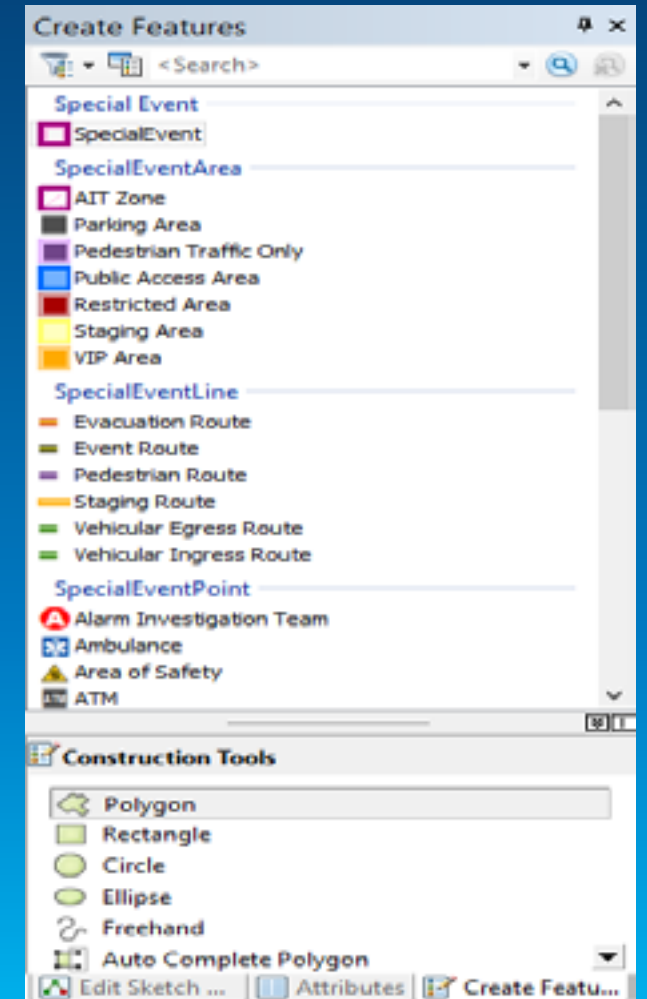
## Feature creation techniques

- **Feature placement (points)**
- **Sketching**
- **Tracing**
- **Precision drawing using constraints**
- **Creating features from other features (feature generation tools)**

# Creating New Features

## Using Feature Templates

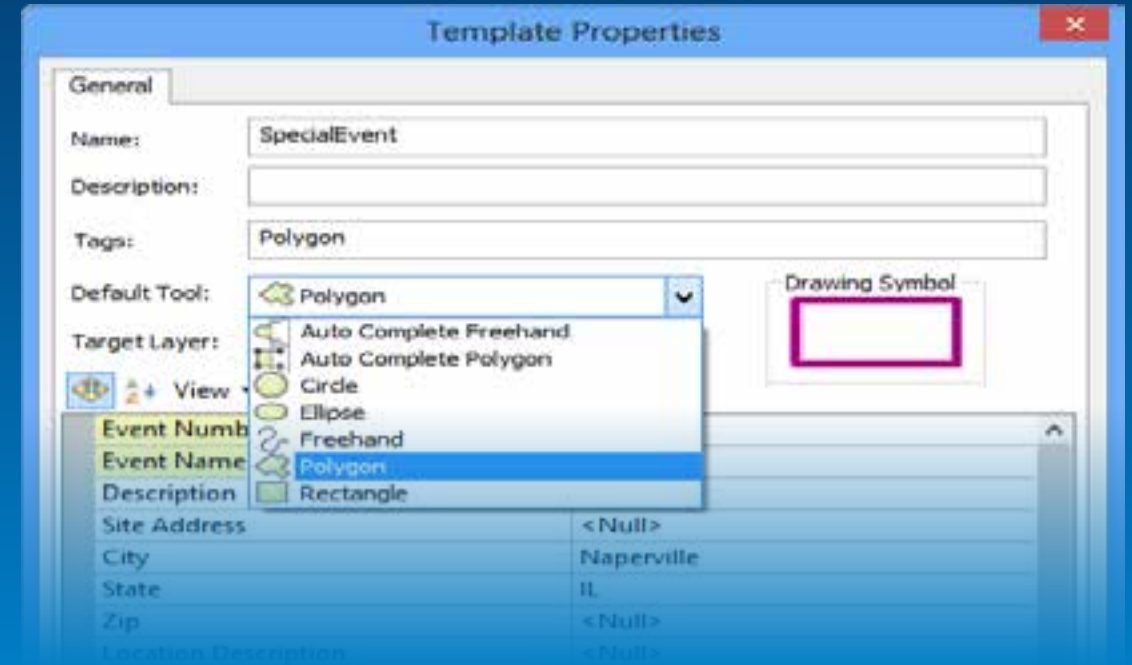
- **Feature Templates and Create Features Window**
  - Finding and selecting a template
  - Option to change default tool
  - Use templates any time you create a new feature



# Creating New Features

## Editing & Construction Tools

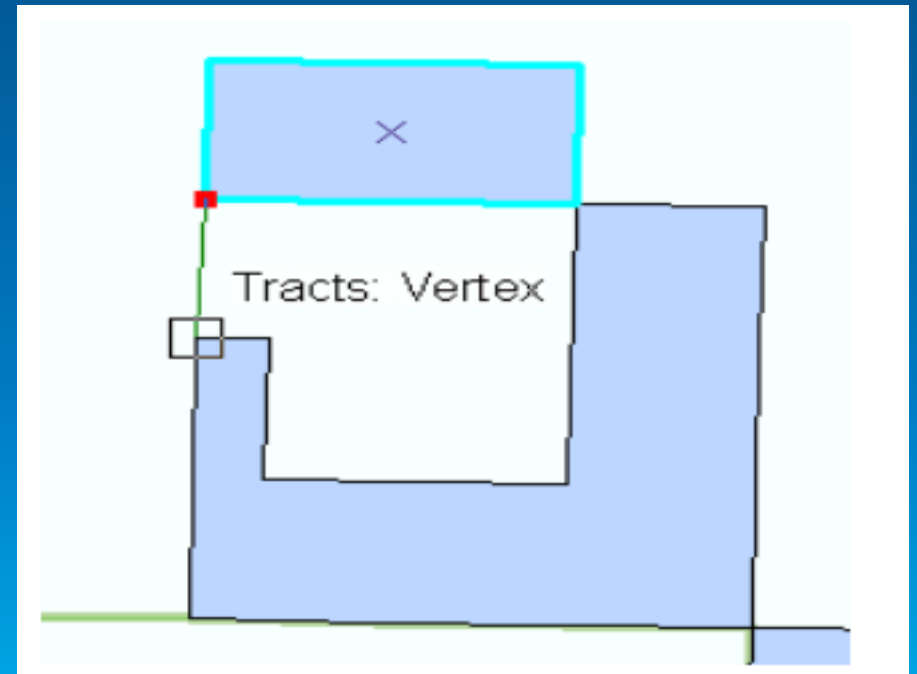
- Depend on Geometry type
  - i.e. Point tool and Point at End of Line Tool
- Construction Methods
  - Not tools, but something a tool uses
  - Straight, Arc, Bezier, Trace, etc



# Creating New Features

## Snapping

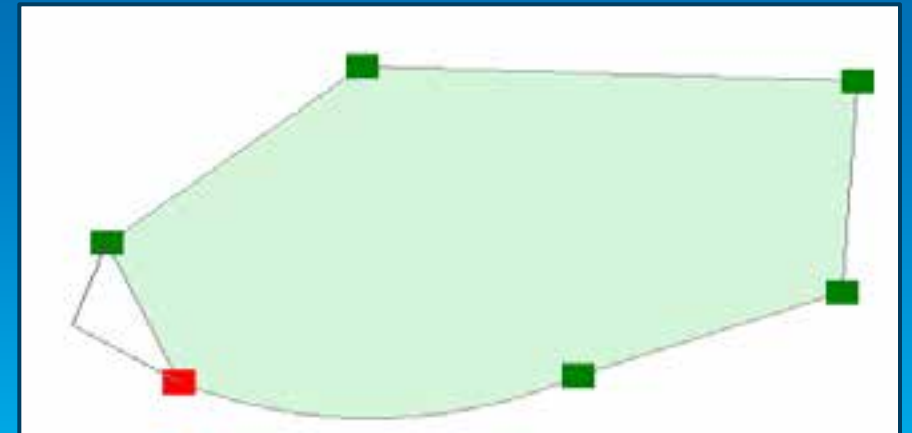
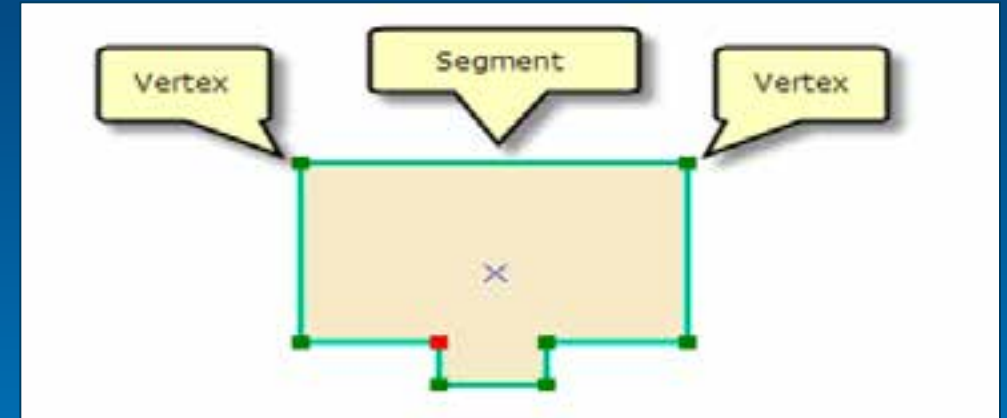
- Ensures feature connectivity
- Snaps to geometry and not symbol
- Turn off a layer to prevent snapping to it
- Press spacebar to temporarily suspend



# Creating New Features

## Sketching

- **Editing Sketch**
  - Used by all tools
  - Displays the features geometry
  - Finish the sketch to create a feature
- **Sketch Symbology**
  - Vertex
  - Segment – straight or curved
  - WYSIWYG

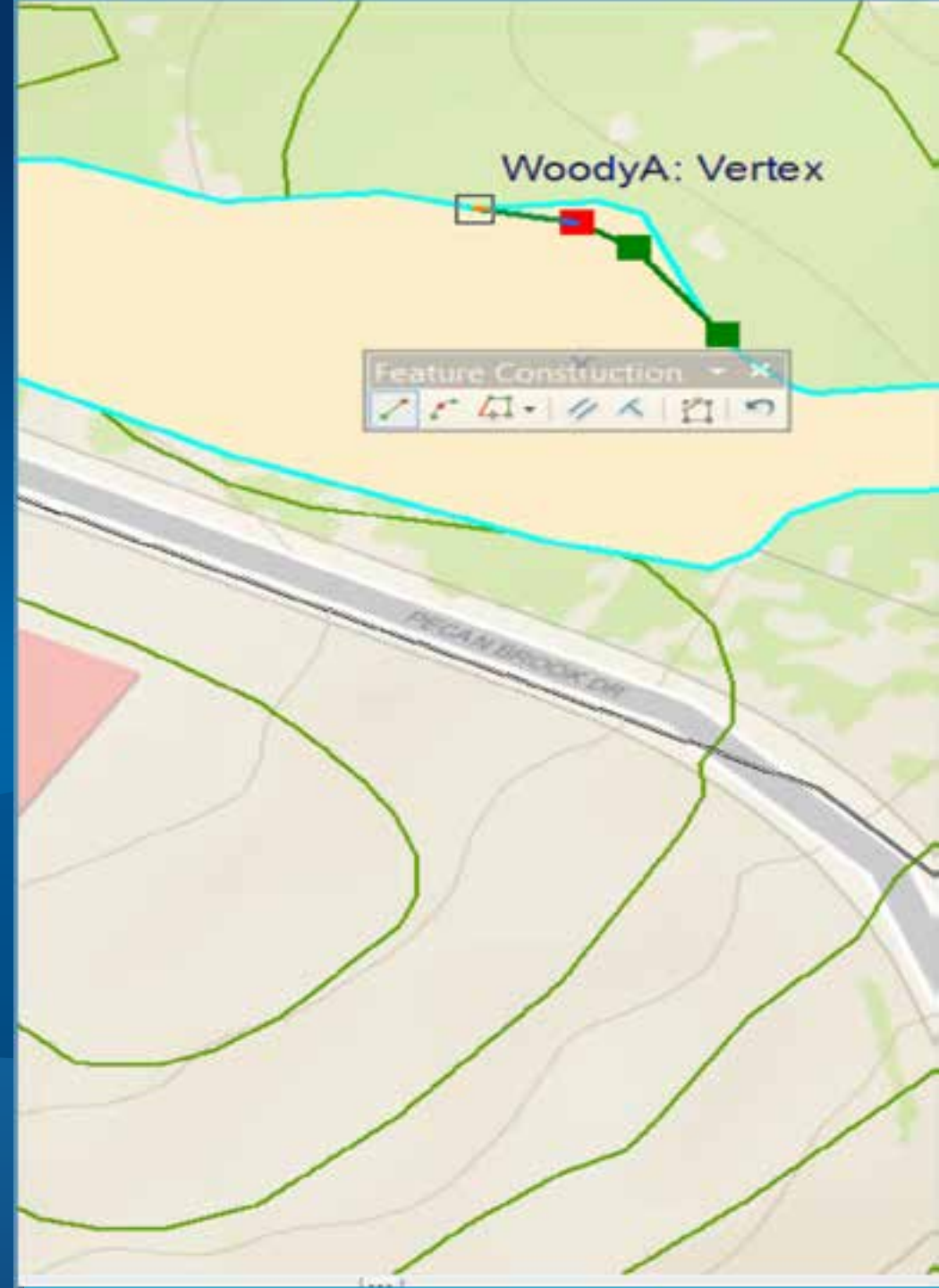




Demo

# Create New Features

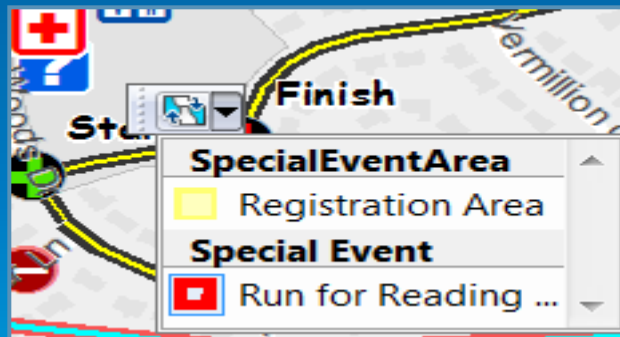
Phil



# Editing Existing Features

## Managing Selection

- Table of Contents
  - Layers
  - Features
- Selection Chip



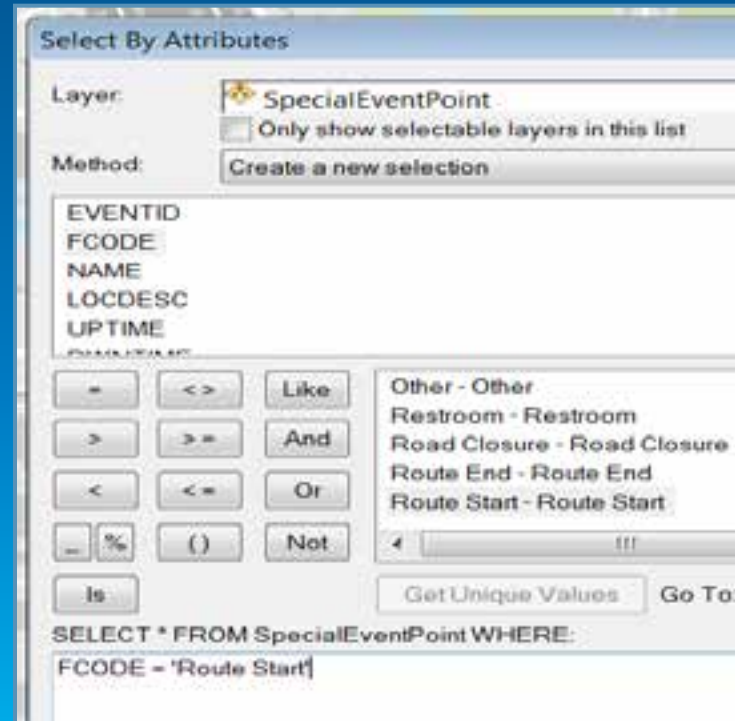
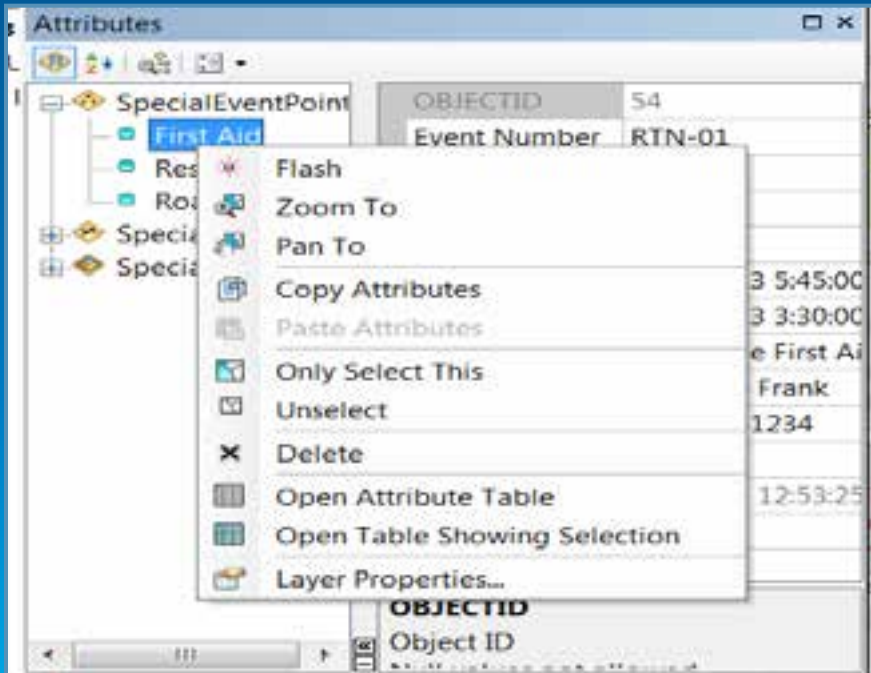
A screenshot of the Table of Contents window in ArcMap. The window title is "Table Of Contents" and it has standard window controls. The content is organized into several sections:

- Selected**
  - SpecialEventPoint** (6 features selected)
    - Event Point Type
    - Restroom** (1 feature selected)
      - Restroom
    - Road Closure** (5 features selected)
      - Road Closure
      - Road Closure
      - Road Closure
      - Road Closure
      - Road Closure
  - SpecialEventArea** (1 feature selected)
    - Event Area Type
    - Staging Area** (1 feature selected)
      - Registration Area
- Selectable (no features selected)**
  - SpecialEventLine** (0 features selected)
  - Special Event** (0 features selected)
- Not Selectable**
- Special Event Plannin...**

# Editing Existing Features

## More Managing Selection

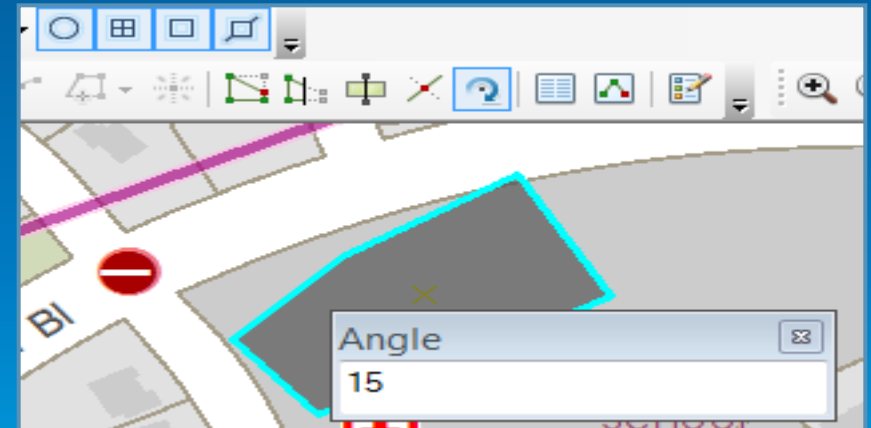
- Attributes Dialog
- Select by Attributes



# Editing Existing Features

## Whole Feature Editing

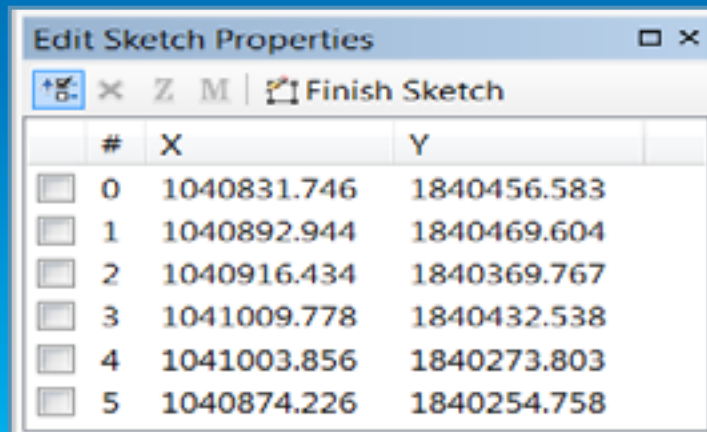
- **Move rotate and scale features**
  - Interactive
  - Precise value
- **Delete, copy/paste**
  - Select a layer to paste into



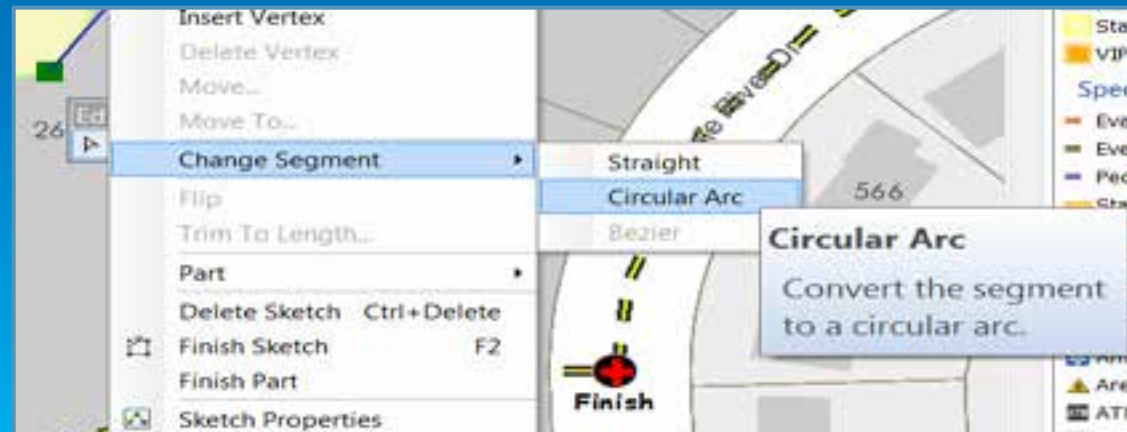
# Editing Existing Features

## Modifying the shape of a feature

- Edit individual vertices
  - Add, delete or move
  - Sketch properties
- Edit segments
  - Change segment type or length

A screenshot of the 'Edit Sketch Properties' dialog box in ArcMap. The dialog box has a title bar with 'Edit Sketch Properties' and a close button. Below the title bar are icons for undo, redo, and a 'Finish Sketch' button. The main area is a table with columns for '#', 'X', and 'Y'.

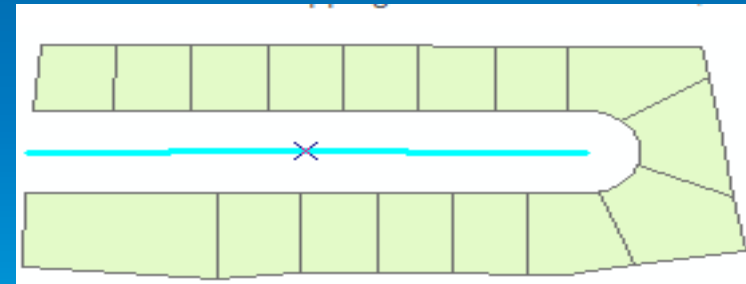
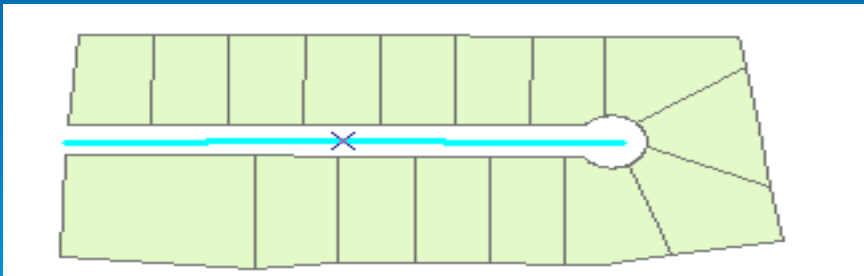
#	X	Y
0	1040831.746	1840456.583
1	1040892.944	1840469.604
2	1040916.434	1840369.767
3	1041009.778	1840432.538
4	1041003.856	1840273.803
5	1040874.226	1840254.758



# Editing Existing Features

Modifying the shape of a feature with another shape

- Reshape feature
- Cut polygon
- Clipping features



# Editing Existing Features

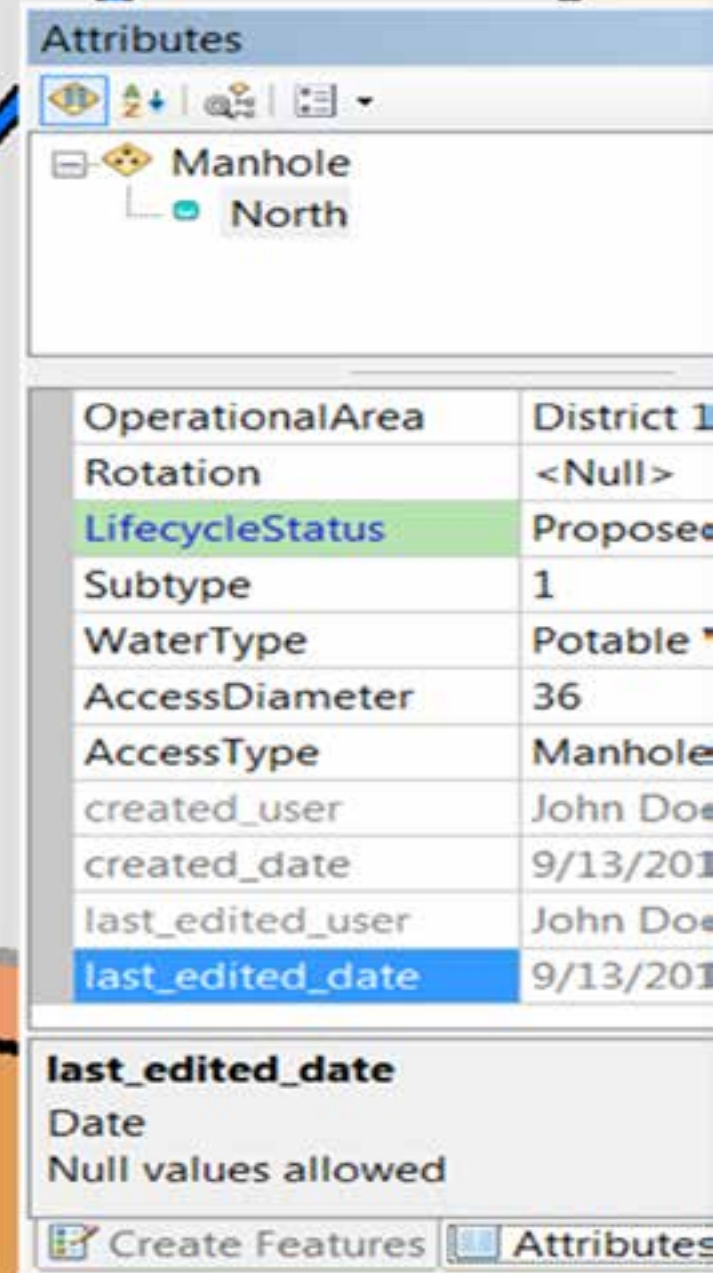
## Updating Attributes

- **Attribute dialog**
  - **View or edit attributes of selected features**
  - **Field properties are useful here**
  - **Update a bulk selection**
- **Table window**
  - **Calculate attributes or enter a single value**

Demo

# Editing Existing Features

Lisa



The screenshot shows the 'Attributes' window in ArcMap. At the top, there are icons for 'Show/Hide', 'Zoom', 'Query', and 'Table'. Below these, a tree view shows a folder icon for 'Manhole' and a sub-entry 'North'. The main area is a table of attributes:

OperationalArea	District 1
Rotation	<Null>
LifecycleStatus	Proposed
Subtype	1
WaterType	Potable
AccessDiameter	36
AccessType	Manhole
created_user	John Doe
created_date	9/13/2011
last_edited_user	John Doe
last_edited_date	9/13/2011

Below the table, the 'last\_edited\_date' attribute is expanded to show its details:

- last\_edited\_date**
- Date
- Null values allowed

At the bottom of the window, there are two buttons: 'Create Features' and 'Attributes'.



# Resources

- **ArcGIS Desktop blog**
- **<http://blogs.esri.com/esri/arcgis/>**
  - **Tip: Search 'Rhonda' J**
- **Editor Tutorial**
  - **Desktop > Editing > Fundamentals of Editing**

# Editing Workshops

- **Editing Tips and Tricks**
  - Tue 7/9, 1:30PM – 2:45PM, Room 7 A/B
  - Wed 7/10, 1:30PM – 2:45PM, Room 7 A/B
  - Fri 7/12, 9:00AM – 10:15AM, Ballroom 6 D
- **Data Alignment and Management in ArcMap**
  - Wed 7/10, 3:15PM – 4:30PM, Room 7 A/B
  - Thu 7/11, 10:15AM – 11:30AM, Room 7 A/B
- **Topology in the Geodatabase: An Introduction**
  - Tue 7/9, 1:30PM – 2:45PM Room 5 B
  - Wed 7/10, 10:15AM – 11:30 AM Room 5 B

**Thank you...**

- **Please fill out the session survey:**

**First Offering ID: 1159**

**Second Offering ID: 1272**

**Online – [www.esri.com/ucsessionsurveys](http://www.esri.com/ucsessionsurveys)**

**Paper – pick up and put in drop box**



Understanding our world.