



# Spatial Data Viewer (SDV) Version 1.0 Training

March, 2011  
Trainer – Cathy Cole, GISP



# Welcome & Introductions



- Greeting
- Incidentals
- Ground rules

# SDV Training Schedule

- Objectives
  - Provide Hands-on training for SDV
  
- Estimated Time
  - Approximately 3 hours
  
- Method of Instruction
  - Show & Tell
  - FAQ
  
- Materials
  - PowerPoint
  - SDV Tool

# Training Expectations

- SDV Training materials provided by GIS Unit
- SDV “hands-on” Training workshop
- Workshop introduces the SDV tool
- Demonstrate new tool
- SDV Spokesperson
- Enhance ability to guide & support others
- Network



# SDV Training Presentation



North Carolina Department of Transportation

Geographic Information Systems (GIS)

- SDV Training Outline
  - Introduction to SDV
    - Display Window
    - Contents Window
    - Ribbons
    - ArcExplorer button
    - Map Groups
    - Tools
    - SDV Resource Center
    - Scenario

# SDV Training

**SDV Components**

*Home Find Display*

*NC Add Map Services Add Content Basemap*

*Manage Layers*

*NC Zoom To View Folder Link Point Line Area Target Circle Rectangle Arrow*

*Tools Print SDV Resource Center Help*

**Resource Center**

*Contents*

- Boundaries - Division
- Boundaries - State
- Basemap (NCDOT Community Map)

**Preloaded Service Layers**

**NCDOT Community Map Basemap**

**Contents Window**

*IKFORT CHARLESTON Virginia North Carolina South Carolina ATLANTA Augusta Columbia Charleston*

*Roanoke Lynchburg Rocky Mount Fayetteville Wilmington*

*esri*

*123km*

*Source: USGS*

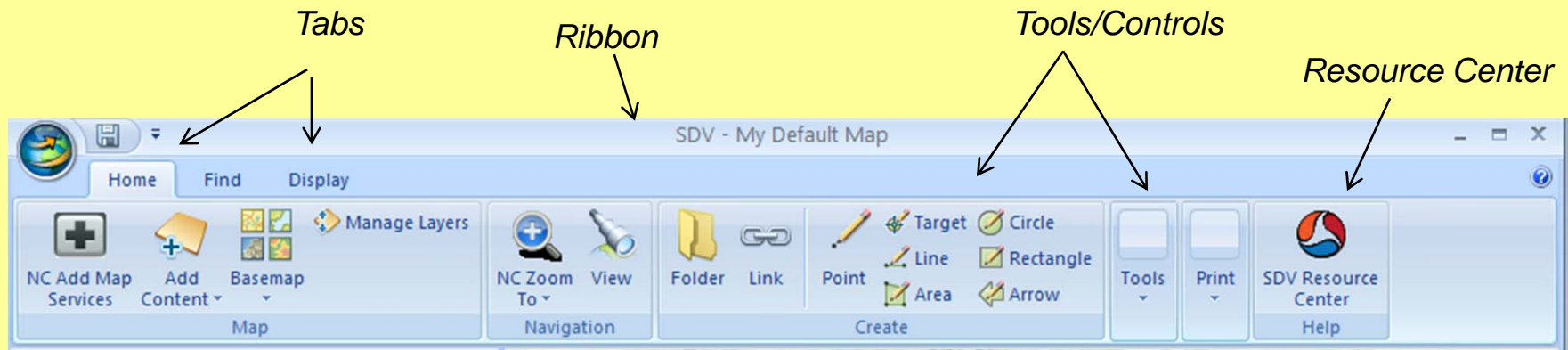
**Display Window**

*SDV - My Default Map*

*SDV My Default Map*

# SDV Training

- SDV Ribbon



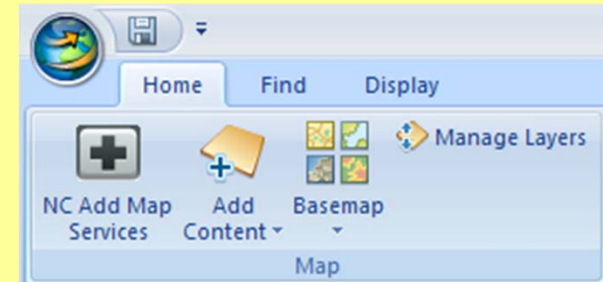


# SDV Training

## SDV Tabs

### Home Tab

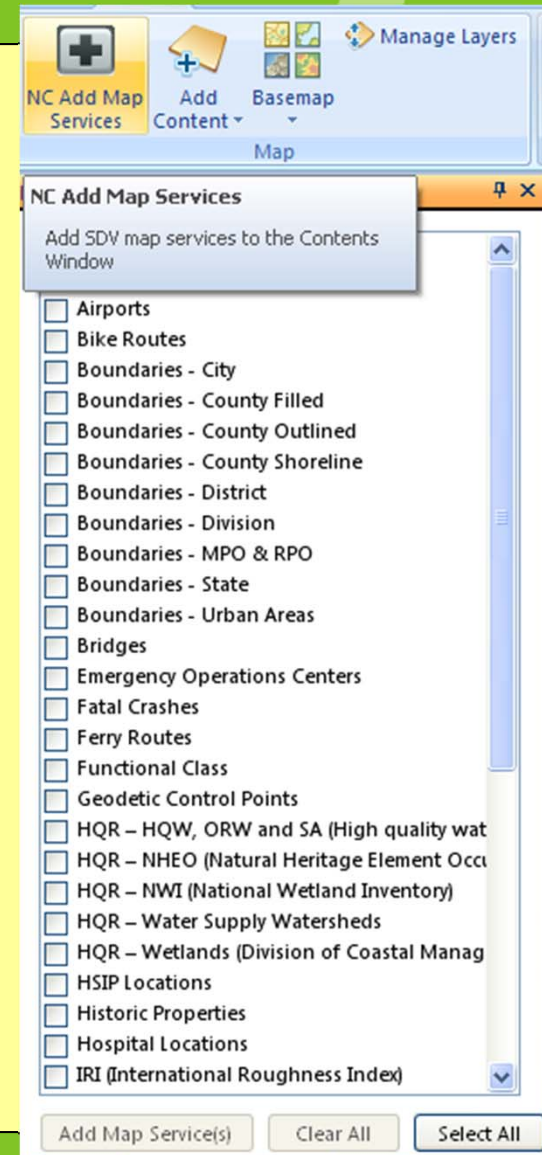
- **Map Group**
  - NC Add Map Services
    - » Add SDV map services to the Contents Window
  - Add Content
    - » ArcGIS online, layers, Map Content files, KML files, GIS Services, shapefiles, raster data, Geodatabase, text files, GPS data, Image overlays
  - Basemap
    - » NCDOT, ESRI's World Topo, Bing, My Basemap
  - Manage Layers
    - » Change layer position, remove, clear cache



# SDV Training

## NC Add Map Services

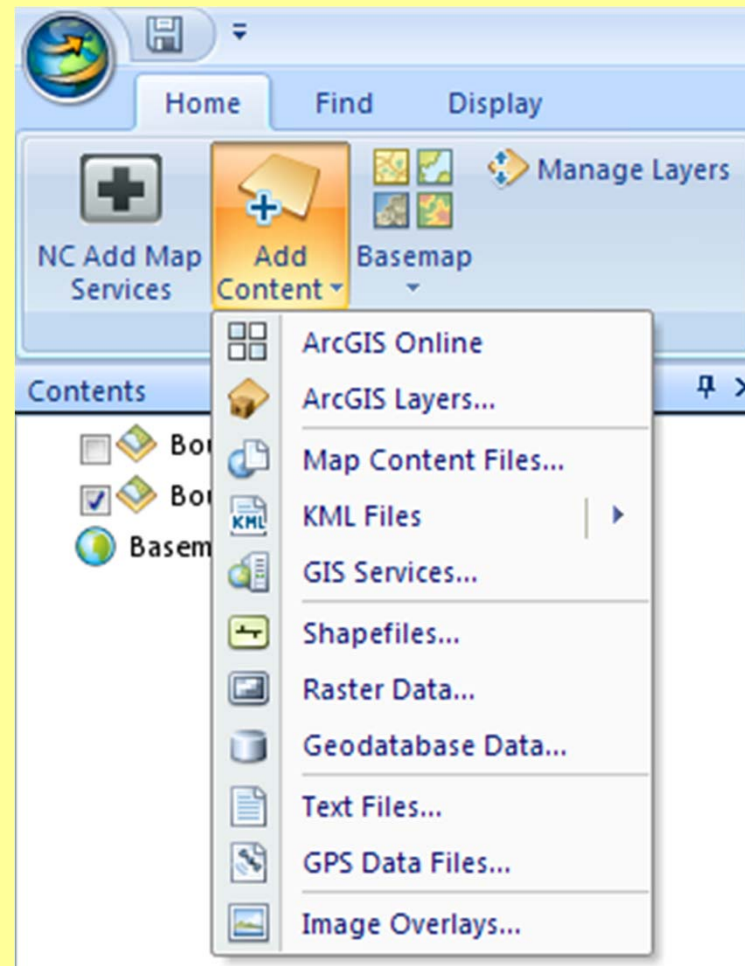
Over 40 map services, with new ones being developed with guidance from the business units;  
keep an eye on the map service table and the announcements in the Resource Center for new services.



# SDV Training

## Add Content

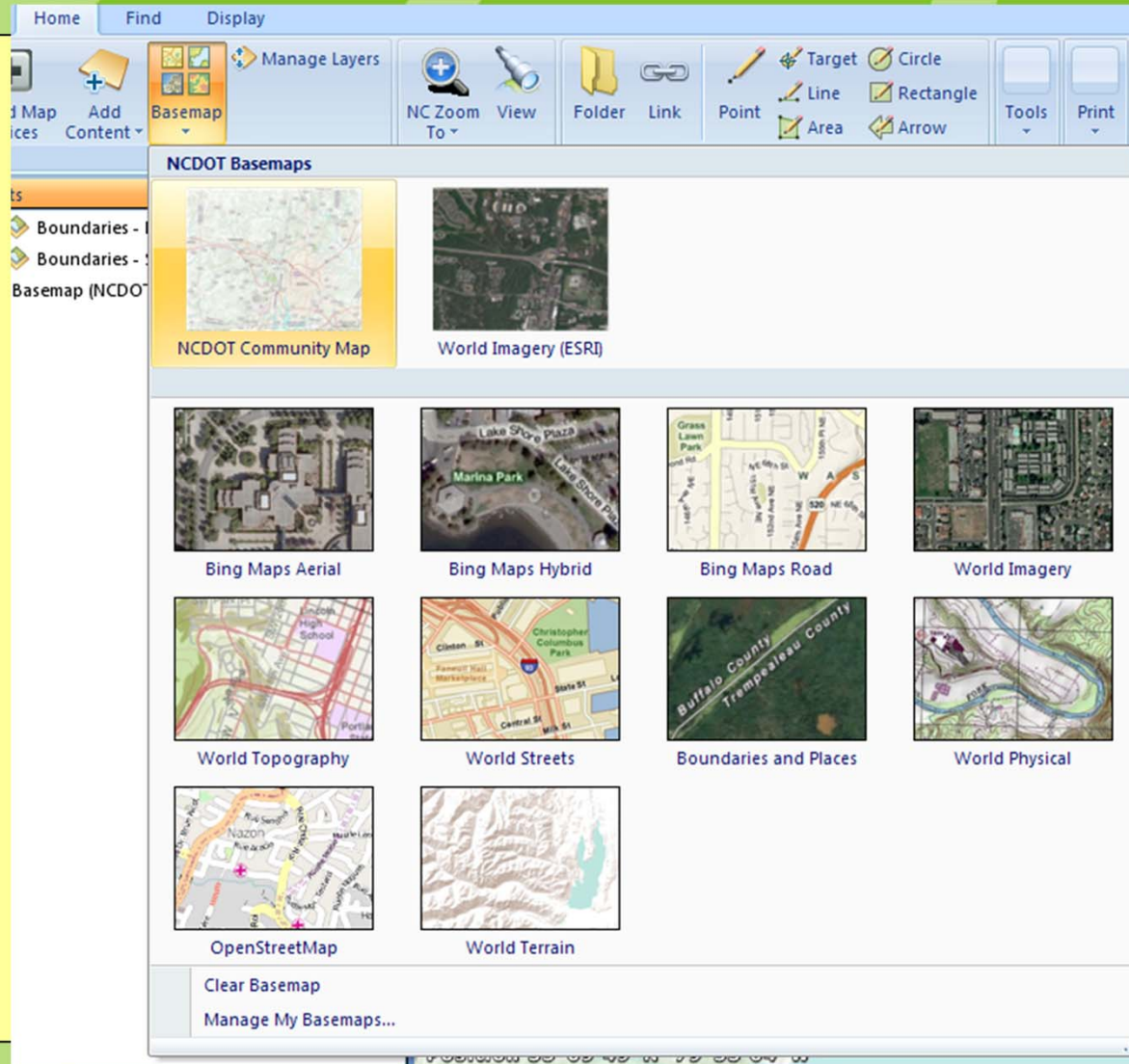
- ArcGIS layers
- Shapefiles
- Rasters
- Text
- Overlays



# SDV Training

## Basemaps

- NCDOT Community
- Imagery
- Aerials
- Roads
- Topo
- Terrain



# SDV Resource Center

<http://gisi01.dot.nc.net/SDVResourceCenter>



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**NCDOT SDV**  
SPATIAL DATA VIEWER

Providing access to North Carolina transportation-related geospatial information

Home Services and Data Help Support Contact Us

### Welcome to the SDV Resource Center

The Spatial Data Viewer (SDV) is the NCDOT GIS Unit's unique solution to providing GIS-oriented maps, data, and tools to organizations interested in transportation-related geospatial information.

SDV is a lightweight desktop application utilizing Esri's free ArcGIS Explorer software supported by internal and external maps and data. SDV's purpose is to serve as a viewer for the most current 2D datasets published by the NCDOT Enterprise. With SDV, the enterprise can obtain access to the data and maps important to the business of NCDOT.

### Announcements

February 28, 2011  
NCDOT GIS launches SDV V1.0!

### Coming Soon

Train the Trainer Course coming to your area soon!

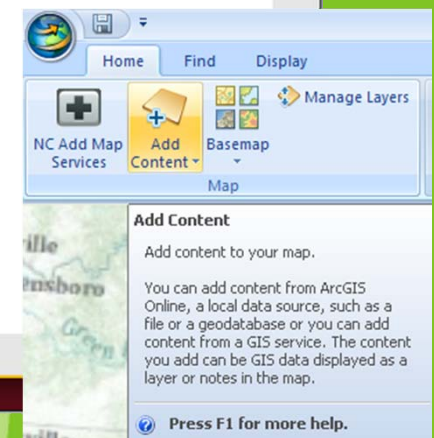
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SDV Resource Center



SDV Help

- Hover over tool for description



SDV Resource Center



Map Services

Map / GIS Service

and

Layer type served out to users via ArcGIS Server, based on potentially several different layers containing specific feature symbology, labeling, and scaled views that cannot be changed by the user.

Data Layers

Map Service Layers

Shapefiles

Geodatabase layers

ArcGIS layers

ect..



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Services and Data  
**Map Services**  
 Data Layers  
 Tool Data  
 Basemaps

**Map Services**

The following is a list of map services available in SDV.

\*\*Click on link to view data layer metadata.

Map Service	Description	Data Layers**
AADT Linear Segments	Statewide AADT Volume Groups segments	<a href="#">ROAD_AADT_EST_ARC</a>
AADT Count Stations	Statewide average daily traffic count stations	<a href="#">ROAD_AADT_CNT_STATION_POINT</a>
Airports	Statewide airport locations	<a href="#">AIRPORT_POINT</a>
Bike Routes	Statewide bicycle routes and Local suitability/routes	<a href="#">ROAD_BICYCLE_ROUTE_ARC</a>
Boundaries - City	Statewide municipal boundaries	<a href="#">BOUNDARY_MUNICIPAL_POLYGON</a>
Boundaries - County Filled	Statewide county polygon boundaries	<a href="#">BOUNDARY_COUNTY_POLYGON</a>
Boundaries - County Outlined	Statewide county line boundaries	<a href="#">BOUNDARY_COUNTY_ARC</a>
Boundaries - County Shoreline	Statewide county polygon boundaries, with shoreline	<a href="#">BOUNDARY_COUNTY_SHRLN_POLYGON</a>
Boundaries - District	Statewide NCDOT District boundaries	<a href="#">BOUNDARY_DOT_DISTRICT_POLYGON</a>
Boundaries - Division	Statewide NCDOT Division boundaries	<a href="#">BOUNDARY_DOT_DIVISION_POLYGON</a>

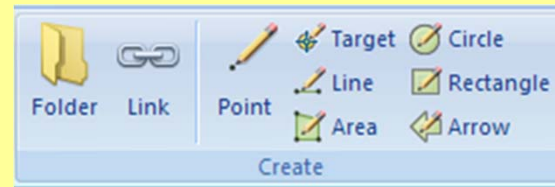
# SDV Training

- **Home Tab**
- **Navigation Group**
  - NC Zoom To
    - State, Division, County, City, Community, Street
  - View
    - Create a view of map to return to
- **SDV Resource Center**  
<http://gisi01.dot.nc.net/SDVResourceCenter>



# SDV Training

- Home Tab
- Create Group



- Folder
- Link
- Point
- Target
- Line
- Circle
- Rectangle
- Area

- SDV Resource Center

<http://gisi01.dot.nc.net/SDVResourceCenter/Notes.aspx>

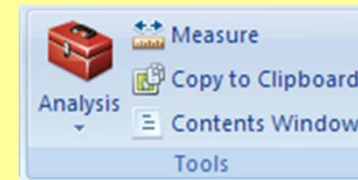


# SDV Training

- **Home Tab**

- **Tools Group**

- Analysis
    - Measure
    - Copy to Clipboard
    - Contents Window

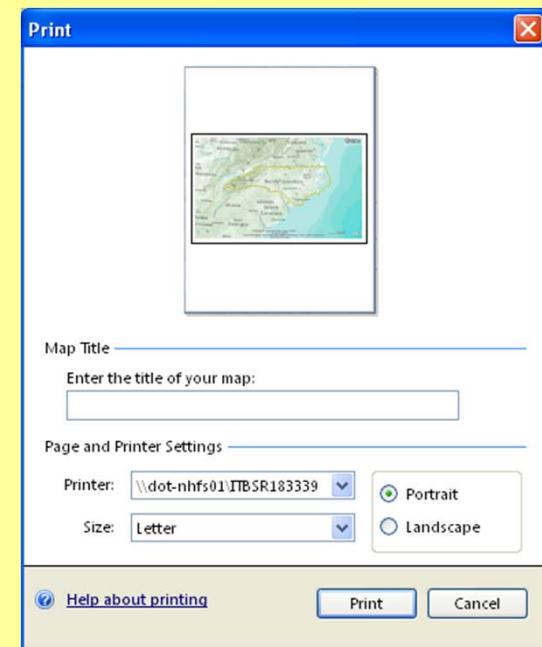
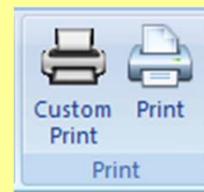
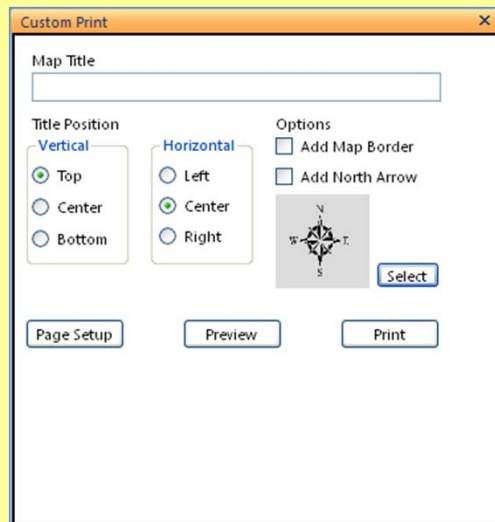


- SDV Resource

<http://gisi01.dot.nc.net/SDVResourceCenter/MeasureToolHighlights.aspx>

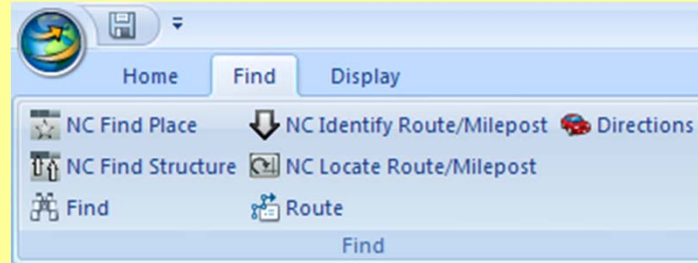
# SDV Training

- **Home Tab**
  - **Print Group**
    - Custom Print
      - Map title, border, North Arrow
    - Print
      - Map title, printer, size, orientation

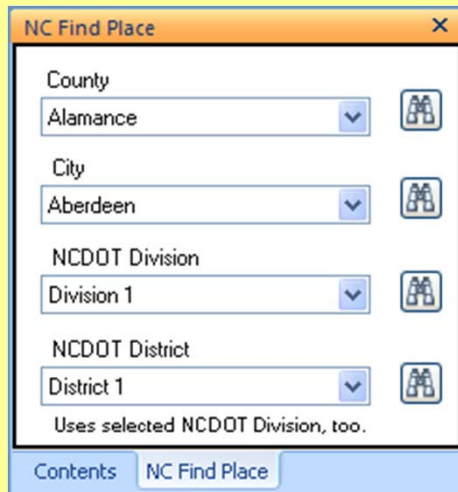


# SDV Training

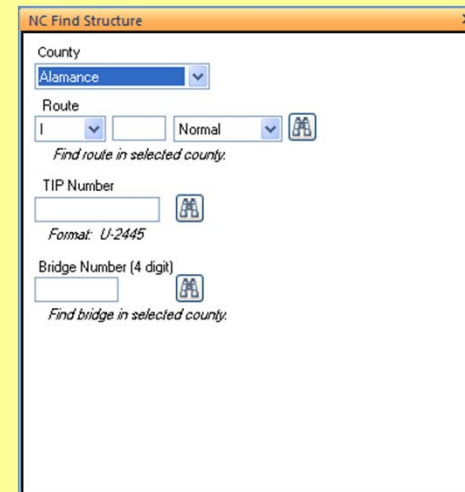
- **Find Tab**
  - **Find Group**



- NC Find Place
  - County, City, NCDOT Division, NCDOT District
- NC Find Structure
  - County, Route, TIP Number, Bridge Number



The 'NC Find Place' dialog box has four dropdown menus: County (Alamance), City (Aberdeen), NCDOT Division (Division 1), and NCDOT District (District 1). Each dropdown has a search icon to its right. Below the dropdowns, it says 'Uses selected NCDOT Division, too.' At the bottom, there are 'Contents' and 'NC Find Place' buttons.



The 'NC Find Structure' dialog box has a 'County' dropdown (Alamance) and a 'Route' dropdown (I). The 'Route' dropdown has a search icon and a 'Normal' dropdown. Below these, it says 'Find route in selected county:'. There is a 'TIP Number' input field with a search icon and the text 'Format: U-2445'. Below that is a 'Bridge Number (4 digit)' input field with a search icon and the text 'Find bridge in selected county:'.

- **Find Tab**

- **Find Group** continued

- Find

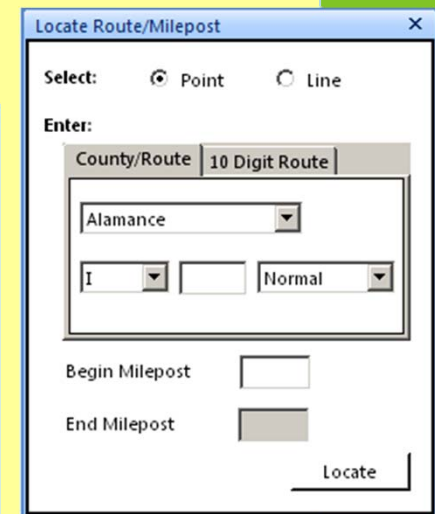
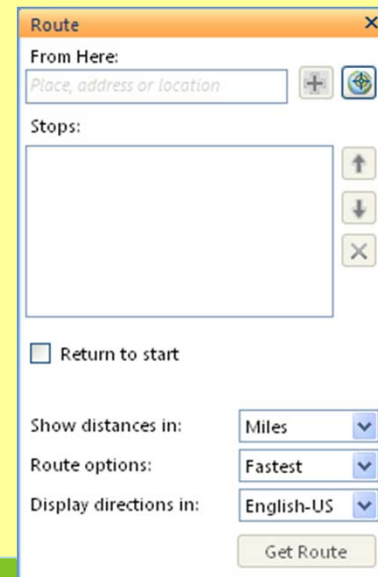
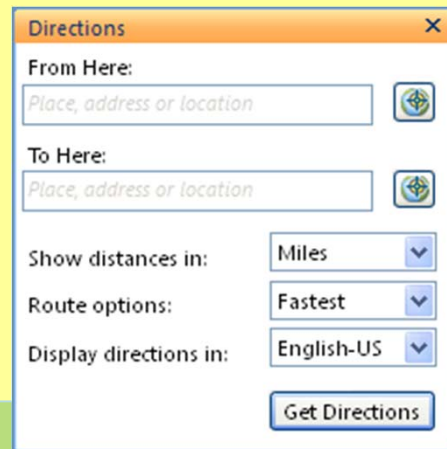
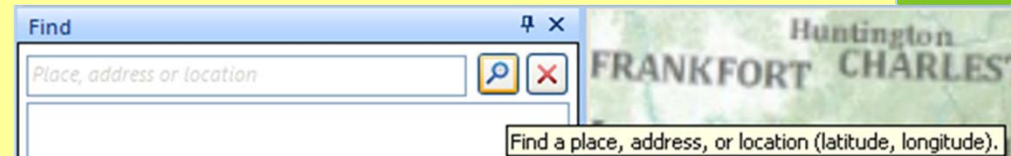
- NC Identify Route/Milepost

- provides a mechanism to identify a route and its milepost information at a specified point

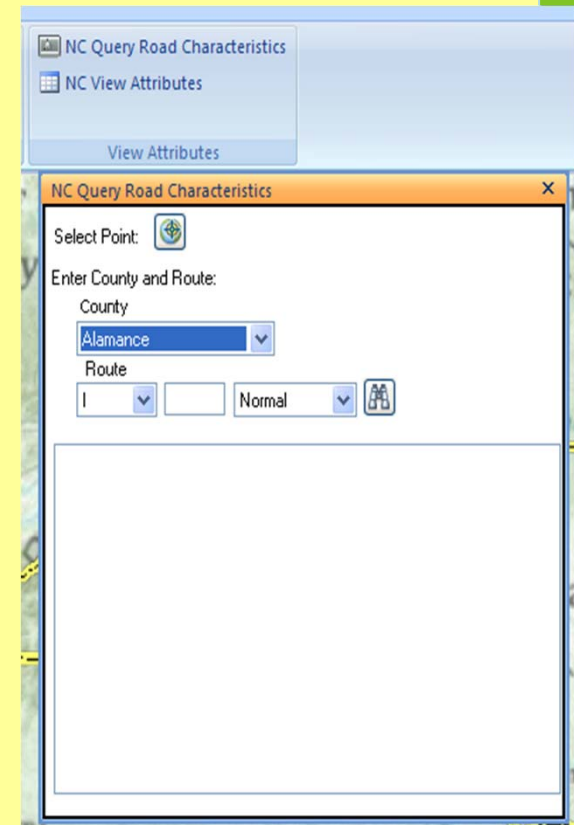
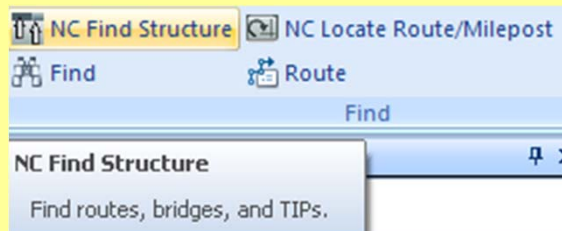
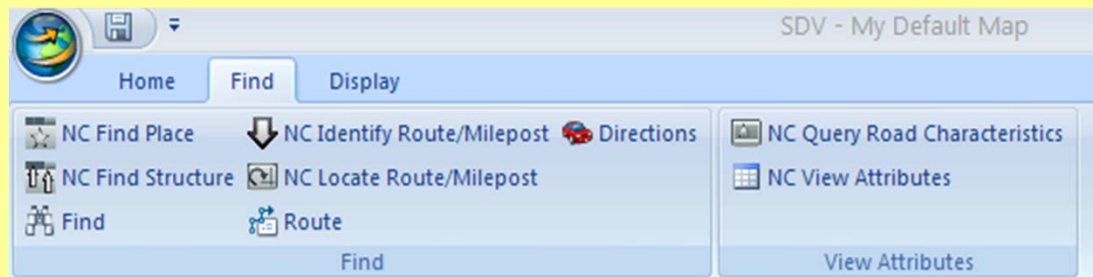
- NC Locate Route/Milepost

- Route

- Directions



- **Find Tab**
  - **View Attributes Group**
    - NC Query Road Characteristics
      - Retrieve road characteristics
    - NC View Attributes
      - View feature layer attributes

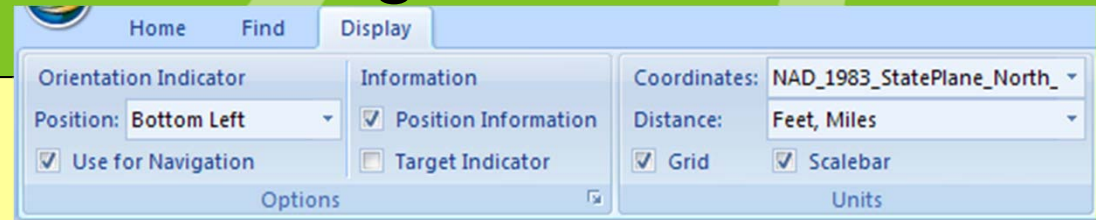


# SDV Training

- **Display Tab**

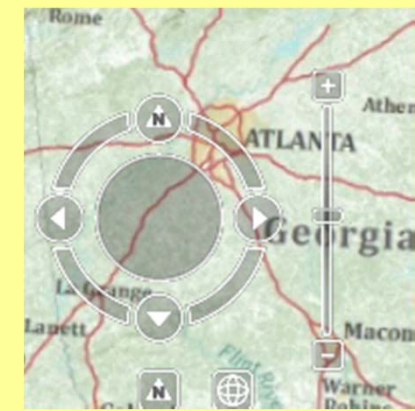
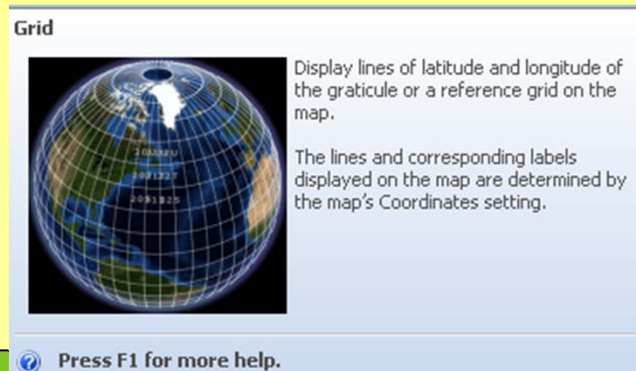
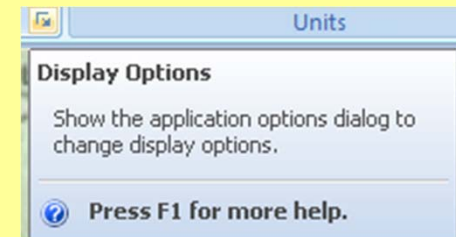
- **Options Group**

- Orients the zoom/pan tool to move around the Display Window



- **Units Group**

- Select coordinate system, units of measurement
    - Select Grid, Scalebar



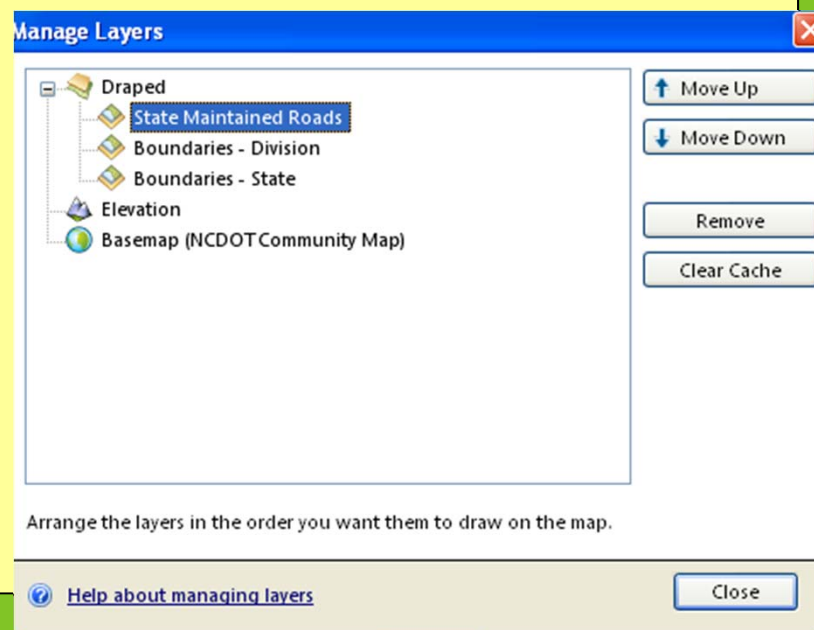
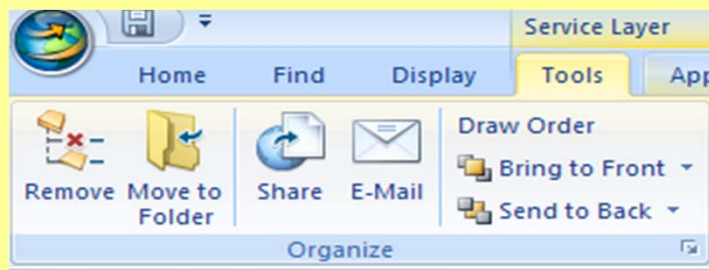
# SDV Training

- **Tools Tab**

- Visible when Layers or Notes are selected in Contents Window

- **Organize Group**

- Remove
- Move to Folder
- Share
- E-Mail
- Draw Order
  - Bring to Front
  - Send to Back

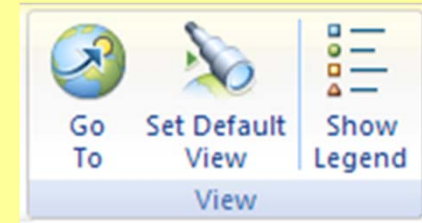


# SDV Training

- **Tools Tab**

- **View Group**

- Go To
      - Zooms to selected content layer
    - Set Default View
      - Bookmarks the map
    - Show Legend
      - Shows features of selected content layer





# SDV Training

- **Tools Tab**
  - **Effects Group**
    - Transparency
      - For selected layer

(Can be accessed from Appearance)

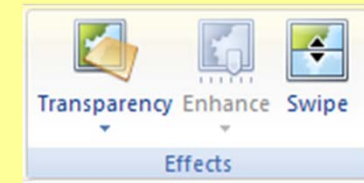
- Enhance
  - For image
- Swipe
  - For selected layer

## Transparency

Change the transparency of the selected item(s) to allow you to see more or less of the underlying data.

Move the slider bar to adjust the transparency; the higher the percentage, the more transparent the item.

 Press F1 for more help.



## Enhance

Change brightness, contrast and Gamma correction of imagery data.

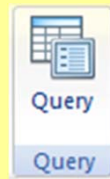
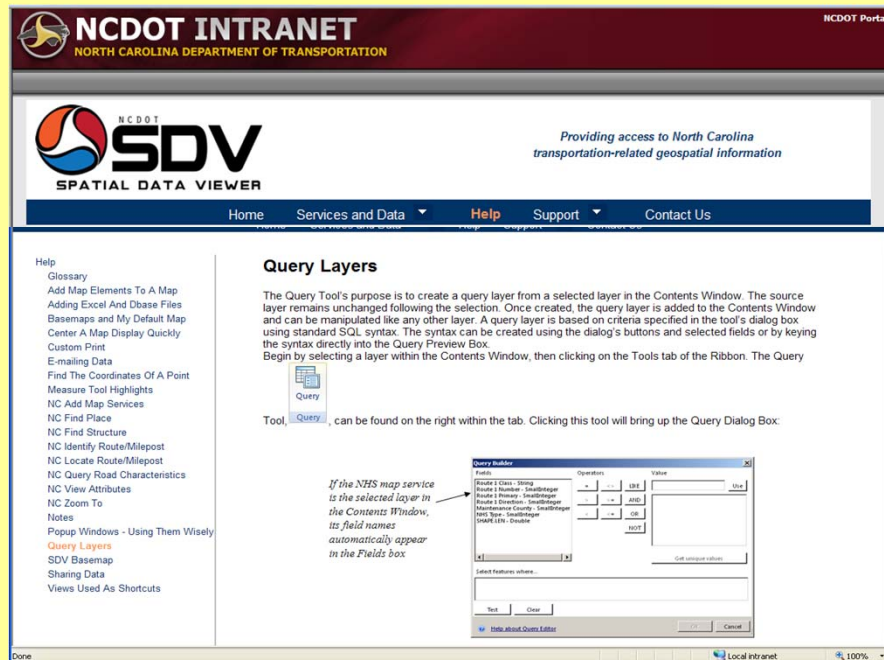
## Swipe

Use your mouse to pull back the selected item(s) on the map to reveal what's underneath.



# SDV Training

- **ToolsTab**
  - **Query Group**
    - To query a selected layer from the Contents Window
    - Access SDV Resource Center for Help

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**Help**

Glossary  
 Add Map Elements To A Map  
 Adding Excel And Dbase Files  
 Basemaps and My Default Map  
 Center A Map Display Quickly  
 Custom Print  
 E-mailing Data  
 Find The Coordinates Of A Point  
 Measure Tool Highlights  
 NC Add Map Services  
 NC Find Place  
 NC Find Structure  
 NC Identify Route/Milepost  
 NC Locate Route/Milepost  
 NC Query Road Characteristics  
 NC View Attributes  
 NC Zoom To  
 Notes  
 PopUp Windows - Using Them Wisely  
 Query Layers  
 SDV Basemap  
 Sharing Data  
 Views Used As Shortcuts

**Query Layers**

The Query Tool's purpose is to create a query layer from a selected layer in the Contents Window. The source layer remains unchanged following the selection. Once created, the query layer is added to the Contents Window and can be manipulated like any other layer. A query layer is based on criteria specified in the tool's dialog box using standard SQL syntax. The syntax can be created using the dialog's buttons and selected fields or by keying the syntax directly into the Query Preview Box. Begin by selecting a layer within the Contents Window, then clicking on the Tools tab of the Ribbon. The Query

 Tool, **Query**, can be found on the right within the tab. Clicking this tool will bring up the Query Dialog Box:

*If the NTS map service is the selected layer in the Contents Window, its field names automatically appear in the Fields box*

Fields	Operators	Value
Route Class - String	=	100
Route Number - Integer	=	100
Route Priority - Integer	=	100
Route Structure - Integer	=	100
Maintenance County - Integer	=	100
NTS Type - Integer	=	100
SMILE LTR - Double	=	100

Select Features where:

Text Clear

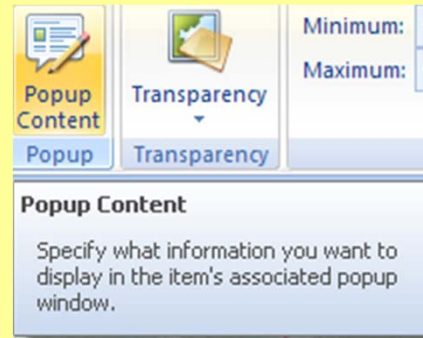
Help About Query Editor

# SDV Training

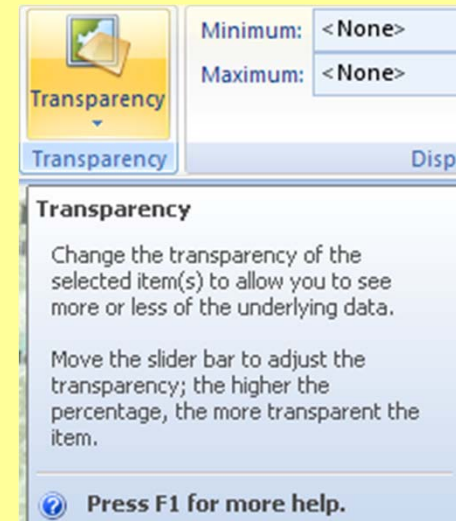
- **Appearance Tab**

- **Popup Group**

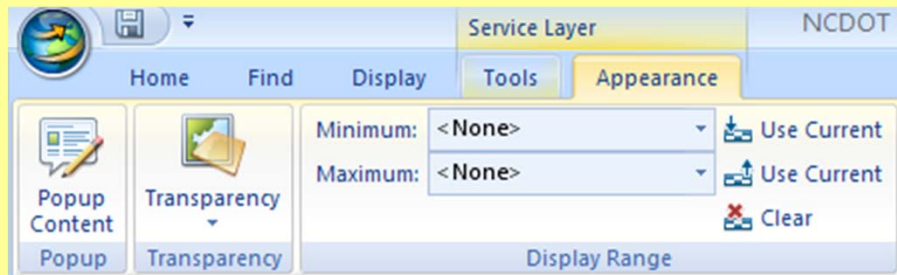
- Provides information about item selected



- **Transparency Group**

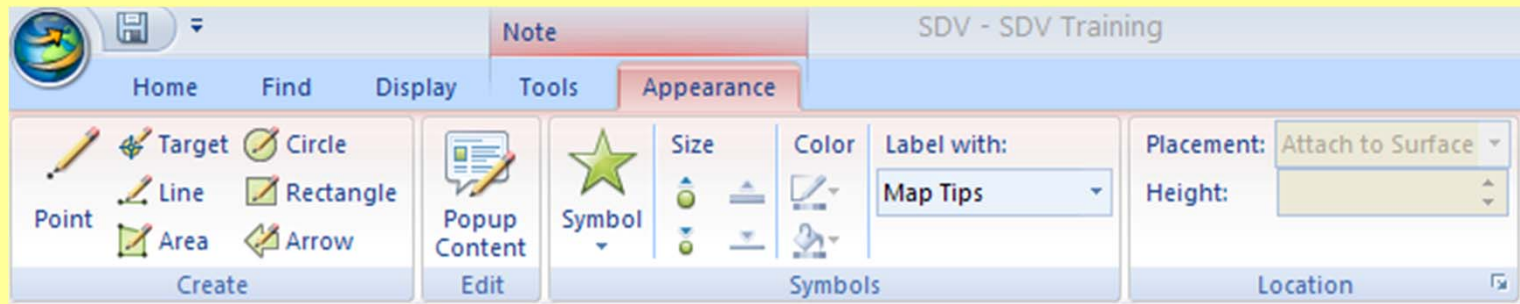


- **Display Range Group**



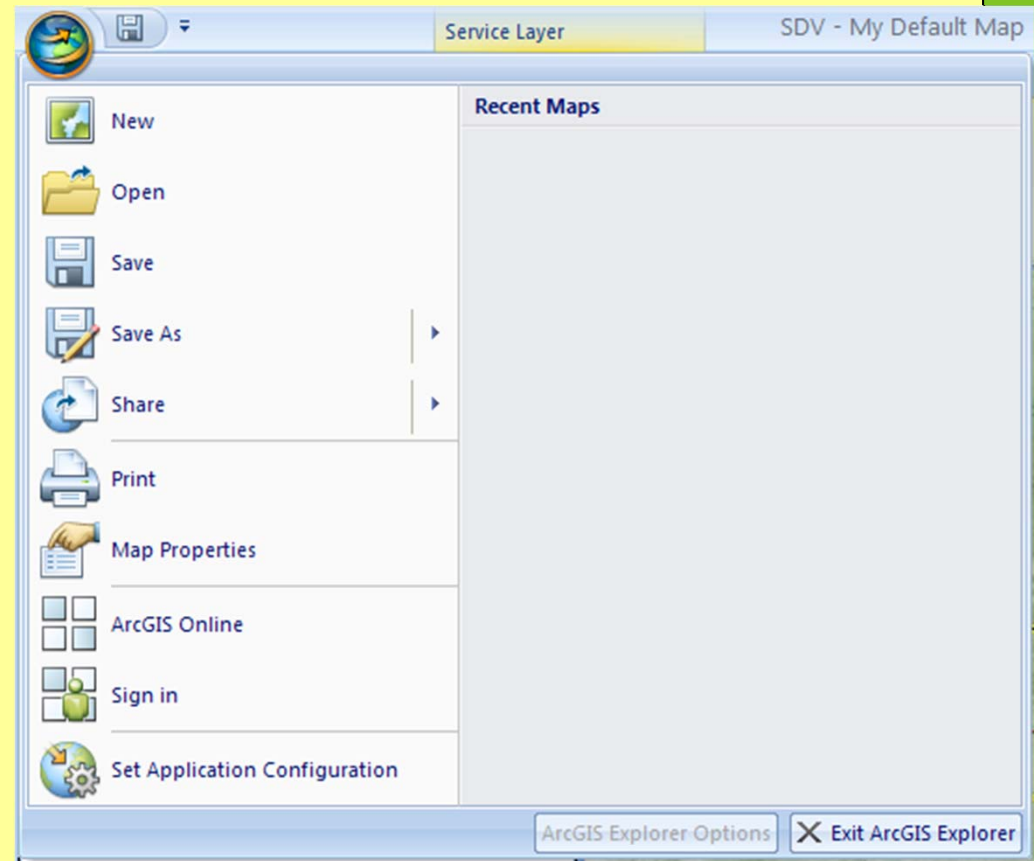
# SDV Training

- Appearance Tab
  - Change the display options
  - Notes
  - Symbols
  - Labels



# SDV Training

- ArcGIS Explorer Button
  - New
  - Open
  - Save
  - Save As
  - ArcExplorer Map,
  - My Default Map,
  - New Basemap
  - Share
  - Upload ArcGIS Online,
  - E-mail map,
  - E-mail view
  - Print



# SDV Training

## FACILITATE

- Measure
- Access NC and NCDOT data
- Share information

## FUNCTIONALITY

- More NC map services
- More NC tools
- SDV Resource Center -  
<http://gisi01.dot.nc.net/SDVResourceCenter/>

## FUTURE

- Suggestions go to SDVHelp - [sdvhelp@ncdot.gov](mailto:sdvhelp@ncdot.gov)

## TRAINING

- Training other users helps everyone

# SDV Training

## Collapsed Bridge Scenario

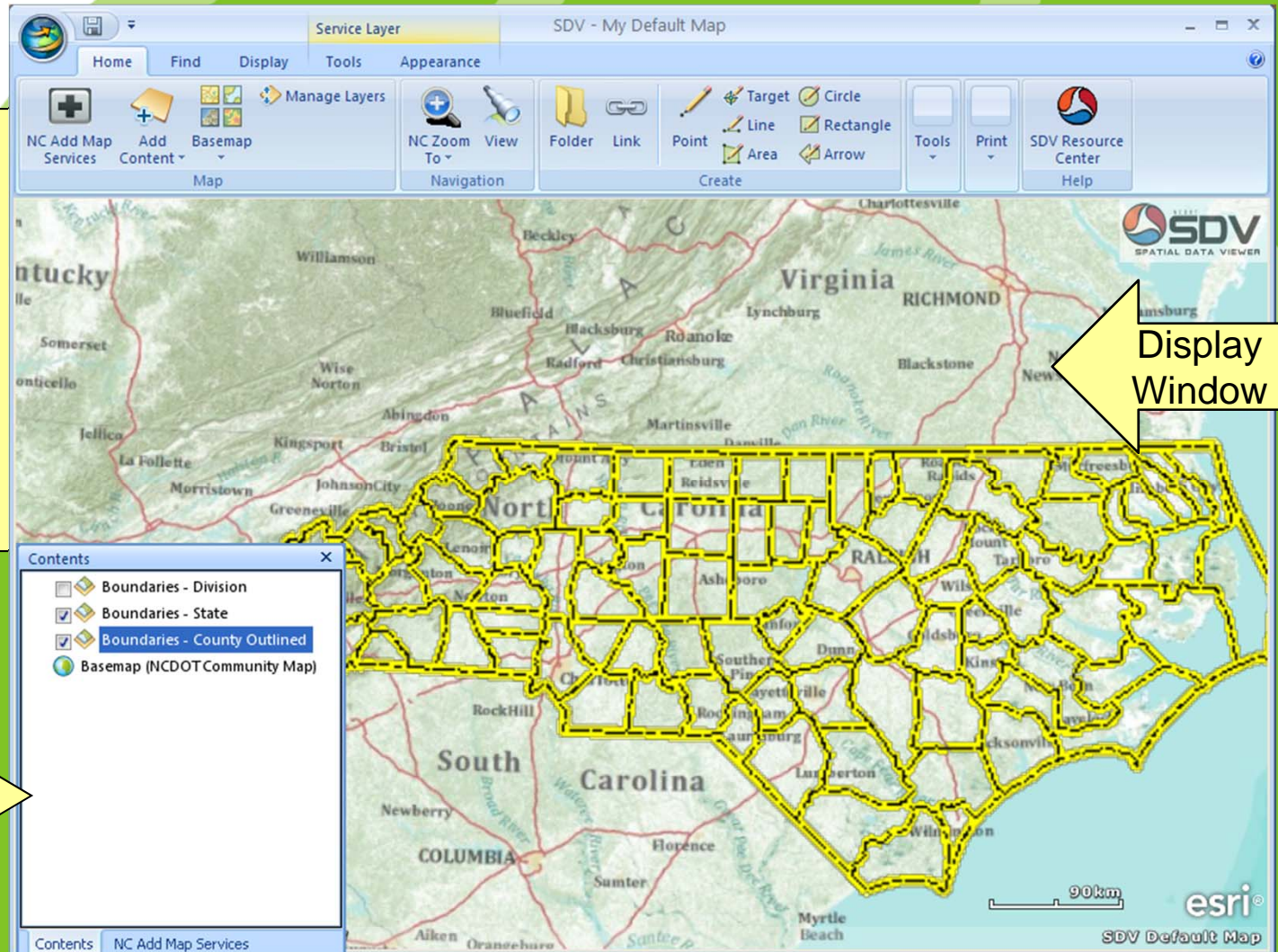


- **Collapsed Bridge Scenario**
  - Add Map Services
  - SDV Resource Center
  - NC Find Tools
  - Query Tools
  - Zoom to incident area (mouse, NC Zoom, navigation tool)
  - Change Basemap
  - Find road, bridge characteristics of incident
  - View attributes of collapsed section
  - Create note for area in question
  - Email the map
  - Add external data to the map
  - Measure area around collapsed bridge, distance to alternate route
  - Add North Arrow, Print Map



# SDV Training

- Open SDV
- Add NC Map Service
- Select layer

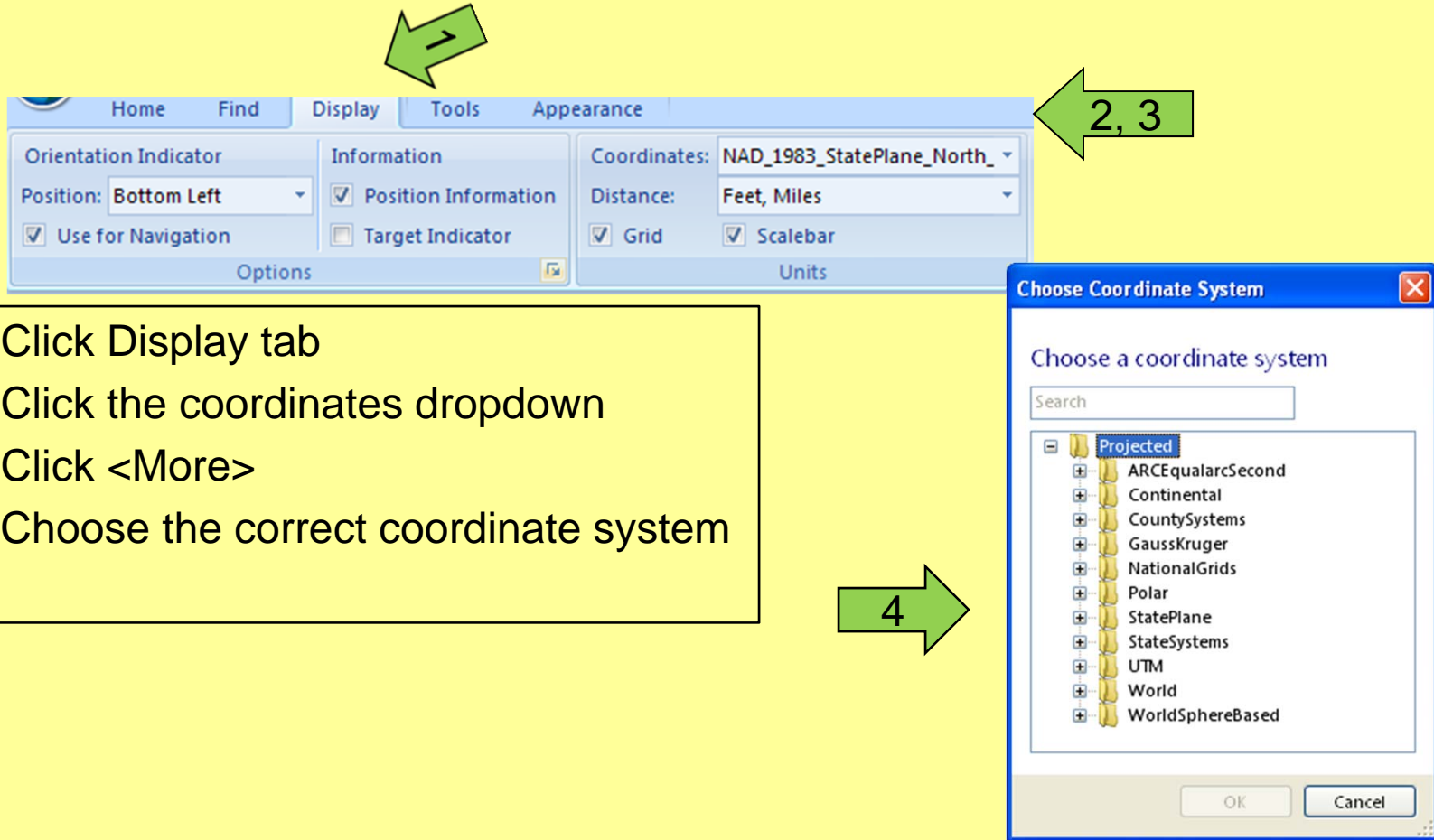


Contents Window  
(docking)

Display  
Window

# SDV Training

To change the map coordinate system:



1. Click Display tab

2. Click the coordinates dropdown

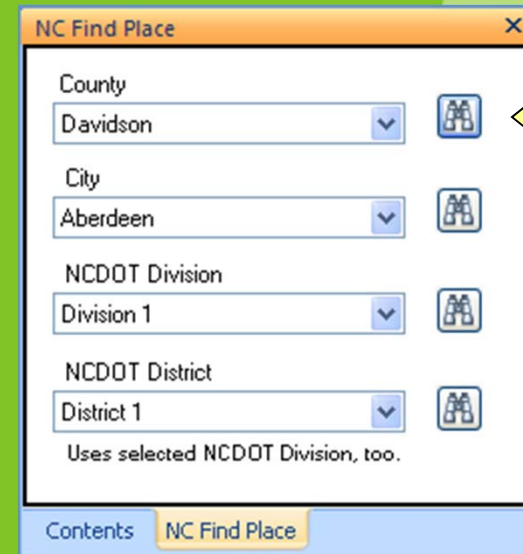
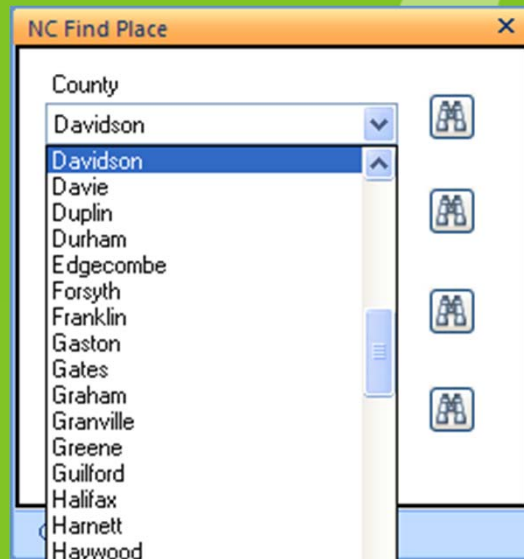
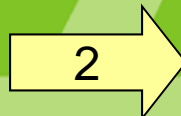
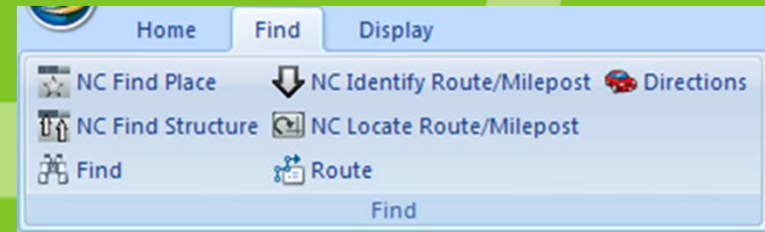
3. Click <More>

4. Choose the correct coordinate system

# SDV Training

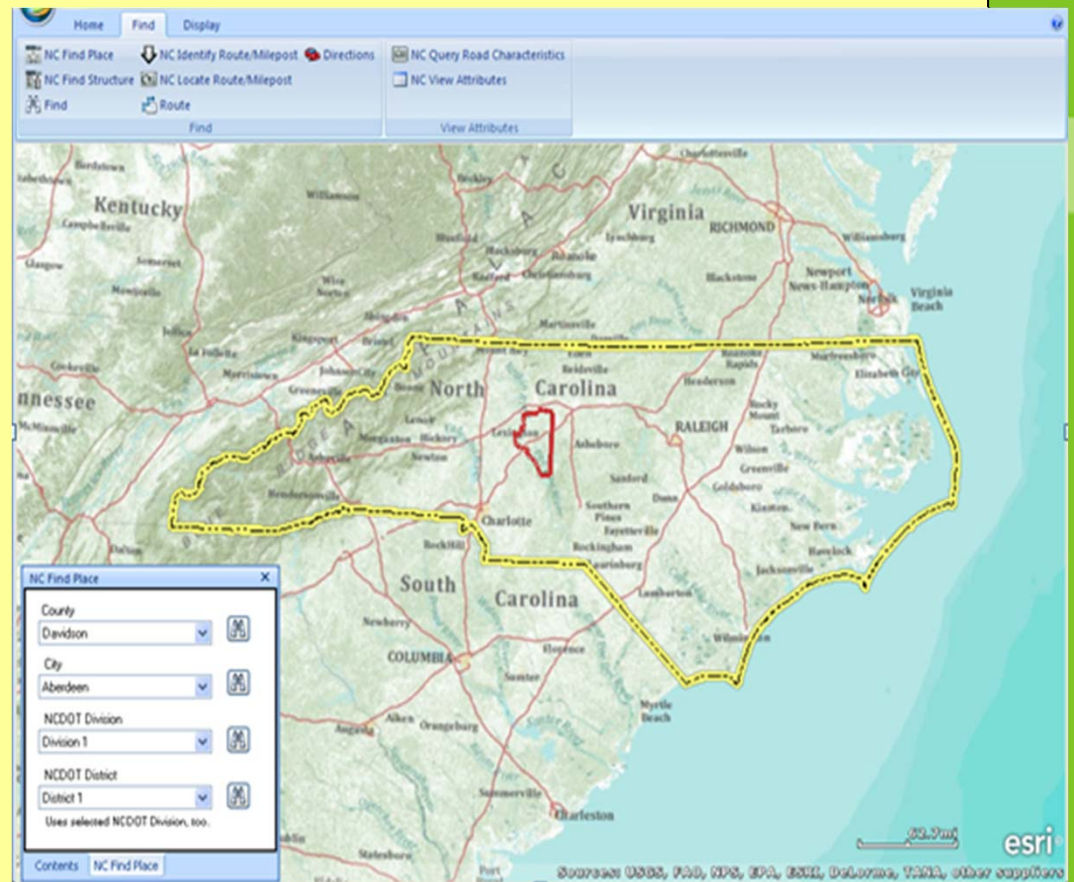
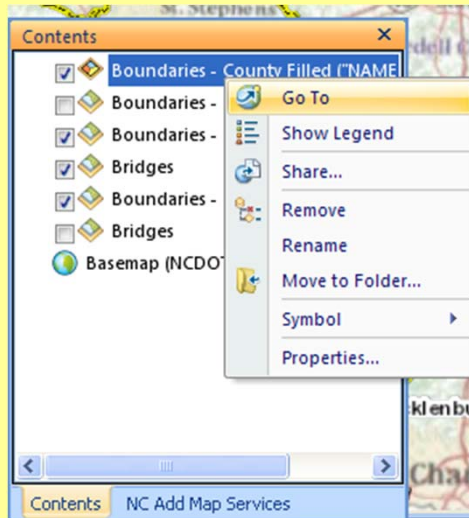
## Find Davidson County

1. Click Find tab
2. Click NC Find Place
3. From the County drop down list choose Davidson County
4. Click the search button

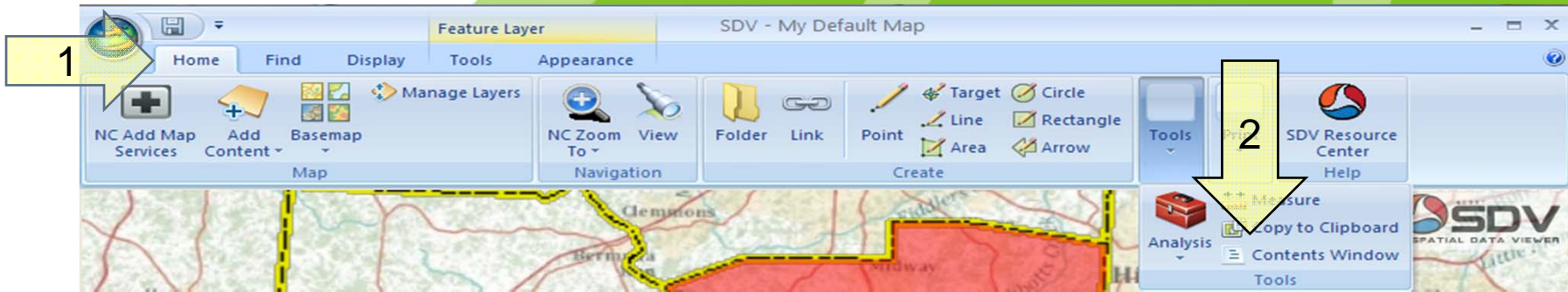


# SDV Training

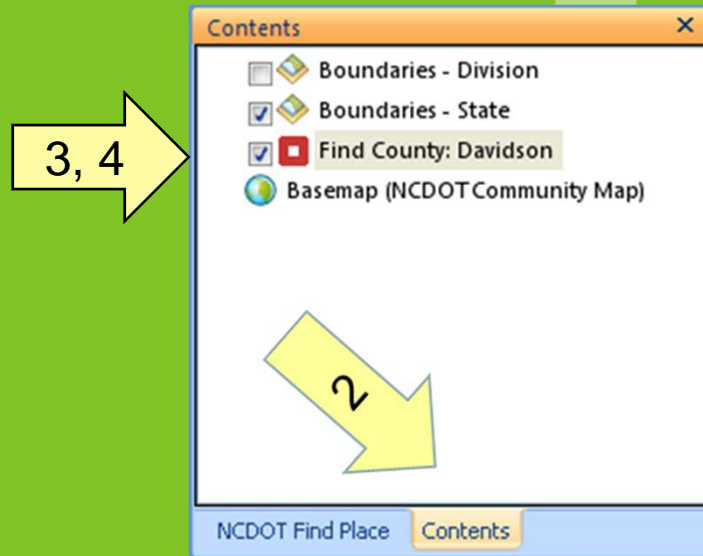
- County is located, now zoom in
  - Right Click, Go To
  - Scroll button on mouse
  - GO To Icon under Appearance tab



# SDV Training



1. Click Home tab
2. Click Contents Window (there are 2 ways to get there)
3. Check the Find County: Davidson option box
4. Right click on Find County: Davidson
5. Click "Go to"
6. Or Double Click Find County: Davidson
7. SDV zooms in to county



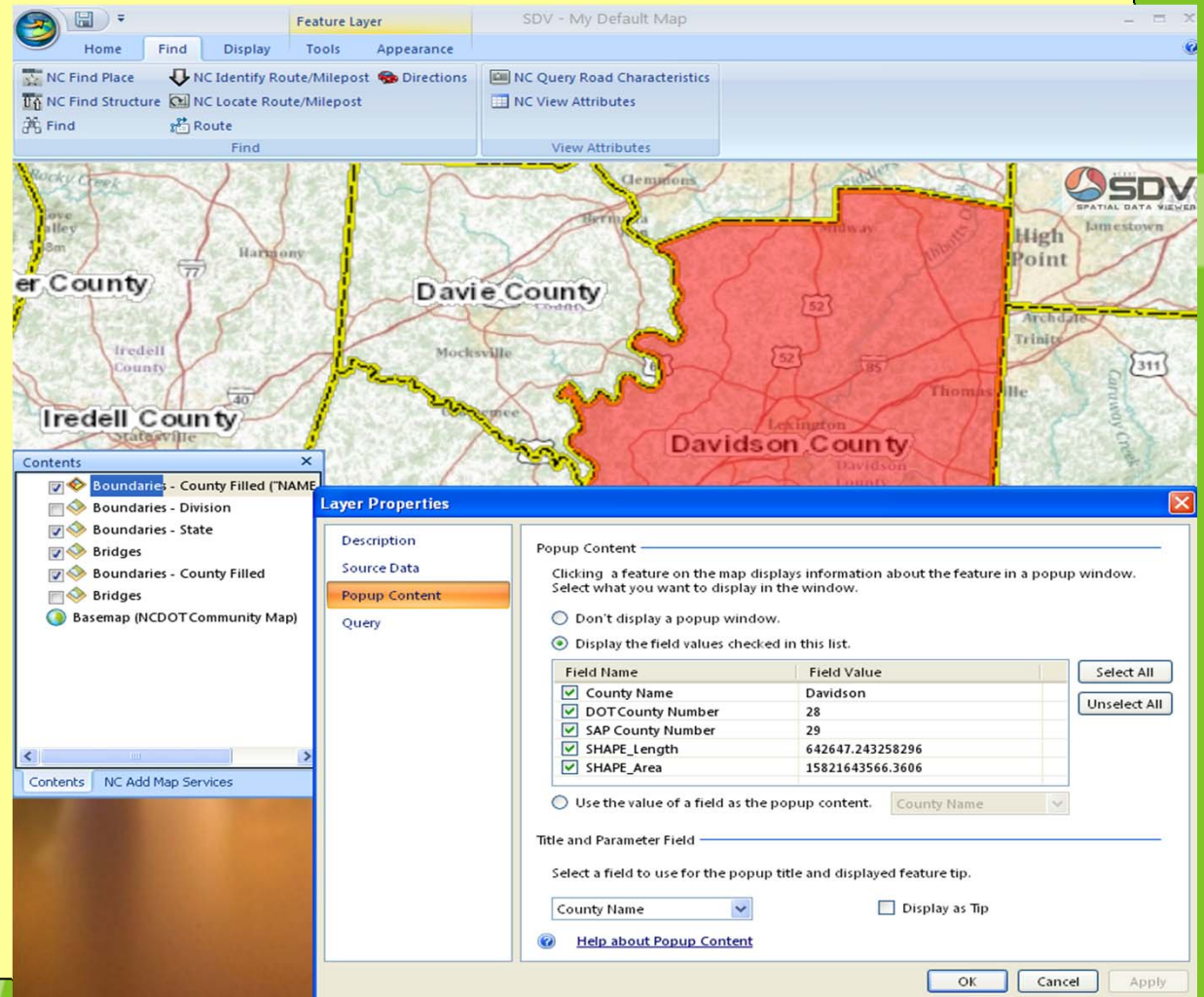
# SDV Training

- To view Layer Properties

- Right Click Layer

## Layer Properties

- Description
- Source Data
- Popup Content
- Query



The screenshot shows the SDV interface with a map of Davidson County highlighted in red. The 'Layer Properties' dialog is open, showing the 'Popup Content' tab. The 'Contents' pane on the left lists various layers, including 'Boundaries - County Filled (NAME)', 'Boundaries - Division', 'Boundaries - State', 'Bridges', 'Boundaries - County Filled', and 'Basemap (NCDOT Community Map)'. The 'Layer Properties' dialog has the following settings:

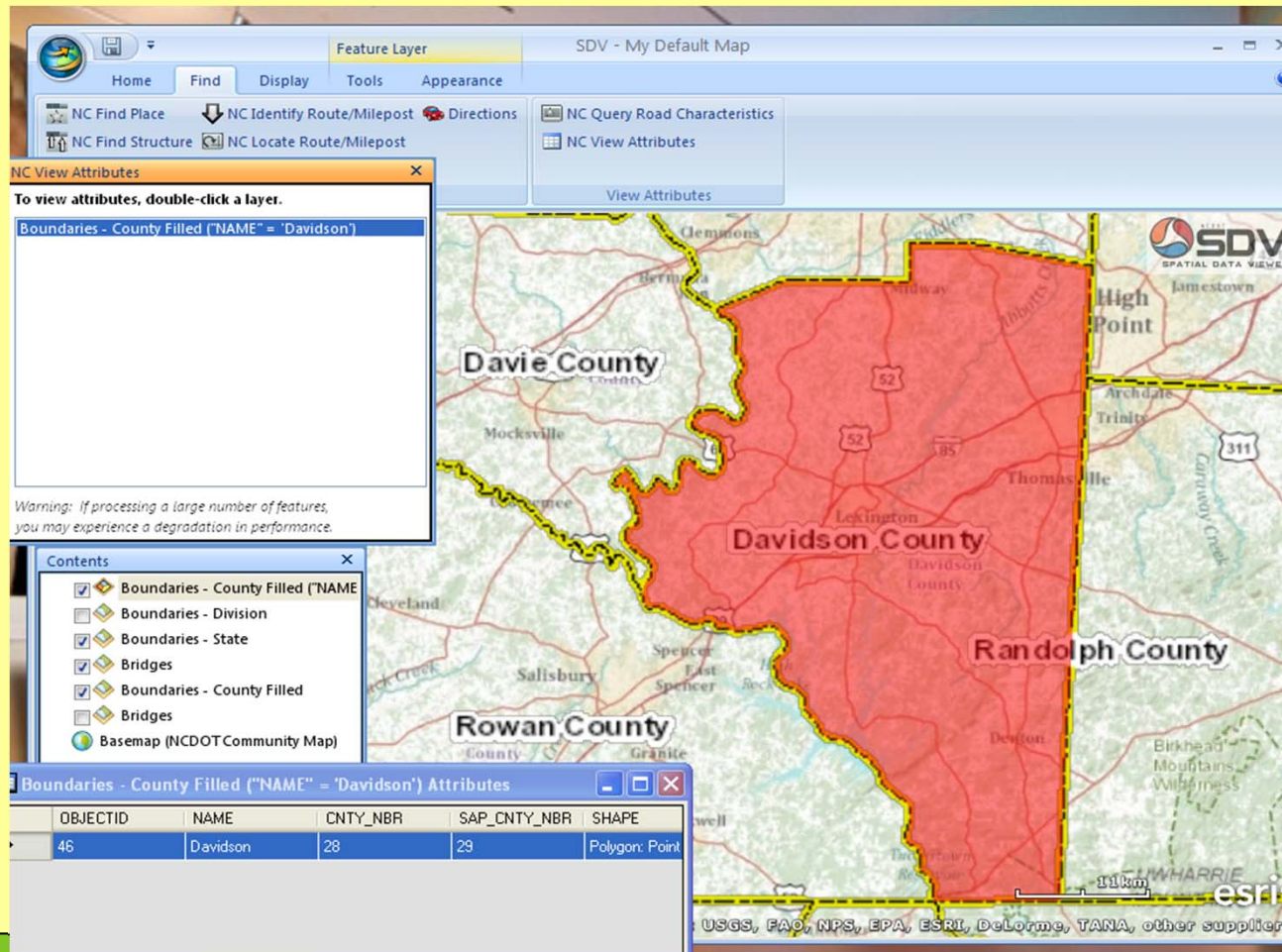
- Description:** (empty)
- Source Data:** (empty)
- Popup Content:**
  - Display the field values checked in this list.
  - Field Name | Field Value table:
 

Field Name	Field Value
<input checked="" type="checkbox"/> County Name	Davidson
<input checked="" type="checkbox"/> DOT County Number	28
<input checked="" type="checkbox"/> SAP County Number	29
<input checked="" type="checkbox"/> SHAPE_Length	642647.243258296
<input checked="" type="checkbox"/> SHAPE_Area	15821643566.3606
  - Don't display a popup window.
  - Use the value of a field as the popup content. (County Name selected)
- Title and Parameter Field:**
  - Select a field to use for the popup title and displayed feature tip.
  - County Name (selected)
  - Display as Tip

Buttons: OK, Cancel, Apply

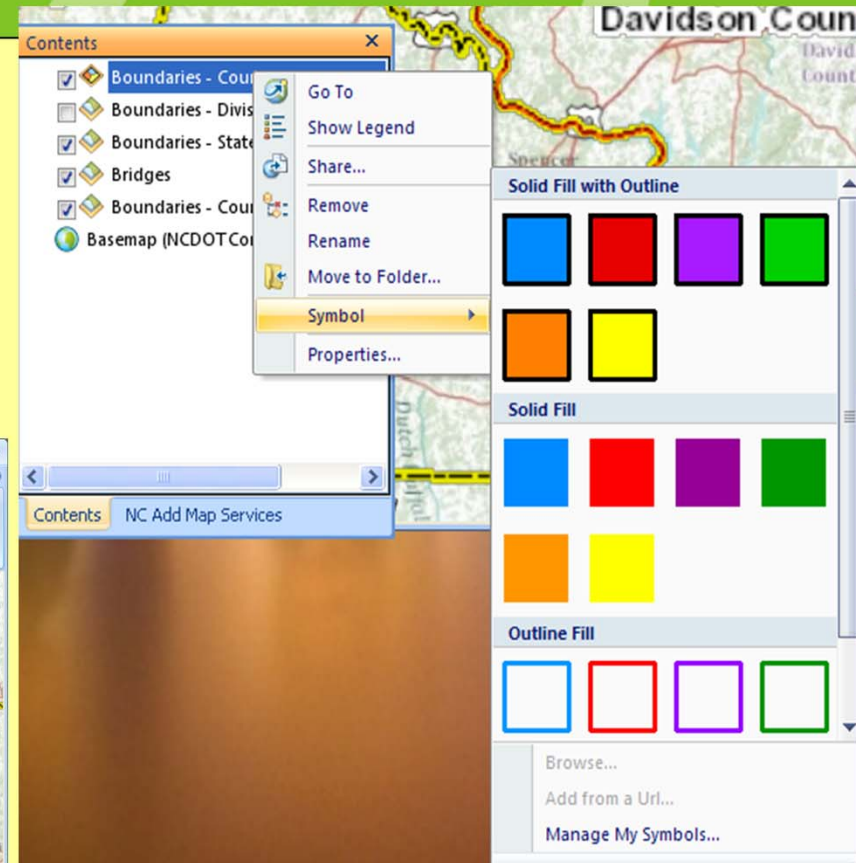
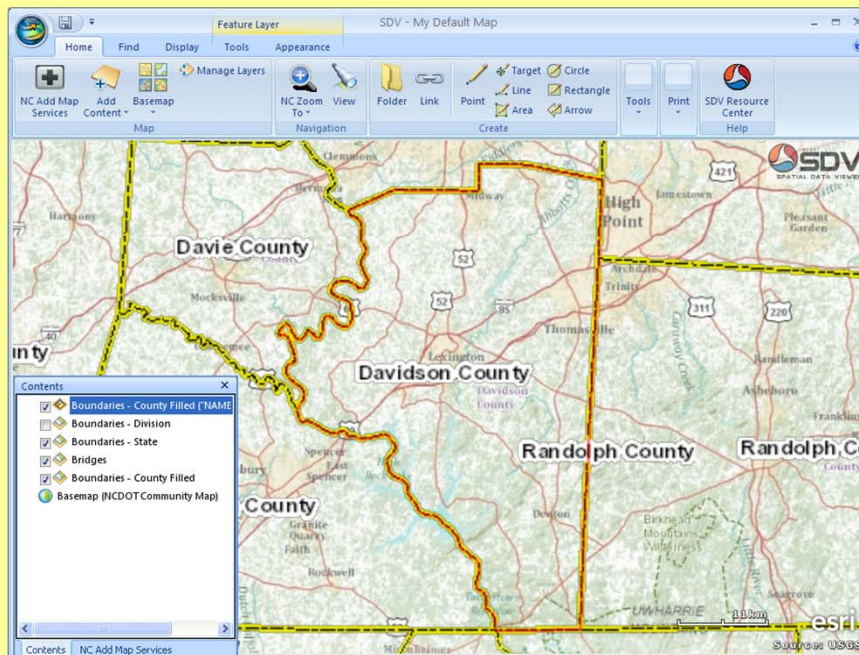
# SDV Training

- To view Attributes after Selection
  - Click NC View Attributes



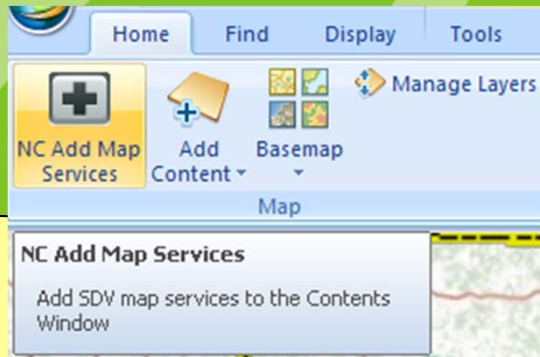
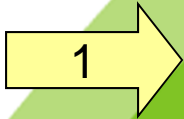
# SDV Training

- To Change appearance of layer
  - Right Click Layer
  - Scroll to Symbol
  - Select from options





# SDV Training

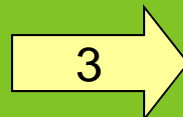
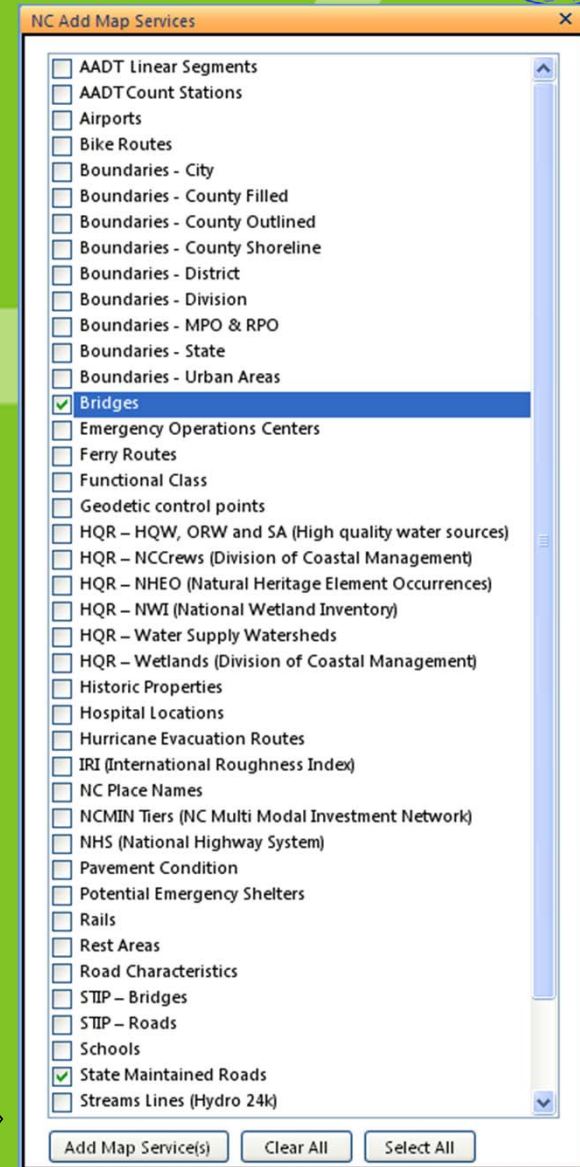


1. NC Add Map Services

2. Click box for layers of interest

3. Click Add Map Service(s) button

4. Click the map service checkbox in the Contents Window (con't on next slide)



# SDV Training

The screenshot shows the SDV Spatial Data Viewer interface. The title bar reads "Service Layer NCDOT SDV Pilot 2 - My Default Map". The menu bar includes Home, Find, Display, Tools, and Appearance. The toolbar contains various icons for map management, navigation, creation, and printing.

The main map area displays a geographic view of North Carolina counties, with a red outline highlighting Davidson County. The 'Contents' panel is open in the bottom-left corner, listing the following layers:

- Boundaries - Division
- Boundaries - State
- Boundaries - County Outlined
- Find County: Davidson
- Bridges
- State Maintained Roads
- Basemap (NCDOT Community Map)

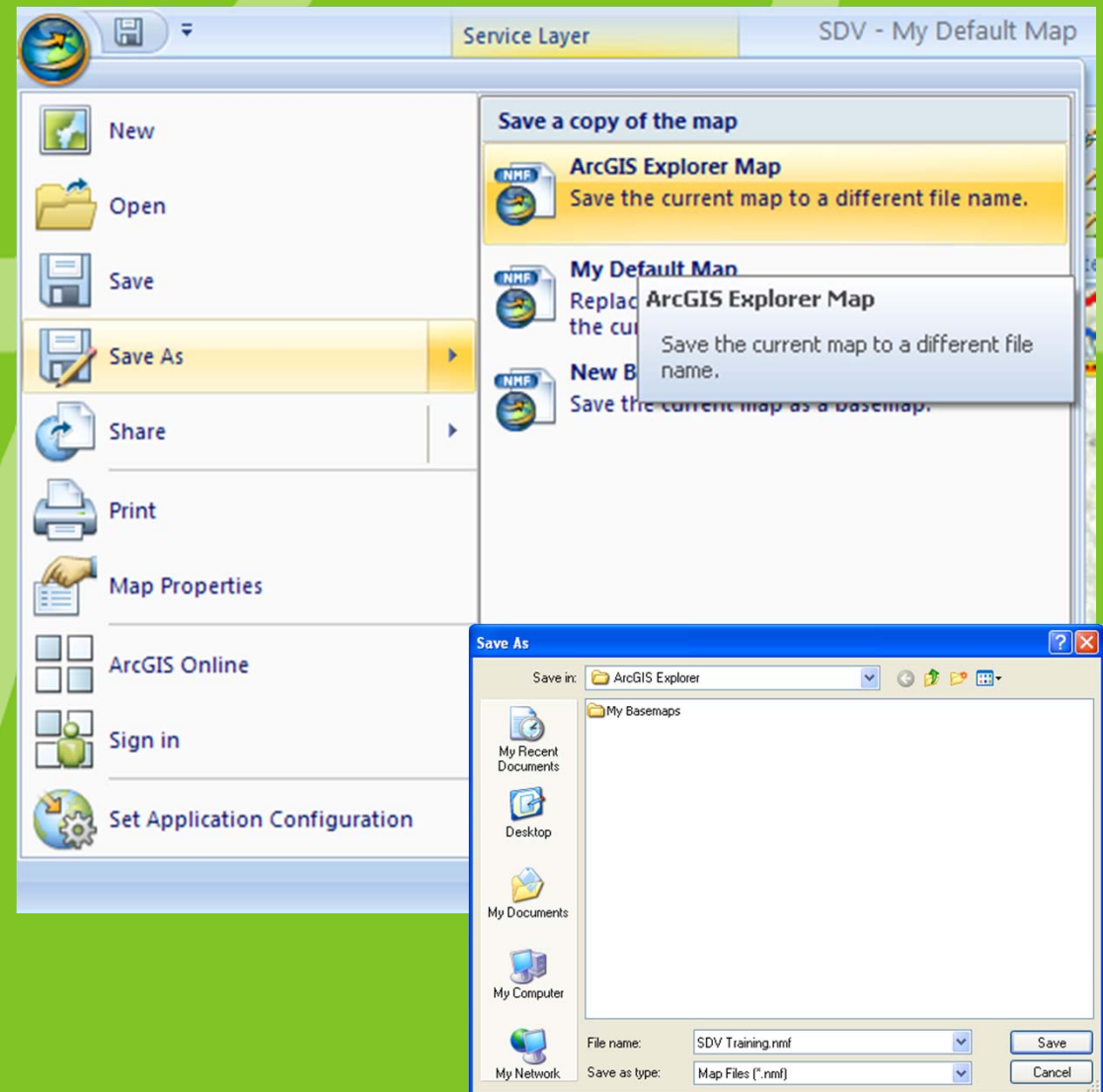
A yellow arrow with the number "4" points to the 'Contents' panel. The status bar at the bottom shows the position: "Position 1898759.33 739892.68 ft".

# SDV Training



## Save Map

1. Click AGX Icon
2. Click Save As
3. Click ArcGIS Explorer Map
4. Navigate to folder
5. Type name
6. Map Name Changes



# SDV Training

1. Click Find Tab
2. NC Find Structure
3. Enter County
4. Enter Bridge Number
5. Click Find symbol
6. Point is symbolized on map
7. Double Click to zoom to result

The screenshot shows the SDV - SDV Training application window. The 'Find' tab is active, and the 'NC Find Structure' dialog box is open. The dialog box contains the following fields and options:

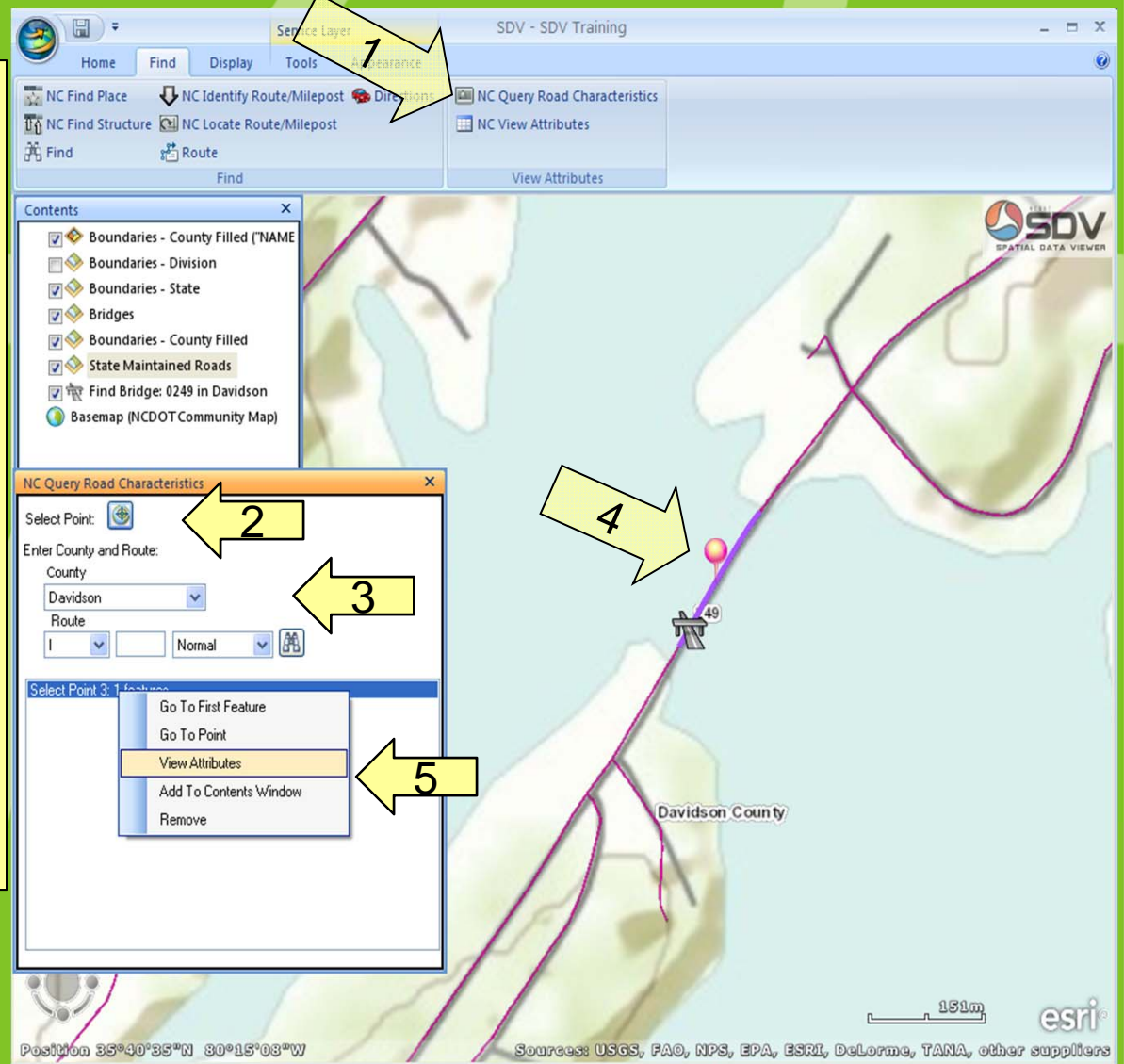
- County:** Davidson (selected in a dropdown menu)
- Route:** I (selected in a dropdown menu), Normal (selected in a dropdown menu)
- TIP Number:** (empty text box)
- Bridge Number (4 digit):** 249 (entered in a text box)

The map shows a road network with a bridge highlighted in purple. A yellow arrow labeled '6' points to the bridge. A yellow arrow labeled '7' points to the map area. A yellow arrow labeled '3' points to the 'County' dropdown menu. A yellow arrow labeled '4' points to the 'Bridge Number' text box. A yellow arrow labeled '2' points to the 'NC Find Structure' button in the 'Find' tab. A yellow arrow labeled '1' points to the 'Find' tab itself.

# SDV Training

## View Road Attributes

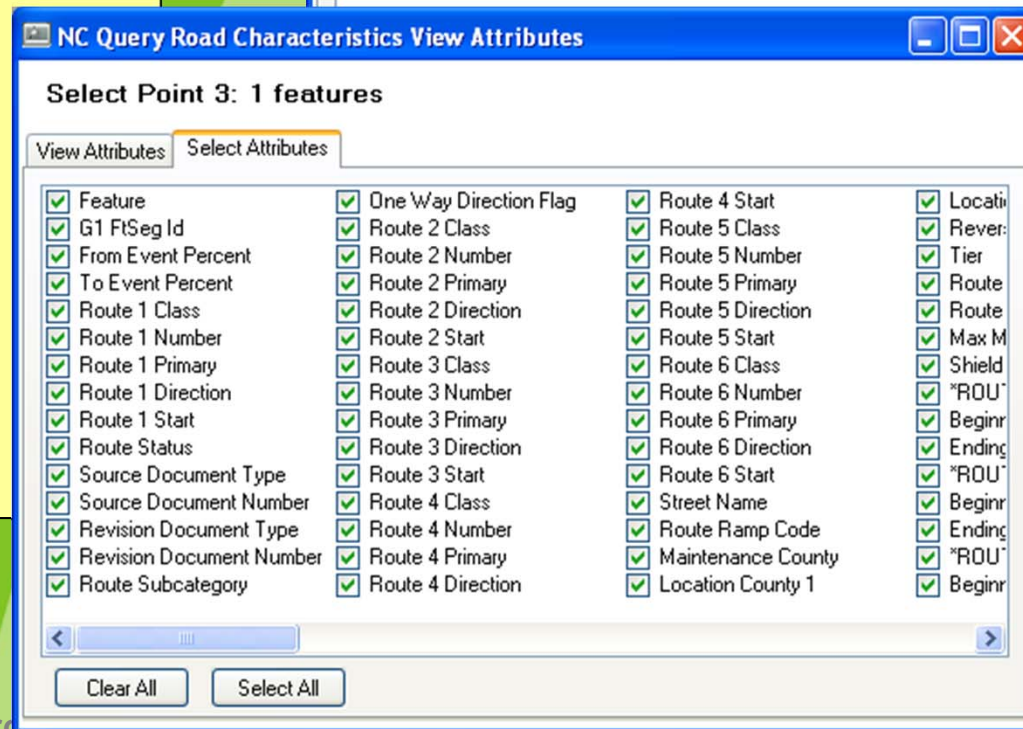
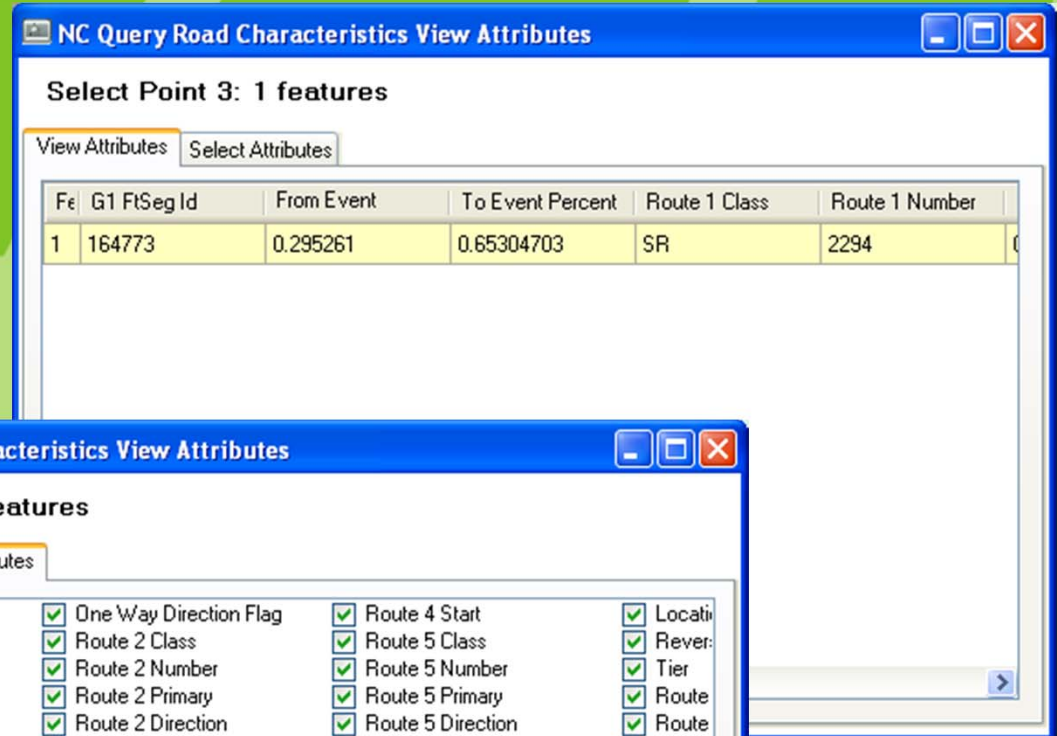
1. Click NC Query Road Characteristics
2. Select Point
3. Enter Davidson
4. Click on Road where bridge collapsed
5. When feature is selected, right click feature, View Attributes



The screenshot shows the SDV - SDV Training application window. The 'Tools' menu is open, and 'NC Query Road Characteristics' is selected. The 'Contents' window shows various layers, including 'State Maintained Roads'. The 'NC Query Road Characteristics' dialog box is open, with 'Select Point' set to a globe icon, 'County' set to 'Davidson', and 'Route' set to 'I'. A red dot on the map indicates the selected point. A context menu is open over the point, with 'View Attributes' highlighted. The map shows Davidson County and a road with a collapsed bridge. The 'Position' is 35°40'35"N 80°15'08"W. The scale is 151m. Sources: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers.

## View Attributes

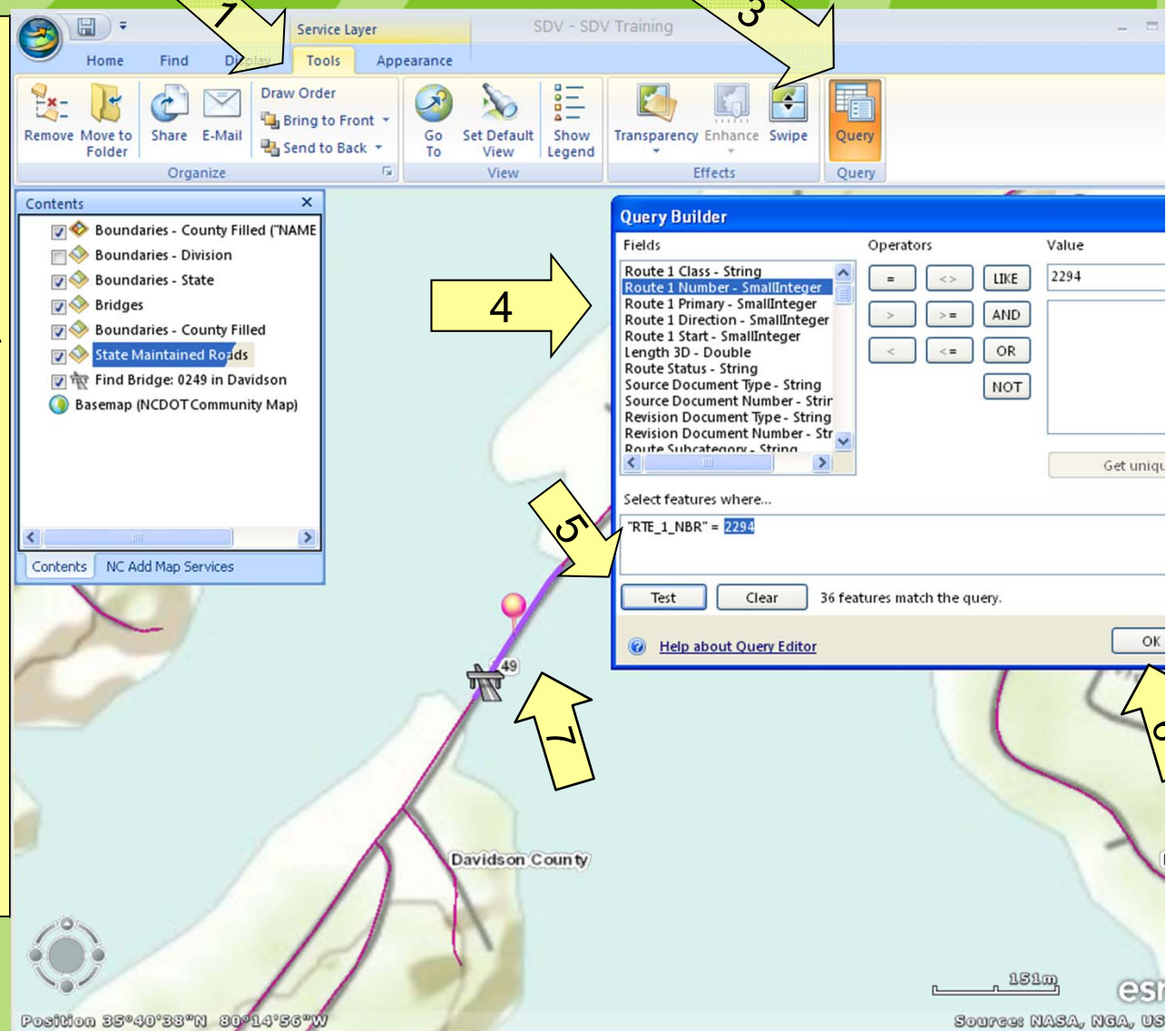
- Feature Selected
- Or, Select Attributes from the database and view only fields needed



# SDV Training

## To Query

1. Click Tools Tab
2. Click layer from Contents Window
3. Click Query
4. Click field, operator, and value
5. Click Test
6. Click OK
7. Notice symbology change



The screenshot shows the SDV interface with the following elements:

- Menu Bar:** Home, Find, Draw Order, Tools, Appearance.
- Toolbars:** Organize (Remove, Move to Folder, Share, E-Mail), View (Go To, Set Default View, Show Legend), Effects (Transparency Enhance, Swipe), and Query.
- Contents Window:** Lists layers such as Boundaries - County Filled, Bridges, State Maintained Roads, and Basemap (NCDOT Community Map).
- Query Builder:**
  - Fields:** Route 1 Class - String, Route 1 Number - SmallInteger, Route 1 Primary - SmallInteger, Route 1 Direction - SmallInteger, Route 1 Start - SmallInteger, Length 3D - Double, Route Status - String, Source Document Type - String, Source Document Number - Strir, Revision Document Type - String, Revision Document Number - Str, Route Subcategory - String.
  - Operators:** =, <>, LIKE, >, >=, AND, <, <=, OR, NOT.
  - Value:** 2294
  - Select features where...:** RTE\_1\_NBR" = 2294
  - Buttons:** Test, Clear, Get unique, Help about Query Editor, OK.
  - Result:** 36 features match the query.
- Map View:** Shows Davidson County with a highlighted road segment. A scale bar indicates 151m. Position coordinates are 35°40'33"N 80°14'56"W. Source: NASA, NGA, US.

# SDV Training



Click Selected Road

icon pops up

Select SR option

View Attributes

The screenshot shows the SDV software interface with the following components:

- Feature Layer:** SDV - SDV Training
- Home Tab:** NC Add Map Services, Add Content, Basemap, Map, Manage Layers, NC Zoom To, View, Navigation, Folder, Link, Point, Create (Target, Circle, Line, Area, Rectangle, Arrow), Tools, Print, SDV Resource Center, Help.
- 9 feature(s) found:**
  - Boundaries - County Filled ("NAME" = Davidson)
    - Davidson
  - State Maintained Roads
    - Secondary Road
    - Secondary Road
    - Secondary Road
    - Secondary Road
    - Secondary Road
    - Secondary Road
    - Secondary Road
- Contents:**
  - State Maintained Roads ("RTE\_1\_NBR")
  - Boundaries - County Filled ("NAME" = Davidson)
  - Boundaries - Division
  - Boundaries - State
  - Bridges
  - Boundaries - County Filled
  - State Maintained Roads
  - Find Bridge: 0249 in Davidson
  - Basemap (NCDOT Community Map)
- Secondary Road Attribute Table:**

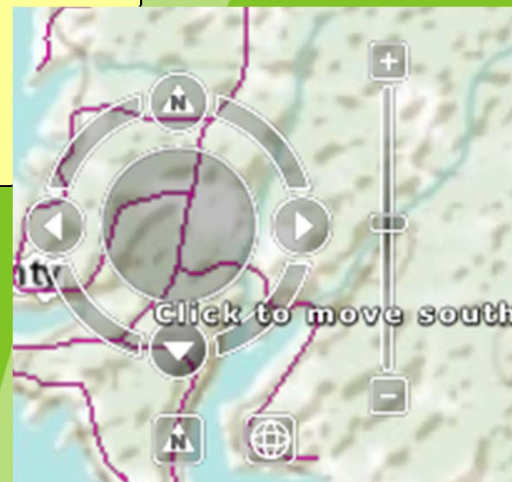
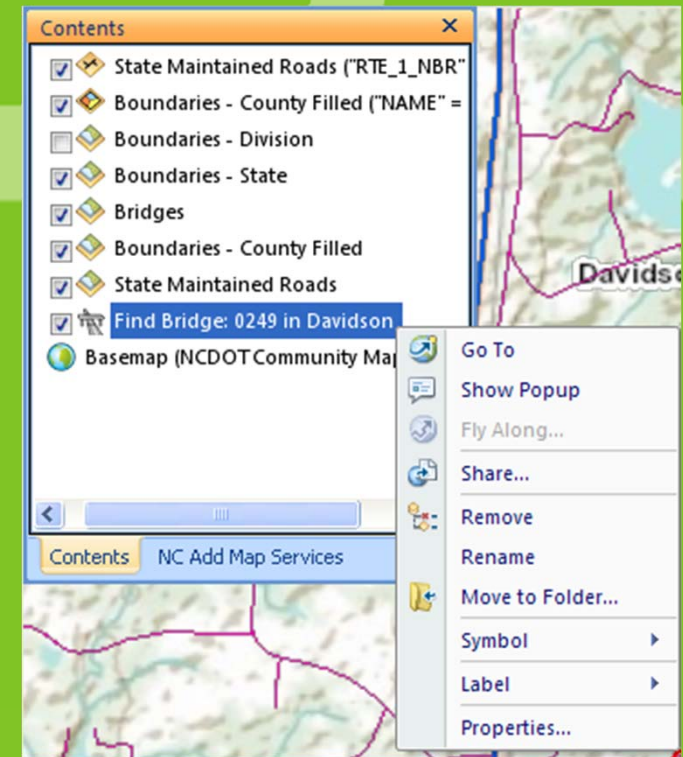
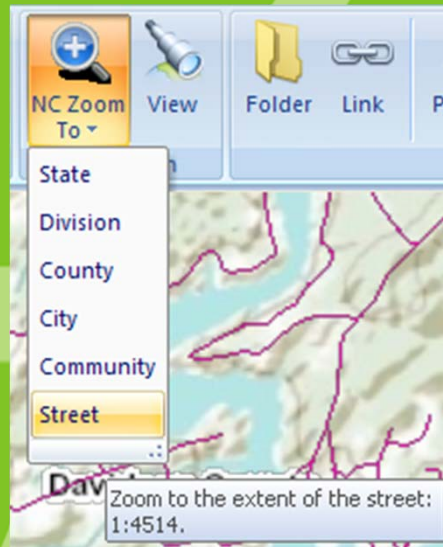
Route 1 Class	Secondary Road
Route 1 Number	2294
Route 1 Primary	Normal
Route 1 Direction	Inventory
Route 1 Start	Not start
Length 3D	0.66
Route Status	System
Source Document Type	Not-Verified
Source Document Number	Null
Revision Document Type	Not-Verified
Revision Document Number	Null
Route Subcategory	2-Lane Undivided
One Way Direction Flag	Both directions
Route 2 Class	NA
Route 2 Number	0
Route 2 Primary	NA
Route 2 Direction	NA
Route 2 Start	NA
Route 3 Class	NA
Route 3 Number	0
Route 3 Primary	NA
Route 3 Direction	NA
Route 3 Start	NA
Route 4 Class	NA
Route 4 Number	0
Route 4 Primary	NA
Route 4 Direction	NA
Route 4 Start	NA
Route 5 Class	NA
- Map:** Shows a map of Davidson, NC, with a red road highlighted. An information icon is placed over the road. The map includes a scale bar and a north arrow.
- Position:** 35°40'39"N 80°14'39"W
- Source:** NASA, NGA, USGS



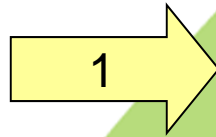
# SDV Training

## Zoom Tools

1. NC Zoom To Street
2. Mouse -Scroll
3. Go To option
4. Orientation Indicator



# SDV Training

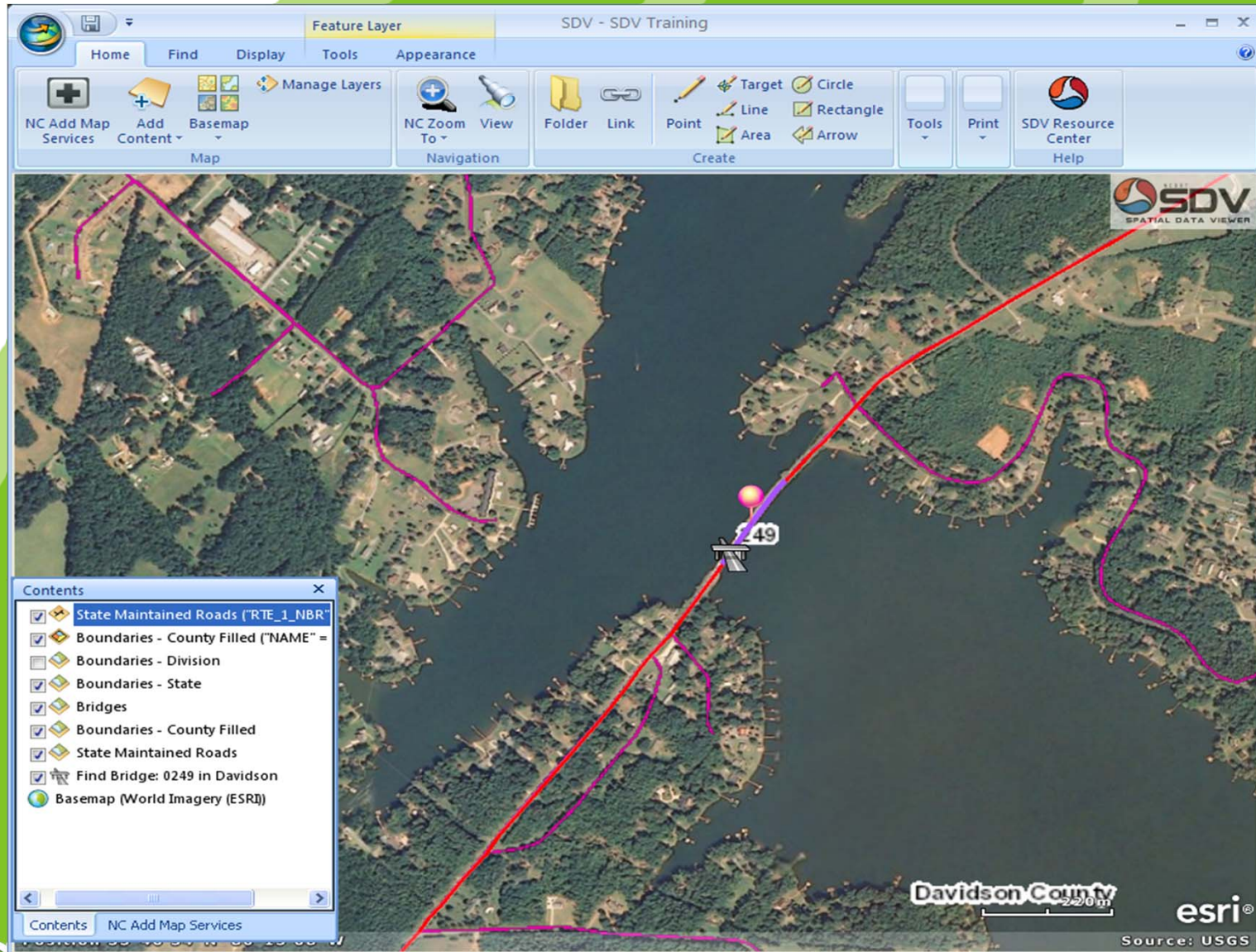


## Change Basemap

1. Click Home tab
2. Click Basemap button
3. Click ESRI World Imagery

The screenshot shows the SDV Spatial Data Viewer interface. The 'Home' tab is selected in the top menu. The 'Basemap' button is highlighted in the toolbar. A dropdown menu is open, displaying a grid of basemap options. The 'World Imagery (ESRI)' option is selected, and the map background has changed to satellite imagery. The 'Contents' panel on the left shows a list of layers, including 'Basemap (World Im)'. The 'Davidson County' logo and a scale bar are visible in the bottom right corner of the map area.

# SDV Training



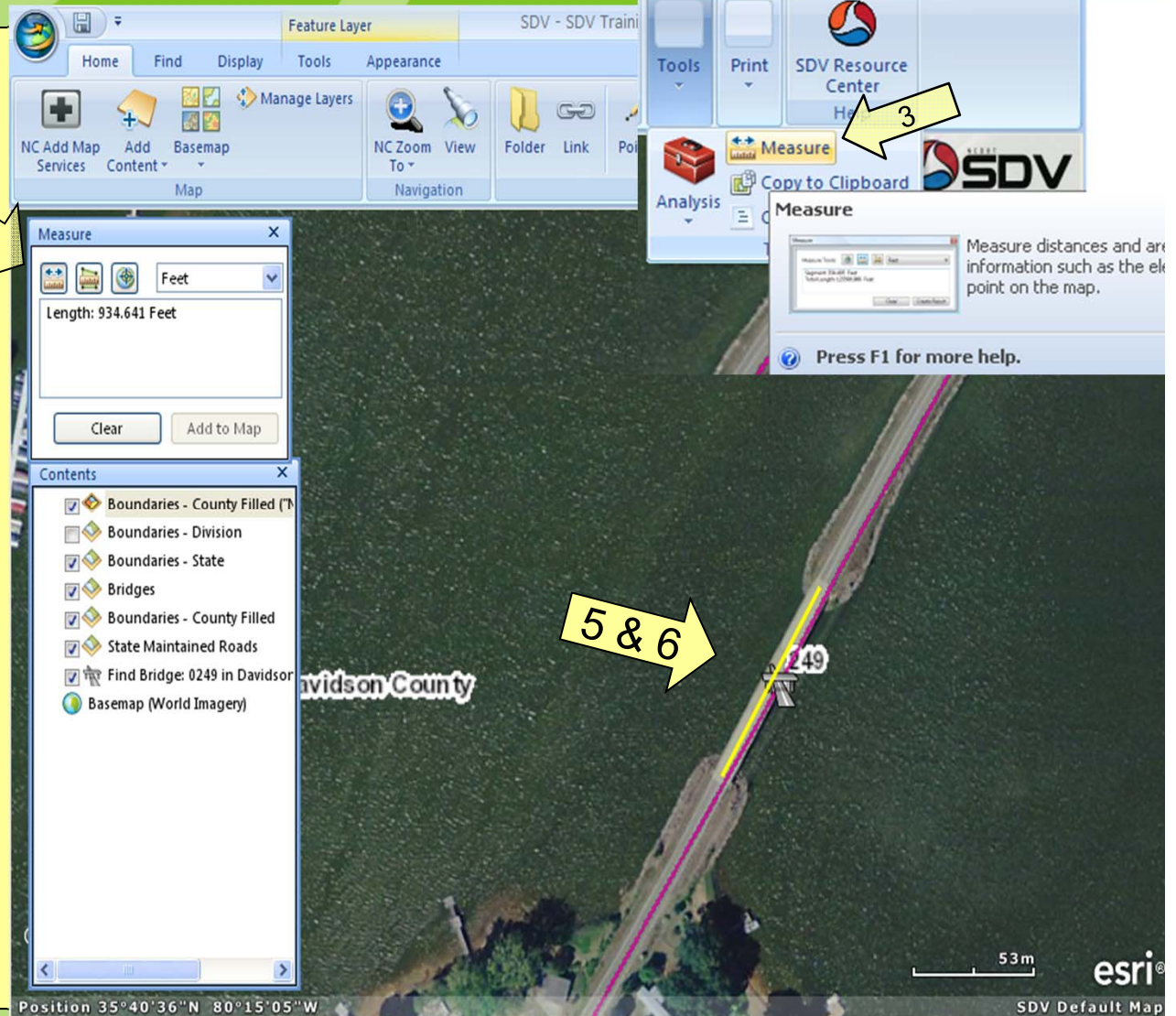
The screenshot displays the SDV Spatial Data Viewer interface. The main window shows a satellite map of Davidson County, North Carolina, with a red line representing a road and a pink circle highlighting a specific location. The interface includes a toolbar with various tools such as 'NC Add Map Services', 'Add Content', 'Basemap', 'NC Zoom To', 'View', 'Folder', 'Link', 'Point', 'Line', 'Area', 'Target', 'Circle', 'Rectangle', and 'Arrow'. A 'Contents' panel is open in the bottom-left corner, listing the following layers:

- State Maintained Roads ("RTE\_1\_NBR")
- Boundaries - County Filled ("NAME" =
- Boundaries - Division
- Boundaries - State
- Bridges
- Boundaries - County Filled
- State Maintained Roads
- Find Bridge: 0249 in Davidson
- Basemap (World Imagery (ESRI))

The map also features a 'Davidson County' label, a scale bar, and the 'esri' logo. The source is noted as 'Source: USGS'.

## Measure Collapsed Bridge

1. Click Home tab
2. Click Tools
3. Click Measure tool
4. Click the first button for length and the middle button to measure area and select unit of measurement
5. Click, draw line, then double click to finish
6. Measured area gets hi-lighted



SDV - SDV Traini

Home Find Display Tools Appearance

NC Add Map Services Add Content Basemap Manage Layers NC Zoom View To Folder Link

Tools Print SDV Resource Center

Measure Copy to Clipboard

Measure

Measure distances and area information such as the elevation point on the map.

Press F1 for more help.

Contents

- Boundaries - County Filled (T)
- Boundaries - Division
- Boundaries - State
- Bridges
- Boundaries - County Filled
- State Maintained Roads
- Find Bridge: 0249 in Davidsor
- Basemap (World Imagery)

Davidson County

249

53m

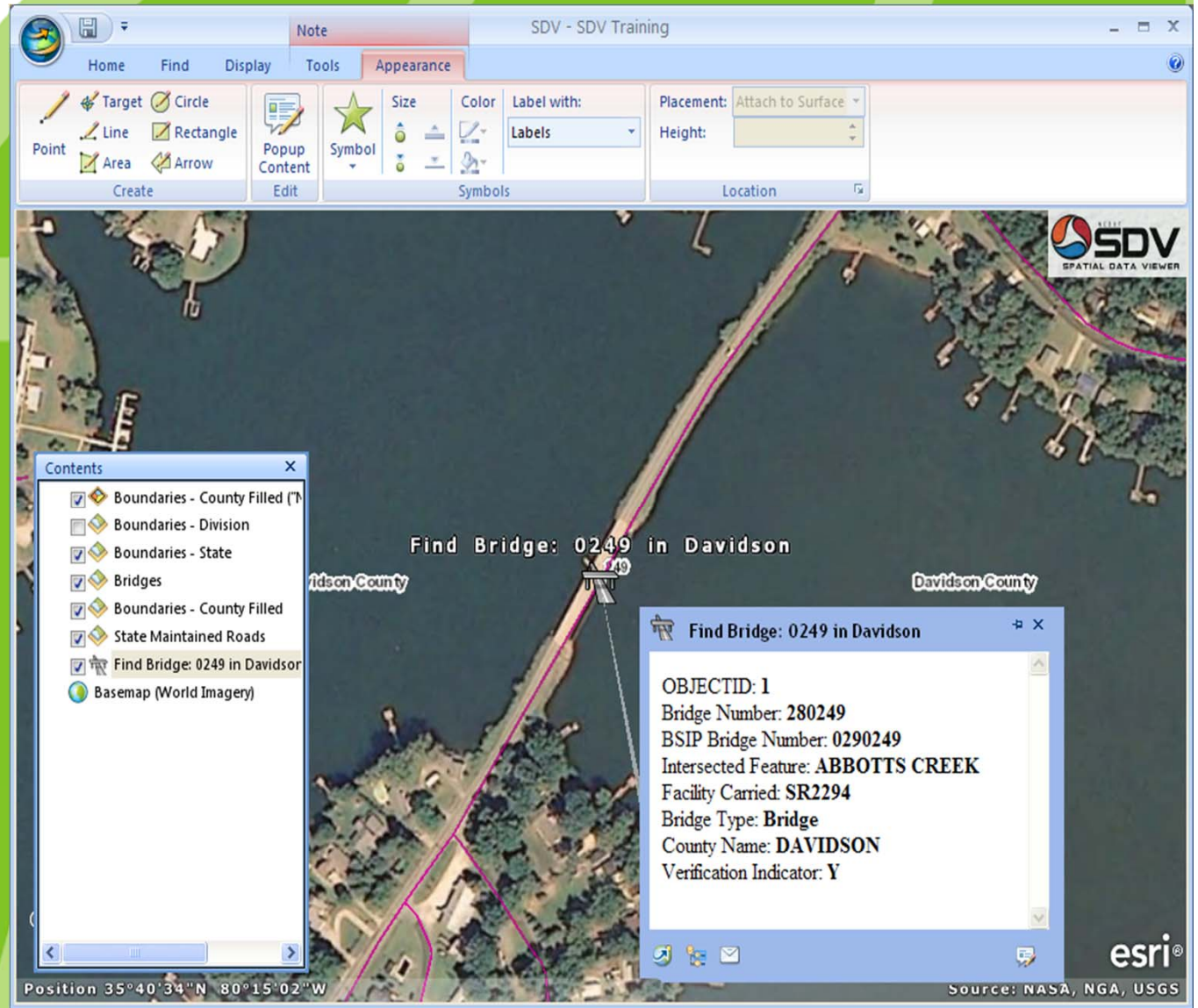
esri®

SDV Default Map

Position 35°40'36"N 80°15'05"W

# SDV Training

Double Bridge Icon  
 - Verify attributes



SDV - SDV Training

Home Find Display Tools Appearance

Target Circle  
 Line Rectangle  
 Area Arrow  
 Create Edit

Symbol  
 Size Color  
 Label with: Labels  
 Placement: Attach to Surface  
 Height:

Contents

- Boundaries - County Filled (T)
- Boundaries - Division
- Boundaries - State
- Bridges
- Boundaries - County Filled
- State Maintained Roads
- Find Bridge: 0249 in Davidson
- Basemap (World Imagery)

Find Bridge: 0249 in Davidson

Davidson County Davidson County

Find Bridge: 0249 in Davidson

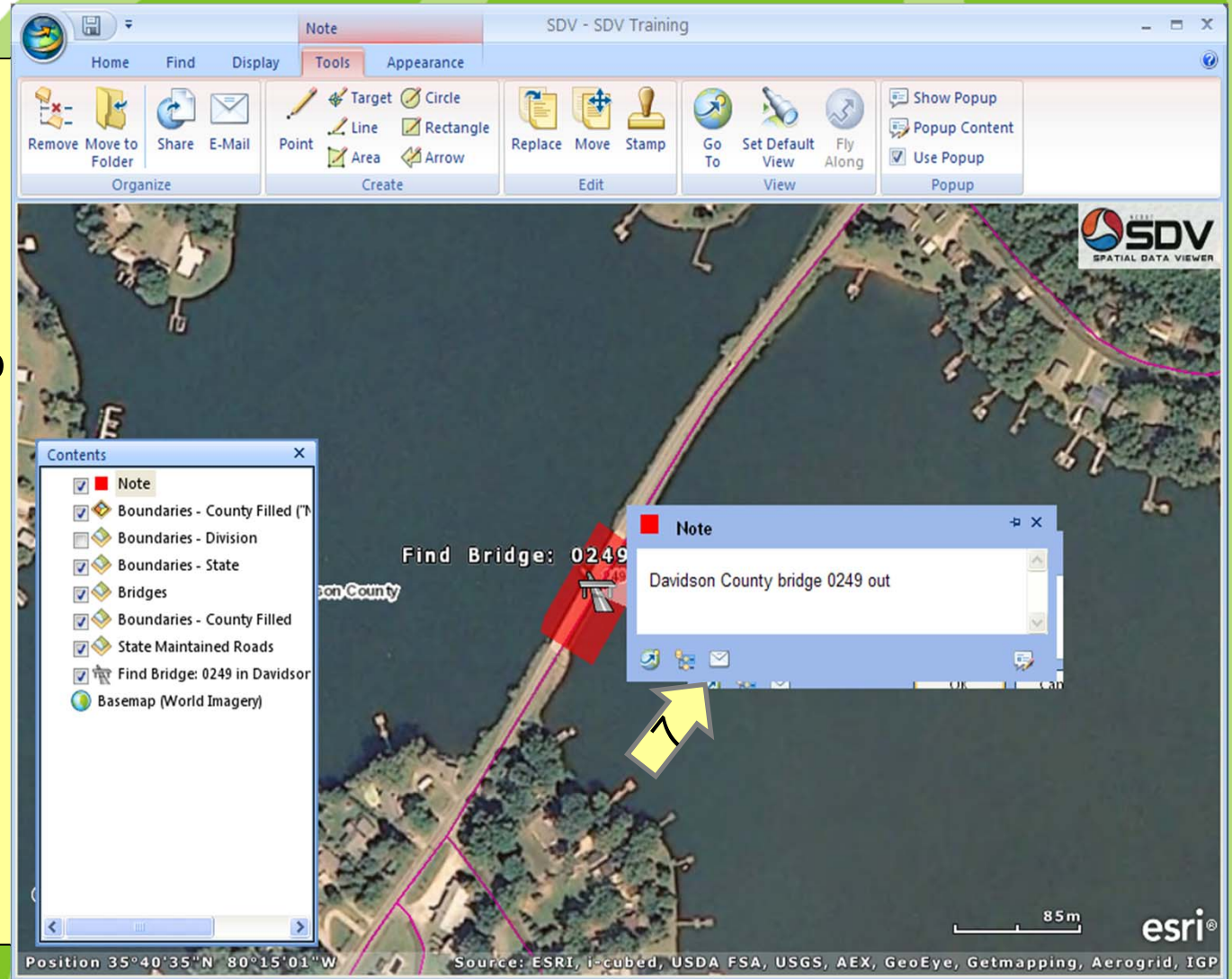
OBJECTID: 1  
 Bridge Number: 280249  
 BSIP Bridge Number: 0290249  
 Intersected Feature: ABBOTTS CREEK  
 Facility Carried: SR2294  
 Bridge Type: Bridge  
 County Name: DAVIDSON  
 Verification Indicator: Y

Position 35°40'34"N 80°15'02"W Source: NASA, NGA, USGS

esri®

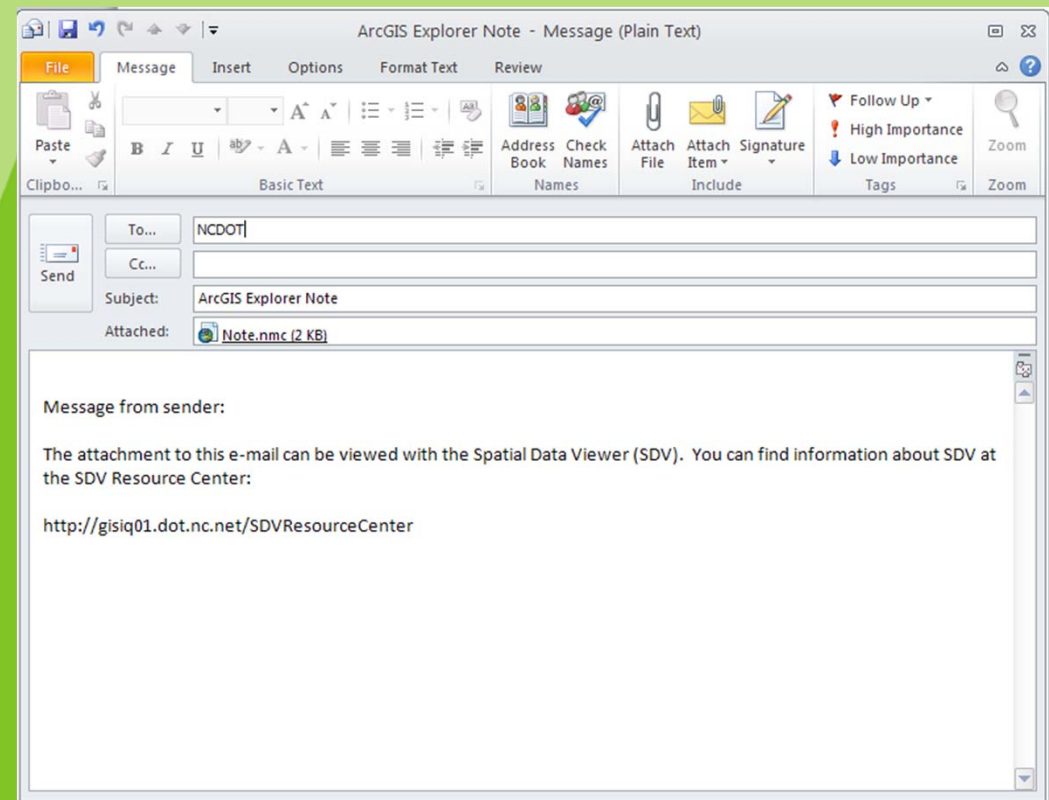
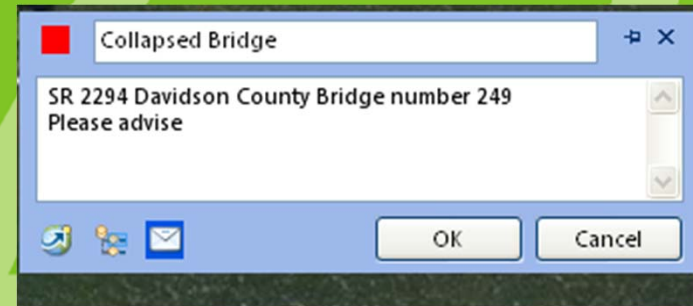
## Create a Note

1. Click Note tab
2. Click Area under Tools tab
3. Click on the map to outline the area of concern
4. Finish the area by double clicking
5. Add information to the note window
6. OK
7. Click Email



## Sending E-Mail Options

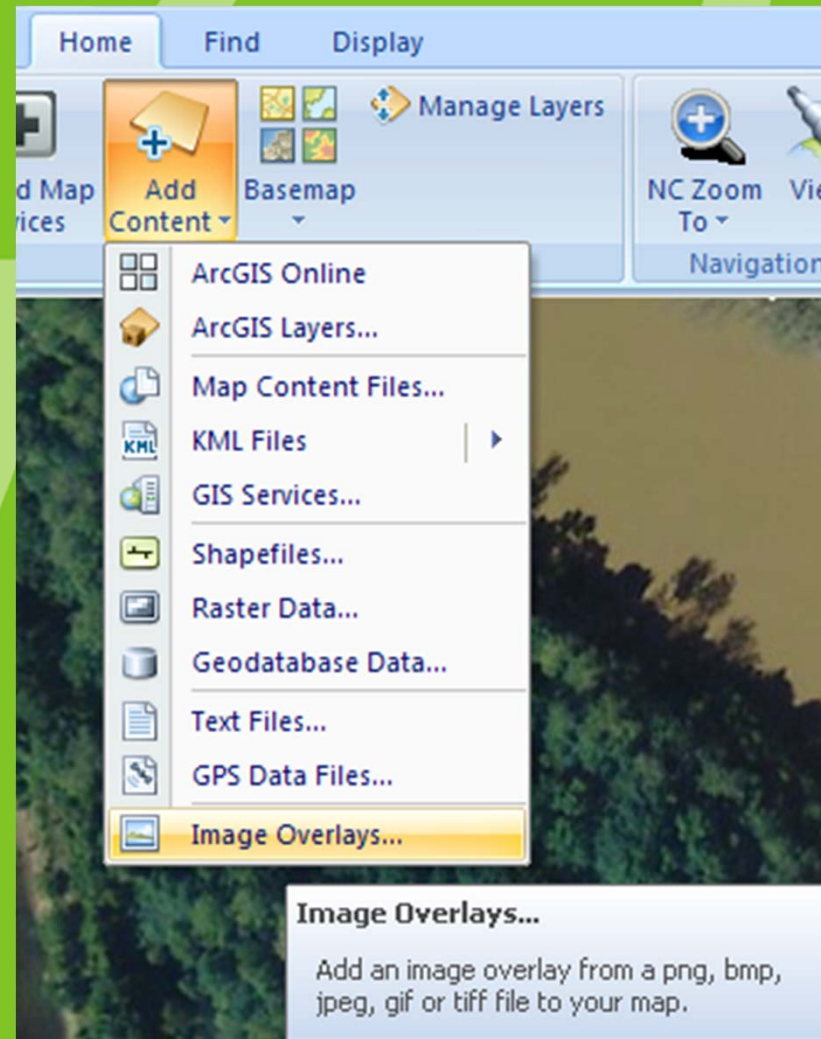
1. Click E-Mail icon on note
2. ArcGIS Explorer button
3. Click Share
  - E-mail Map sends a map package, others will need the same access to the data
  - E-mail View sends a jpg
  - You can also right click the mouse and select Share option



# SDV Training

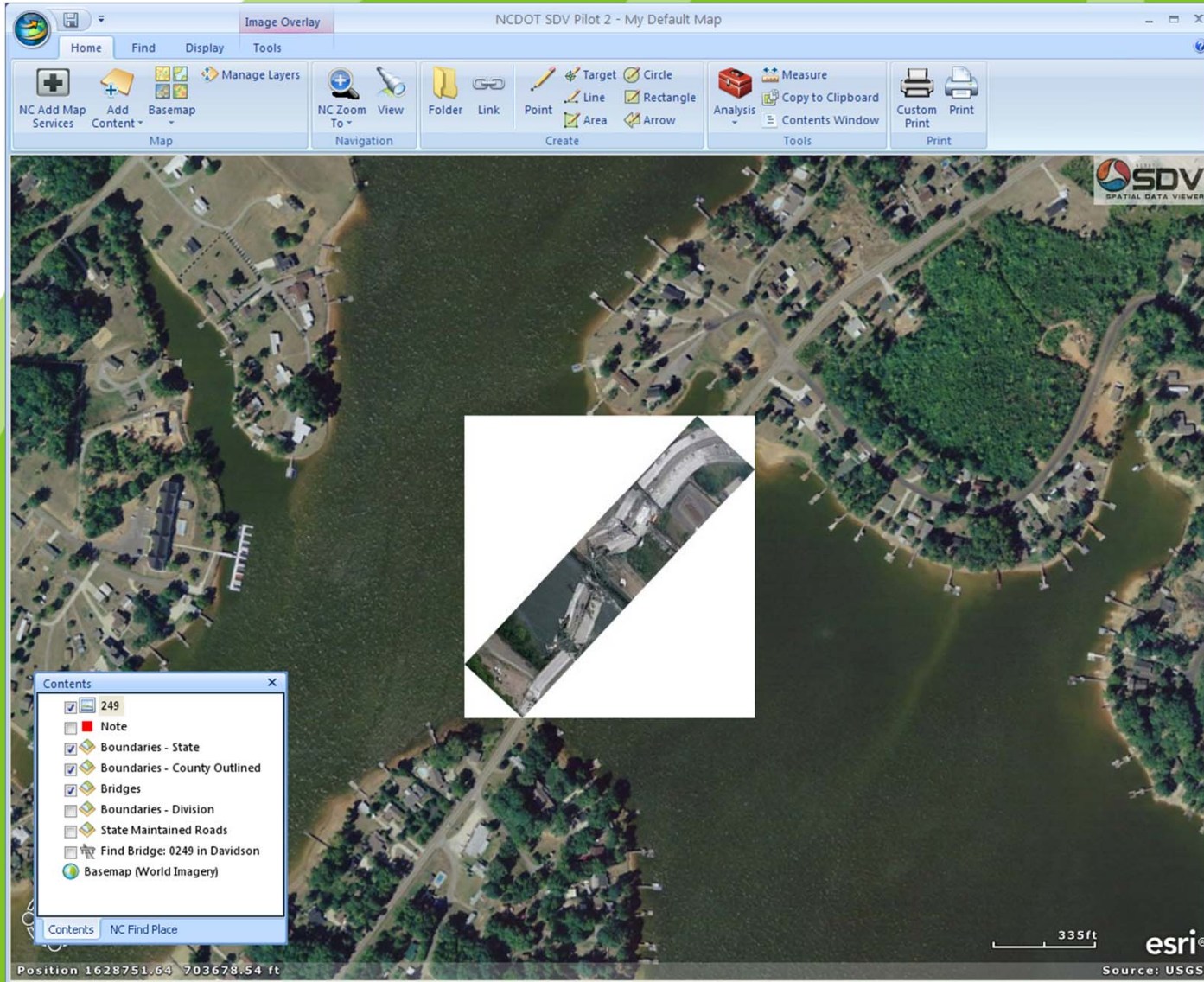
## Add Content – External Data

1. Click Home tab
2. Click Add Content dropdown
3. Select File type and path





# SDV Training

The screenshot shows the NCDOT SDV Pilot 2 - My Default Map application window. The interface includes a menu bar (Home, Find, Display, Tools) and a toolbar with various functions such as Add Map Services, Add Content, Manage Layers, Navigation, Create (Point, Line, Area, Circle, Rectangle, Arrow), Analysis, and Print. The main map area displays an aerial satellite view of a lake with a bridge. An inset window provides a closer view of the bridge. A 'Contents' panel is open in the bottom-left corner, listing layers with checkboxes:

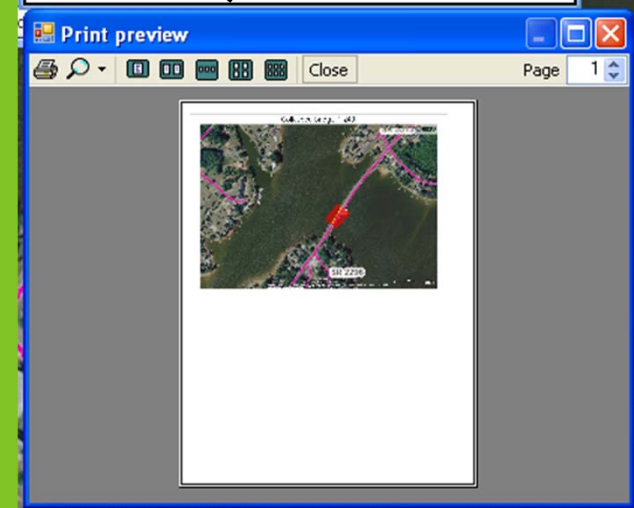
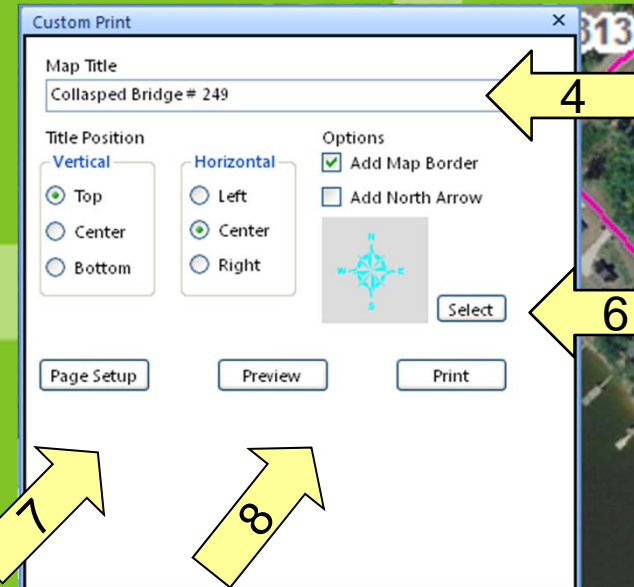
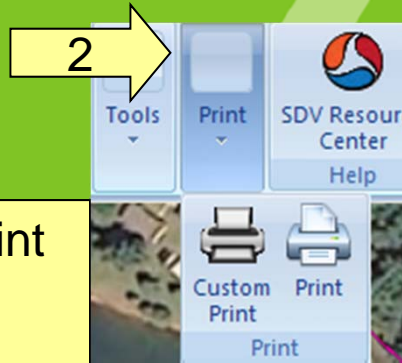
- 249
- Note
- Boundaries - State
- Boundaries - County Outlined
- Bridges
- Boundaries - Division
- State Maintained Roads
- Find Bridge: 0249 in Davidson
- Basemap (World Imagery)

The status bar at the bottom shows the position as 1628751.64 703678.54 ft, a scale bar for 335 ft, the Esri logo, and the source 'Source: USGS'.

# SDV Training

## Print the Map using Custom Print

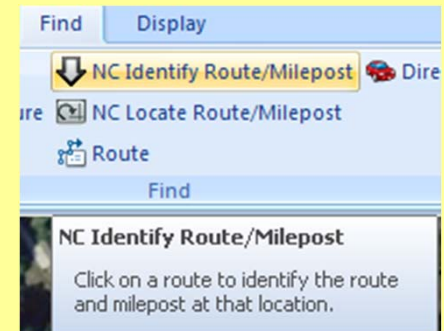
1. Click the Home tab
2. Click Print
3. Click Custom Print
4. Enter Map title
5. Select page options
6. Select North Arrow
7. Choose page settings
8. Click print preview or print



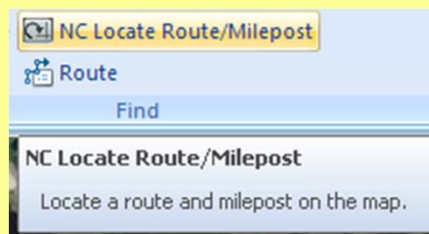
# SDV Training

Additional Tools:

## NC Identify Route/Milepost



## NC Locate Route/Milepost



# SDV Training Questions?

# Thank you!

Resource Center –  
<http://gisi01.dot.nc/SDVResourceCenter/home.aspx>

SDV Help Desk  
[SDVHelp@ncdot.gov](mailto:SDVHelp@ncdot.gov)