Public Safety Geocoding Using ArcGIS Online and HERE Data

Knowledge, Skills, and Abilities (KSAs) Supported

This training module aids in the development of several KSAs that are fundamental to using GIS in support of public safety planning and operations. The ability to geocode using ArcGIS Online and HERE data is a foundation-level ability that is relevant to all applications of GIS.

Knowledge Gained:

- Geocoding process – Geocoding is a GIS operation for converting street addresses into spatial data that can be displayed as features on a map, usually by referencing address information from a street segment data layer. It is used in nearly every application of GIS for public safety and represents a core competency for applying GIS support of public safety and emergency management nationwide.
- Esri has selected HERE Map Content as the foundation street data for its cloud-based mapping platform as well as for StreetMap Premium and numerous other Esri products.
- Esri uses HERE map content and HERE point addressing to build the geocoding locators used in both ArcGIS Online (AGOL) and StreetMap Premium (SMP).

Skills and Abilities Developed:

- How to convert street addresses into spatial data in a public safety scenario
- How to display your converted street addresses as features on a map
- How to use HERE map content and point addressing to build the geocoding locators used in both AGOL and SMP

**This training tutorial is intended for training, exercise, and preparedness efforts only. It is not intended to support emergency response operations.**

Public Safety Geocoding Scenario in ArcGIS Online

The Broward County Sheriff Department would like to locate on a map all of the Broward Sheriff’s Office District Offices and all of its Fire Stations locations. The location of the District Offices and Fire Stations is a critical piece of information used in public safety. This information is applied to maps that are used to analyze response time to 911 calls, assess station closures based on call volume and other factors, and integrate the data with automated vehicles location (AVL) related applications. Nearly all maps that you will produce for use by public safety analysis and decision making will include the location of geocoded street addresses such as District Offices and Fire Stations.
Step 1: Sign In to AGOL

Go to http://napsg.maps.arcgis.com/home/ and take a moment to familiarize yourself with the mission and resources provided by NAPSG.

If NAPSG provided you with credentials, click Sign In and enter them. If you do not have NAPSG credentials, navigate to your own organization’s ArcGIS Online page, and sign in there with your credentials. Depending on which organization’s ArcGIS page your using, the below window will look different.

Username: XXXXXX
Password: XXXXXX

Once you have entered your credentials, click Sign In.

If you signed into NAPSG’s ArcGIS page, then your screen should look like below. If you signed into your own organization’s page, the home screen will be different.
Step 2: Activate an AGOL Map Canvas

Click on the MAP tab to activate the AGOL map canvas.

The map will look like this after completing step 2:
Step 3: **Activate the Streets Basemap**

This map is mostly HERE Map Content with a few exceptions.

Click on the **Basemap Tab** to choose the **Streets** pallet of basemaps.

Next, select **Streets**.
The map canvas should look like this after completing Steps 1 through 3:
**Step 4: Single Address Geocoding**

To geocode the Broward Sheriff's Office address enter the following address in the search box:

2601 W. Broward Blvd, Ft. Lauderdale, FL 33312

Notice how AGOL will give you options as you type. Be sure to select the first option.

AGOL geocodes this address and zooms to it.

Note - you may want to zoom out a little bit to get more geographical context as shown below.

Notice how on the bottom right of the map canvas, at this scale, credits are given to HERE as one of the providers of the map content.
In Steps 1-4 You Learned

✓ How the geocoding process works in a public safety scenario.
✓ How Esri used its geocoding locators (software) built on top of the HERE Map Content and Point Addresses to geocode this address.
✓ Esri AGOL uses the attributes embedded on the HERE Basemap and the HERE Point Addresses to geocode the address above.

Step 5: Geocoding Several Addresses Using a .CSV File

Step 5: Next you will geocode the Broward Sheriff’s Office (BSO) District Offices
There are sixteen (16) BSO District Offices and AGOL allows you to geocode multiple addresses at one time. Using AGOL application programming interface (API) you can also geocode a large batch of street addresses. By using this feature, you will be able to complete geocoding tasks quickly and more efficiently. In this step we will use the default AGOL functionality to geocode several Sheriff District Office locations in Broward County, Florida.

On your AGOL Geocoding Training folder you find a .csv file called “Broward_County_Sheriff_Office_District_Offices.csv”

If you open the file, it will look like this:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Office</td>
<td>Address</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
<td>Phone (non-emergency)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>BSO Central Broward District Office</td>
<td>290 Northwest 27 Avenue</td>
<td>Fort Lauderdale</td>
<td>FL</td>
<td>33311</td>
<td>(954) 323-4800</td>
</tr>
<tr>
<td>2</td>
<td>BSO Cooper City District Office</td>
<td>10580 Sterling Road</td>
<td>Cooper City</td>
<td>FL</td>
<td>33026</td>
<td>(954) 765-4321</td>
</tr>
<tr>
<td>3</td>
<td>BSO Court Services District Office</td>
<td>251 Southeast 6th Street</td>
<td>Fort Lauderdale</td>
<td>FL</td>
<td>33311</td>
<td>(954) 831-7330</td>
</tr>
<tr>
<td>4</td>
<td>BSO Davie District Office</td>
<td>4001 SW 30th Ave</td>
<td>Davie</td>
<td>FL</td>
<td>33312</td>
<td>(954) 526-2400</td>
</tr>
<tr>
<td>5</td>
<td>BSO Deerfield Beach District Office</td>
<td>300 N.E. 2nd Street</td>
<td>Deerfield Beach</td>
<td>FL</td>
<td>33441</td>
<td>(954) 460-4300</td>
</tr>
<tr>
<td>6</td>
<td>BSO Lauderhill-Hollywood Int’l Airport</td>
<td>0 Terminal Drive</td>
<td>Fort Lauderdale</td>
<td>FL</td>
<td>33315</td>
<td>(954) 359-1294</td>
</tr>
<tr>
<td>7</td>
<td>BSO Lauderdale-By-The-Sea</td>
<td>4513 S Ocean Drive</td>
<td>Lauderdale-By-The-Sea</td>
<td>FL</td>
<td>33308</td>
<td>(954) 440-4240</td>
</tr>
<tr>
<td>8</td>
<td>BSO Lauderdale Lakes District Office</td>
<td>4500 Northwest 36 Street</td>
<td>Lauderdale Lakes</td>
<td>FL</td>
<td>33319</td>
<td>(954) 497-1640</td>
</tr>
<tr>
<td>9</td>
<td>BSO North Lauderdale District Office</td>
<td>701 SW 71 Avenue</td>
<td>North Lauderdale</td>
<td>FL</td>
<td>33068</td>
<td>(954) 722-0800</td>
</tr>
<tr>
<td>10</td>
<td>BSO Oakland Park District Office</td>
<td>5399 North Dixie Highway</td>
<td>Oakland Park</td>
<td>FL</td>
<td>33334</td>
<td>(954) 202-3131</td>
</tr>
<tr>
<td>11</td>
<td>BSO Parkland District Office</td>
<td>6600 University Drive</td>
<td>Parkland</td>
<td>FL</td>
<td>33067</td>
<td>(954) 793-4321</td>
</tr>
<tr>
<td>12</td>
<td>BSO Pembroke Park, West Park District Office</td>
<td>3201 West Hallandale Beach Blvd</td>
<td>Pembroke Park</td>
<td>FL</td>
<td>33023</td>
<td>(954) 885-1953</td>
</tr>
<tr>
<td>13</td>
<td>BSO Pompano Beach District Office</td>
<td>190 SW 3rd Street</td>
<td>Pompano Beach</td>
<td>FL</td>
<td>33060</td>
<td>(954) 765-4201</td>
</tr>
<tr>
<td>14</td>
<td>BSO Port Everglades District Office</td>
<td>1901 Eller Drive</td>
<td>Fort Lauderdale</td>
<td>FL</td>
<td>33316</td>
<td>(954) 765-4511</td>
</tr>
<tr>
<td>15</td>
<td>BSO Tamarac District Office</td>
<td>7915 Pine Island Road</td>
<td>Tamarac</td>
<td>FL</td>
<td>33321</td>
<td>(954) 726-2225</td>
</tr>
<tr>
<td>16</td>
<td>BSO Weston and unincorporated West Broward District Office</td>
<td>17900 Royal Palm Blvd</td>
<td>Weston</td>
<td>FL</td>
<td>33326</td>
<td>(954) 389-2010</td>
</tr>
</tbody>
</table>

Notice that for geocoding in the United States (US), the AGOL’s geocoding locators (a piece of software that understand how to address-match and geocode addresses on a GIS map) requires several fields containing addresses formatted as shown in the graphic. They include: address, city, state, and zip code.
The main point to understand here is the Esri has built its geocoding locators using HERE Map Content and that HERE data fully support Esri’s geocoding locators capabilities.

**Step 6: Drag & Drop a .CSV File into AGOL and change the symbology**

Step 6: Next you will drag & drop the Broward _County_Sheriff_Office_District_Offices.csv file into the AGOL canvas in order to geocode the 16 addresses at one time.

Close the .csv file and drag it into the AGOL canvas. After your “drag & drop” the file, AGOL is smart enough to recognize the addresses’ format to be the one for the US and automatically assigns each field in the .csv file to the corresponding field required by the geocoding locator. This is an important concept if you are designing and building address files.

Note: If for some reason this step does not work (not using Google Chrome or Firefox Brow, go to the bottom of this document for alternative steps.

If necessary, pick the United States from drop down list of countries.
Accept the remaining defaults and click on **ADD LAYER**. All the addresses are in Broward County, FL. The map canvas should look like this after completing step 6:

You are given options to change the symbology based on Types, Heat Map, or Location. Choose **Location (Single Symbol)**. The Broward County Sheriff Office District Offices layer is added to the AGOL Table of Contents (TOC). Then select **Options** where we will change the **Visibility** to ‘Counties’ and choose a different symbol for the Sheriff’s Offices.
First, slide the **Visible Range to Counties** so we can see our offices even when we are zoomed out on the map. Then click on **Symbols** to open up a new menu. Select the **Points of Interest** symbol set and choose the icon shown below. Set the **Symbol Size** to 24.

When you are satisfied with your symbology – click **OK** on the Symbology Menus and click **DONE**.

**In Steps 5-6 You Learned:**

- AGOL supports batch geocoding (the capability to geocode hundreds or thousands of addresses in a single –or batch – process) which will save you time when geocoding multiple addresses.
- It is important to properly format the address table so that AGOL can easily recognize the fields it has to match.
Step 7: Geocoding the Fire Departments

The fire department operates five (5) battalions in eighteen (18) different fire stations locations throughout the county. The fire department operates 17 engine trucks, 7 aerial apparatus, 1 industrial fire truck, 3 aircraft fire-rescue crash trucks, 1 rotary wing aircraft / helicopter, 23 Advanced Life Support (ALS) transport units, 1 brush truck, 1 chemical fire suppression truck, and 1 foam tanker.

On your AGOL Geocoding Training folder find a .csv file called 
*Broward_County_BSO_Fire_Rescue_Stations.csv*

If you open the file, it will look like this:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BSO Fire Rescue Station</td>
<td>Station Number</td>
<td>Address</td>
<td>City</td>
<td>State</td>
<td>Zip</td>
</tr>
<tr>
<td>2</td>
<td>Central Broward</td>
<td>Station 14</td>
<td>791 NW 31st Avenue</td>
<td>Ft. Lauderdale</td>
<td>FL</td>
<td>33313</td>
</tr>
<tr>
<td>3</td>
<td>Central Broward</td>
<td>Station 23</td>
<td>2200 SW 46th Avenue</td>
<td>Ft. Lauderdale</td>
<td>FL</td>
<td>33317</td>
</tr>
<tr>
<td>4</td>
<td>Cooper City</td>
<td>Station 28</td>
<td>10350 Striling Road</td>
<td>Cooper City</td>
<td>FL</td>
<td>33328</td>
</tr>
<tr>
<td>5</td>
<td>Dania Beach</td>
<td>Station 1</td>
<td>116 West Dania Beach Blvd</td>
<td>Davie</td>
<td>FL</td>
<td>33008</td>
</tr>
<tr>
<td>6</td>
<td>Deerfield Beach</td>
<td>Station 4</td>
<td>928 E Hillsboro Blvd</td>
<td>Deerfield Beach</td>
<td>FL</td>
<td>33441</td>
</tr>
<tr>
<td>7</td>
<td>Deerfield Beach</td>
<td>Station 51</td>
<td>3152 North Powerline Road</td>
<td>Pompano Beach</td>
<td>FL</td>
<td>33069</td>
</tr>
<tr>
<td>8</td>
<td>Deerfield Beach</td>
<td>Station 66</td>
<td>5905 Powerline Road</td>
<td>Deerfield Beach</td>
<td>FL</td>
<td>33442</td>
</tr>
<tr>
<td>9</td>
<td>Deerfield Beach</td>
<td>Station 75</td>
<td>71 SE 21st Avenue</td>
<td>Deerfield Beach</td>
<td>FL</td>
<td>33441</td>
</tr>
<tr>
<td>10</td>
<td>Deerfield Beach</td>
<td>Station 102</td>
<td>1441 SW 11th Way</td>
<td>Deerfield Beach</td>
<td>FL</td>
<td>33441</td>
</tr>
<tr>
<td>11</td>
<td>Deerfield Beach</td>
<td>Station 111</td>
<td>232 Gooby Blvd</td>
<td>Deerfield Beach</td>
<td>FL</td>
<td>33442</td>
</tr>
<tr>
<td>12</td>
<td>Ft Lauderdale-Hollywood Int’l Airport</td>
<td>Station 10</td>
<td>250 Terminal Drive</td>
<td>Fort Lauderdale</td>
<td>FL</td>
<td>33313</td>
</tr>
<tr>
<td>13</td>
<td>Lauderdale Lakes</td>
<td>Station 37</td>
<td>3461 NW 43 Avenue</td>
<td>Lauderdale Lakes</td>
<td>FL</td>
<td>33333</td>
</tr>
<tr>
<td>14</td>
<td>Pembroke Park, West Park</td>
<td>Station 27</td>
<td>2612 SW 40 Avenue</td>
<td>West Park</td>
<td>FL</td>
<td>33023</td>
</tr>
<tr>
<td>15</td>
<td>Fort Everglades</td>
<td>Station 6</td>
<td>1902 Eller Drive</td>
<td>Ft. Lauderdale</td>
<td>FL</td>
<td>33316</td>
</tr>
<tr>
<td>16</td>
<td>Weston and unincorporated West Broward</td>
<td>Station 55</td>
<td>3952 Bonneventure Blvd</td>
<td>Weston</td>
<td>FL</td>
<td>33326</td>
</tr>
<tr>
<td>17</td>
<td>Weston and unincorporated West Broward</td>
<td>Station 67</td>
<td>951 Saddle Club Road</td>
<td>Weston</td>
<td>FL</td>
<td>33327</td>
</tr>
<tr>
<td>18</td>
<td>Weston and unincorporated West Broward</td>
<td>Station 81</td>
<td>17310 Royal Palm Blvd</td>
<td>Weston</td>
<td>FL</td>
<td>33327</td>
</tr>
<tr>
<td>19</td>
<td>Weston and unincorporated West Broward</td>
<td>Station 106</td>
<td>30000 Everglades Parkway</td>
<td>Weston</td>
<td>FL</td>
<td>33327</td>
</tr>
</tbody>
</table>

Notice that there is a filed called “Photo Name.” Later we will learn how to add photos to your ArcGIS Online (AGOL) map.
Step 8: Drag & Drop a .CSV File into AGOL Again

Drag and drop the `Broward_County_BSO_Fire_Rescue_Stations.csv` file into AGOL canvas to geocode these 18 addresses at once.

Close the .csv file and drag it into the AGOL canvas. After your “drag & drop” the file, AGOL is smart enough to recognize the addresses’ format to be the one for the United States and automatically assigns each field in the .csv file to the corresponding field required by the geocoding locator. This is an important concept if you are designing and building address files.

Accept the defaults and click Add Layer. All the addresses are in Broward County, FL. The map canvas should look like this after step 8:
As we did in step 6, select the **Location (Single symbol)** option, choose the symbol from **Points of Interest** and set the **Symbol Size** to **24**. When you are satisfied with your symbology – click **OK** on the Symbology Menus and click **DONE**.

**Step 9: Save Your Map**

From the **Save** tab, select **Save As**.
In the Save Map Pop-up window, make the following selections and updates:

- **Title**: Broward County Sheriff Fire Rescue Station and District Offices
- **Tags**: Fire, police, sheriff
- **Summary**: Location of public safety facilities in Broward County, FL
- **Save in folder**: use your default folder name

Click **SAVE MAP**.

The map now shows its new name:

To see where your map and content are saved, go to **HOME** tab and select **Content** as shown below:

It now looks like this:
Step 10: Sharing Your Map

At this point you can choose to share your map. To do so select the box next to the [web] map and notice how the “Share” tab becomes active. Click on Share and select Access.

The Share pop-up windows appears and you can decide if you want to share with everyone (publicly available to anyone in AGOL), to members of specific groups, or with your organization only. For the purposes of this exercise, just share it with NAPSG Foundation.

Click OK when you are done.

The building icon showing next to your WebMap indicates the item is shared to your organization. Note: Unshared items have a lock icon. Sharing to everyone would have a globe icon.
Step 11: Sharing Your Map Outside Your Organization

You can also share your map via a URL link to public safety officials or other organizations or individuals by providing them a URL the can open in any internet browser.

Click the ellipses next to the Broward County map from the Content page to View Item Details about the map.

The map details open and should look like the image below.

Notice the tags you entered previously and the two layers that make up this map.
Click the **Open In Map Viewer** button.
The map should now look like this. Click on the Share tab as shown.

In the Share pop-up box, check Everyone (public) as shown below.

Notice how ArcGIS Online gives you a URL you can share via email, for example:

To test it, copy this URL address and paste it into an internet browser. It will look like the map you are working on right now but it does not give the person viewing the map access to your account. The map is fully interactive; one can zoom in and out and click on the police or fire symbols to access information about these station/district offices. Try it!
Note: The icon has changed to a Globe in the Content tab, indicating it is shared with Everyone.

Click CLOSE when you are finished.

In the Share Pop-up window you can also share the map on your organization's Facebook page or Twitter account.

**Tip:** If for any reason you have gotten lost and cannot locate the map, do the following:

Go to HOME and select Content.

From Content, click on the name of the map.

The details page of your map opens. Select Open In Map Viewer.
This will bring you back to your map:

Step 12: Using Bookmarks

Bookmarks are a great way to store “favorite” locations or locations you frequent on a daily basis. Using bookmarks saves you time by enabling you to quickly zoom into an area of interest or focus for public safety.

Let’s take a closer look at the fire & rescue station in Weston, Florida. In the search box enter this address: 17350 Royal Palm Blvd, Weston, FL, 33326. Notice that as you type ArcGIS Online gives you choices; select the first choice or simply hit enter.
The map zooms into this location and we realize that there is a sheriff’s district office and a fire & rescue station at this location, which was not clear from the larger view.

Let’s create a bookmark called Weston. From the Bookmarks tab, select Add Bookmark.
In the input box type Weston and then close the dialogue box by clicking on the X located in the upper right corner of the box. Now you have a bookmark you can use at any time. For fun, go ahead and zoom out. Then go to the Bookmarks tab and select the Weston bookmark to zoom back in to this location.

**Step 13: Adding Imagery as a Layer to Discover Local Information**

Make sure you use the Weston bookmark to zoom into this location. From the Add tab, select **Browse Living Atlas Layers**.

Use the drop-down menu to select **Imagery**.
Now select World Imagery, and click Add layer to map. Then select As layer to add the imagery to your map as a layer. Now close the Browse Living Atlas Layers dialogue box. The World Imagery data should now be added as a layer to your map, and show up in its table of contents.

Your map should now look like this:
In Steps 11-13 You Learned:

✓ From a public safety perspective, any geographical dataset that can provide more details beyond that of vector maps should be used to enhance situational awareness for public safety decision-makers.

Step 14: Save Your Map

If you save now using the current map extent for the Weston Bookmark, the next time you open the map it will open at that same map extent. To avoid that, zoom to the full extent of your data by clicking on the ellipses next to the Broward County Sheriff Office District Offices layer, and select Zoom from the drop-down menu.

Turn off the World Imagery layer by removing its checkmark. The map should look like this now:

![Map of Broward County with World Imagery layer turned off](image)

To save your work, click the Save tab, and then select Save.

Step 15: CHALLENGE STEP—Linking Photos and Webpages to Layer Features

Note: Adding a picture and text to each fire station pop-up is a long and complex step. Do only if time permits.

It may be useful to link images to features in your map layers, especially for public safety. Doing so turns points into actual photos of buildings, hazardous locations, bridges, etc. In this step we will link a photo and its corresponding webpage to each fire rescue station in Broward County.
We will use the Weston bookmark to zoom into the Weston Fire Rescue Station. From the Bookmarks tab select **Weston Bookmark** to zoom into this location. Now select the Weston Fire Rescue Station by clicking on its fire symbol.

The point feature is selected (notice the blue box around it) and the information about this station is displayed in a pop-up window in your map viewer. This information came from the corresponding record in the “Broward County BSO Fire Rescue Stations.csv” file when we completed the batch geocoding in step 6. The map canvas should look like this:

![Map Canvas](image)

Before we can link images and webpages to this feature (Weston Fire Rescue Station 81) we need to do some logistics.

First, identify the name of the photo for the Weston Fire Rescue Station. From the map graphic above we can see that the photo name is **d8-station-81**:  

![Map Details](image)
We want to upload the photo of Weston Fire Rescue Station 81 and share it within the organization. Go to HOME and then select Content.

Then click on the Add Item tab and navigate to From My Computer. In the dialogue box, navigate to your local folder where the fire rescue station photos are located and select the photo titled d8-station-81. This is the photo of the Weston fire station.

Then add “Fire” as a tag for the photo. Click Add Item to upload the photo.

When the file is uploaded, the screen will look like this:
Now we need to capture the internal ArcGIS Online URL for this photo. Scroll to the bottom of the details page for the photo, and copy the URL in the bottom right corner. You can simply click the copy icon to the right of the URL to have it copied to your clipboard. Then paste the URL into a Microsoft Word document to save it for a later step.

Click on the back arrow in your browser to get back to the photo’s details. Click the Content tab; there you will now see the d8-station-81 file. Add a checkmark to it and click Share to share the picture.

In the dialogue box, AGOL will ask you who you want to share the picture with. Check Everyone, and notice that AGOL then automatically checks NAPSG Foundation as well. Click OK.
The *d8-station-81* photo file is now publicly available. In your Content page, you’ll now notice a globe icon where a lock icon used to be. This globe icon means the file is shared with everyone. If you hover over the icon, a pop-up window will appear telling you that is what the icon means.

*Note: The image needs to be shared with everyone in order for AGOL to create a URL for the image.*

Now we will gather some text to be used in a pop-up for Fire Rescue Station 81. Navigate to the following web page and select the introductory text to include as a caption in the pop-up identify window:  
http://www.sheriff.org/about_bso/dfres/stations/d8/index.cfm

Copy and paste the introductory text about Weston and unincorporated West Broward into your Word document to use it in the future as photo caption.
Now we will add a title, photo, caption and website link to the point representing Weston Fire Rescue Station 81.

In the data for the layer Broward County BSO Fire Rescue Stations are two important columns: one for a photo URL, and another for an associated caption. These columns are labeled URL and Details, respectively. First, click the Edit button in the main task bar so that you can edit the fire station data.

Then click the Details button to get back to the details of the layers, and navigate to the table for the Broward County BSO Fire Rescue Stations layer using the table icon. In the table, scroll to Fire Rescue station 81 and notice the two empty columns, Details and URL, to the right. Double click on the cell in the Details column associated with station 81.
Now **paste the caption** language you got from the website in the Details column. Then double click on the cell for station 81 which is in the **URL column** and paste the URL for the photo of station 81 there.

Keep the row for Fire Station 81 selected in the table, and click the **menu icon** in the upper right hand corner. Choose **Center on Selection**. The location of Fire Rescue Station 81 should now appear in the center of your map viewer. You can also navigate to your **Weston Bookmark**, which you created earlier, to zoom to Fire Rescue Station 81.
Now close the table by clicking the X in the upper corner; this will also close out the editing function. Now we will configure pop-ups for all of the fire stations, which will ensure that the caption and picture for Fire Rescue Station 81 shows in a pop-up.

To configure pop-ups, complete the following steps:

For the *Broward County BSO Fire Rescue* layer, click on the ellipses to get the drop-down menu. Select **Configure Pop-up**.

In the Pop-up Properties dialogue box, make these changes:

For **Pop-up Title**, click on the + plus sign icon and select `{BSO_Fire_Rescue_Station}`. This is the information which will be pulled from the layer’s table for the title of the pop-up.
In the **Pop-Up Content** section, click the **Configure Attributes** link at the bottom. Uncheck everything in the display column except for the fields we are interested in: BSO Fire Rescue Station, Station Number, Details and URL. Then click **OK**.

In the **Pop-up Media** section, click **ADD** and select **Image**.

In the **Configure Image** box that appears, select the following fields for each category using the **+ plus sign icon** to the right of the box:

- Title: Select `{BSO_Fire_Rescue_Station} - {Station_Number}`
• Caption: Select {Details}
• URL: Select {URL}

You are telling AGOL that these are the fields from which to pull the Title, Caption and Photo URL information for the pop-ups. Your dialogue box should look like this:

You can also add the url to the fire station’s website, if you like. Click OK to save the image details you configured. Then in the Configure Pop-Ups menu, also click OK to save all the aspects of pop-ups you configured.

Now click on the point in the map that represents Fire Station 81, which should be in the center of your map viewer. Look at the pop-up and notice its title is Weston and unincorporated West Broward. Scroll down and notice the caption you created as well as the photo of the fire station.
Step 16: Save Your Work

Click on the Save tab, and choose Save to save your work.

Challenge Step:

Now repeat the steps in the tutorial for an additional 5 or more fire rescue stations to ensure you master the geocoding and pop-up configuration processes.