Geocoding Quick Start Guide

Using a geocoding service thru ArcMap

A geocoding service allows you to geocode from ArcMap without having to create an address locator. After setting up your tabular address records to ensure that the required fields are populated correctly, simply geocode using an existing service & review the results.

There are currently two geocoding services available for use through a connection to prodgissvr102:

**Single_Field_Composite** is a geocoding service that will match parcel numbers (to a point located in the geometric center of the corresponding parcel) and/or full addresses with a zip code.

Use this locator if your table has a column that lists either of the following:

- TMS numbers
- Full addresses in this format: full street address, zip code

Examples:

<table>
<thead>
<tr>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2201 Marion St, 29201</td>
</tr>
<tr>
<td>2020 Hampton St Ste 3030, 29204</td>
</tr>
<tr>
<td>R12345-67-89</td>
</tr>
</tbody>
</table>

*in rare cases the geometric center of a parcel will actually reside outside its boundary*
SingleHouse_with_units is a geocoding service that matches several address components to address points in our GIS layer.

Use this locator if your table has the following:

- A street address field
- A field with both unit type & unit number/letter (where an address has these values; not every record in your table needs to have a unit value)
- A zip code field

Examples:

<table>
<thead>
<tr>
<th>Street_Address</th>
<th>Unit</th>
<th>Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td>2201 Marion St</td>
<td></td>
<td>29201</td>
</tr>
<tr>
<td>2020 Hampton St</td>
<td>Ste 3030</td>
<td>29204</td>
</tr>
</tbody>
</table>

TMS numbers cannot be used with this geocoding service.

**Steps:**

Connect to the server where these geocoding services live if you haven’t previously created a connection to prodgissvr102

1. Open ArcMap & open the Catalog window

2. In the catalog window, browse to GIS Servers & choose Add ArcGIS Server (double-click)

   NOTE – any existing GIS Server connections will be listed in this region as well.
3. Choose **Use GIS Services**

4. Click **Next**

5. Enter this URL in the **Server URL** line:

   http://prodgissvr102.county.rcgov.ads:6080/arcgis/services

6. Click **Finish**

RESULT: there is now a connection to Prodgissvr102 listed beneath GIS Servers

Double-click this connection name to expand the list of resources available through this source.
Modify the table that you will geocode as needed

The table that you geocode needs to have location information formatted to match the geocoding service that you want to use. That is, you need to follow the format on page 1 in order to use the single field composite service or you need to follow the format on page 2 if you want to use the single house service. The field names don’t need to be the same, but the content does.

As a general rule, the geocoding service that you choose will be dependent on the information listed in your original table.

<table>
<thead>
<tr>
<th>You have</th>
<th>*Try this service</th>
<th>Hint</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMS numbers</td>
<td>Single field composite</td>
<td></td>
</tr>
<tr>
<td>Addresses in a single field</td>
<td>Single field composite</td>
<td>Append the zip code if needed</td>
</tr>
<tr>
<td>Addresses with a separate field for unit info.</td>
<td>Single house with unit</td>
<td>Make sure that the unit field contains both unit type and unit</td>
</tr>
<tr>
<td>A combination of TMS numbers and addresses (some records are located by TMS, others by address)</td>
<td>Single field composite</td>
<td>You will need a single location field that lists either a TMS no. OR an address for each record</td>
</tr>
<tr>
<td>A single field with all address components, all separated by commas</td>
<td>Single house with unit</td>
<td>Separate the address components first...</td>
</tr>
</tbody>
</table>

*Additional formatting on your part may be required before the table is suitable for geocoding.

Please contact IT/GIS for assistance if you run into trouble with this step.
Geocode the Table

1. Open ArcMap

2. Add the table you will geocode to your map

3. Add the geocoding toolbar (if needed)
   
   Customize menu > toolbars > geocoding

4. Single click to highlight the table & then click the geocode addresses button on the geocoding toolbar

5. Click add & navigate to your GIS Server connections

6. Double-click the connection to prodgissvr102

7. Choose either the single field composite or the single house with units locator

8. Click add

9. Click OK
10. Tell the geocoding service which fields it should match from your table

In this case:

**Street**  full street address (address #, street name, street type, & directional prefixes or suffixes where appropriate)

**Unit**  unit type & unit designation (in a single field)

**Zone**  zip code

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11. Under **Output** navigate to the location where you want to save the geocoding results & change the name if you would like to title this something different

12. Click **save**

13. Click **OK** to begin geocoding
Your results are plotted on the map where a match was made between your table and the GIS reference layer. The resulting GIS layer includes both the original attributes from the table that you geocoded as well as fields that are created thru this process. Key fields include:

**Status**

This tells you whether or not a row from your table was matched.

- **U** – Unmatched: The tabular record does not match location attributes in the GIS reference layer.
- **M** – Matched: The tabular record was matched to a feature in the GIS layer.
- **T** – Tied: The tabular record was matched to a feature in the GIS layer, but there were other GIS features that matched with the same match score. Typically this has to do with discrepancies in unit information between the sources.

**Score**

This references how closely the tabular location information matched the GIS reference.

**Match address**

The location that this record was matched to. If the score value is less than 100, this will be different from the location info. in your original table.

**Street**

The full address value from your original table used by the geocoding service.

**Unit**

The complete unit value from your original table used by the geocoding service.

**Zone**

The zone value from your original table used by the geocoding service (in this case, zone is zip code).

*These fields are geocoding service specific. This example illustrates the single house with unit service. If you use the single field composite locator the street, unit and zone columns will be replaced with a key field that lists the original value in your table from the field that you chose as your location to geocode.*
Rematch the Results

1. Select the **rematch** button in the geocoding addresses window

   ![Rematch Button](image1.png)

   This opens the interactive rematch window:

   ![Rematch Window](image2.png)

   Scroll through the records to view the matching address (where applicable), additional candidates, etc.

   Use the Show results: dropdown to view different statuses (ie. View all tied records)

   The Address area shows the info. from your table that was used to make the match

   Candidates show all possible matches found. In the above image the tabular record was matched with a score of 100, but there were other candidates that were generated with a low match score.

   Candidate details display the highlighted candidate address components.
2. (Optional) manually rematch results

- Select the address from the address list

*In this example, the address info. shows that the table listed 1520 Main St., #4B, 20201 BUT the match address value is currently 1520 Main St, Unit 3C, 29201.*

Scrolling through the candidates reveals that there is an address with 1520 Main St., Unit 4B, 29201. This is the record that we want to use for the match.

- Single click to highlight the candidate that you want to use to make the match

- Click the Match button.

The status will change to M and the match address value will update to reflect the change.