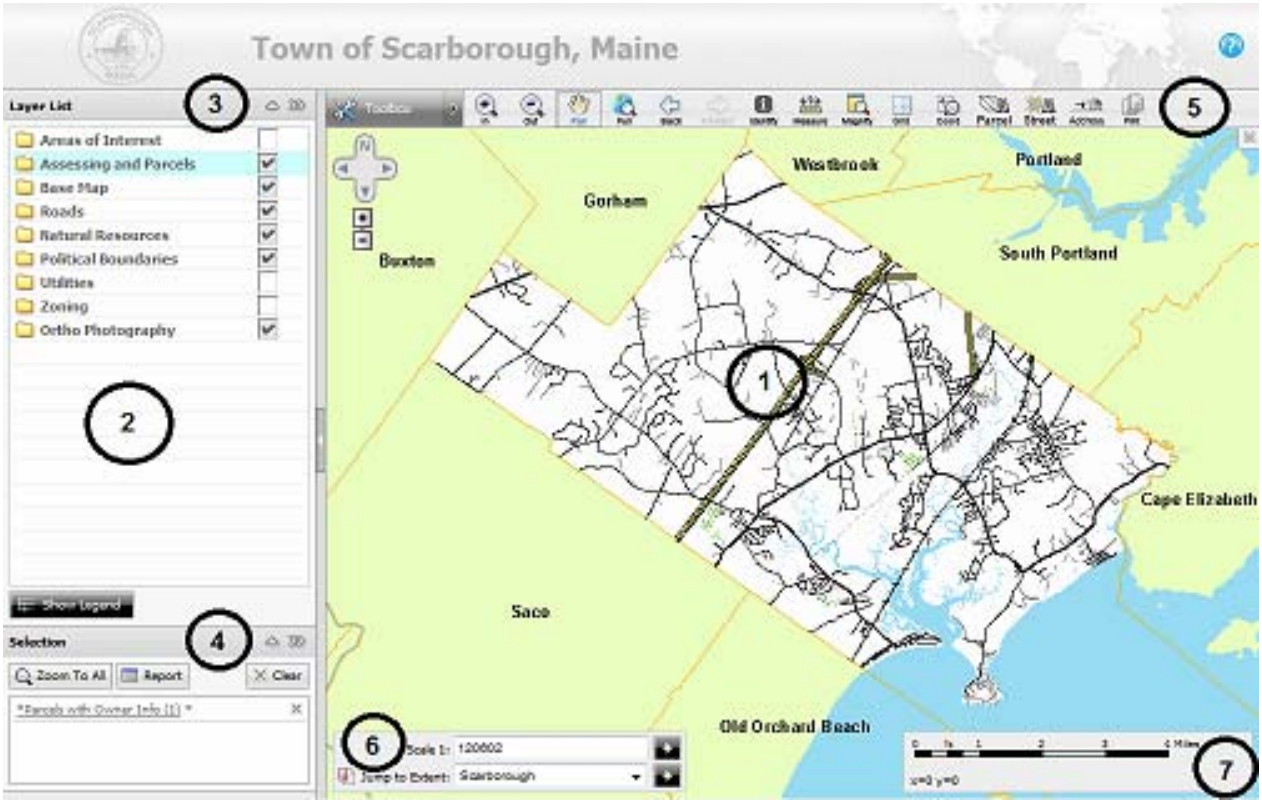
Getting Started - Basic Map Navigation

When you open Scarborough's WebGIS map viewer in your Internet browser, you should see something that looks a lot like the image shown in the figure below.

The map information is displayed in the **Map Window** (①). Beside the Map Window is the **Information Panel** (②), which displays information about the map and lets you interact with the map. The Information Panel displays the **Layer List** (③), as well as **Selections** (④) and interfaces for various tools and processes.

At the top of the viewer you can see the **Toolbar** (⑤), where you will find tools to help you use your map. These tools allow you to navigate around the map, ask questions of the map, and otherwise interact with the information. **Scale information** (⑥) and **map coordinates** (⑦) are found at the bottom of the Map Window.



Navigating Maps

Zoom Tools

The Zoom tools are unique to digital maps. They are very much like using an actual magnifying glass, as the icons imply. The main difference is you can't burn ants with them (yes, this is a cruelty-free technology). The magnifying glass with the little plus sign lets you zoom in (view the map from closer in), while the one with the little minus sign lets you zoom out (view the map from farther out). There are a couple of ways to use these tools.

First, click one of the magnifying tools to select it, then click somewhere on the map. With the Zoom In tool, the map zooms in. The center of the new map is wherever on the map you clicked the mouse button. The Zoom Out tool zooms out the same way.

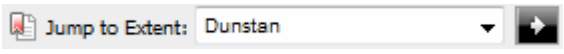
Second, you can use the Zoom tools more precisely by pressing the mouse button somewhere on the map, holding it down, and dragging a box. When you let go of the mouse button, the new map extent will be the area defined by the box, whether you are zooming in or out.

Zoom to Full Extent

The Zoom to Full Extent tool is a quick and easy way to zoom out as far as possible. Just click the tool and the map will zoom out to its maximum extent.

Jump to Extent

The Jump to Extent Box allows you to navigate directly to predefined extents, without having to pan or zoom. To jump to an extent, select the extent from the drop-down list and click the arrow ( ). If you delve into the Advanced section of this tutorial, you will learn how to add extents to the Jump to Extent drop-down list using the Extent Bookmarks tool.



Pan Tools

With a web-based map you can look at a specific area of interest by panning around the map. The Pan tool lets you slide around to different parts of the map. Suppose you want to go north (up the map). Take the Pan tool and grab (press and hold down the mouse button) onto the map, pulling it down. Whatever part of the map you grab with the little hand will end up where you let go of the mouse button. Just like in real life. This works for moving any direction on the map.

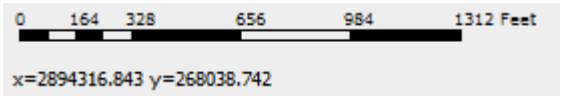
Tip: You can also zoom in and out using the Scale Slider. Drag the slider towards the plus sign or minus sign to zoom in or out from the map, or click the plus or minus sign to zoom in or out by a fixed amount.

You can also pan using the Directional Pan tool located at the upper left of the Map Window. Click a direction arrow (▶) to make the map shift in that direction by a fixed amount. You can navigate in any direction by clicking and holding the mouse button, and then moving the mouse over different direction arrows.

Scale Box and Scale Bar

Another method of zooming uses the Scale Box. The Scale Box shows the current map scale. To change the scale, type the desired ratio and click the arrow ( ). This is a quick way to zoom directly to the scale you need.

The Map Window has a Scale Bar for estimating distances. The Scale Bar also shows the current x,y coordinates.



Note that the Scale Box and Scale Bar are for map navigation only, and may not be perfectly accurate. Without information about the size of your monitor or display device, it is impossible to accurately provide a ratio scale. An error will be most pronounced if you are operating a large monitor or a projection device running at a very low resolution, or if you are running a small monitor at a very high resolution. A 17" monitor running at a resolution of 800x600 or 1024x768 represents the scale more accurately.

Some maps have limits on the scales at which you can view the data, and some layers and map labels may only appear at certain scales. If the layer you need is unavailable ( ) at your current map scale, zoom in until the layer becomes available ( ).

Wondering what those little icons mean? They are part of the Layer List. Just read on, and you will find out how the Layer List allows you to work with layers and interact with map information.

Layer List

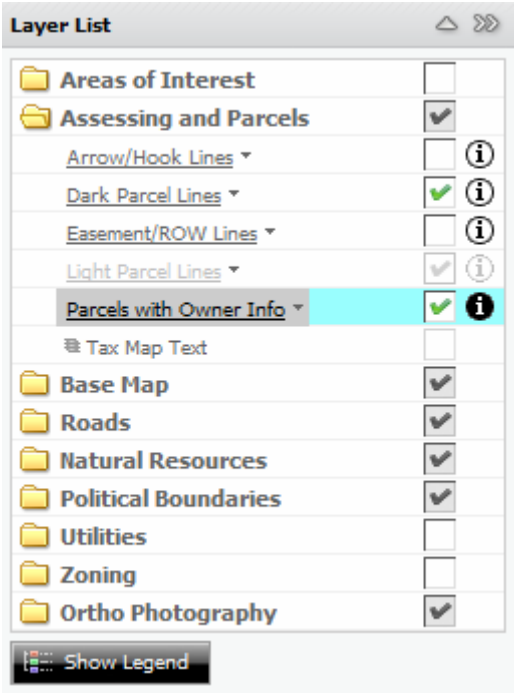
Because maps often have many layers, layers are organized into folders ( ) and group layers ( ) in the Layer List. (If you don't see the Layer List, click the tab in the Information Panel). When you first open a map, some folders and group layers may be open while others are closed. Similarly, some layers may be visible on the map while others are not.

To open a folder, click the folder icon. A list of the layers contained in the folder will display. To close the folder, click the icon again. To open and close a group layer, click the group layer icon. Notice that opening and closing folders and group layers doesn't change which layers are visible on the map; it simply helps you stay organized.

Showing and Hiding Layers

Beside every layer in the Layer List, you will see a check box. Folders and group layers also have a check box beside them. In order for a layer to be visible on the map, both check boxes must be selected: the layer's check box and the check box of its folder or group layer.

Folders and group layers work differently. When you select or clear a folder's check box, the check boxes of all its layers also become selected or cleared. Selecting and clearing a group layer's check box never changes the check boxes of its sublayers. When you select a group layer's check box, every sublayer whose check box is already selected becomes visible on the map, provided they're visible at the current scale. You can also change layer check boxes individually.



Making Layers Active

Some layers are only available at certain scales. Layers that are available at your current scale are shown with an Available icon ( ) next to the layer name, while layers that are unavailable at the current scale are shown with an Unavailable icon ( ).

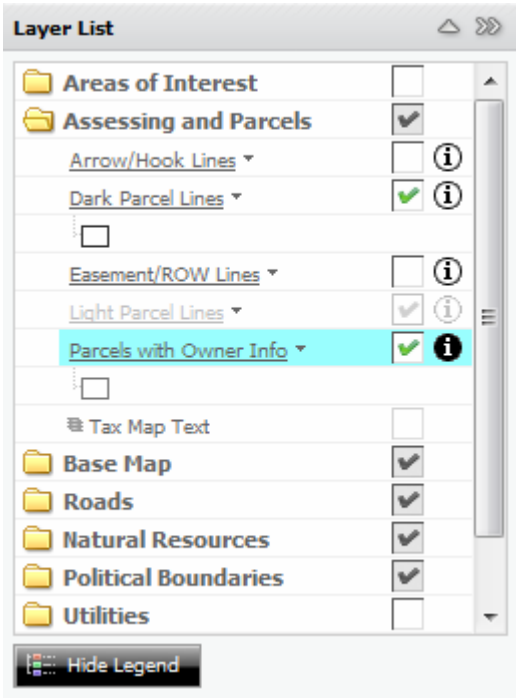
A layer can be made active by clicking its Available icon. An active layer is represented by an Active icon ( ) and its name is highlighted in blue in the Layer List. Making a layer active is your way of telling the WebGIS that you want to work with the layer. For example, when a layer is active, you can search for points of interest on the layer. You can have multiple layers active at one time.

Viewing Attributes of Features

As discussed in the Introduction to GIS, features have attributes associated with them in Geographic Information Systems. Suppose you are interested in the attributes associated with a particular street. To see the street's attribute information, click the Identify tool and then click the street on the map. (You may have to make the street active first). Use the Identify tool whenever you want to examine the attributes of features on the map.

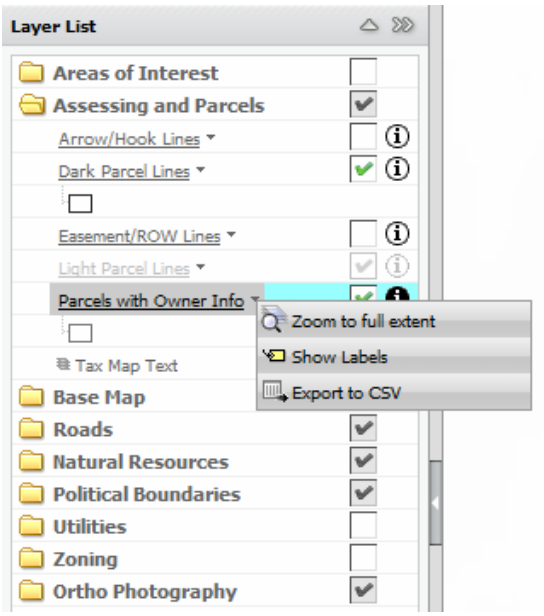
Viewing the Map Legend

In addition to the functions above, the Layer List can also display a Map Legend. To make the legend visible, click the View Legend button at the bottom of the Layer List. To hide the legend, click the Hide Legend button. Legend symbols are shown for available layers only.



Using Layer Actions

This section describes the operations, or *actions*, that you can perform on layers. To perform a layer action, click the layer's name or its down arrow (▾) in the Layer List and select the action from the menu. The particular actions that are available for a layer depend on the settings for that layer.



Zoom to Visible Scale

The Zoom to Visible Scale action allows you to zoom directly to a scale at which the layer is visible. Use this action when you want to view a layer that is not available at the current scale.

Zoom to Full Extent

The Zoom to Full Extent layer action zooms directly to the extent that is just large enough to show all the layer's features. Note that this is different from the Zoom to Full Extent tool in the Navigation Toolbox, which zooms out as far as possible.

Show/Hide Labels

The Show Labels layer action displays a visible layer's labels. For example, selecting Show Labels for the Dark Parcel Lines layer displays the map and lot numbers on the map. When you show a layer's labels, the layer action changes to Hide Labels, which allows you to turn the labels off again.

Symbolize Layer

The Symbolize Layer action allows you to configure the appearance of symbols on dynamically created layers, such as the layer that is created when you import a shapefile.

Export Layer Data

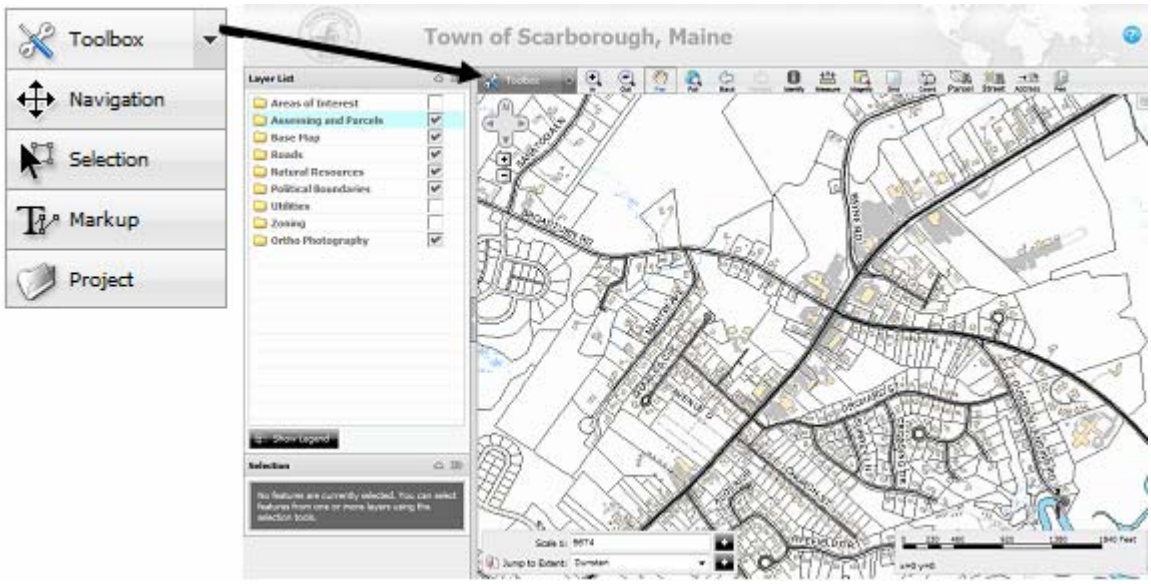
The Export to CSV action exports layer data to a Comma Separated Values file, which can then be opened in a program such as Microsoft Excel. The site administrator configures which data are available for export.

Tools & Tasks

This section will introduce you to the different tools and functions available in Scarborough's WebGIS. All of these tools are user friendly, so learning how to use them should be relatively simple. Plus, once you understand these operations, your mapping experiences with Scarborough's WebGIS will be more pleasurable and efficient.

The Toolbox Menu

The Toolbox contains a number of Toolbars which display the various tools that are available for interacting with and using your map.



The Tools

The **Navigation Toolbox** allows you to move around the map, zoom in and out, measure and magnify features on the map, and more.

The **Selection Toolbox** provides different methods of identifying and selecting features on a map.

The **Markup Toolbox** provides tools for drawing shapes (points, lines, and polygons) and adding text on a map.

The **Project Toolbox** provides tools to open and save map projects, export map images, upload shapefiles and point data, and perform other project-related activities.

The Navigation Toolbox

The Navigation Toolbox provides tools for adjusting your view of the map and measuring parts of the map.

 **Zoom In**

The Zoom In tool allows you to zoom in on any part of the map. To zoom in, click the Zoom In tool and then click the map location that you want to zoom in on. Alternatively, click and hold the mouse button to drag a box that defines the area that you want to zoom in on.

 **Zoom Out**

The Zoom Out tool allows you to zoom away from the map. To zoom out, click the Zoom Out tool and then click the map location that you want to zoom out from. Alternatively, click and hold the mouse button to drag a box that defines the area that you want to zoom out from.

 **Pan**

The Pan tool lets you navigate around the map. Use the Pan tool by clicking and dragging the mouse on the map. The area of the map that you grab will end up wherever you release the mouse button. For example, if you want to move north (up the map), click and hold near the top and drag the map down.

 **Zoom to Full Extent**

The Zoom to Full Extent tool is a quick and easy way to zoom out as far as possible. Click the tool and the map will zoom out to its maximum extent. This is especially useful when you want to make a fresh start without losing the changes you made to the map.

 **Map Back**

Clicking the Map Back tool will return your map to the previous extent that you viewed. For example, if you are currently viewing the map extent at a scale of 1:250000 and you zoom to 1:100000, clicking the Map Back button will return the map to the previous scale (1:250000).

 **Map Forward**

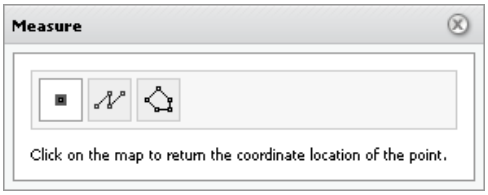
If you have used the Map Back button, clicking the Map Forward tool will return the map to the next extent.

 **Identify Features**

Use this tool to see a list of a feature's attributes. First make the feature's layer active and then click the feature whose information you want to see.

Measure

The Measure tool allows you to measure areas (polygons), distances (lines), and coordinates (points) on the map. Click the Measure tool to open the Measure window.

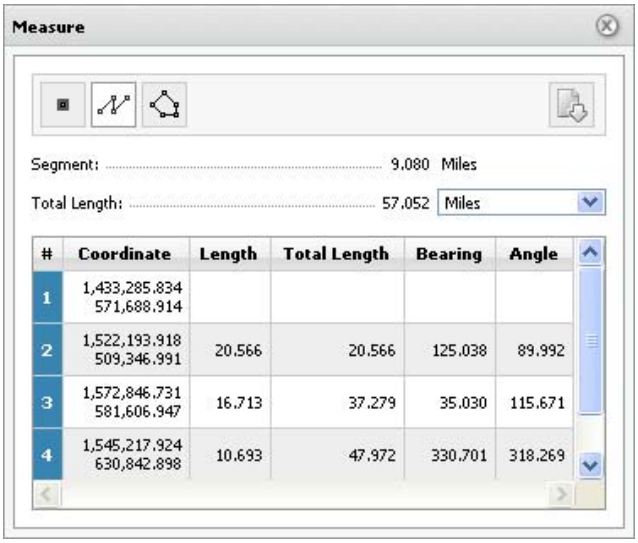


1. Measure Coordinates

To view the coordinates of a particular location, click the Measure Coordinates tool ( ) in the Measure window and then click the location on the map. The coordinates for that location will display in the Measure window. You can view the coordinates in map units, decimal degrees, or degrees, minutes and seconds. Tip: You can also use the Coordinates tool to measure coordinates.

2. Measure Distance

Distance is measured as a sequence of line segments that you draw on the map. To measure a distance, click the Measure Distance tool ( ), click one end of the path you want to measure, and then click the first point where the path changes direction. Continue clicking points until there is one point left. You can undo points by right-clicking if you make a mistake. Double-click the last point to end the measurement. The results of the measurement are shown in the Measure window. To change the unit of measurement, select the unit from the drop-down list. To save the measurements to a file, click the Export Measurement button ( ).

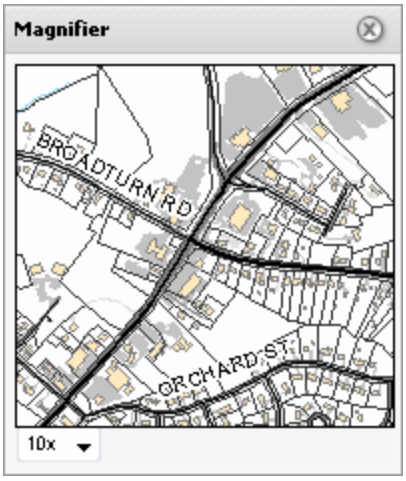


3. Measure Area

Area is measured as the area within a polygon that you draw on the map. To measure an area, click the Measure Area tool ( ) and draw the polygon just as you would draw a polyline. Double-clicking closes the polygon and ends the measurement. The results will be shown in the Measure window.

Magnify

When you click the Magnify tool, the Magnifier window (Figure 4) appears on the map. To magnify an area, click and hold the grey bar at the top of the Magnifier to drag the window on top of the desired location. You can change the degree of magnification using the drop-down list at the bottom of the window. (Note that when you increase the magnification, the current map is not simply enlarged. Rather, new map data are displayed, often showing additional features that are not visible at a smaller scale.)



Map Grid

The Map Grid tool allows you to overlay a grid on the map. Click the Map Grid tool to open the Map Grid window and specify the size of the grid. Depending on how your site is set up, the grid can either be static or dynamic. A static grid changes scale with the map, so the grid lines are farther apart when you zoom in and closer together when you zoom out. A dynamic grid always shows roughly the same number of lines when you zoom in or out.

Zoom to Coordinates

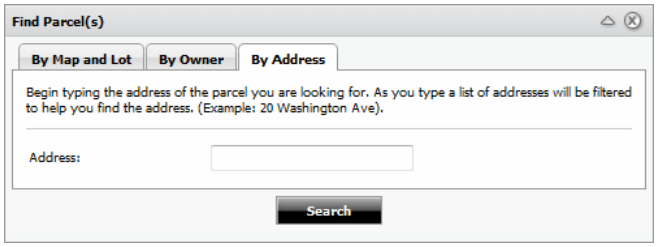
The Coordinate tool allows you to zoom and center the map at particular coordinates. Click the Coordinate tool and type in the coordinates, if you know them; otherwise, click the map at the desired location. Crosshairs will mark the location on the map. Click the Label button to label the crosshairs with the coordinates. If you want to reproject the coordinates, click Advanced and select the new projection. Click Zoom to zoom and center the map on the coordinates.

Parcel Search

The Parcel Search tool allows you to search for a parcel by address, owner name, or map and lot.

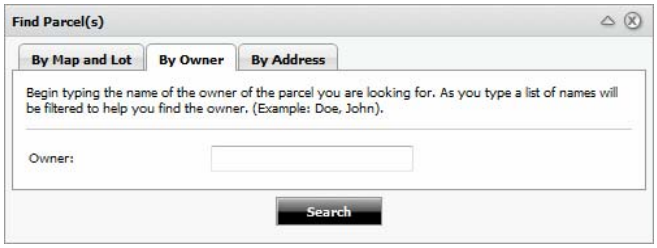
1. Find Parcel by Address

The Find Parcel by Address tool allows you to search for a parcel by its location. Begin typing the address of the parcel you are looking for. As you type a list of addresses will be filtered to help you find the address. (Example: 20 Washington Ave).



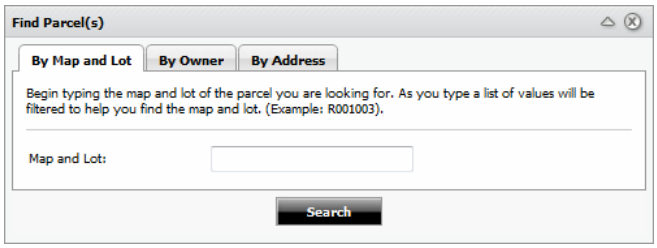
2. Find Parcel by Owner

The Find Parcel by Owner tool allows you to search for a parcel by owner name. Begin typing the name of the owner of the parcel you are looking for. As you type a list of names will be filtered to help you find the owner. (Example: Doe, John).



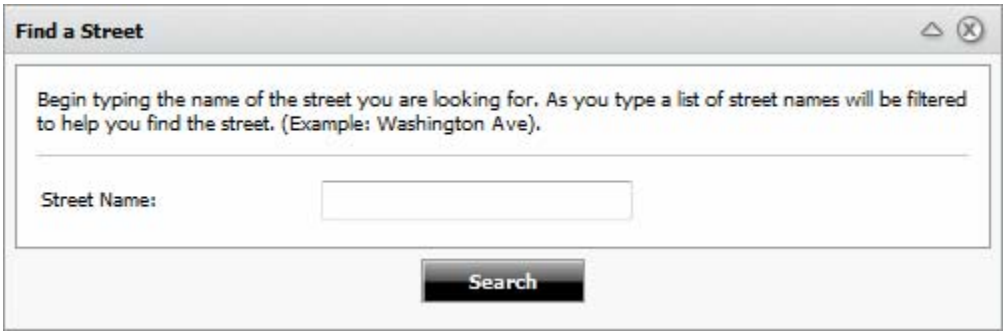
3. Find Parcel by Map and Lot

The Find Parcel by Map and Lot tool allows you to search for a parcel by its map and lot number. Begin typing the map and lot of the parcel you are looking for. As you type a list of values will be filtered to help you find the map and lot. (Example: R001003).



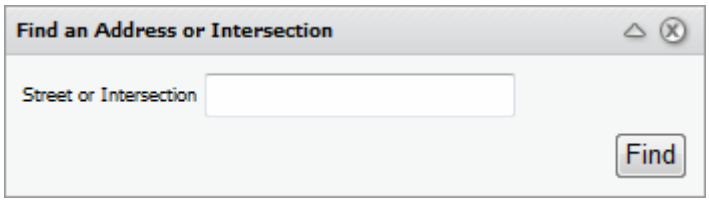
Find a Street

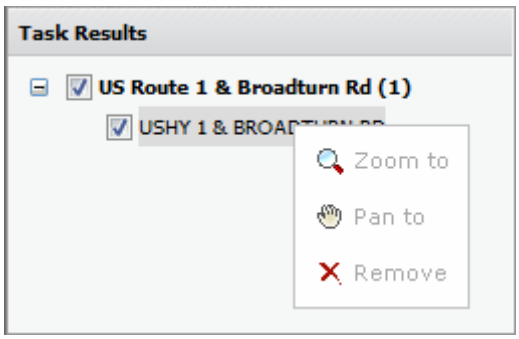
The Find a Street tool allows you to find a street. Begin typing the name of the street you are looking for. As you type a list of street names will be filtered to help you find the street. (Example: Washington Ave). Search results appear in the "Task Results" on the left panel of the page and are highlighted on the map. Right-click on a result to see options to Zoom To, Pan To, and Remove.



Find an Address or Intersection

The Find an Address or Intersection tool allows you to search for an address, enter the address and click Search. For intersections, enter the road names separated with "and" or "&" (Example: US Route 1 & Broadturn Rd). Search results appear in the "Task Results" on the left panel of the page and as markers on the map itself. Right-click on a result to see options to Zoom To, Pan To, and Remove.





Print Map Template

The Print Map Template tool allows you to export a printable map using a variety of predefined sizes, formats, and file types. You can customize the file format, document resolution, map scale, legend, title and notes. Click View to prepare your printable map for download.