

# Introduction To The ePlanning Map Viewer

## ePlanning Version 1.04.03

ePlanning Version 1.04.03 is a development version of the ePlanning application which can be used for production, publication, and public review and commenting on planning documents. Some functionality in Version 1.04.03 is still in development.

12-09-05

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## **About the ePlanning Map Viewer**

The ePlanning Map Viewer is a mapping application that lets you view Internet map services in your Web browser. Use the ePlanning Map Viewer to access Internet map services available through ePlanning or other mapping sites to view individually or together. With the ePlanning Map Viewer, you can create informative maps using geographic data from many of the world's leading publishers.

The above description contains concepts and terminology unfamiliar to most people, especially those who are not familiar with using computers for mapping. So, some explanations and descriptions are provided here.

### **What is geographic data?**

Geographic data, also called spatial data, is information about the location and description of features on the earth. On computers, geographic data is stored digitally and is used to display and analyze mapped information. Geographic data also can be defined as information about the locations and shapes of geographic features and the relationships between them, usually stored as coordinates and topology.

### **What is a mapping application?**

A mapping application is computer software used to display and visualize geographic data, and to display information about the data. For example, a typical mapping application can display a map, such as a map of roads, and also display information about the roads, such as road names, highway numbers, types of road (paved, unpaved, etc).

### **What is an Internet map service, map server, or mapping site?**

Map services (map servers, mapping sites) are network enabled maps. "Network enabled" means that the maps are set up to be accessible across computer networks, and over the Internet. A map service is sometimes described as a type of Web service that generates map images.

For example, a land use planning agency can store planning maps on a map server at one of their offices. The planning maps can then be set up to be accessible across the Internet. Then you can connect to the Internet and use ePlanning to find and display the land use planning maps.

### **ePlanning Map Services**

ePlanning Map Services are map services that are set up for specific land use planning/EIS projects that are using ePlanning. Each office that uses ePlanning places their land use plan/EIS maps on a server. ePlanning users can then connect to that server

and access and display the maps in the ePlanning Map Viewer. Users can refer to those maps while making comments on land use planning/EIS documents.

## **Other Map Services**

In addition to map services set up specifically for ePlanning projects, there are other map services available on the Internet. The ePlanning Map Viewer can be used to access and display maps from accessible map services or mapping sites. Links to a number of map servers are already built into ePlanning, including:

- USGS The National Map
- EPA
- FEMA Hazards
- NASA Globe Program
- NASA JPL Web
- NOAA
- Geography Network

In addition to the above map services, ePlanning users can use the Map Viewer to find and display maps from other map services available on the Internet. Examples of other Internet map services include:

The National Atlas - <http://nationalatlas.gov/natlas/Natlasstart.asp>

U.S. Census Tiger Map Server - <http://tiger.census.gov/cgi-bin/mapbrowse-tbl>

National Geophysic Data Center Interactive Map Services -  
<http://www.ngdc.noaa.gov/maps/interactivemaps.html#whatisthis>

GeoMac - <http://geomac.usgs.gov/>

## **What You Can Do With The Map Viewer**

Viewing Internet map services using the ePlanning Map Viewer you can:

- Add map services to the Viewer from ePlanning and from other map servers.
- Display multiple map services in a single map view.
- Turn on/off map layers within a map service.
- Set transparency of map services for overlaying multiple images.
- Identify attribute information about features in a map service.

The definitions below elaborate on the above descriptions.

### **What is a map view?**

A map view is a graphic window in ePlanning used to display a map, or several maps, alongside a legend. A map view is sometimes called a map display and is described as a graphic representation of a map on a computer screen.

### **What are map layers?**

Map layers are specific types of maps that can be displayed within a map service. For example, in a geology map service, there can be many layers, such as surface geology, fault lines, subsurface geology, etc. Map layers can be ‘turned on’ or ‘turned off’ in the map view, i.e. displayed or not displayed, by selecting the names of the maps in the legend. For a further description of the difference between a map service and map layers, see the section below on the Map Viewer Table of Contents.

### **What is a map legend?**

A map legend explains the colors, symbols, line patterns, shadings, and annotation used on a map. The legend includes a sample of each symbol with a description of what it means.

### **What is overlaying?**

Overlaying map layers is a way of displaying several layers at the same time as if they are stacked on top of each other. For example, map layers of streams, rivers, and surface vegetation could be overlaid so you can see all three of them at the same time.

### **What is transparency?**

When you overlay several map layers, you can adjust the transparency of each layer. For example, if you have a surface vegetation map overlaid over a streams layer and a rivers layer, you can adjust the transparency of the surface vegetation layer so you can see through it to the streams and rivers shown beneath it. The transparency on the surface vegetation map can be set to be nearly completely transparent, which means that the

surface vegetation features would show up very faintly, and the rivers and streams would show up more clearly. Or you could set the surface vegetation map transparency to nearly completely opaque, so the surface vegetation features would stand out quite clearly while the streams and rivers would appear faint.

### **What are multiple images?**

Multiple images is just another way of referring to displaying more than one map layer at one time.

### **What are features?**

Features, sometimes called map features, are the points, lines, and areas shown on a map. A point, line, or area is used to represent something from the real world on the map. For example, oil well locations can be shown using a single point for each well. Each point is a feature. Roads can be shown using lines. Each road line is a feature. Surveyed sections can be displayed using rectangles. Each survey section rectangle is a feature.

### **What is attribute information?**

An attribute is the information that describes a map feature. A line on a map is just a line until an attribute is assigned to it. A line feature in a map that depicts a road might have attribute information such as route number, road type, and length. Attribute information about a mineral ownership area might include acreage, name of mineral owner, and unit identifier.

## Using The ePlanning Map Viewer

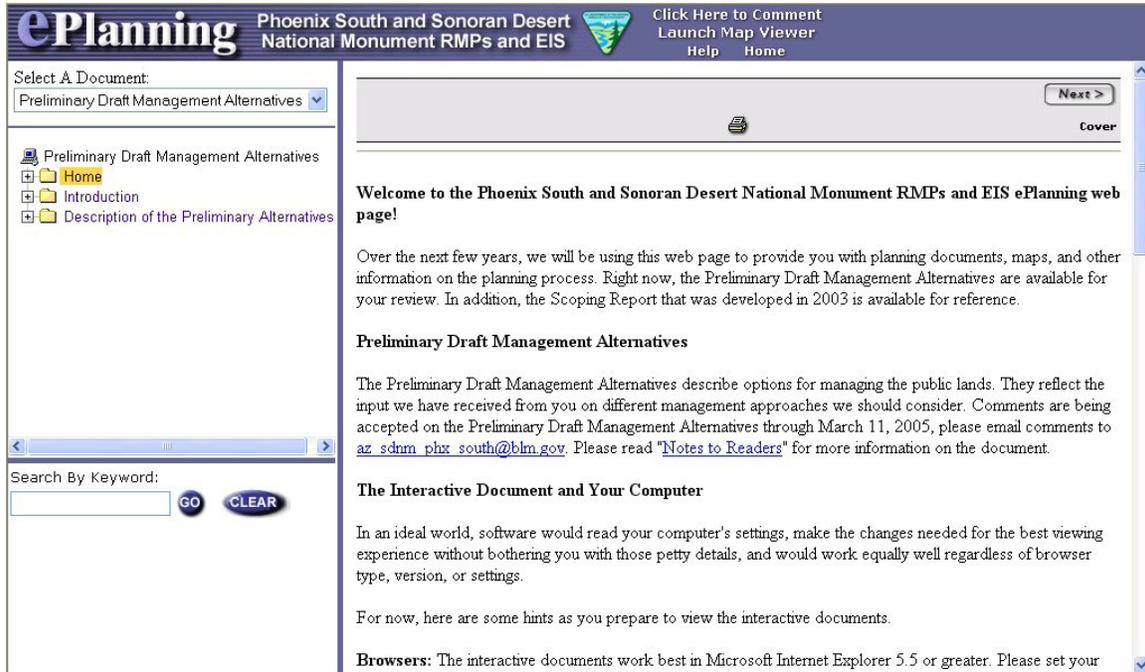
Setting up your computer for using ePlanning:

1. When using the Map Viewer, it is recommended that you use one of the following browsers on Windows-based computers:
  - a. Microsoft Internet Explorer 5.5 or greater. Please set text size under the "View" menu to MEDIUM. You may also want to change screen resolution to approximately 1150 X 860 (Hint: Remember the previous screen resolution so you can reset it after using the interactive documents). This will improve the quality of what you see on the screen, such as the pull-down menus.
  - b. Netscape users must use version 7.1 or greater for full performance. Use of earlier versions will result in unpredictable results and is not recommended (also, your comments may not be received correctly).
2. The Map Viewer uses pop-up windows to display some results. So before using the Map Viewer, disable any pop-up blocker currently in use on your computer.

The ePlanning Map Viewer allows you to interactively view maps, and customize the view. Tools in the map viewer allow you to view different areas of a map, zoom in and out, and identify map features. The following sections describe how to open and use the Map Viewer.

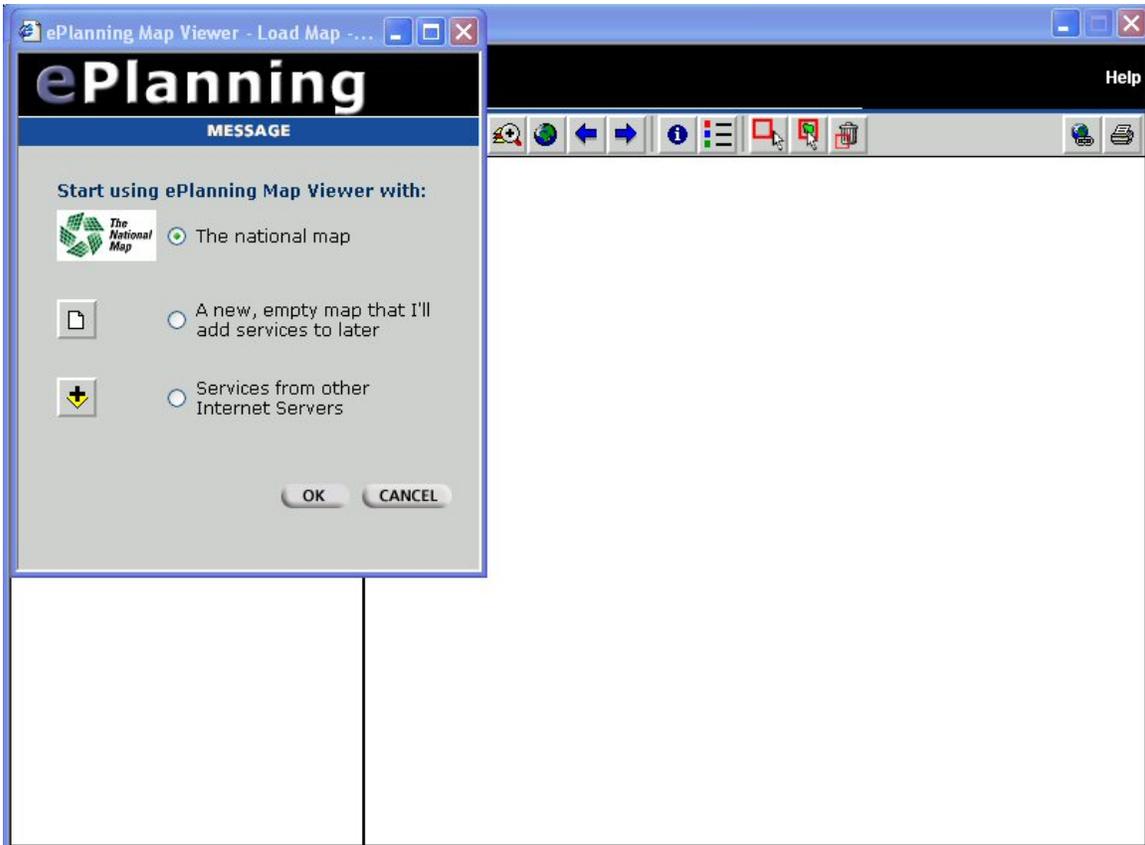
## How to Open The Map Viewer From The ePlanning Web Page

To begin using the Map Viewer, start from the ePlanning web page, as shown in the example below.



Click on the **Launch Map Viewer** link at the top of the screen.

The Map Viewer will open, with a window for choosing the map you want to use.

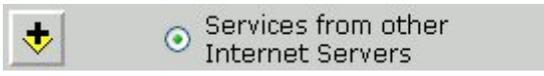


### ***Choosing A Map To Display***

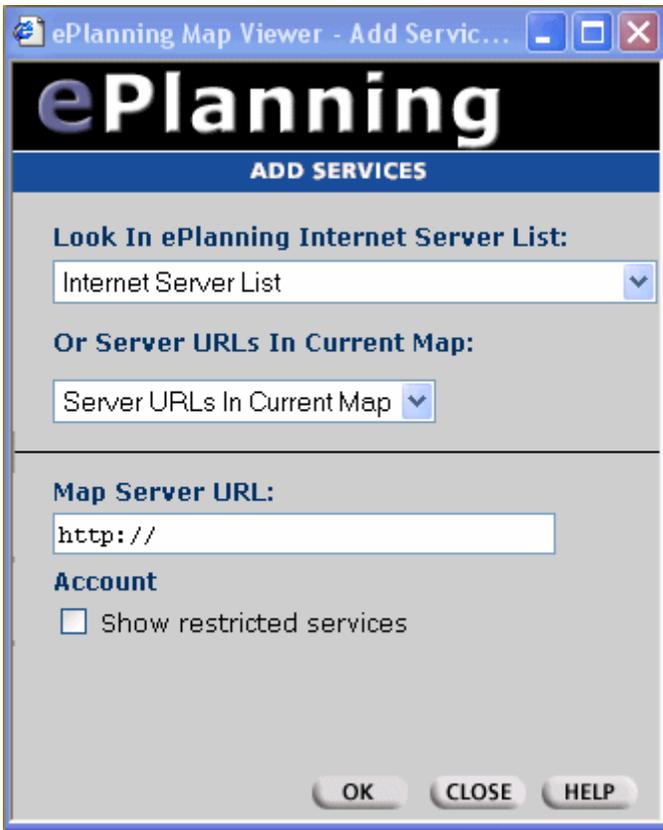
From the window shown above, choose one of the available options:

 <input checked="" type="radio"/> The national map	The national map brings up a display of the 50 United States in a map service provided by the U.S. Geological Survey (USGS).
 <input type="radio"/> A new, empty map that I'll add services to later	Opens an empty Map Viewer window.
 <input type="radio"/> Services from other Internet Servers	Opens the Add Services window providing a search list for the ePlanning Internet Server List (map services which are currently integrated with ePlanning); plus an optional box for typing in the URL of a known map service.

In this example we assume you are going to look at maps that have been posted specifically for an ePlanning project, so the choice will be:


, and then click on .

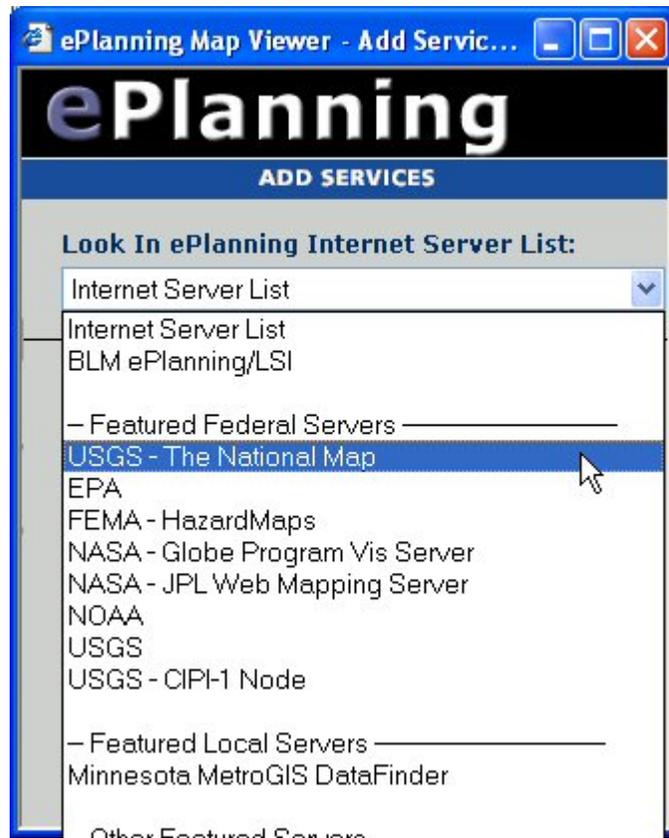
The Add Services window will be displayed.



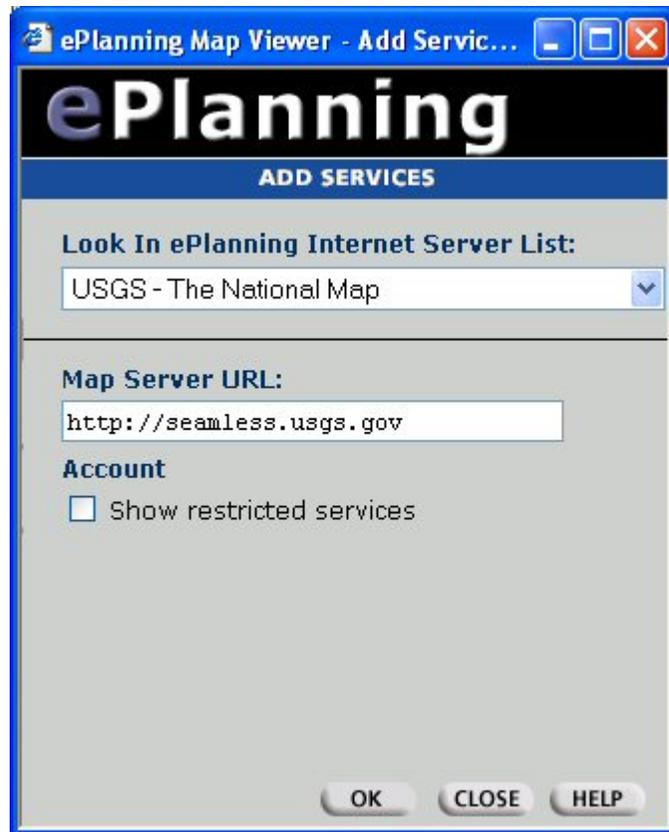
The Add Services window includes these options:

<p><b>Look In ePlanning Internet Server List:</b></p> <p>Internet Server List </p>	<p>Use this dropdown list to display and select available map servers.</p>
<p><b>Map Server URL:</b></p> <p>http://</p>	<p>Or use this field to enter the Internet web address for a map server known to you.</p>
<p><b>Account</b></p> <p><input type="checkbox"/> Show restricted services</p> <hr/> <p><b>Account</b></p> <p><input checked="" type="checkbox"/> Show restricted services</p> <p>User Name: <input type="text"/></p> <p>Password: <input type="text"/></p>	<p>If you have an existing account on a map server, click the box next to “Show restricted services.” The User Name and Password fields open. Enter your User Name and Password to access the map server.</p>

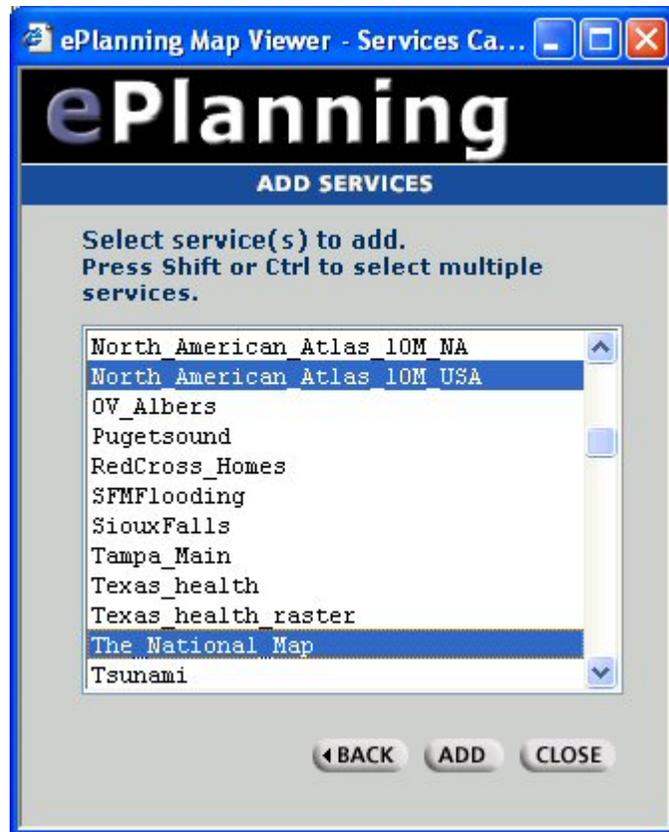
To choose a map service, select the drop down list under “Look in ePlanning Internet Server List:” In this example, “USGS – The National Map” is selected as shown in the following illustration.



When you click on the map server name, as shown above, the Internet address, known as a URL, for the selected map service will be displayed in the “Map Server URL:” field.



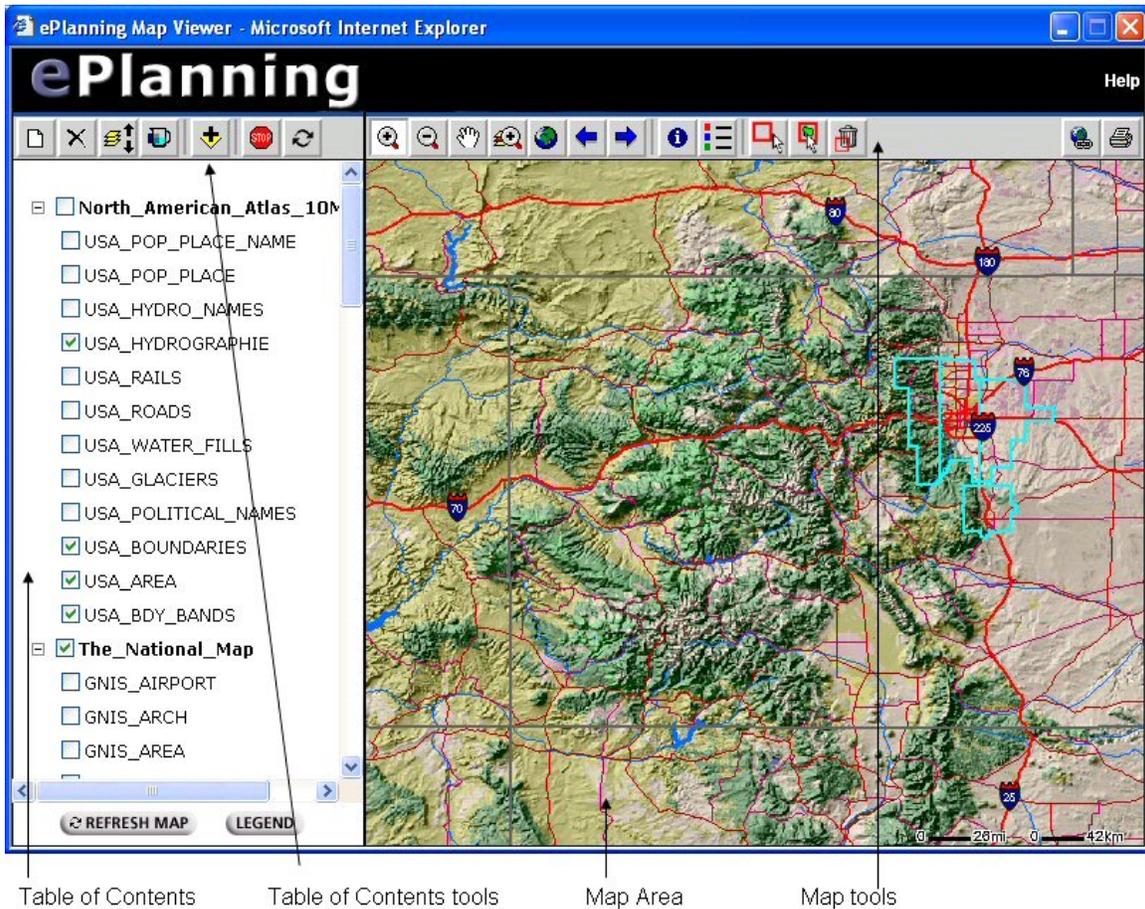
Click **OK**. The list of maps from USGS – The National Map will be displayed, as shown below. Select the map service(s) from the list that you want to display in the Map Viewer. For example, two map services are selected below: North\_American\_Atlas\_10M\_USA, and The\_National\_Map. To select more than one map service name at a time, hold down the CTRL key while clicking on the map service names.



Click . The maps will be displayed in the Map Viewer window.

The Map Viewer, shown below, is divided into four areas:

1. Table of Contents
2. Table of Contents Tools
3. Map Area
4. Map Tools



## Table Of Contents

The table of contents is the list of names of map services and map layers that have been opened in the Map Viewer. The check boxes next to the names are used to display or not display the maps in the map area shown at the right.

In the table of contents shown below, the map services are Alt\_A\_Wildlife\_Grazing and Alt\_A\_Transportation\_Utility\_Corridor. Each of these map services contains several map layers. For example, Alt\_A\_Wildlife\_Grazing includes Grazing\_Allotments\_Boundary, Raptor\_Areas, and four others. The Alt\_A\_Transportation\_Utility\_Corridor map service contains five map layers.



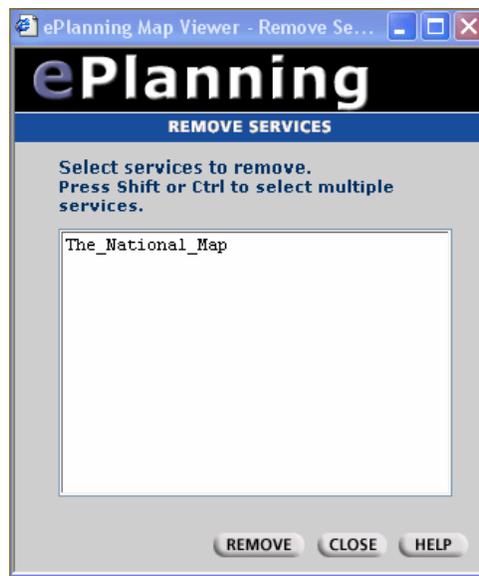
## Table Of Contents Tools



The table of contents tools are used to control the map services.

 **New Map** – clears all services from the map area. Click the New Map button to remove all services and start a new map. The table of contents and map area will be cleared.

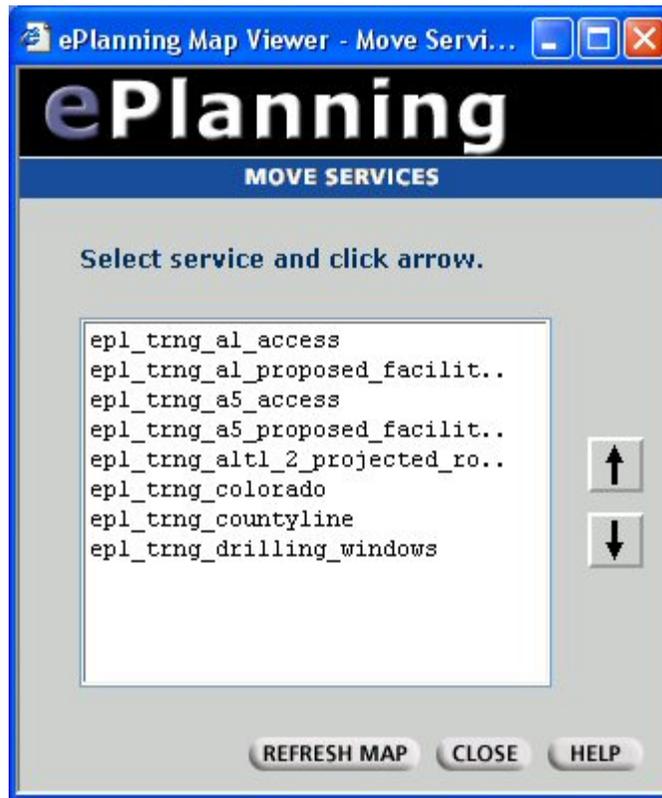
 **Remove Services** – allows for removal of one or more map services from the table of contents. When you click the Remove Services tool, this opens the Remove Services window, as shown below. Click on and highlight a map service name (or multiple service names) and click **REMOVE**. Then click **CLOSE**.





**Move Services** – opens the Move Services window, as shown below. Use Move Services to move map services up or down in the table of contents list. Highlight a map service name and click the up arrow or down arrow. This moves the map service name up or down in the list. Repeat until you have the map services in the desired order in the table of contents. The order of map services listed in the table of contents influences the way the maps are displayed in the map area. The map at the top of the list is seen as the ‘top’ of the overlay of maps.

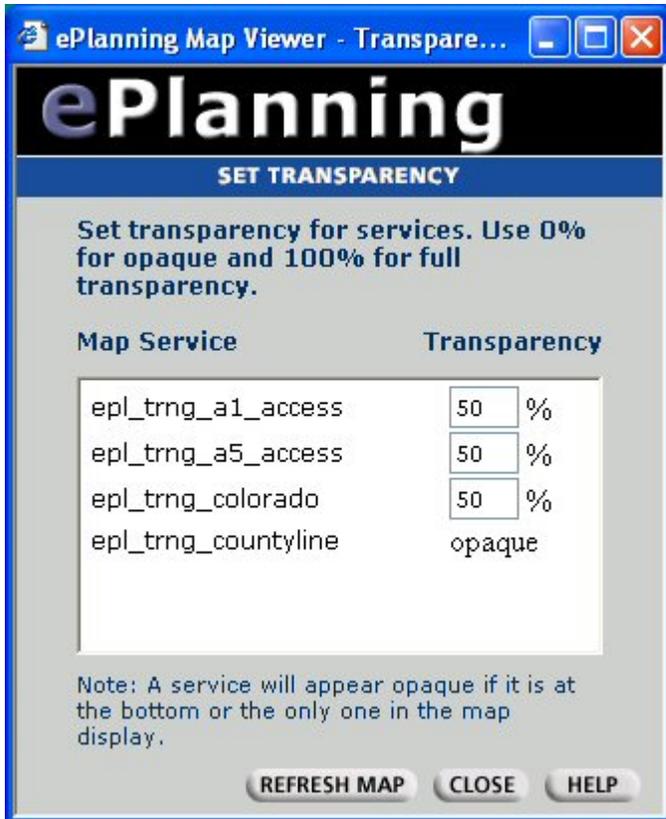
Click **REFRESH MAP** to view how the re-ordering of maps appears in the map area. When done, click **CLOSE**.



The appearance of maps in the map area is further influenced by transparency settings, described below.



Set Transparency – opens the Set Transparency window. Use the Set Transparency button to set transparencies for map services. Type the desired transparency value for each map listed in the table of contents.



Click **REFRESH MAP**, and click **CLOSE**.

By default, all map services are set to 50%, except the map on the bottom of the list which is set to “opaque.” Once you change the transparency of a map, the setting remains the same until you change it again.

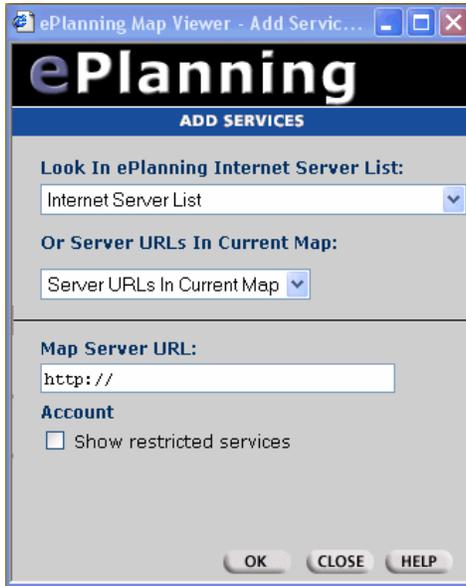
0% transparency = opaque, i.e. not transparent.

100% transparency = completely transparent, i.e. invisible.

Moving a map up or down in the table of contents does not change the transparency of the map.



Add Services – Use the Add Services button to add map services to the Map Viewer. The Add Services window opens.



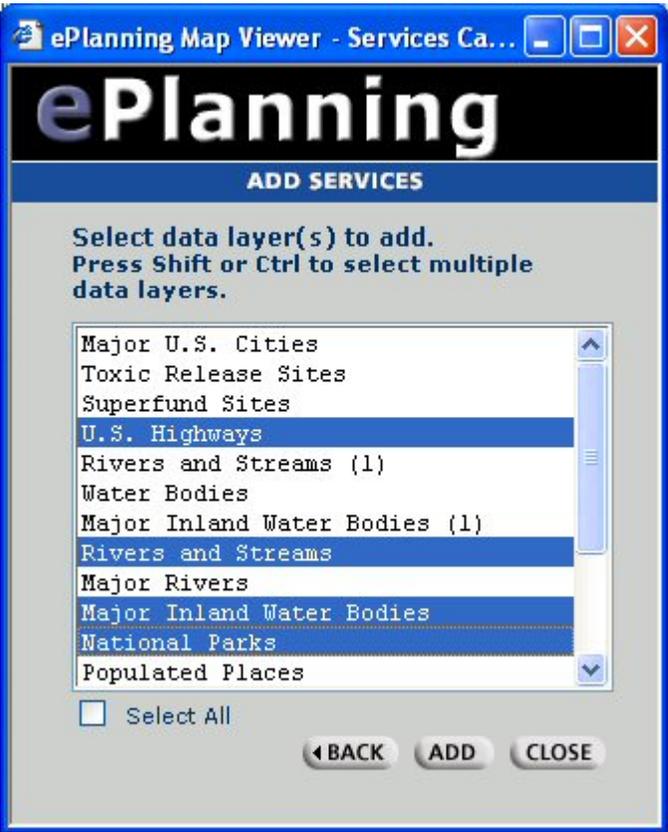
The options in the Add Services window (discussed above and noted here again) include:

<p><b>Look In ePlanning Internet Server List:</b></p> <p>Internet Server List</p>	<p>Use this dropdown list to display and select the map services that are available in ePlanning.</p>
<p><b>Or Server URLs In Current Map:</b></p> <p>Server URLs In Current Map</p>	<p>If you already have a map service open, use this dropdown list to choose a URL from the currently open map service.</p>
<p><b>Map Server URL:</b></p> <p>http://</p>	<p>Use this field to enter the Internet web address for a map server known to you. This field also will display the URL for the server you select in the “Look In ePlanning Internet Server List” above.</p>
<p><b>Account</b></p> <p><input type="checkbox"/> Show restricted services</p> <hr/> <p><b>Account</b></p> <p><input checked="" type="checkbox"/> Show restricted services</p> <p>User Name: <input type="text"/></p> <p>Password: <input type="text"/></p>	<p>A restricted service is a map server that requires a username and a password login. Ordinarily, this restricted service is one you have discovered on the Web, or you have been told about, and you have set up a user account to access it.</p>

	<p>Make sure the URL for the restricted service is typed into the “Map Server URL” field. Then Click the box next to “Show restricted services.” The User Name and Password fields open. Enter your User Name and Password to access the map server.</p>
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Once you have selected the options in the Add Services window, click .

A list of all map services available on the server displays.



Select the map services you want to add to your map and click . Then click .

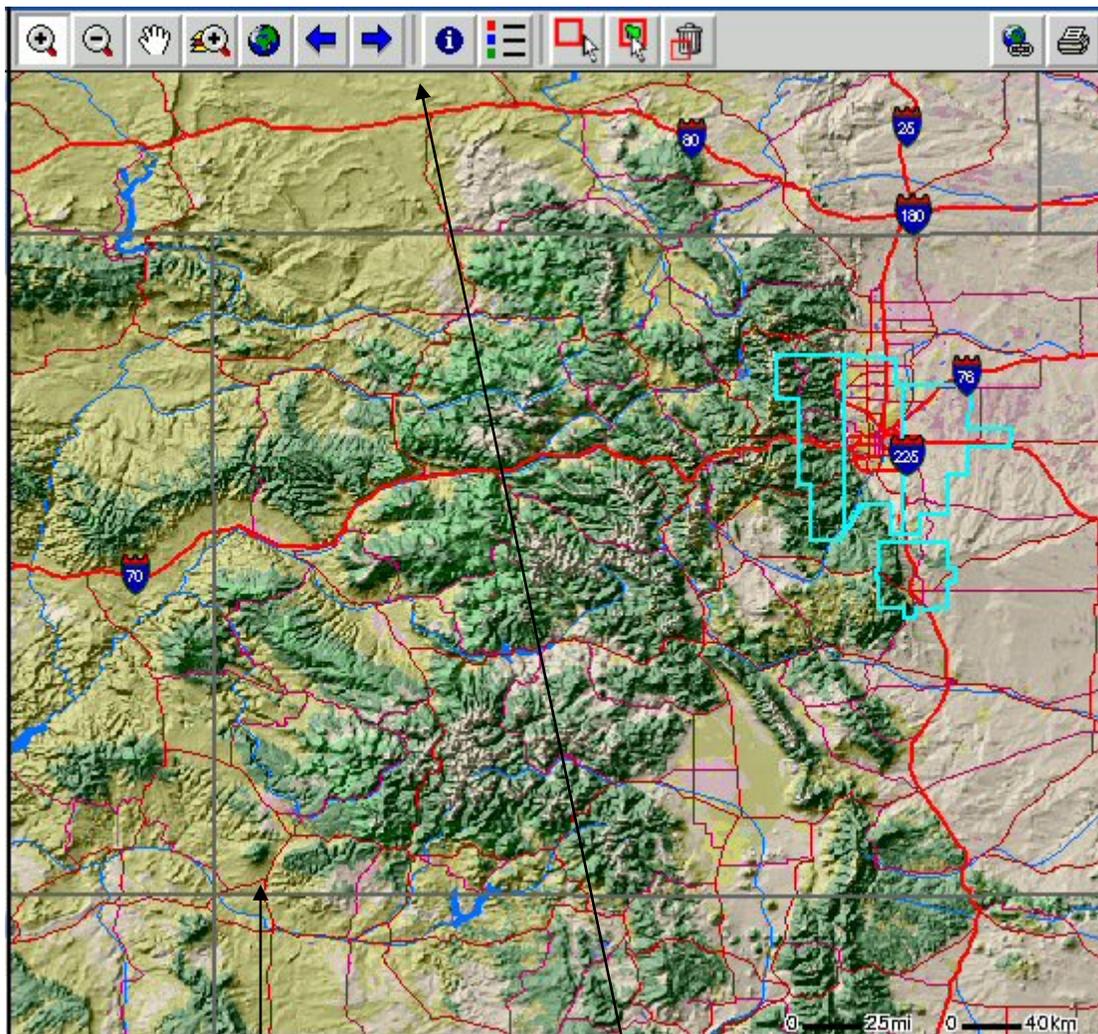
 **Stop Loading** – Click the Stop Loading button to stop refreshing a map or stop loading a map.



Refresh Map – redraws the map according to selections made in the table of contents. Click the Refresh Map button to redraw the map.

## Map Area

The map area is the part of the Map Viewer window where maps are displayed. Maps are displayed in the map area according to the way they are set up using the tools in the table of contents, including the Transparency and the Move tools, and also according to the way you use the map tools described below.



Map Area

Map Tools

## Map Tools



Tools in the Map Viewer allow you to view different areas of a map, zoom in and out, and identify map features.



**Zoom In** – To zoom in to an area on the map, click the Zoom In button and then click on a location on the map, or click and drag a rectangle on the map. This is a dual function tool. You can zoom to a point, or zoom to an area. Zoom to a point in a map by clicking on the point. Each click will zoom in by a pre-defined amount. Zoom to an area by using the mouse to click and drag a box around a specific area of interest you want to zoom in to.



**Zoom Out** – To zoom out from an area on the map, click the Zoom Out button then click on a location on the map, or click and drag a rectangle on the map. This is a dual function tool. You can zoom out from a point, or zoom out from an area. Zoom out from a point in a map by clicking on the point. Each click will zoom out by a pre-defined amount. Zoom out from an area by using the mouse to click and drag a box around a specific area of interest from which you want to zoom out. You cannot zoom out past the initial extent of the map.



**Pan** – Click the Pan button, then click and drag the map to change the center of the map. Panning the map is a way of moving the map around, so you can get a view of different areas. For example, if the map is currently centered on Colorado, and you want to center the map on Wyoming, you can use the Pan tool to drag the map in the map area to center on Wyoming.



**Zoom to Visible Services** – Click the Zoom to Visible Services button to zoom to the extent of all visible services. Visible services are the maps currently displayed in the map area. Visible services are the map services which have checkmarks in the boxes next to their names in the table of contents. For example, if the table of contents includes a minerals map and a land use map of southwest Colorado, and also a terrain map of the entire state of Colorado, but only the maps in southwest Colorado are currently checked, (i.e. visible), then Zoom to Visible Services will zoom to the extent of only the maps in southwest Colorado.



**Zoom to Full Extent** – This tool zooms to the extent of all the maps currently listed in the Map Viewer table of contents. For example, if the table of contents includes a minerals map and a land use map of southwest Colorado, and also a statewide terrain map of Colorado, the full extent includes the minerals map, the land use map, and the statewide Colorado maps. So when you click on the Zoom to Full Extent tool in this

example, the map area will display the extent of the state of Colorado. This is true whether or not the maps in the map area are currently visible.



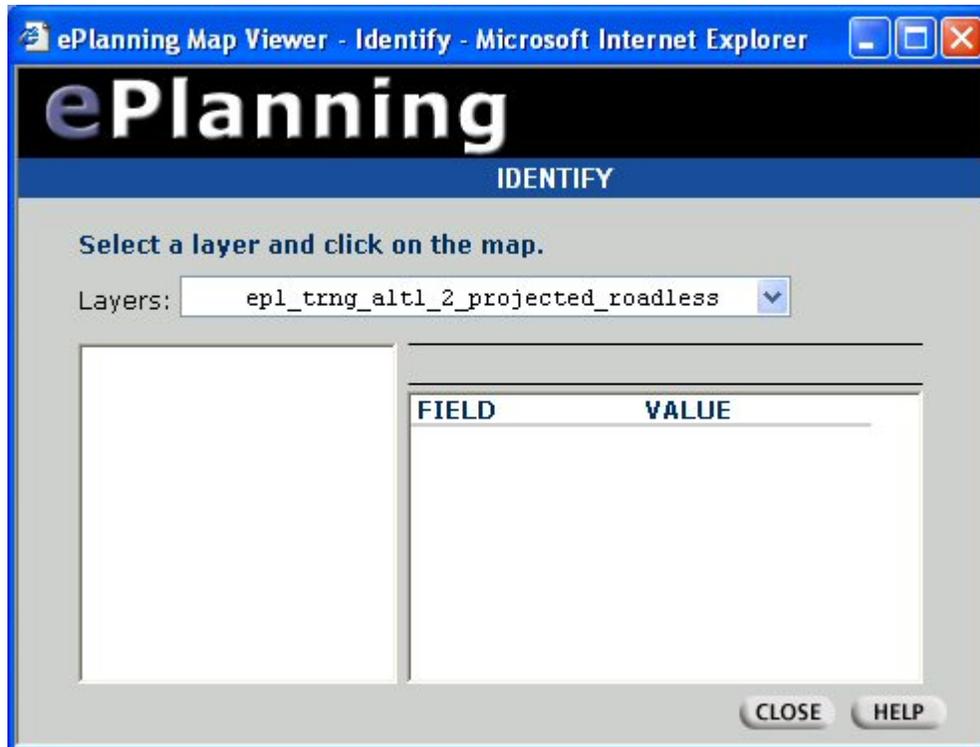
Back to Previous Map – Click the Back to Previous Map button to return to the previous map display. **(This tool is currently not functional.)**



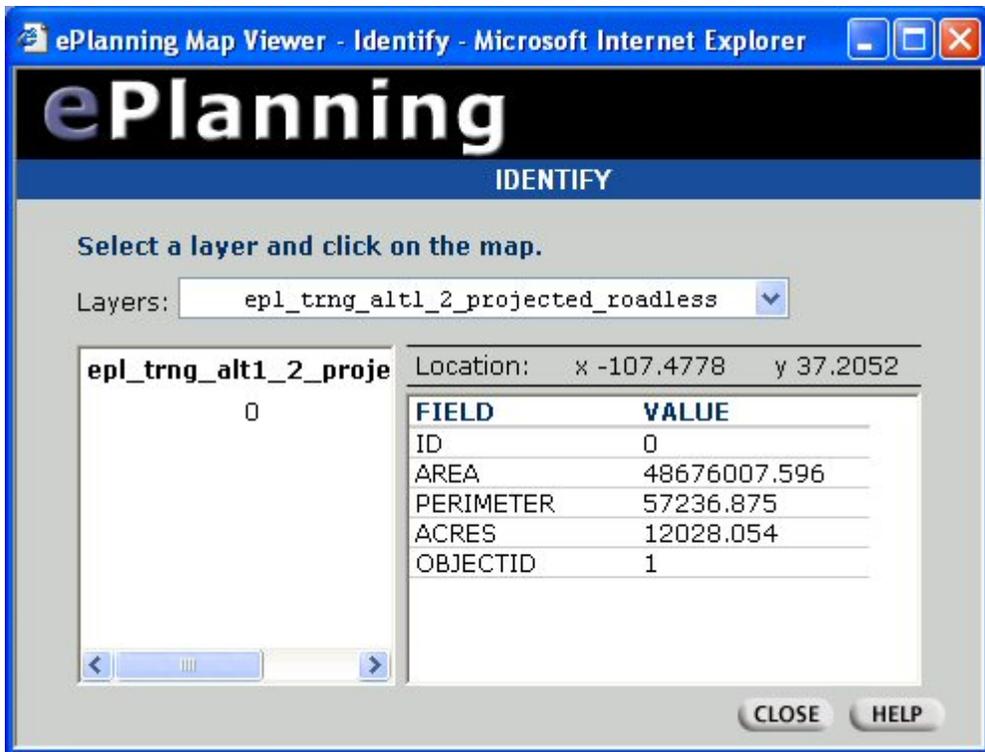
Forward to Next Map – Click the Forward to Next Map button to return to a map display after using the Back to Previous Map button. **(This tool is currently not functional.)**



Identify – Click the Identify button to display attributes of a map feature. After clicking the Identify button, an Identify window is displayed.

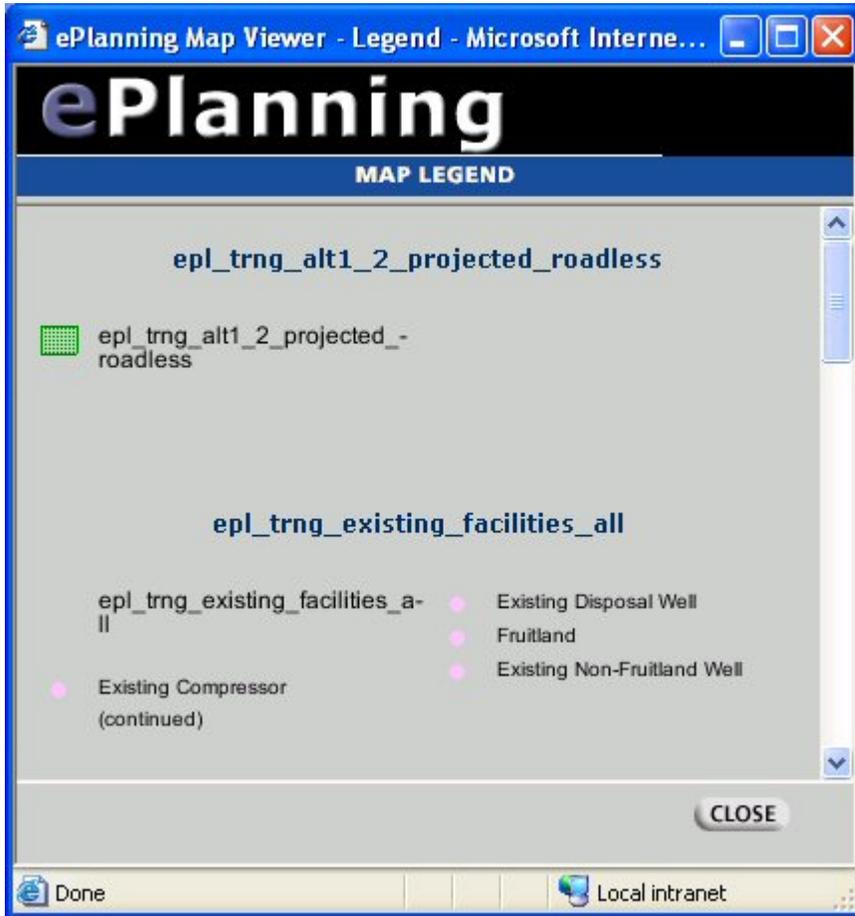


Use the Identify window dropdown list under “Layers:” to select the map layer which contains the feature you want to identify. For example, if you intend to use the Identify tool to obtain information about a feature in a roadless area map, use the Identify window to select the roadless area map layer. Then in the map area, use the mouse to click on the map feature you are interested in. The Map Viewer will display descriptive information about the feature, such as Area, Acres, etc., as shown here.





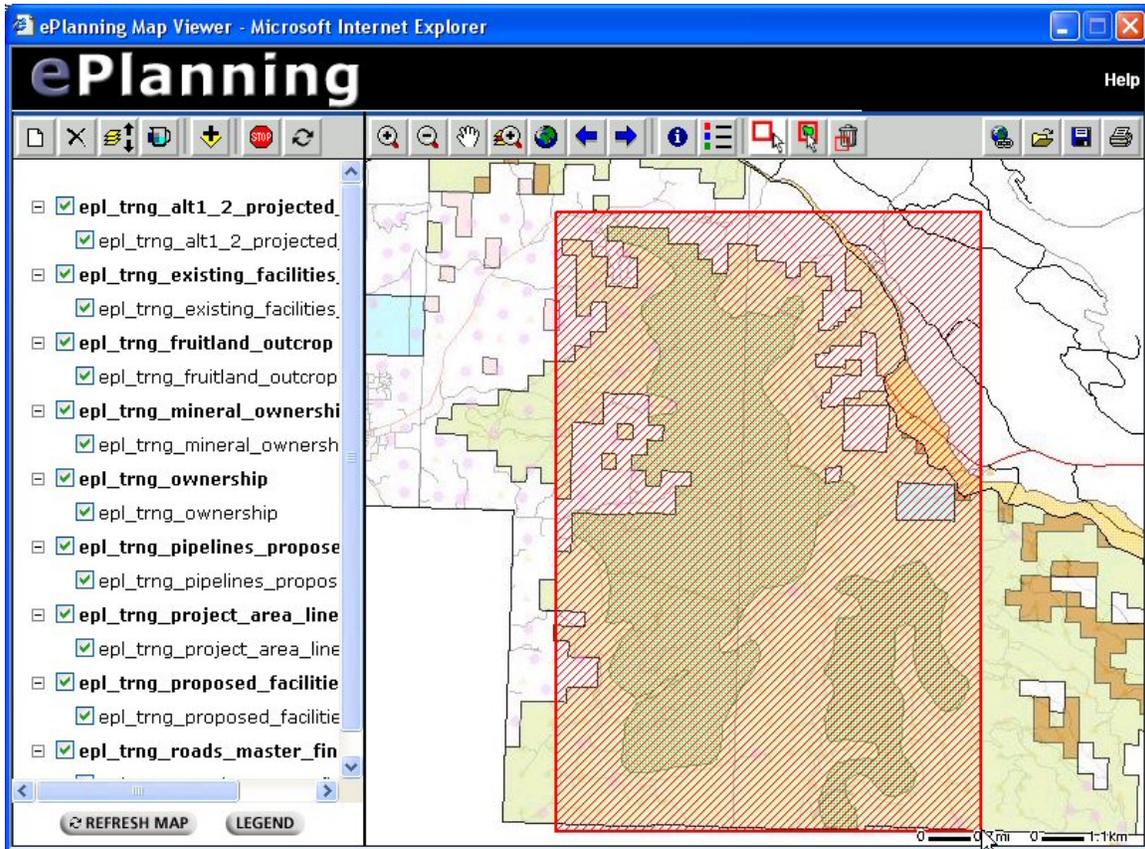
View Map Legend – Click the View Map Legend button to display the legend for the map services currently displayed in the map area.



Click **CLOSE** to close the legend.



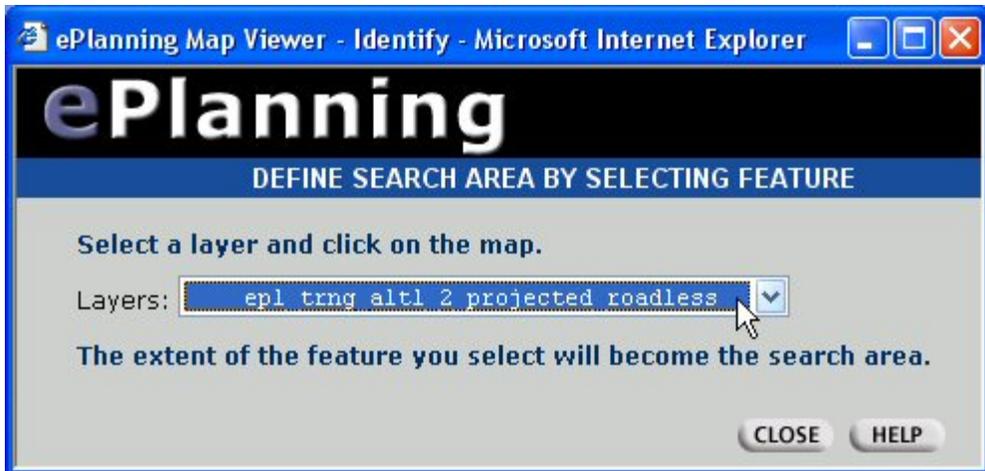
**Draw Search Area** – Click this button to draw a search area as a box on the map in the Map Viewer. Search areas are used in ePlanning to link specific geographic areas with public comments and with sections of planning documents. Click the Draw Search Area Button, and then use the cursor to draw a box on the map, as shown below.



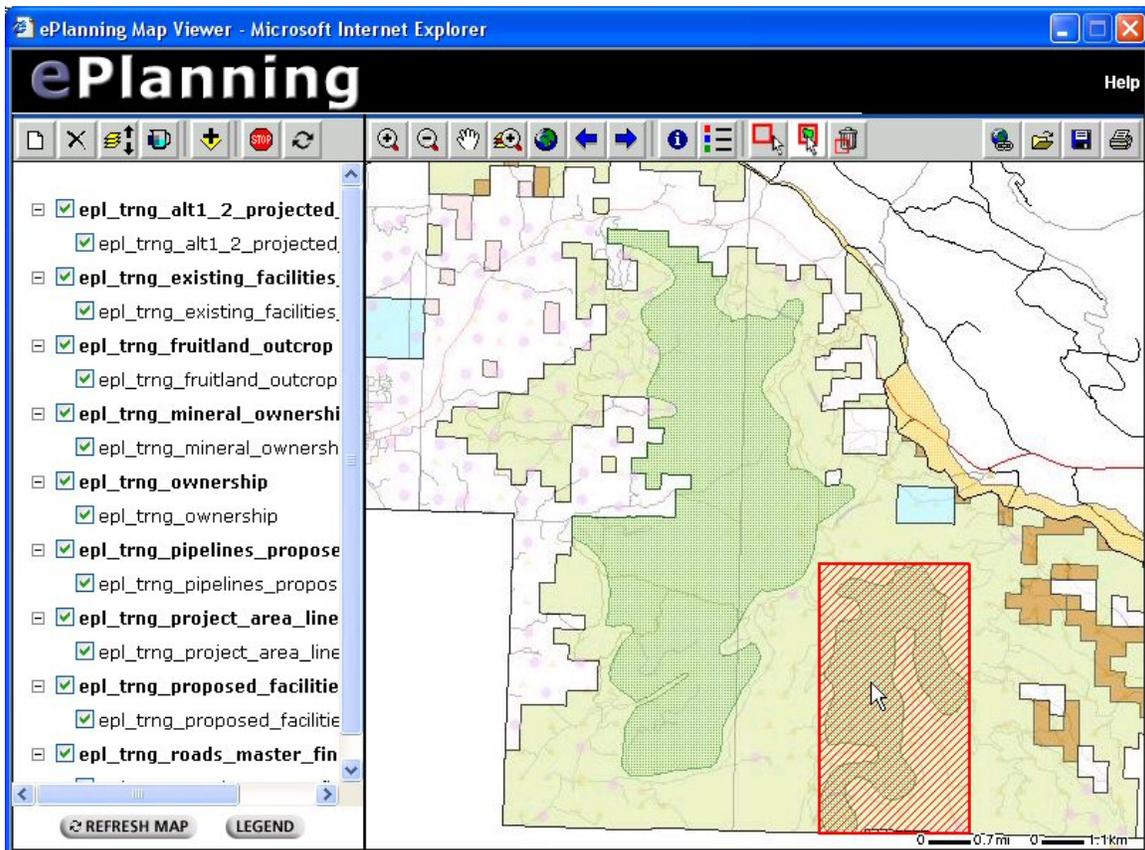
To change a search area, simply draw a new area on the map. The new area replaces the existing area.



**Define Search Area By Selecting Feature** – Uses the extent of a map feature to select an area. Clicking this tool opens the Define Search Area By Selecting Feature window.



Use the dropdown list next to “Layers:” to choose the name of the map layer to select. Then click on a map feature displayed in the map area. A search area will be selected representing the rectangular extent of the map feature, as highlighted in red below.



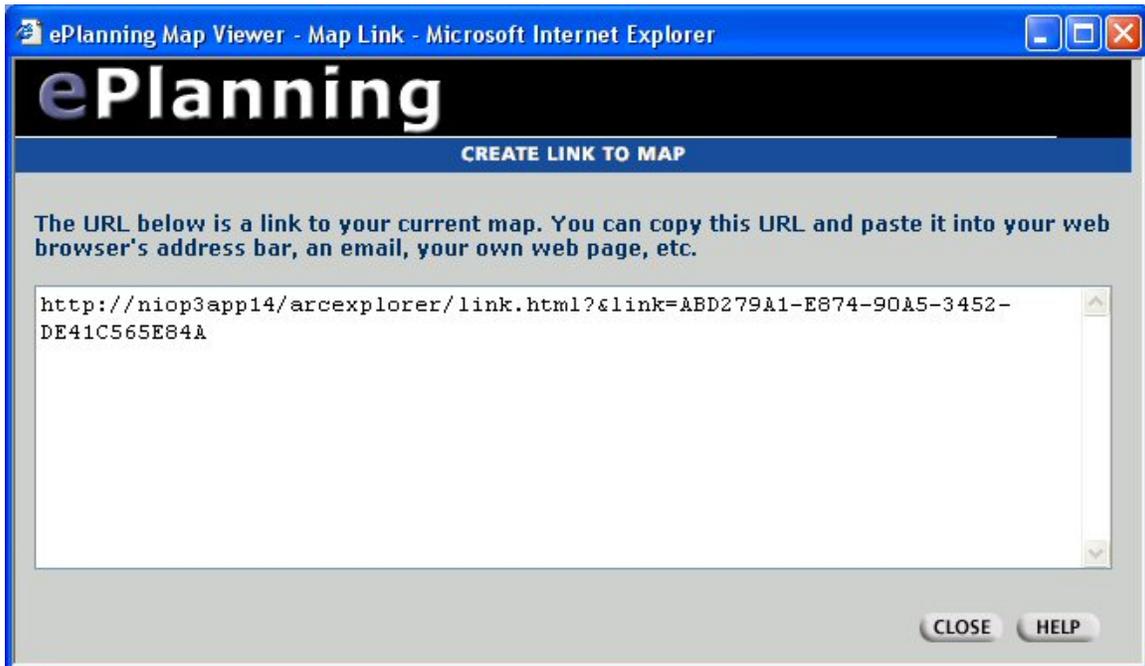
To change the area selected on the map, click on another feature of the selected layer, or select another layer in the Define Search Area by Selecting Feature list and click on a feature in that layer.



**Remove Search Area** – Removes the search area currently drawn on the map in the map area. This button has no effect if your map doesn't have an area drawn on it.



**Create Link To Map** – Click the Create Link to Map button to view the HTML code associated with the current map.



The URL displayed in the window can be copied and pasted into a web browser's address bar, an email, a web page, etc.



**Open Print Page** – Click the Open Print Page button for a printable version of the map display.

## Map Legend

A map legend explains the colors, symbols, line patterns, shadings, and annotation used on a map. The legend includes a sample of each symbol with a description of what it means.

Click the **LEGEND** button at the bottom of the Table Of Contents. The Map Legend window will open, displaying the symbols associated with maps currently open in the Map Viewer.

