

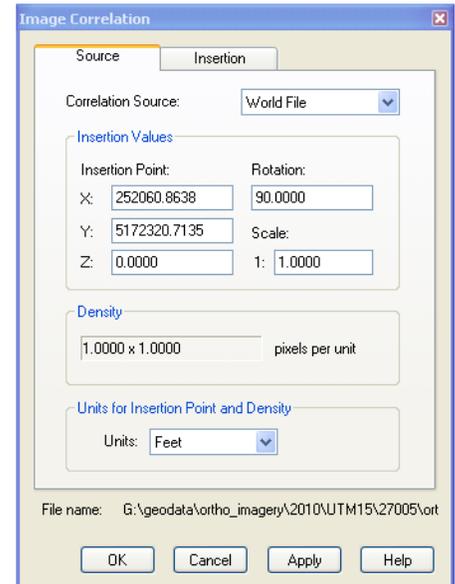
This guide covers the procedure for inserting georeferenced image files such as USGS maps and aerial photographs and objects from GIS shapefiles. This procedure assumes that the georeferenced images and GIS shapefiles are in metric format and that the Civil 3D drawing is in English units.

Make sure a coordinate system is assigned to the Drawing

1. Go to the Settings tab on the Toolspace.
2. Right click on the drawing name and select *Edit Drawing Settings...*
3. In the *Drawing Settings* window, go to the *Units and Zone* tab.
4. Select the coordinate system for the drawing from the list of available coordinate systems in the *Zone* section.

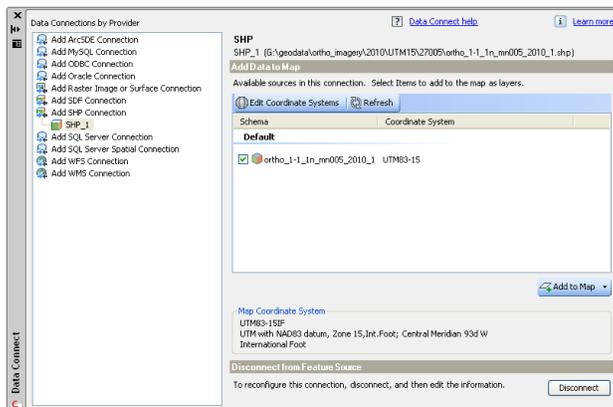
Inserting a georeferenced image into the drawing

1. On the bottom right of the screen click on  *Workspace Switching* and select *Task-based Geospatial*.
2. On the *Data* panel of the *Home* ribbon, select *Insert an Image...* 
3. Browse and find the image file that you want to insert into the drawing.
4. The Image Correlation window will appear next. Change the Units for Insertion Point and Density to Meters and leave the rest of the values in the window at their default values. Click on the OK button.



Inserting a GIS shapefile into the drawing

1. On the bottom right of the screen click on  *Workspace Switching* and select *Task-based Geospatial*.
2. On the *Data* panel of the *Home* ribbon, select *Connect*.
3. Select *Add SHP Connection*
4. Click on the  icon, browse to the shapefile that you want to import into the drawing, and click on the *Open* button.
5. Back in the *Data Connect* window, click on the *Connect* button.
6. The *Data Connect* window will appear to show the properties of the shapefile that you are connecting to. Check the coordinate system, and if it needs to be changed click on the *Edit Coordinate Systems* button and make the necessary changes.

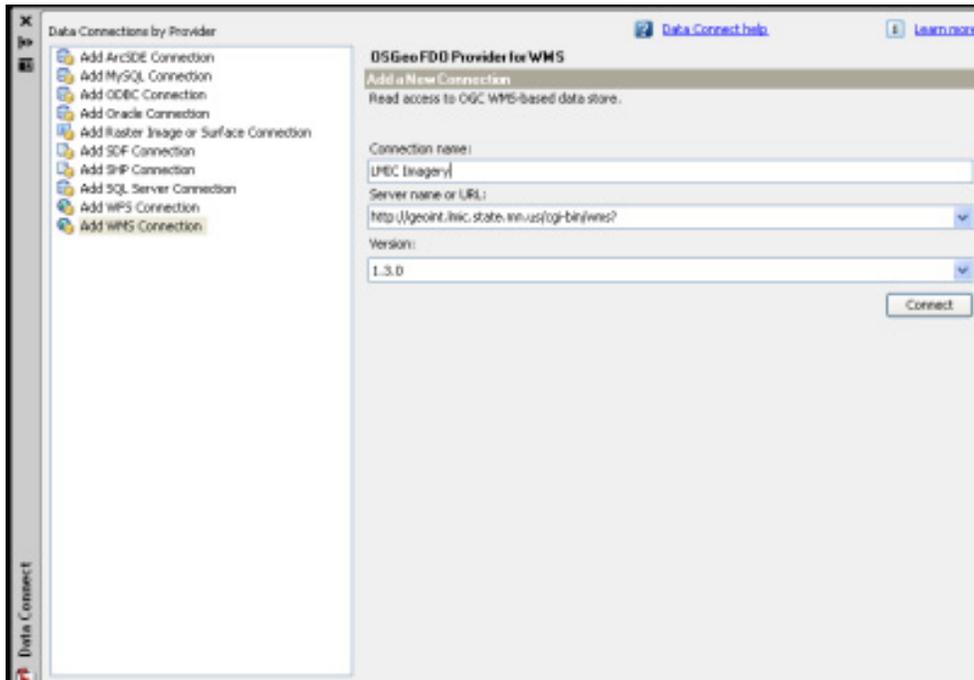


7. Click on the *Add to Map* button to insert the shapefile into the drawing.

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In Civil 3D 2010:

1. On the bottom right of the screen click on  *Workspace Switching* and select *Task-based Geospatial*.
2. On the *Data* panel of the *Home* ribbon, click on the *Connect* button.
3. In the *Data Connect* window, select *Add WMS Connection*
4. Under *Connection Name*, type a name like *LMIC Imagery*
5. Copy <http://geoint.lmic.state.mn.us/cgi-bin/wms?> and paste into *URL*
6. Choose version 1.3.0
7. Click *Connect*



8. Do not enter a user name or password, click *Login*
9. Select images to include, then click *Add to Map*

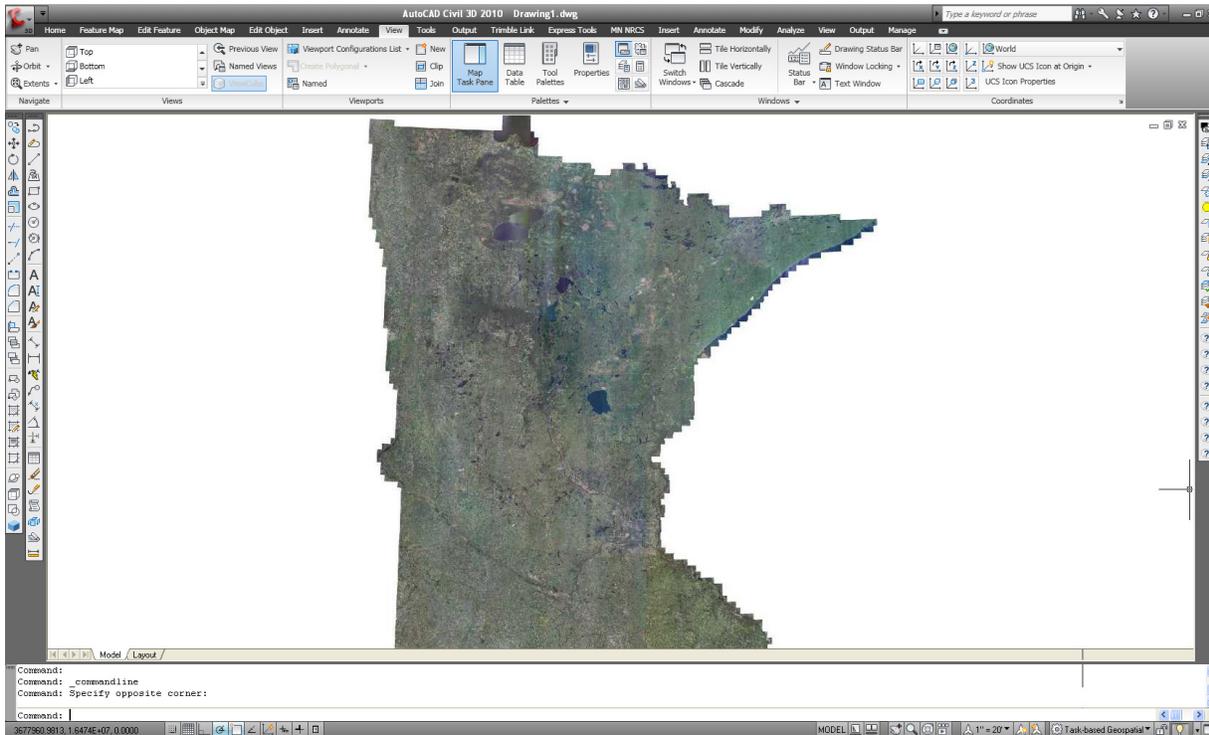
If you receive an error that states “There was a problem adding data to Map.” when adding an image, there is likely an issue with the security settings on the directory where your temporary drawing files are saved. Try the procedure below to address the problem.

1. Create a new folder on your C drive (for example, C:\CAD\Temp)
2. Browse to this folder in windows explorer, select the folder, right-click, and choose *Properties* from the command list.
3. Click on the *Security* tab in the properties window and click on *Users* in the *Group or user names* window.
4. In the *Permissions for Administrators* window, verify that the box in the *Allow* column next to *Full Control* is checked. Click on *Apply* and then *OK*
5. In Civil 3D, select *Options* from the *Tools* drop-down menu, or type *Options* at the command line.
6. On the *Files* tab, find the sections for *Temporary Drawing File Location* and *Temporary External Reference File Location*. Change these paths to the folder that you created in Step 1.
7. Click on the *Apply* button and *OK* to exit the *Options* window

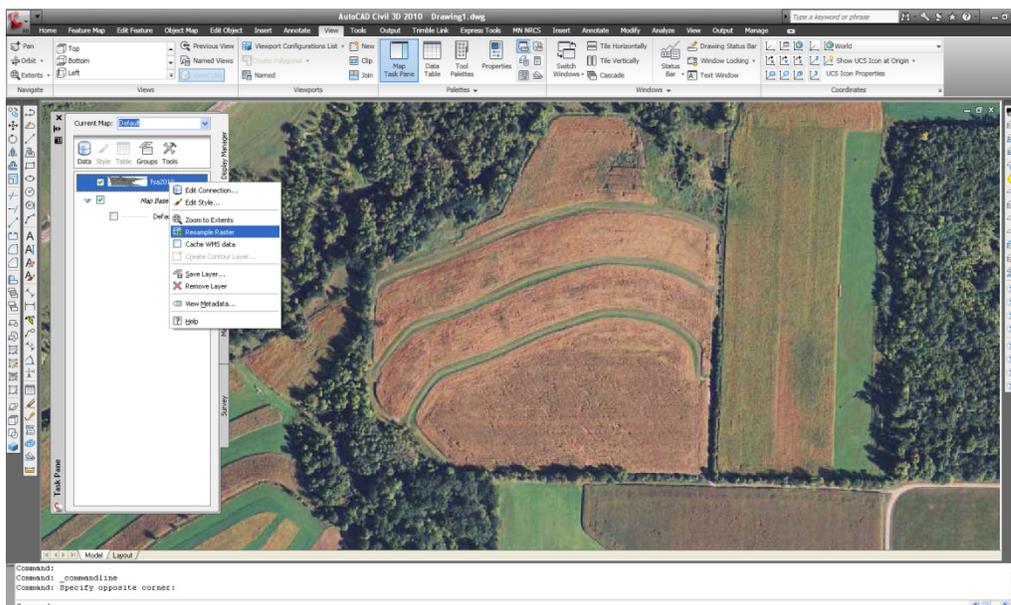
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This guide covers the process for clipping a WMS image that has been inserted into a drawing. For more information on inserting WMS images into a drawing, refer to Quick Reference Guide *1201.0 Adding WMS Image to Civil 3D*.

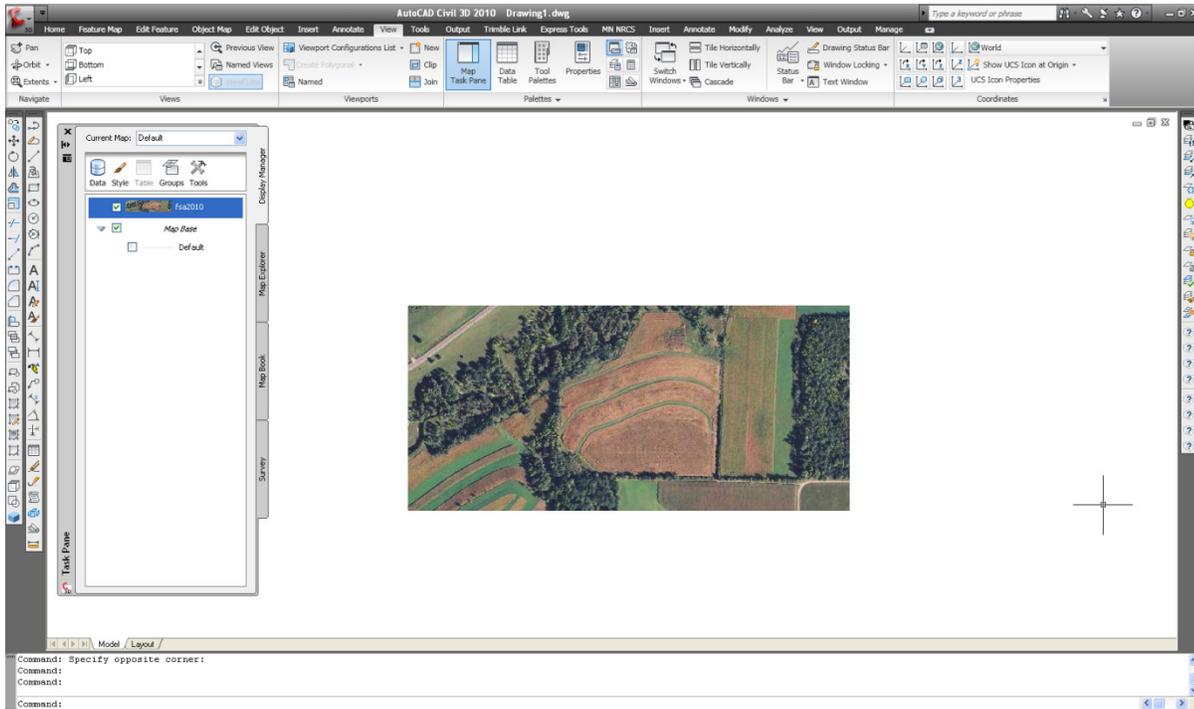
In this example, a WMS data connection to a statewide aerial photo image has been set up in a drawing, as shown below.



1. Zoom in to the area that you want to clip the image to. Once the image is clipped, only the portion of the image that shows up in the window once you are zoomed in will be displayed in the drawing.
2. On the bottom right of the screen click on  *Workspace Switching* and select *Task-based Geospatial*.
3. On the *Palettes* panel of the *View* ribbon, click on the *Map Task Pane* button.
4. On the *Task Pane* window, right click on the image that you want to clip and select *Resample Raster*



- Once the raster is resampled, you will see that the image has been clipped if you zoom out in the drawing.



This guide covers the procedure for setting up a link to a shapefile that is stored locally on a computer hard drive or a folder in a shared network drive. For more information on setting up a WMS data connection to data on the LMIC server online, refer to Quick Reference Guide *1201.0 Adding WMS Image to Civil 3D*.

Make sure a coordinate system is assigned to the Drawing

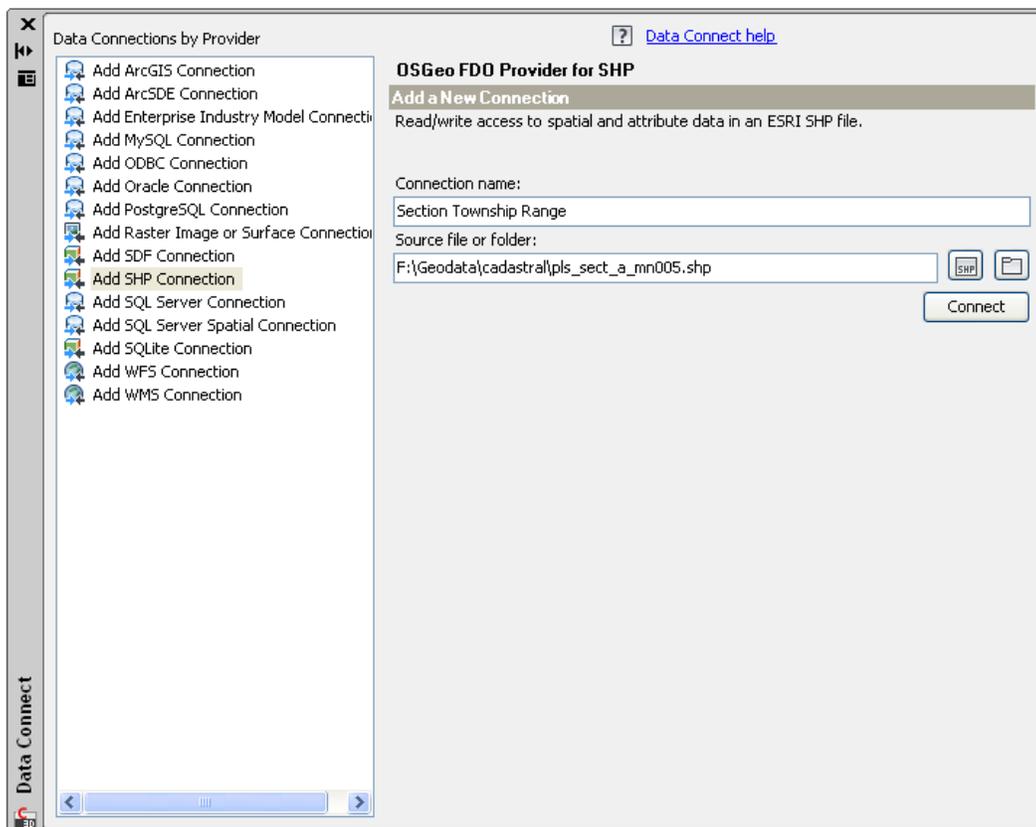
1. Go to the Settings tab on the Toolspace.
2. Right click on the drawing name and select *Edit Drawing Settings...*
3. In the *Drawing Settings* window, go to the *Units and Zone* tab.
4. Select the coordinate system for the drawing from the list of available coordinate systems in the *Zone* section.

The Data Connect window

1. On the bottom right of the screen click on  *Workspace Switching* and select *Planning and Analysis*.
2. On the *Data* panel of the *Home* ribbon, click on the *Connect* icon to open the Data Connect window.

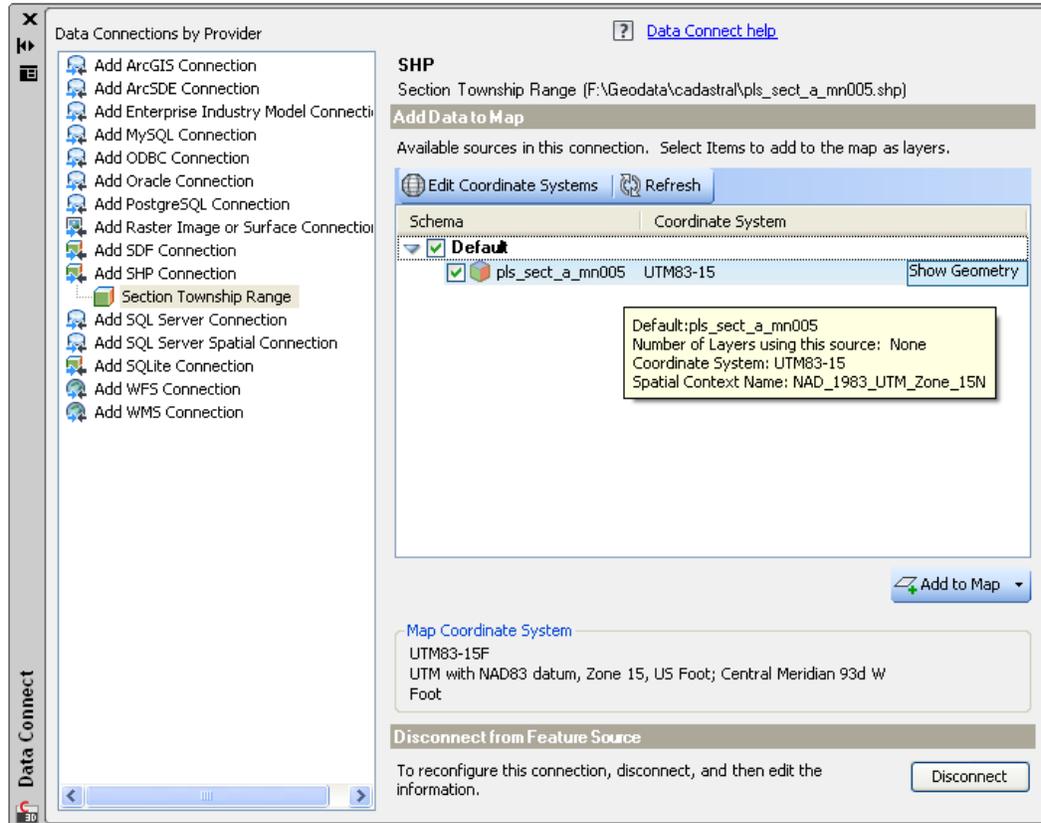
Set Up The Connection to the Shapefile

1. Select Add SHP Connection from the list of data connections in the left hand window. Commands related to setting up the data connection to the shapefile will appear in the right hand window.

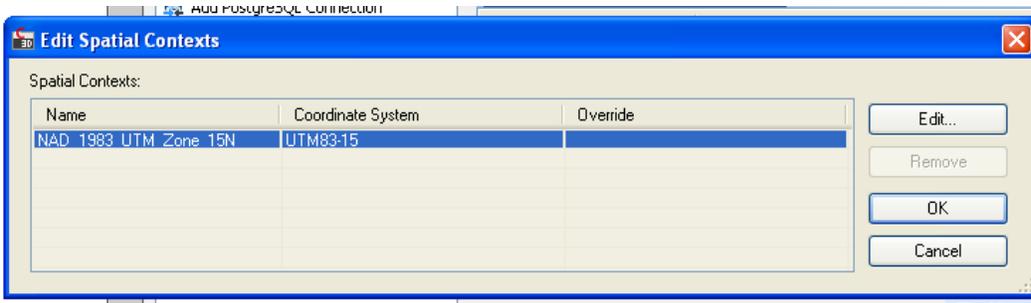


2. Provide a connection name or you can accept the default name.
3. Browse and select the shapefile by clicking on one of the icons next to Source file or folder: The icon on the left will allow you to browse and select an individual .shp file, while the icon on the right allows you to select all of the shapefiles in a folder.
4. After you select the shapefile(s), click on the *Connect* button.

- Once the shapefile connection is established, a new window will appear where you can verify or modify the coordinate systems and add the shapefile data to the drawing. The coordinate system assigned to the shapefile will be shown next to the name of the file. Hover over the shapefile for more information about the file.



- If the coordinate system of the shapefile is unassigned or incorrect, click on the *Edit Coordinate Systems* button to bring up the *Edit Spatial Contexts* window. Use the *Edit...* button to override the coordinate system assigned to the shapefile.



- Click on the Add to Map button to insert the data from the shapefile into the drawing.
- Close the Data Connect window to return to the drawing. You may need to zoom out to see the inserted shapefile.

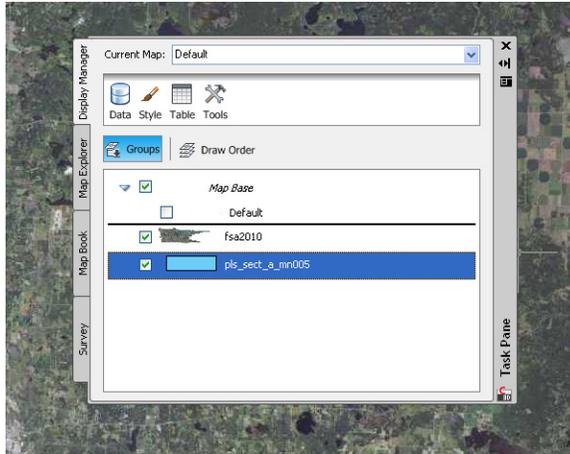
The location that the shapefile is inserted to in the drawing and its scale will be automatically projected based on the coordinate system that you set for the drawing.

For more information on controlling the display order of data connections and clipping WMS Connection raster images, refer to Quick Reference Guide 1204.0 Task Pane.

This guide covers the basic commands in the Task Pane that can be used to control the display of external data connections. For more information on setting up data connections refer to Quick Reference Guide *1201.0 Adding WMS Image to Civil 3D* or Quick Reference Guide *1203.0 Connect to Shapefile*.

Open the Task Pane

1. On the bottom right of the screen click on  *Workspace Switching* and select *Planning and Analysis*.
2. On the *Palettes* panel of the *View* ribbon, click on the *Map Task Pane* icon.



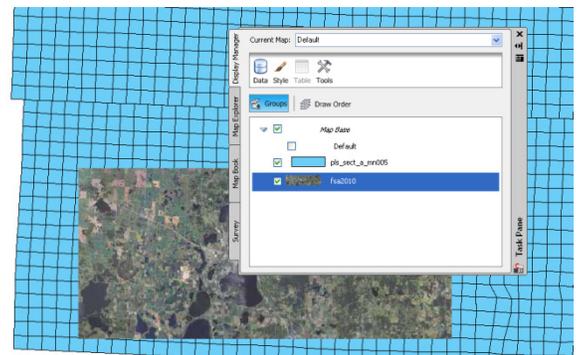
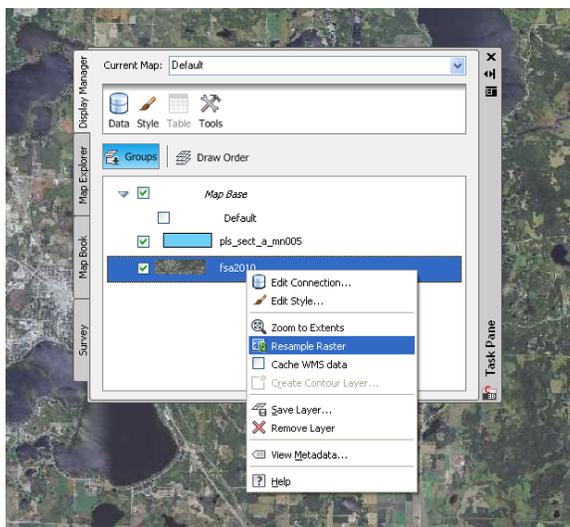
Display Order

Change the display order of data links by clicking on the link and dragging it up or down the list in the Task Pane window.

Clip Raster Image

You can clip the boundaries of a raster image, such as an aerial photo, resampling the raster based on the portion that is visible in the drawing window.

1. Zoom in to the drawing until only the area you want to have included is visible in the drawing window.
2. Right click on the image's data connection in the Task Pane window and select *Resample Raster* (below left).

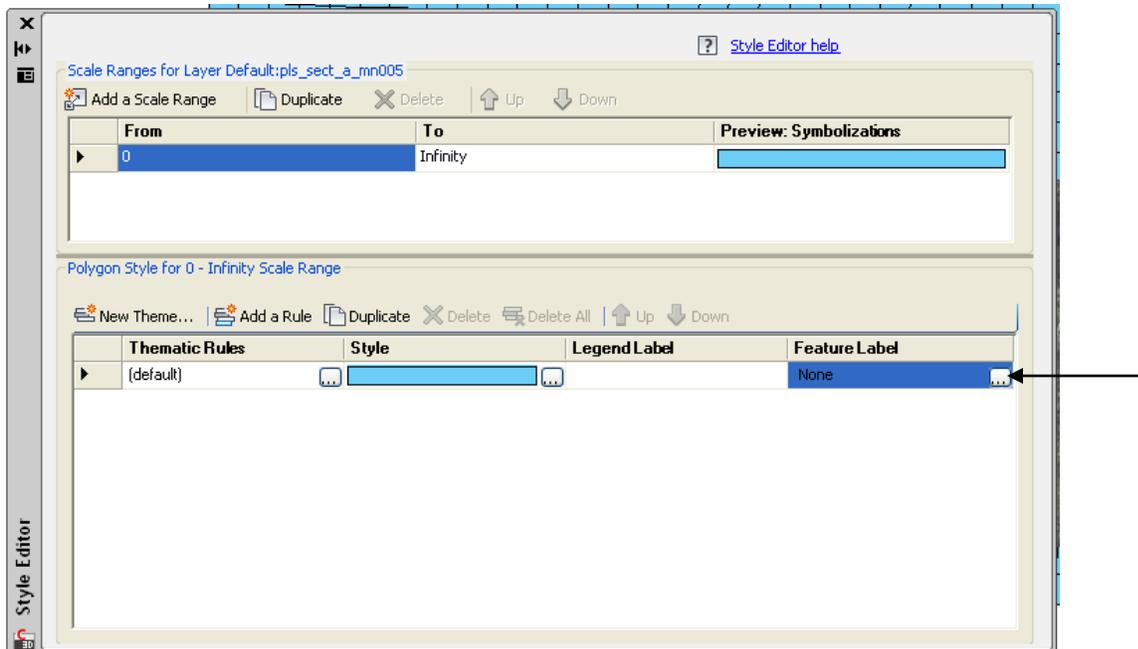


3. The raster image will be clipped to the boundaries of what is visible in the drawing window when the *Resample Raster* command is used.

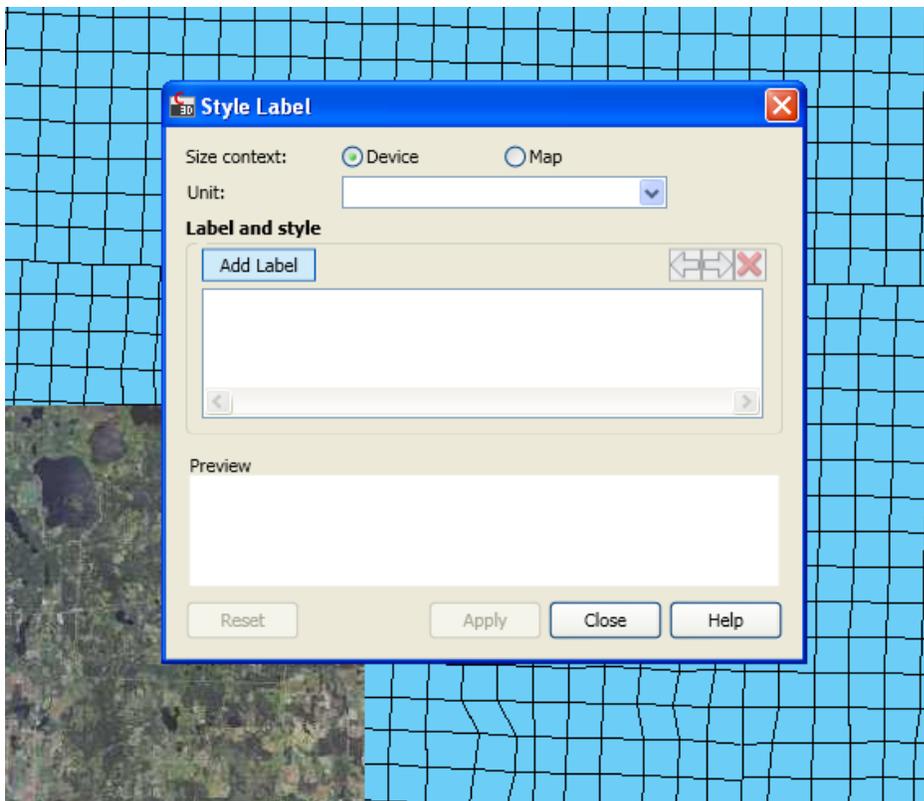
Simple Labels

This exercise covers the procedure for adding a simple label to the pls_sect_a_mn005 shapefile.

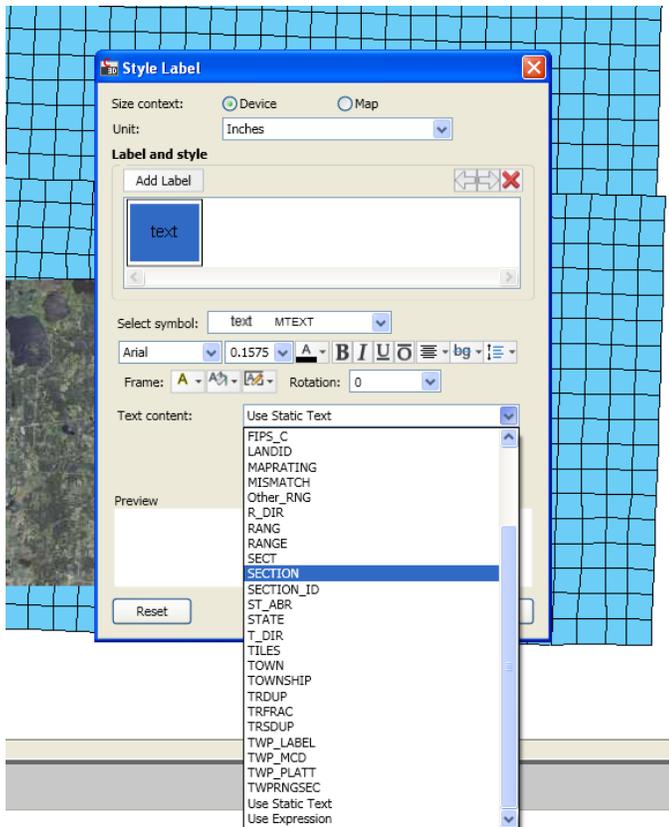
1. In the Task Pane window, double click on the rectangle to the left of the pls_sect_a_mn005 data connection.
2. In the Style Editor window, click on the button on the right side of the Feature Label cell.



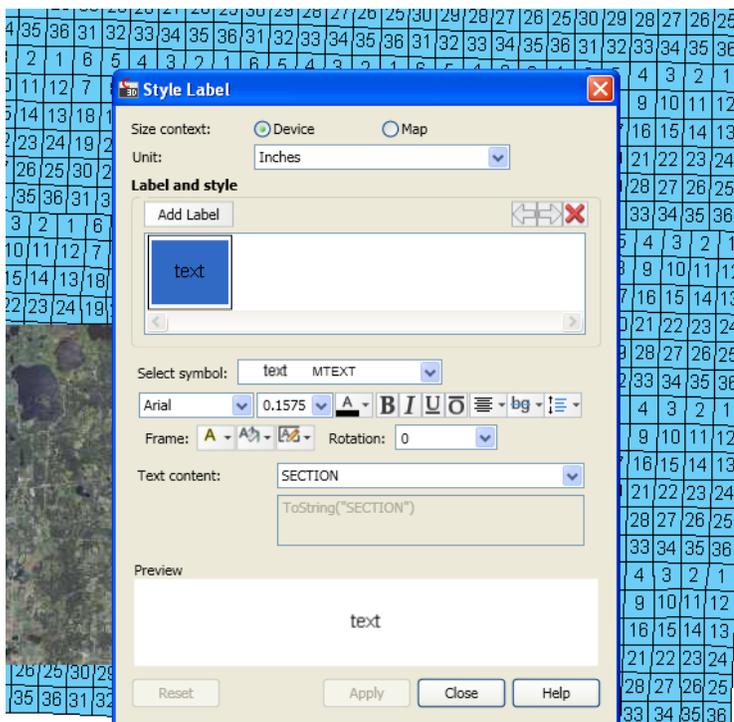
3. In the Style Label window, click on the Add Label button



- Click the down arrow next to Text content and select the shapefile field that you want to display in the drawing as labels.

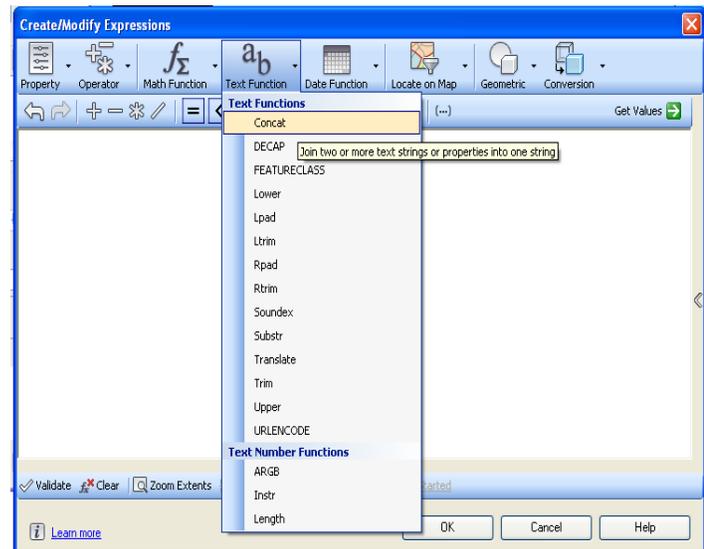
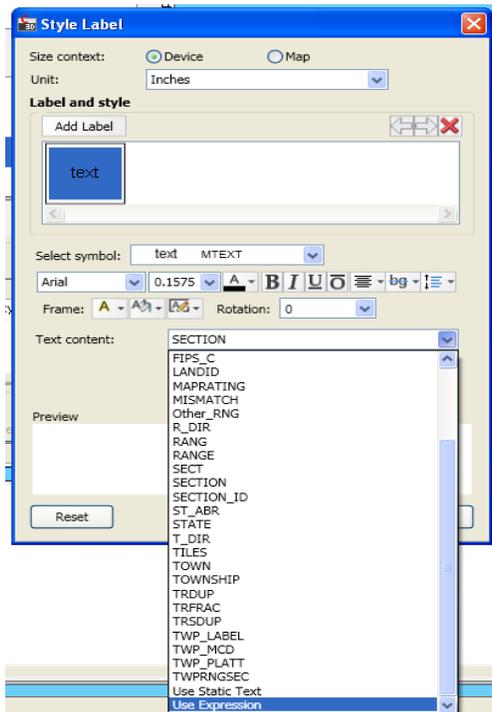


- Click on the Apply button to add the labels to the drawing.



Text String Labels

It is also possible to combine several separate fields together into one label. To do this, select *User Expression* from the *Text content* drop-down menu. When the *Create/Modify Expressions* window opens, select *Concat* from the *Text Function* drop-down menu.



The Concat command is used to link together individual text strings and fields to form a single label. Some of the basic commands and procedures used to put together a label using the Concat command are summarized below. Refer to the sample expression shown to the right, and the resulting labels shown below.

- Separate text and property fields by commas.
- Click on the Property drop down at any time to choose a property field to insert into the label. The sample contains the fields SECTION, TOWNSHIP, and RANGE.
- Text strings are surrounded by single quotation marks, such as 'Section ' in the sample.
- Type \P at the start of a text string to start a new line of text.

