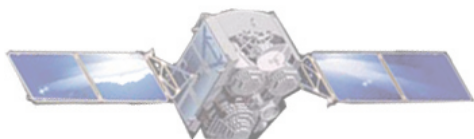


Chapter 2

Getting Started with AutoCAD Map 3D 2014



Learning Objectives

After completing this chapter, you will be able to:

- Start a new drawing
- Use various data input methods
- Specify drawing utilities
- Output data in different ways
- Create sheet sets



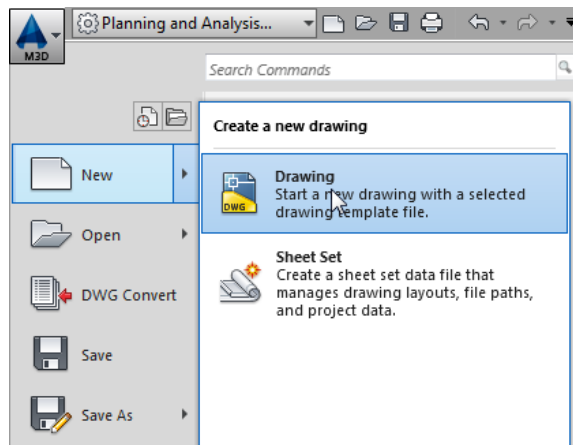
INTRODUCTION

This chapter aims to introduce you to the interoperability feature of AutoCAD Map 3D. In this chapter, you will learn to create a new drawing file using a drawing template file. You will also learn to open an existing drawing file. After opening the required file, you will learn to load various types of GIS data into your drawing using the **Connect** tool.

Moreover, you will learn different ways of producing data output such as printing, plotting to a file, and publishing a map file. This chapter also discusses the procedure to create a standard sheet set using the various methods in AutoCAD Map 3D.

STARTING A NEW DRAWING

To start a new drawing file, choose **New > Drawing** from the Application Menu, as shown in Figure 2-1; the **Select template** dialog box will be displayed, as shown in Figure 2-2. In this dialog box, browse to the **Template** folder. Next, select the **map2d** file from the list of drawing templates in this folder; refer to Figure 2-2. Choose **Open** to apply template settings to your drawing; the new drawing will be opened in a 2D mapping environment. Similarly, you can select other drawing templates for mapping based on your project requirement.



*Figure 2-1 Choosing the **Drawing** option from the Application Menu*



Tip: You can directly invoke the **Select template** dialog box by choosing the **New** option from the Application Menu.

OPENING AN EXISTING DRAWING FILE

You can also start a project by using the data in an existing drawing file. To open a drawing file, choose the **Open** button from the Application Menu; the **Select File** dialog box will be displayed, as shown in Figure 2-3. In this dialog box, select one of the following file extensions ***.dwg**, ***.dws**, ***.dxf**, or ***.dwt** from the **Files of type** drop-down list. Next, browse to the appropriate folder containing the required file by using the **Look in** drop-down list. Once you open the required folder, select the data file and then choose the **Open** button; the contents of the selected file will be displayed in the drawing window.

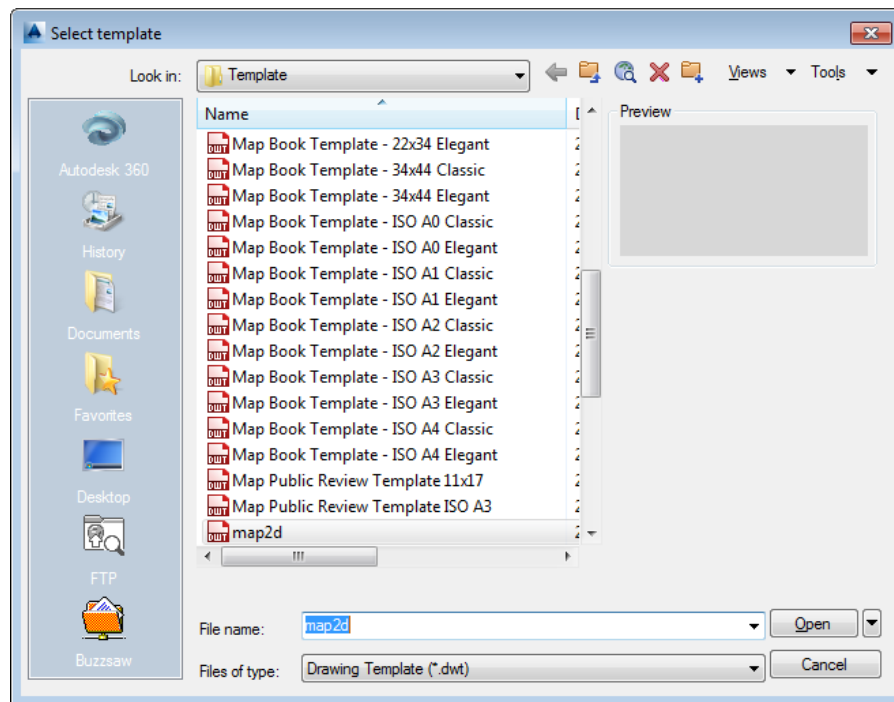


Figure 2-2 The *Select template* dialog box with the *map2d* drawing template selected

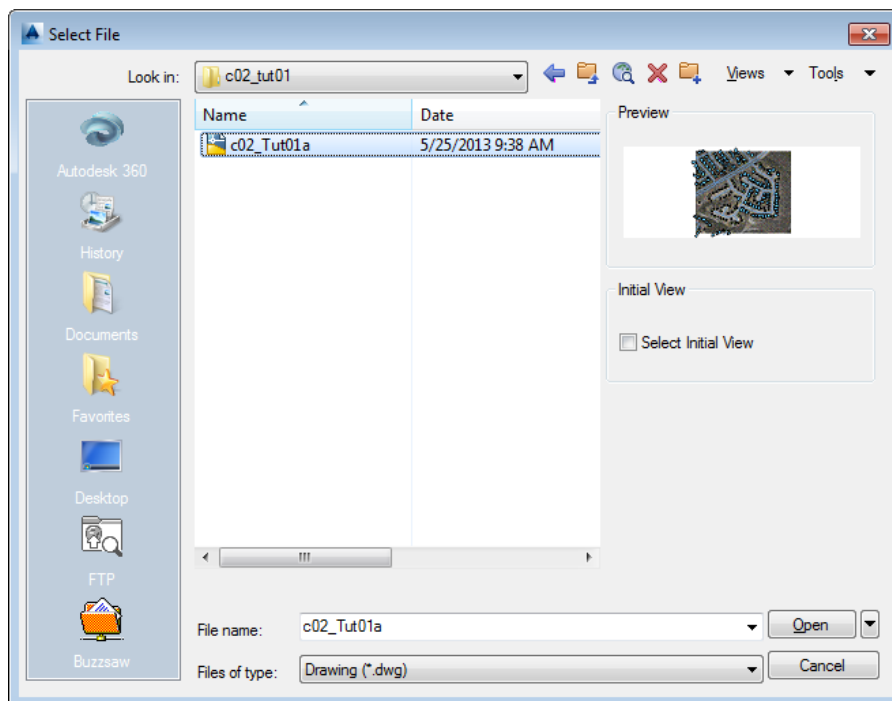


Figure 2-3 The *Select File* dialog box

ADDING DATA TO THE PROJECT

AutoCAD Map 3D supports a wide range of CAD formats and GIS data types. This interoperability feature of AutoCAD Map 3D enables you to use GIS data available in various types and file formats.

In AutoCAD Map 3D, you can use the data available in other CAD files by attaching them as external reference files. You can also import the data available in other file formats into the AutoCAD's .dwg file format. AutoCAD Map 3D has incorporated the FDO data access technology into Autodesk geospatial products. This technology provides an effective means of data-access and data-management. Using FDO, you can connect directly to a data source and then work in its native format without having to convert it into the .dwg format. Some of the methods that are commonly used to connect data in your drawing are discussed next.

Loading Data by Using the Connect Tool

Ribbon: Home > Data > Connect

Task Pane: Display Manager > Data > Connect to Data



You can load various types of data into the Workspace without affecting their structure and accuracy by using the **Connect** tool. This tool allows you to connect raster files, vector data files, databases, DTMs, and other type of data to the Workspace. Figure 2-4 shows the flow diagram of loading data into your Workspace using the **Connect** tool. Different datasets such as vector data, raster data, open geospatial data source, and WMS can be combined into one group and loaded into the Workspace by using this tool. You can also adjust the settings of the datasets such as coordinate system, connection name, source folder, and so on as per your requirement. The method of loading various data types using the **Connect** tool is discussed next.

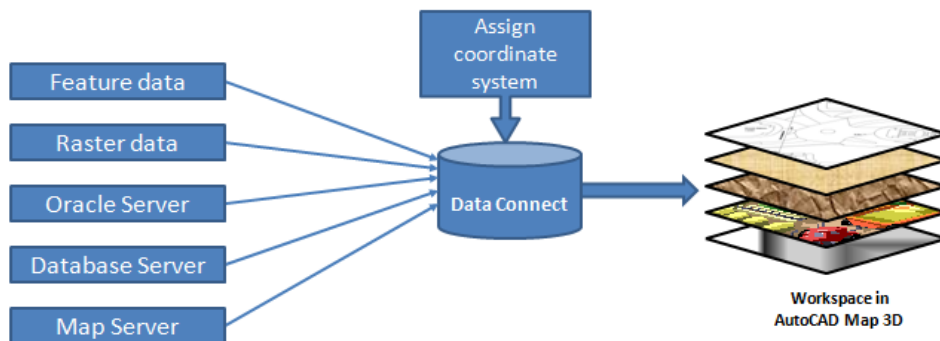


Figure 2-4 Flow diagram displaying the loading of data into the Workspace

Loading SHP Data

You can load SHP data to the current drawing by using the **Data Connect** wizard. To do so, choose the **Connect** tool from the **Data** panel of the **Home** tab; the **Data Connect** wizard will be displayed, as shown in Figure 2-5. Alternatively, you can invoke this wizard from the **Task Pane**. To do so, choose the **Data** button from the **Display Manager** tab; a flyout will be

displayed. Choose the **Connect to Data** option from the flyout; the **Data Connect** wizard will be displayed.

In this wizard, to connect and add SHP data to the existing drawing, select the **Add SHP Connection** option from the **Data Connections by Provider** list box; the right pane of the wizard will display the page containing the options for adding data. For example, to load the Land cover map data (SHP file) into the Workspace, select the **Add SHP Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for SHP** page will be displayed in the right pane. Enter the name of the connection in the **Connection name** edit box.

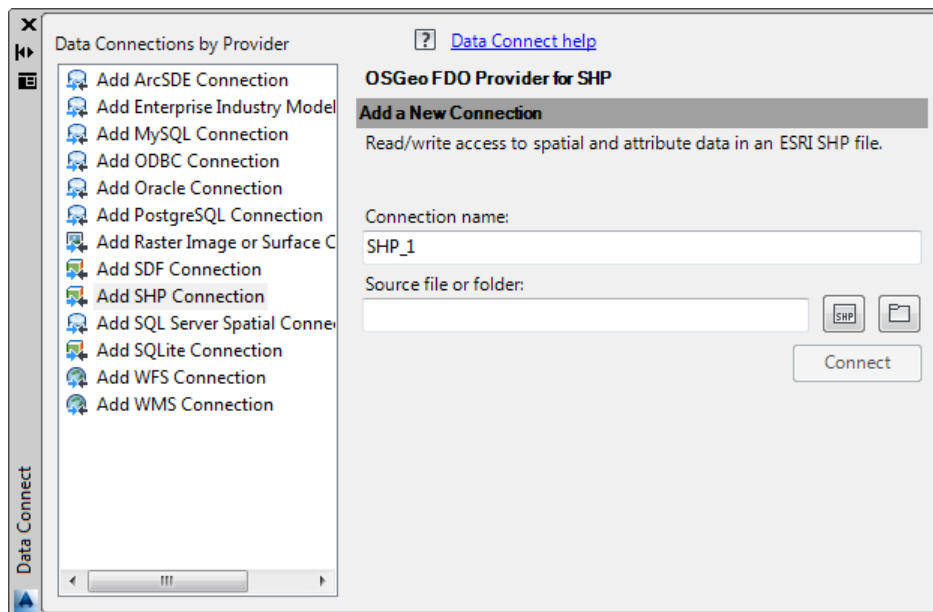


Figure 2-5 The *Data Connect* wizard

Next, to connect a single SHP file, choose the button to the right of the **Source file or folder** edit box with the text SHP; the **Open** dialog box is displayed. In this dialog box, select the required SHP file and choose the **Open** button; the path of the selected SHP file will be displayed in the **Source file or folder** edit box and the **Connect** button will become active. Choose the **Connect** button; the selected SHP file will be displayed in the **Add Data to Map** list box. In case you want to connect multiple SHP files that are located within a same folder, choose the browse button; the **Browse For Folder** dialog box is displayed. In this dialog box, select the folder containing the required SHP files. Next, choose the **OK** button; the path of the selected folder will be displayed in the **Source file or folder** edit box and the **Connect** button will become active. Choose the **Connect** button; the list of all SHP files contained within the selected folder is displayed in the **Add Data to Map** list box. The list box displays the SHP file with their corresponding coordinate system.

If data is not referenced, you can add the coordinate system manually. To do so, choose the **Edit Coordinate Systems** button at the top of the **Add Data to Map** list box; the **Edit Spatial Context** dialog box will be displayed. Specify a coordinate system to georeference the data


using the options in this dialog box. The process of georeferencing the data to a particular coordinate system is discussed in the next chapter.


After georeferencing the data, you will be adding the data to the map. To do so, select the check box corresponding to the required SHP file. Next, choose the **Add to Map** option from the drop-down displayed below the **Add Data to Map** list box; the contents of the SHP file will be displayed in the drawing window. Note that the name of the added SHP file is displayed in the **Display Manager** tab of the **Task Pane**.

You can also apply data filters while adding data from the SHP file. To do so, choose the **Add to Map with Query** option from drop-down that is displayed below the **Add Data to Map** list box; the **Create Query** window will be displayed. Use this window to frame a spatial or aspatial query for filtering the data. On framing the query, choose the **OK** button; the filtered data will be added to the drawing window and the layers will be displayed in the list box of **Display Manager** in the **Task Pane**. Then, close the **Data Connect** wizard. Next, select the added layer in the **Display Manager** list box, and right-click on the feature selected; a shortcut menu will be displayed. Now, choose the **Zoom to Extents** option from the shortcut menu; the drawing window will display the data in the added layers.

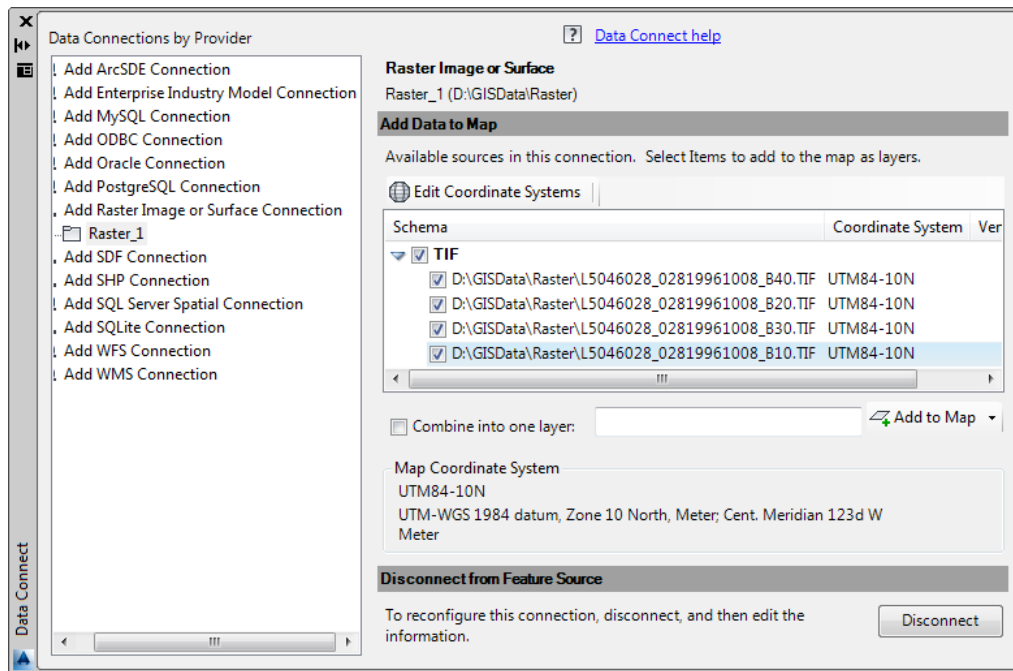
Loading Raster Data

Raster data consists of matrix of raster cells arranged in rows and columns. Every raster cell has a value that represents information. Satellite images, aerial photographs and scanned images are few examples of raster data. Raster data has the most simple data structure and is widely used in GIS as background layer.

You can load raster data into your drawing by using the **Data Connect** wizard. To load the raster data, invoke the **Data Connect** wizard by choosing the **Connect** tool from the **Data** panel. In the wizard, choose the **Add Raster Image or Surface Connection** option from the left pane; the **Autodesk FDO Provider for Raster** page will be displayed. In this page, specify the name for the connection in the **Connection name** edit box. Next, to load a single raster dataset, choose the button to the right of the **Source file or folder** edit box; the **Open**  dialog box will be displayed. In this dialog box, browse to the location and select the required raster dataset. Next, choose the **Open** button in the dialog box; the **Open** dialog box closes and the name of the selected raster will be displayed in the **Source file or folder** edit box of the **Data Connect** wizard. Next, choose the **Connect** button displayed below the **Source file or folder** edit box; the **Raster Image or Surface** page of the **Data Connect** wizard is displayed.

To connect to multiple raster data from a folder using one connection, choose the button  to the far right of the **Source file or folder** edit box; the **Browse to the folder** dialog box will be displayed. Use this dialog box to browse and select the folder containing the required raster datasets. Next, choose the **OK** button; the **Browse to the folder** dialog box will be closed and the name of the selected folder will be displayed in the **Source file or folder** edit box of the **Data Connect** wizard. Next, choose the **Connect** button displayed below the **Source file or folder** edit box; the **Raster Image or Surface** page of the **Data Connect** wizard will be displayed. The **Schema** list in this page will now display a list of all the rasters in the selected folder.

Select the required raster data from the **Schema** list by selecting the check box. Figure 2-6 shows multiple raster data selected in the **Schema** list of the **Data Connect** wizard. If required, you can assign or modify the coordinate system of the raster data. The method of assigning the coordinate system to a data is discussed in detail later in this textbook.



*Figure 2-6 Multiple raster data selected in the **Data Connect** wizard*

On selecting the required raster data, choose the **Add to Map** button displayed below the **Schema** list; the selected raster will be added to the drawing.

You can also use the **Image** tool from the **Image** panel of the **Insert** tab to insert raster image into your drawing. The method of inserting the raster using this tool is discussed later in this book.

Loading SDF Data

SDF is the spatial data file format developed by Autodesk to store different geospatial data. You can load SDF drawing file into AutoCAD Map 3D. To do so, choose the **Connect** tool from the **Data** panel; the **Data Connect** wizard will be displayed, refer to Figure 2-5. In this window, choose the **Add SDF Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for SDF** page will be displayed in the right pane of the wizard. Specify the name of the connection in the **Connection name** edit box. Then, choose the button next to the **Source file** edit box; the **Open** dialog box will be displayed. In this dialog box, select the required file and then choose the **Open** button; the dialog box will be closed and the file location will be displayed in the **Source file** edit box in the **OSGeo FDO Provider for SDF** page of the wizard. Next, choose the **Connect** button. On doing so, the list of data files in the source connection will be displayed in the **Add Data to Map** list box. Select the check box corresponding to the data that you want to add to the map. Next, select the

Add to Map button from the drop-down below the **Add Data to Map** list box. The added data will be displayed in the drawing window.

Loading WFS Data

WFS data (Web Feature Service) provides geospatial feature data. AutoCAD Map 3D allows you to use WFS data using the **Connect** tool. To do so, choose the **Connect** tool from the **Data** panel; the **Data Connect** wizard will be displayed. In this window, choose the **Add WFS Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for WFS** area will be displayed. Specify the name of the connection in the **Connection name** edit box. Enter the server name or the URL in the **Server name** edit box. Alternatively, you can select the previously used URL from the drop-down list. Select the relevant version from the **Version** drop-down list. You can also select the **Default version** option from the drop-down list. Next, choose the **Connect** button; the **User Name & Password** dialog box will be displayed. Enter the credentials in the dialog box and choose the **Login** button; the list of data files in the source connection will be displayed in the **Add Data to Map** list box. Select the data that you want to add to the map from the **Add Data to Map** list box; the drop-down list below the **Combined Layer Info** list box will be activated. Choose the required option from this drop-down list; the selected data will be added to the drawing window.



Note

*When you select the **Default version** option from the **Version** drop-down list, AutoCAD Map 3D will load the latest version of the WFS data.*

Loading WMS Data

Using the WMS data (Web Map Service) connection, you can incorporate the raster data that is published on a public web server into your map. To bring the WMS data into AutoCAD Map 3D, choose the **Connect** tool as explained in the previous section; the **Data Connect** window will be displayed. In this window, choose the **Add WMS Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for WMS** page will be displayed. Specify the connection name and server name or URL in the **Connection name** and **Server name or URL** text box, respectively. Next, choose the **Connect** button; the **User Name and Password** dialog box will be displayed. Enter the credentials and choose the **OK** button. On connecting to the WMS server, the list of available schema will be displayed in the list box of the **OSGeo FDO Provider for WMS** page. Select the required schema from the list box and choose the **Add Data to Map** option to load data into the drawing window.



Note

OSGeo FDO Provider for WFS or WMS data of AutoCAD Map 3D provides read only access to these data types.

Loading Data from Databases

AutoCAD Map 3D provides in built data connections to connect to various databases such as Microsoft Access, Oracle, MySQL, and ArcSDE.

To access data from Microsoft Access, Excel, or dbase, select the **Add ODBC Connection** option from the **Data Connections by Provider** list box; the **OSGeo Provider for ODBC** page

is displayed in the right pane of the **Data Connect** wizard. In this page, specify the connection name in the **Connection name** edit box. Select the relevant source type from the **Source type** drop-down list. If you select the **Data Source Name (DSN)** option from the **Source type** drop-down list, then you need to enter the name of the data source. To do so, choose the Browse button next to the **Source** edit box; the **Select Data Source Name** dialog box will be displayed. Select the required data source name from the **Data Source Names** list box and then choose the **Select** button; the source name will be added to the **Source** edit box. You can also select the **Connection String** option and add the connection string to the **Source** edit box. Next, choose the **Test Connection** button; the **User Name & Password** dialog box will be displayed. Enter the user name and password to login. Now, connect to the database and add the data to the Map as explained previously.

Similarly, you can connect to the data store in My SQL, Oracle, and PostgreSQL. To connect to different data store in these databases, specify the connection name and service name and then select the data store that you want to add to the map in the drawing window.

To load the data from ArcSDE, you need to specify the connection name, server name, and the instance name. On doing so, you will be able to connect to the database and add the data store to the map.

Loading Enterprise Industry Model

Enterprise Industry Models are different types of schemas that are stored in Oracle database. These models can be for storm water system, wastewater sewage system, or gas pipeline network. To load the data from the Enterprise Industry Model, choose the **Connect** tool from the **Data** panel; the **Data Connect** window will be displayed. In this window, choose the **Add Enterprise Industry Model Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for Enterprise Industry Models** page will be displayed. Specify the connection name and service name in the **Connection name** and **Service name** edit boxes, respectively. Next, specify the Map 3D or the computer user name and password in the **Map 3D Main or System User name** and **Map 3D Main or System User password** edit boxes, respectively. On doing so, you can select the relevant industry model from the **Industry model** drop-down and add data to the map.



Tip: Schema defines the structure of the different feature classes. It defines the rules, feature type, data type, feature properties, and so on. Also, schema of a particular enterprise industry model can be edited and updated as and when needed in AutoCAD Map 3D.

Loading Data by Using the Map Explorer Tab

You can load drawing data by using the options in the **Map Explorer** tab of the **Task Pane**. In this tab, you can add the drawing data file by using the select, drag, and drop methods. To do so, choose the **Map Explorer** tab from the **Task Pane**; the options in the **Map Explorer** tab will be displayed, as shown in Figure 2-7. Next, open the folder containing the source data file. Select the source data file, and then drag and drop the file into the **Map Explorer** tab; the data source file will become visible at the top of the list in the **Map Explorer** tab.

You can attach drawings to the Workspace by using the options in the **Map Explorer** tab. To do so, right-click on the **Drawings** folder in the tab; a shortcut menu will be displayed. Choose

the **Attach** option from the shortcut menu; the **Select drawings to attach** dialog box will be displayed. In this dialog box, select the source drawing file and then choose the **Add** button; the added drawing files will be displayed in the **Selected drawings** list box. If the selected file is not needed, choose the **Remove** button to remove the drawing file from the list. Next, choose the **OK** button; the list of selected drawings will be displayed under the **Drawings** node in the **Map Explorer** tab of the **Task Pane**. Select a file name in **Drawings** node and right-click on it; a shortcut menu will be displayed. Next, choose the **Zoom Extents** option from the shortcut menu; the selected drawing will be displayed in the drawing window.



Note

You can also attach drawings to the Workspace by using the **Attach** tool from the **Data** panel in the **Home** tab.

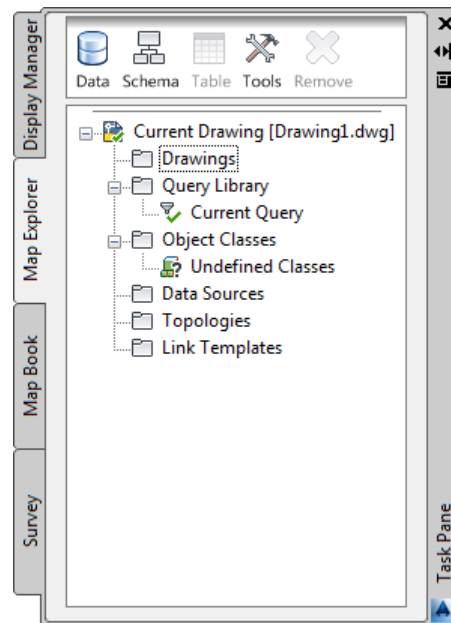


Figure 2-7 The Task Pane with the Map Explorer tab chosen

Importing GCP Data by Using the Survey Tab



You can import the Ground Control Point (GCP) data or the survey data into the Workspace by using the **Survey** tab in the **Task Pane**. Before you import a survey data into your project, you must connect to an existing survey data store that contains data. You can also create a new survey data store to reposit survey data. To do so, choose the **Data** button in the **Survey** tab; a flyout will be displayed. From this flyout, choose the **New Survey Data Store** button; the **New Data Store** dialog box will be displayed, as shown in Figure 2-8.

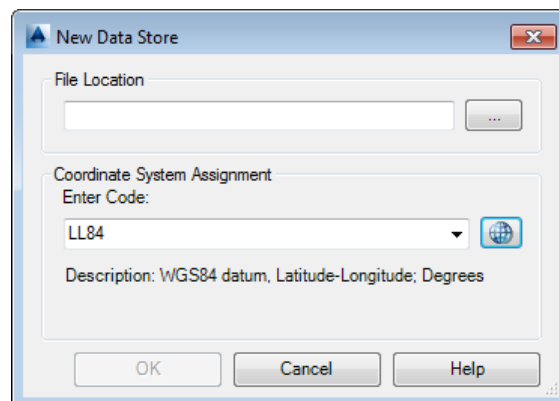
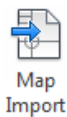


Figure 2-8 The New Data Store dialog box

In this dialog box, choose the browse button in the **File Location** area; the **Create new Survey Data Store** dialog box will be displayed. In this dialog box, browse to the required location and specify a name for the new data store in the **File name** edit box and then choose the **OK** button; the **Create new Survey Data Store** dialog box will be closed and the path for the data store will be displayed in the **File Location** text box of the **New Data Store** dialog box. In the **Coordinate System Assignment** area of the **New Data Store** dialog box, select a suitable Coordinate Reference System (CRS), either by entering a value in the **Enter Code** edit box or by using the coordinate system browse button located on the right of the **Enter Code** edit box. Next, choose **OK** in the **New Data Store** dialog box; a survey data store will be created. The created data store is displayed in the **Display Manager** tab and the **Map Explorer** tab of the **Task Pane**. The created data store is also selected in the **Current Data Store** drop-down in the **Survey** tab and the **Survey Data Store** node is added to the list box of this tab. To import points to this data store, right-click on the **Survey Data Store** node; a shortcut menu is displayed. Choose the **Import LandXML** or the **Import ASCII Points** option from the shortcut menu to import point data into the project. Next, right-click on the **Survey Data Store** node; a shortcut menu is displayed. Choose the **Zoom to Extents** option from this menu; the survey data will be displayed in the drawing window.

Importing an External File Format Data by Using the Map Import Tool

Ribbon: Insert > Import > Map Import
Command: MAPIMPORT



Using the data import feature of AutoCAD Map 3D, a Map 3D user can import spatial data into the Map 3D environment. Using this feature, you can import spatial data available in various file formats such as ASCII, ESRI shape file, MapInfo TAB, TIFF, GML, and DGN into the Map 3D environment. To import the datasets into the AutoCAD Map 3D, choose the **Map Import** tool from the **Import** panel in the **Insert** tab; the **Import Location** dialog box will be displayed. In this dialog box, select the required file extension from the **Files of type** drop-down list. Next, browse and select the required dataset and then choose the **OK** button; the **Import Location** dialog box will be closed and the **Import** dialog box will be displayed. Figure 2-9 shows the **Import** dialog box for a .shp file.



Note

*The options displayed in the **Import** dialog box will depend on the type of data file selected in the **Import Location** dialog box.*

In this dialog box for importing the SHP file, the **Current drawing coordinate system** area displays the coordinate system of the drawing. You can change the coordinate system of the drawing using the **Assign Global Coordinate System** dialog box. To invoke this dialog box, choose the button in the **Current drawing coordinate system** area of the **Import** dialog box. While importing the data, you can also set the spatial filter, which can be used to import data within a required region. To set a spatial filter, select a radio button corresponding to the required option in the **Spatial filter** area of the **Import** dialog box. The table in the **Import properties for each layer imported** area allows you to manage the imported data. You can specify properties such as the layer drawing for the imported data. You can also choose

whether to include or exclude the object data in the drawing. While including the object data, AutoCAD Map 3D allows you to assign the table name and manage its field content.

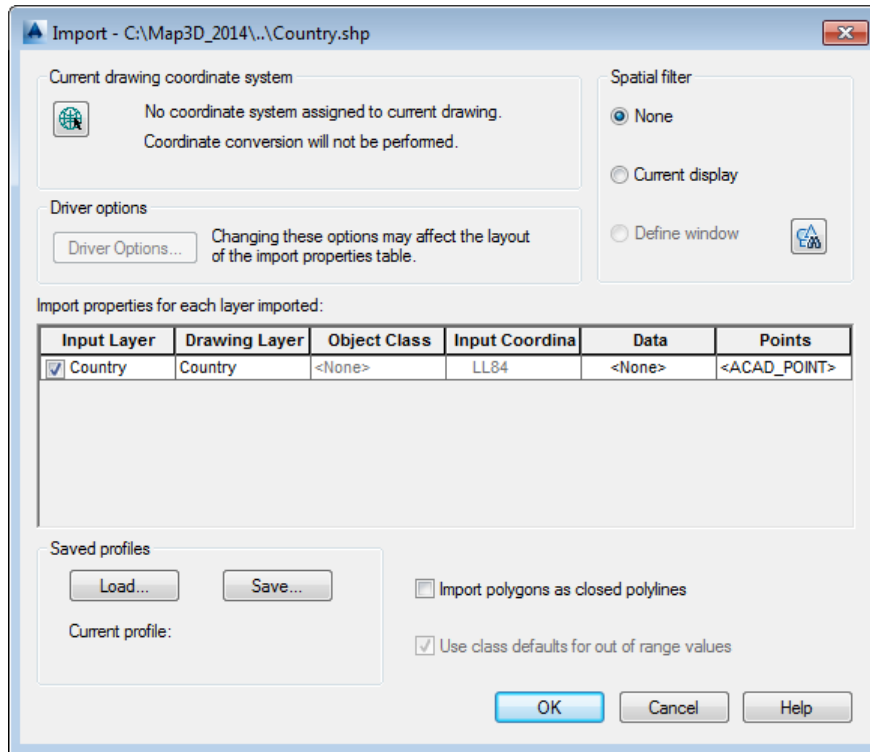


Figure 2-9 The *Import* dialog box

After specifying the required parameters in the **Import** dialog box, choose **OK** to add the imported layer with default settings. The options used in the **Import** dialog box are discussed later in this book.

DATA OUTPUT METHODS

AutoCAD Map 3D allows you to generate the output of your project in several ways, such as saving the file in various formats, sending mail through web services, publishing the map using various mediums, and so on. In this section, you will learn about the data output methods such as saving files, exporting data, data printing, plotting and publishing, and sending files through web services. These methods are discussed next.

Data Output by Using the Save As Option

You can save a drawing file in AutoCAD Map 3D's native file format .DWG or in various other formats by using the Application Menu. To save a drawing file in the AutoCAD file format, choose the **Save As** option from the Application Menu; the **Save Drawing As** dialog box will be displayed. In this dialog box, browse to the location where you want to save the file. Next, enter a name in the **File name** edit box and select the file format from the **Files of type** drop-down list. Choose the **Save** button to save the file with assigned name and file type.

Data Output by Using the Export Option

You can use the **Export** option in the Application Menu for exporting a drawing file into different file formats. Different file formats in the **Export** option are discussed next.

AutoCAD Map 3D uses the DWF (Design Web Format) to distribute data efficiently. Drawings can be exported into the DWF format by using the **Export** option. To do so, choose **Export > DWF** from the Application Menu; the **Save As DWF** dialog box will be displayed, as shown in Figure 2-10.

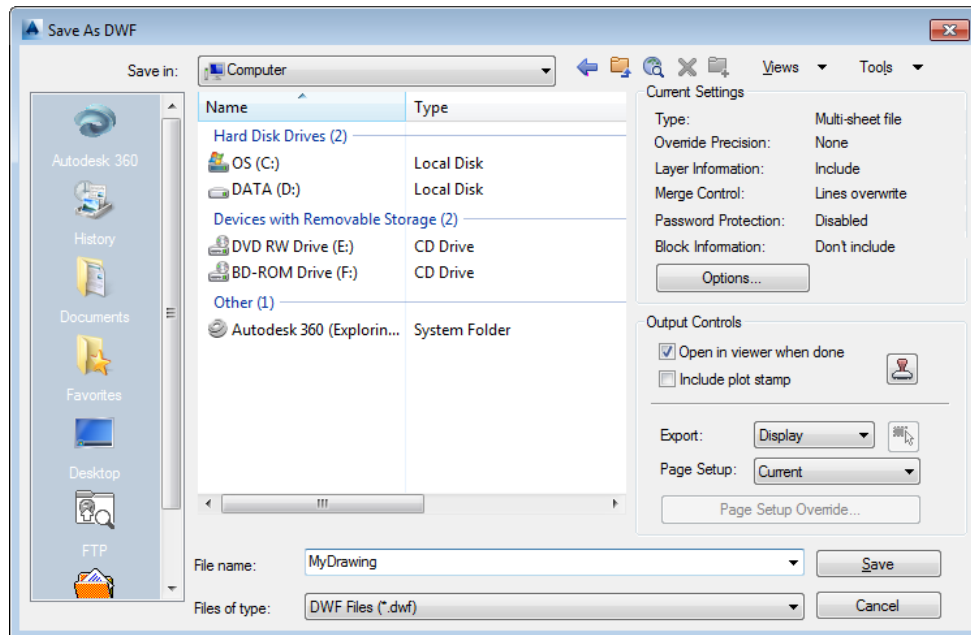


Figure 2-10 The Save As DWF dialog box

In the **Save As DWF** dialog box, the export file properties such as **Type**, **Override Precision**, **Layer Information**, and so on will be displayed in the **Current Settings** area. To change these user settings for the file to be exported, choose the **Options** button in this area; the **Export to DWF/PDF Options** dialog box will be displayed. The user settings are categorized as **General DWF/PDF Options** and **DWF data options**. Specify the required settings and then choose **OK** to apply the settings to the file being exported.

The options in the **Output Controls** area of the **Save As DWF** dialog box are used to set the display properties of an export file. To display a file in a viewer after exporting it, select the **Open in viewer when done** check box. To apply plot stamp to the export file, select the **Include plot stamp** check box. To modify the plot stamp settings, choose the **Plot Stamp Settings** button located on the right of the **Include plot stamp** option; the **Plot Stamp** dialog box will be displayed. Modify the settings as per your requirements in this dialog box, and then choose the **OK** button to apply the settings and close the **Plot Stamp** dialog box. To choose the extents for the file to be exported, select the desired option from the **Export** drop-down list. To export the entire content of the drawing, select the **Extents** option

from the drop-down list. Selecting the **Display** option will export all the objects that are visible in the current drawing window. To export the objects in a particular region, select the **Window** option from the **Export** drop-down list; the **Select Window** button on the right of this



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option will be activated. Next, choose the **Select Window** button; the **Save As DWF** dialog box is closed. Select the area in the drawing window to be exported. On selecting the area, the **Save As DWF** dialog box will be displayed again. To change the page settings of the export file, select the **Override** option from the **Page Setup** drop-down list; the **Page Setup Override** button will become active. To modify the page settings, choose the **Page Setup Override**

button; the **Page Setup Override** dialog box will be displayed. In this dialog box, apply the page settings as required. Choose the **OK** button to apply the settings and close the **Page Setup Override** dialog box.

In the **Save As DWF** dialog box, enter the name of the exported file in the **File name** edit box, and then choose the **Save** button; the file will be saved as a DWF file at the specified location.

Using the similar exporting process, you can create files with the DWFx and PDF file extensions. More file extensions are available in the dialog box when you choose the **Other GIS Format** option to export the drawing from the Application Menu.

Data Output by Using the DWG Convert Option

The **DWG Convert** option in the Application Menu is used to change drawings from one AutoCAD drawing type to another. To convert a drawing, choose **DWG Convert** from the Application Menu; the **DWG Convert** dialog box will be displayed, as shown in Figure 2-11. Different options in this dialog box are discussed next.

Files Tree and Files Table Tabs

In the **DWG Convert** dialog box, the **Files Tree** tab is chosen by default. This tab displays the list of drawings in a hierarchical order. The selected check box against the file name, indicates that the file will be converted. Clear the check box to exclude the file from conversion. To add files to the list, drag and drop the required files into the list or use the **Add Files** button displayed below the list.

The **Files Table** tab displays the list of drawing files to be converted into a table format. Five buttons are located at the bottom of the **Files Tree** and **Files Table** tabs. The use of these buttons is discussed next.

Add Files

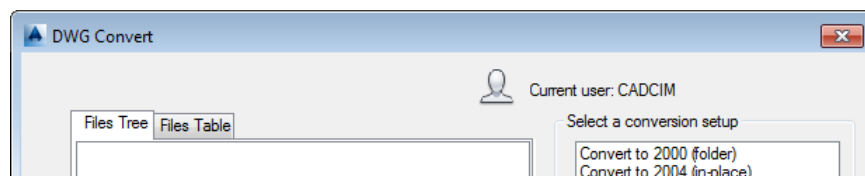


The **Add Files** button is used to add drawing files for conversion process. To do so, choose this button; the **Select File** dialog box will be displayed. In the dialog box, browse to the folder containing the required drawing file. Next, select the file/s and then choose the **Open** button; the dialog box will be closed and the selected file/s will be added to the list in the **DWG Convert** dialog box.

New List



The **New List** button clears the existing list in the tab and starts a fresh list. On choosing the **New List** button, the **DWG Convert** message box will be displayed. To save the existing list, choose the **Yes** button in the message box; the message box will be closed and the **Save Conversion List** dialog box will be displayed. In the dialog box, enter a name in the **File name** edit box and then choose the **Save** button; the list will be saved with an extension.



Open List



The **Open List** button is used to open an existing conversion list of drawing files. To do so, choose the **Open List** button; the **Open Conversion List** dialog box will be displayed. In the dialog box, select the desired list/s from the folder and then choose the **Open** button; the selected list will be added to the active tab.

Append List



The **Append List** button is used to add an existing list to the current list of drawings. To do so, choose the **Append List** button; the **Append Batch Control List** dialog box will be displayed. In the dialog box, select an option from the list box and then choose the **Open** button; the dialog box will be closed and the drawings in the selected list will be added to the current list of drawings in the active tab.

Save List



The **Save List** button is used to save the current list in the form of a batch conversion list (*.bcl).

Select a conversion setup Area

The **Select a conversion setup** area displays a list of conversion setup. These setups contain the settings that will be used while converting the drawing files. Choose the required option from the list box and then choose the **Convert** button to begin the file conversion process.

To modify or create the conversion settings, choose the **Conversion Setups** button in this area; the **Conversion Setups** dialog box will be displayed, as shown in Figure 2-12.

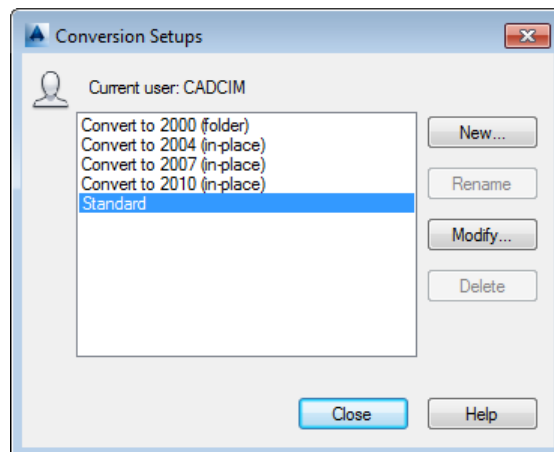


Figure 2-12 The **Conversion Setups** dialog box

Using the options in this dialog box, you can create, rename, modify, or delete a conversion setup. To create a new conversion setup, choose the **New** button from the dialog box; the **New Conversion Setup** window will be displayed. In the window, enter a name in the **New Conversion setup name** edit box and select an option from the **Based on** drop-down list. Next, choose the **Continue** button; the window will be closed and the **Modify Conversion Setup** dialog box will be displayed. Customize the settings based on your requirement in this

dialog box and then choose the **OK** button to close it. Then, choose the **Close** button to close the **Conversion Setup** dialog box.

After specifying all options in the **Files Tree** and **Files Table** tabs, and the **Select a conversion setup** area, choose the **Convert** button; the selected drawing file or entire list of drawing files will be converted into the specified file format.

Data Output by Using the Printing Tools

Printing paper copies of the drawing is another way of providing the project output. The Application Menu provides various useful options such as **Page Setup**, **Manage Plotters**, **Manage Plot Styles**, and **Plot** for managing printing processes. Some of the printing tools available in the Application Menu are discussed next.

Plot Tool

You can use the options in the **Plot** dialog box to specify the settings for plotting. To invoke this dialog box, choose the **Print** option from the Application menu; a cascading menu will be displayed. Next, choose the **Plot** tool from the displayed menu; the **Plot** dialog box will be displayed. Figure 2-13 shows the **Plot** dialog box. The various options in the **Plot** dialog box are discussed next.

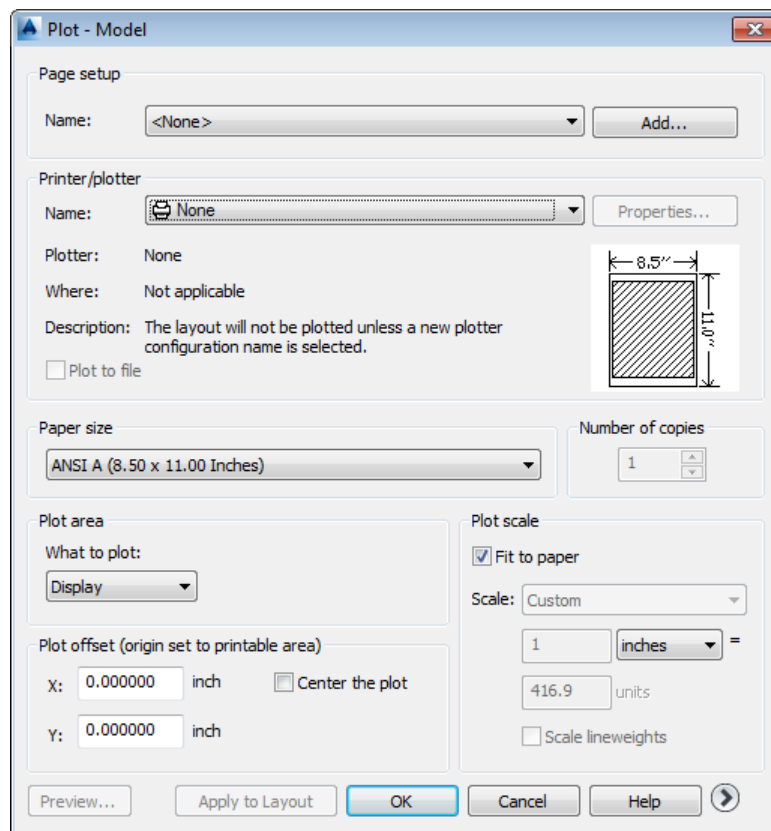


Figure 2-13 The **Plot** dialog box

Page setup Area

In the **Page setup** area, the **Name** drop-down list displays the name of the current page setup. To select a previously saved page setup, choose the required option from the **Name** drop-down list. You can also import the page setup. To do so, choose the **Import** option in the **Name** drop-down list; the **Select Page Setup From File** dialog box will be displayed. Use this dialog box to browse and open the required page setup.

To save the current page setup for future reference, choose the **Add** button in the **Page setup** area; the **Add Page Setup** dialog box will be displayed. Specify a name for the page setup in the text box and choose the **OK** button. The page setup will be saved and the name of the saved page setup will be added to the **Name** drop-down list of the **Plot** dialog box.

Printer/plotter Area

The options in the **Printer/plotter** area are used to modify the properties of the selected printer or plotter template. When you select a page setup from the **Name** drop-down list, the **Properties** button will get activated. You can use the **Properties** button to modify the settings of the printer/plotter template as per your requirement. If you need to apply settings from an existing template file, select a template from the **Name** drop-down list; the **Name**, **Where**, and **Description** properties of the **page setup** will be displayed in the **Printer/plotter** area. Also, the preview of the modified settings will appear in the display box below the **Properties** button. You can select the **Plot to file** check box to plot the drawing to a file, instead of printing on a paper.

Paper size Area

The drop-down list in the **Paper size** area is used to specify standard paper dimensions. You can modify the existing paper dimension of a standard template by selecting the required option from the drop-down list in this area. You can specify the number of copies to be printed using the **Number of copies** spinner.

Plot area

The option in the **Plot area** is used to specify the area in the drawing for plotting. To do so, select an option from the **What to plot** drop-down list. If you select the **Window** option from this drop-down list, the cursor will change to a crosshair. You can use the crosshair to select the required plot region in the drawing. Selecting the **Limits** option from the **What to plot** drop-down list will plot all the drawing objects in the selected paper area of the current layout. You can select the **Display** option to plot all the drawing objects that are currently displayed in the drawing window.

Plot offset Area

The options in the **Plot offset (origin set to printable area)** area are used to set the position of the drawing with respect to the printing paper. To specify the distance along x and y directions from the lower left corner of the paper, enter the values in the **X** and **Y** edit boxes, respectively. To keep the drawing file at the center of the paper source, select the **Center the plot** check box.

Plot scale Area

The options in the **Plot scale** area are used to adjust the scale of the drawing upto the extents of the paper. Select the **Fit to paper** check box, to fit the drawing proportionally to

the paper source. Alternatively, you can apply custom settings for the plot scale by clearing the **Fit to paper** check box. On doing so, the **Scale** drop-down list and other options will become active. Now, you can specify the required scale by selecting an option from the **Scale** drop-down list and entering the required values in the corresponding edit boxes.

After specifying the properties in the **Plot** dialog box, choose the **OK** button; the plotter will begin plotting the specified file. In case you have selected the **Plot to file** check box in the **Plot** dialog box, the **Browse for the Plot File** dialog box will be displayed on choosing the **OK** button. Specify the plot file location and name in the **Browse for Plot File** dialog box and choose the **Save** button.



Note

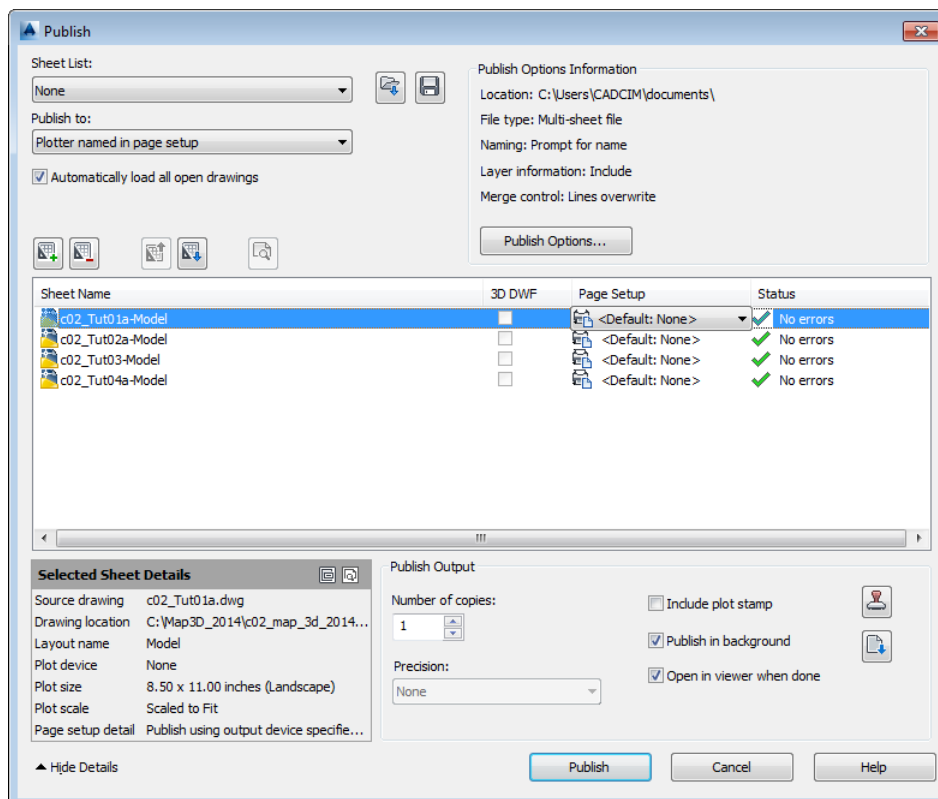
You will notice a message box on the lower right corner in the Application Status bar displaying the information about the plotting process. To view the details of the printing process, click on the link in the message box.




Tip: You can also preview the result of plotting by choosing the **Preview** button in the **Plot** dialog box.

Batch Plot Tool

The **Batch Plot** tool in the **Print** panel of the Application Menu is used to publish multiple sheets or drawings. To invoke this tool, choose **Print > Batch Plot** from the Application Menu; the **Publish** dialog box will be displayed, as shown in Figure 2-14.



In this dialog box, select the required sheet set data file from the **Sheet List** drop-down list. Alternatively, you can select the sheet set data by choosing the **Load Sheet List** button  on the right of this drop-down list. Next, to apply a file format for publishing the sheet set data file, select an option from the **Publish to** drop-down list. Additionally, select the **Automatically load all open drawings** check box to add all the currently open drawings to the publishing list.

On applying the required settings, the information regarding the file to be published will appear in the **Publish Options Information** display area. To edit the user publishing details, choose the **Publish Options** button; the **Publish Options** dialog box will be displayed. Change the user settings by modifying the settings in this dialog box and then choose the **OK** button.



Tip: You can also invoke the **Publish** dialog box by choosing the **Batch Plot** tool from the **Plot** panel of the **Output** tab in the ribbon.



To add a sheet set to the publishing list, choose the **Add Sheets** button above the sheet list box. On doing so, the **Select Drawings** dialog box will be displayed. Next, browse to the location of the required file/s and choose the **Select** button; the selected file/s will be displayed in the list box showing the added sheet set for publishing. The options in the **Publish Output** area are used to set the property for publishing the sheet set data. To change the number of copies of a published set, specify the value in the **Number of copies** spinner. To add plot stamp to the sheet set data, select the **Include plot stamp** check box in the **Publish Output** area. To modify the plot stamp settings, choose the **Plot Stamp Settings** button. Select the **Publish in background** check box to hide the **Publish Job Progress** dialog box while publishing selected sheets. If you select the **Open in viewer when done** check box, the sheet set will be displayed in a viewer when it is published. The details of the properties of the sheet set file selected will be displayed in the **Selected Sheet Details** display box.

After specifying the required settings in the **Publish** dialog box, choose the **Publish** button; the **Publish Job Progress** dialog box will be displayed. This dialog box will display the progress of publishing. In case the **Publish in background** check box is selected in the **Publish** dialog box, the **Plot - Processing Background Job** dialog box will be displayed. Choose the **Close** button to close this dialog box. Note that the plot processing will continue in the background.

Page Setup Tool

You can specify the settings for the page setup by using the **Page Setup** tool. To do so, choose **Print > Page Setup** from the Application Menu; the **Page Setup Manager** dialog box will be displayed, as shown in Figure 2-15. The options in this dialog box are discussed next.

Page setups Area

The options in the **Page setups** area are used to create a new page setup template, modify an existing template, and remove an unused template. To create a new page setup, choose the **New** button on the right of the **Current page setup** list box; the **New Page Setup** dialog box will be displayed. In this dialog box, enter the desired name of the page setup in the

New **page setup name** edit box and then choose the **OK** button; the **Page Setup - Model** dialog box will be displayed. In this dialog box, apply all required printer settings and then choose the **OK** button; the **Page Setup - Model** dialog box will be closed and the newly created page setup will be added to the **Current page setup** list box of the **Page Setup Manager** dialog box.

Selected page setup details area

The **Selected page setup details** area displays the settings of a selected page setup such as device name, plotter, plot size, and description.

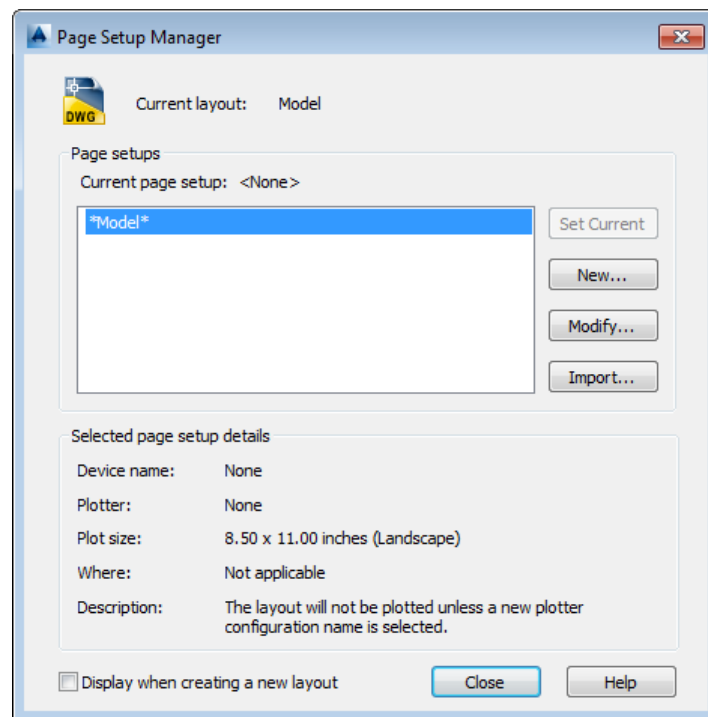


Figure 2-15 The Page Setup Manager dialog box

To modify the settings in an existing page setup file, select the name of the page setup in the **Current page setup** list box and then choose the **Modify** button; the **Page Setup** dialog box will be displayed, as shown in Figure 2-16. Some of the options in this dialog box are same as those discussed in the **Plot** dialog box. The remaining options in this dialog box are discussed next.

Plot style table (pen assignments) Area

The options in the **Plot style table (pen assignments)** area are used to change the plotting style of drawings and layers in layouts. To apply the standard plot style table to the current layout, select the required option from the **Plot style table** drop-down list. You can modify the plot style table settings as per your requirements. To do so, choose the **Edit** button next to the **Plot style table** drop-down list; the **Plot Style Table Editor** dialog box will

be displayed. Specify the required values in this dialog box and then choose the **Save & Close** button to apply the settings and to close the dialog box. To display the plot style settings in the drawing, select the **Display plot styles** check box in this area.

Shaded viewport options Area

The options in the **Shaded viewport options** area are used to specify the values for the shading of the layout. To specify how the plot should be viewed, select the required option from the **Shade plot** drop-down list. To adjust the quality of the view in the layout, select an option from the **Quality** drop-down list.

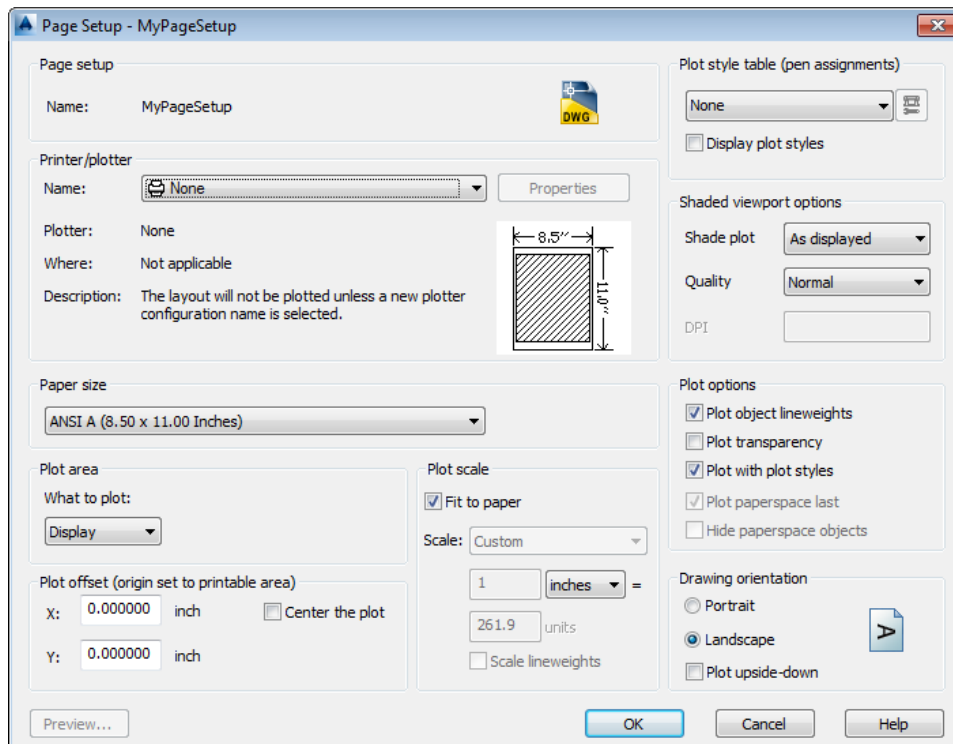


Figure 2-16 The Page Setup dialog box

Plot options Area

The **Plot options** area is used to set plotting styles in a layout. To ignore line weights while plotting objects, clear the **Plot object lineweights** check box. To plot the layout by using the chosen plot style, select the **Plot with plot styles** check box. To plot objects in paper source before styling objects in model space, clear the **Plot papersource last** check box. To hide objects in paper space while plotting, select the **Hide paperspace objects** check box. You can also apply transparency to the plot style. To do so, select the **Plot transparency** check box in this area.

Drawing orientation Area

The **Drawing orientation** area is used to orient the drawing layout to the paper layout. To apply the portrait or landscape orientation to the drawing layout, select the **Portrait**

or **Landscape** radio button. To plot the drawing layout upside down with respect to the plotting paper, select the **Plot upside-down** check box.

After specifying the properties in the **Page Setup** dialog box, choose the **OK** button to apply the settings and close the dialog box. The newly created page setup will be added to the **Current page setup** list box of the **Page Setup Manager** dialog box. Next, choose the **Close** button to close the **Page Setup Manager** dialog box.

Manage Plotters Tool

The **Manage Plotters** tool is used to edit or modify the settings of the added plotters. To invoke this tool, choose **Print > Manage Plotters** from the Application Menu; the **Plotter Manager** dialog box will be displayed. In this dialog box, edit and adjust the plotter settings as per your requirement.

Manage Plot Styles Tool

The **Manage Plot Styles** tool is used to create and edit the plot styles. To invoke this tool, choose **Print > Manage Plot Styles** from the Application Menu; the **Plot Style Manager** dialog box will be displayed. Set the required options in this dialog box to create a new plot style.

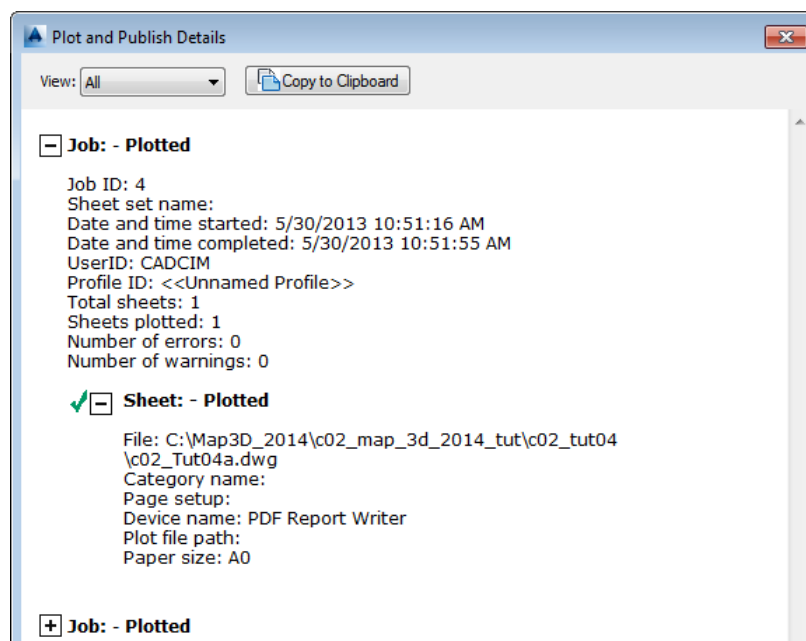


Note

*The **Plotter Manager** and **Plot Style Manager** dialog boxes will be available for editing only after you install a plotter.*

View Plot and Publish Details Tool

The **View Plot and Publish Details** tool is used to interpret the details of plotting and publishing. To know the details of plotting and publishing, choose **Print > View Plot and Publish Details** from the Application Menu; the **Plot and Publish Details** dialog box will be displayed. The options in this dialog box are used to check the details of plotting or plotting errors, as shown in Figure 2-17.



In the **Plot and Publish Details** dialog box, you can display the details of all printing jobs or the one that encountered errors while executing printing by selecting the **All** or **Errors Only** option from the **View** drop-down list. To copy the displayed information from the **Plot and Publish Details** dialog box, choose the **Copy to Clipboard** button. You can now paste the text in any text editing application such as **Notepad** or **Wordpad**.



Tip: You can also invoke the **Plot and Publish Details** dialog box by choosing the **View Details** tool from the **Plot** panel of the **Output** tab.

Data Output by Using the Publishing Option

The **Publish** option in the Application Menu allows the user to generate AutoCAD Map 3D output using various tools and techniques. These data sharing techniques in the **Publish** option are discussed next.

Using the Data by Publishing to Map Server Tool

AutoCAD Map 3D allows user to publish the native DWG file directly to the Autodesk Infrastructure Map Server, without the loss of attribute data or visual styling of the DWG drawing file. This enables the user to share the data quickly and cost effectively through a web browser. To publish a drawing to the AutoCAD Infrastructure Map Server, choose **Publish > Publish to Map Server** tool from the Application Menu; the **Publish to Infrastructure Map Server** dialog box will be displayed. In this dialog box, you can select and configure the schema, classes, and attributes of the drawing to be published. To do so, select the required drawing features in the **Configure DWG Element For** list box and then, choose the browse button next to the **Select Destination Folder** edit box; the **Select Destination Folder** dialog box will be displayed. In this dialog box, enter the address of the map server in the **Connect to site** text box and choose the **Connect** button; the **Connect to Infrastructure Map Server Site** dialog box is displayed. Enter the login credentials in this dialog box and choose the **OK** button. The contents of the map server repository will be displayed in the **Select Destination folder** list box of the **Select Destination Folder** dialog box. Select the folder from the list box and choose the **OK** button; the **Select Destination Folder** dialog box will be closed. In the **Publish to Infrastructure Map Server** dialog box, select the **Show map in web browser after publishing** check box to display the map after publishing. Next, choose the **Publish** button; the map will be published and the default web browser will display the published map.

Using the Send to 3D Print Service Tool

The **Send to 3D Print Service** tool is used to send 3D solid objects or 3D water tight meshes to a 3D printer service. To invoke this tool, choose **Publish > Send to 3D Print Service** from the Application Menu; the **3D Printing - Prepare Model for Printing** window will be displayed. In this window, choose the **Continue** option; the cursor will change into a selection box. Now, you can select 3D objects or water tight meshes by using the selection box. For example, if you select a 3D box object from a drawing by using the selection box and then press ENTER, the **Send to 3D Print Service** dialog box will be displayed, as shown in Figure 2-18.

The 3D objects in the drawing can be selected by using the options in the **Objects** area. To select more objects, choose the **Select objects** button in this area; the **Send to 3D Print Service** dialog box will be closed. Select the required object in the drawing area by clicking on

individual objects or by drawing a selection box. Next, press ENTER; the **Send to 3D Print Service** dialog box will be displayed again. The selected 3D objects will be displayed in the **Output preview** area of this dialog box. Use the zoom controls at the top of the display box to adjust the display extent of the selected 3D objects. The true dimensions of the selected 3D objects will be displayed in the **Output dimensions** area. The **Scale** edit box displays the scale of the selected object. The **Length**, **Width**, and **Height** edit boxes display the length, width, and height of the selected 3D object, respectively. You can change the dimensions in the **Output dimensions** area. Next, choose the **OK** button; the **Create SLT File** dialog box will be displayed. Specify the SLT file name and location in the dialog box and choose the **Save** button to save the file. You need to send this SLT file to the 3D printing service for printing.

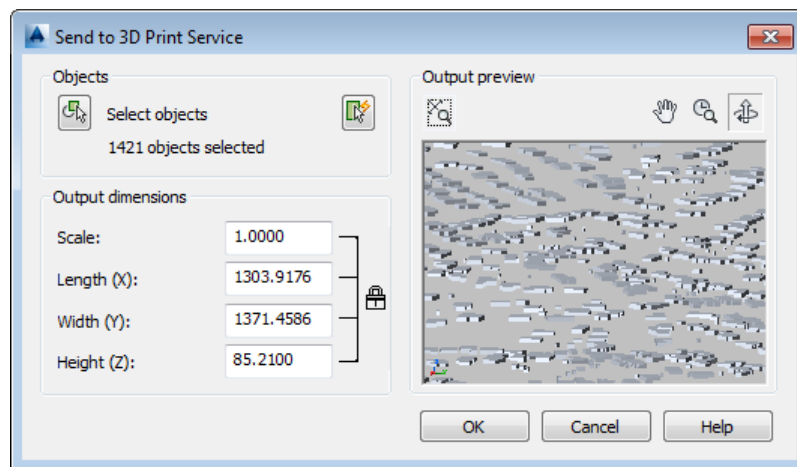


Figure 2-18 The Send to 3D Print Service dialog box displaying a 3D object

Using the Archive Tool

The **Archive** tool is used to store the entire sheet or a part of it. To invoke this tool, choose **Publish > Archive** from the Application Menu; the **Archive a Sheet Set** dialog box will be displayed, as shown in Figure 2-19.

In the **Archive a Sheet Set** dialog box, the **Sheets** tab displays the added sheet set data. The **Files Tree** tab shows the list of files in the sheet set. To add files in the files list of the sheet set, choose the **Files Tree** tab and then choose the **Add File** button located at the lower right corner of the list box; the **Add File to Archive** dialog box will be displayed. In this dialog box, select the required file and choose the **Open** button; the selected file will be added to the list of files. To see details of the files in the sheet set data, choose the **Files Table** tab. Files can be added in this table as well. To do so, choose the **Add a File** button from the lower right corner of the list box; the **Add File to Archive** dialog box will be displayed. In this dialog box, select the required file and choose the **Open** button; the selected file will be added to the list of files.

You can also add notes related to sheet set data in the **Enter notes to include with this archive** text box below the **Sheets** tab in the **Archive a Sheet Set** dialog box. To view details of a sheet set file, choose the **View Report** button; the **View Archive Report** dialog box will be displayed. This dialog box displays the properties of the sheet set such as **Archive Report**, **Sheet Set**,

Files, and **Sheet Set Data File**. To change the setup of the archive, choose the **Modify Archive Setup** button; the **Modify Archive Setup** dialog box will be displayed. In this dialog box, you can modify the archive package type, file format, file location/path, file name, and include options as per your requirement. Choose the **OK** button to apply the settings and close the **Modify Archive Setup** dialog box. Next, choose the **OK** button to close the **Archive a Sheet Set** dialog box; the **Specify Zip File** dialog box will be displayed. Specify the archive file name and location for saving the file in this dialog box. Next, choose the **Save** button; the archive file will be created and saved at the specified location.

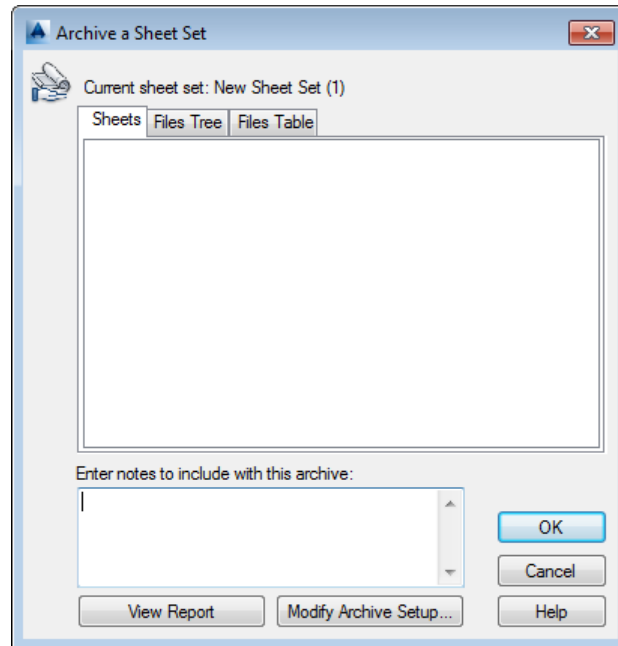


Figure 2-19 The Archive a Sheet Set dialog box

Sending Files as Packages

This is an additional feature available in AutoCAD Map 3D. This option enables you to transfer data files in form of different packages. The different methods for sending the file package through web services are discussed next.

Sending Files by Using the eTransmit Tool

The **eTransmit** tool is used to create a package by adding data and dependent files to it. This package can be transmitted through internet. To create an eTransmit data package, choose **Send > eTransmit** from the Application Menu; the **Create Transmittal** dialog box will be displayed, as shown in Figure 2-20.

By default, the **Files Tree** tab is chosen in the **Create Transmittal** dialog box. To add data files to a package, choose the **Add File** button located at the lower right corner of the **Files Tree** tab; the **Add File to Transmittal** dialog box will be displayed. In this dialog box, select the required file and then choose the **Open** button; the selected file will be displayed in the **Files Tree** list box. To check details of each file added in the package, choose the **Files Table**

list box. You can also add data file by choosing the **Add File** button located at the lower right corner of the **Files Table** list box.

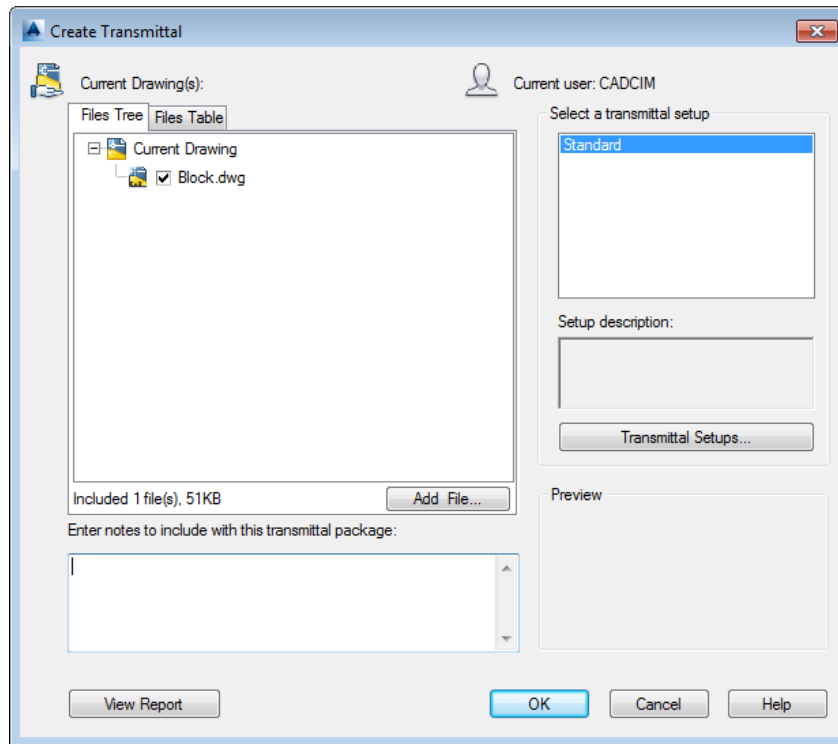


Figure 2-20 The Create Transmittal dialog box displaying an added data file

A list of transmittal setup is available in the **Select a transmittal setup** list box. To apply a transmittal setup to the current drawing, select the required option from the **Select a transmittal setup** list box; the information about the transmittal setup will be displayed in the **Setup description** display box. To create a new setup or modify an existing setup, choose the **Transmittal Setups** button located at the bottom of the **Select a transmittal setup** area; the **Transmittal Setups** dialog box will be displayed. The options in this dialog box are used to create a new transmittal setup or modify an existing transmittal setup. On modifying or creating a new setup, choose the **Close** button in the **Transmittal Setups** dialog box to close it. You can enter the description of the package in the **Enter notes to include with this transmittal package** text box below the **Tree Files** list box. The **Preview** display box shows the preview of the drawing selected in the **Tree Files** or **Files Table** tabs. To read the details of the transmittal package, choose the **View Report** button at the bottom left of the **Create Transmittal** dialog box. After specifying all the required parameters of the transmittal package, choose the **OK** button to create the transmittal package (zip file).

Sending E-mail with Compressed File Attachment

The **Email** tool is used to attach the transmittal package as an attachment with a mail. To use this tool, you must set up the **User profile** using the **Mail** tool in the **Control Panel** of the Windows operating system. After creating the **User profile**, choose **Send > Email** from the

Application Menu; the MS Outlook window with transmittal package zip file attached to the mail will be displayed. You can send this mail as a normal e-mail with an attachment.

UNDERSTANDING THE CONCEPT OF SHEET SETS



A sheet is a layout formed from a drawing file. A sheet set is an organized collection of sheets from several drawing files. A sheet set organizes maps systematically and efficiently by providing easy access to various drawing files. It is very easy to plot and publish all drawings in a sheet set. You can manage and create sheet sets by using the **Sheet Set Manager** window. To invoke the **Sheet Set Manager** window, choose the **Sheet Set Manager** button from the **Palettes** panel in the **View** tab. Alternatively, press the CTRL+4 keys; the **Sheet Set Manager** window will be displayed. In this window, you can set the properties of the sheet set data.

In AutoCAD Map, you can create a sheet set in two different ways by using either an example sheet set or an existing drawing. Both these methods are discussed next.

Creating a Sheet Set by Using an Example Sheet Set

To create a sheet set by using an example sheet set, choose **New > Sheet Set** from the Application Menu; the **Create Sheet Set** wizard will be displayed. By default, the **Begin** page will be displayed in the wizard, as shown in Figure 2-21. Alternatively, to invoke the **Create Sheet Set** wizard, choose the **New Sheet Sets** tool from the **SheetSet** drop-down in the **Sheet Set Manager** window.

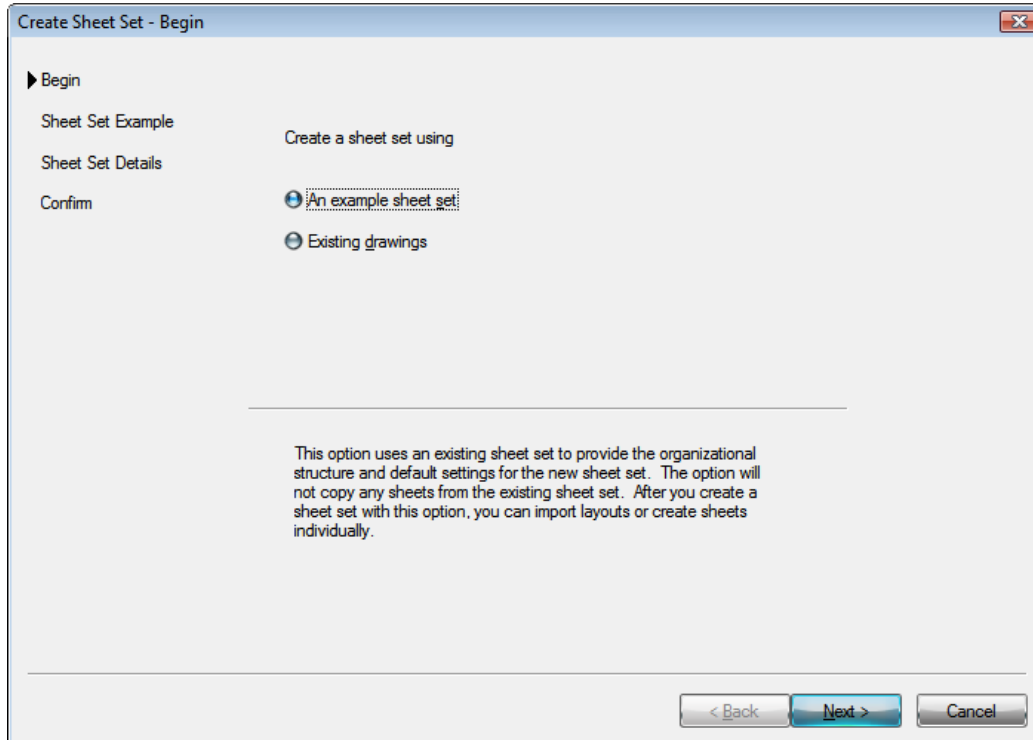


Figure 2-21 The **Begin** page of the **Create Sheet Set** wizard



Tip: You can also use the **NEWSHEETSET** command to invoke the **Create Sheet Set** wizard.

Select the **An example sheet set** radio button from the **Begin** page of the **Create Sheet Set** wizard, and then choose the **Next** button; the **Sheet Set Example** page of the wizard will be displayed, as shown in Figure 2-22.

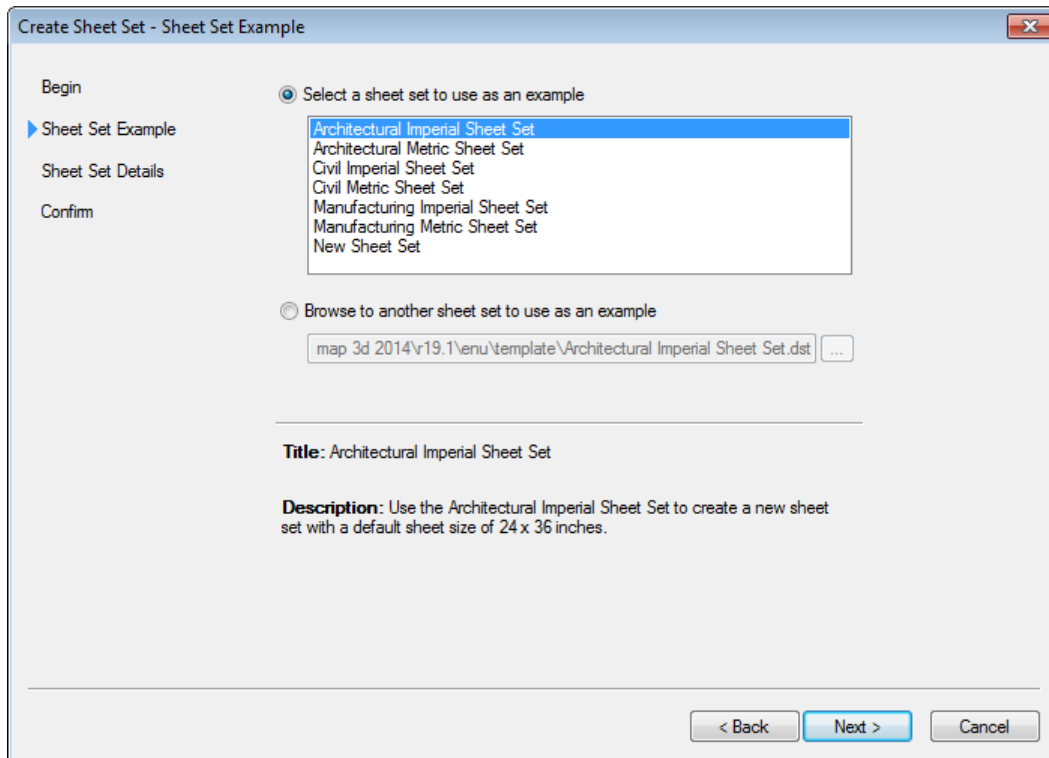


Figure 2-22 The Sheet Set Example page of the Create Sheet Set wizard

In this page, the **Select a sheet set to use as an example** radio button is selected by default. The list box below this radio button displays a list of default sheet sets. By default, **Architectural Imperial Sheet Set** is selected in the list. The title and the description of the selected sheet set are displayed at the lower portion of the **Create Sheet Set** wizard.

You can also select a custom sheet set located in other location. To do so, select the **Browse to another sheet set to use as an example** radio button; the edit box below this radio button will be activated. Next, enter the location of the sheet set in the edit box or choose the browse button next to it; the **Browse for Sheet Set** dialog box will be displayed. Using this dialog box, you can locate the sheet set file, which is saved with the **.dst** extension. After selecting the sheet set file to be used as an example, choose the **Next** button; the **Sheet Set Details** page of the wizard will be displayed, as shown in Figure 2-23.

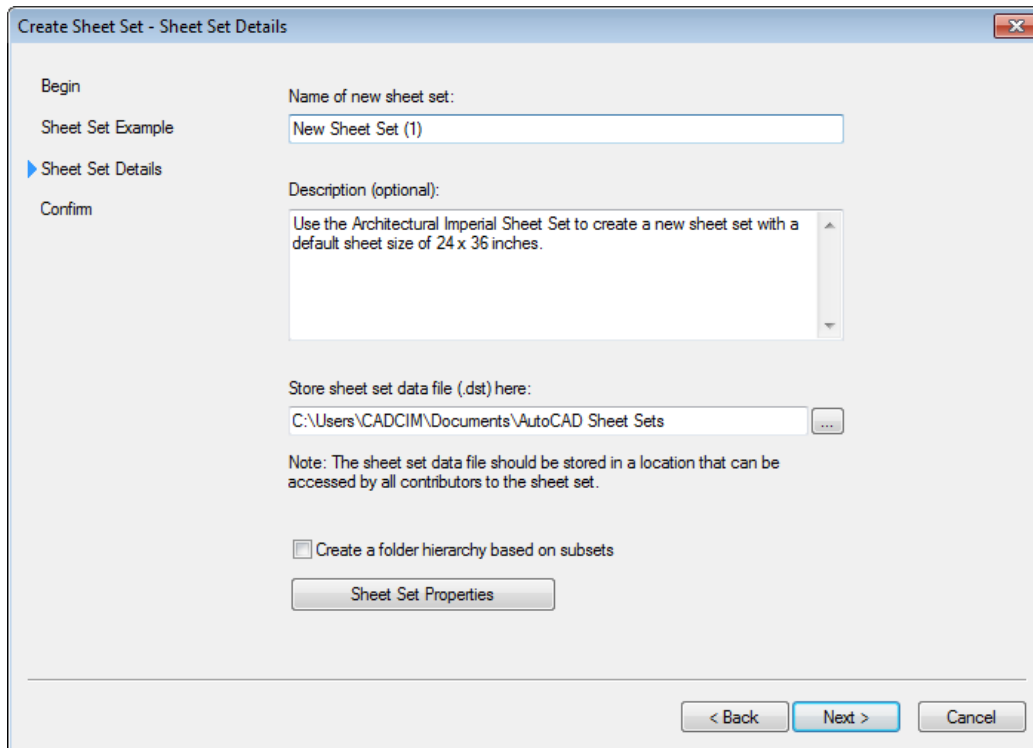


Figure 2-23 The Sheet Set Details page of the Create Sheet Set wizard

Specify the name of the new sheet set in the **Name of new sheet set** edit box. Optionally, you can specify some information about the sheet set in the **Description (optional)** text box. The **Store sheet set data file (.dst) here** edit box displays the location where the sheet set data file will be stored. You can modify the default location by entering a new location or by selecting the folder using the **Browse for Sheet Set Folder** dialog box that is displayed on choosing the browse button.

The sheet set properties such as name, storage location, template, and description can be modified by using the **Sheet Set Properties** button. To do so, choose the **Sheet Set Properties** button from the **Sheet Set Details** page; the **Sheet Set Properties** dialog box will be displayed with the sheet name. To edit the values under the **Sheet Set Custom Properties** head of the dialog box, choose the **Edit Custom Properties** button; the **Custom Properties** dialog box will be displayed. Now, add or delete the required properties and choose the **OK** button to exit this dialog box. Next, choose the **OK** button to exit the **Sheet Set Properties** dialog box. After specifying the parameters in the **Sheet Set Details** page of the **Create Sheet Set** wizard, choose the **Next** button; the **Confirm** page of the wizard will be displayed, as shown in Figure 2-24.

This page shows the detailed structure of the sheet set and also lists its parameters and properties. Choose the **Finish** button; the **Create Sheet Set** wizard will be closed and the **Sheet Set Manager** window will be displayed with the new sheet added to the drop-down list. The **Sheet List** tab of the **Sheet Set Manager** window will display the new sheet structure. To view the sheet, choose the **Sheet List** tab. Next, right-click in the blank space; a shortcut menu will

be displayed. Choose the **Preview/Details Pane** option from the shortcut menu; the **Details** pane will be displayed with the details of the new sheet set. To view the model, choose the **Model Views** tab; the details of the model will be displayed in the **Details** pane. Also, you can add new drawing or folder location in this tab. To do so, choose the **Add New Location** node and right-click; a shortcut menu will be displayed. Choose the **Add New Location** option from the shortcut menu; the **Browse for Folder** dialog box will be displayed. Select the required drawing or folder and choose the **Open** button; the location will be added to the tab.

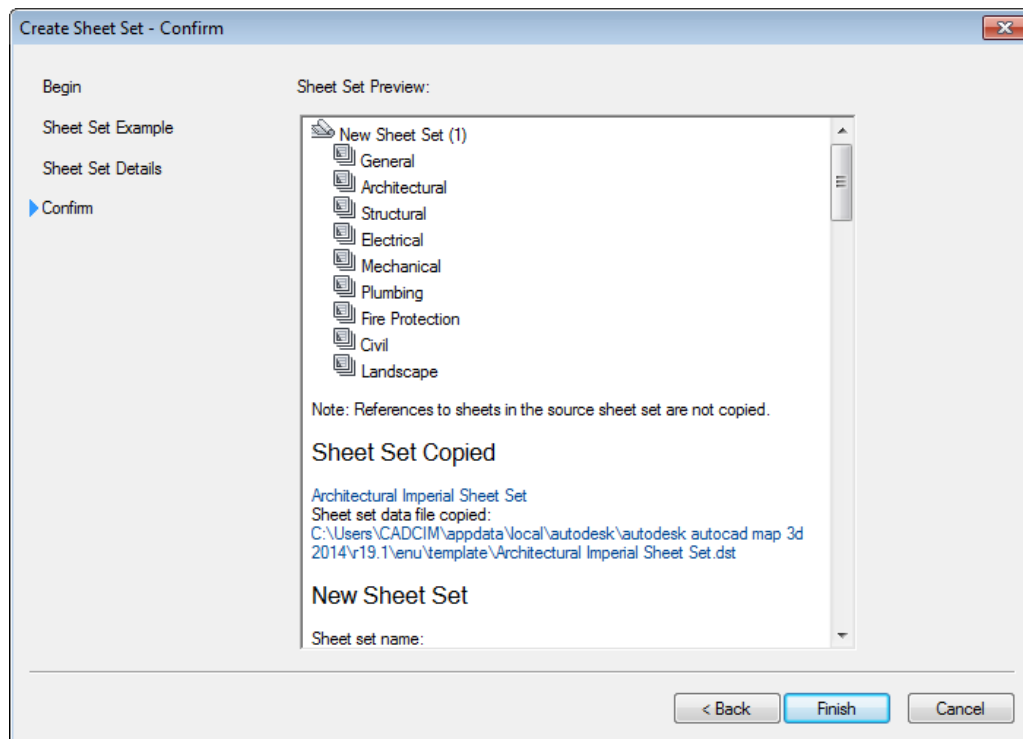


Figure 2-24 The *Confirm* page of the *Create Sheet Set* wizard



Note

The path of the file shown in Figures 2-22, 2-23, and 2-24 may vary from user to user; depending upon the location of the sheet set data saved.

Creating a Sheet Set by Using Existing Drawings

As mentioned earlier, this type of sheet set is used to organize and archive an existing set of drawings. To create this sheet set, select the **Existing drawings** radio button from the **Begin** page of the **Create Sheet Set** wizard and then choose the **Next** button; the **Sheet Set Details** page of the wizard will be displayed. On the **Sheet Set Details** page, enter the name and description of the sheet set. After setting the required parameters on this page, choose the **Next** button; the **Choose Layouts** page will be displayed. Choose the **Browse** button from this page and browse to the folder in which the files to be included in the sheet set are saved. All drawing files along with their initialized layouts will be displayed in the list box below the **Browse** button.

TUTORIALS

General instructions for downloading tutorial files:

Before starting the tutorials, you need to download the tutorial data to your computer. To do so, follow the steps given below:

1. Log on to www.cadcim.com and browse to *Textbooks > Civil/GIS > Map 3D > Exploring AutoCAD Map 3D 2014*. Next, select *c02_map_3d_2014_tut.zip* file from the **Tutorial Files** drop-down list. Next, choose the corresponding **Download** button to download the data file.
2. Extract the contents of the zip file to the following location:

C:\Map3D_2014

Notice that the *c02_map_3d_2014_tut* folder is created in the *Map3D_2014* folder.

Tutorial 1

Using the Connect Tool- I

In this tutorial, you will connect various datasets to your drawing by using the **Connect** tool. (Expected time: 30 min)

The following steps are required to complete this tutorial:



- a. Create a new drawing file.
- b. Load the image and shape files by using the **Connect** tool.
- c. Save the drawing file.

Creating a New Drawing File

1. Choose **New > Drawing** from the Application Menu; the **Select template** dialog box is displayed.
2. In this dialog box, ensure that the **map2d.dwt** template file is selected. Choose the **Open** button; the **map2d.dwt** template settings are applied to the modeling space.

Loading the Data Using the Data Connect Wizard

In this part of the tutorial, you will load dataset to the drawing by using the **Connect** tool.

1. Choose the **Connect** tool from the **Data** panel in the **Home** tab; the **Data Connect** wizard is displayed. 
Connect
2. In the **Data Connect** wizard, select the **Add Raster Image or Surface Connection** option from the **Data Connection by Provider** list box; the **Autodesk FDO Provider for Raster** page will be displayed in the right pane of the wizard.
3. In this page, enter **Base Map** in the **Connection name** edit box, and then choose the button next to the **Source file or folder** edit box; the **Open** dialog box is displayed. 

4. In the **Open** dialog box, browse to the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut01

5. Select the **AustinTX.jpg** file and then choose the **Open** button in this dialog box; the **Open** dialog box is closed. Also, in the **Data Connect** wizard, the **Connect** button is activated and the path of the selected file is displayed in the **Source file or folder** edit box.
6. Next, choose the **Connect** button; the **Raster Image or Surface** page is displayed in the right pane of the wizard, as shown in Figure 2-25.

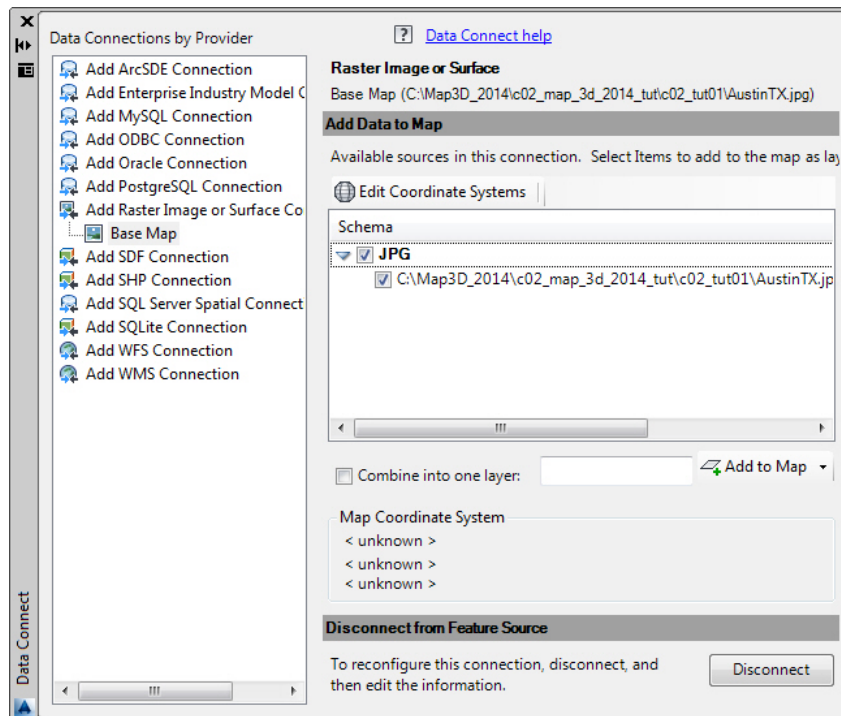
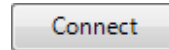
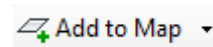


Figure 2-25 The Raster Image or Surface page of the Data Connect wizard

7. Choose the **Add to Map** button; the image file **AustinTX.jpg** is added to the drawing and is displayed in the drawing window. Note that the **AustinTX** layer is added to the list box in the **Display Manager** tab of the **Task Pane**.



Next, you will add SHP data to the drawing using the **Data Connect** wizard. To do so, open the **Data Connect** wizard in case you have closed it.

8. In the **Data Connect** wizard, select the **Add SHP Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for SHP** page is displayed in the right pane of the wizard.

9. Enter **ShapeData** in the **Connection name** edit box. Next, choose the button displayed next to the SHP button from the **OSGeo FDO Provider for SHP** area; the **Browse For Folder** dialog box is displayed.
10. Browse to the *C:\Map3D_2014\c02_map_3d_2014_tut* and then select the *c02_tut01* folder. Next, choose the **OK** button in the **Browse For Folder** dialog box; the dialog box is closed. Also, the path of the selected folder is displayed in the **Source file or folder** edit box and the **Connect** button is also activated in the wizard.
11. Next, choose the **Connect** button; the **SHP** page is displayed in the right pane of the wizard.

Notice that the list box in this page displays the list of all the SHP files available in the selected folder. The coordinate system of the SHP data is also displayed in the list box.

12. Select the check box corresponding to the SHP files **AustinTX_Address**, **AustinTX_BuildingFootprints** and **AustinTX_street** in the list box.
13. Next, choose the **Add to Map** button; the shape files are added into the drawing. Close the **Data Connect** wizard to see the data in the drawing window.
14. The **Display Manager** tab of the **Task Pane** displays the name of the shape data added to the drawing, as shown in Figure 2-26.

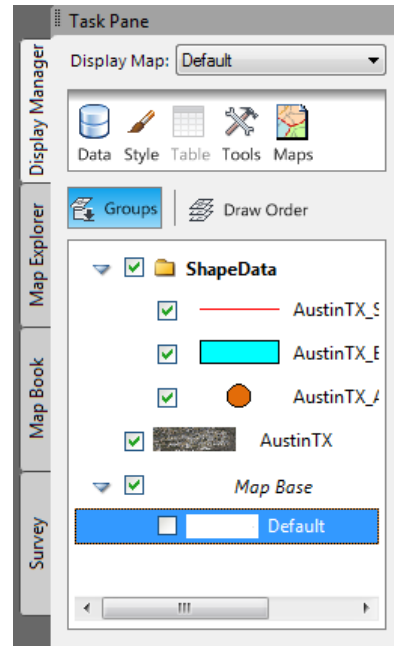


Figure 2-26 The Display Manager tab showing the added SHP file data

Saving the Drawing File

1. Choose the **Save As** tool from the Application Menu; the **Save Drawing As** dialog box is displayed.
2. In the **Save Drawing As** dialog box, browse to the location *C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut01* and enter **c02_Tut01a.dwg** in the **File name** edit box.
3. Choose the **Save** button; the drawing file is saved.

Tutorial 2

Using the Connect Tool - II

In this tutorial, you will connect and load the data from a WMS. You will also query and add vector data to the drawing using the **Connect** tool. (Expected time: 25 min)

The following steps are required to complete this tutorial:


- Create a new drawing file.
- Connect to the link given below using the **Connect** tool.
http://eussoils.jrc.ec.europa.eu/wrb/wms_Threats.asp?
- Add data from WMS and SHP file using the **Connect** tool.
- Save the drawing file.

Creating a New Drawing File

- Choose **New > Drawing** from the Application Menu; the **Select template** dialog box is displayed.
- In the **Select template** dialog box, select the **map2d** template file from the list box below the **Look in** drop-down list, and then choose the **Open** button; the **map2d** template is applied to the modeling space.

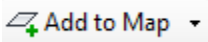
Loading Data from Web Map Service (WMS) Data and SHP File

In this section, you will connect and load data from a web map service using the WMS client in AutoCAD Map 3D.

- Choose the **Connect** tool from the **Data** panel in the **Home** tab; the **Data Connect** wizard is displayed. 
- In the **Data Connect** wizard, select the **Add WMS Connection** option from the **Data Connection by Provider** list box; the **OSGeo FDO Provider for WMS** page is displayed in the right pane of the wizard.
- In this page, enter **WMS_EuropeanSoilPortal** in the **Connection name** edit box. Next, in the **Server name or URL** edit box, enter the link given below:

http://eussoils.jrc.ec.europa.eu/wrb/wms_Threats.asp?
- Ensure that the **Default version** option is selected in the **Version** drop-down list and then choose the **Connect** button; the **User Name & Password** dialog box is displayed.

The selected WMS is a free resource and no login credentials are required to access the data.

- Choose the **Login** button; the **User Name & Password** dialog box is closed and the **Connecting** message box is displayed. On establishing a connection with the web map server, the **WMS** page is displayed in the **Data Connect** wizard. The list box in this page shows various schemas available in the selected WMS, refer to Figure 2-27.
- Select the check boxes corresponding to **Organic carbon content**, **Soil Erosion in t/ha/yr** and **soil pH in Europe** and then choose the **Add to Map** button; Map 3D will communicate with the WMS and add the selected data into the map. 

Schema	Image Format	Server CS Code	Style	Background
WMS_Schema				
<input type="checkbox"/> Soil Threats	png	EPSG:4326	<Default>	<input type="checkbox"/> Transparent
<input type="checkbox"/> Organic carbon c...	png	EPSG:4326	<Default>	<input type="checkbox"/> Transparent
<input type="checkbox"/> Soil Erosion in t/...	png	EPSG:4326	<Default>	<input type="checkbox"/> Transparent
<input type="checkbox"/> soil pH in Europe	png	EPSG:4326	<Default>	<input type="checkbox"/> Transparent
<input type="checkbox"/> Natural Soil Susc...	png	EPSG:4326	<Default>	<input type="checkbox"/> Transparent
<input type="checkbox"/> Saline and Sodic ...	png	EPSG:4326	<Default>	<input type="checkbox"/> Transparent

Figure 2-27 The list of schemas available on the web map server



Note
Loading data from WMS may require some time depending on your internet speed and the volume of data traffic on the web map server.

When the loading process is complete, the map is displayed in the drawing window, as shown in Figure 2-28, and the name of the added layers is displayed in the **Display Manager** tab of the **Task Pane**. You can toggle the display of the layers in the drawing by selecting the check box corresponding to the layer name that you want to display.

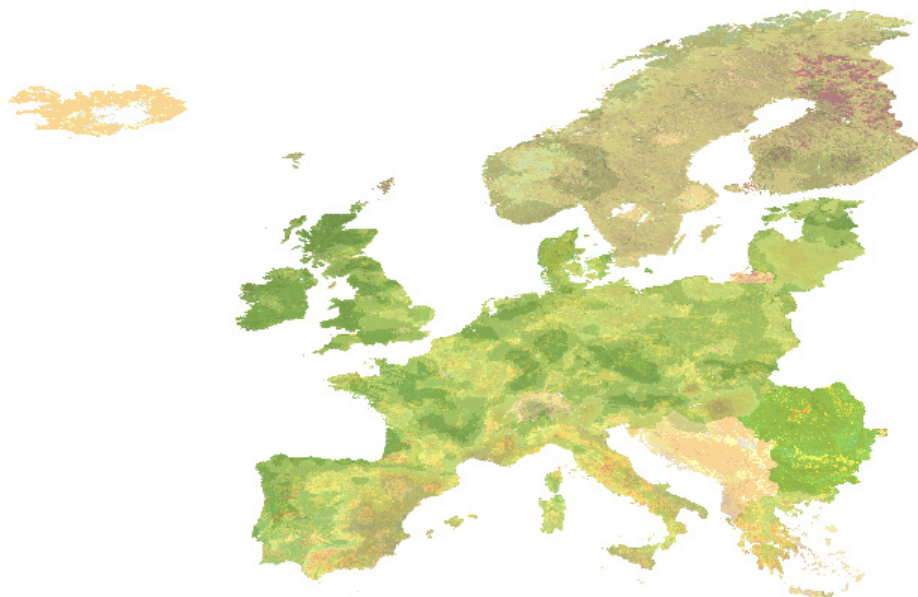


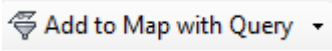


Figure 2-28 The WMS data displayed in the drawing window

Next, you will add the vector map of Europe to your map.

7. In the **Data Connect** wizard, select the **Add SHP Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for SHP** page is displayed in the right pane of the wizard.

8. In this page, enter **Europe** in the **Connection name** edit box. Next, choose the **SHP** button from the **OSGeo FDO Provider for SHP** area; the **Open** dialog box is displayed. 
9. Browse to the *C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut02* and choose the **Country.shp** file.
10. Next, choose the **OK** button in the **Open** dialog box; the dialog box is closed and the path of the selected SHP file is displayed in the **Source file or folder** edit box. Notice that the **Connect** button has also been activated.
11. Next, choose the **Connect** button; the **SHP** page is displayed in the right pane of the wizard. 
12. Choose the **Add to Map with Query** tool from the drop-down displayed below the list box; the **Create Query** window is displayed. 
13. Enter **Continent = 'Europe'** in the edit window, as shown in the Figure 2-29, and choose the **OK** button in the **Create Query** window; the query is executed and the filtered map objects are added to the drawing window. Next, close the **Data Connect** wizard.

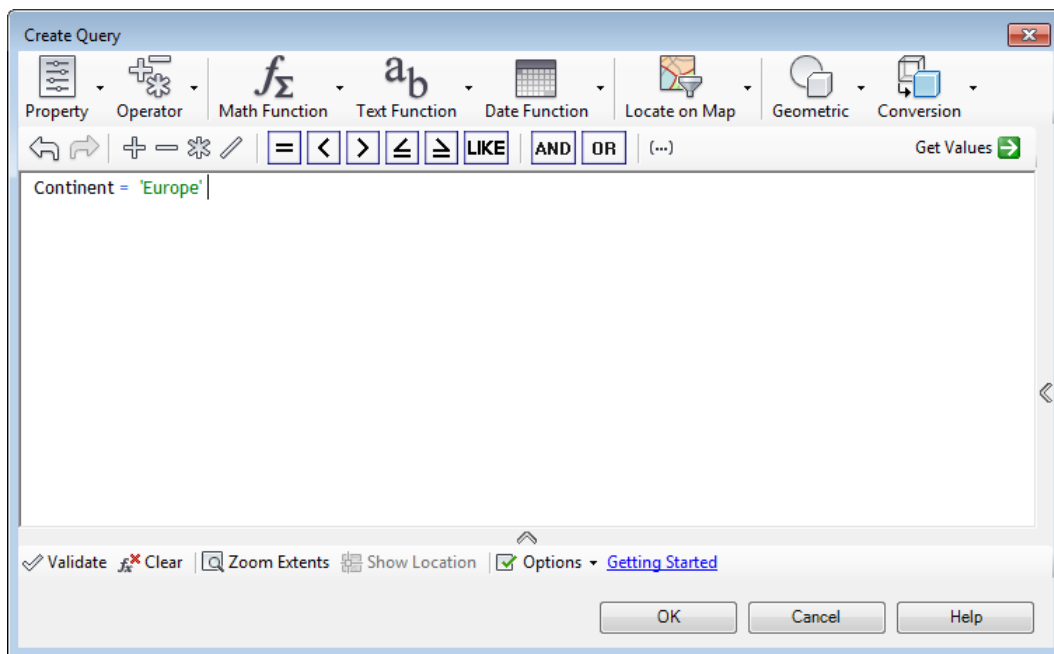


Figure 2-29 The Create Query window displaying the query

Saving and Closing the Drawing File

1. Choose the **Save** tool from the Application Menu; the **Save Drawing As** dialog box is displayed.

2. In this dialog box, enter **c02_Tut02a.dwg** in the **File name** edit box.
3. Select the **AutoCAD 2013 Drawing (*.dwg)** option in the **Files of type** drop-down list located at the bottom of the **Save Drawing As** dialog box, if it is not selected by default.
4. Choose the **Save** button; the drawing file is saved.

Tutorial 3

Using the eTransmit Tool

In this tutorial, you will send drawing files through web services by using the **eTransmit** tool.
(Expected time: 20 min)

The following steps are required to complete this tutorial:

- a. Open the drawing file.
- b. Create a transmittal package by using the **eTransmit** tool.
- c. Send an e-mail with transmittal package attached to it.

Opening the Drawing File

1. Choose the **Open** button from the Quick Access Toolbar; the **Select File** dialog box is displayed.
2. In this dialog box, browse to the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut03

3. Select the **c02_Tut03** file from the **c02_tut03** folder and then choose the **Open** button in this dialog box; the drawing is displayed in the drawing window.

Creating the Transmittal Package by Using the eTransmit Tool

In this section of the tutorial, you will create a zip file (transmittal package) for sharing data.

1. Choose **Send > eTransmit** from the Application Menu; the **eTransmit - Save Changes** message box is displayed prompting you to save the drawing before continuing.
2. Choose the **Yes** button in this message box; the **Create Transmittal** dialog box is displayed, as shown in Figure 2-30.
3. In this dialog box, expand the **Autodesk Spatial Data File** node in the **Files Tree** tab; the files in this node are displayed.
4. Clear the check box corresponding to the **AustinTX_Address.sdf** subnode.
5. Next, expand the **JPEG image** node and make sure that **AustinTX.jpg** is selected.

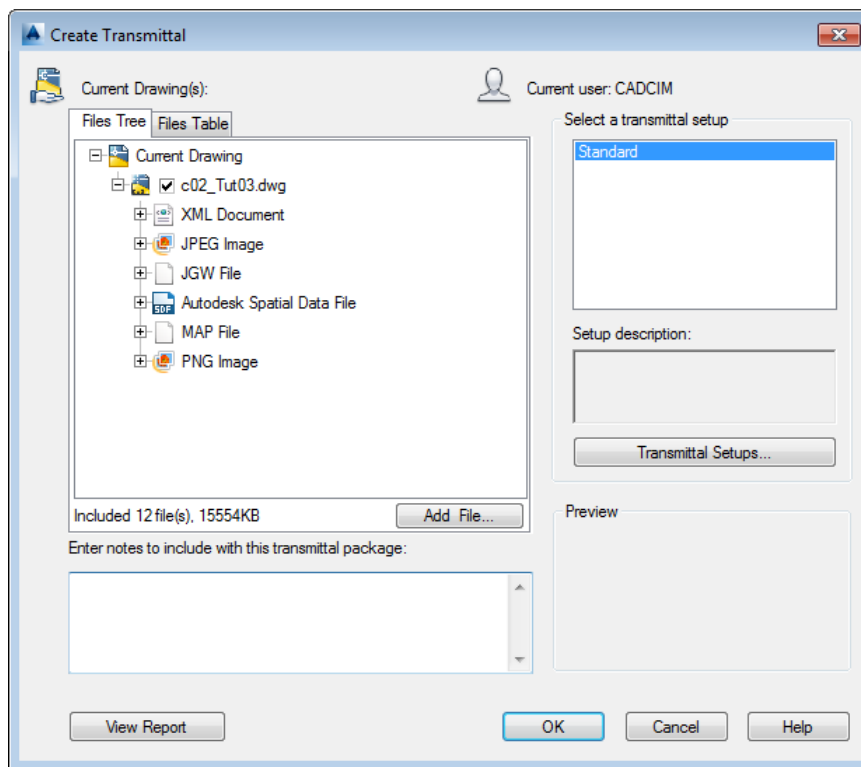


Figure 2-30 The **Create Transmittal** dialog box with files available for transmittal

6. Choose the **OK** button in the **Create Transmittal** dialog box; the **Specify Zip File** dialog box is displayed.
7. In this dialog box, browse to the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut03

8. Enter **c02_Tut03a** in the **File name** edit box and then choose the **Save** button; the **Archive Package Creation is in Progress** message box is displayed showing the progress of the file creation process. On completion of the process, the message box automatically closes and the compressed file is saved in the specified folder.

Sending the E-mail with the Current Drawing File Attached to It

1. Choose **Send > Email** option from the Application Menu, the Microsoft Outlook window will open, refer to Figure 2-31.



Note

To send a file using the **Email** tool in the Application Menu of **AutoCAD Map 3D**, you need to install and configure Microsoft Outlook.

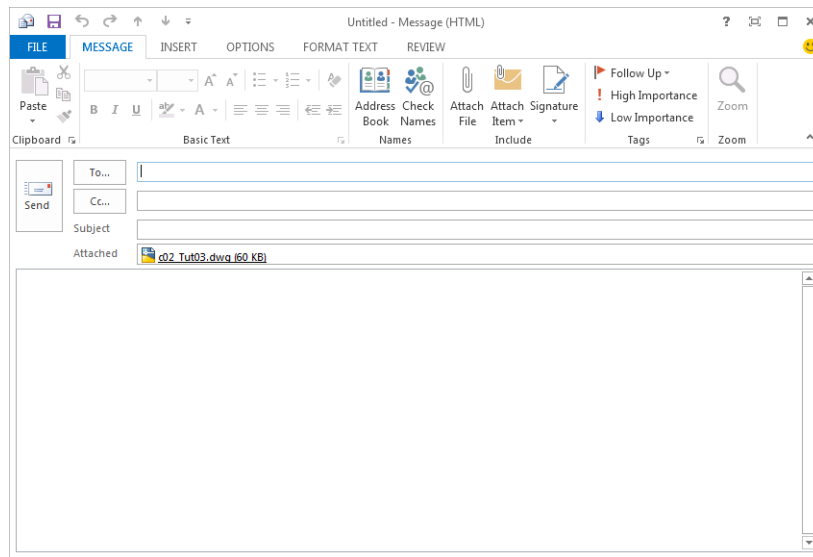


Figure 2-31 The Microsoft Outlook window

2. Enter the email address of the recipients and then send the mail. Close the drawing by choosing **Close** from the Application Menu.

Tutorial 4 Loading Survey Data in the Data Store

In this tutorial, you will load the Ground Control Point (GCP) file or the survey point data by using the **Survey** tab in the **Task Pane**. (Expected time: 30 min)

The following steps are required to complete this tutorial:

- a. Start a new drawing file.
- b. Create a Data Store with the name **Map-3D-2014-Data-Store** and assign a coordinate system.
- c. Import the survey point file.
- d. Save the file.


Starting a New Drawing File

1. Choose **New > Drawing** from the Application Menu; the **Select template** dialog box is displayed.
2. In this dialog box, select the **map2d** template file in the list box below the **Look in** drop-down list, and then choose the **Open** button; the **map2d** template is applied to the modeling space.

Creating a New Data Store

In this section of the tutorial, you will create a survey data store for repositing survey data.

1. Choose the **Survey** tab in the **Task Pane**, if it is not chosen by default.

2. Choose the **Data** button in the **Survey** tab of the **Task Pane**; a pop-up menu is displayed. 
3. In this pop-up menu, choose the **New Survey Data Store** option; the **New Data Store** dialog box is displayed, as shown in Figure 2-32.

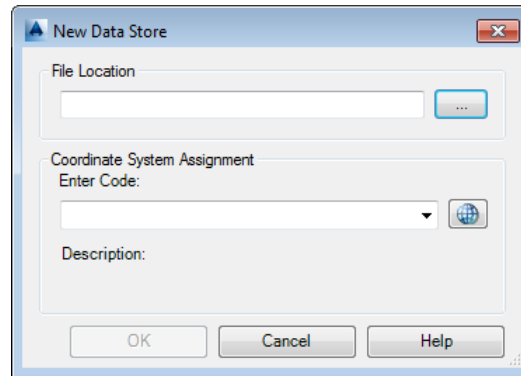



Figure 2-32 The New Data Store dialog box

4. In this dialog box, choose the browse button in the **File location** area; the **Create new Survey Data Store** dialog box is displayed.
5. In this dialog box, browse to the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut04

6. Enter **Map-3D-2014_Data-Store** in the **File name** edit box.
7. Select the **SDF files (*.sdf)** option from the **Save as type** drop-down list, if it is not selected by default.
8. Choose the **OK** button; the **Create new Survey Data Store** dialog box is closed and the path of the file to be saved is displayed in the **File location** edit box of the **New Data Store** dialog box.
9. Next, choose the **Select Global Coordinate** button in the **Coordinate System Assignment** area in the dialog box; the **Coordinate System Library** dialog box is displayed. 
10. In this dialog box, type **zone 43 N** in the **Search** edit box; a list of available coordinate systems for the specified search parameter will be displayed in the list box below the **Search** edit box.
11. In the list box, select the **UTM84-43N** code with the description **UTM-WGS 1984 datum, Zone 43 North, Meter; Cent. Meridian 75d E**, if it is not selected by default.
12. Choose the **Select** button in the dialog box; the **Coordinate System Library** dialog box is closed and the **UTM84-43N** code is displayed in the edit box of the **Coordinate System**

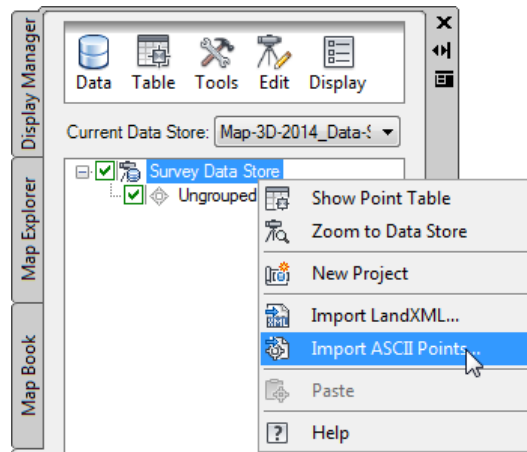
Assignment area in the **New Data Store** dialog box. Also, the coordinate description is displayed below the edit box in the **Coordinate System Assignment** area.

- Next, choose the **OK** button in the **New Data Store** dialog box; the **Map-3D-2014_Data-Store** is created and added to the **Current Data Store** drop-down list in the **Survey** tab of the **Task Pane**. Also, the **Survey Data Store** node is added to the list box in the **Survey** tab of this pane.

Importing the Survey Data into the Survey Data Store.

In this section, you will import the survey data into the survey data store.

- In the **Survey** tab of the **Task Pane**, right-click on the **Survey Data Store** node; a shortcut menu is displayed.
- Choose the **Import ASCII Points** option from the shortcut menu, as shown in Figure 2-33; the **Import ASCII Points** dialog box is displayed.



*Figure 2-33 Choosing the **Import ASCII Points** option from the shortcut menu*

- In this dialog box, choose the browse button in the **File location** area; the **Import ASCII File** dialog box is displayed.
- In the **Import ASCII File** dialog box, select the *CHIK_TotalStation.asc* file from the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut04

- Next, choose the **OK** button; the **Import ASCII File** dialog box is closed. Notice that the path of the selected file is displayed in the **File Location** edit box of the **Import ASCII Points** dialog box. Also, the preview of the selected data is displayed in the **Preview** area, as shown in Figure 2-34.

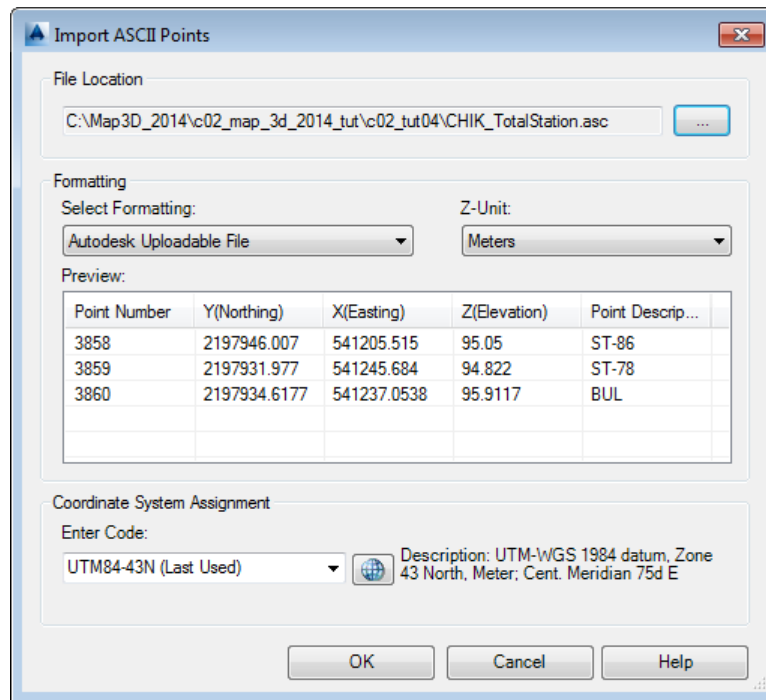


Figure 2-34 The **Import ASCII Points** dialog box displaying the preview of the selected data

6. Choose the **OK** button; the **Import ASCII Points** dialog box is closed and the survey points or the Ground Control Points are displayed in the drawing window, as shown in Figure 2-35.



Note

*If the survey data is not displayed in the drawing window, then right-click on the **Map-3D-2014_Data-Store** vector layer in the **Display Manager** tab of the **Task Pane**; a shortcut menu will be displayed. From this shortcut menu, choose the **Zoom to Extents** option; the survey data will be displayed in the drawing window.*

Saving the Drawing File

1. Choose the **Save As** tool from the Application Menu; the **Save Drawing As** dialog box is displayed.
2. In this dialog box, enter **c02_Tut04a.dwg** in the **File name** edit box.
3. Select the **AutoCAD 2014 Drawing (*.dwg)** option in the **Files of type** drop-down list located at the bottom of the **Save Drawing As** dialog box, if it is not selected by default.
4. Choose the **Save** button; the drawing file is saved.

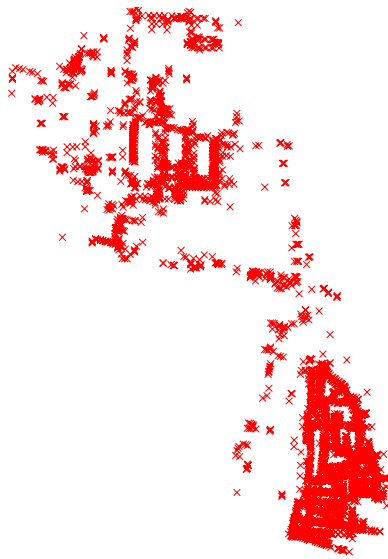


Figure 2-35 The Ground Control Points displayed in the drawing window

Tutorial 5

Exporting DWG data as SDF data

In this tutorial, you will export the DWG data from the AutoCAD drawing file to SDF data format. **(Expected time: 45 min)**

The following steps are required to complete this tutorial:

- Open a drawing file with the name *Map3d_c02_Tut05.dwg*.
- Create and export the drawing objects as SDF feature classes using the **MADDWGTOSDF** command.
- Start a new drawing file
- Explore the exported SDF file.
- Save the file as *c02-map3d-2014-tut05a.dwg*.

Opening the Drawing File

- Choose **Open > Drawing** from the Application Menu; the **Select file** dialog box is displayed.
- In the **Select file** dialog box, select the **Map3d_c02_Tut05.dwg** file from the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut05

- Next, choose the **Open** button; the drawing file is displayed in the drawing window.

Creating Feature Classes

In this section, you will create a set of feature classes using the drawing objects from the drawing file.

1. Enter the command **MAPDWGTOSDF** in the command line and press ENTER; the **Export Location** dialog box is displayed.
2. In this dialog box, enter **New SDF File** in the **File name** edit box. Next, browse to the following location:

C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut05

3. Now, choose the **OK** button; the dialog box is closed and the **Export** dialog box is displayed with the **Selection** tab chosen, as shown in Figure 2-36.

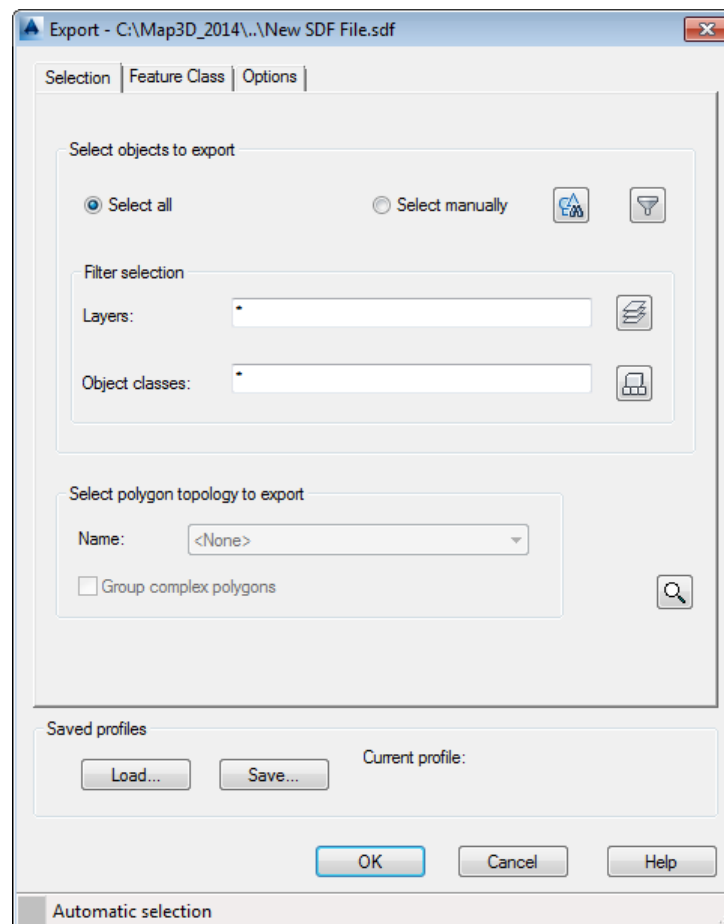



Figure 2-36 The **Export** dialog box with the **Selection** tab chosen

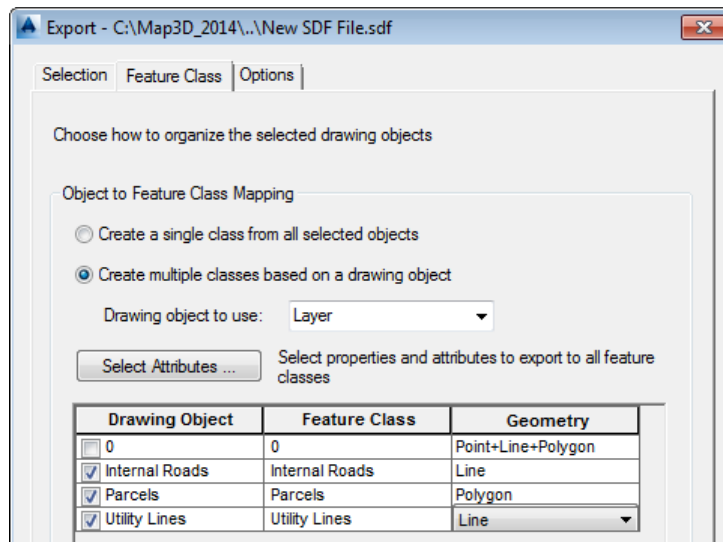
4. In the **Select objects to export** area of the **Selection** tab, choose the **Select manually** radio button.
5. Next, choose the button next to the **Select manually** radio button; the **Export**  dialog box closes and you are prompted to select objects to be exported.
6. Draw a selection box in the drawing window to select all the drawing objects. Press ENTER to end selection; the **Export** dialog box is displayed again.

The objects for creating SDF data have now been selected. Next, you need to specify how these objects will be mapped in the SDF data.

7. Choose the **Feature Class** tab in the **Export** dialog box. In the **Object to Feature Class Mapping** area of this tab, select the **Create multiple classes based on a drawing object** radio button.

Note that all the layers in the drawing are displayed in the list box.

8. Next, clear the check box corresponding to **0** drawing object in the **Export** dialog box.
9. Click in the **Geometry** cell corresponding to the **Internal Road** drawing object; a drop-down list will be displayed.
10. Next, select the **Line** option from this drop-down list.
11. Repeat the procedure given in steps 9 and 10, and select the **Polygon** and **Line** geometry options for the **Parcels** and **Utility Lines** drawing object respectively, refer to Figure 2-37.



*Figure 2-37 The partial view of the **Export** dialog box showing the geometry option selected for the drawing object*

12. Choose the **Select Attributes** button in the **Export** dialog box; the **Select Attributes** dialog box is displayed. Expand the node **Object Properties > AcDbEntity > General**. Select the check box corresponding to the **Color**, **Linetype**, and **Lineweight** options, refer to Figure 2-38.

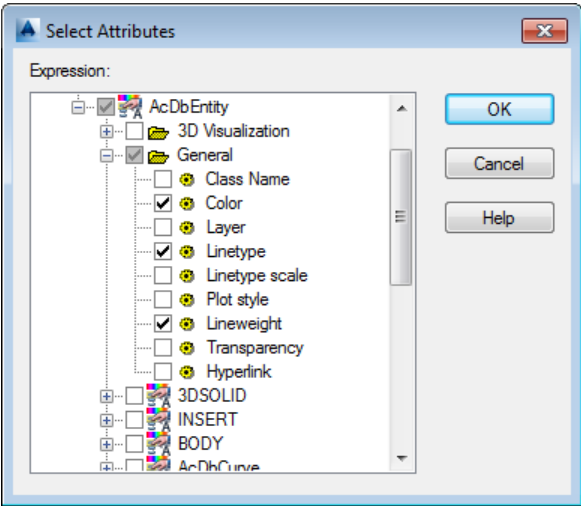


Figure 2-38 The Select Attributes dialog box showing various options selected

13. Next, choose the **OK** button; the dialog box is closed.
14. Next, click on the **Internal Roads** cell of the **Feature Class** column in the table; a browse button is displayed in the cell, as shown in Figure 2-39.

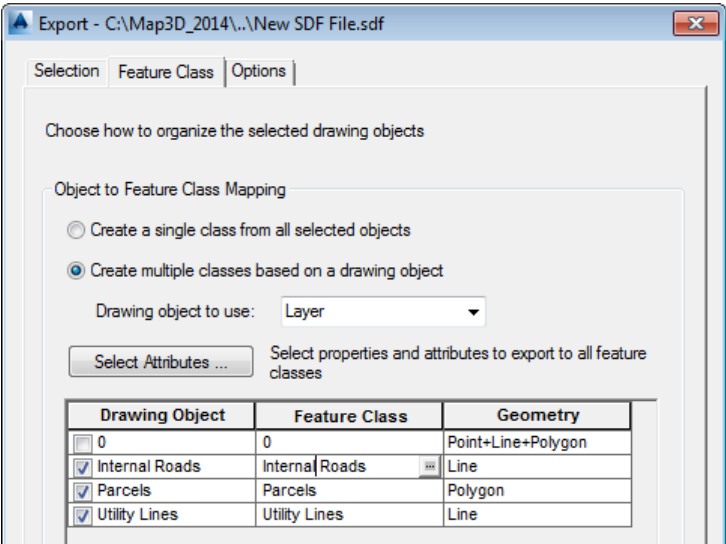


Figure 2-39 The partial view of the Export dialog box showing the browse button displayed in the Internal Roads cell

15. Choose the displayed browse button; the **Feature Class Property Matching - Internal Roads** dialog box is displayed.
16. In this dialog box, choose the **Select Attributes** button; the **Select Attributes** dialog box is displayed. In this dialog box, expand the **Object Data** node and then select the **Roads** check box.
17. Now, choose the **OK** button; the **Select Attributes** dialog box is closed. Note that the data columns in the Roads object data table are displayed in the **Feature Class Property Matching - Internal Roads** dialog box.
18. Next, choose the **OK** button from the **Feature Class Property Matching - Internal Roads** dialog box; the dialog box is closed.
19. Repeat the procedure given in steps 14 to 18 and create feature classes for the **Parcels** and **Utility Lines**. In the **Select Attributes** dialog box, select the **Parcels** check box for the **Parcels** feature class and the **Waterlines** check box for the **Utility Lines** feature class.


The drawing objects are now mapped to the feature class. Now, you will need to specify the options for exporting.

20. Choose the **Options** tab in the **Export** dialog box. In the **Other** area of this tab, select the **Treat closed polylines as polygons** check box.
21. Next, choose the **OK** button; the **Export** dialog box is closed and the **Export Process** message box is displayed showing the progress of data being exported.

Starting a New Drawing File

1. Choose **New > Drawing** from the Application Menu; the **Select template** dialog box is displayed.
2. In the **Select template** dialog box, select the **map2d** template file in the list box below the **Look in** drop-down list, and then choose the **Open** button; the **map2d** template is applied to the modeling space.

Exploring the Exported SDF file

1. Choose the **Connect** tool from the **Data** panel in the **Home** tab; the **Data Connect** wizard is displayed.
2. In the **Data Connect** wizard, select the **Add SDF Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for SDF** page is displayed in the right pane of the wizard.
3. In this page, enter **New SDF** in the **Connection name** edit box, and then choose the browse button next to the **Source file** edit box; the **Open** dialog box is displayed. 

4. In the dialog box, browse to the location `C:\Map3D_2014\c02_map_3d_2014_tut\c02_tut05` and select **New SDF File**. Next, choose the **Open** button from this dialog box; the path of the selected file is displayed in the **Source file** edit box.
5. Choose the **Connect** button; the **SDF** page is displayed in the right pane of the wizard.
6. Next, select the **Schema1** check box in this page and then choose the **Add to Map** button; the **New SDF file** is displayed in the drawing window. Figure 2-40 shows the **Display Manager** tab of the **Task Pane** with the SDF data file. Next, close the **Data Connect** wizard.

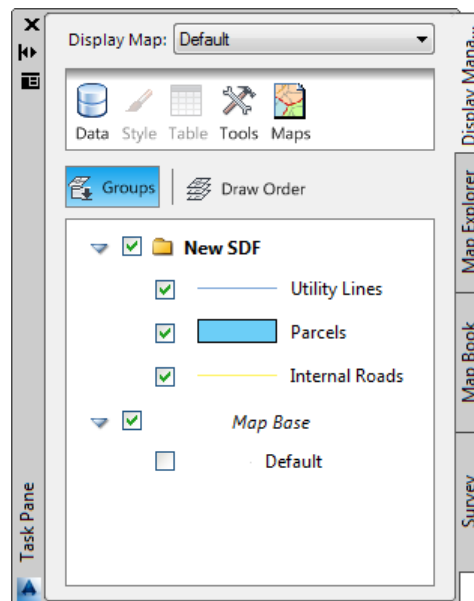


Figure 2-40 The Display Manager tab in the Task Pane

Saving and Closing the Drawing File

1. Choose the **Save As** tool from the Application Menu; the **Save Drawing As** dialog box is displayed.
2. In the **Save Drawing As** dialog box, enter `c02_tut05a.dwg` in the **File name** edit box.
3. Choose the **Save** button; the drawing file is saved.

Self-Evaluation Test

Answer the following questions and then compare them to those given at the end of this chapter:

1. Which of the following data connections is used to access Autodesk's spatial data format?
 - (a) **Add SDF Connection**
 - (b) **Add SHP Connection**
 - (c) **Add WFS Connection**
 - (d) **Add WMS Connection**
2. Which of the following tabs in the **Task Pane** displays the layer of the feature data in the map?
 - (a) **Survey**
 - (b) **Map Book**
 - (c) **Display Manager**
 - (d) **Map Explorer**
3. Which of the following tools in the Application Menu is used to edit or modify the settings of the added plotters?
 - (a) **Plot Preview**
 - (b) **Plot**
 - (c) **Page Setup**
 - (d) **Manage Plotters**
4. Which of the following tools in the **Map Setup** tab is used to assign the coordinate system to the drawing?
 - (a) **Define**
 - (b) **Assign**
 - (c) **Attach**
 - (d) **Connect**
5. Which of the following data connections is used to access the shape file format?
 - (a) **Add SDF Connection**
 - (b) **Add SHP Connection**
 - (c) **Add WFS Connection**
 - (d) **Add WMS Connection**
6. You can load the survey Ground Control Points by using the _____ tab from the **Task Pane**.
7. You can use the tools in the _____ panel of the **Insert** tab to bring the data into your map.
8. The _____ tool in the Application Menu creates a zip file of the drawing and its dependences.
9. The _____ tool in the Application Menu is used to publish drawings in the Autodesk Infrastructure Map Server.
10. Using the _____ option in the **Data Connect** wizard, you can filter data that is to be added to the map.

11. You can create a sheet set by using an example sheet set or by using the existing drawings. (T/F)
12. You can load various datasets such as raster, vector, and database file into the Workspace by using the **Connect** tool. (T/F)
13. You can use the **Display Manager**, **Map Explorer**, **Map Book**, or **Survey** tab to create a new survey data store. (T/F)
14. The **Page Setup** tool is used to set the properties of the plotting device, paper size, and page layout for plotting. (T/F)
15. You can publish data to the online server using the tools in the **Publish** option of the Application Menu. (T/F)

Review Questions

Answer the following questions:

1. Which of the following tools in the **Output** tab of the ribbon is used to publish drawings using plotters?
 - (a) **Preview**
 - (b) **Plot**
 - (c) **Page Setup Manager**
 - (d) **Plotter Manager**
2. Which of the following tools in the **Home** tab is used to attach a drawing file to the current drawing?
 - (a) **Export**
 - (b) **Assign**
 - (c) **Attach**
 - (d) **Connect**
3. To insert a georeferenced image into the drawing space, use the _____ tool from the **Image** panel of the **Insert** tab.
4. To export data to several external file formats, use the _____ option from the Application Menu.
5. You can set the printing and plotting settings as per the user requirement. (T/F)
6. Using the **Connect** tool, you can combine raster data and vector data. (T/F)
7. You can use the **Connect** button in the **Map Explorer** tab of the **Task Pane** as an alternative to the **Connect** tool in the ribbon. (T/F)
8. The coordinate system used for conducting survey can be different from the one used in the drawing window. (T/F)

9. A drawing file can be saved with only *.dwg extension. (T/F)
10. You can create a new sheet style using the options in the **Sheet Set Manger** window. (T/F)

Exercises

Exercise 1

Loading Shape File

Download the **c02_exr01** folder from *www.cadcim.com* and then load the *Municipal.shp* shape file from the downloaded folder by using the **Connect** tool. Next, save the file as a drawing file. Create a transmittal file using the **eTransmit** tool. (Expected time: 45 min)

Exercise 2

Loading Survey Data

Download the **c02_exr02** folder from *www.cadcim.com*. Next, create a survey data store and then load the *c02-map3d-2014-exr02.txt* file from the folder **c02_exr02** into the modelspace by using the options in the **Survey** tab. (Expected time: 30 min)

Exercise 3

Exporting drawing As SDF

Download the **c02_exr03** folder from *www.cadcim.com*. Next, open the *c02-map3d-2014-exr03.dwg* file from the **c02_exr03** folder. Use the **MAPDWGTOSDF** command to export the file out as an SDF file. Save the file with the name **c02-map3d-2014-exr03a**. (Expected time: 30 min)

Answers to Self-Evaluation Test

1. a, 2. c, 3. d, 4. b, 5. b, 6. Survey, 7. Import, 8. eTransmit, 9. Publish to Map Server, 10. Add to Map with Query, 11. T, 12. T, 13. F, 14. T, 15. T