Chapter 2

Getting Started with AutoCAD Map 3D 2012





Learning Objectives

In this chapter, you will learn to:

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

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INTRODUCTION

In this chapter, you will learn how to open a new AutoCAD drawing file by using general AutoCAD procedures. You will also understand how to load datasets with different file formats into the Workspace. In addition, you will learn how to use the **Data Connect** tool to load spatial data in different formats such as SHP, SDF, and so on into the modeling space.

In this chapter, you will also learn to use various tools in the **Drawing Utilities** of the Application Menu for setting the properties such as file name, measuring units, length, and so on of a drawing file. It also discusses how to recover the maximum data from a damaged or distorted file and retrieve details about how much part of the data has been recovered from the damaged file.

Further, the chapter describes in detail how to create a standard sheet set using an example sheet set and add various elements of drawings to the sheet set from an existing sheet set template file. Also, you will study different methods of data output in AutoCAD Map 3D such as saving, printing, plotting, and publishing a map file. Moreover, you will learn various procedures for exporting the drawing file into a desired file format.

STARTING A NEW DRAWING FILE

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, if it is not selected by default. Next, select the **map2d** file from the list of drawing templates in the **Template** folder, refer to Figure 2-2. Choose **Open** to apply template settings to your drawing. On doing so, you will enter the 2D map building mode. Similarly, you can select other drawing templates for mapping based on your project requirement.

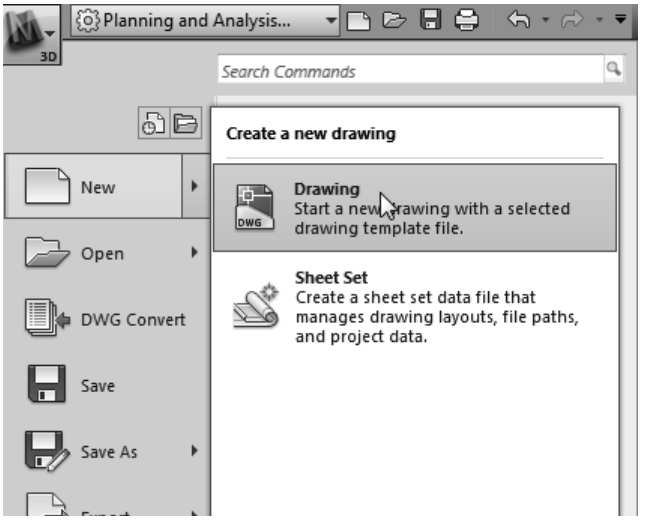

Figure 2-1 *Choosing the* ***Drawing*** *option from the Application Menu*

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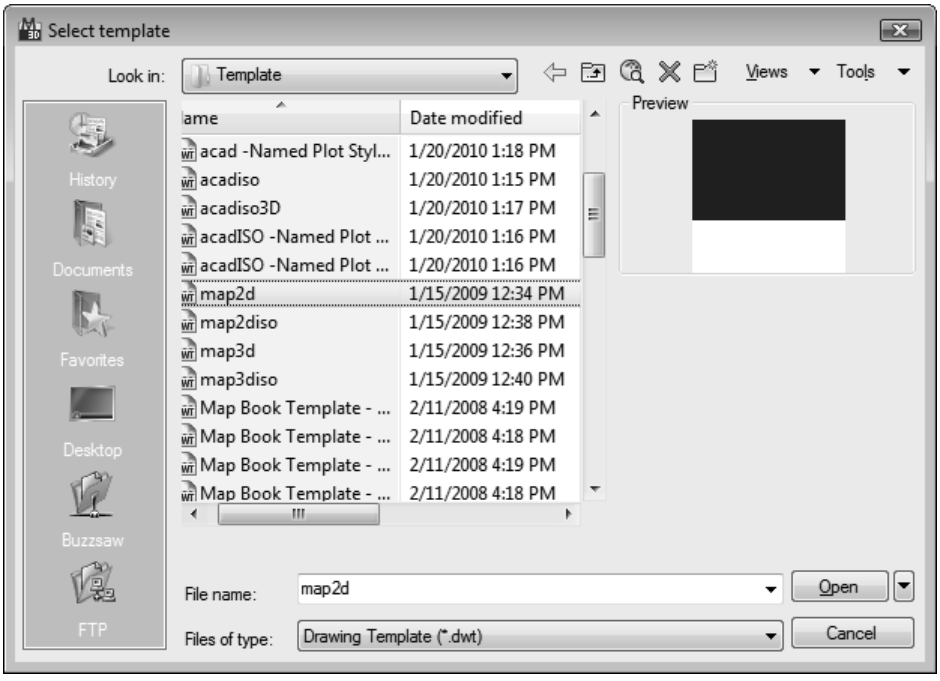

Figure 2-2 *The* ***Select template*** *dialog box displaying the selected* ***map2d*** *drawing template*

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

DATA INPUT METHODS

In AutoCAD Map 3D, you can input the drawing and GIS data into current drawing by using various methods. This software application enhances the accuracy of mapping processes by providing more options to load different data types. Various data types and data models that were discussed in the previous chapter, can be loaded into the Workspace by using these data input methods. These methods are discussed next.

Inputting Drawing Data by Opening an AutoCAD File

Ribbon:	Home > Data > Connect
Task Pane:	Display Manager > Data > Connect to Data

You can input data into the Workspace by opening an AutoCAD drawing file with different file formats. 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. This dialog box is used to open the file with any one of these extensions such as **.dwg*, **.dws*, **.dxf*, or **.dwt*. To do so, select the required extension from the **Files of type** drop-down list. Then, browse to the appropriate folder containing the required file by using the **Look in** drop-down list. Once you open the preferred folder, which contains the required data file, select the data file and then choose the **Open** button; the content of the selected file will be displayed in the Drawing Window.

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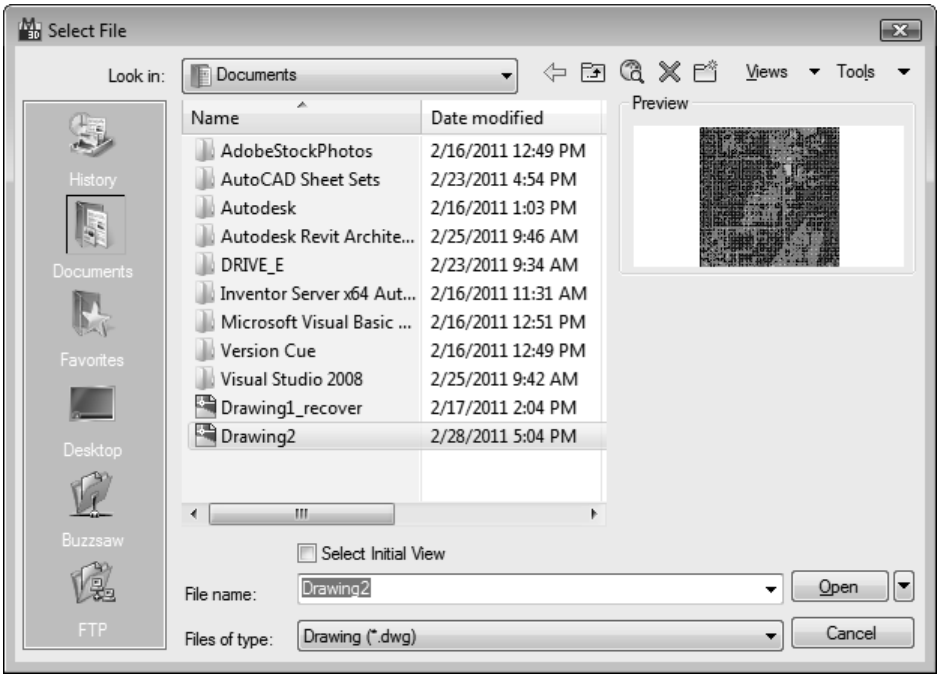

Figure 2-3 *The* ***Select File*** *dialog box*

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 provided in AutoCAD Map 3D. By using this tool, you can connect raster files, data files, databases, DTMs, and other type of data to the Workspace. The flow diagram in Figure 2-4 shows the data flow diagram displaying the use of the **Connect** tool. It is clearly indicated from the diagram that you can load data with different file formats by using the **Connect** tool. Different datasets such as vector data, raster data, open geospatial data source, and so on can be combined into one

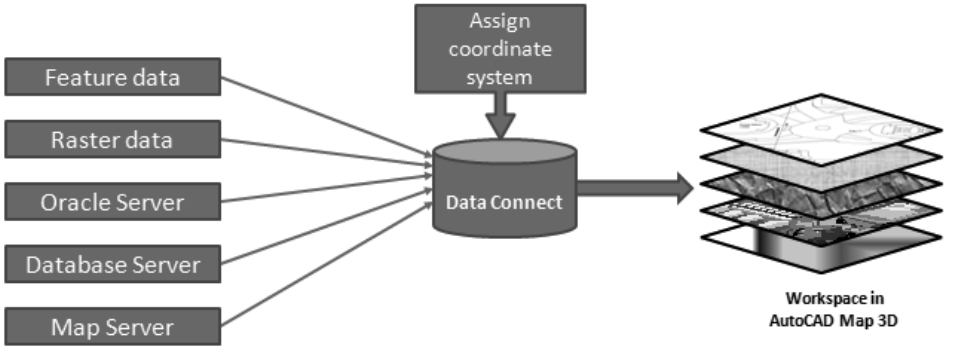

Figure 2-4 *The data flow diagram displaying the use of the* ***Connect*** *tool*

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 connecting FDO data into the AutoCAD Map 3D Workspace is discussed next.

You can connect various types of GIS data to current drawing by using the **Data Connect** wizard. To do so, choose the **Connect** tool from the **Data** panel; the **Data Connect** wizard will be displayed, as shown in Figure 2-5. Alternatively, you can invoke this tool 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.

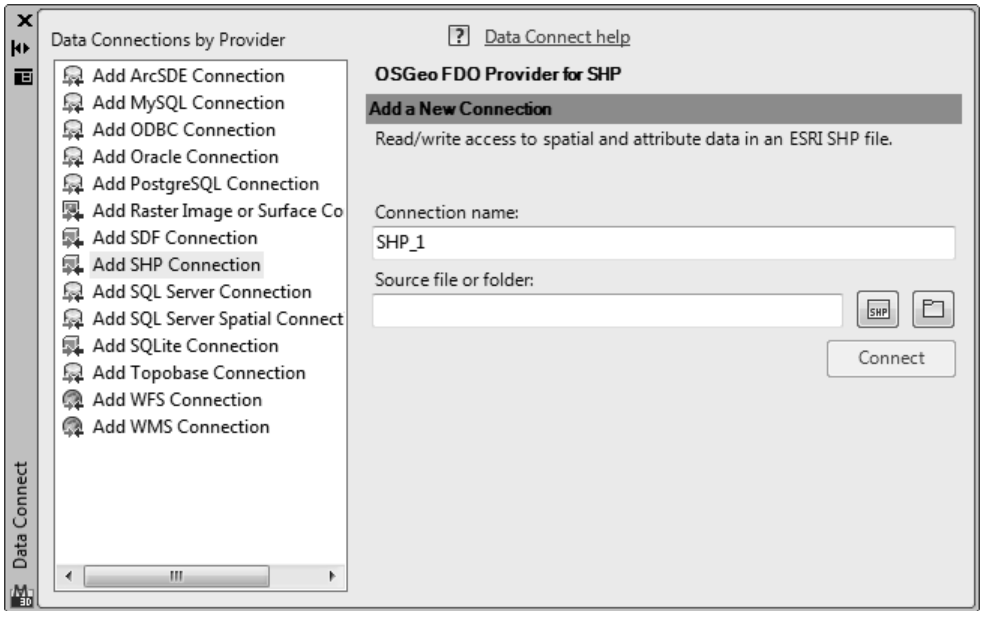

Figure 2-5 *The* ***Data Connect*** *wizard with the default option chosen*

In this wizard box, add a dataset into the Workspace by selecting an option from the **Data Connections by Provider** list box; the data loading page will be displayed. You can use various options in this page to load 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. Enter the name of the connection in the **Connection name** edit box and enter the path of the file or folder in the **Source file or folder** edit box; the **Connect** button will become active.

After browsing to the file or folder containing the required data, you can connect the data file/s in the source file or folder to the current workspace by choosing 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. If data is not referenced, you can add the coordinate system manually. To do so, choose the **Edit Coordinate System** button at the top of the source data list box and then specify a coordinate system to georeference the data. The process of georeferencing the data to a particular coordinate system is discussed in the next chapter. After georeferencing

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the data, add data to the map by selecting the check box corresponding to the data file. Then, add the map data to the Workspace by using the **Add to Map** or **Add to Map with Query** option from the **Add to Map** drop-down list. The added vector data will appear in the Drawing Window and the layers will be displayed in the **Display Manager** list box. Next, select the added layer in the **Display Manager** list box, and then right-click on the feature selected; a shortcut menu will be displayed. Now, choose the **Zoom to Extents** option from the shortcut menu; the added layers will be displayed in the Drawing Window.

Tip: *You can also use the browse buttons next to the **Source file or folder** edit box to locate the raster image. To do so, you can either choose the **File Browser** button to locate and select the raster image or choose the **Folder Browser** button to locate and select the folder containing the raster image/s.*

Loading Data by Using the Map Explorer Tab

You can load drawing data by using the options in the **Map Explorer** tab. 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; the options in the **Map Explorer** tab will be displayed, as shown in Figure 2-6. 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.

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

Generally, the drawing data is not visible in the Drawing Window. To display drawing data, right-click on the data file name in the **Map Explorer** list box; a shortcut menu will be displayed. Next, choose the **Edit Connection** option from the shortcut menu; the **Data Connect** wizard will be displayed. In this wizard, set the coordinate system suitable for the dataset and choose the **Add to Map** button; the newly added data will be displayed in the Drawing Window.

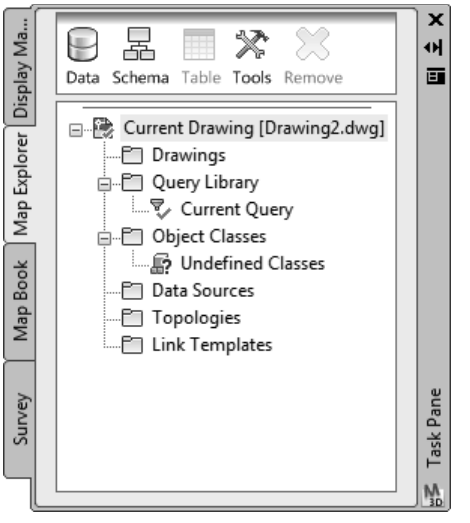

***Figure 2-6** The **Task Pane** with the **Map Explorer** tab chosen*

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 folder** 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** folder. Select a drawing file and right-click; 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.

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Importing GCP Data by Using the Survey Tab



You can import the Ground Control Point data or the survey data into the Workspace by using the **Survey** tab in the **Task Pane**. To load data, choose the **Data** button in the **Survey** tab and then choose the **New Survey Data Store** button from the flyout displayed; the **New Data Store** dialog box will be displayed, as shown in Figure 2-7. 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 the **Create new Survey Data Store** dialog box, browse to required location and specify a name for the new data store in the **File name** edit box and then choose the **Save** button; the **Create new Survey Data Store** dialog box will be closed. In the **Coordinate System Assignment** area of the **New Data Store** dialog box, select a suitable Global Coordinate System, 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 dialog box; the survey data store will be created and added to the **Survey** list box. Also, the newly created data store will appear in the **Display Manager** list box. Select the newly created layer from the **Display Manager** list box in the **Task Pane**, right-click on it, and then choose the **Zoom to Extents** option from the shortcut menu displayed; the survey data will be displayed in the Drawing Window.

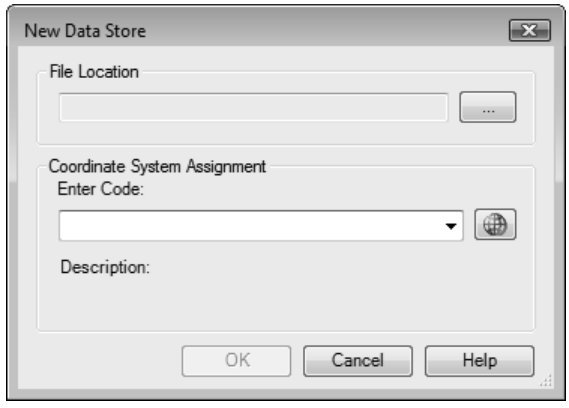

Figure 2-7 *The* ***New Data Store*** *dialog box*

Loading Raster Images by Using the Ribbon and the Task Pane

Ribbon: Insert > Image > Image
Command: MAPIINSERT



You can load raster images into the Drawing Window by using the Ribbon. To do so, choose the **Image** tool from the **Image** panel; the **Insert Image** dialog box will be displayed, as shown in Figure 2-8. Now if the **Preview** display box is not displayed in this dialog box, choose the **Information** button at the bottom to display it. Select the required raster file; the file information of the selected raster file will be displayed in the **Preview** display box and the data information will be displayed on the right of the display box. To hide or display the **Preview** display box as well as the data information, choose the **Information** button and then choose the **Open** button; the **Insert Image** dialog box will be closed and the **Image Correlation** dialog box will be displayed.

In the **Image Correlation** dialog box, choose the **Source** tab, if it is not chosen by default. Enter the coordinates of the raster image source point (x,y,z) in the **X**, **Y**, and **Z** edit boxes. To add an angle of image rotation with respect to the lower left corner as the base line, enter the angle value in the **Rotation** edit box. To adjust the scale of the raster image, enter a value in the **Scale** edit box. The **Density** display box shows the pixel density of the image. The option in the **Units for Insertion Point and Density** area is used to change the measuring units of the image. To do so, select the required measuring unit from the **Units** drop-down list.

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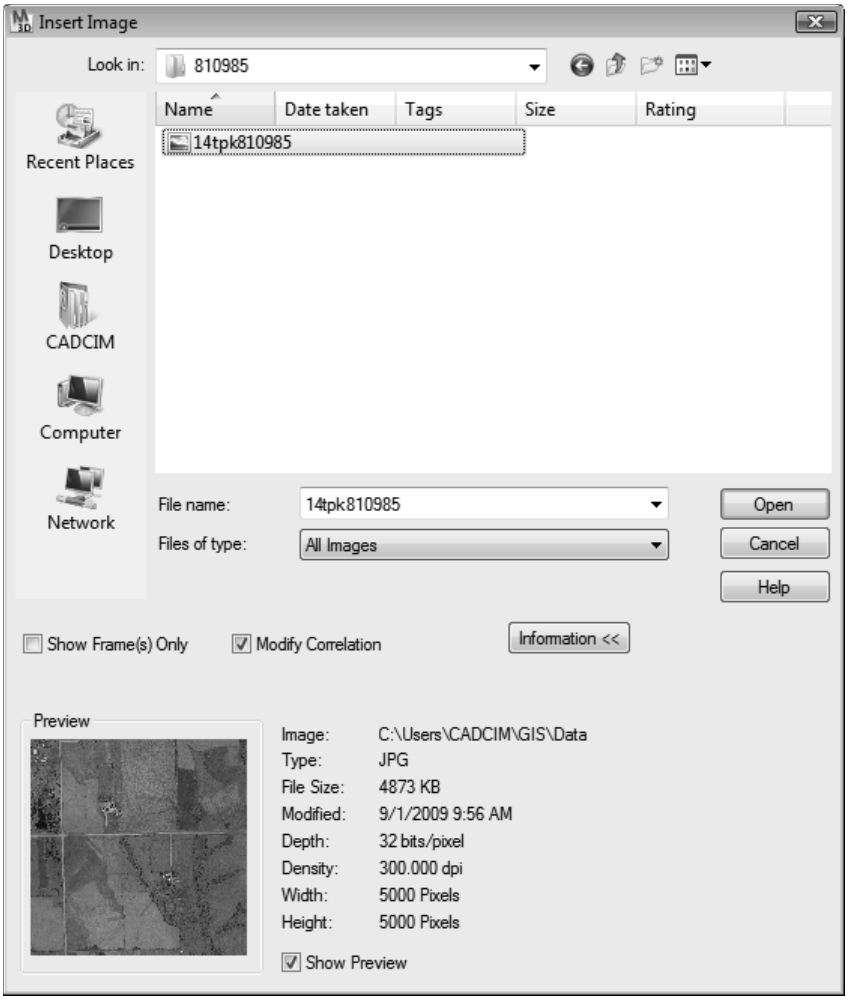

Figure 2-8 *The* ***Insert Image*** *dialog box with a raster image selected*

Alternatively, you can set the position, rotation, and scaling of the raster image by choosing the **Insertion** tab. Choose this tab and use the options available in the **Insertion Values in AutoCAD Units** area to set the position, scale, and rotation of the raster image. Enter the values in the **X**, **Y**, and **Z** edit boxes to specify the insertion point of the image in the Drawing Window. To modify the scale and rotation angle, enter the appropriate values in the **Scale** and **Rotation** edit boxes.

You can select an image insertion point by choosing the **Pick** button from the **Insertion Values in AutoCAD Units** area. On doing so, a crosshair with a frame attached to it will appear in the Drawing Window. Enter the base point manually or click to select the base point. Then, move the crosshair showing the base line vector to align to the required anticlockwise rotation angle. Next, click to select the base line alignment; the drawing will turn into the scaling mode. In this mode, you can adjust the scale of the raster image. Next, click to insert the image with the required scale. After setting all options, the inserted raster image with modified settings will appear in the Drawing Window.

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

The data files of various well known file formats can be loaded into the Workspace by using the options in AutoCAD Map 3D. The process of importing data with various file formats such as ASCII, ESRI shape file, MapInfo TAB, and so on is discussed next.

To import the datasets prepared or modified using other application software such as ESRI, MapInfo, MicroStation, GML, 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 data file by using a suitable extension from the **Files of type** drop-down list. Next, choose the **OK** button; the **Import Location** dialog box will be closed and the **Import** dialog box will be displayed, as shown in Figure 2-9.

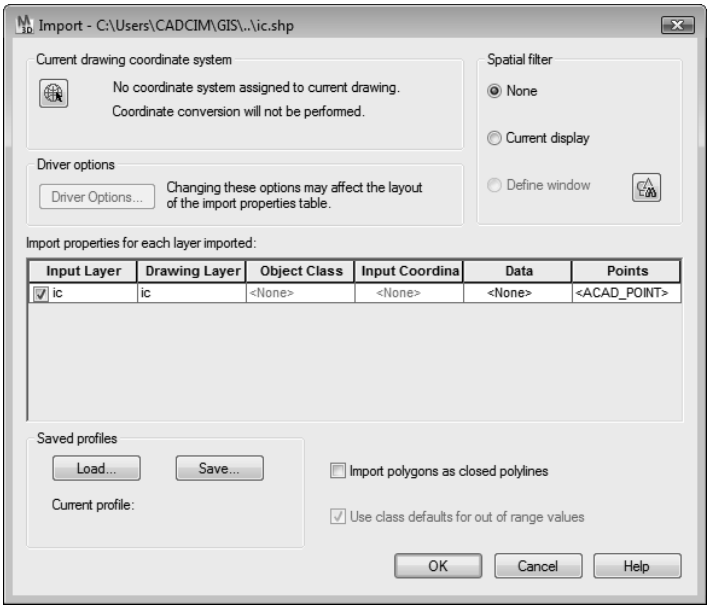

Figure 2-9 *The* ***Import*** *dialog box*

Note

The file path shown in the ***Import*** *dialog box may differ from user to user, depending on their settings. Moreover, the* ***Import*** *dialog box displayed while importing a dataset such as ASCII, DBF, or others into the modeling space is different.*

Now, you will be prompted to assign a coordinate system to the external data file and change the settings. Next, choose **OK** to add the imported layer with default settings. The options used in the **Import** dialog box are discussed later in this text book.

DATA OUTPUT METHODS

In AutoCAD Map 3D, you can save and output the data prepared or modified by using several methods. AutoCAD Map 3D provides additional options for getting data output such as sending mail through web services, more enhanced data export, and so on. This software application

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provides some convenient and suitable methods of data output. 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 Option

You can save a drawing file directly into various formats by using the Application Menu. To save a drawing file in one of the AutoCAD file formats, choose the **Save** option from the Application Menu; the **Save Drawing As** dialog box will be displayed, as shown in Figure 2-17. In this dialog box, enter a name in the **File name** edit box and select the preferred file format from the **Files of type** drop-down list. The **Save As** option is used to save a file in various file formats. To save a file in a different file format, choose **Save As > AutoCAD Drawing** from the Application Menu. In this dialog box, enter the required name of the file in the **File name** edit box and select a file format from the **Files of type** drop-down list.

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, a Design Web Format, to distribute data efficiently. Drawings can be exported into the DWF format by using the **Export** option. To export drawing files into the DWF format, choose **Export > DWF** from the Application Menu; the **Save As DWF** dialog box will be displayed, as shown in Figure 2-10. In this 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 the user settings for the file to be exported, choose the **Options** button; the **Export to DWF/PDF Options** dialog box will be displayed. Set the user settings

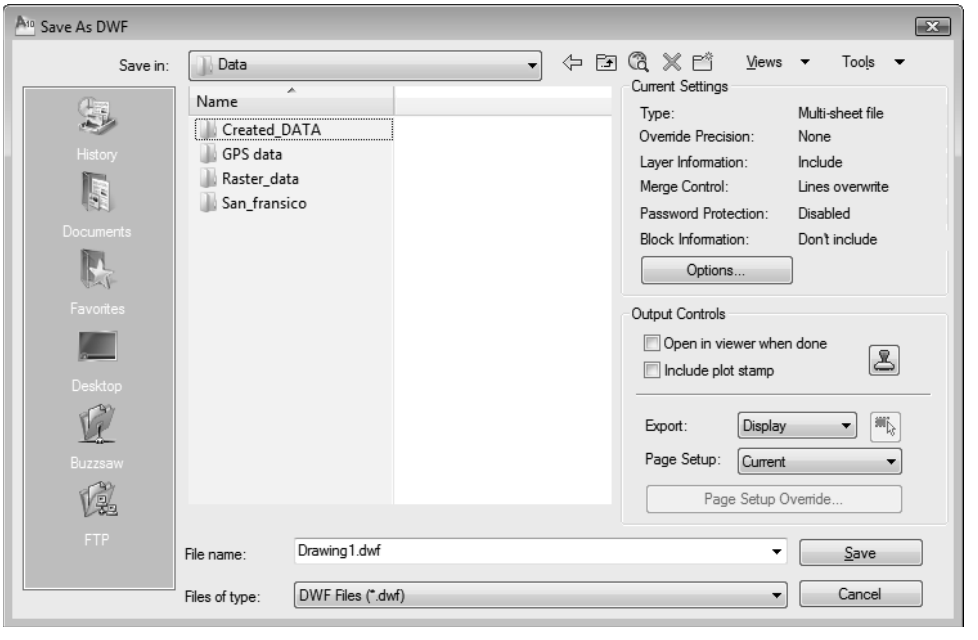

***Figure 2-10** The **Save As DWF** dialog box*

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for the **General DWF/PDF Options** and **DWF data options** as per the project requirements, 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. To apply extents for the display of the file to be exported, select the desired option from the **Export** drop-down list. To export a required portion of the entire drawing displayed, select the **Window** option from the **Export** drop-down list; the **Select Window** button on the right of this option will be activated. Next, choose the **Select Window** button; the cursor will change to the crosshair. Using the crosshair, you can select the extent of the drawing to be exported. 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 per the project requirement. Choose the **OK** button to apply the settings. The procedure of setting the options in the **Page Setup** area are discussed in the later section of this chapter.

You can save an export file only with the DWF format. Enter the name of the export file in the **File name** edit box, and then choose the **Save** button; the export file will be saved with the given name in the folder path provided. To abort the file exporting process, choose the **Cancel** button. You can apply the same procedure to export files with the DWFx and PDF file extensions. The **Current Settings** and **Output Control** areas setting options are not available while exporting the file extensions such as 3DWF, DGN, and other formats.

Data Output by Using the DWG Convert Option



In AutoCAD Map 3D 2012, the **DWG Convert** option has been added into the Application Menu. This option helps users to convert single or multiple drawing files into a compressed file or a normal folder. To convert a drawing or multiple drawings into a compressed file, choose **DWG Covert** 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 dialog box, the **Files Tree** tab is chosen by default. As a result, the drawing files or folders used for conversion are displayed hierarchically. If you choose the **Files Table** tab, the added files will be displayed in the form of a table. In both the tabs, five buttons are located at the bottom of the tab. These buttons are used to specify the drawing files to be used for conversion. The methods of specifying the drawing files by using these buttons are discussed next.

Add Files



The **Add Files** button is used to add drawing files for conversion process. To add files, 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 option from the list box and then choose the **Open** button; the dialog box will be closed and the selected file will be added to the hierarchy in its respective tab.

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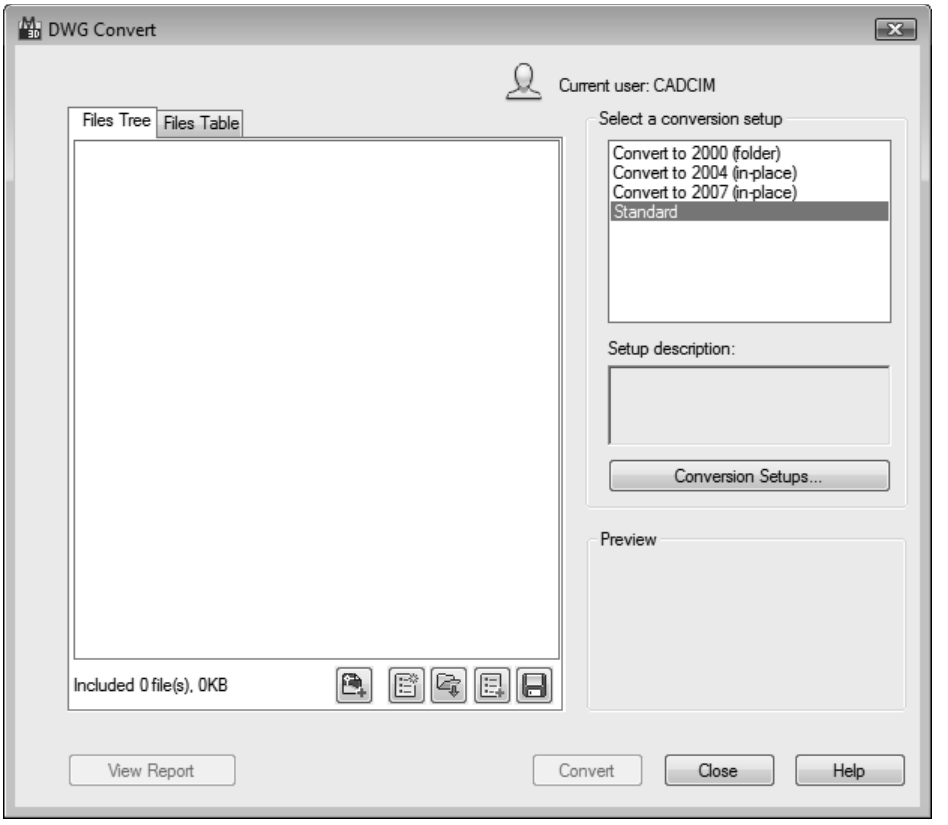

Figure 2-11 *The* ***DWG Convert*** *dialog box*

New List



The **New List** button is used to create a list of drawings in the tab. To create a list, choose the **New List** button; the **DWG Convert** window will be displayed. If you choose the **No** button in this window, the current list of drawings will be removed. If you choose the **Cancel** button, the process of creating a new list will be terminated. To proceed with creating a new list, choose the **Yes** button; the window 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 or import an existing list of drawing files that need to be converted to a compressed file. To open an existing list, 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.



Note

If there are drawing files in the current list and you try to open another list, the ***DWG Convert*** *window will be displayed and you will be prompted to save the current list.*

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Append List



The **Append List** button is used to add an existing list to the current list of drawings in the active tab. To add an existing list to the current list of drawings, 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

In this area, you can specify the settings that will be used while converting a list of drawing files to a conversion file. To specify settings for a conversion file, choose the required option from the list box in this area and use the **Convert** button to complete the conversion process. To customize the settings used for converting a drawing file, choose the **Conversion Setups** button in this area; the **Conversion Setups** dialog box will be displayed, as shown in Figure 2-12.

Using the options in this dialog box, you can either create a new conversion setup or customize an existing 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 Setups** dialog box will be displayed. Customize the settings based on your requirement in this dialog box and then close the dialog box. Then, close the **Conversion Setups** dialog box.

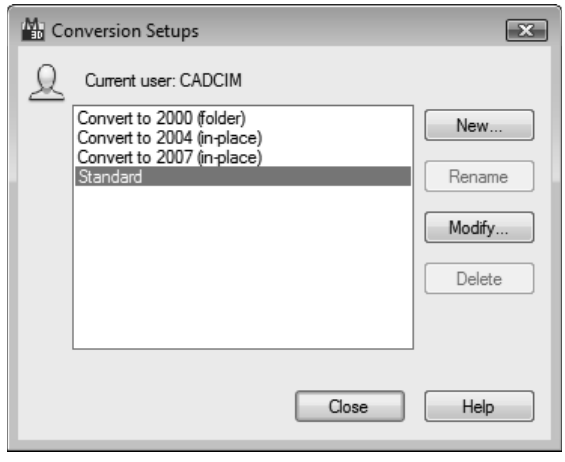

Figure 2-12 *The* ***Conversion Setups*** *dialog box*

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 to the specified file format.

Data Output by Using the Print Tool

There are many options available in AutoCAD Map 3D for printing a drawing file or a sheet set. The **Print** tool in the Application Menu provides many useful options for printing a drawing or sheet set data. The options in the **Print** panel such as **Page Setup**, **Manage Plotters**, **Manage**

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Plot Styles, and so on used for printing the single drawing file or printing multiple drawings in sheet set data are discussed next.

Plot Settings

You can set the **Plot** options to specify the properties of a drawing file by using a plotter, a printer, and a file. To set properties for plotting, choose **Print > Plot** from the Application Menu; the **Plot-Model** dialog box will be displayed, as shown in Figure 2-13. Different areas in the **Plot-Model** dialog box are discussed next.

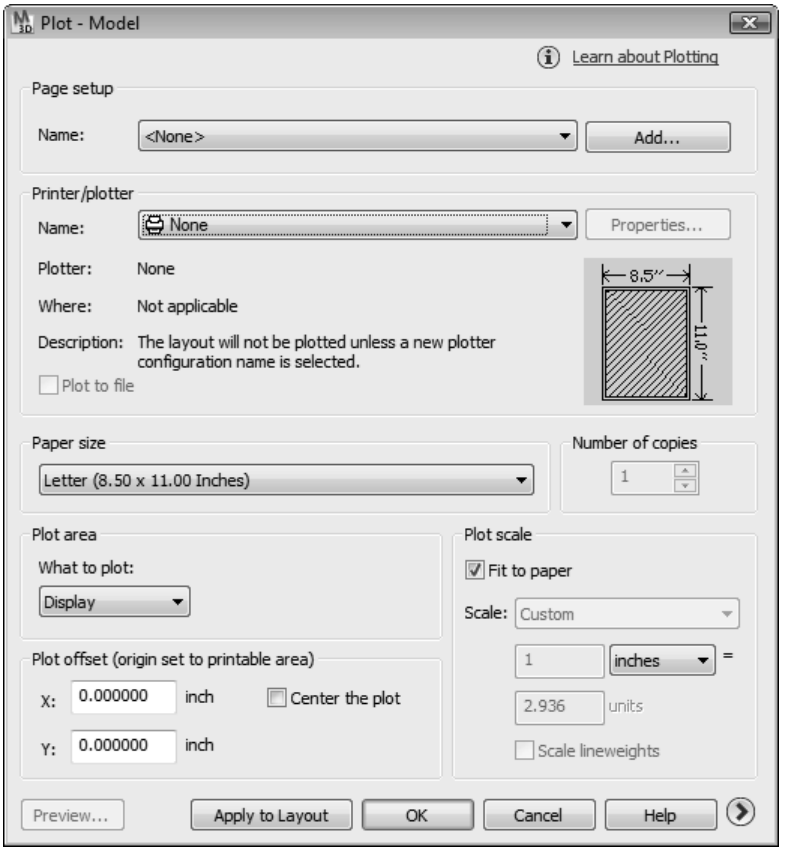

Figure 2-13 *The* ***Plot-Model*** *dialog box*

Page setup Area

In the **Page setup** area, select an option from the **Name** drop-down list. Alternatively, you can choose the **Add** button next to the **Name** drop-down list; the **Add Page Setup** dialog box will be displayed. Enter a suitable name in the **New page setup name** edit 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 template from the **Name** drop-down list, the **Properties** button will get activated. Using the **Properties** button, you can modify the settings of the printer/plotter template as per your requirement. If you need to apply

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settings from an existing template file, select a template from the **Name** drop-down list; the Name, Where, and Description properties of the template are 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 print/plot as per the settings of the file, or clear the **Plot to file** check box to avoid the use of the settings of a file in the printing/plotting process.

Paper size Area

The option in the **Paper size** area is used to specify standard paper dimensions. To modify the existing paper dimension of a standard template, select an option from the standard template drop-down list in the **Paper size** area. To modify the number of copies to be printed, set the value in the **Number of copies** spinner.

Plot area

The option in the **Plot area** is used to select the area for plotting a file. To plot only the required part from the entire drawing, select an option from the **What to plot** drop-down list. If you select the **Window** option from the **What to plot** drop-down list, the cursor will change to a crosshair. You can use the crosshair to select the required plot region in the drawing. If you select the **Limits** option from the **What to plot** drop-down list, all the drawing objects in the selected paper area of the current layout will be plotted.

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, if it is not selected by default, 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.

Data Output by Using the Batch Plot Option

The options in the **Batch Plot** tool in the **Print** panel of the Application Menu are used to publish sheet set data in different formats. 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 next to the 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 add all open drawings** check box to add all the currently open drawings to the publishing list.

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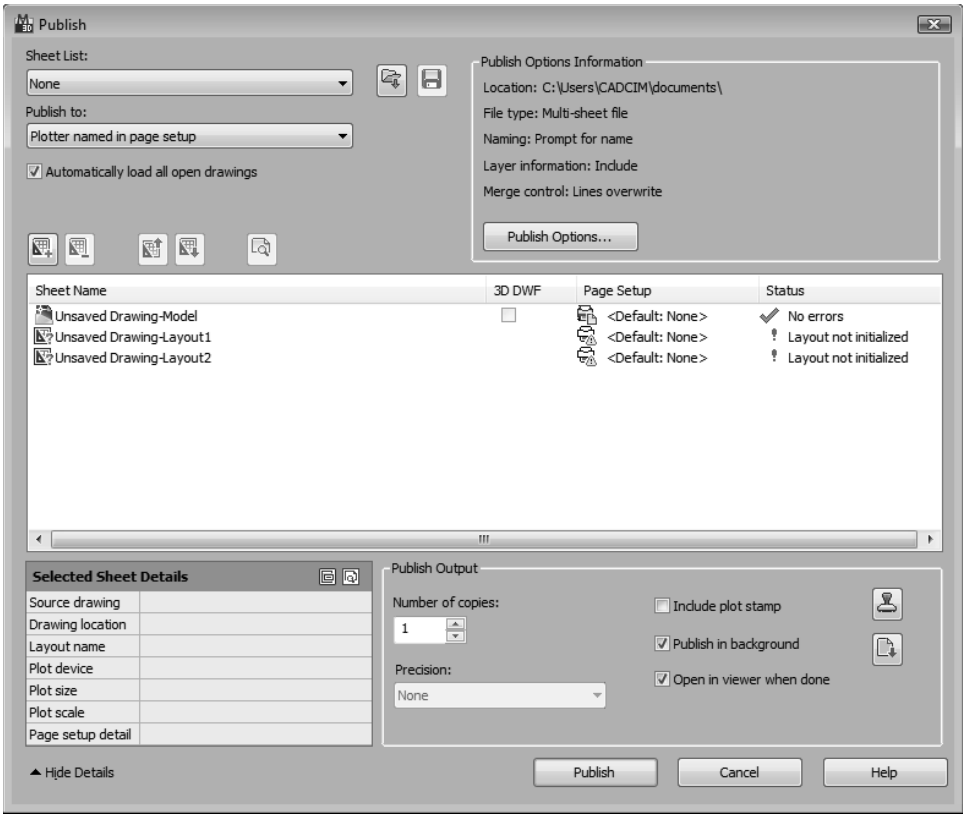

Figure 2-14 *The* ***Publish*** *dialog box*

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 using the settings option in this dialog box, and then choose the **OK** button to apply the settings.



To add a sheet set to the publishing list, choose the **Add Sheets** button above the sheet list box. On doing so, the **Select Drawing** dialog box will be displayed. Next, select the file from the desired folder; the file 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, set 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; the **Plot Stamp** dialog box will be displayed. Now, modify the plot stamp properties in this dialog box and then choose the **OK** button; the changes will be applied to the publishing template. To hide the background settings while publishing, select the **Publish in background** check box. 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. To publish a selected file, choose the **Publish** button.

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Plot Preview

The **Plot Preview** tool is used to display a drawing as it will appear after it is plotted on a paper source. To know how a drawing will appear after it is plotted on a paper source, choose **Print > Plot Preview** from the Application Menu; the preview of the plot will be displayed.

View Plot and Publish Details

The **View Plot and Publish Details** tool is used to interpret the details of plotting and publishing. To know details about plotting and publishing, choose **Print > View Plot and Publish Details** from the Application Menu; the **Plot and Publish Details** dialog box will be displayed, as shown in Figure 2-15.

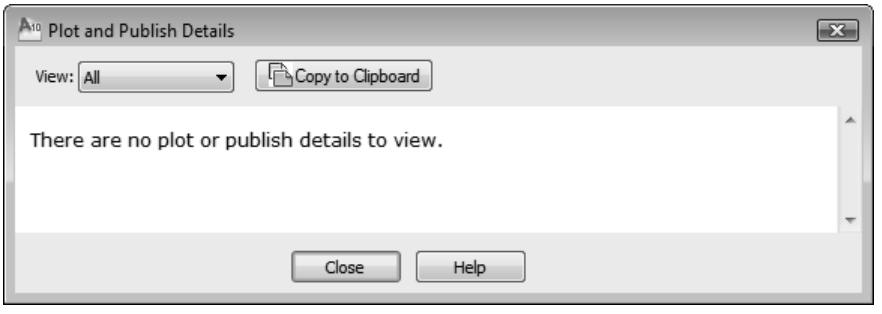

***Figure 2-15** The **Plot and Publish Details** dialog box*

The options in the **Plot and Publish Details** dialog box are used to check the details of plotting or plotting errors. To read details of all plots or only of errors, select an option from the **View** drop-down list. To copy material from the details list box, choose the **Copy to Clipboard** button, and then paste the material in any of the text files such as Notepad, WordPad, and so on.

Page Setup

You can specify the settings for the page setup by using the options in 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 2-16. 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 template in the **New page setup name** edit box and then choose the **OK** button; the **Page Setup - Model** dialog box will be displayed. In the **Page Setup - Model** dialog box, apply all required printer settings and then choose the **OK** button; the settings will be applied to the template and the dialog box will be closed.

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 so on.

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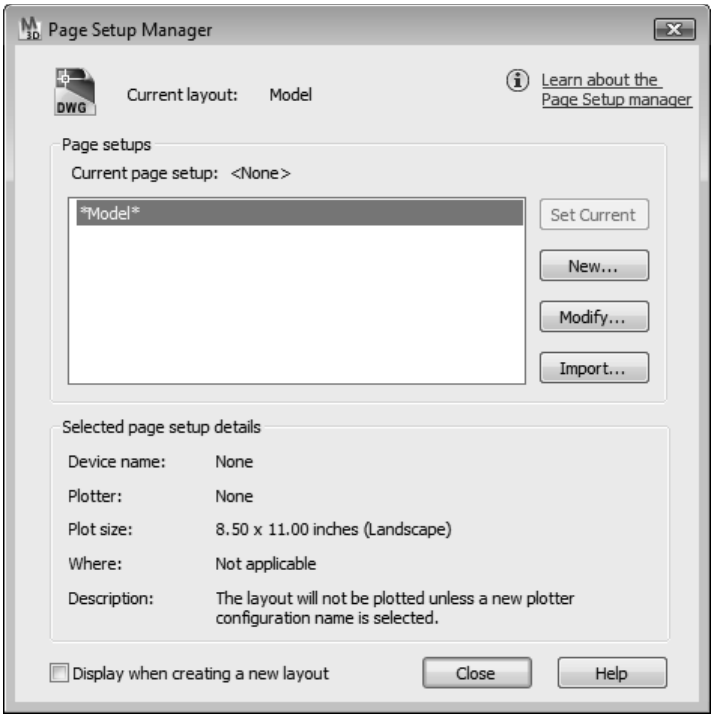

***Figure 2-16** The **Page Setup Manager** dialog box*

Modify Button

You can modify the current settings of an existing page setup. To do so, select the name of the page setup in the **Current page setup** list box and then choose the **Modify** button; the **Page Setup - Model** dialog box will be displayed, as shown in Figure 2-17. Some of the options in this dialog box are the same as those discussed in the **Plot - Model** dialog box earlier in this chapter. The remaining options are discussed next.

Plot style table (pen assignments) Area

The option in the **Plot style table (pen assignments)** area is 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** browse button next to the **Plot style table** drop-down list; the **Plot Style Table Editor** dialog box will be displayed. In this dialog box, you can modify the plot style table settings as per your requirement. Specify the required values in this dialog box and then choose **OK** to apply the settings to the setup template and to close the dialog box.

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 an 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.

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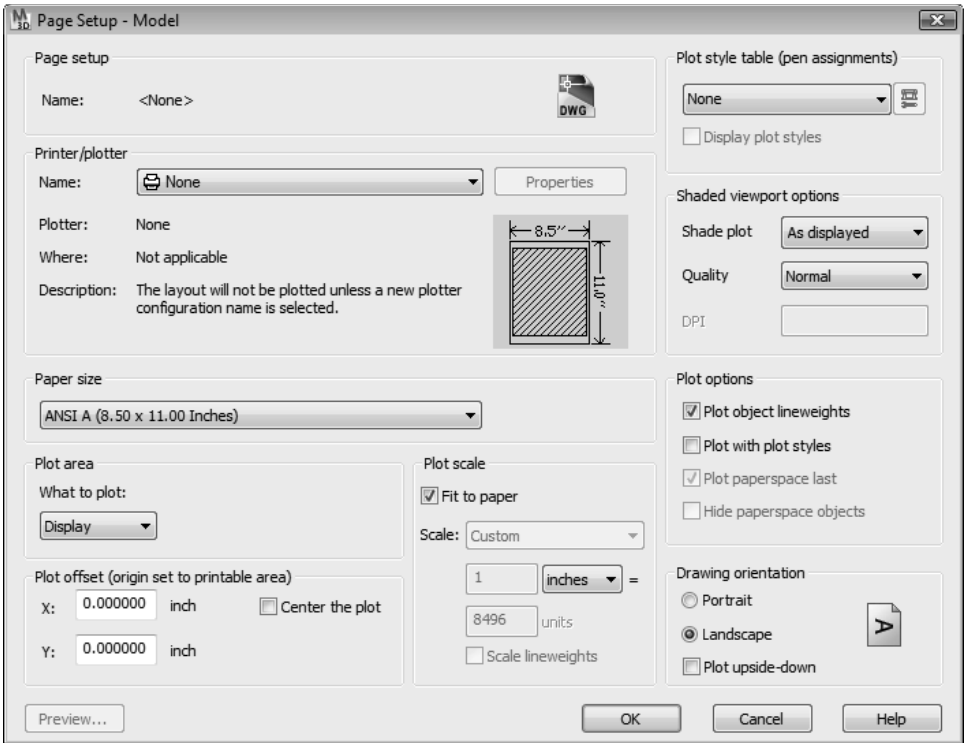

Figure 2-17 *The* ***Page Setup - Model*** *dialog box*

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.

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 respective page setup areas, choose the **OK** button to apply the settings and close the dialog box. Next, choose the **Close** button to close the **Page Setup Manager** dialog box.

Managing Plotters

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.

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Managing Plot Styles

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.*

Data Output by Using the Map Publishing Option

The **Map Publishing** option is used to publish maps, features, objects, and so on onto map enterprises. The map enterprises include MapGuide, Autodesk Seek, Open Geospatial Enterprises, and so on. The map data used in map enterprises can be transferred to various services by using different methods. These methods are discussed next.

Publishing the Data to the MapGuide

The **Publish to MapGuide** tool is used to publish drawings to Autodesk MapGuide Enterprise. To publish a drawing to Autodesk MapGuide Enterprise, choose **Publish > Publish to MapGuide** from the Application Menu; the **Publish to MapGuide** dialog box will be displayed. In this dialog box, enter the site address in the **Connect to Site** edit box. To connect to an external network service, choose the **Connect** button. When AutoCAD Map 3D 2012 will get connected to the host address location, you can modify the files associated with it to change the settings in the website.

Sharing the Data with Autodesk Seek

The **Share with Autodesk Seek** tool is used to upload the desired dataset from a project to the **Autodesk Seek** server and then retrieve that dataset from the same server for another project. To invoke this tool, choose **Publish > Share with Autodesk Seek** from the Application Menu; the **Share with Autodesk Seek** dialog box will be displayed. To share the drawing block from the current drawing, select the **Share the selected block** radio button; the selected block will appear in the display box below it. To share the current drawing, select the **Share the current drawing** radio button; the current drawing will appear in the **Preview** area. Next, choose the **OK** button to load the drawing into the **Autodesk Seek** server. On doing so, the preview of the loaded drawing will be displayed in the **Autodesk Seek** web server.

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 to a selection box. Now, you can select 3D objects or water tight meshes by using the selection box. Suppose, you select a 3D box object from a drawing by using the selection box and then press ENTER. On doing so, 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 cursor will turn into a

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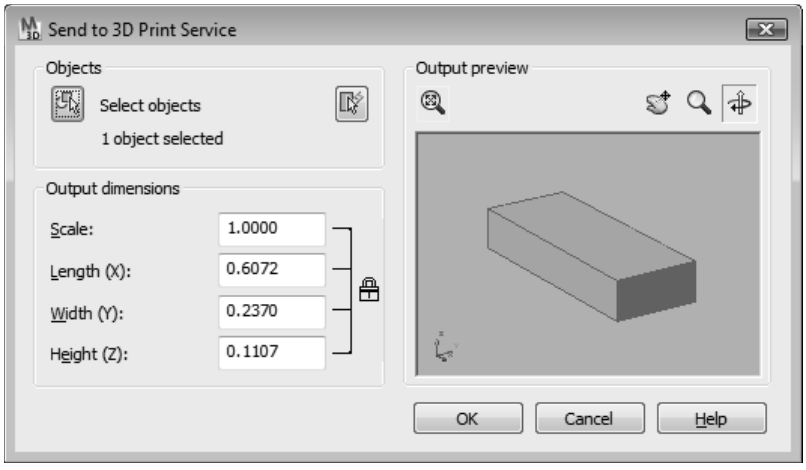

***Figure 2-18** The **Send to 3D Print Service** dialog box displaying a 3D object*

selection box. Now, using this crosshair, select all preferred 3D objects in the drawing and then press ENTER; the selected 3D objects will be displayed in the **Output preview** area. 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. If you change the dimensions in **Output dimensions** area, you will be prompted to save the changes made. Save the changes .On doing so, the data will be sent to 3D print services.

Using the Archive Tool

The **Archive** tool is used to store the entire sheet set data file or store only 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 or remove 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 a File to Archive** dialog box will be displayed. In this dialog box, select the required file and choose the **OK** 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 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 **OK** button; the selected file will be added to the list of files. Next, choose the **OK** button to close the **Archive a Sheet Set** dialog box.

The notes related to sheet set data can be specified by entering the notes 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**, **Root Drawing**, and **Conversions**. To change the setup of

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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 file type, file location/path, and the include options as per your requirements. Choose the **OK** button to apply the settings and close the dialog box.

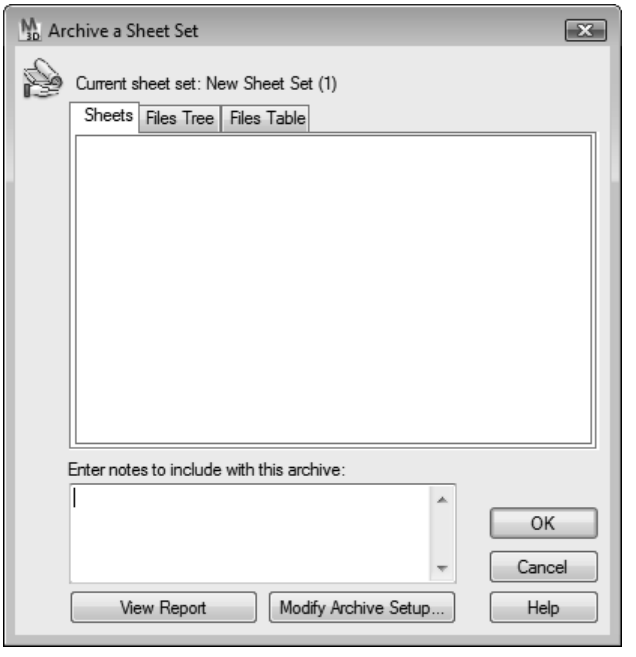

***Figure 2-19** The **Archive a Sheet Set** dialog box*

Sending Files as Package

This is an additional feature available in AutoCAD Map 3D. This option enables you to transfer data files in the form of different packages. The 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 appear in the **Files Tree** list box. To check details about 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.

You can apply transmittal setup settings to the current drawings and also modify the selected transmittal setup properties. To apply a transmittal setup setting, select the required option

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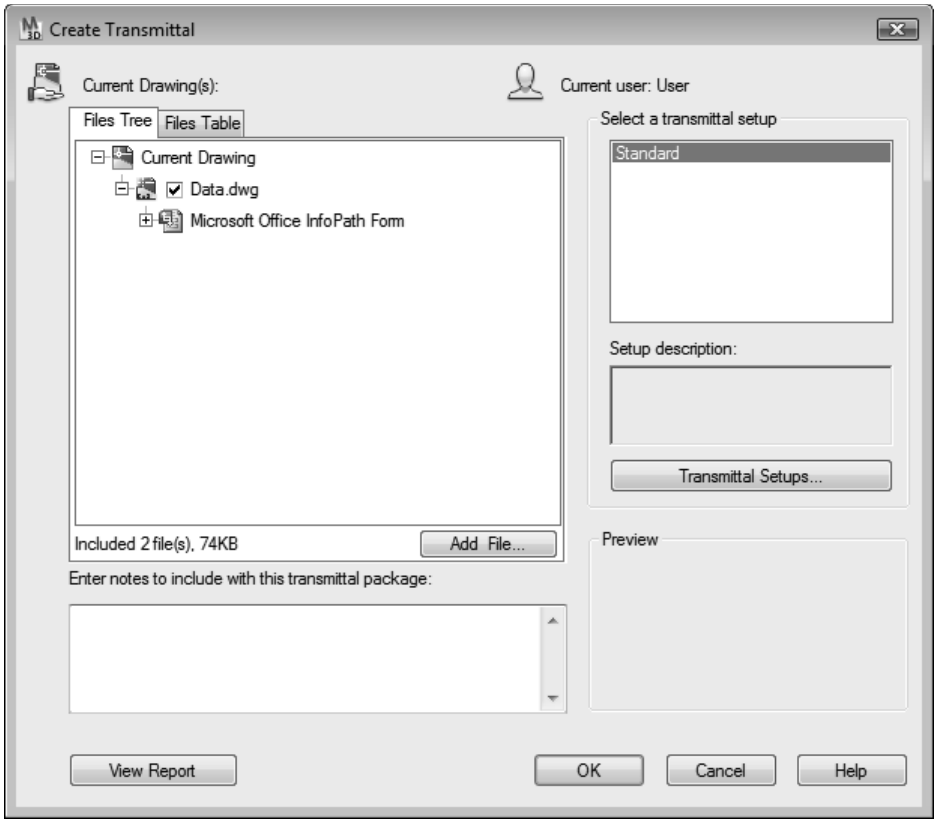

Figure 2-20 *The* ***Create Transmittal*** *dialog box with an added example data file*

from the **Select a transmittal setup** list box; the details about the transmittal setup will appear in the **Setup description** display box. To modify the selected transmittal 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 a transmittal setup. Next, choose the **Close** button to apply the settings and close the **Transmittal Setups** dialog box. 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. When you select the drawing file added in the transmittal package, the drawing will appear in the **Preview** display box. To read details of the transmittal package, choose the **View Report** button in the bottom left part 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** in the **Mail** icon of the **Control Panel**. 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 appear. Next, send the mail as a normal e-mail with attachment.

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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 easy access to various drawing files. You can easily plot and publish all drawings in a sheet set. Also, you can manage and create sheet sets by using the **Sheet Set Manager**. To invoke the **Sheet Set Manager**, choose the **Sheet Set Manager** button from the **Palettes** panel in the **View** tab. Alternatively, press the CTRL+4 keys; the **Sheet Set Manager** dialog box will be displayed. In this dialog box, you can set the properties of sheet set data.

In AutoCAD Map 3D 2012, you can create a sheet set in two different ways: either by using an example sheet set or by using an existing drawings. 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 this wizard, as shown in Figure 2-21. Alternatively, you can create a sheet set by using the **Sheet Set Manager** dialog box. To do so, choose the **Sheet Set Manager** button from the **Palettes** panel in the **View** tab; the **Sheet Set Manager** dialog box will be displayed. In the **Sheet Set Manager** dialog box, choose the **Open** button, and then select the **New Sheet Set** from the list displayed.

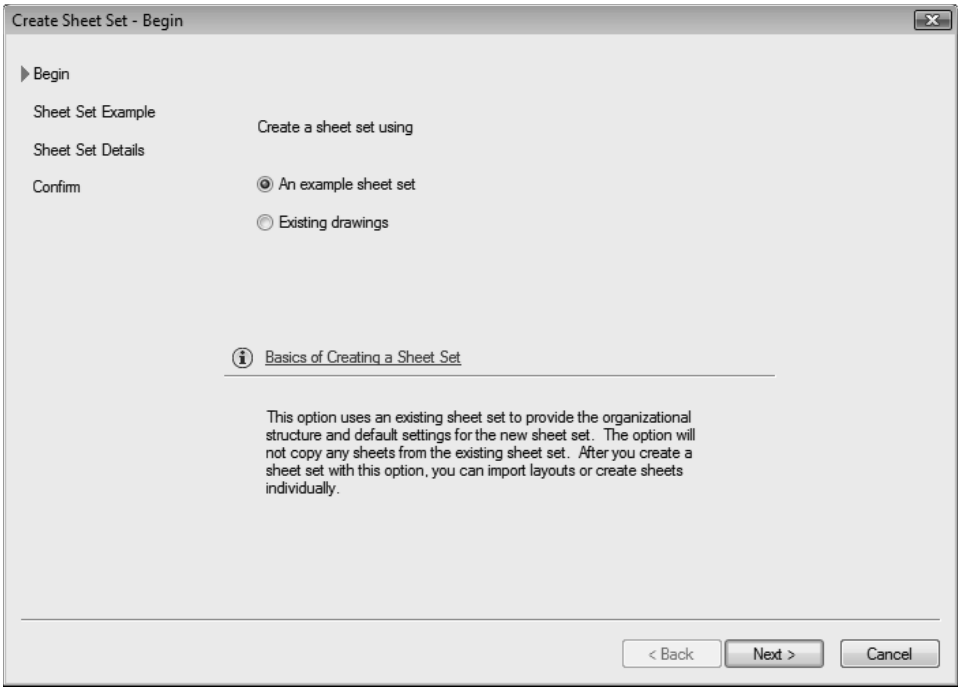

Figure 2-21 *The* ***Create Sheet Set*** *wizard with the* ***Begin*** *page chosen*



Tip: *You can also display the* ***Create Sheet Set*** *wizard by choosing* ***New > Sheet set*** *from the Application Menu. Alternatively, you can enter* ***NEWSHEETSET*** *at the Command prompt and press ENTER.*

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In the **Create Sheet Set** wizard, select the **An example sheet set** radio button from the **Begin** page, if it is not selected by default, and then choose the **Next** button; the **Create Sheet Set** wizard with the **Sheet Set Example** page will be displayed, as shown in Figure 2-22. 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 structurally-organized formats. By default, **Architectural Imperial Sheet Set** is selected in the list. The title and the description of the selected sheet set are displayed in the lower portion of the **Create Sheet Set** wizard.

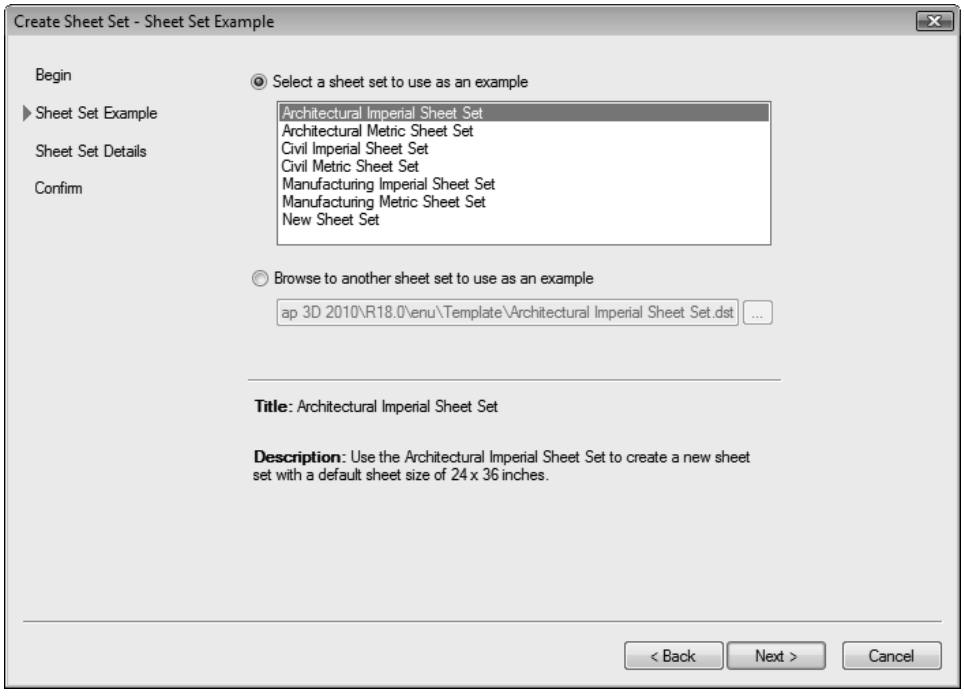

Figure 2-22 *The* ***Create Sheet Set*** *wizard with the* ***Sheet Set Example*** *page chosen*

You can select a sheet set located in an external location as well by using the **Browse to another sheet set to use as an example** radio button. To do so, select this 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 **Create Sheet Set - Sheet Set Details** page will be displayed, as shown in Figure 2-23.

You can specify a name of the new sheet set. To do so, enter the name in the **Name of new sheet set** edit box. By default, some description will be added in the **Description (optional)** text box. You may add additional description in this text box. The **Store sheet set data file (.dst) here** edit box displays the default location where the sheet set data file will be stored. You can modify this 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, description, and so on can be modified by using the **Sheet Set Properties** button. To do so, choose the **Sheet Set**

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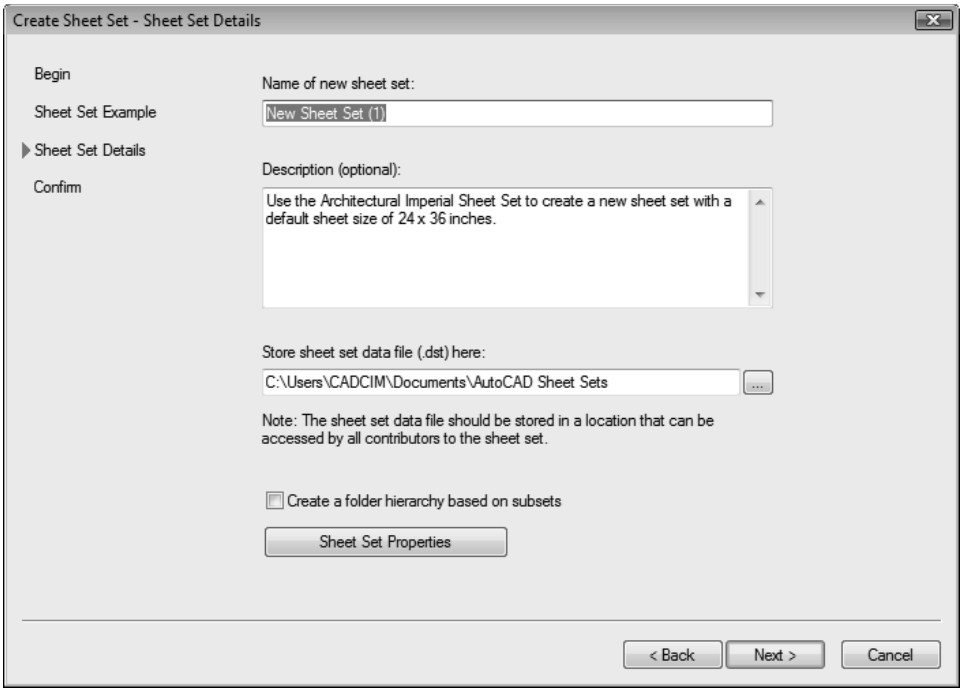

Figure 2-23 *The* ***Create Sheet Set*** *wizard with the* ***Sheet Set Details*** *page chosen*

Properties button from the **Sheet Set Details** page; the **Sheet Set Properties** dialog box will be displayed with the sheet name. After setting the required properties, choose **OK** to exit the dialog box.

Once you have set all parameters on this page, choose the **Next** button; the **Create Sheet Set** wizard with the **Confirm** page will be displayed, as shown in Figure 2-24. This page shows the detailed structure of sheet set and also lists its parameters and properties. After entering all parameters and properties, choose the **Finish** button; the **Sheet Set Note Manager** will display the sheet structure in the **Sheets** area and the details of that sheet set in the **Details** area. If the **Details** area is not displayed, right-click in the **Sheet Set Manager** and then choose the **Preview/Details Pane** option from the shortcut menu to display this area.

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 **Create Sheet Set** wizard with the **Sheet Set Details** page 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.



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.

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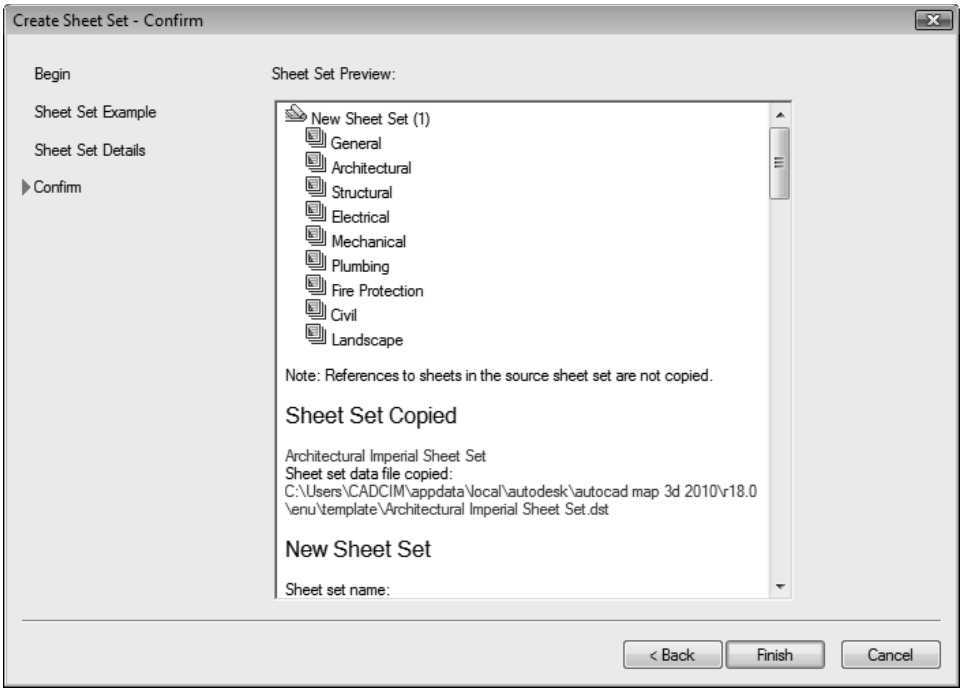

Figure 2-24 *The* ***Create Sheet Set*** *wizard with the* ***Confirm*** *page chosen*

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. Now, select the required folder by choosing the **Browse** button.

CLOSING DRAWING FILES

The working drawing files and the used drawing files can be closed by using different options from the Application Menu. Before closing a drawing, make sure you have saved the required drawing. To close the current drawing file, choose **Close > Current Drawing** from the Application Menu. To close all drawings already open, choose **Close > All Drawings** from the Application Menu.

TUTORIALS

General instructions for downloading tutorial files:

1. Download the tutorial files required for this tutorial from *http://www.cadcim.com*. The path of the file is as follows: *Textbooks > Civil/GIS > Map 3D > Exploring AutoCAD Map 3D 2012*

2. Now, save and extract the downloaded folder at the following location:

   C:\Map3D_2012\c02

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Tutorial 1 Using the Connect Tool

In this tutorial, you will input various datasets into the AutoCAD Workspace 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. Input or load the image and shape files by using the **Connect** tool.
c. Save the drawing file with the name *c02-map3d-2012-tut01a.dwg*
d. Close 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 the **Select template** dialog box, ensure that the **map2d** template file is selected in the list box and then choose the **Open** button; the **map2d** template settings are applied to the modeling space.

Using the Connect Tool to Add Datasets

The dataset in the downloaded folder can be added into the modeling space by using the **Connect** tool. To add the data into the Drawing Window, follow the steps given below:

1. To add data into the map, 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 Raster Image or Surface Connection** option from the **Data Connection by Provider** list box; the **Autodesk FDO Provider for Raster** area will be displayed in the right portion of the dialog box.

3. In the **Autodesk FDO Provider for Raster** area, enter **Basic_Image_01** in the **Connection name** edit box, and then choose the Browse button next to the **Source file or folder** edit box; the **Open** dialog box is displayed.



4. Select the **Image** option in the list box and then choose the **Open** button from this dialog box; the path of the selected file is displayed in the **Source file or folder** edit box.

5. Choose the **Connect** button; the **Raster Image or Surface** area is displayed in the right portion.

6. Choose the **Add to Map** button; the **Image Insertion-[Image.jpg]** dialog box is displayed.

7. In the **Image Insertion-[Image.jpg]** dialog box, choose the **OK** button; the *Image* layer is added to the list box in the **Display Manager** tab in the **Task Pane** and the image is displayed in the Drawing Window.

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8. To add the vector data to the Workspace, select the **Add SHP Connection** option from the **Data Connections by Provider** list box; the **OSGeo FDO Provider for SHP** area is displayed in the right portion.

9. In the **OSGeo FDO Provider for SHP** area, browse to the folder containing the downloaded files by using the folder browse button, and then choose the **Connect** button; the **Data Connect** wizard is displayed, as shown in Figure 2-25.

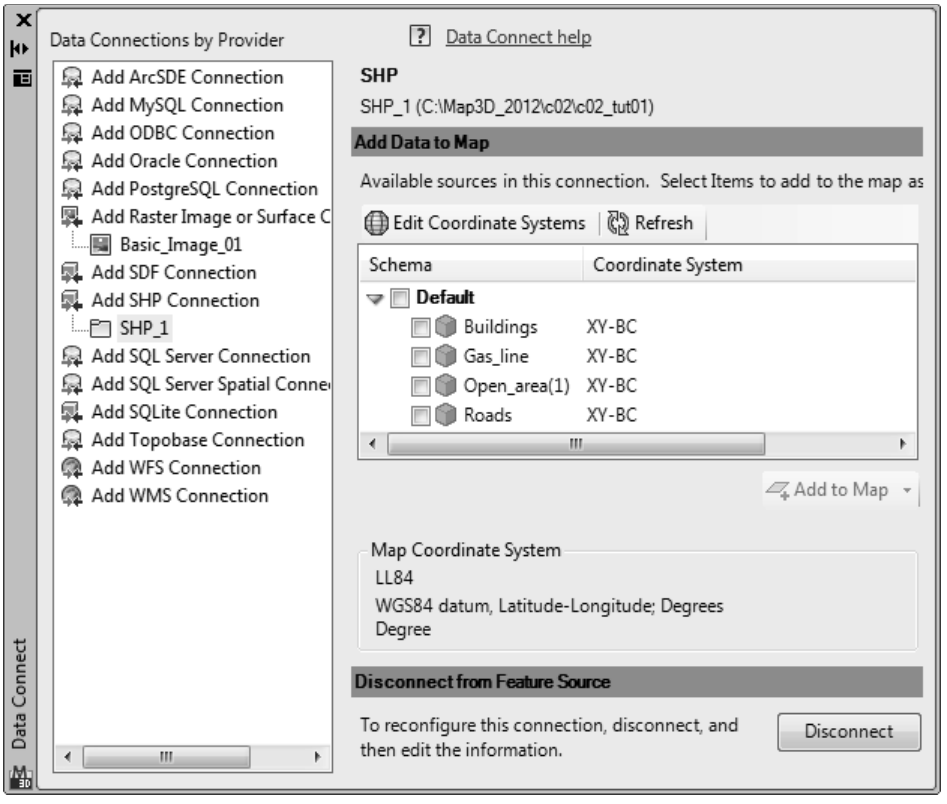

***Figure 2-25** The **Data Connect** wizard with shape files*

10. Select all check boxes in the list box in the **Add Data to Map** area.

11. Choose the **Add to Map** button; the shape files are added into the **Display Manager** tab of the **Task Pane** and the added layers are draped over the existing raster image.

12. Close the **Data Connect** wizard by using the **Close** button located at the top right corner of this dialog box.

Saving the Drawing File

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

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2. In the **Save Drawing As** dialog box, enter **c02-map3d-2012-tut01a** in the **File name** edit box.

3. Select the **AutoCAD 2010 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 2 Loading the WMS Data from OGS

In this tutorial, you will connect the FDO data in the server to the Workspace by using the **Connect** tool. **(Expected time: 15 min)**

The following steps are required to complete this tutorial:

a. Create a new drawing file.
b. Connect to the link given below by using the **Connect** tool.
http://eusoils.jrc.ec.europa.eu/wmsconnector/com.esri.wms.Esrimap/Meusis_alps?
c. Save the drawing file with the name *c02-map3d-2012-tut02a.dwg*.
d. Close the drawing file.

Creating a New Drawing File

1. Choose **New** 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.

Loading the Data from the Web Map Server (WMS) into the Workspace

In this section, you need to connect the FDO data to the Map 3D modeling space by using the **Connect** tool. The FDO data, thus added, is used for querying and creating classified object data from the available online sources. Alternatively, you can also create the databases as per your requirement and add them into the modeling space for performing data analysis. To do so, follow the steps given below:

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 WMS Connection** option from the **Data Connection by Provider** list box; the **OSGeo FDO Provider for WMS** area is displayed in the right portion.

3. Enter **WMS-Server-01** in the **Connection name** edit box, and then enter the link given below in the **Server name or URL** edit box:

http://eusoils.jrc.ec.europa.eu/wmsconnector/com.esri.wms.Esrimap/Meusis_alps?

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4. Select the **1.1.1** option from the **Version** drop-down list and then choose the **Connect** button; the **User Name & Password** dialog box is displayed.

5. In the **User Name & Password** dialog box, enter **WMS_01** in the **User Name** edit box and the password in the **Password** edit box.

6. Choose the **Login** button; the source datasets available in the chosen connection are displayed in the **Add Data to Map** list box in the **Data Connect** wizard.

7. In the **Add Data to Map** area of the **Data Connect** wizard, select the **Country_Boundaries** check box.

8. Choose the **Add to Map** button; the data layer is added to the **Display Manager** tab of the **Task Pane** and the raster layer appears in the Drawing Window.

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-map3d-2012-tut02a** in the **File name** edit box.

3. Select the **AutoCAD 2010 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: 45 min)**

The following steps are required to complete this tutorial:

a. Open the *c02-map3d-2012-tut03.dwg* drawing file.
b. Create a transmittal package by using the **eTransmit** tool.
c. Create a transmittal package, with files only related to the **Buildings** and **Roads** themes.
d. 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_2012\c02\c02_tut03

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3. Select the **c02-map3d-2012-tut03** option from the list box and then choose the **Open** button in this dialog box; a warning message window is displayed. In the window, choose the **OK** button; the geometry of the selected drawing is displayed in the Drawing Window.

Creating the Transmittal Package by Using the eTransmit Tool

1. Choose **Send > eTransmit** from the Application Menu; the **Create Transmittal** dialog box is displayed, as shown in Figure 2-26.

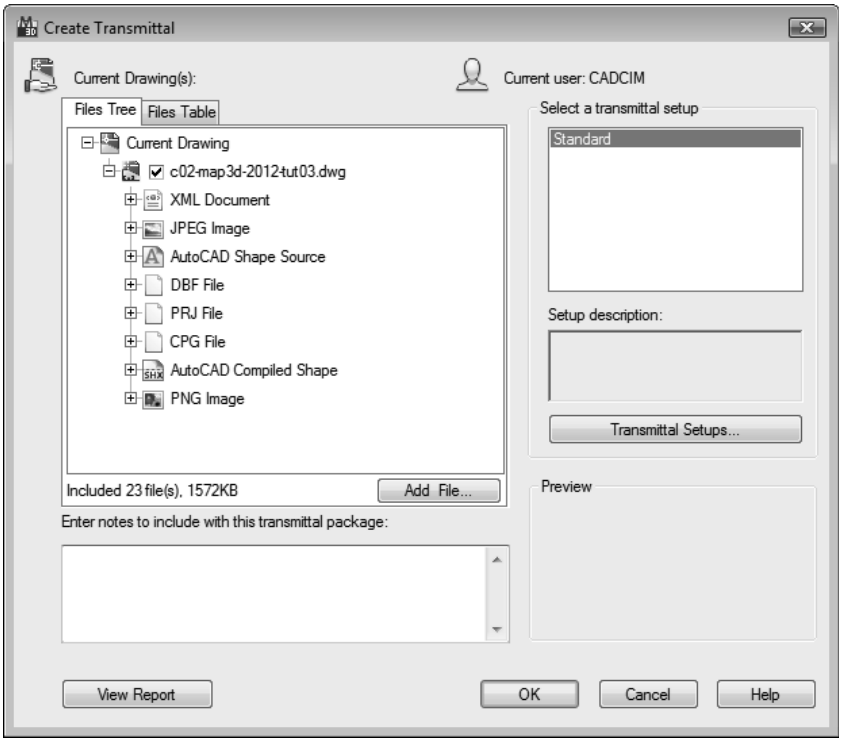

Figure 2-26 *The* ***Create Transmittal*** *dialog box with the files available for transmittal*

2. In the **Create Transmittal** dialog box, click on the expansion **[+]** box corresponding to the **AutoCAD Shape Source** folder in the **Files tree** list box; the files in the folder are displayed.

3. Except the **Buildings.shp** and **Roads.shp** shape files, clear all the check boxes corresponding to their respective shape files.

4. Click on the expansion **[+]** box corresponding to the **DBF File** folder in the **Files tree** list box; the files in the folder are displayed.

5. Except the **Buildings.dbf** and **Roads.dbf** data files, clear all the check boxes corresponding to their respective shape files.

6. Click on the expansion **[+]** box corresponding to the **PRJ File** folder in the **Files tree** list box; the files in this folder are displayed.

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7. Except the **Buildings.prj** and **Roads.prj** project files, clear all the check boxes corresponding to their respective shape files.

8. Click on the expansion **[+]** box corresponding to the **CPG File** folder in the **Files tree** list box; the files in the folder are displayed.

9. Except the **Buildings.cpg** and **Roads.cpg** files, clear all the check boxes corresponding to their respective shape files.

10. Click on the expansion **[+]** box corresponding to the **AutoCAD Compiled Shape** folder in the **Files tree** list box; the files in the folder are displayed.

11. Except the **Buildings.shx** and **Roads.shx** shape file, clear all the check boxes corresponding to their respective shape files. Keep the default settings of other check boxes same.

12. Choose the **OK** button; the **Specify Zip File** dialog box is displayed and the **c02-map3d-2012-tut03 - Standard.zip** compressed file name is displayed in the **File name** edit box.

13. In the **Specify Zip File** dialog box, specify the location for saving the compressed transmittal file by using the browse options in the **Look in** drop-down list.

14. Select the **Zip file (*.zip)** option from the **Files of type** drop-down list, if it is not selected by default.

15. Choose the **Save** button; 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 *c02-map3d-2012-tut03.dwg* file is attached to the e-mail in Microsoft Outlook, if this software is installed on the system, as shown in Figure 2-27.

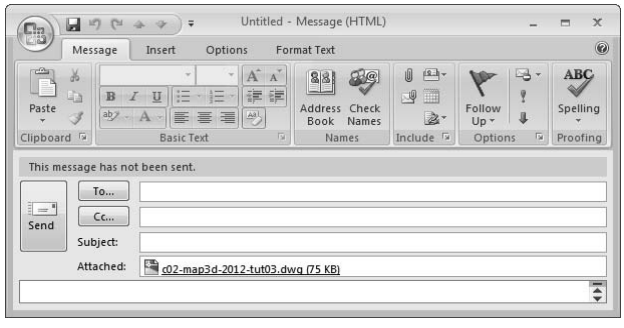

Figure 2-27 *Microsoft Outlook with the current drawing file attached*

2. Close the drawing by choosing **Close** from the Application Menu.

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Note

*If you have made any changes to the drawing, an **AutoCAD** window will be displayed. In this window, you can either choose the **Yes** button to save the changes, or you can ignore the changes by choosing the **No** button. On doing so, the **Check in Features?** window will be displayed. Next, close the window by choosing the **Close** button at the top right corner of the window. On doing so, the drawing file will be closed.*

Tutorial 4 Loading GCP Data by Using the Survey Tab

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: 45 min)**

The following steps are required to complete this tutorial:

a. Start a new drawing file.
b. Create a **New Data Store** and name it as **Survey-Points**; set **British National Grids** as coordinate system in the **Survey** tab.
c. Import the survey point file.
d. Save the file as *c02-map3d-2012-tut04a.dwg*.

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.

Creating a New Data Store

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

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 2-28.

4. In the **New Data Store** dialog box, choose the browse button in the **File location** area; the **Create new Survey Data Store** dialog box is displayed.

5. In the **Create new Survey Data Store** dialog box, browse to the desired folder by selecting the options in the **Save in** drop-down list.

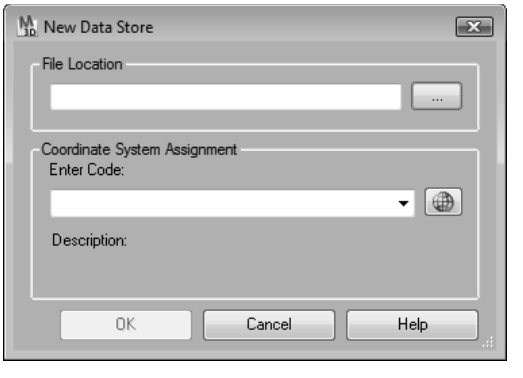

***Figure 2-28** The **New Data Store** dialog box*

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6. Enter **Map-3D-2012-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 edit box in the **File location** area of the **New Data Store** dialog box.

9. In the **New Data Store** dialog box, choose the **Select Global Coordinate** button in the **Coordinate System Assignment** area; the **Coordinate System Library** dialog box is displayed.



10. In the **Coordinate System Library** dialog box, select the **Great Britain** option from the **Category** drop-down list; the coordinate systems in the selected category are displayed in the list box of this dialog box.

11. In the list box, select the **BritishNatGrid** code with the description **British National Grid (ORD SURV GB)**, 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 **BritishNatGrid** code is displayed in the edit box in the **Coordinate System Assignment** area of the **New Data Store** dialog box. Also, the coordinate description is displayed below the edit box in the **Coordinate System Assignment** area.

13. In the **New Data Store** dialog box, choose the **OK** button; the **Map-3D-2012-Data-Store** data store is added to the **Current Data Store** drop-down list and the **Survey Data Store** folder is added to the list box below the **Current Data Store** drop-down list.

14. In the list box below the **Current Data Store** drop-down list, select the **Survey Data Store** folder, and then right-click on it; a shortcut menu is displayed.

15. Choose the **Import ASCII Points** option from the shortcut menu, as shown in Figure 2-29; the **Import ASCII Points** dialog box is displayed.

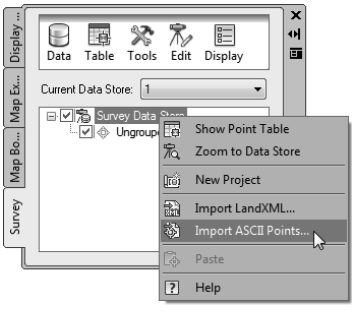

***Figure 2-29** Choosing the **Import ASCII Points** option from the shortcut menu*

16. In the **Import ASCII Points** dialog box, choose the browse button in the **File location** area; the **Import ASCII File** dialog box is displayed.

17. In the **Import ASCII File** dialog box, browse to the folder containing the downloaded *Survey-Points-C02-Tut04.txt* file.

18. In the **Import ASCII File** dialog box, select the **ASCII Point file (*.txt;*.csv;*.asc;*.nez)** option from the **Files of type** drop-down list, if it is not selected by default.

19. In the **Import ASCII File** dialog box, select the *c02-map3d-2012-tut04.txt* file in the list box below the **Look in** drop-down list. On doing so, the **c02-map3d-2012-tut04** text is displayed in the **File name** edit box.

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20. Choose the **OK** button; the **Import ASCII File** dialog box is closed, and the file path is displayed in the edit box in the **File Location** area of the **Import ASCII Points** dialog box.

21. In the **Formatting** area of the **Import ASCII Points** dialog box, select the **ENZ(space delimited)** option from the **Select Formatting** drop-down list; the formatted data is displayed in the **Preview** display box, as shown in Figure 2-30.

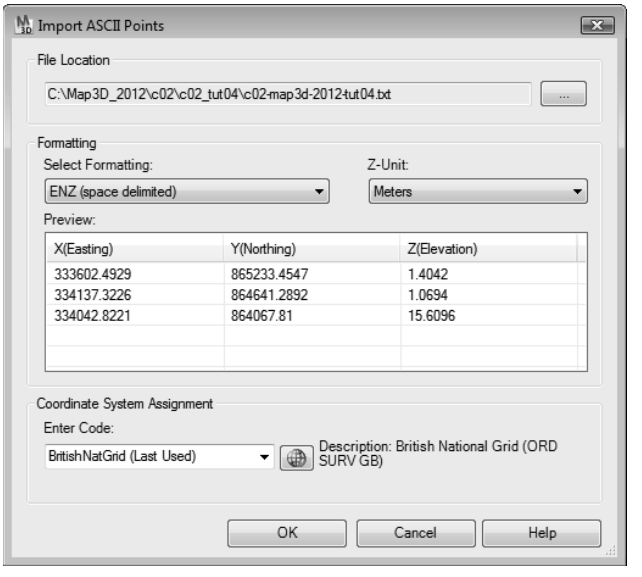

Figure 2-30 *The* ***Import ASCII Points*** *dialog box displaying the formatted data*

22. In the **Formatting** area of the **Import ASCII Points** dialog box, select the **Meters** option from the **Z-Units** drop-down list, if it is not selected by default.

23. 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 2-31.

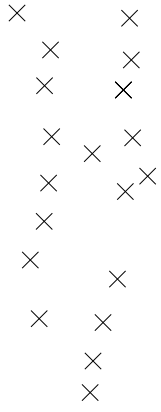

Figure 2-31 *The Ground Control Points displayed in the Drawing Window*

Note

If the survey data is not displayed in the Drawing Window, choose the ***Map-3D-2012-Data-Store*** *vector layer in the* ***Display Manager*** *tab of the* ***Task Pane****, and then right-click on the selected vector layer; a shortcut menu is displayed. From this shortcut menu, choose the* ***Zoom to Extents*** *option; the survey data is displayed in the Drawing Window.*

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Self-Evaluation Test

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

1. To work in a drawing modeling space, you need to open a new drawing file. (T/F)
2. You can load various datasets such as raster, vector, and database file into the Workspace by using the **Connect** tool. (T/F)
3. You can use either the **Display Manager**, **Map Explorer**, **Map Book**, or **Survey** tab to create a new survey data store. (T/F)
4. You can load the survey Ground Control Points by using the _____ tab from the **Task Pane**.
5. You can input a file in external file format into the Workspace by using the _____ panel in the **Insert** tab.
6. You can set the units for the length and angle measurements in a drawing file by using the **Drawing Utilities** panel. (T/F)
7. The original form of a damaged or distorted file can be regained or recovered by using the _____ tool from the **Drawing Utilities** panel. (T/F)
8. The options in the **Page Setup** area are used to set the properties of a drawing page. (T/F)
9. You can publish data to the online server using the **Map Publishing** option. (T/F)
10. You can create a compressed transmittal file using the _____ tool from the Application Menu.
11. You can create a sheet set by using an example sheet set or by using the existing drawings. (T/F)

Review Questions

Answer the following questions:

1. You can apply settings from a template file by using the _____ option from the Application Menu.
2. Using the **Connect** tool, you can combine raster data and vector data. (T/F)
3. 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)

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4. The coordinate system used for conducting survey can be different from the one used in the Drawing Window. (T/F)

5. To insert a georeferenced image into the drawing space, use the _____ tool from the **Image** panel of the **Insert** tab.

6. The insertion scale of a drawing can be set by using the _____option from the **Drawing Utilities** panel in the Application Menu.
7. Which of the following tools is used to recover damaged data from the source file or Xrefs?

(a) **Recover** (b) **Recover with Xrefs**
(c) **Extract** (d) **Source file**

8. A drawing file can be saved with only *.dwg extension. (T/F)

9. To export data to several external file formats, use the _____ option from the Application Menu.

10. You can set the printing and plotting settings as per user requirements. (T/F)

Exercises

Exercise 1 Loading Shape File

Load the *Municipal.shp* shape file in the **c02_exr01** folder by using the **Connect** tool. Then, save the file as a drawing file. Create a transmittal file using the **eTransmit** tool.

(Expected time: 45 min)

Exercise 2 Loading Survey Data

Create a survey data store and then load the *c02-map3d-2012-exr02.txt* file from the downloaded folder into the modelspace by using the options in the **Survey** tab.

(Expected time: 30 min)

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Answers to Self-Evaluation Test

1. T, **2.** T, **3.** F, **4. Survey**, **5. Import**, **6.** T, **7. Recover**, **8.** T, **9.** T, **10. eTransmit**, **11.** T