Cengea Forest - Resources

MAP WINDOW

Version 3.7.0

USER GUIDE

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1 INTRODUCTION TO MAP WINDOW

1.1 About this User Guide

This ***Map Window User Guide*** is a comprehensive review of the features offered by the Cengea Forest Map Window module and it provides procedures on how to use the module.

The following standards (typographic and other conventions) are used throughout:

Action Verb	Shown in *italics*, e.g. *click* this button or *select* this option.
Click	*Point* and *click* using the LEFT mouse button.
Right-click	*Click* the RIGHT mouse button.
Double-click	Quickly *click* the LEFT mouse button twice.
Naming	Names of toolbars, windows, tabs, columns, fields, checkboxes, or radio buttons are shown in **bold**, e.g. e*nter* a value in the **Date** field.
Icons or Buttons	Shown in SMALL CAPS, e.g. *click* SAVE.

The following messages are used throughout:

Notes are provided to highlight how the module functions or to give additional details about particular fields. For example, if data is entered in a specific field, what other fields may be affected, or where else this data might also be used.

Cautionary messages are provided to alert users to a risk or to bring attention to the exact consequences of an action. For example, moving to another form without saving first may cause the loss of data just entered.

Contact information is provided to assist users or to advise users whom they should be contacting. For example, if the Map Window layers are not set up, the GIS System Administrator should be contacted.

This guide begins with an overview and introduces the other components of Cengea Forest that are related to Geographic Information Systems (GIS). It describes the user interface followed by the key functions and configuration settings.

Managing user accounts for this module are the responsibility of the GIS Administrator.

Appendix A provides a list of contacts and references to identify who to contact and how, for any matter related to Cengea Forest.

Appendix B provides a list of SDE layers and their descriptions.

Appendix C provides a means to submit comments on this user guide.

This guide assumes proficiency in working in a GIS and Windows environment, and familiarity with ESRI's ArcGIS 9.3 applications. A working knowledge of ArcMap is required, including the general interface and data viewing tools, the editing functions within the **Editor** toolbar, and the associated terms and concepts.

For further information regarding ESRI's ArcGIS application or general GIS concepts, contact the divisional / operational GIS Administrator, visit **www.esri.com**, or contact Cengea Help: **support@cengea.com** or **1 866 776 5850**.

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1.2 Related Materials

Other relevant documentation includes:

- The ***Map Window Installation Guide***, which explains licensing requirements, ESRI software installation, and installing Map Window;
- ESRI's online ArcGIS information @ **www.esri.com**, (refer to the software overview sections).

1.3 Map Window Overview

The Cengea Forest Map Window module provides the ability to access the GIS functionality within the Cengea Forest application. This module enables:

- Functionality to be configured for each user;
- Digitizing, spatial overlays, spatial queries, and plotting;
- Defining map preferences and styles.

Due to localization windows may appear slightly different at each division / operation. Please contact the System Administrator if a field appears incorrect.

1.4 Map Window and Cengea Forest

The Map Window functionality includes:

- Selecting a feature (i.e., cut block) in the **Navigator** tree in Cengea Forest will highlight the selected feature in the Map Window;
- Selecting a feature in the Map Window will highlight the feature in the **Navigator** tree;
- Linking and unlinking spatial and attribute records;
- Deleting only spatial features;
- Revising the start and end stations in the **Road Activities** window in the Road Management module will update the highlighting displayed in the Map Window;
- Revising location properties in the **Road Structures** window in the Road Management module will update the location of the structure in the Map Window;
- Clicking a Map Window location will populate the active **Road Structures** window;
- Populating attribute fields based on spatial data.

Please refer to **Section 7.0, Interaction with Cengea Forest**, for further details.

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2 ACCESSING CENGEA FOREST

To start the program from a desktop or Citrix published application, *double-click* the CENGEA FOREST icon.

Figure 1 - CENGEA FOREST Icon

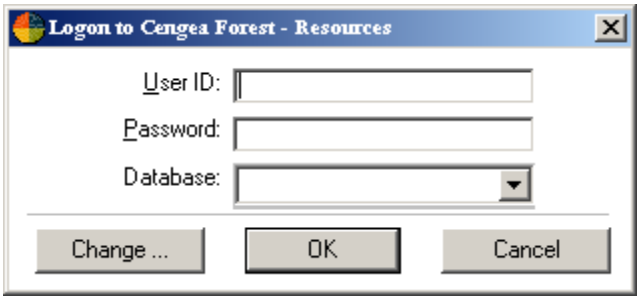

Figure 2 – Cengea Forest - Resources Database Logon

Populate the **User ID** and **Password** fields (subsequent logon sessions will default to the last logon session) then *select* the appropriate server from the **Database** drop-down list and *click* OK. *Click* CHANGE to specify a different user ID, database server, or to change the password.

The System Administrator should be contacted for access to the module.

Depending on security access, the **User ID** and **Password** may default to the company's network ID and password; the CHANGE button will not show on the **Logon** window.

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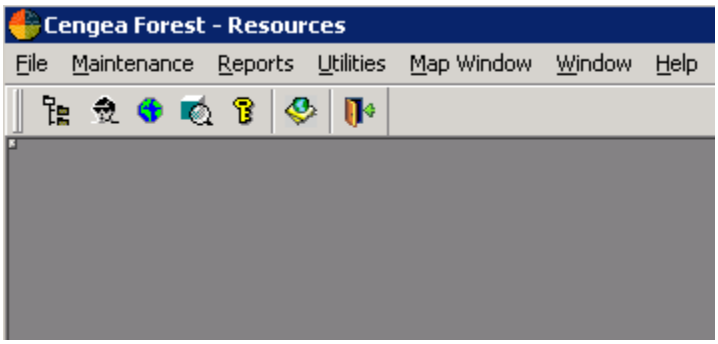

Figure 3 - Cengea Forest - Resources Main Window

Depending on security access, the following buttons may be available on the main toolbar:

Button	Function
	NAVIGATOR – opens the data tree display.
	MY WORKSPACE - opens the My Workspace.
	MAP – opens the Map Window.
	QUERY BUILDER – opens the Query Builder tool.
	KEY MAP – opens the Key Map Window.
	MAP WINDOW - opens the new Map Window.
	EXIT – closes Cengea Forest.

Table 1 – Cengea Forest - Resources Main Window Buttons

Cengea Help (**support@cengea.com** or **1 866 776 5850**) should be contacted for assistance with security access.

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3 ACCESSING THE MAP WINDOW

There are three ways to access map window in Resources:

The GIS System Administrator should be contacted for access to the application.

- *Click* Map Window on the menu bar and *select* Map Window;

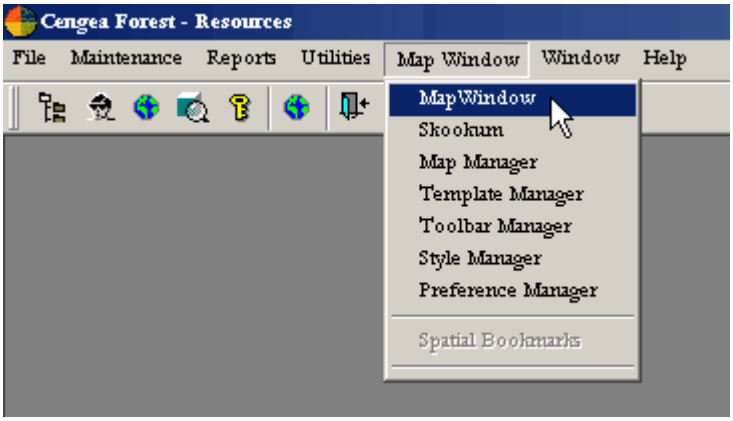

Figure 4 – Accessing Map Window from the Menu

- *Select* the icon from the main toolbar, or;

Figure 5 - Accessing Map Window from the Cengea Tool bar

- *Select* Map Window from the **Map Option** drop-down list within specific windows of Resources.

Figure 6 - Accessing Map Window from Resources

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3.1 Determining the Version

To determine the version of Map Window that is running:

- *Click* the help button on the status bar to open the **About Map Window** dialogue.

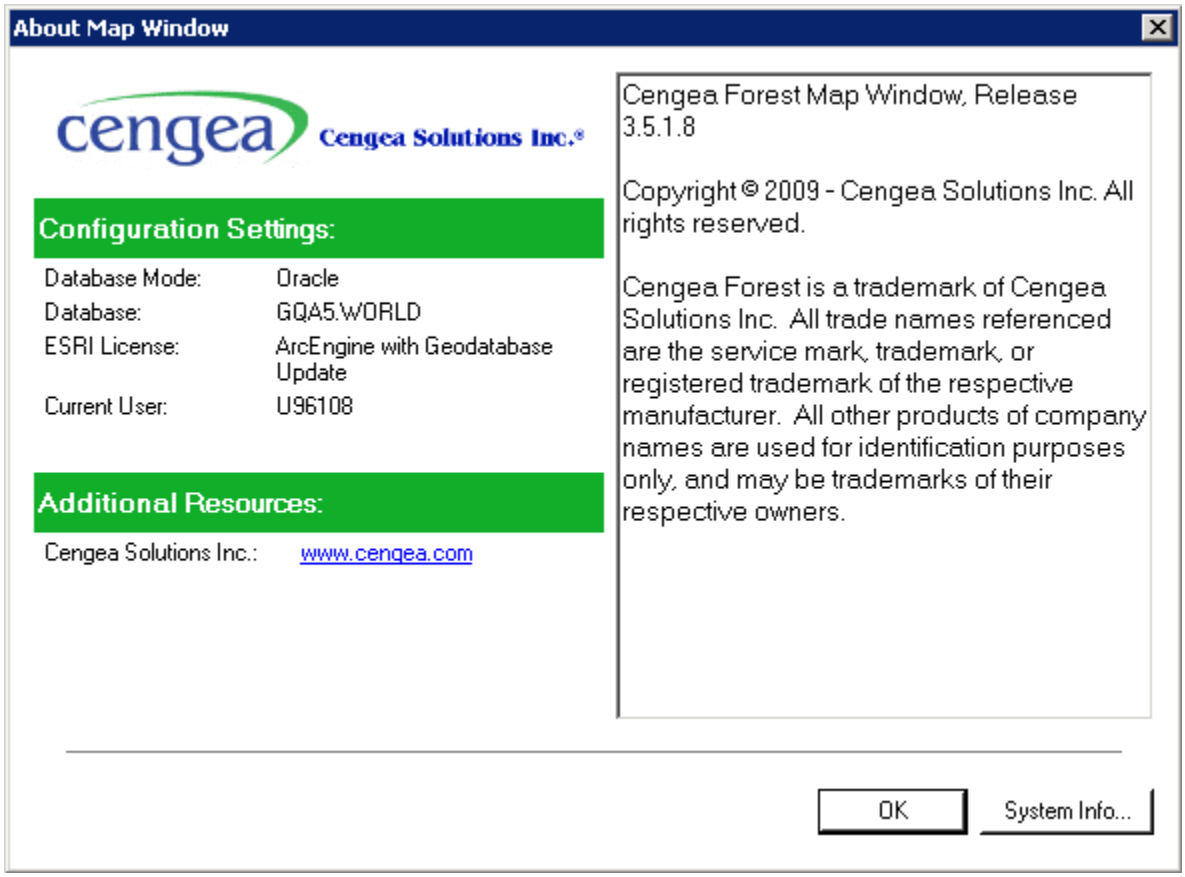

Figure 7 - About Map Window Dialogue

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4 MAP WINDOW

The Map Window is designed for flexibility and allows users to configure the various components to best meet their requirements. The Map Window contains panels and tabs to host the components frequently used, such as a table of contents (TOC), navigation, settings, toolbars, and an attribute information grid that allows limited attribute editing.

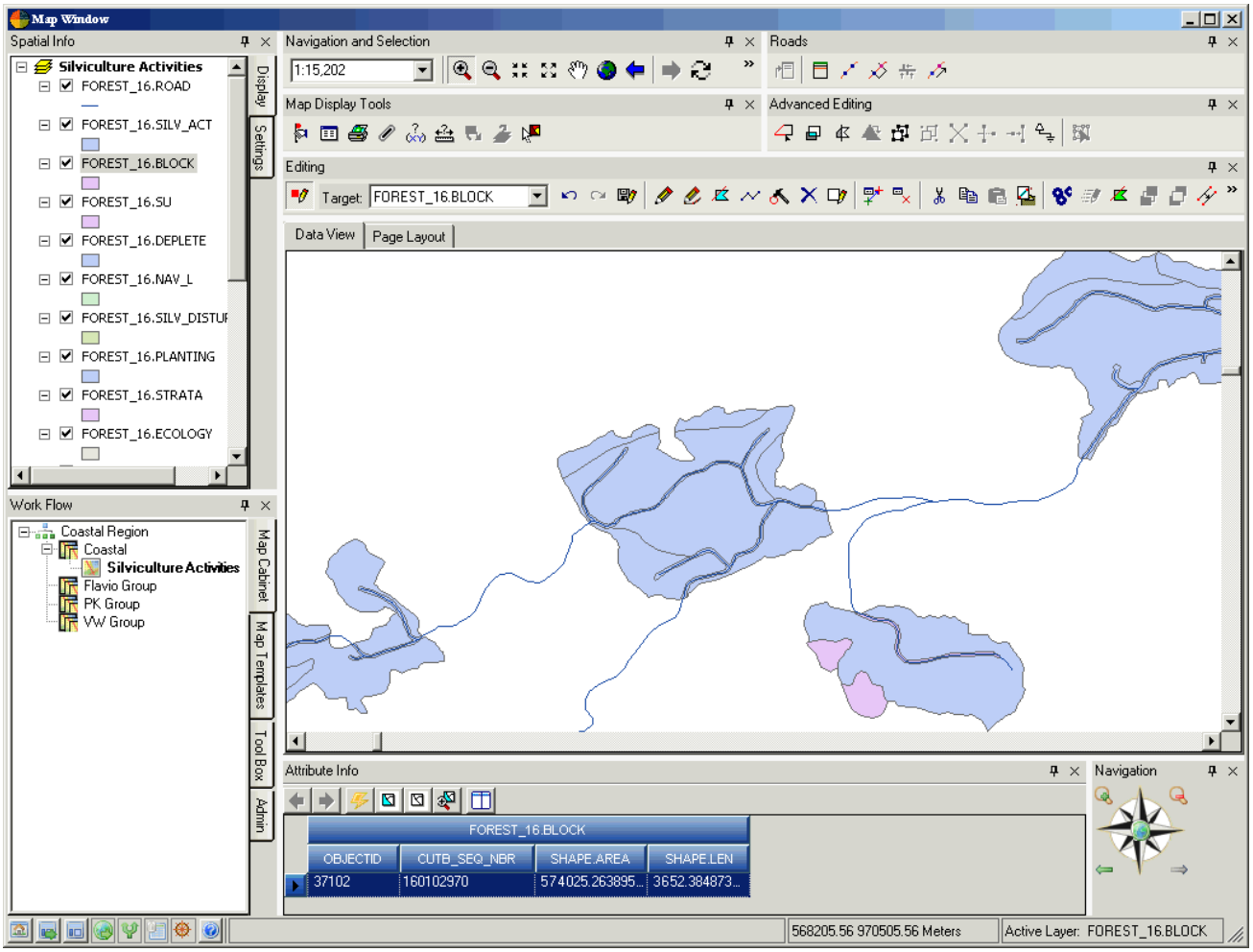

Figure 8 – Map Window

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4.1 Status Bar

The status bar displays tool information, active layer, and the map coordinates where the mouse pointer is over the graphics window.

The following controls are available on the status bar:

Control	Description
	RESTORE DEFAULT PANEL SETTINGS
	SAVE PANEL LOCATIONS FOR THE CURRENT USER
	LOAD SAVED PANEL LOCATIONS FOR THE CURRENT USER
	SHOW / HIDE THE SPATIAL INFO PANEL
	SHOW / HIDE WORK FLOW PANEL
	SHOW / HIDE ATTRIBUTE INFO PANEL
	SHOW / HIDE QUICK NAVIGATOR
	ABOUT MAP WINDOW

Table 2 – Map Window Status Bar Controls

4.2 Map Window Panels

The Map Window functionality includes panels that provide additional map information or access to tools affecting the state of the graphics window. Depending on user preference, these panels can be:

- Hidden by dismissing or unpinning the panel to maximize the size of the graphics window frame;
- Floated away from the Map Window or be docked in various locations within the Map Window;
- Resized to maximize / minimize the contents.

Clicking the HIDE / SHOW buttons will open or close the Map Window panels.

Unpinning the push pin located on the panels will hide the panel temporarily and hovering the mouse over the tab will enable the panel to appear. Pinning the push pin will fix the panels location.

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4.2.1 Spatial Info Panel

In the **Spatial Info** panel the display settings and map content are managed in these tabs:

- **Display**
- **Settings**

4.2.1.1 Display Tab

The **Display** tab contains the map table of contents (TOC).

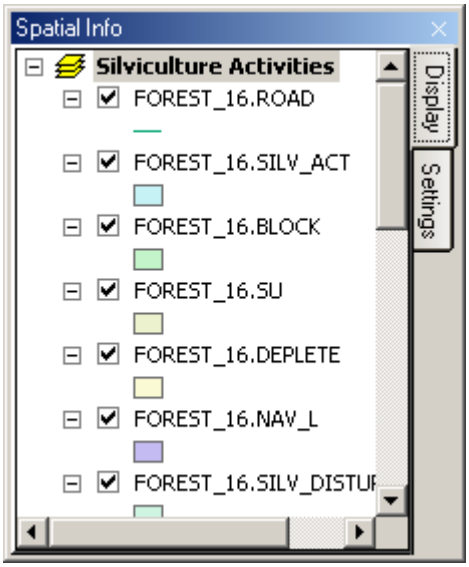

Figure 9 – Spatial Info Panel: Display Tab

The functionality of the TOC enables:

- The feature classes (layers) that are currently referenced by the Map Window to be quickly viewed;
- The visibility of a layer to be set by checking off or un-checking the checkbox adjacent to each layer;
- Layers to be reordered by dragging-and-dropping within the list;

The order in which the layers are defined affects the paint sequence of the graphics window (i.e., layers are painted from the bottom up).

- Symbology to be updated.

Please refer to **Section 6.12, Changing Symbology**, for details.

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4.2.1.2 Versioning

In the **Display** tab of the **Spatial Info** panel versions can be selected.

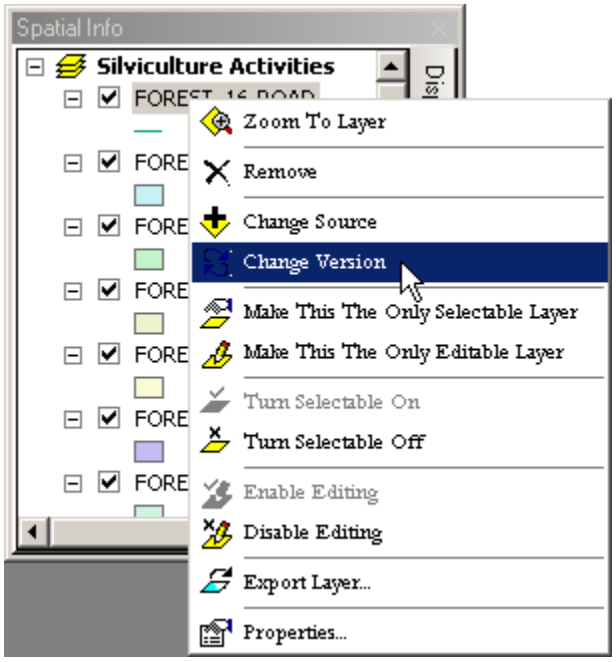

Figure 10 – Spatial Info Panel: Change Version

Please contact the System Administrator for access to this function.

To change the version:

- *Highlight* the layer in the **Display** tab;
- *Right-click* and *select* Change Version.

The **Select Version** dialogue will open.

Please refer to **Section 5.1.4, Versioning**, for additional details.

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4.2.1.3 Exporting a Layer

In the **Display** tab of the **Spatial Info** panel layers can be exported.

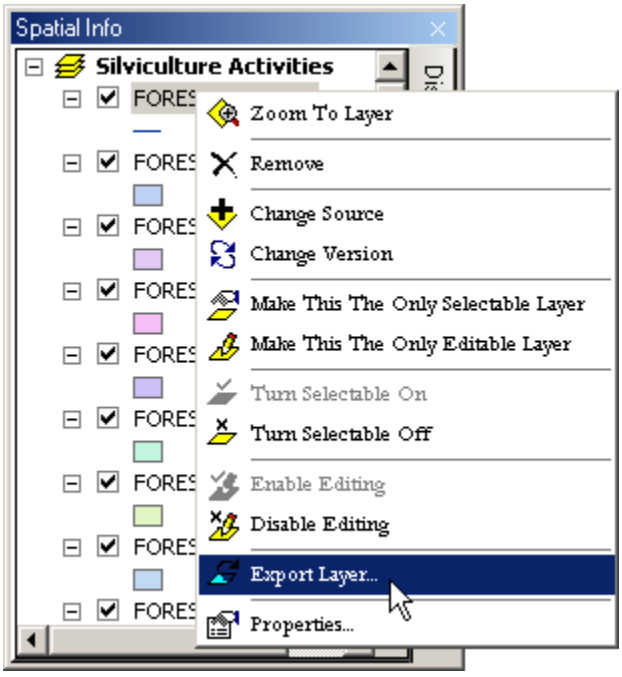

Figure 11 - Spatial Info Panel: Export Layer

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To export a layer:

- *Right-click* the appropriate layer;
- *Select* Export Layer... to open the **Export Layer** dialogue;

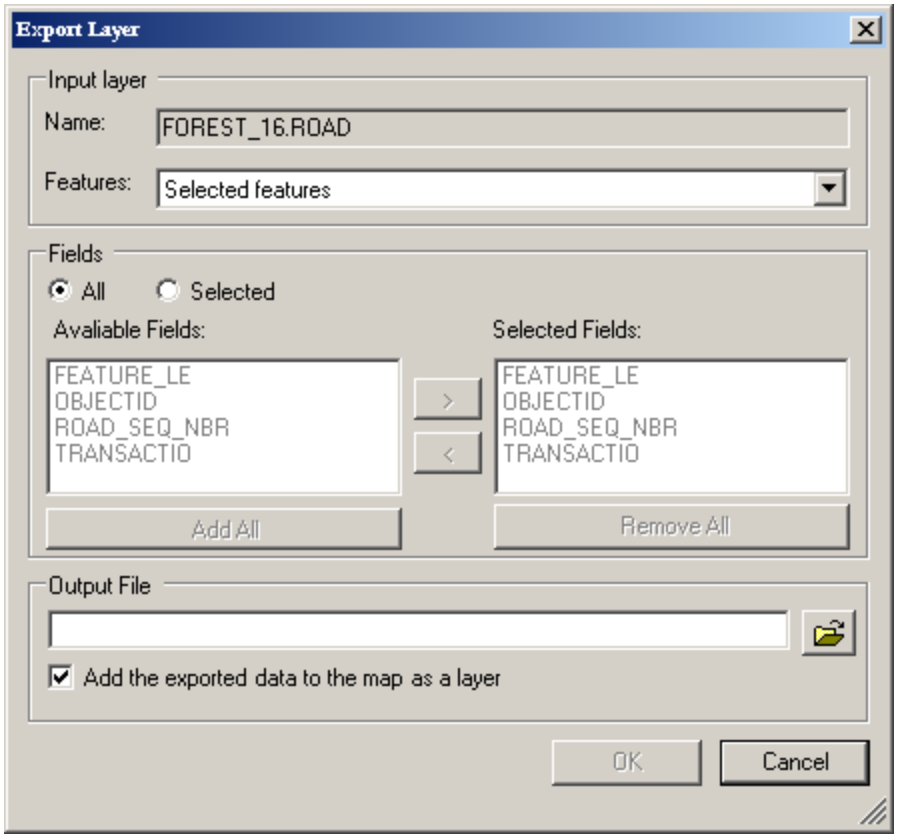

Figure 12 - Export Layer Dialogue

- *Select* the type of features from the **Features** drop-down list;
- *Select* the **Selected** radio button in the Fields section if only specific fields will be included in the export;

If the **All** radio button is selected then all of the fields that appear in the **Available Fields** list will be exported.

- *Highlight* each field to be exported in the **Available Fields** list and *click* add button > to add to the **Selected Fields** list;

Clicking the REMOVE button < will remove the highlighted field from the **Selected Fields** list back to the **Available Fields** list.

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- *Click* OPEN DIALOGUE button to open the **Save As** dialogue;

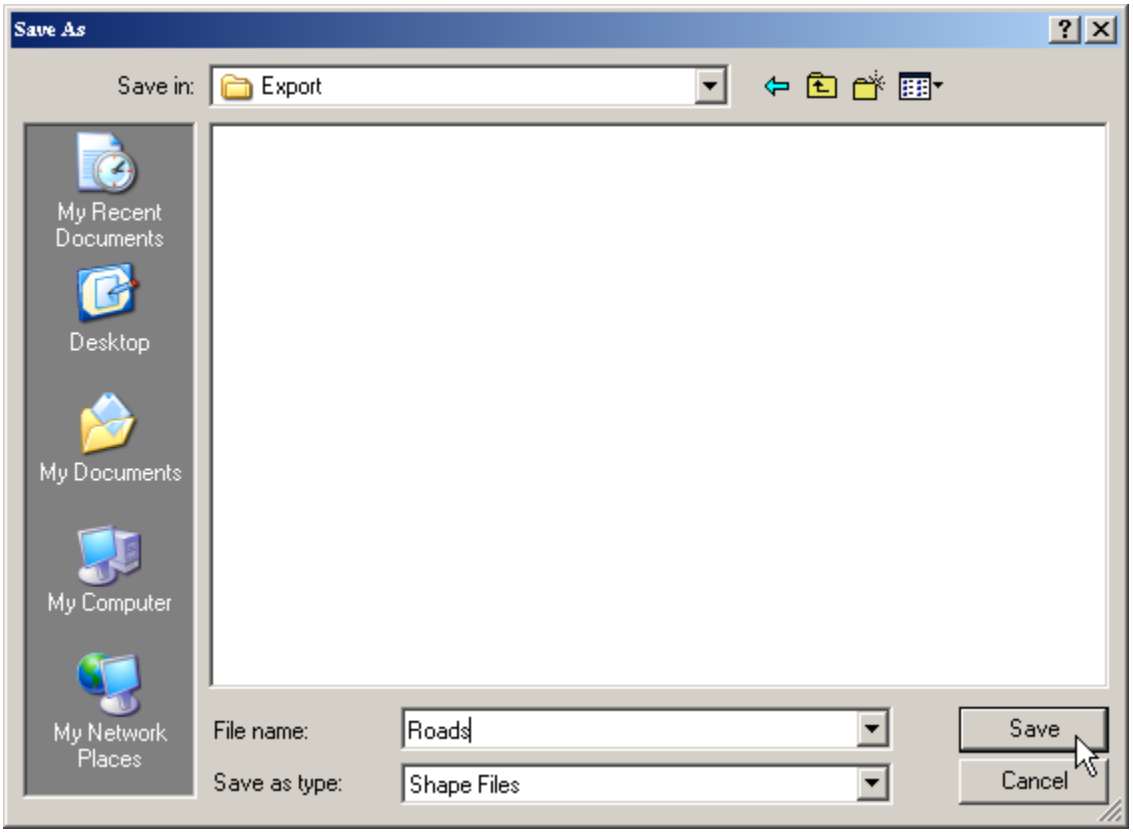

Figure 13 - Export Layer: Save As Dialogue

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- *Navigate* to the appropriate server / folder;
- *Enter* the name of the shapefile and *click* the save button Save;

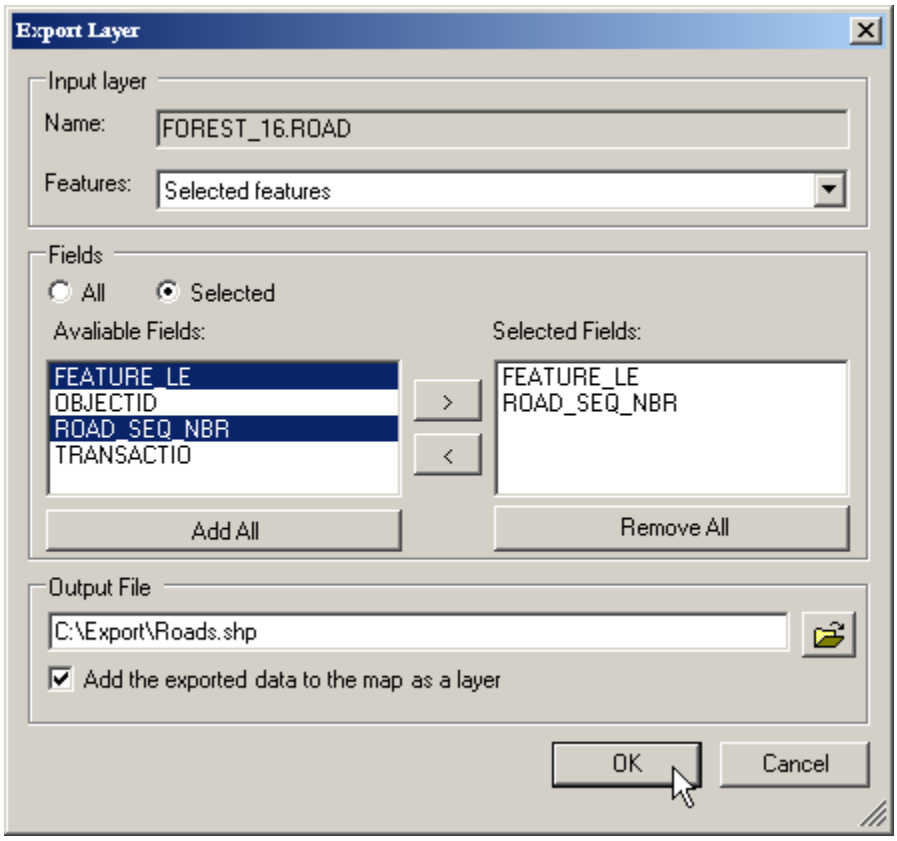

Figure 14 - Export Layer: Exporting Data

- *Click* OK to save changes to the database and close the window.

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If the **Add the exported data to the map as a layer** checkbox is checked off the selected fields will create a new layer for the map.

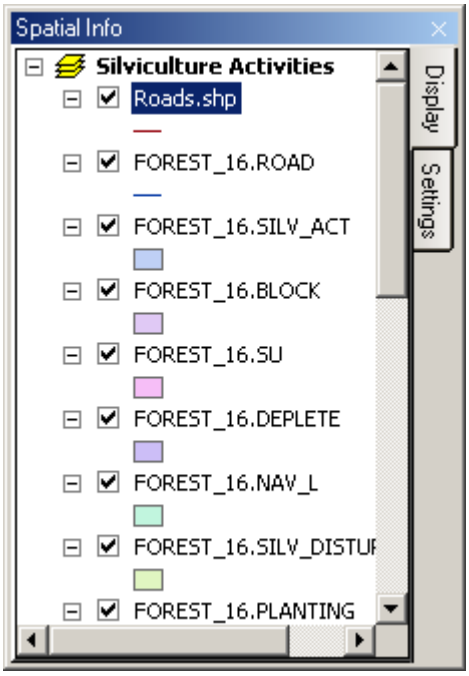

Figure 15 - Export Layer: New Layer

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4.2.1.4 Layer Properties Window

In the **Display** tab of the **Spatial Info** panel the source of the layer can be reviewed, the symbology changed, and layers labelled.

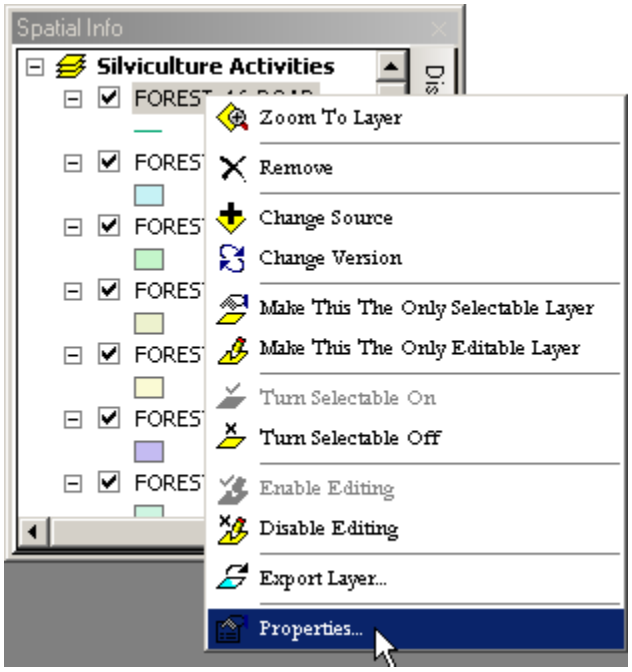

Figure 16 – Spatial Info Panel: Layer Properties

To open the **Properties** dialogue:

- *Highlight* the layer in the **Display** tab;
- *Right-click* and *select* Properties.

This allows users to view the properties for each layer that has been set in the MXD file. Optionally the scale range of the layer can be modified, as well as enter data for the **Description** and **Credits** attributes.

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General Tab

All changes in the **General** tab only apply to the current session and will be re-set to the default settings when the map is re-loaded. To save the changes, a snapshot must be created (or change the properties in the MXD file or Map Cabinet).

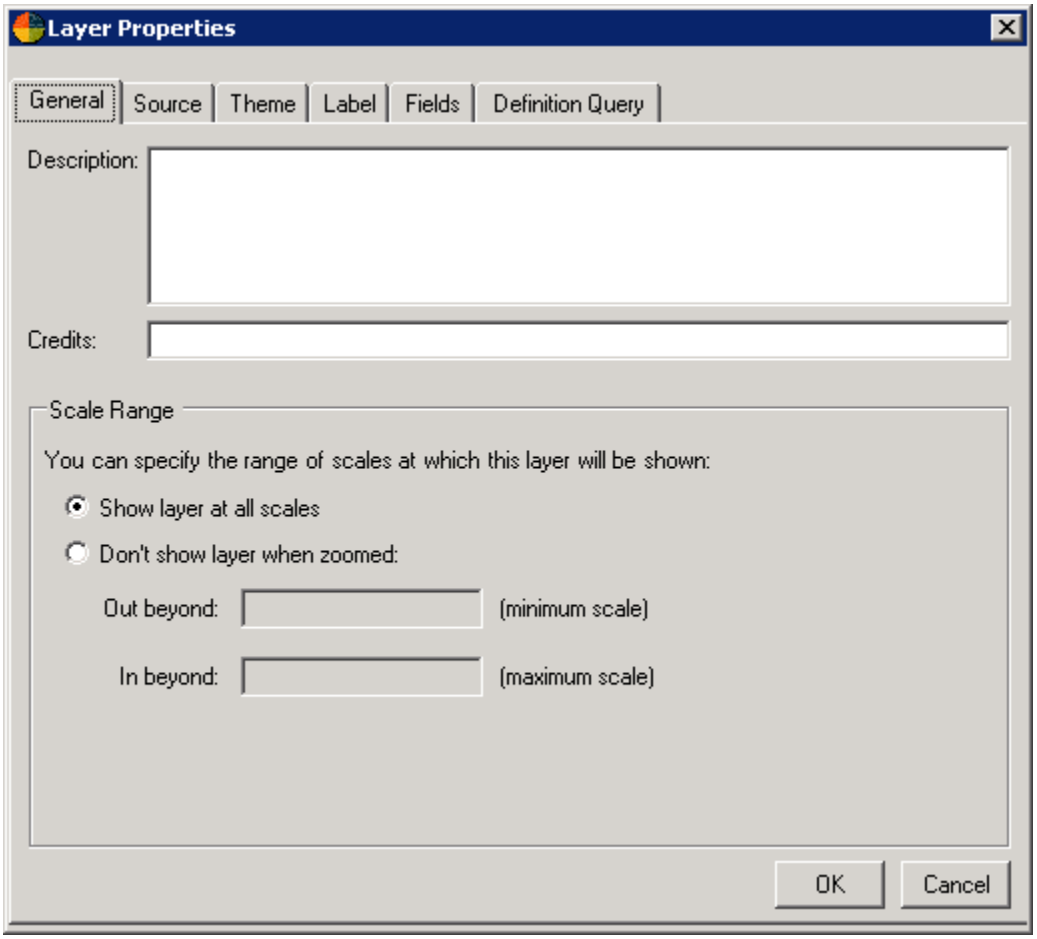

Figure 17 - Layer Properties Window: General Tab

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Source Tab

The layer source information can be reviewed in the **Source** tab.

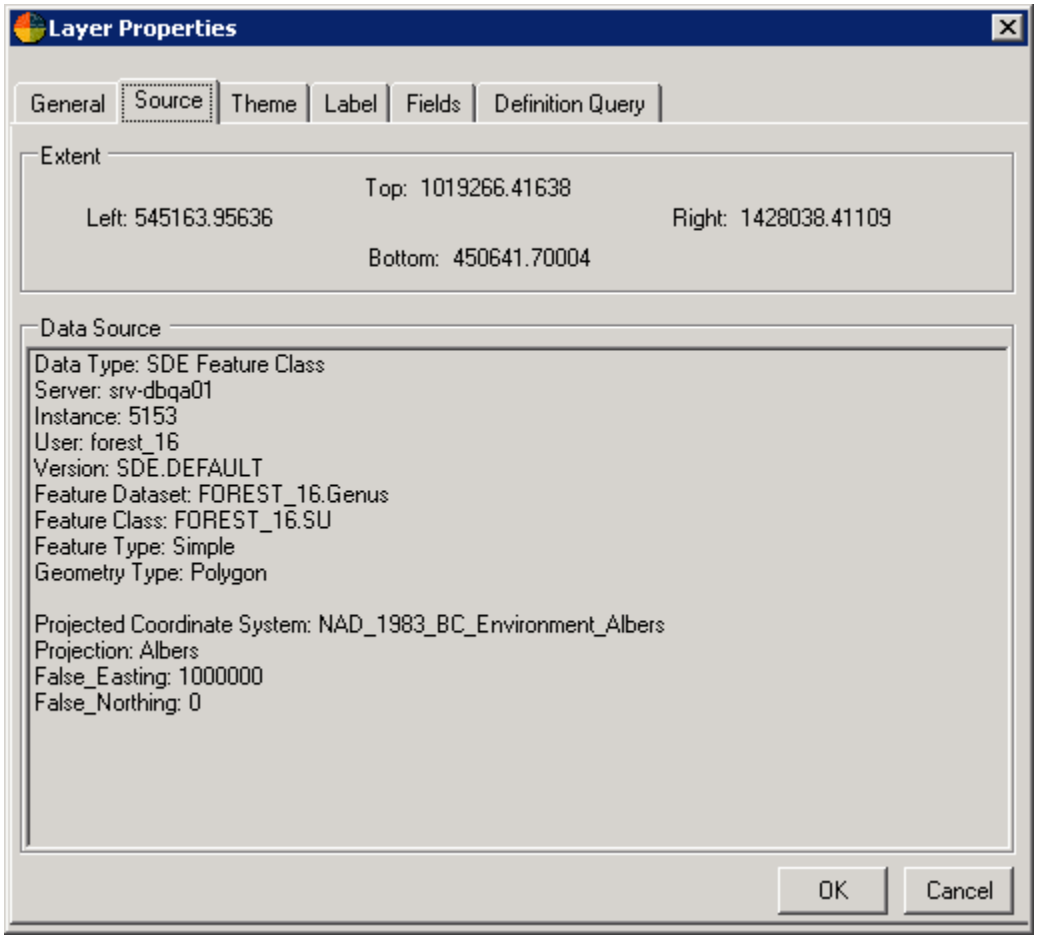

Figure 18 – Layer Properties Window: Source Tab

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Theme Tab

A **Single Symbol** option has been added to the **Theme** tab to allow users to reset a legend from a unique values or graduated colours legend to a simple legend.

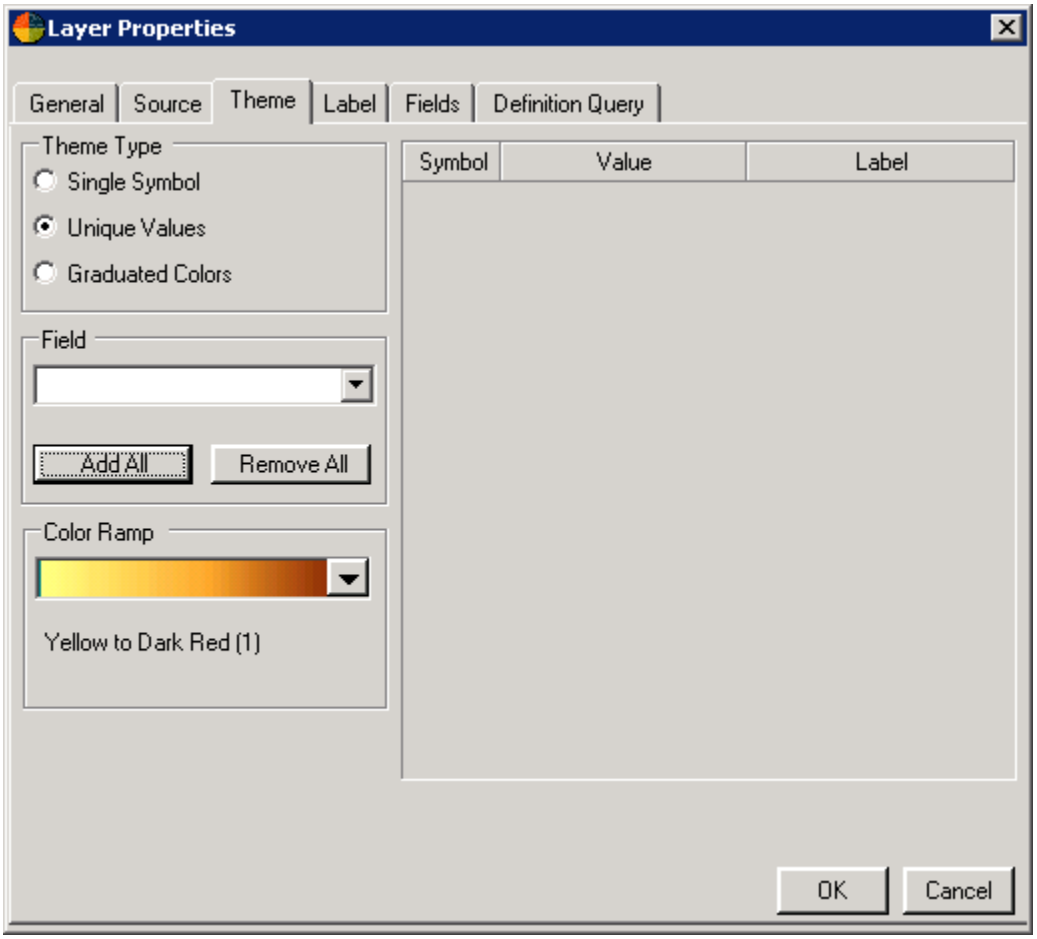

Figure 19 - Layer Properties Window: Theme Tab

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To select a unique value:

- *Select* the **Unique Values** radio button;
- *Right-click* within the list of values to open a pop-up menu;
- *Select* Add Value(s);

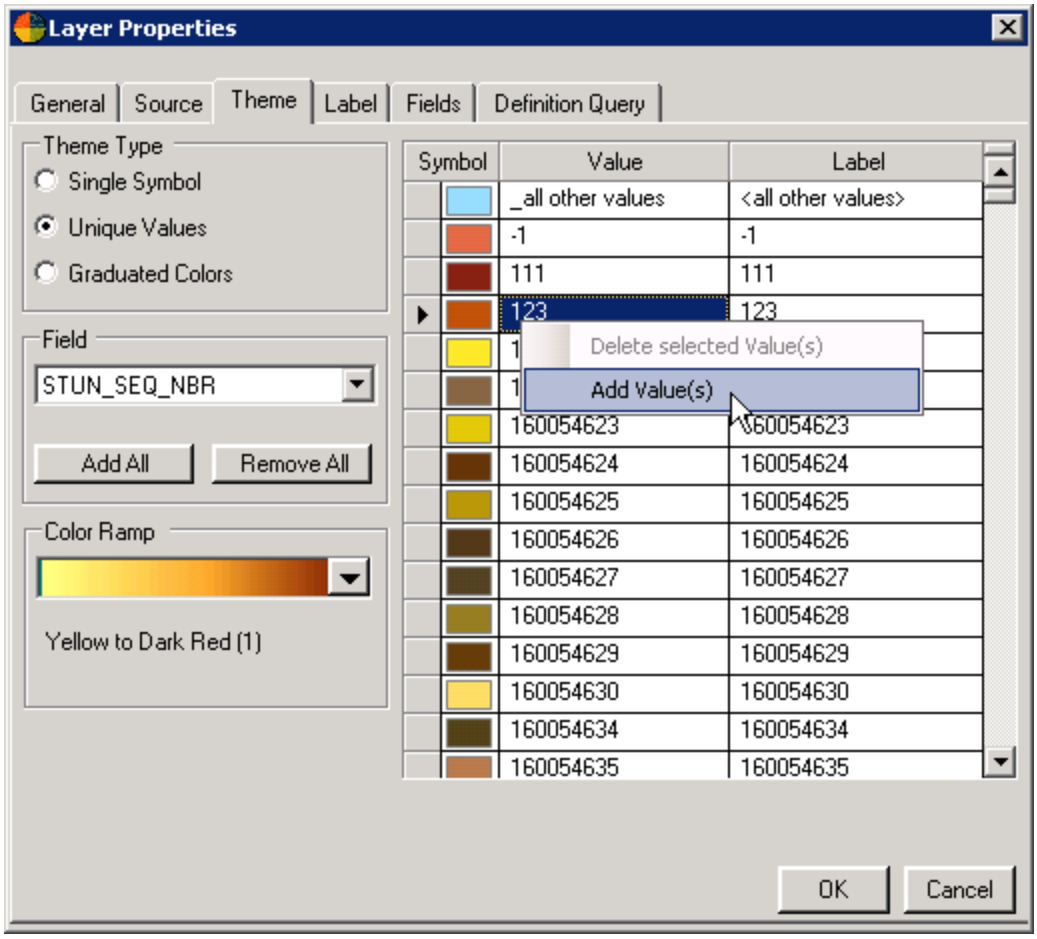

Figure 20 – Theme Tab: Adding a Value

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- *Enter* a user-defined value and *click* the add to list button

;
- *Click* OK to add to the list of values;

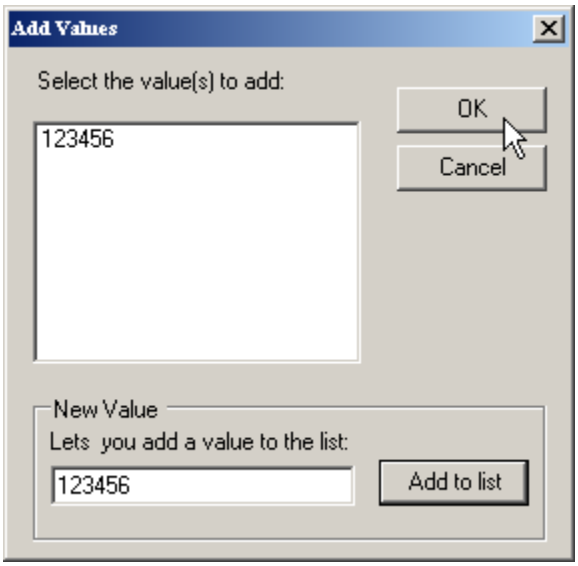

Figure 21 - Theme Tab:Add Values Dialogue

When a new value is added to the list, the symbol will default to the first symbol in the list, but a unique symbol should be selected.

- *Double-click* the symbol and *select* a unique symbol in the **ESRI Styles** dialogue;

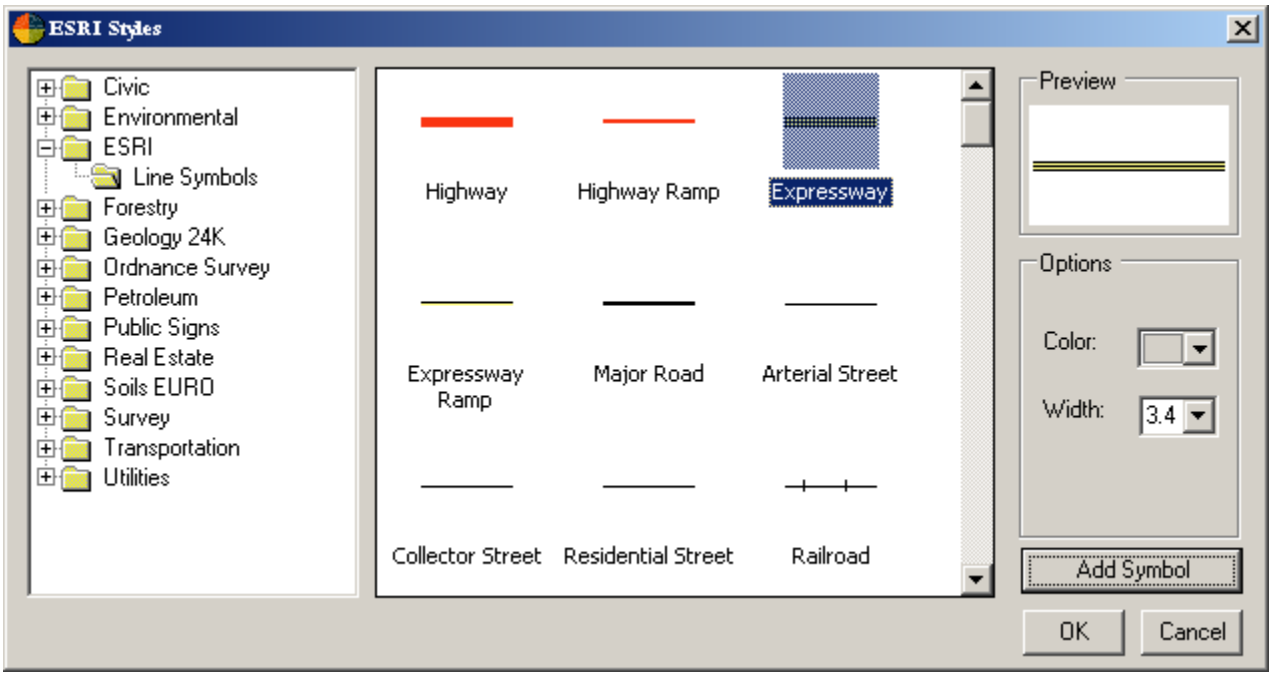

Figure 22 - Theme Tab: ESRI Styles Dialogue

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- *Click* Add Symbol (ADD SYMBOL) and *enter* a unique name in the **Symbol Name** dialogue;
- *Click* OK to close the window.

Please refer to **Section 5.1.10, Theme Tab**, for details.

Label Tab

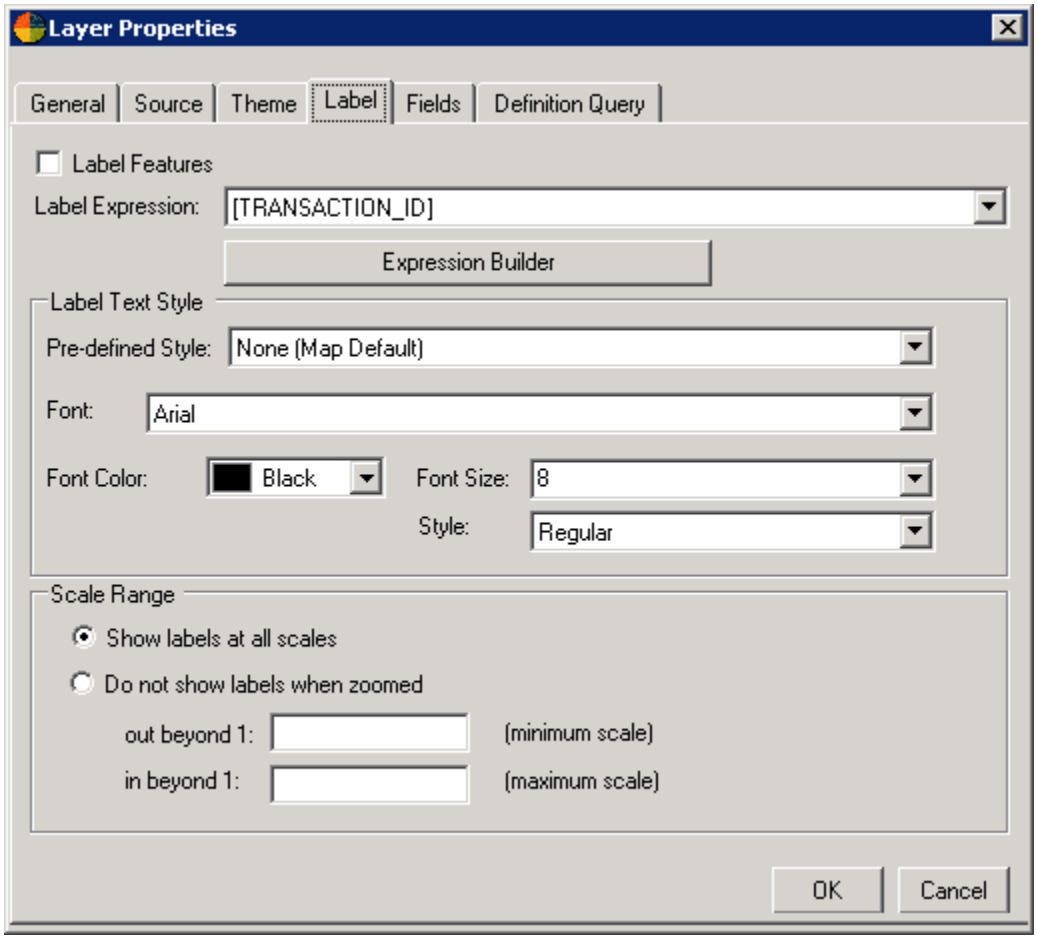

Figure 23 – Layer Properties Window: Label Tab

Selecting the **Label** tab will enable labels to be defined for the selected map layer. Please refer to **Section 5.1.11, Labels Tab**, for details.

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Fields Tab

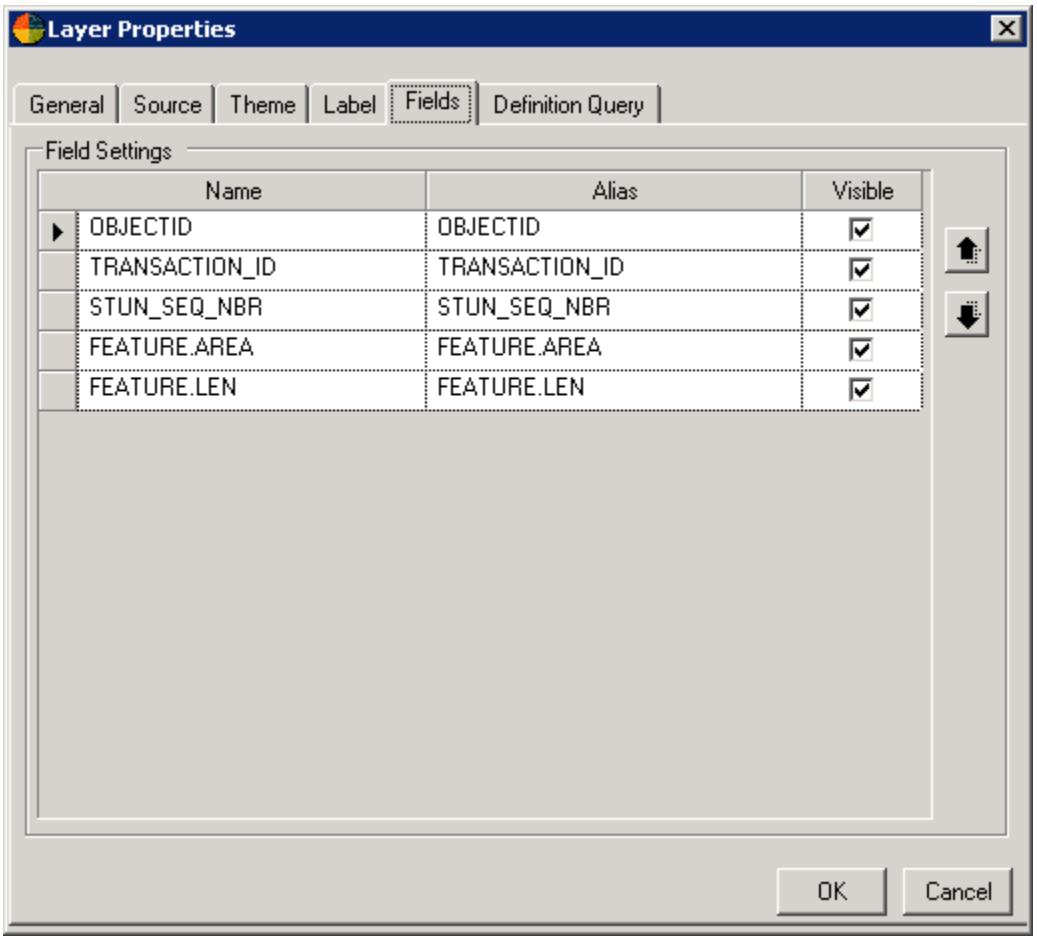

Figure 24 - Layer Properties: Fields Tab

- Changes made on the tab are now applied only to the current user's session;
- The ability to permanently modify the field configuration for a layer has been moved into **Template Manager**, thereby limiting this capability to users with admin privileges.

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Definition Query

The **Definition Query** tab includes additional buttons to assist the user in constructing the filter expression.

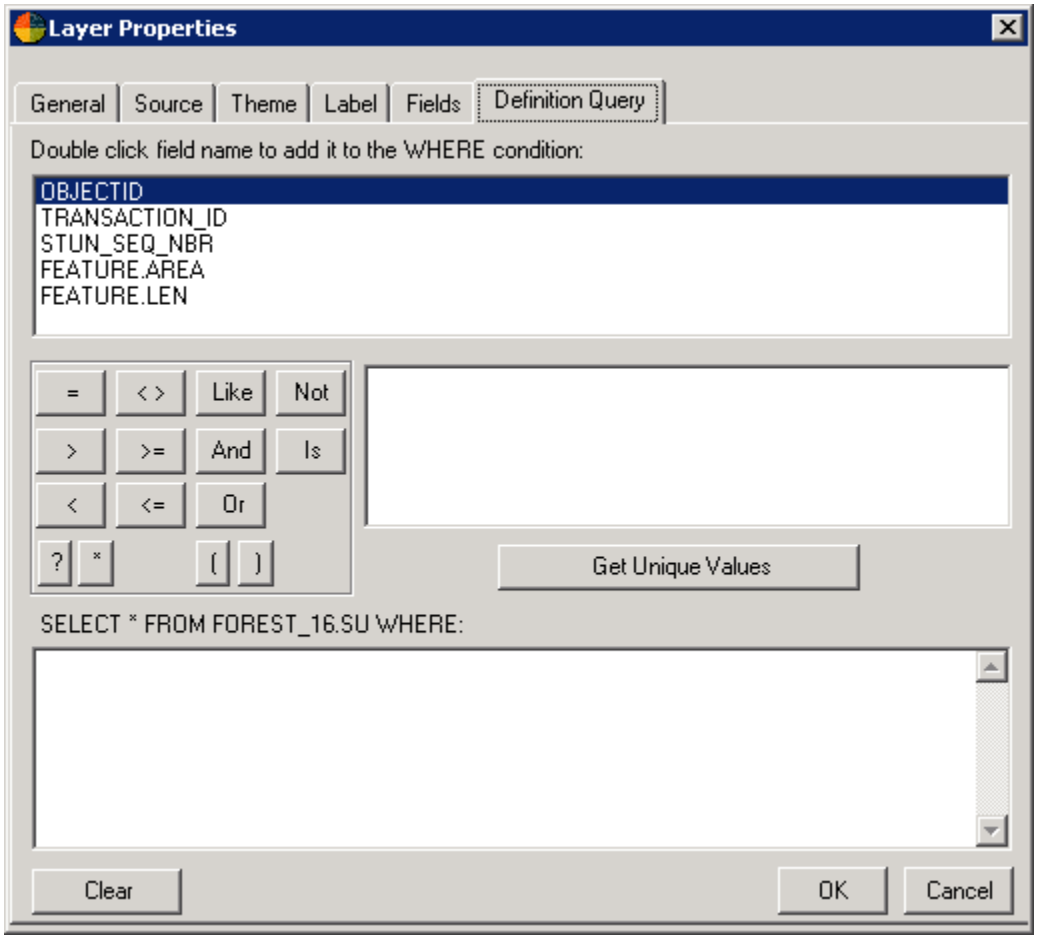

Figure 25 - Layer Properties: Definition Query Tab

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4.2.1.5 Settings Tab

The **Settings** tab contains the controls to enable layer settings to be managed.

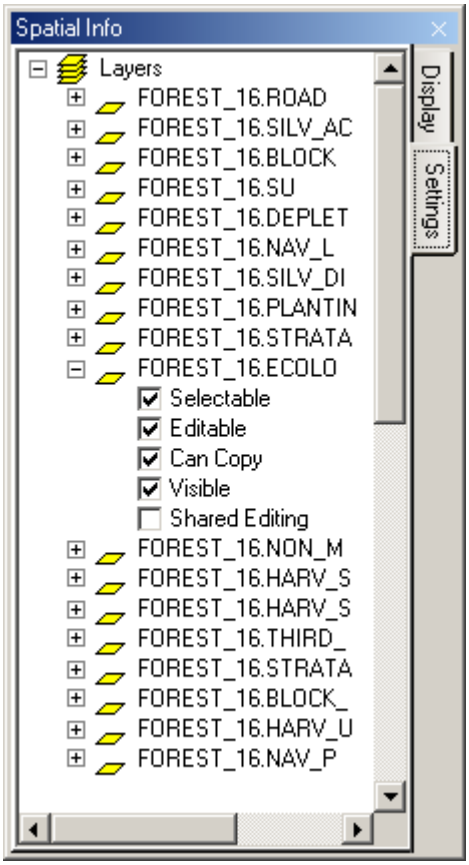

Figure 26 – Spatial Info Panel: Settings Tab

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The following table summarizes the layer setting controls:

Control	Description
Selectable	*Check off* the checkbox to enable: the elements of the feature class (layer) to be selected using the **Navigation / Selection** toolbar buttons, or spatial queries; the link between the **Navigator** tree in Cengea Forest and the layer features; the **Editable** and **Can Copy** checkboxes to be active. *Uncheck* the checkbox to set the layer to display only and be excluded from selection functionality.
Editable	*Check off* the checkbox to enable the elements of the feature class (layer) to be edited (i.e., create new features or modify existing features). *Uncheck* the checkbox to set the features to read-only.
Can Copy	*Check off* the checkbox to enable the layer features to be copied utilizing the appropriate editing tools. *Uncheck* the checkbox to disable the copy functionality.
Visible	*Check off* the checkbox to enable the layer to be visible. *Uncheck* the checkbox to hide the layer.
Shared Editing	*Check off* the checkbox to enable the layer features to be included in appropriate shared editing tools. *Uncheck* the checkbox to disable the shared edit functionality.

Table 3 – Spatial Info Panel: Selection Tab Controls

Please note the following important details:

- Right-clicking Layers in the **Settings** tab enables all layer properties, or only one property for all layers, to be checked off or un-checked. For example, selecting Uncheck All will un-check all properties for all layers or selecting Uncheck All then Editable, from the pop-up menu, will un-check the Editable property for all layers. Selecting Expand all will expand the tree structure; Collapse all will collapse the tree structure;
- Right-clicking an item, e.g., Selectable, and selecting Check All will check off that property for all layers;
- A layer does not have to be editable to enable the copy functionality, but it does have to be selectable (i.e., it can be a source of spatial data but not necessarily a target);
- Multiple layers can have the selection, edit, and copy functionality checked off, but only the target layer is editable;
- Un-checking the **Selectable** checkbox automatically un-checks the **Editable** and **Can Copy** checkboxes;
- Checking off the **Editable** checkbox automatically checks off the **Selectable** checkbox;
- Un-checking the **Visible** checkbox automatically un-checks all other properties;
- The administrative property settings for the **Selectable, Editable,** and **Can Copy** checkboxes are managed in the **Map Features** tab of the Map Manager. Layer properties are disabled (greyed out) for non-admin users;
- The number of features, in individual layers, that have been selected on the map are displayed in the **Settings** tab.

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Managing Layer Settings

Right-clicking a layer in the **Display** tab enables the selectable and editable layer settings to be managed:

- *Select* Make This The Only Selectable Layer to uncheck the **Selectable** checkbox in the **Settings** tab for all other layers;
- *Select* Make This The Only Editable Layer to uncheck the **Editable** checkbox in the **Settings** tab for all other layers;
- *Select* Turn Selectable Off to uncheck the **Selectable** and **Editable** checkboxes in the **Settings** tab for the highlighted layer;
- *Select* Turn Selectable Off to uncheck the **Selectable** and **Editable** checkboxes in the **Settings** tab for all layers;
- *Select* Turn Selectable On to check off the **Selectable** and **Editable** checkboxes in the **Settings** tab for the highlighted layer.
- *Select* Turn Selectable On to check off the **Selectable** and **Editable** checkboxes in the **Settings** tab for all layers.

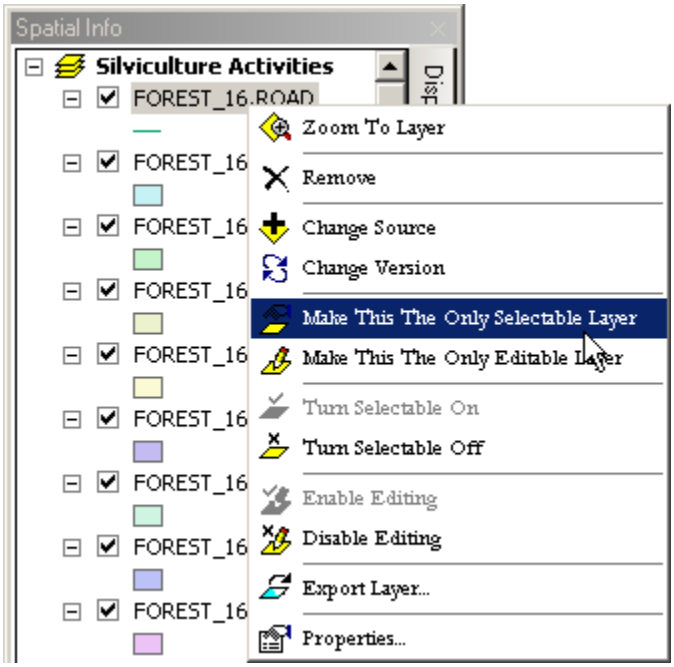

Figure 27 - Spatial Info Panel: Managing Layer Settings

Selecting Make This The Only Selectable Layer or Make This The Only Editable Layer affects the selectable or editable setting for all layers.

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4.2.2 Work Flow Panel

In the **Work Flow** panel the tasks, activities, and work phases are managed in these tabs:

- **Map Cabinet**
- **Map Templates**
- **Tool Box**
- **Admin**

4.2.2.1 Map Cabinet Tab

The **Map Cabinet** tab contains a tree structure that enables the maps to be navigated according to the groupings defined in the **Map Manager**.

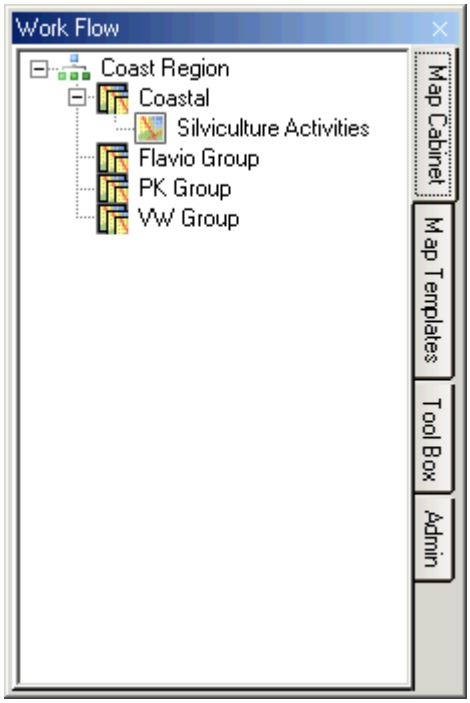

Figure 28 – Work Flow Panel: Map Cabinet Tab

Please note the following important details:

- Double-clicking the required map in the tree structure will replace the current map features in the **Data View** and **Page Layout** tabs;
- The tree structure will match the structure defined in the **Map Manager**;
- Right-clicking a template and selecting Preview will populate tags within a map;
- Right-clicking a map and selecting Set as Default will set the map to automatically open when the application is started. The map will also be restored to the extent of the default when opened;
- The user can choose to use the current layout of map templates (i.e., layer visibility, graphics, and added / removed layers) if the user selects the same template when generating maps.

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4.2.2.2 Map Templates Tab

The **Map Templates** tab contains a tree structure that enables the maps to be navigated according to the groupings defined in the **Template Manager**.

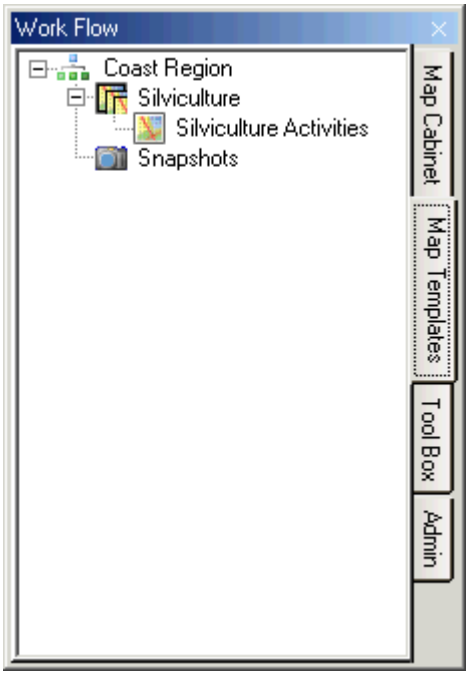

Figure 29 – Work Flow Panel: Map Templates Tab

Please note the following important details:

- Double-clicking the required map in the tree structure will replace the current map features in the **Data View** and **Page Layout** tabs;
- The tree structure will match the structure defined in the **Template Manager**;
- Right-clicking a template and selecting Set as Default will set the template to automatically open when the application is started;
- Right-clicking a template and selecting Preview will populate tags within a map;
- Current layout of map templates (i.e., layer visibility, graphics, and added / removed layers) will remain if the user selects the same template when generating maps.

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4.2.2.3 Tool Box Tab

The **Tool Box** tab is client specific. Please contact a Client Services representative for details.

The **Tool Box** tab contains functionality enabling users to check out and check in personal geodatabases.

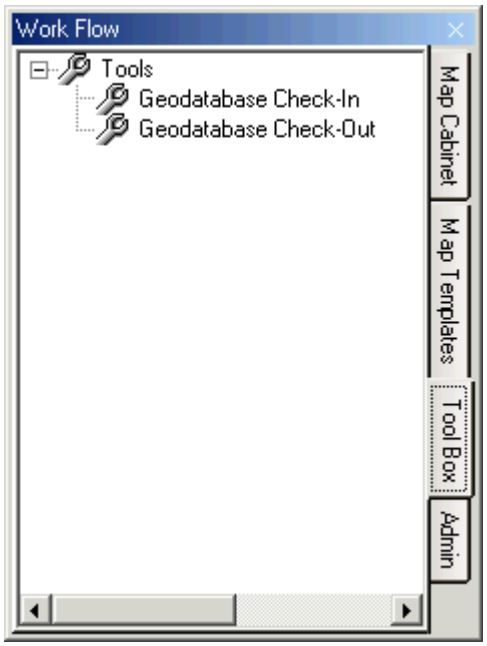

Figure 30 – Work Flow Panel: Tool Box Tab

To check out a geodatabase:

- *Double-click* Geodatabse Check-Out to open the **Check-Out** dialogue;
- *Select* the extent to be used for the check out;
- *Click* OK to begin the process;

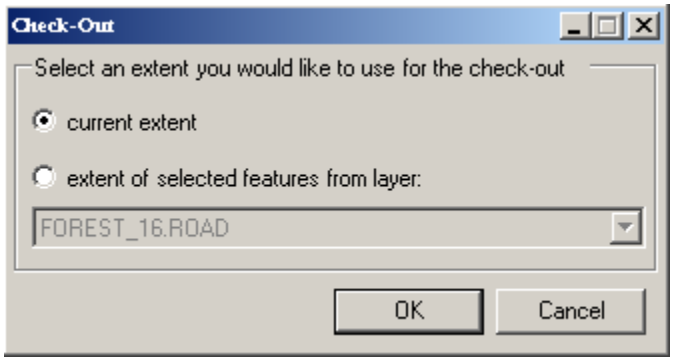

Figure 31 - Tool Box Tab: Check-Out Dialogue

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- *Click* the close button

to close the **Check-Out Data** dialogue, once the data has been successfully checked out.

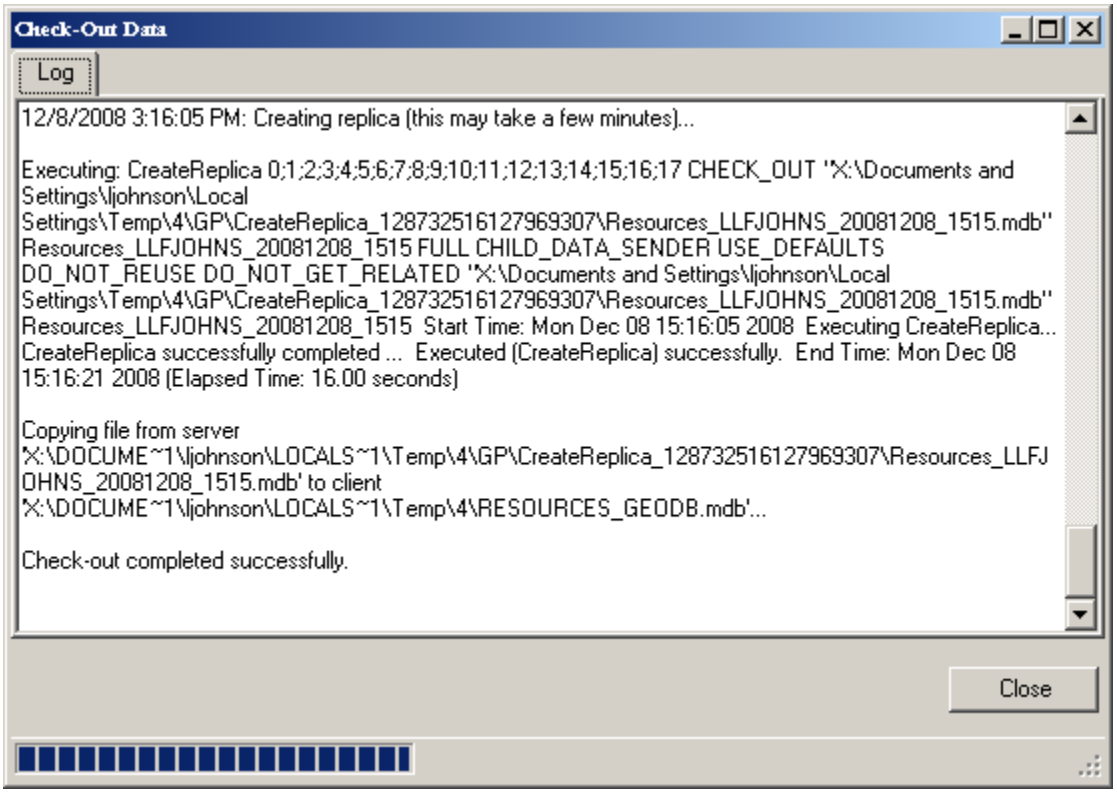

Figure 32 - Tool Box Tab: Check-Out Data Dialogue

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To check in a geodatabase:

- *Double-click* Geodatabse Check-In to open the **Check-In Data** dialogue and begin the check in process;

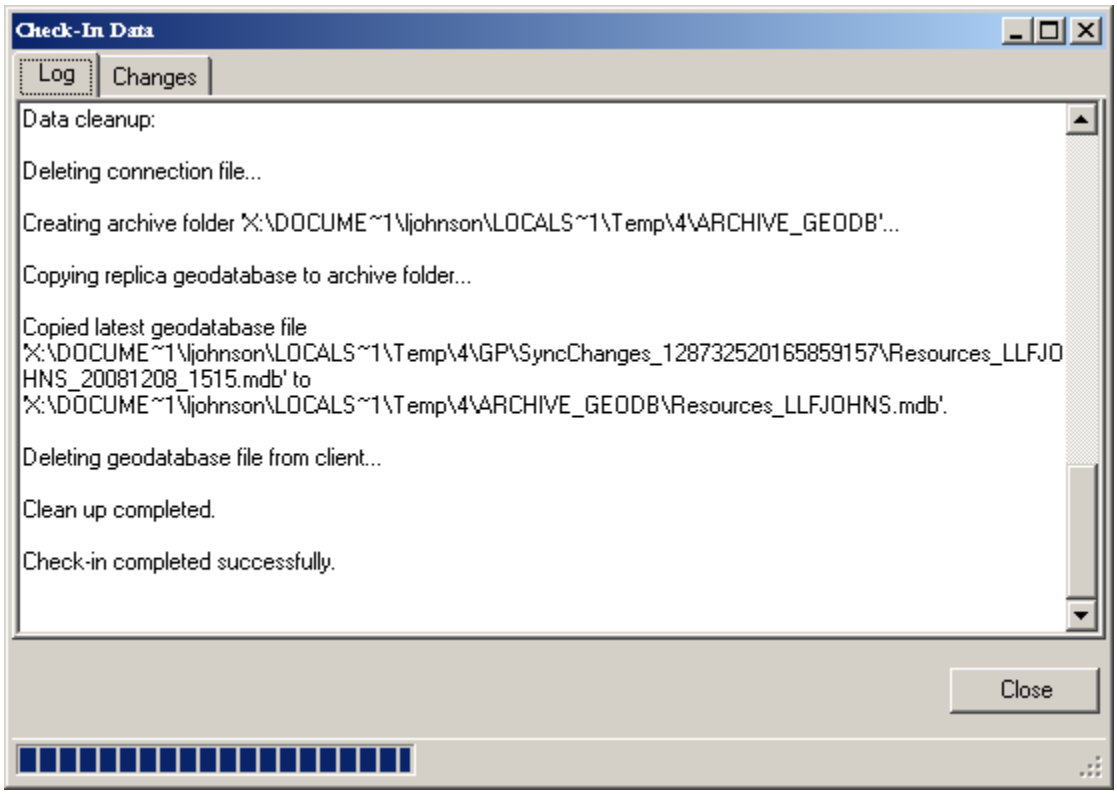

Figure 33 - Tool Box Tab: Check-In Data Dialogue

- *Select* the **Changes** tab to review the changes made to the geodatabase (modifications, deletions, and new items);
- *Click* to close the **Check-In Data** dialogue, once the data has been successfully checked in.

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4.2.2.4 Admin Tab

The **Admin** tab contains a tree structure that lists the administrative managers.

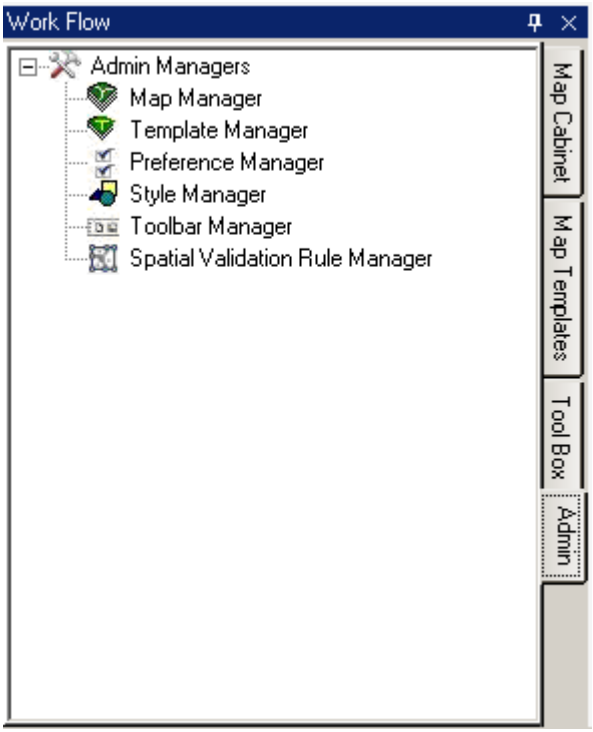

Figure 34 – Work Flow Panel: Admin Tab

Double-clicking the required admin manager in the tree structure will open the associated window.

Administrators are able to control user privileges with in the work flow with security settings.

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4.2.2.4.1 Spatial Validation

Spatial validation can check - and optionally enforce - selected topology rules between polygons.

The validation can be configured to occur every time a spatial edit session is saved, ensuring that features created, edited and/or deleted during the edit session are checked before the changes are saved. Shapes that violate a rule are displayed in a new **Error Inspector** dialogue, showing what the problem is and allowing the shape to be zoomed to and edited.

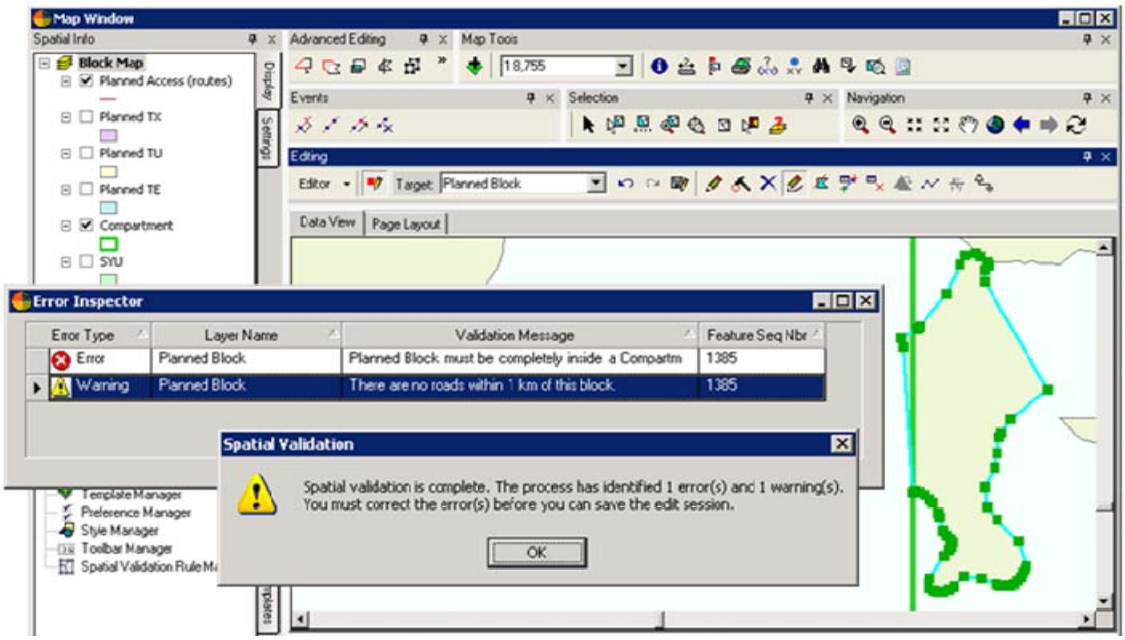

Figure 35 – Spatial Validation

Validation can be set:

- Within a layer (e.g., to prevent two shapes from overlapping within a layer);
- Between layers (e.g., to warn if a proposed harvest area is partially within a riparian zone):
  - Validation is run automatically when saving an edit session (whether initiated in Resources or the Map Window);
  - In addition, the spatial validation can be run at any time, for selected layers and/or selected shapes within each layer, by clicking the SPATIAL VALIDATION tool. This can be useful to check data after an import, or to re-check rules that are configured as warnings. It is also useful if users don't want to perform spatial validation live when an edit session is saved, and instead want to do periodic after-the-fact checks.

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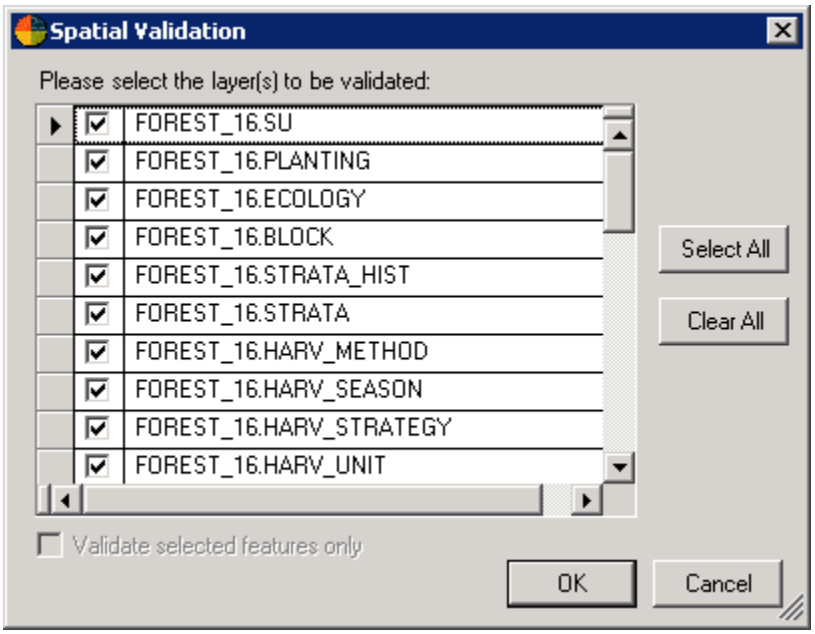

Figure 36 – Spatial Validation

The spatial validation rules are fully configurable for each business class using the Spatial Validation Rule Manager (accessed from the **Admin** tab), including:

- The type of topological rule to be checked;
- The layers that will be compared in the check (and optionally a definition query limiting the records within the layer to be checked);
- The severity of the rule (that is, whether the user should merely be warned about the problem or prevented from saving their edits);
- The message to display to the user when the rule fails.

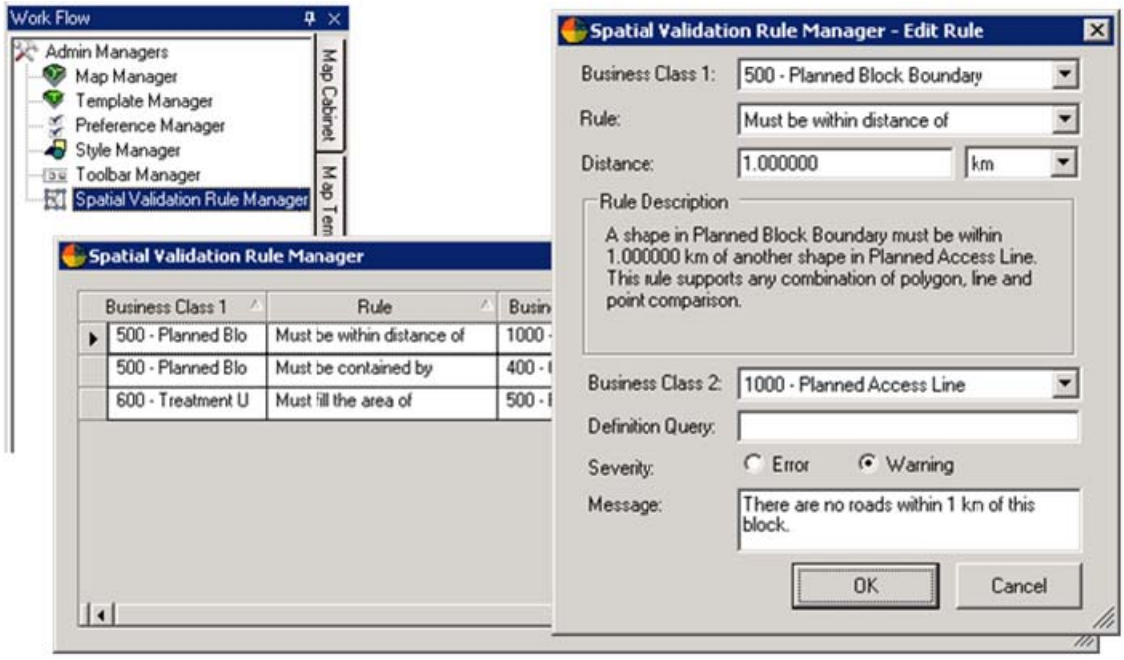

Figure 37 – Spatial Validation Rule Manager

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Point, line and polygon feature class layers can participate in the spatial validation process, and a variety of data sources are supported including SDE layers, shapefiles, personal and file geodatabases. The following rules are supported:

Rule	Rule Description
Must not overlap	A shape in Business Class 1 must not overlap another shape in Business Class 2.
Must be contained by	A shape in Business Class 1 must be contained by another shape in Business Class 2.
Must be within distance of	A shape in Business Class 1 must be within a specified distance of another shape in Business Class 2.
Must not be within distance of	A shape in Business Class 1 must not be within a specified distance of another shape in Business Class 2.
Must intersect	A shape in Business Class 1 must intersect another shape in Business Class 2.
Must not intersect	A shape in Business Class 1 must not intersect another shape in Business Class 2.
Must fill the area of	A shape in Business Class 2 must be wholly filled with shapes in Business Class 1.

For a given rule, different values can be specified for Business Class 1 and Business Class 2 to validate between two layers, or the same values can be specified to validate within a layer.

By default no validation rules are configured, and the Spatial Validation tool must be added to one of the toolbars using Toolbar Manager. Please refer to the ***Spatial Validation Configuration Guide*** for complete details on how to configure this new functionality.

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4.2.3 Attribute Info Panel

In the **Attribute Info** panel attribute editing of non- Cengea Forest feature classes and a limited set of standard feature class attributes for Cengea Forest layers are facilitated.

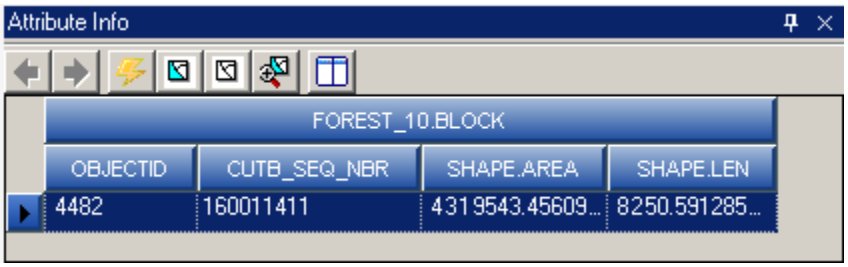

Figure 38 – Attribute Info Panel

- The name of the layer and the number of records selected in the layer appears in the title bar of the panel. The record count indicates the number of records selected and the total number of records in the layer.
- Checking off the **Show All** checkbox displays all of the records in the layer's attribute table regardless of which records are selected on the map. When unchecked (the default), only show those records that are currently selected on the map are displayed.
- When **Show All** is checked off, clicking a row in the grid selects the record both in the attribute table and on the map (that is, it changes the spatial selection). When **Show All** is unchecked selecting a record highlights the record in the attribute table, but does not change the spatial selection.
- The grid can be split horizontally and/or vertically, allowing columns and/or rows to freeze/lock.
- Double-clicking a row in the grid will not unselect and remove all other records from the grid.

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Right-clicking a column heading will open a pop-up menu that offers functionality similar to Query Builder:

- Records in the grid can be exported to various formats - tab separated text file (*.txt), comma separated text file (*.csv), XML file (*.xml), or Microsoft Excel file (*.xls). All records in the layer can be exported or only the selected records in the layer.
- Records in the grid can be printed. A **Print Preview** window displays what the printed result will look like and allows the printer and/or page setup to be changed. All records in the layer canbe printed or only the selected records in the layer.

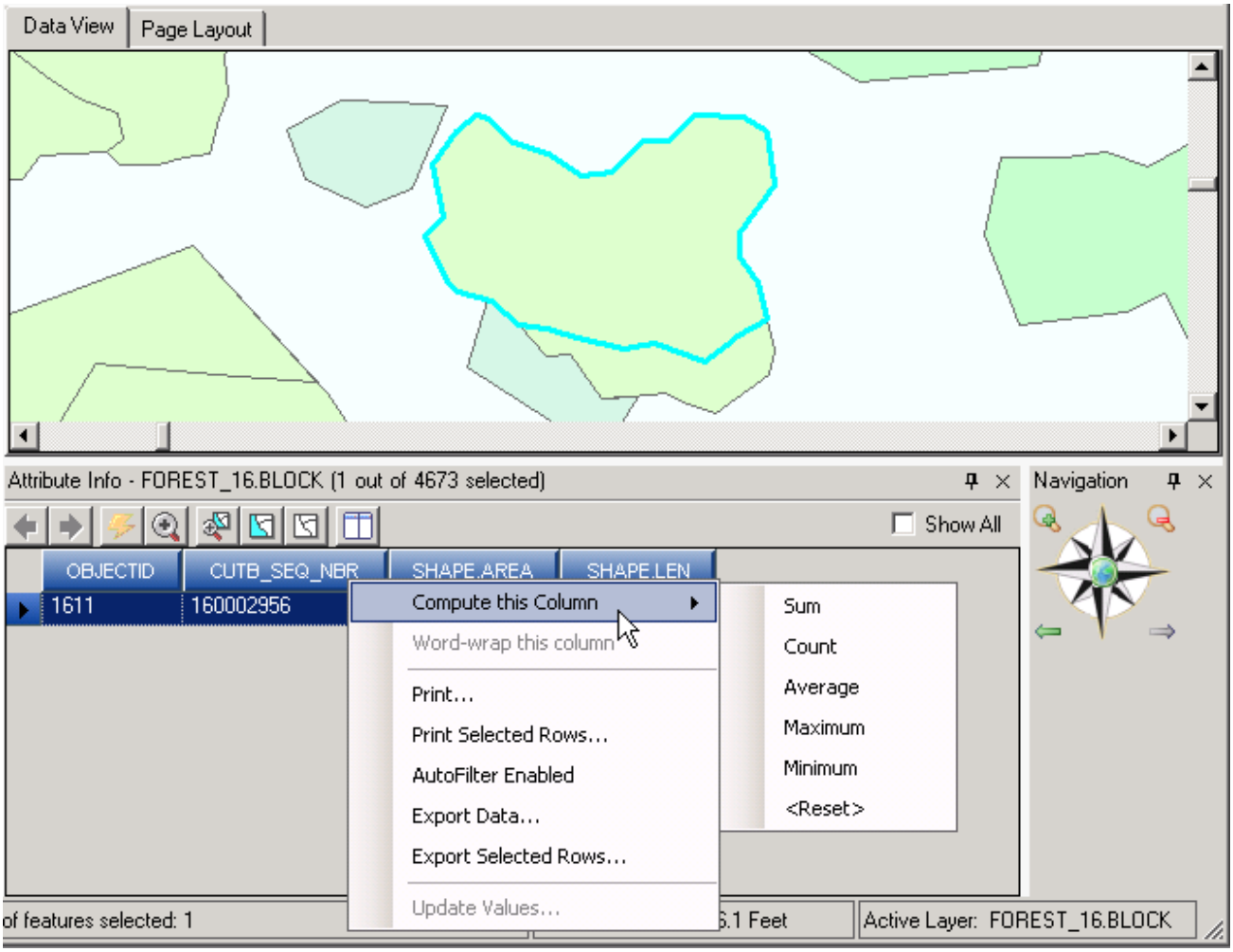

Figure 39 - Attribute Info Panel

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Data can be previewed before printing.

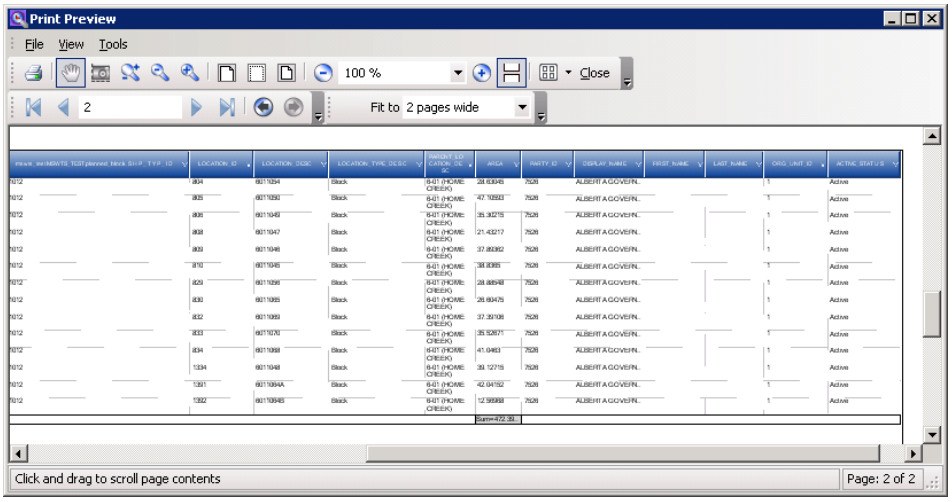

Figure 40 - Print Preview Window

Records in the grid can be can be dynamically filtered using Auto-Filter functionality very similar to that in Microsoft Excel.

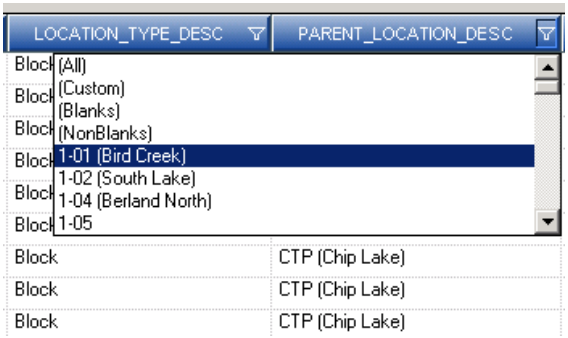

Figure 41 - Auto Filter Functionality

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When records are filtered, the number of records displayed is shown in the title bar as a reminder that only a subset of the records in the layer are being displayed.

Figure 42 - Selected Records

If a record is selected on the map that is not included in the current filter, the record will not be displayed in the grid.

Basic statistics (sum, count, average, minimum and maximum) can be calculated for numeric columns and the results displayed at the bottom of the grid.

Word-wrap can be enabled for character columns in the grid to allow long values to be displayed on multiple lines.

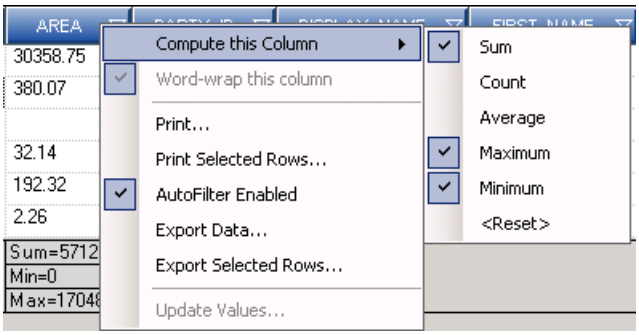

Figure 43 - Compute this Column

4.2.3.1 Update Values

Values can be mass-updated using the **Update Values** function. Only fields that have been configured to be editable can be updated, and an appropriate dialogue displays depending on whether the field has been configured to be a textbox, drop-down list, or date.

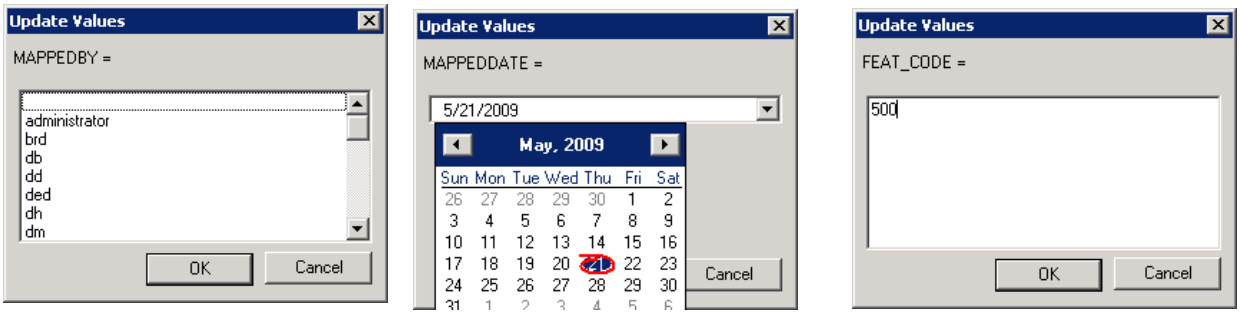

Figure 44 - Update Values Function

The **Update Values** option is only enabled for fields that exist in the spatial layer itself (not joined fields), and users must be in an edit session with one or more rows selected (only the selected rows are updated).

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4.2.3.2 Attribute Info Toolbar

The following default controls are available on the **Attribute Info** toolbar:

Control	Description
	PREVIOUS RECORD
	NEXT RECORD
	FLASH ASSOCIATED MAP FEATURE
	ZOOM TO ACTIVE ROW'S FEATURE
	SELECT/UNSELECT ACTIVE ROW'S FEATURE
	CLEAR LAYER SELECTION
	ZOOM TO SELECTED FEATURES IN LAYER
	SWITCH GRID LAYOUT STYLE Clicking button will switch the layout between grid and form layout style.

Table 4 – Attribute Info Toolbar Controls

- The ZOOM TO ACTIVE ROW'S FEATURE tool zooms to the shape associated with the row that is active in the grid:
  - Only one row is ever active at a time, designated by the black triangle in the left-most grid column. The active row is not necessarily one of the selected rows. Selected rows are designated by highlighting the entire row (keeping in mind the differences when **Show All** is checked off or unchecked).
- The ZOOM TO SELECTED FEATURES IN LAYER tool zooms to all of the selected records in the layer (zoom to the spatial selection).
- The SELECT/UNSELECT ACTIVE ROW'S FEATURE tool adds or removes the active record to/from the spatial selection. This tool is disabled if the layer is not selectable.
- The CLEAR LAYER SELECTION tool unselects all records in the active layer, rather than the record(s) highlighted in the attribute info grid. This tool is disabled if the layer is not selectable.
- When using the NEXT RECORD and PREVIOUS RECORD tools the current row is designated with the black triangle instead of highlighting the entire row as users move through the records.

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4.2.4 Quick Navigator

The **Quick Navigator** provides another map navigation option. It enables the selected tool to remain active while clicking the various options in the panel to zoom, pan, or move between previous and next extents.

Figure 45 – Quick Navigator

The functionality of the **Quick Navigator** includes:

- Fixed zoom in and zoom out by clicking the ZOOM icons (*click* the respective MAGNIFYING GLASS icons);
- Variable zoom in and zoom out by holding the SHIFT key and clicking the ZOOM icons;
- Panning in eight directions (*click* the arrow points);
- Zooming to full extent (*click* the GLOBE icon);
- Next and previous extents navigation (*click* the respective ARROW icons).

4.3 Toolbars

The toolbars include a wide range of tools to enable map tasks (i.e., editing, navigation, and selection).

Toolbars are fully configurable in the **Toolbar Manager** and can be grouped differently than shown in this section. Administrative users have the ability to hide / show tools. Please contact the GIS Administrator if a tool does not appear.

Toolbars can be locked to maximize screen real estate.

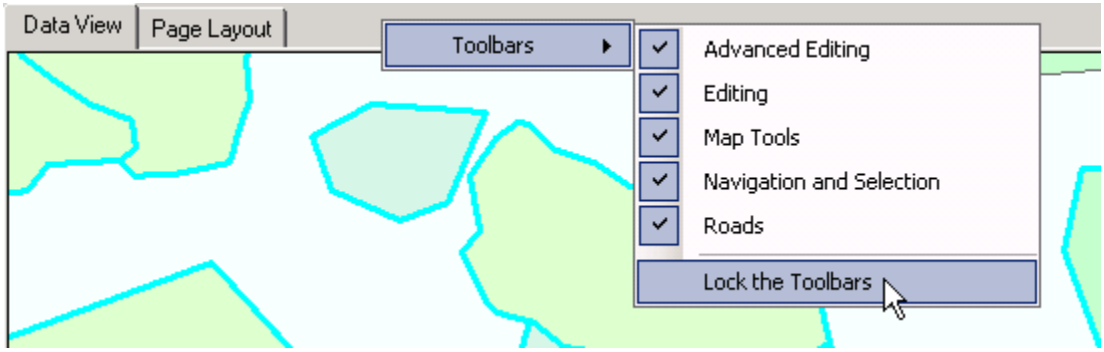

Figure 46 - Toolbars: Locking

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Standard keyboard shortcuts for cut (CTRL+X), copy (CTRL+C), paste (CTRL+V), undo (CTRL+Z) and redo (CTRL+Y) can be used in the **Data View** mode (these functions are not available in the **Page Layout** mode).

MXD files created for snapshots can be saved in sub-folders for each user on the file system, making the files easier to manage.

4.3.1 Navigation / Selection Toolbar

The following default controls are available on the **Navigation / Selection** toolbar:

Control	Description
	Scale A scale value can be entered directly into the text box or a predefined scale can be selected in the **Scale** drop-down list.
	ZOOM IN Clicking on a map is the same as using the FIXED ZOOM IN tool.
	ZOOM OUT Clicking on a map is the same as using the FIXED ZOOM OUT tool.
	FIXED ZOOM IN The zoom factor is set in the **Preferences Manager**.
	FIXED ZOOM OUT The zoom factor is set in the **Preferences Manager**.
	PAN Scroll bars at the edges of the map can be used to pan horizontally and vertically.
	ZOOM FULL EXTENT Will zoom to the datasets full extent.
	PREVIOUS EXTENT Will go back to the previous extent used.
	NEXT EXTENT Will use the last extent.
	REFRESH Clicking will refresh the view.
	IDENTIFY Clicking will provide spatial attribute information about the selected feature.
	SPATIAL EXPLORER Map Window is compatible with various spatial data formats. You can add data from a SDE database or the file system. When adding data from a SDE database clicking save will save your connection information.

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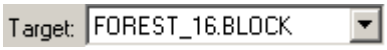
Control	Description
	SELECT TABULAR RECORD Only selects features in the target layer (clicking the appropriate layer in the **Display** or **Settings** tabs of the **Spatial Info** panel will set the target layer).
	SELECT ELEMENTS
	SELECT FEATURES The numbers of selected features for all layers appears in the status bar and the number of selected features for each layer appear in the **Settings** tab of the **Spatial Info** panel.
	SELECT FEATURES BY ATTRIBUTE Selects features in a particular layer based on attribute.
	ZOOM TO SELECTED
	CENTRE SELECTED
	CLEAR SELECTED FEATURES

Table 5 – Navigation / Selection Toolbar Controls

4.3.2 Editing Toolbar

The following default controls are available on the **Editing** toolbar:

Control	Description
	START AN EDIT SESSION
	START / STOP AN EDIT SESSION
	STOP AN EDIT SESSION
	**Target Layer** Only layers with the **Editable** checkbox checked off in the **Settings** tab of the **Spatial Info** panel are listed.
	UNDO THE LAST ACTION
	REDO THE LAST ACTION
	SAVES EDITS
	CREATE A FEATURE
	MODIFY A FEATURE Allows the feature to be modified by moving the features vertexes.

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Control	Description
	INTERACTIVELY BUILD FEATURES Allows new feature to be built based on a existing feature or spaghetti line work.
	NEW LINE
	RESHAPE FEATURE
	DELETE SELECTED FEATURE
	CLEAR EDITS
	LINK FEATURES
	UNLINK FEATURE

Table 6 – Editing Toolbar Controls

4.3.3 Advanced Editing Toolbar

The following default controls are available on the **Advanced Editing** toolbar:

Control	Description
	TRACE FEATURE
	AUTO-COMPLETE
	CLIP FEATURES
	SPLIT FEATURES Holding the SHIFT key and clicking on geometry that crosses the feature (e.g., a road) will use the geometry to split the feature.
	EXPLODE FEATURES
	MERGE FEATURES Features with adjacent boundaries are merged into a single feature and features with non-adjacent boundaries are merged into multi-part features.
	REPLACE SHAPE
	ADVANCED RESHAPE FEATURES
	UNION – REPLACE INTERSECTING
	UNION – KEEP INTERSECTING
	INTERSECT FEATURES
	CUT FEATURE(S)

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Control	Description
	COPY FEATURE(S) The **Can Copy** checkbox must be checked off for the source layer.
	COPY OFFSET
	PASTE FEATURE(S)
	COPY / PASTE FEATURES The **Can Copy** checkbox must be checked off for the source layer and the feature will be pasted into the target layer.
	MOVE FEATURE(S)
	ROTATE FEATURE(S)
	TRIM LINE
	EXTEND LINE
	FLIP DIRECTION
	MODIFY SHARE EDITS
	BUFFER FEATURES
	CONSTRUCT Can be used to create polygons from existing features located on multiple layers.

Table 7 – Advanced Editing Toolbar Controls

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4.3.4 Map Display Toolbar

The following default controls are available on the **Map Display** toolbar:

Control	Description
	MEASURE
	LOCATION
	FEATURE SIZE / LOCATION TOOL Holding SHIFT or CTRL when clicking on a multi-part feature will retrieve the measure for that segment only.
	BUFFER
	UPDATE AREA OF LINKED CENGEA FOREST RECORDS
	GENERATE MAP(S)
	REFRESH Clicking will refresh the version.

Table 8 – Map Display Toolbar Controls

4.3.5 Roads Toolbar

The following default controls are available on the **Roads** toolbar:

Control	Description
	CREATE RESOURCES ROAD
	UPDATE RESOURCES ROAD
	POINT EVENT MEASURE TOOL
	LINE EVENT MEASURE TOOL
	MOVE ROUTE EVENT TOOL
	ROUTE FEATURES TOOL

Table 9 – Roads Toolbar Controls

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4.3.6 Cengea Forest Toolbar

The following default controls are available on the Cengea Forest main toolbar:

Control	Description
	OLD MAP WINDOW
	MAP WINDOW
	MAP OPERATION - MAP WINDOW
	MAP OPERATION - DIGITIZE NEW
	MAP OPERATION - LINK MAP
	MAP OPERATION - UNLINK MAP
	MAP OPERATION - DELETE NEW
	MAP OPERATION - DELETE
	MAP OPERATION - HIGHLIGHT
	MAP OPERATION - DIGITIZE
	MAP OPERATION - UPDATE AREA
	MAP OPERATION - LAT/LONG
	MAP OPERATION - COPY

Table 10 - Cengea Forest Toolbar Control

The icons only appear in the **Cengea Forest** toolbar for active windows that have the **Map Option** drop-down list and will change depending on the active window.

The DELETE button will delete the spatial and tabular data. The spatial record will be deleted permanently even if the tabular delete is cancelled.

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4.4 Map Display

4.4.1 Data View Tab

In the **Data View** tab the selected map is displayed enabling editing, spatial linking, etc.

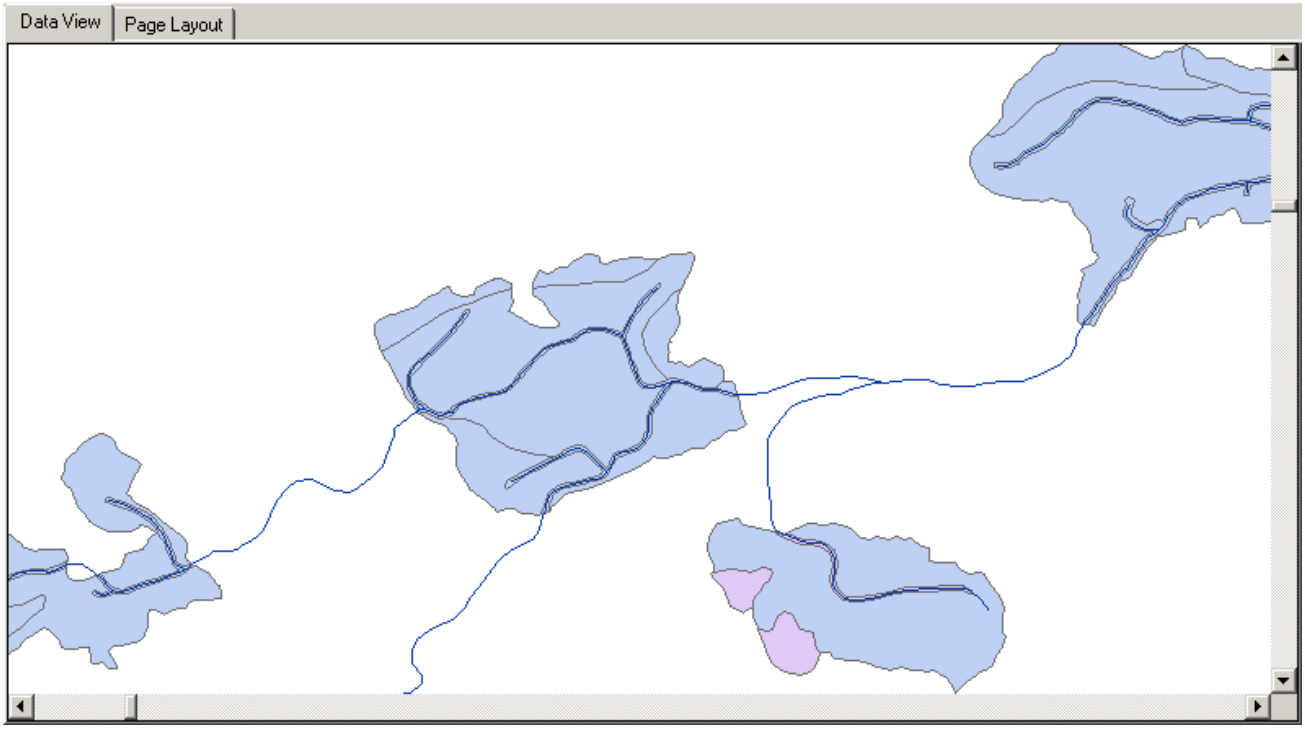

Figure 47 – Map Display: Data View Tab

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4.4.2 Page Layout Tab

In the **Page Layout** tab the selected map is displayed enabling graphics, such as: legends, arrows, etc. to be incorporated.

Symbology can be set for temporary graphics created in **Page Layout** mode.

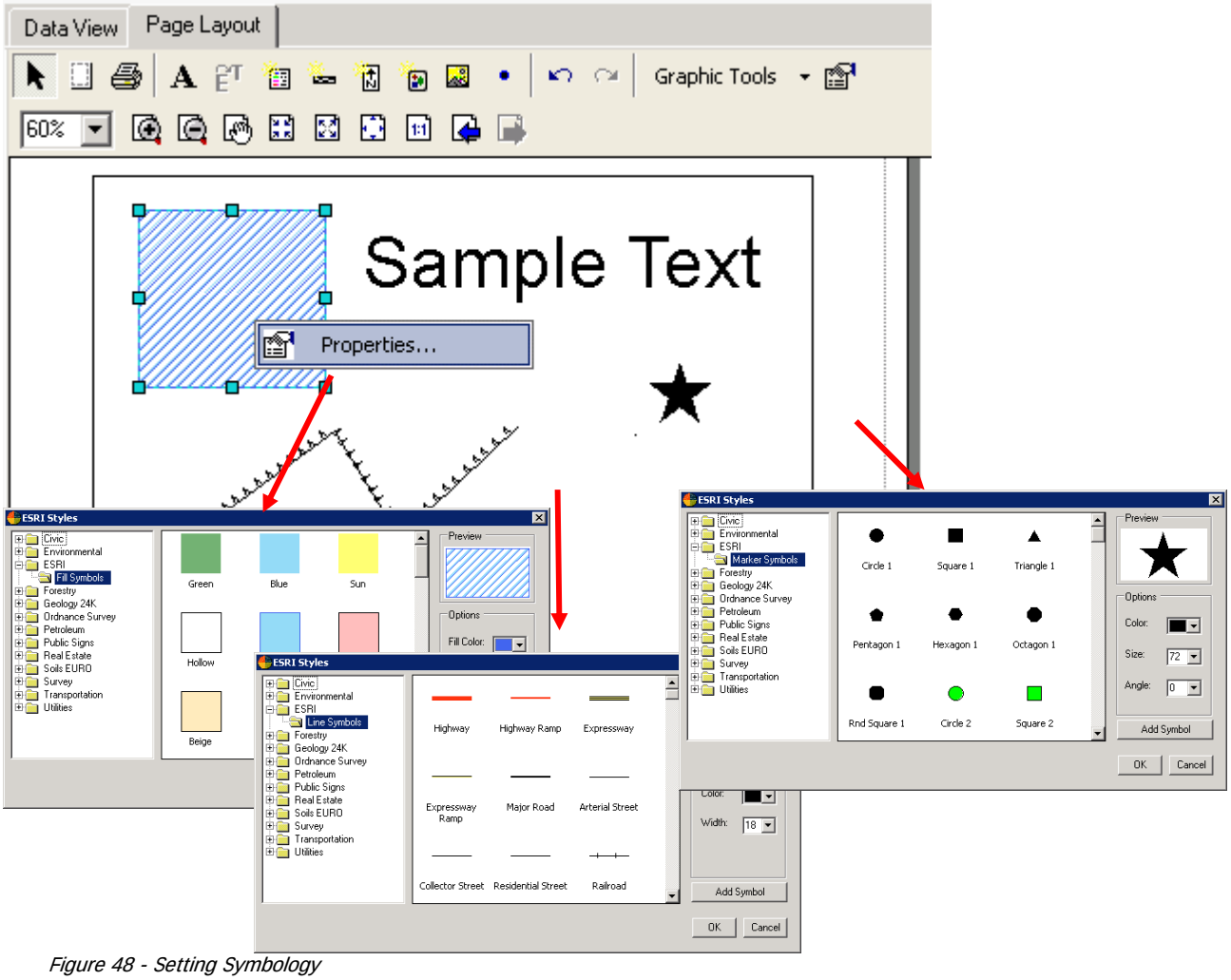

Figure 48 - Setting Symbology

There are three ways to access the styles window:

1. *Right-click* on the graphic and *select* Properties... from the pop-up menu.
2. *Double-click* on the graphic when the SELECT ELEMENTS tool is active.
3. *Select* the graphic and then *click* on the GRAPHIC ELEMENT PROPERTY button on the toolbar.

The properties window for other map elements such as north arrows and scale bars can now be accessed in the same way.

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4.4.2.1 Page Layout Toolbar

The following default controls are available on the **Page Layout** toolbar:

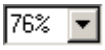
Control	Description
	SELECT ELEMENTS
	CONFIGURE PAGE SET-UP FOR PRINTING
	PRINT MAP
	NEW TEXT
	REFRESH TAGS
	ADD LEGEND
	ADD SCALE BAR
	ADD NORTH ARROW
	ADD / REMOVE NEATLINE
	INSERT PICTURE
	UNDO
	REDO
	Graphic Tools
	PREDETERMINED ZOOM
	ZOOM IN
	ZOOM OUT
	PAN
	FIXED ZOOM IN
	FIXED ZOOM OUT
	ZOOM WHOLE PAGE
	ZOOM TO 100%
	GO BACK TO EXTENT
	GO FORWARD TO EXTENT

Table 11 – Page Layout Toolbar Controls

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4.4.2.2 Page Setup Dialogue

Clicking the PAGE SETUP button on the **Page Layout** toolbar will open the **Page Setup** dialogue to enable users to configure the required printer set up and map page size.

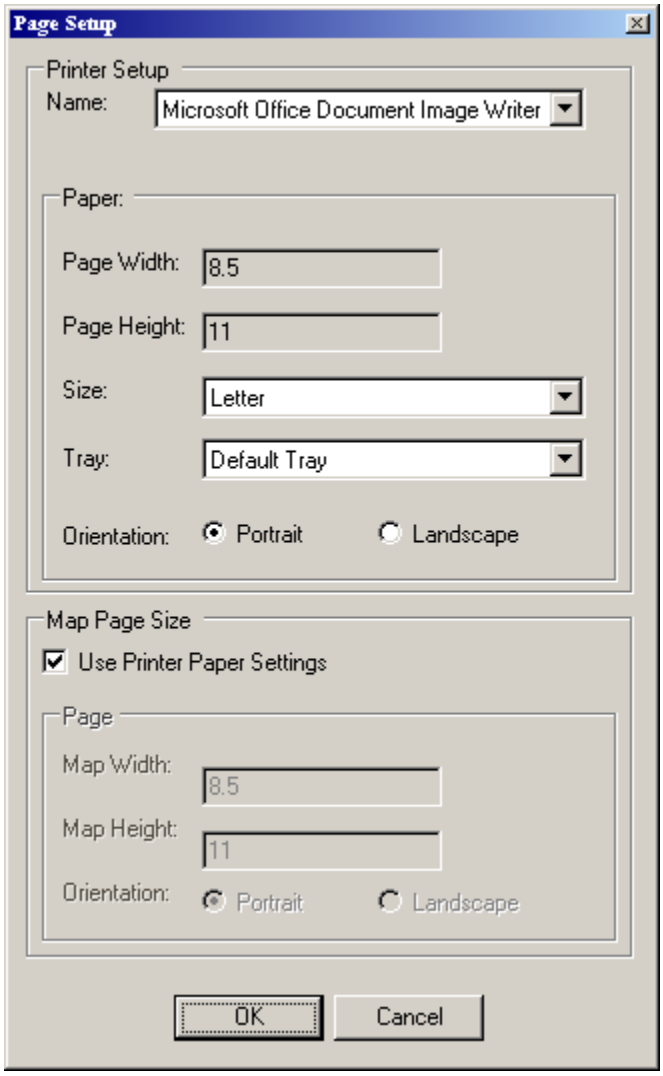

Figure 49 – Page Layout Tab: Page Setup Dialogue

The **Size** and **Tray** drop-down lists will populate based on the printer selected in the **Name** drop-down list.

The scale on the printable map is tagged to the scale on the layout.

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5 CONFIGURATION

The configuration of the Map Window is defined in five administrative managers:

- **Map Manager**
- **Template Manager**
- **Toolbar Manager**
- **Style Manager**
- **Preference Manager**

These managers can also be accessed through the **Admin** tab of the **Work Flow** panel. Please refer to Section 4.2.2.4, Admin Tab, for details.

The Map Window can now be used as an extension, supporting concurrent licencing for viewing or editing. The concurrent licence model uses underlying concurrent ArcGIS licences, which means Map Window licences can be shared among a pool of users. This new option complements the existing named user licence model.

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5.1 Map Manager

In the **Map Manager** the properties of a map, the individual feature classes or image layers, and feature class attribute data are defined.

To access the **Map Manager**, *click* Map Window on the menu bar then *select* Map Manager.

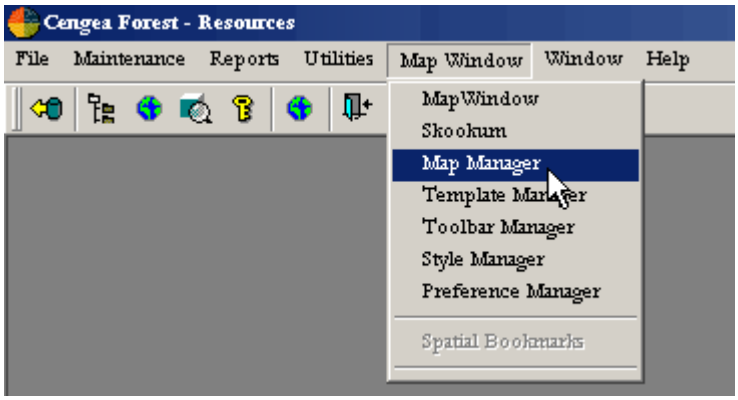

Figure 50 – Accessing Map Manager

The following default controls are available on the **Map Manager** toolbar:

Control	Description
	ADD
	DELETE
	SAVE
	SET MAP SECURITY
	LOAD MXD

Table 12 – Map Manager Toolbar

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5.1.1 Map Navigator Tree

In the navigator tree, groups, maps and layers can be added or deleted by right-clicking.

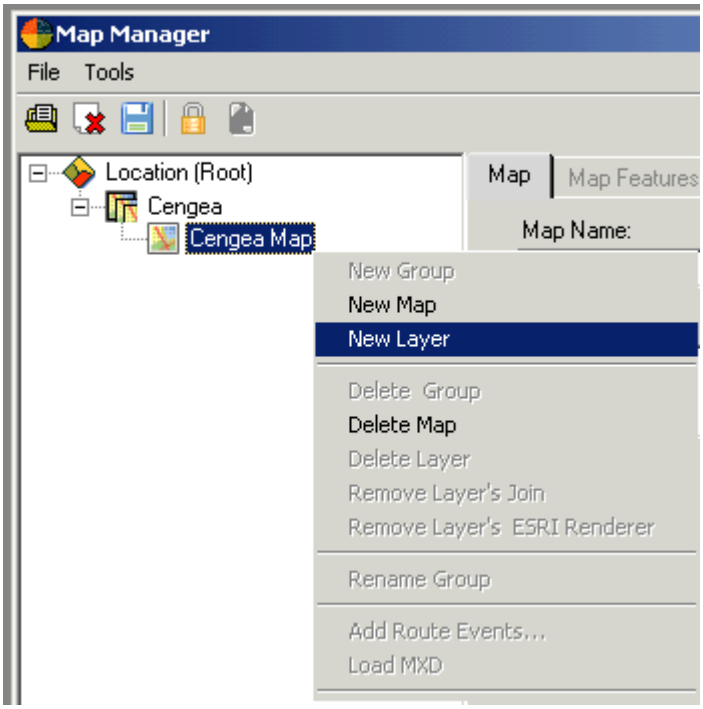

Figure 51 – Map Manager: Navigator Tree

To add an item:

- *Highlight* the level (group, map, or layer) the item will be added to;
- *Right-click* and *select* New Group, Map or Layer, or;
- *Click* ADD;
- *Click* SAVE.

To delete an item:

- *Highlight* the item (group, map, or layer) to be deleted;
- *Right-click* and *select* Delete Group, Map or Layer, or;
- *Click* DELETE;
- *Click* SAVE.

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5.1.2 Load MXD to Map

The **Map Manager** enables ESRI MXD files to be loaded into the Map Window, to provide a convenient method of creating map definitions. The MXD file is parsed to extract the map name, the layers that exist in the map, including the style properties. This information is used to create the necessary records within Cengea Forest and updates the **Map Manager** navigator and other control properties.

Clicking LOAD MXD on the menu bar will open the following dialogue:

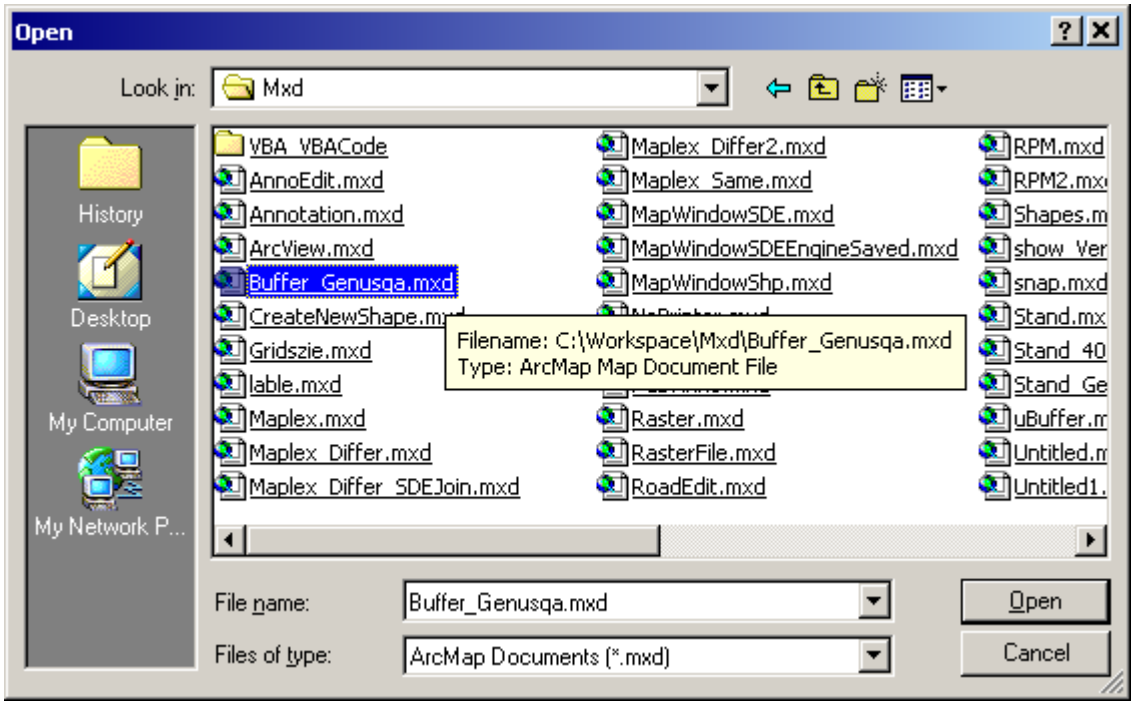

Figure 52 – Map Manager: Load MXD Files

Clicking OPEN will load the selected file into **Map Manager**.

The selectable properties of the layers in an MXD file are adhered to in the Map Window.

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If the MXD file contains SDE layers, the following dialogue will appear to enable users to input a valid SDE password:

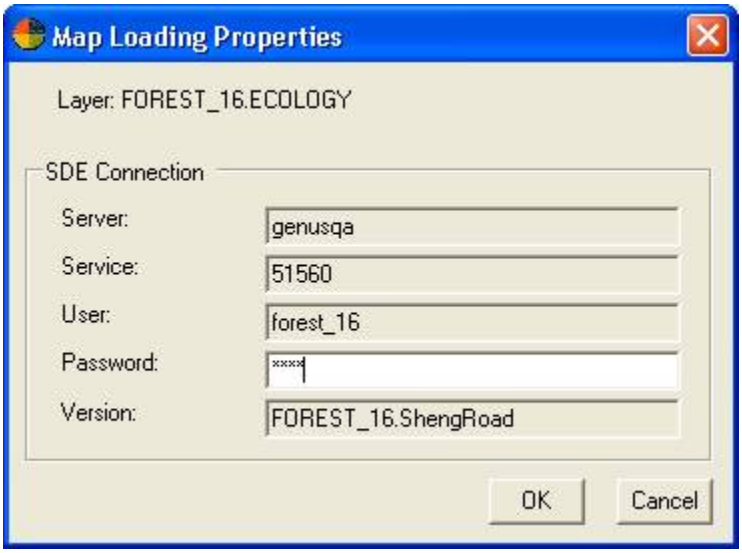

Figure 53 – Map Manager: Map Loading Properties

Checking off the **Load Layer Symbology** checkbox will import the feature layer symbols into the map. **Map Manager** only supports ESRI simple symbols in the current release.

If the MXD file does not contain SDE layers then no layer symbols are loaded.

Clicking OK will close the dialogue and save the password.

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Once the MXD file is loaded, the new map will appear in the navigator tree. The **Map** tab will be populated with the MXD file name and description.

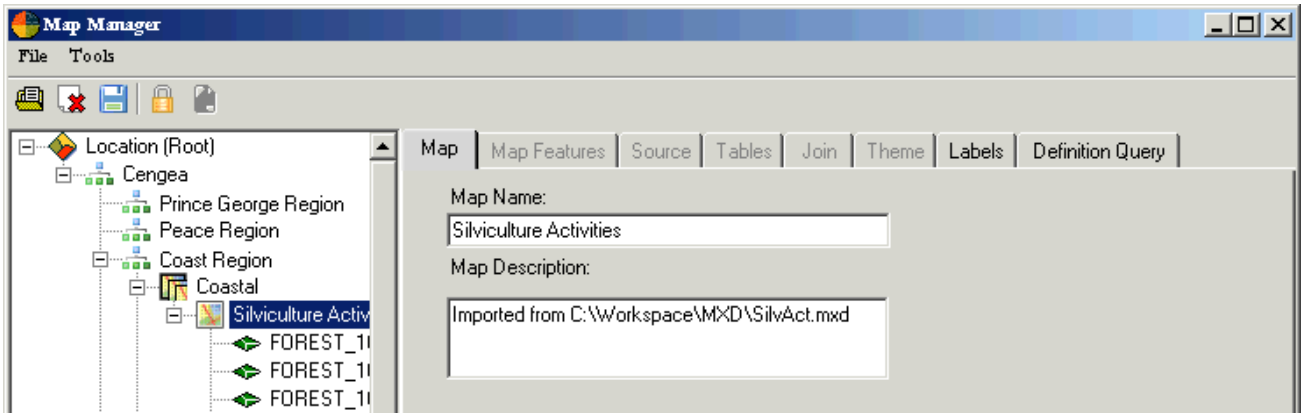

Figure 54 – Map Manager: Loaded MXD File

Only valid layers in the MXD file will be added to the map. For SDE layers, a valid layer has valid connection properties.

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5.1.3 Map Security Settings

In the **Map Security Setting** dialogue map level security is defined.

To set the security level:

- *Highlight* the appropriate level in the **Map Manager** navigator;
- *Click* SET MAP SECURITY;
- *Check off* the required security groups;
- *Click* SAVE.

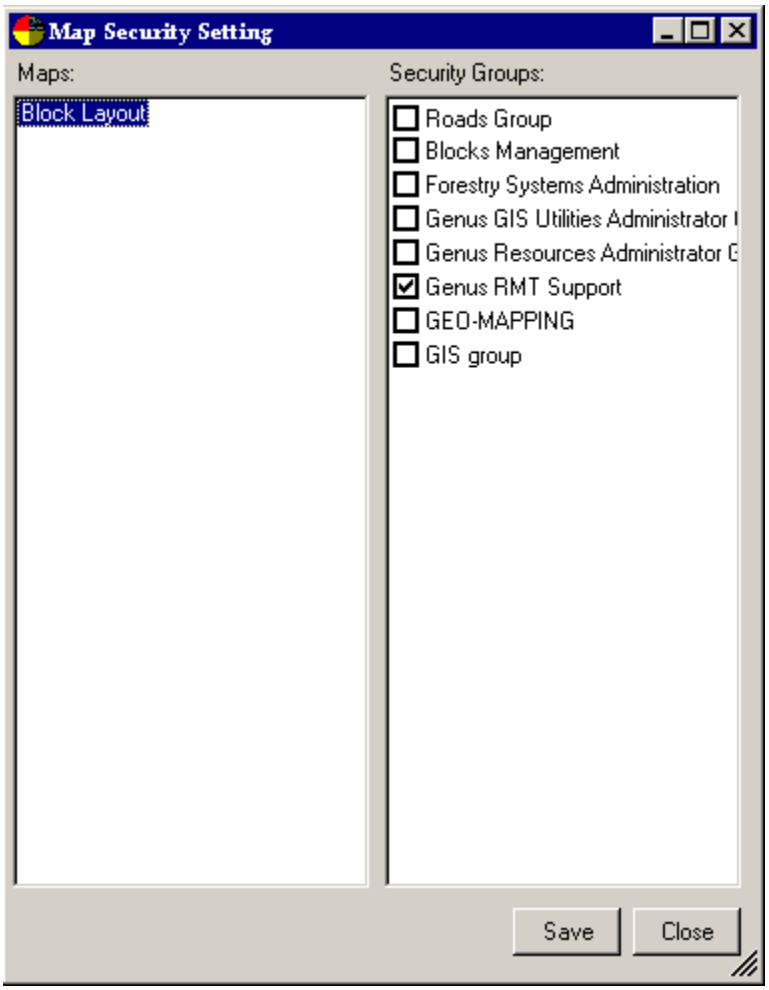

Figure 55 – Map Manager: Map Security Setting Dialogue

To set security at the layer level, please refer to **Section 5.1.6, Map Features Tab**, for details.

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5.1.4 Versioning

Versioning enables users to log onto the corporate database, but view a unique set of data. Users will have the ability to work in draft mode before their edits are promoted to production.

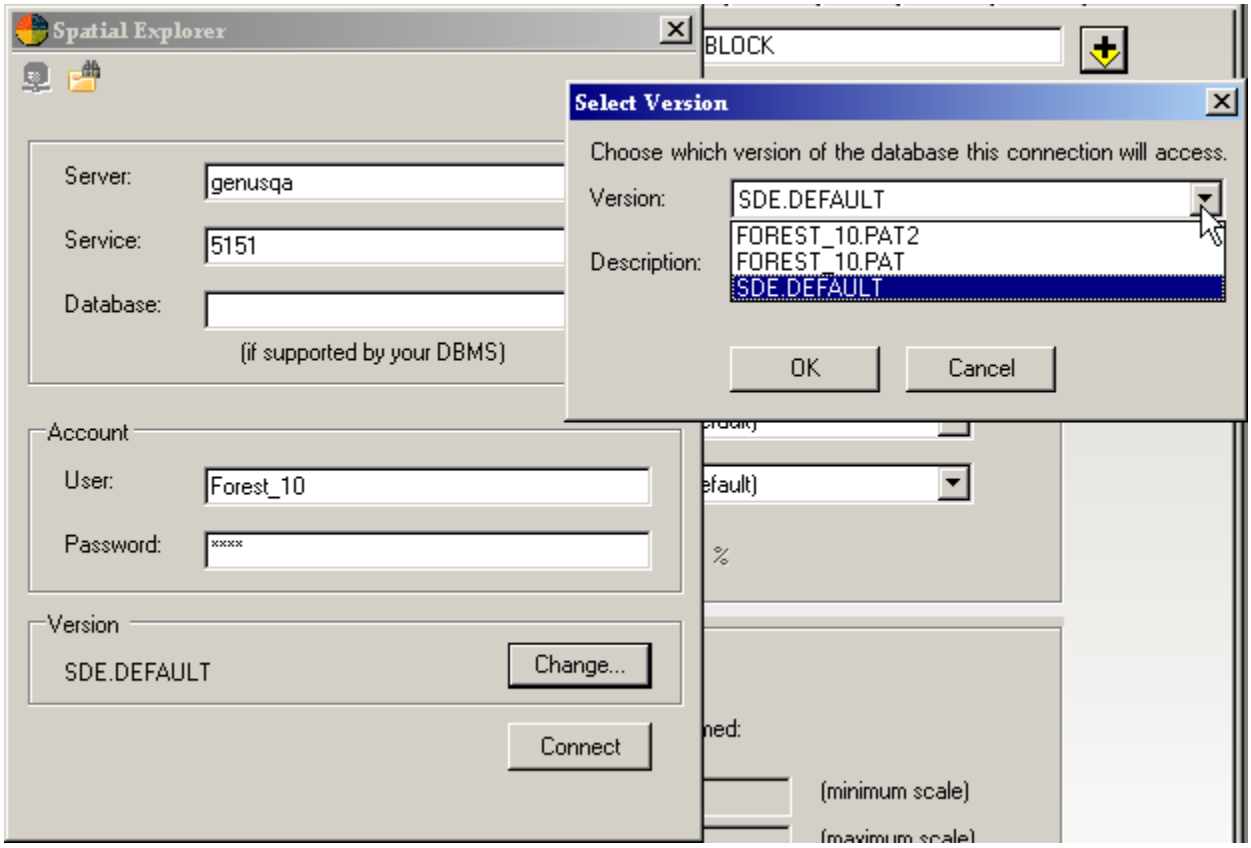

Figure 56 – Map Manager: Select Version Dialogue

To select a version of the database that the selected connection will access:

- *Click* add data button to open the **Spatial Explorer** database;
- *Enter* the server name, service, user name, and password;
- *Click* CHANGE;
- *Select* the required version;
- *Click* OK.

Versions can also be selected in the **Display** tab of the **Spatial Info** panel. Please refer to **Section 4.2.1.2, Versioning**, for details.

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5.1.5 Map Tab

In the **Map** tab the map name and description are defined.

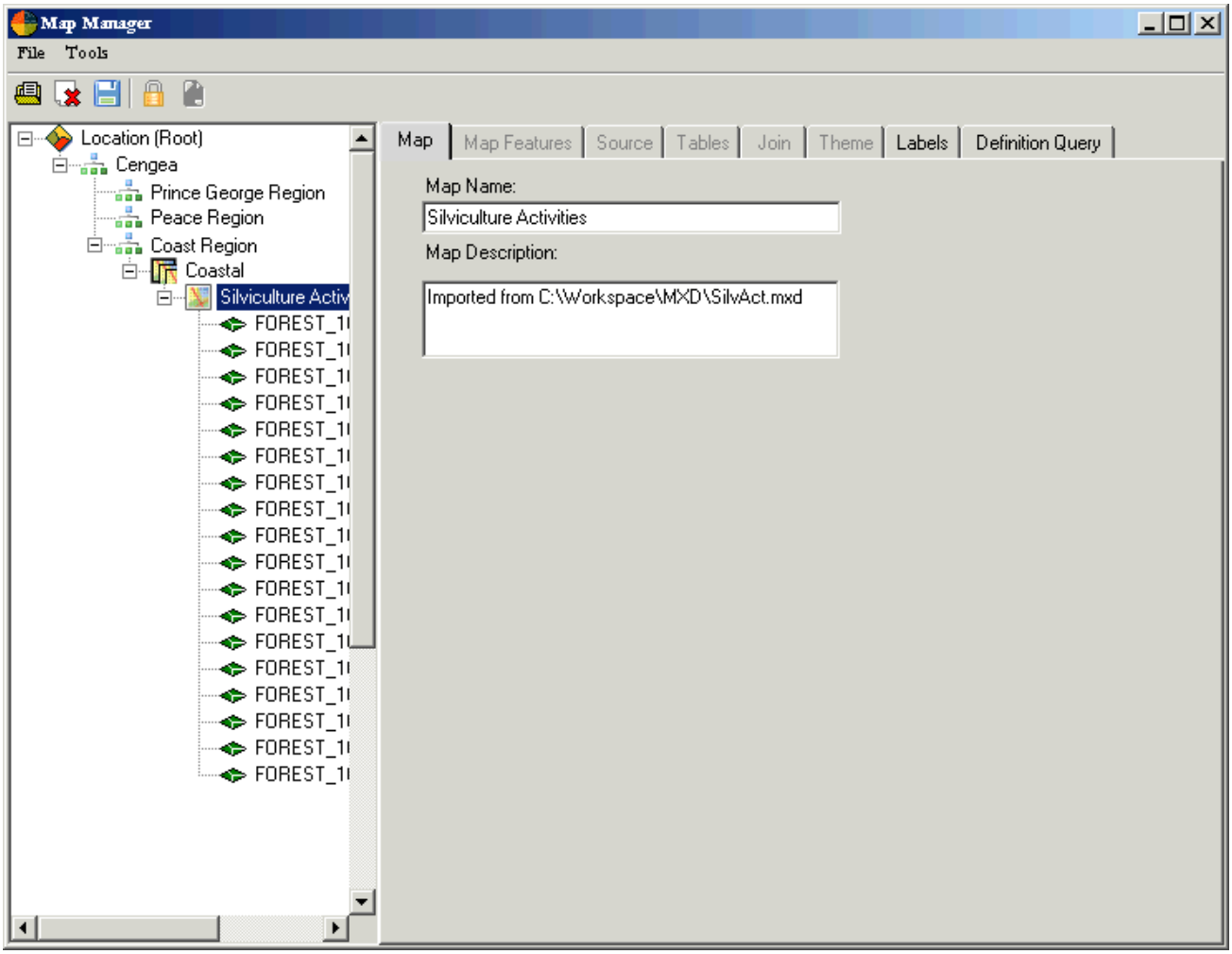

Figure 57 – Map Manager: Map Tab

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5.1.6 Map Features Tab

In the **Map Features** tab the features associated with the map layers are defined.

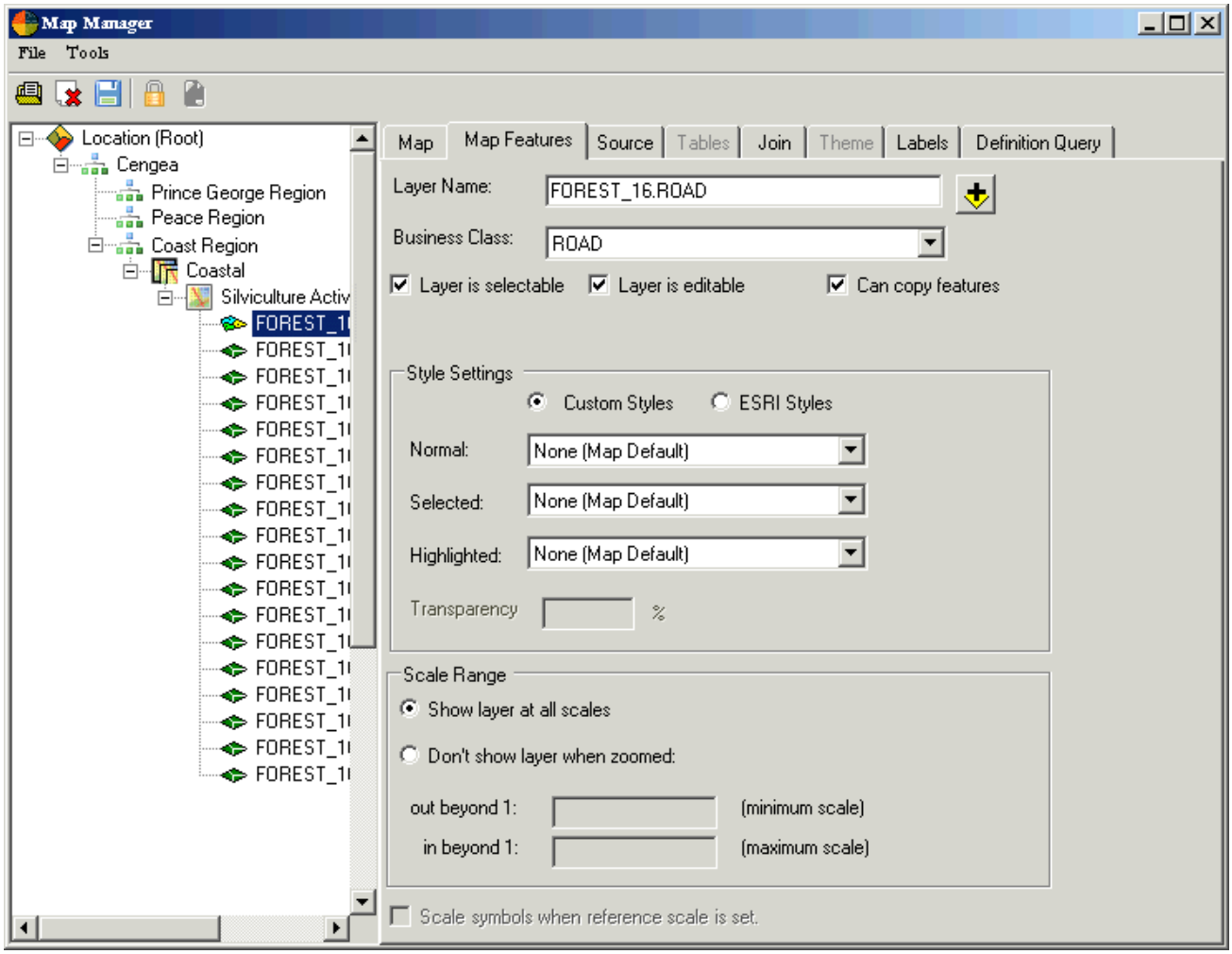

Figure 58 – Map Manager: Map Features Tab

Use the SPATIAL EXPLORER button to set the data source.

To ensure users cannot edit layers, the **Layer is selectable, Layer is editable,** or **Can copy features** checkboxes must be unchecked.

The **Theme** tab is only active when the **ESRI Styles** radio button has been clicked.

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The following table summarizes the **Map Features** tab fields:

Field/Column	Description
Layer Name	This field auto-populates with the layer selected in the navigator.
	Click to open the **Spatial Explorer** dialogue. Please refer to Section 5.6, Spatial Explorer, for details.
Business Class	*Select* the appropriate business class associated with the layer.
Layer is selectable	*Check off* the checkbox to ensure the layer is selectable.
Layer is editable	*Check off* the checkbox to ensure the layer is editable.
Can copy features	*Check off* the checkbox to enable the features to be copied.
Style Settings	
Customs Styles	*Click* to enable custom style settings to be selected.
ESRI Styles	*Click* to enable ESRI style settings to be selected.
Normal	*Select* the appropriate normal style or *click* to open the **ESRI Style Selector** to select a normal style (dependant on the active radio button).
Selected	*Select* the appropriate selected style (only active when the **Custom Styles** radio button is clicked).
Highlighted	*Select* the appropriate highlighted style (only active when the **Custom Styles** radio button is clicked).
Scale Range	
Show layer at all scales	*Click* to ensure the layer will appear regardless of the scale selected.
Don't show layer when zoomed	*Click* to set the parameters which will determine when they layer will not appear.
Out beyond 1: (minimum scale)	*Enter* the minimum zoom scale for the layer.
In beyond 1: (maximum scale)	*Enter* the maximum zoom scale for the layer.

Table 13 – Map Manager: Map Features Tab

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5.1.7 Source Tab

In the **Source** tab the data source associated with the selected layer is viewable.

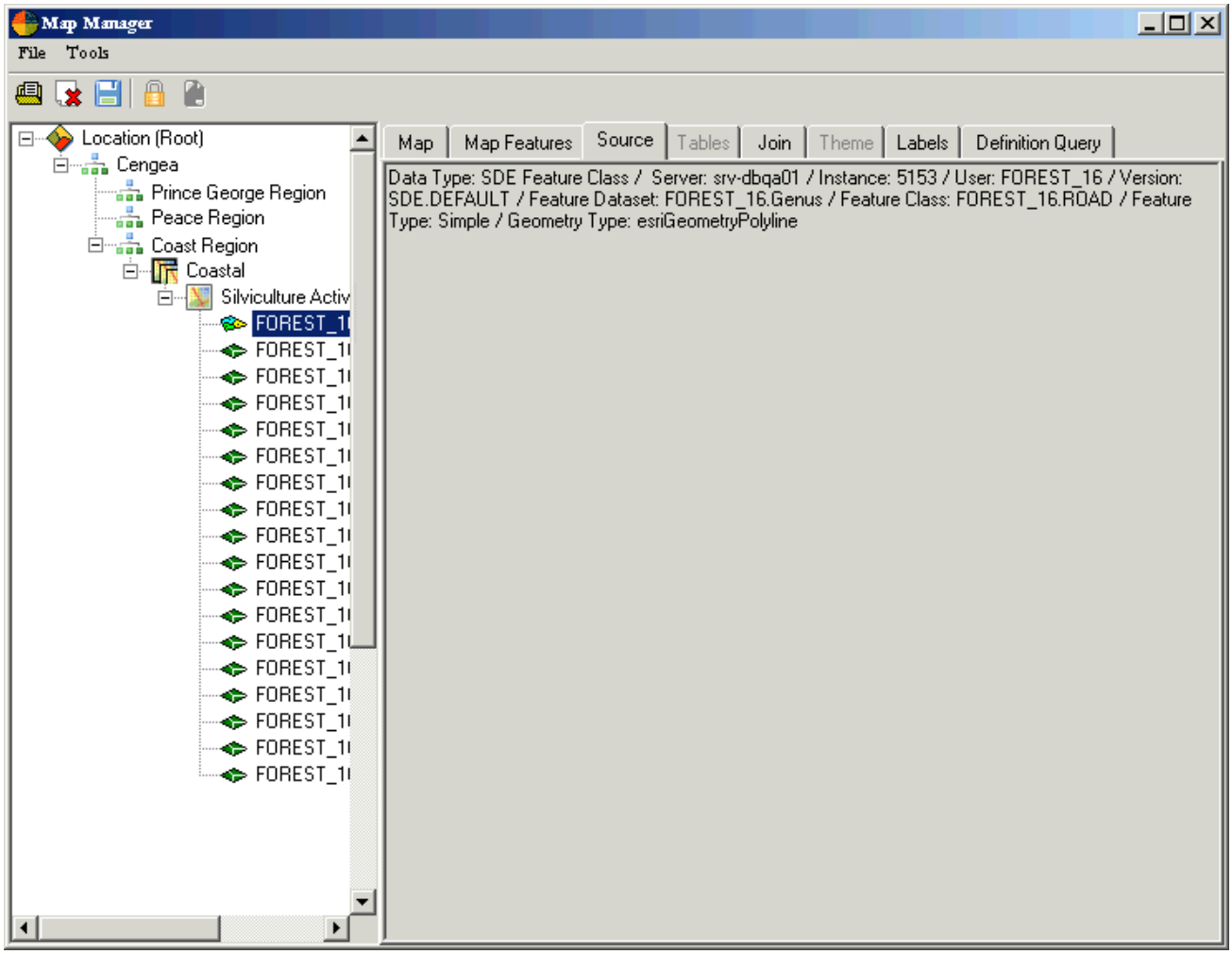

Figure 59 – Map Manager: Source Tab

5.1.8 Tables Tab

The **Tables** tab is currently in development; the tab is disabled.

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5.1.9 Join Tab

In the **Join** tab joins are defined for the layer.

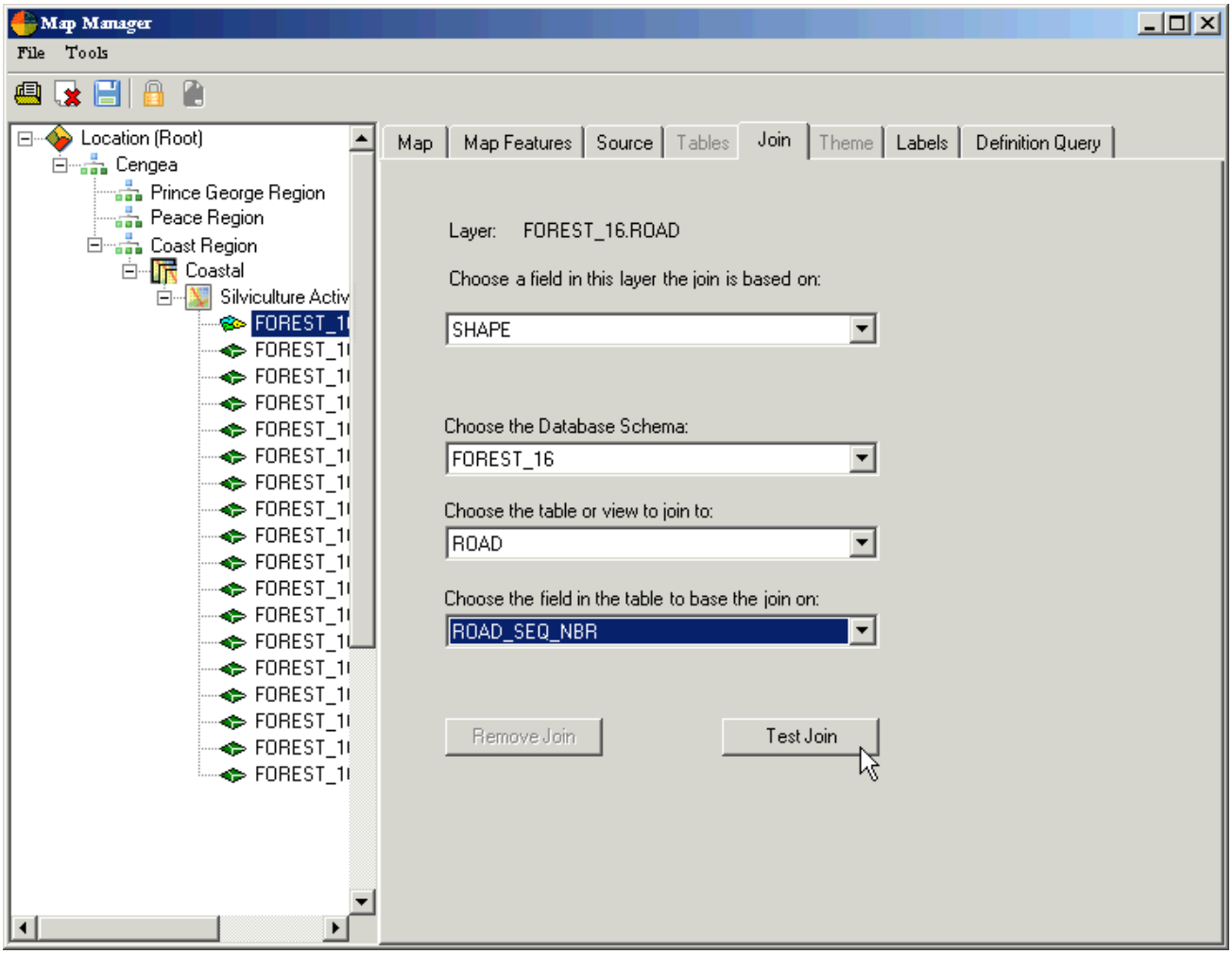

Figure 60 – Map Manager: Join Tab

To create the join:

- *Select* the field within the layer to base the join on;
- *Select* the appropriate database schema;
- *Select* the appropriate table or view to join to;
- *Select* the required field to base the join on;
- *Click* TEST JOIN to ensure the join works as expected before saving changes to the database.

Clicking REMOVE JOIN will remove the join from the selected layer.

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5.1.10 Theme Tab

In the **Theme** tab themes are defined for the map layers based on ESRI styles.

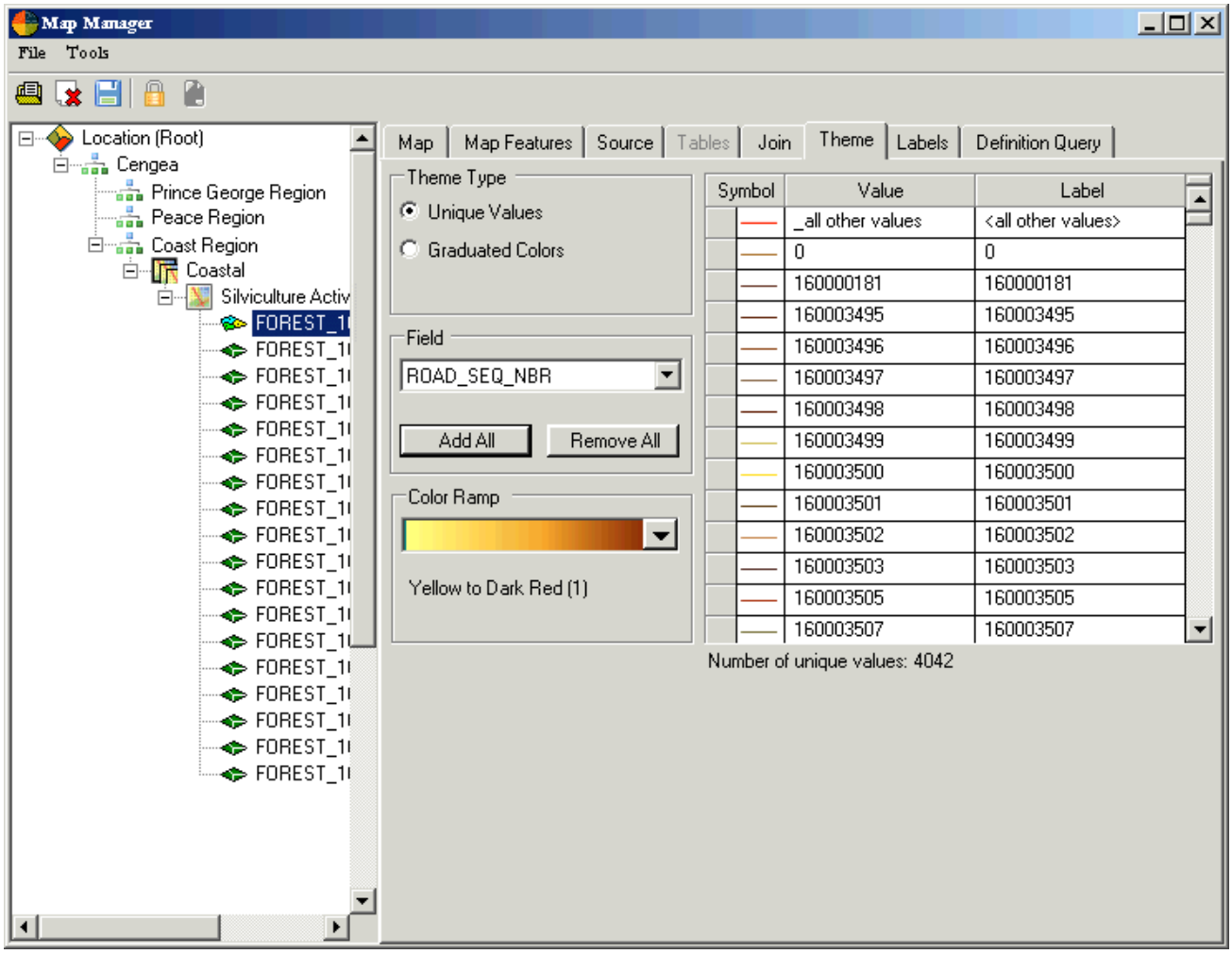

Figure 61 – Map Manager: Theme Tab

The **Theme** tab is only active if the **ESRI Styles** radio button has been clicked in the **Map Features** tab.

To define a theme:

- *Click* the appropriate radio button in the Theme Type section;

If the **Graduated Colours** radio button is clicked a drop-down list will appear which will enable the number of graduated colours to be selected.

- *Select* the appropriate field;
- *Select* the required colour in the **Colour Ramp** drop-down list;
- *Click* ADD ALL to retrieve the values;

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Double-clicking the symbol in the **Symbol** column will open the **ESRI Styles** dialogue which will enable the symbols to be updated to a more appropriate style. Please refer to **Section 5.1.10.1, ESRI Styles Dialogue**, for details.

Labels can only be revised in the **Label** column if the **Unique Values** radio button has been clicked.

5.1.10.1 ESRI Styles Dialogue

In the **ESRI Styles** dialogue symbols can be selected further define the theme.

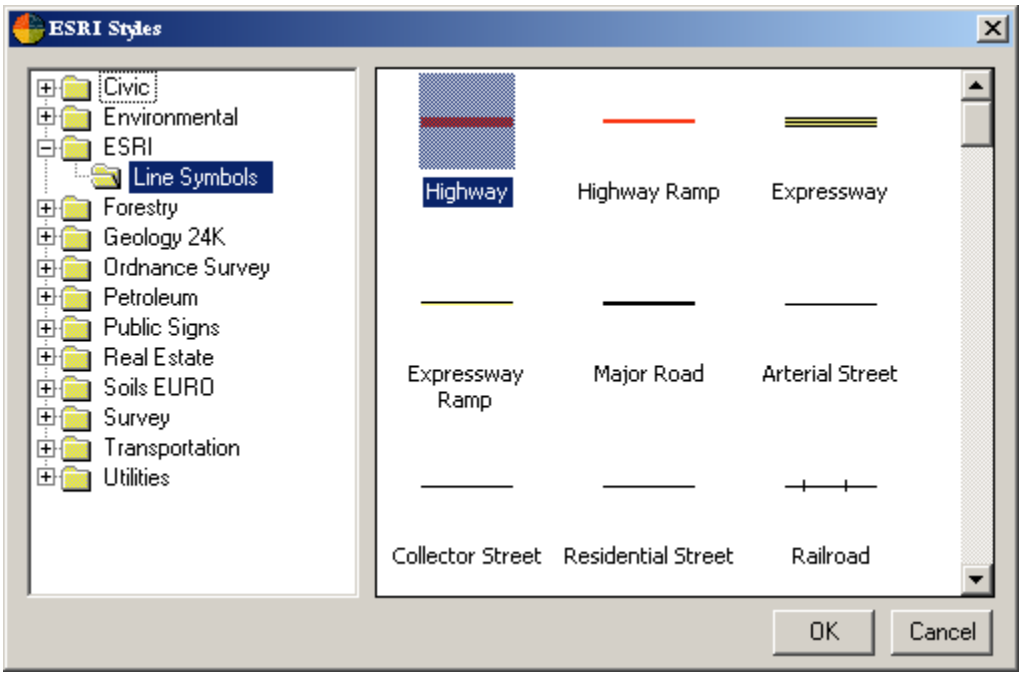

Figure 62 – ESRI Styles Dialogue

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Right-clicking in the navigator and selecting More Styles will open a list of additional styles that can be added to the navigator.

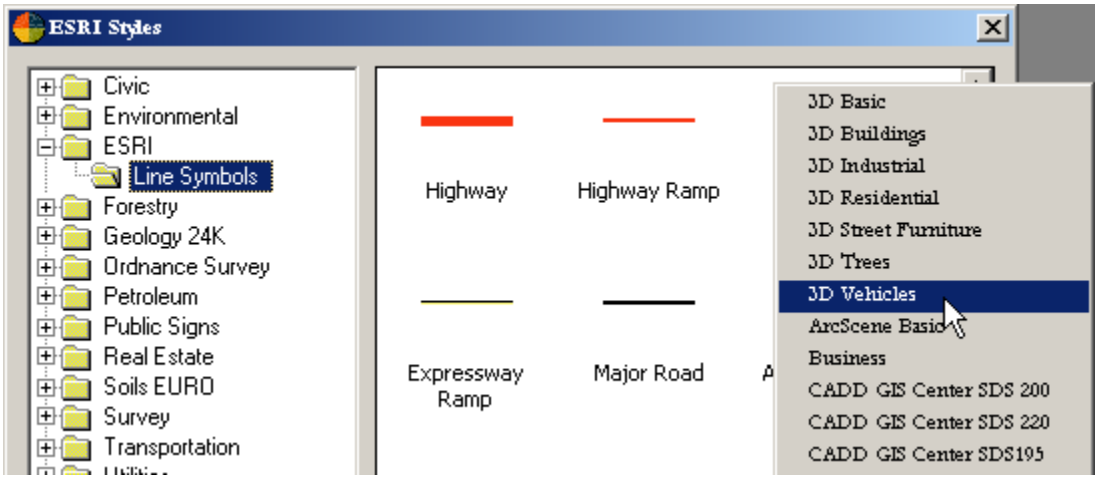

Figure 63 – ESRI Styles Dialogue: More Styles List

To add an additional style:

- *Right click* in the navigator;
- *Select* More Styles;
- *Select* the required style from the list.

All associated fill symbols will be retrieved.

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5.1.11 Labels Tab

In the **Labels** tab labels are defined for the map layers.

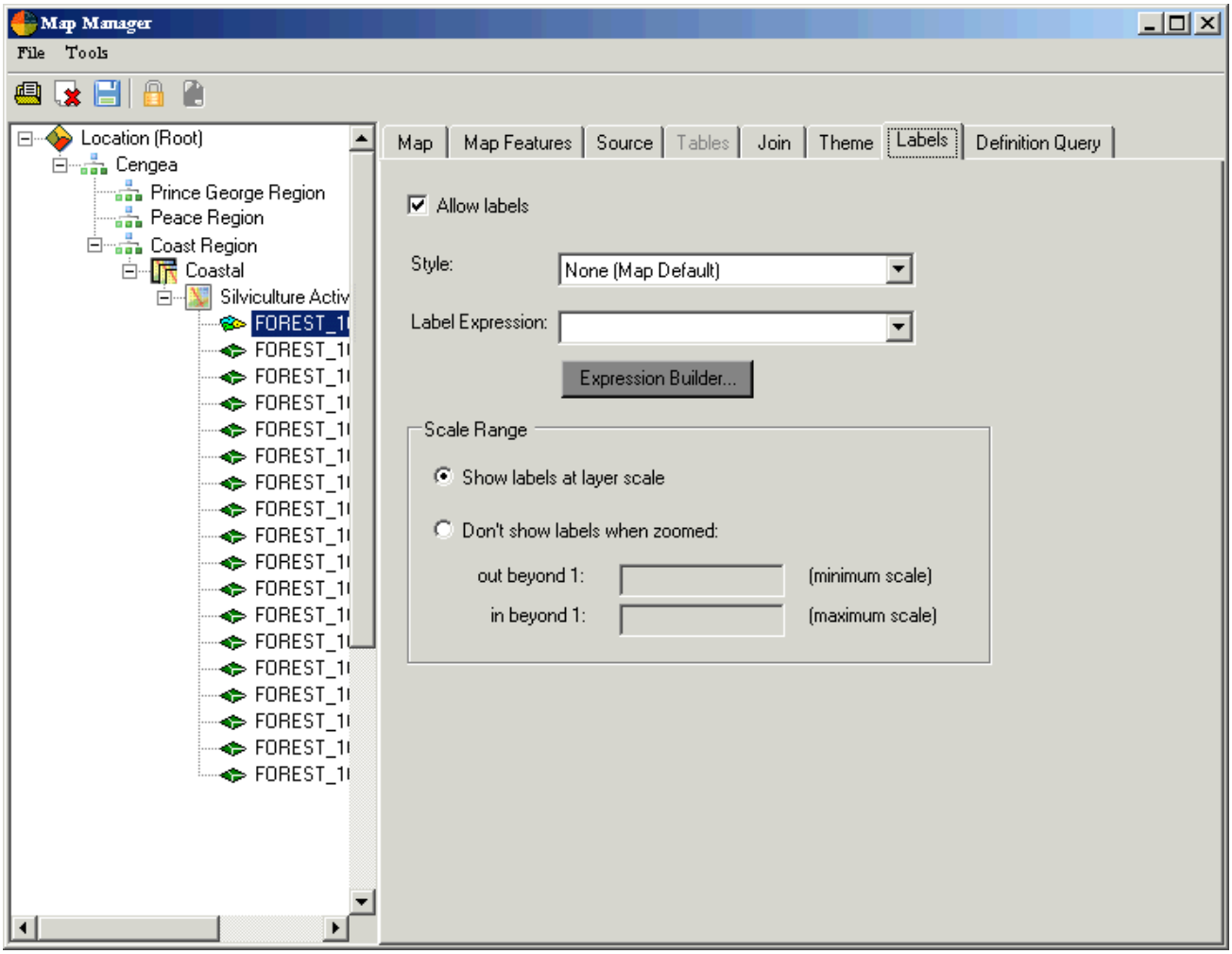

Figure 64 – Map Manager: Labels Tab

The layer fields are populated by selecting the appropriate value in the **Label Expression** drop-down list.

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5.1.12 Definition Query

In the **Definition Query** tab queries are set which will filter (i.e., hide) shapes enabling the required feature to be highlighted.

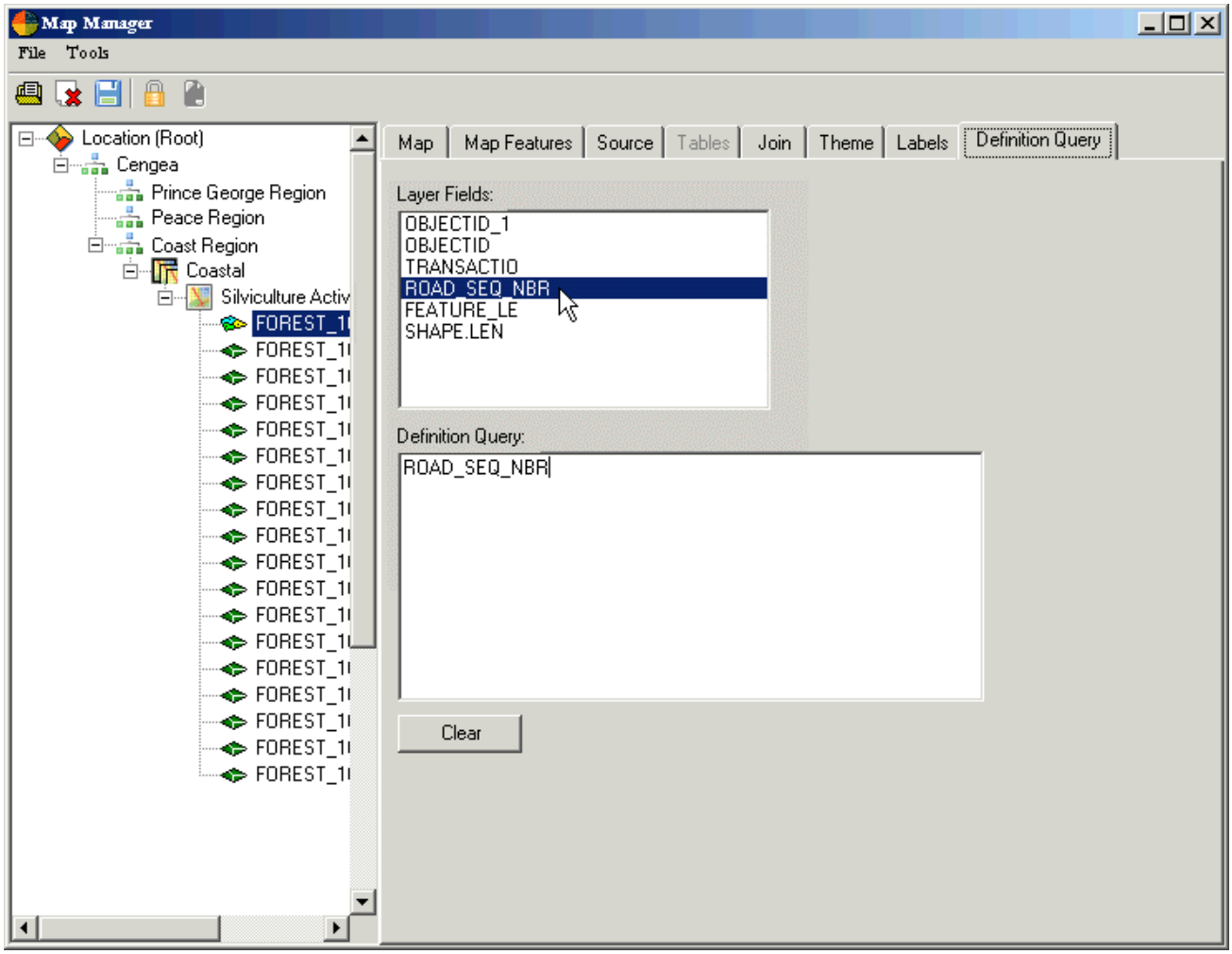

Figure 65 – Map Manager: Definition Query Tab

To set the query:

- *Double-click* the appropriate field in the **Layer Fields** field to add it to the **Definition Query** field;
- *Enter* the query parameters in the **Definition Query** field;
- *Click* the save button to save changes to the database.

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5.2 Template Manager

The **Template Manager** enables ESRI MXD files to be loaded into the Map Window, to provide a convenient method of creating map definitions. The MXD file is parsed to extract the map name, the layers that exist in the map, including the style properties. This information is used to create the necessary records within Cengea Forest and updates the **Template Manager** navigator and other control properties.

This is also where the groups, group security, and maps for the **Map Templates** tab in the **Work Flow** panel are defined.

To access the **Template Manager**, *click* Map Window on the menu bar then *select* Template Manager.

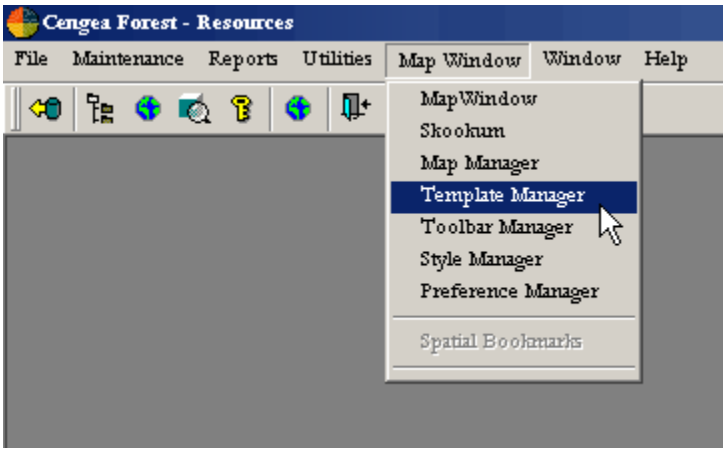

Figure 66 – Accessing Template Manager

The following default controls are available on the **Template Manager** toolbar:

Control	Description
	ADD
	DELETE
	SAVE
	SET MAP SECURITY

Table 14 – Template Manager Toolbar Controls

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5.2.1 Template Navigator Tree

In the navigator tree, groups and templates can be added or deleted.

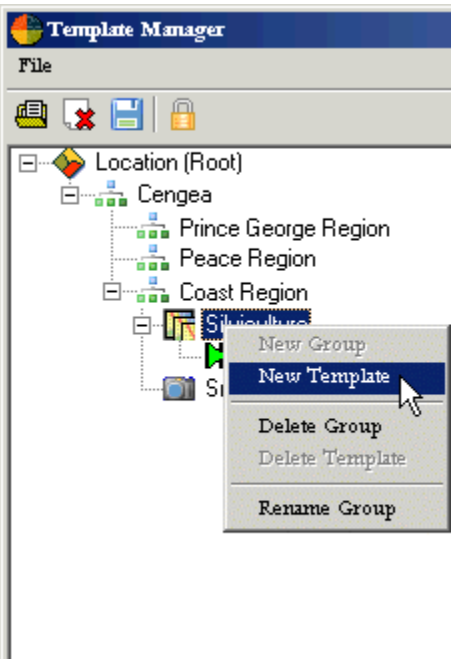

Figure 67 – Template Manager: Navigator Tree

To add an item:

- *Highlight* the level (group or template) the item will be added to;
- *Right-click* and *select* New Group or Template;
- *Click* ADD;
- *Click* SAVE.

To delete an item:

- *Highlight* the item (group or template) to be deleted;
- *Right-click* and *select* Delete Group or Template;
- *Click* DELETE;
- *Click* SAVE.

To add or delete a group, the System Administrator should be contacted.

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5.2.2 Map Tab

In the **Map** tab each users personalized view of the map is defined.

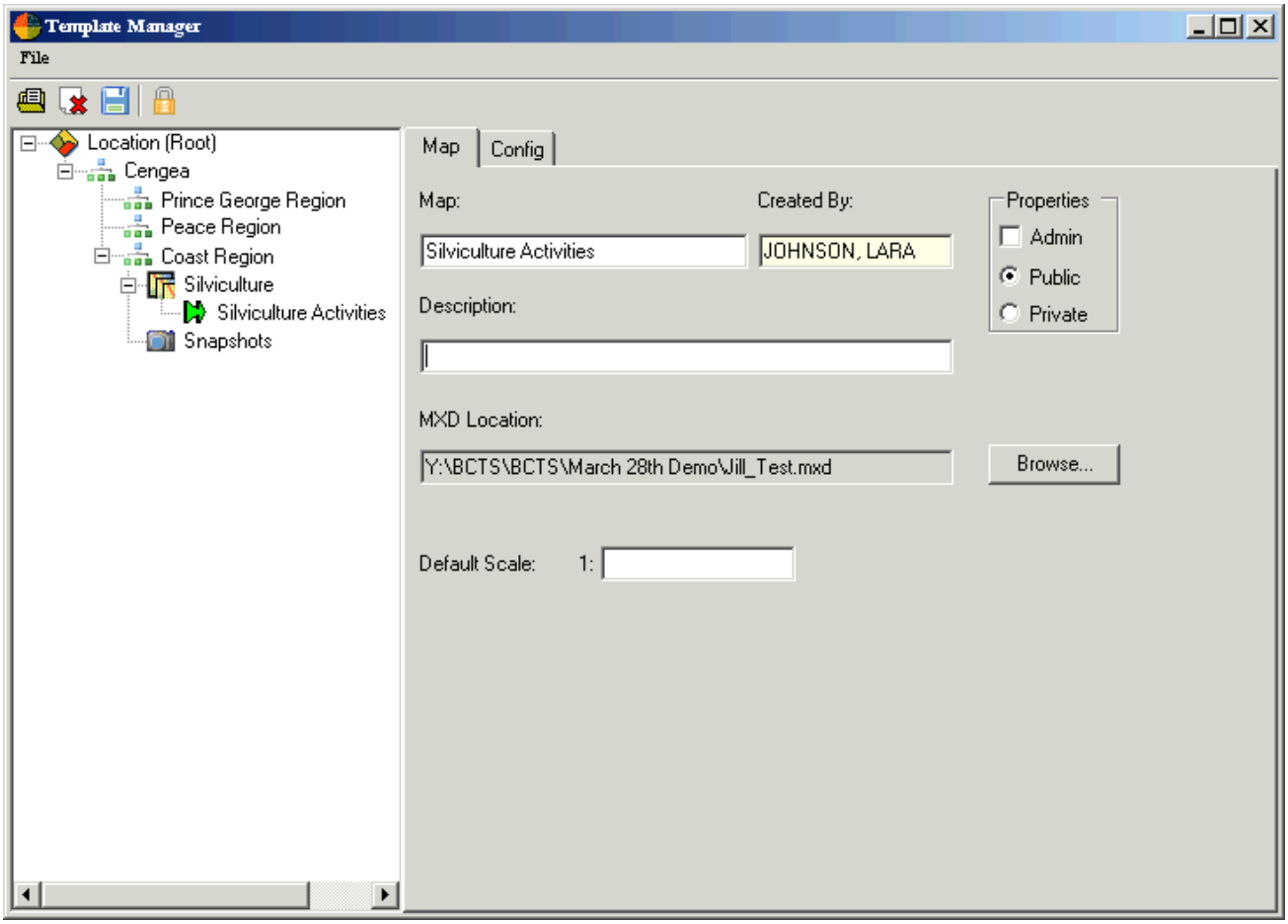

Figure 68 – Template Manager: Map Tab

To load an MXD:

- *Click* BROWSE;
- *Select* the MXD to load;
- *Click* SAVE.

When selectable layer properties are created in the MXD they are preserved when the map is loaded.

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5.2.3 Config Tab

In the **Config** tab the template setup is defined, including create tagging information, associate a business class with each layer to enable tabular interaction, select Show Related and Show Selected options and validate map layers.

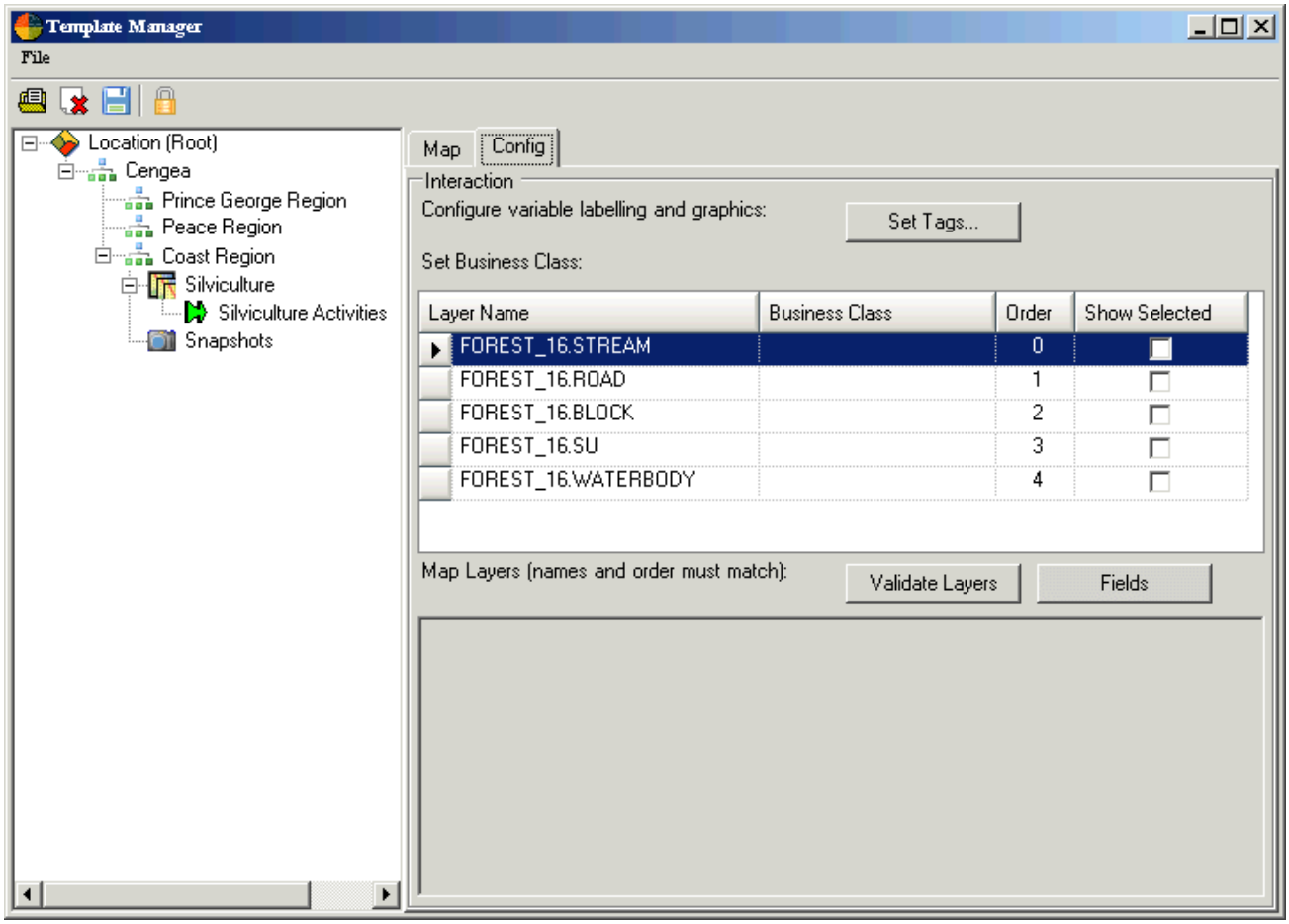

Figure 69 – Template Manager: Config Tab

If revisions to a default template are required, the System Administrator should be contacted.

Please note the following important details:

- Default templates can be copied by users and private templates are templates that can only be seen by the user that created it or an administrator;
- Checking off the **Show Selected** checkbox for template layers will show related records from secondary layers when generating / tagging a map based on a spatial selection;
- Checking off the **Show Related** checkbox for template layers will show related records from secondary layers when generating / tagging a map based on a tabular selection.

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To Set Show Selected:

- *Check off* the layers to participate;
- *Create* the tag for the primary layer;
- *Click* SAVE;
- *Refresh* the tags in the map.

To Set Show Related:

- *Join* the secondary layer to a table or view that contains the sequence number field of the primary layer;
  - For example, to zoom to the cut block and tag and/or filter the SU layer for that cut block then the SU layer must be joined to a table or a view that contains the CUTB_SEQ_NBR field;
- *Create* the tag for the primary layer;
- *Click* SAVE;
- *Refresh* the tags in the map.

5.2.4 Grouped Layers

Layers can be grouped in the Table of Contents making it easier to work with a large number of layers in the map. For example, all basemap (read-only) reference layers can be grouped together, allowing the entire group to be expanded or collapsed to save space in the Table of Contents.

The group appears above the layers and does not need a business class set. If managed layers are in the group, they must have a business class set.

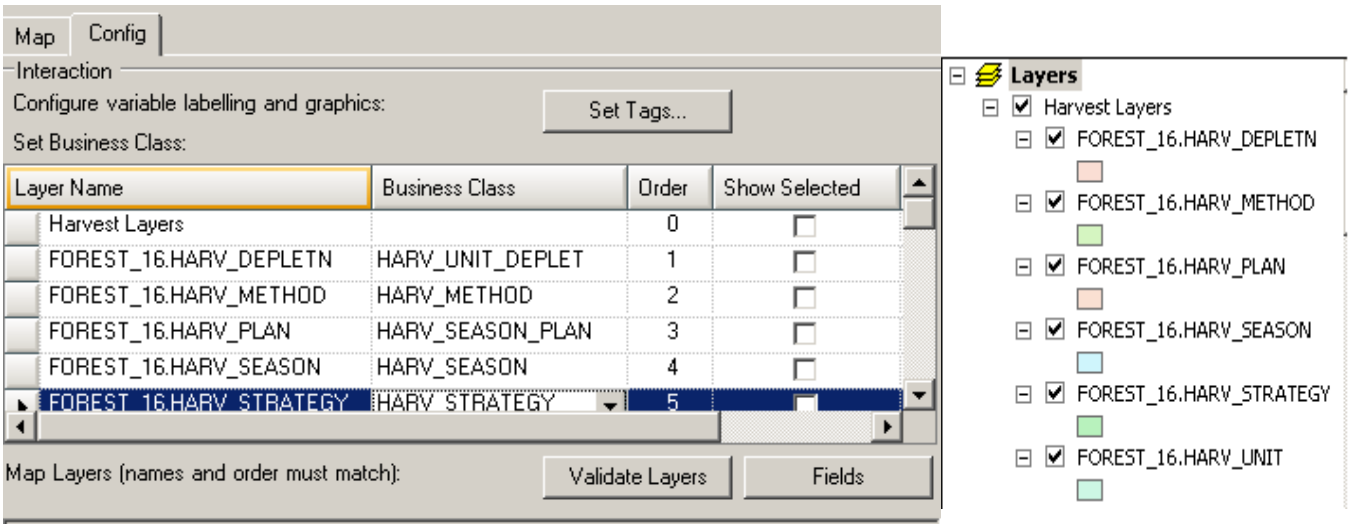

Figure 70 – Template Manager: Grouped Layers

When a template contains grouped layers, layers in the **Display** tab of the Map Window cannot be re-arranged.

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5.3 Toolbar Manager

In the **Toolbar Manager** toolbar sets are customized by group.

To access the **Toolbar Manager**, *click* Map Window on the menu bar then *select* Toolbar Manager.

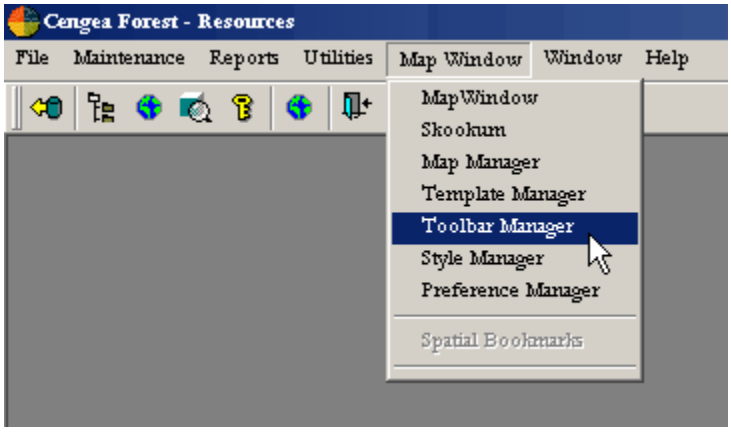

Figure 71 - Accessing Toolbar Manager

If specific toolbar security groups (i.e., over and above established security groups) are required, the System Administrator should be contacted.

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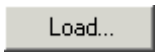
5.3.1 Customizing Toolbars

To customize a toolbar:

- *Select* the security group from the **Group** drop-down list;
- *Click* the load button 

to load a pre-defined toolbar set;
- *Uncheck* the **enabled** checkbox to hide the toolbar set;
- *Right-click* the toolbar to open the **Customize Toolbar Items** dialogue;
- *Edit* the toolbar set;

Please refer to Section 5.3.1.1, Customize Toolbar Items, for details.

- *Enter* a name for the customized toolbar set in the **Name** field;
- *Click* the save as button

to save the customized toolbar set.

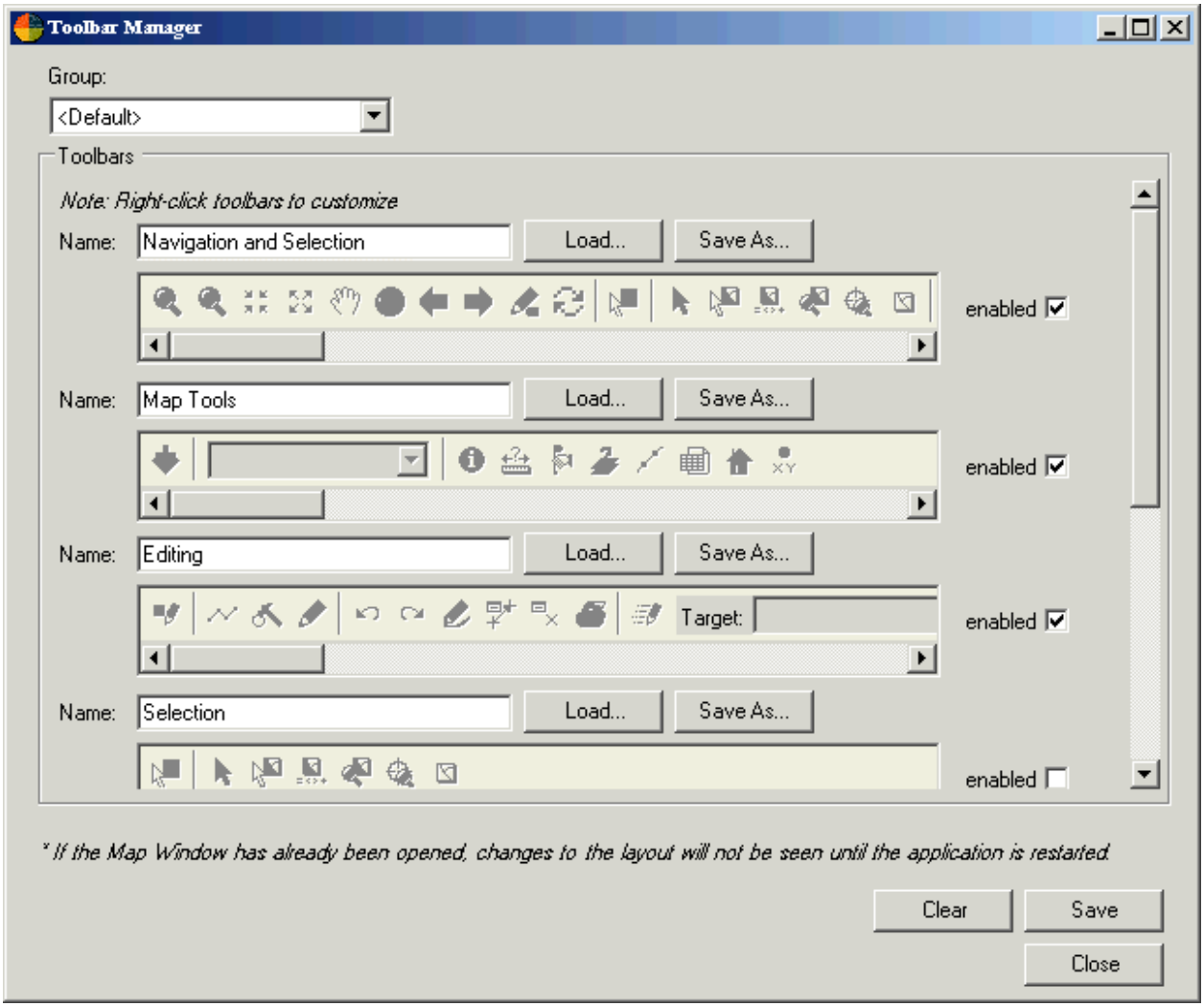


Figure 72 - Toolbar Manager

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After customizing the toolbar you will have to log out of the application before you changes will appear.

The following table summarizes the **Toolbar Manager**:

Field/Column	Description
Group	
Group	*Select* the security group, as defined in the Security module.
Toolbars	
Load...	*Click* to load a pre-defined toolbar set (*.tbr files).
Enabled	*Uncheck* the checkbox to hide the toolbar set for the selected security group.
Name	*Enter* the name of the customized toolbar set.
Save As...	*Click* to select where the customized toolbar set will be saved.
Clear	*Click* to clear the toolbar configurations for the selected security group.
Save	*Click* to save changes.
Close	*Click* to close the window.

Table 15 - Toolbar Manager

The Map Window and Cengea Forest must be closed and re-opened for the updated toolbars to appear.

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5.3.1.1 Customize Toolbar Items

Right-clicking a toolbar and selecting Customize will open the **Customize Toolbar Items** dialogue.

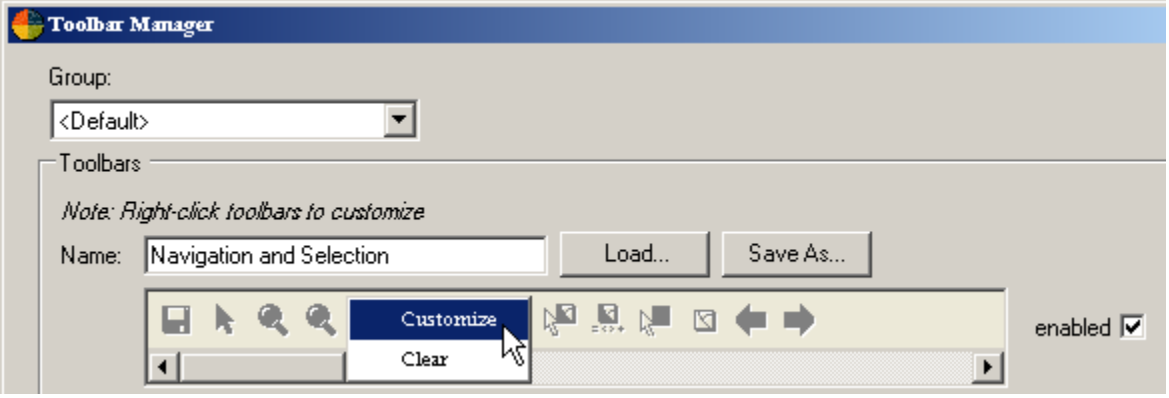

Figure 73 - Access Customize Toolbar Items

To edit the selected toolbar:

- *Highlight* the appropriate category in the **Commands** tab, or;
- *Select* the **Toolsets** tab and *select* the appropriate toolset;
- *Double-click* the required command to add it to the end of the toolbar set;

The required command can also be dragged-and-dropped into the appropriate space on the toolbar set.

- *Click* Close to close the dialogue.

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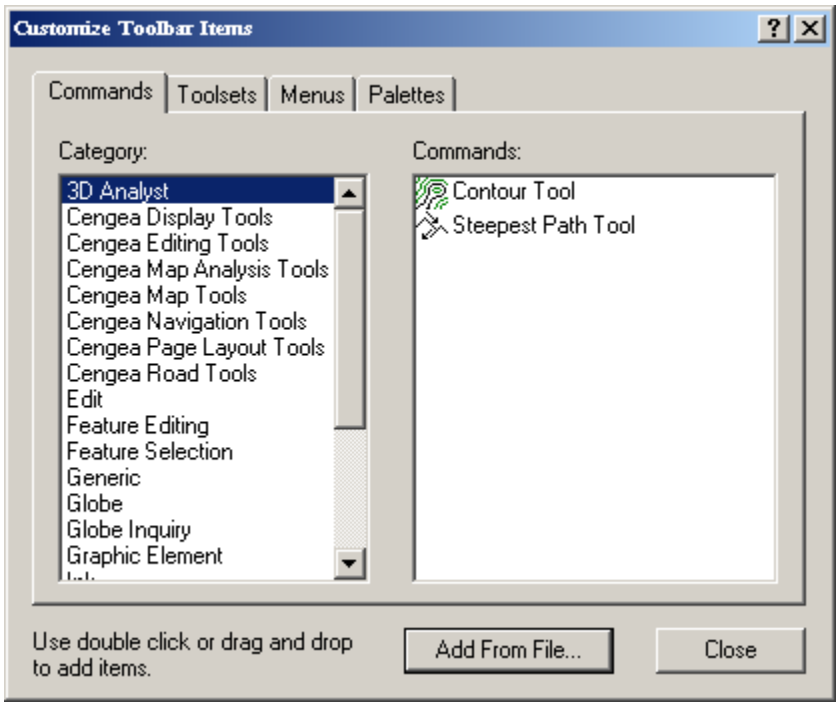

Figure 74 - Customize Toolbar Items Dialogue

The full set of ESRI tools are listed, however the Map Window currently only supports the following toolsets:

Name	Toolset
All Cengea Groups	Cengea Display Tools, Cengea Editing Tools, Cengea Map Analysis Tools, Cengea Navigation Tools, Cengea Page Layout Tools and Cengea Road Tools
ESRI Map Navigation	Pan, Full Extent, Previous Extent, Next Extent, Refresh View
ESRI Map Inquiry	Identify, Measure
ESRI Graphic Element	Select Elements
ESRI Feature Selection	Clear Selected Features

Table 16 - Customize Toolbar Items Dialogue: Supported Toolsets

Some tools exist in the Cengea group and the supported ESRI toolset. It is recommended the Cengea tool be selected, but the ESRI tool will also work. However, any editing tools should only be added from the Cengea Editing Tools group.

Right-clicking a tool in the toolbar (must be in edit mode) in the **Toolbar Manager** will open a pop-up menu enabling the highlighted tool to be deleted, the display properties to be revised, or a Begin Group separator inserted (including setting the number of spaces that will appear before the separator).

Inserting non-supported tools from the ESRI toolset into the toolbar may have unpredictable results.

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To insert a drop-down list item to the toolbar:

- *Select* the **Menus** tab and *highlight* New Menu;
- *Double-click* to add it to the end of the toolbar set;

The menu can also be dragged-and-dropped into the appropriate space on the toolbar set.

- *Select* the **Commands** tab and *add* the required tools to the menu control (i.e., drop-down list);
- *Right-click* the tool and *select* Edit Caption;
- *Enter* the name of the drop-down list in the **Menu Caption** window.

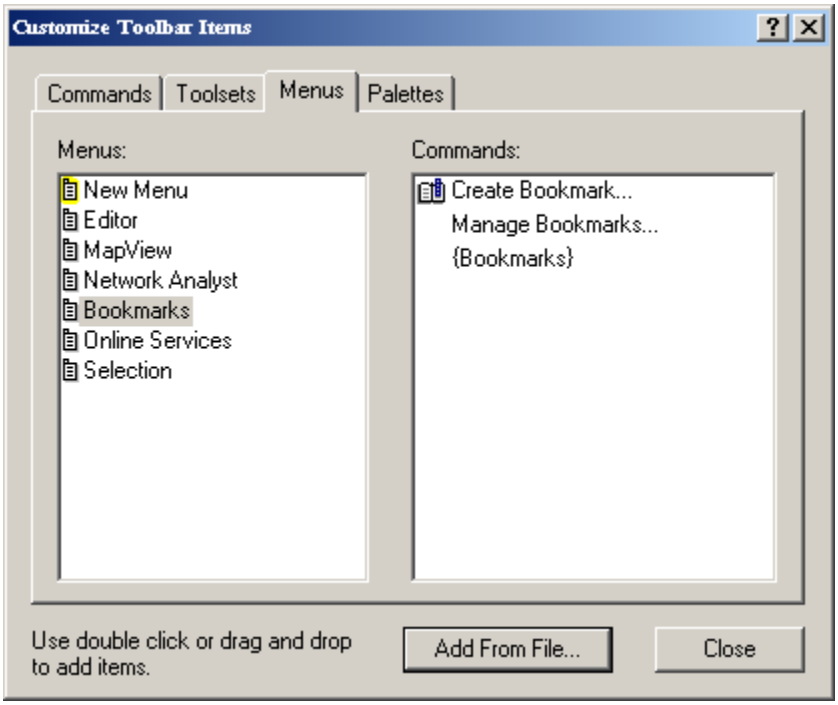

Figure 75 - Customize Toolbar Items Dialogue: Menus Tab

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5.4 Style Manager

In the **Style Manager** the appearance of the various elements within the Map Window are defined. Styles define the visual display characteristics of the spatial and attribute data and the different properties (i.e., font, fill colour, etc.) associated with each type of feature (i.e., polygons, linear features, points, and annotation or text).

To access the **Style Manager**, *click* Map Window on the menu bar then *select* Style Manager.

Figure 76 – Accessing Style Manager

The following default controls are available on the **Style Manager** toolbar:

Control	Description
	ADD
	DELETE
	SAVE

Table 17 – Style Manager Toolbar

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5.4.1 Style Navigator Tree

In the navigator tree, styles can be added or deleted.

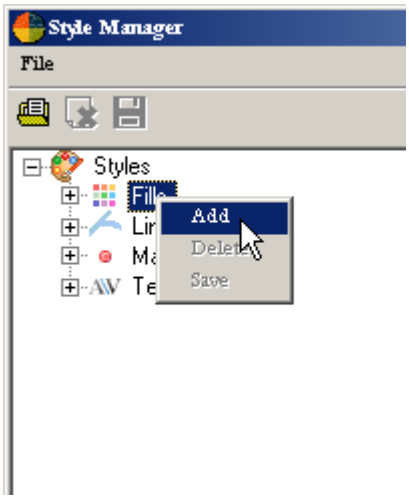

Figure 77 – Style Manager: Navigator Tree

To add a style:

- *Highlight* the feature type the style will be added to;
- *Right-click* and *select* Add, or;
- *Click* ADD;
- *Click* SAVE.

To delete a style:

- *Highlight* the feature type to be deleted;
- *Right-click* and *select* Delete, or;
- *Click* DELETE;
- *Click* SAVE.

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5.4.2 Style Manager Window

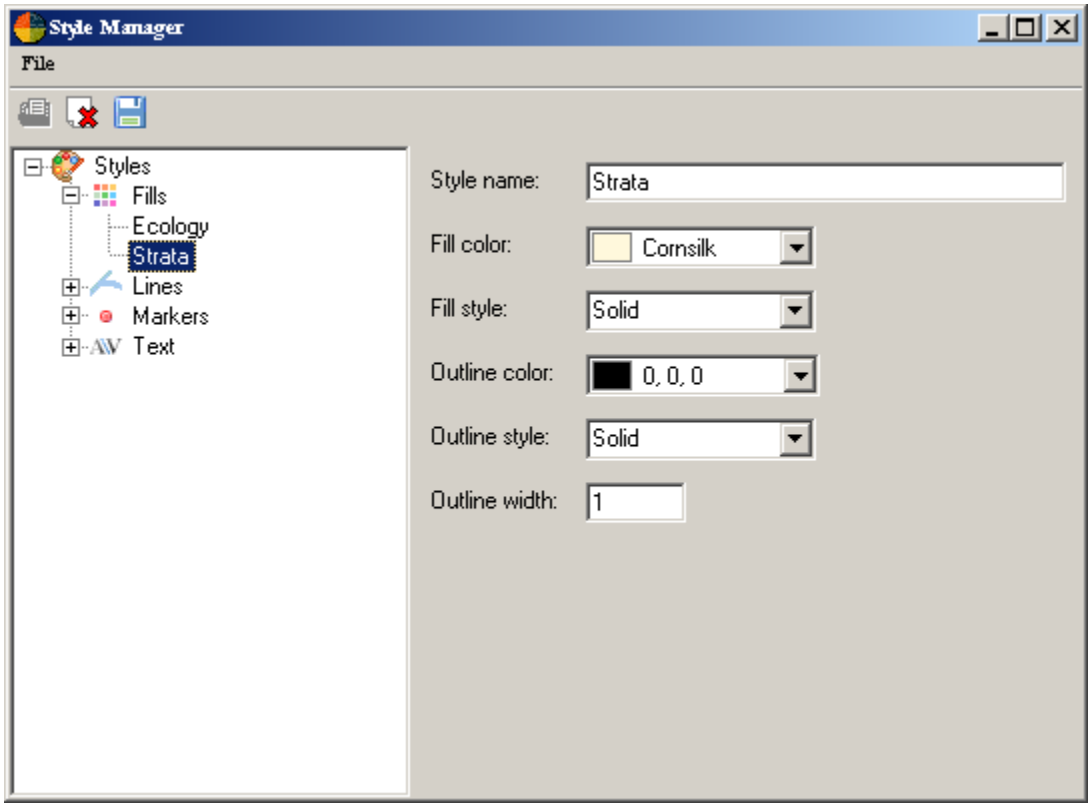

Figure 78 – Style Manager Window

The following table summarizes the feature types:

Feature Type	Description
Fills	Applies defined style to polygons.
Lines	Applies defined style to linear features.
Markers	Applies defined style to points.
Text	Applies defined style to text or annotations.

Table 18 – Style Manager: Feature Types

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5.5 Preference Manager

In the **Preference Manager** the properties that control the overall Map Window environment are defined. The settings can be stored globally (e.g., by Division) or individually (e.g., Road Themes). If settings have not been revised for an individual map the default value is utilized.

To access the **Preference Manager**, *click* Map Window on the menu bar then *select* Preference Manager.

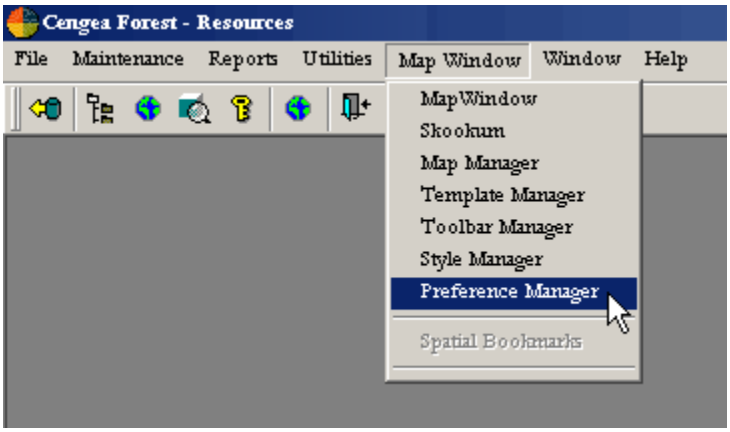

Figure 79 – Accessing Preference Manager

The following default controls are available on the **Preference Manager** toolbar:

Control	Description
	ADD
	DELETE
	SAVE

Table 19 – Preference Manager Toolbar

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5.5.1 Preference Navigator Tree

In the navigator tree, users can be added or deleted.

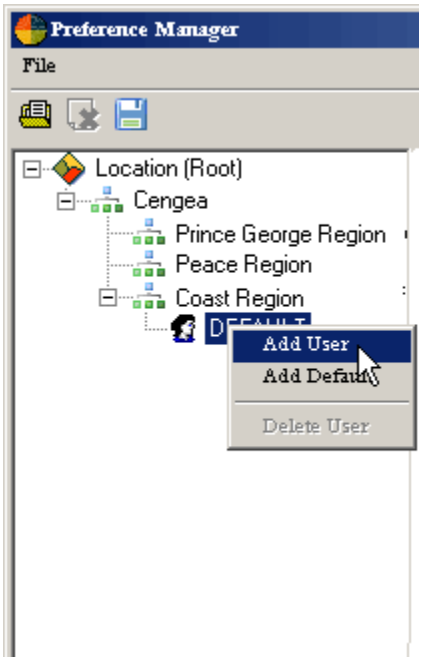

Figure 80 – Preference Manager: Navigator Tree

To add a user:

- *Highlight* the Region or Division the user will be added to;
- *Right-click* and *select* Add, or;
- *Click* ADD;
- *Click* SAVE.

To delete a user:

- *Highlight* the user to be deleted;
- *Right-click* and *select* Delete, or;
- *Click* DELETE;
- *Click* SAVE.

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5.5.2 Preferences Tab

In the **Preferences** tab the map preferences are defined by globally or individually.

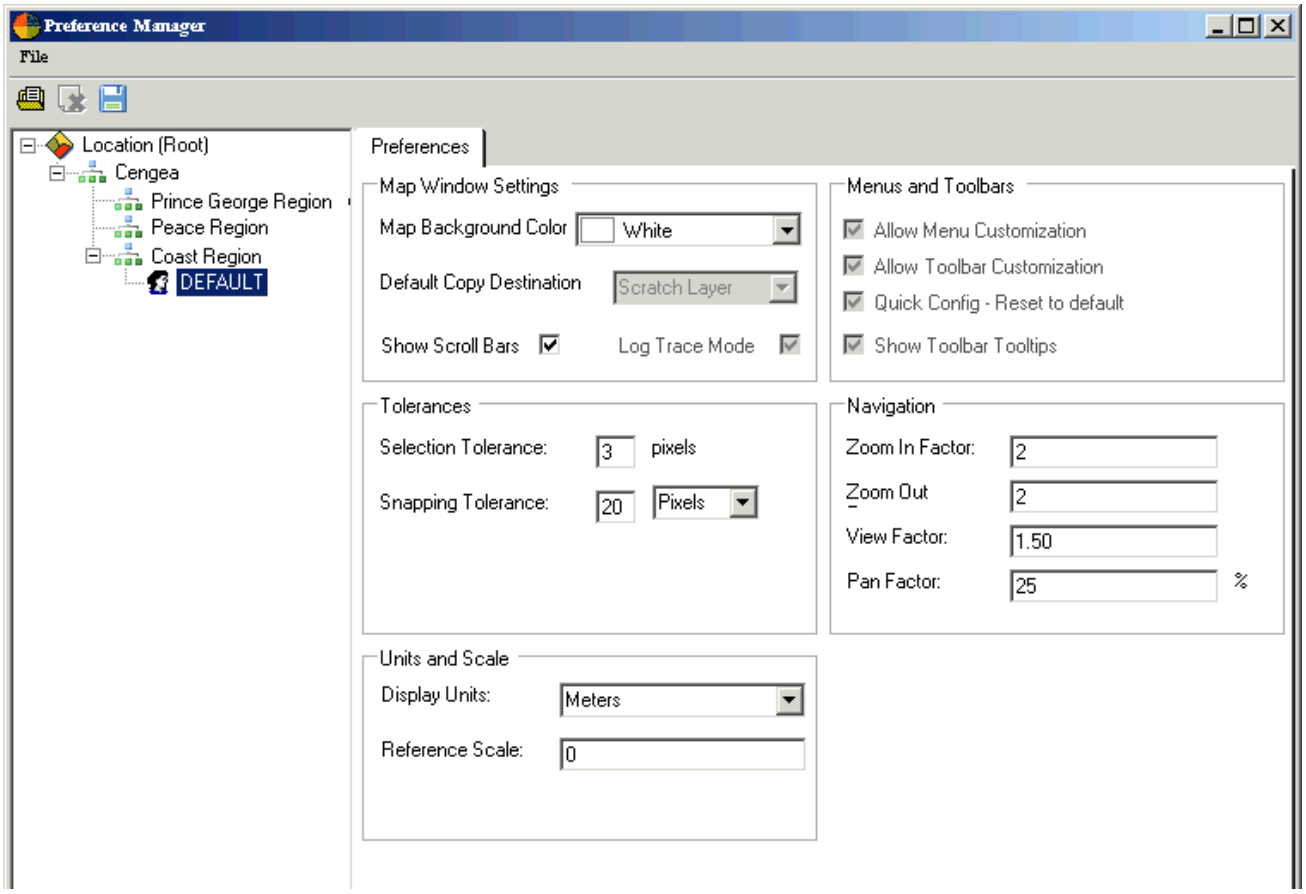

Figure 81 – Preference Manager: Preferences Tab

The following table summarizes the **Preferences** tab fields:

Field/Column	Description
Map Window Settings	
Map Background Colour	*Select* the required colour for the map background.
Default Copy Destination	Currently, the system default is Clipboard.
Show Scroll Bars	*Check off* the checkbox to view the scroll bars in the Map Window.
Tolerances	
Selection Tolerance	*Enter* the search area tolerance in pixels (when users select features).
Snapping Tolerance	*Enter* the distance, in pixels or maps units, within which the pointer or a feature will snap to another location when in an editing session. If the location being snapped to (vertex, boundary, midpoint, or connection) is within that distance the pointer will automatically snap.

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Field/Column	Description
Navigation	
Zoom In Factor	*Enter* how much the map will zoom using the fixed zoom in tool.
Zoom Out Factor	*Enter* how much the map will zoom using the fixed zoom out tool.
Pan Factor	*Enter* how much the map will pan when using the PAN control in the **Quick Navigator** or when clicking the scrollbars. The maximum allowed value is 100%.
View Factor	*Enter* the factor at which the map will zoom to when a Cengea Forest feature is selected (e.g., a factor of two indicates map extents will be twice the features size).
Units and Scale	
Display Units	*Select* the units measurements, dimensions of shapes, and distance tolerances and offsets are rendered on the screen or in print. They are stored with consistent units in the dataset, but users can choose the units in which coordinates and measurements are displayed.
Reference Scale	*Enter* the scale the symbols will appear on the page at their true size (specified in page units). When the extent changes, the text and symbols will change scale with the display. Without a reference scale, they will appear the same at all map scales.

Table 20 – Preference Manager: Preferences Tab Fields

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5.6 Spatial Explorer

The **Spatial Explorer** functionality enables GPS data to be added to the Map Window without importing the data.

Clicking the add data on the **Navigation / Selection** toolbar or **Map Features** tab of the **Map Manager** will open the following dialogue:

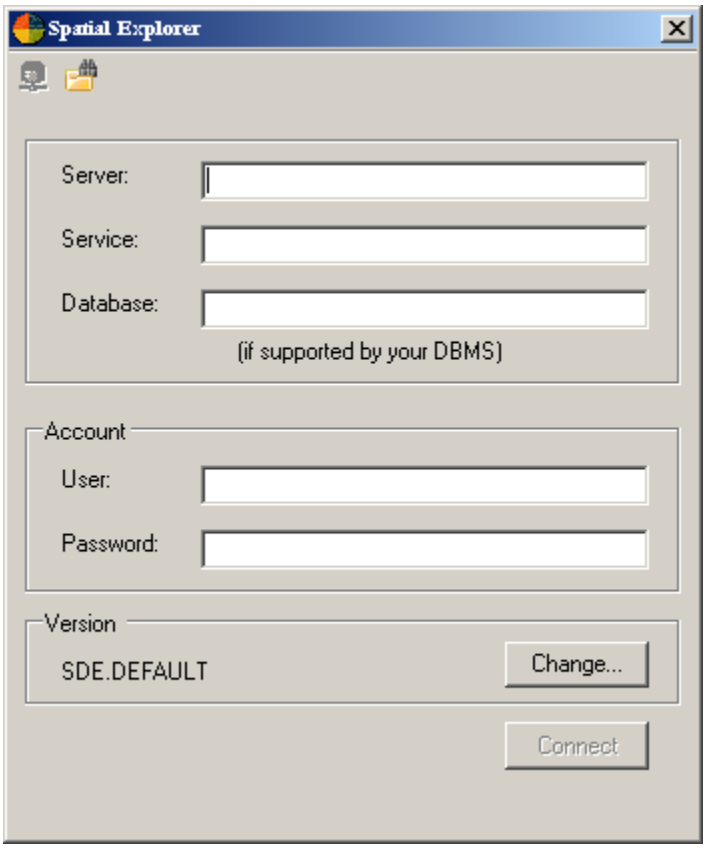

Figure 82 –Spatial Explorer Dialogue

When non-admin users open a defined map and add SDE layers through **Spatial Explorer**, the **Editable, Can Copy,** and **Shared Editing** checkboxes will be disabled in the **Settings** tab of the **Spatial Info** panel for non-admin accounts.

The following spatial data types can be added:

- Shape file
- Coverages
- Personal Geodatabases

To add the spatial data files:

- *Click* add layer from a file button to switch to the Files view;
- *Click* open file dialogue to access the file list;
- *Highlight* the required file(s) in the file directory and *click* OPEN;

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- *Click* OK to add selected file(s) to the Map Window.

Clicking will switch to the SDE view to enable SDE database files to be imported.

Multiple files can be selected from the file directory.

In **Map Manager** adding batch layers is not supported.

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5.6.1 Multiple Files

To load multiple files through **Spatial Explorer**:

- *Select* the file type in the **Files of type** drop-down list;
- *Select* the required files and *click* OPEN;

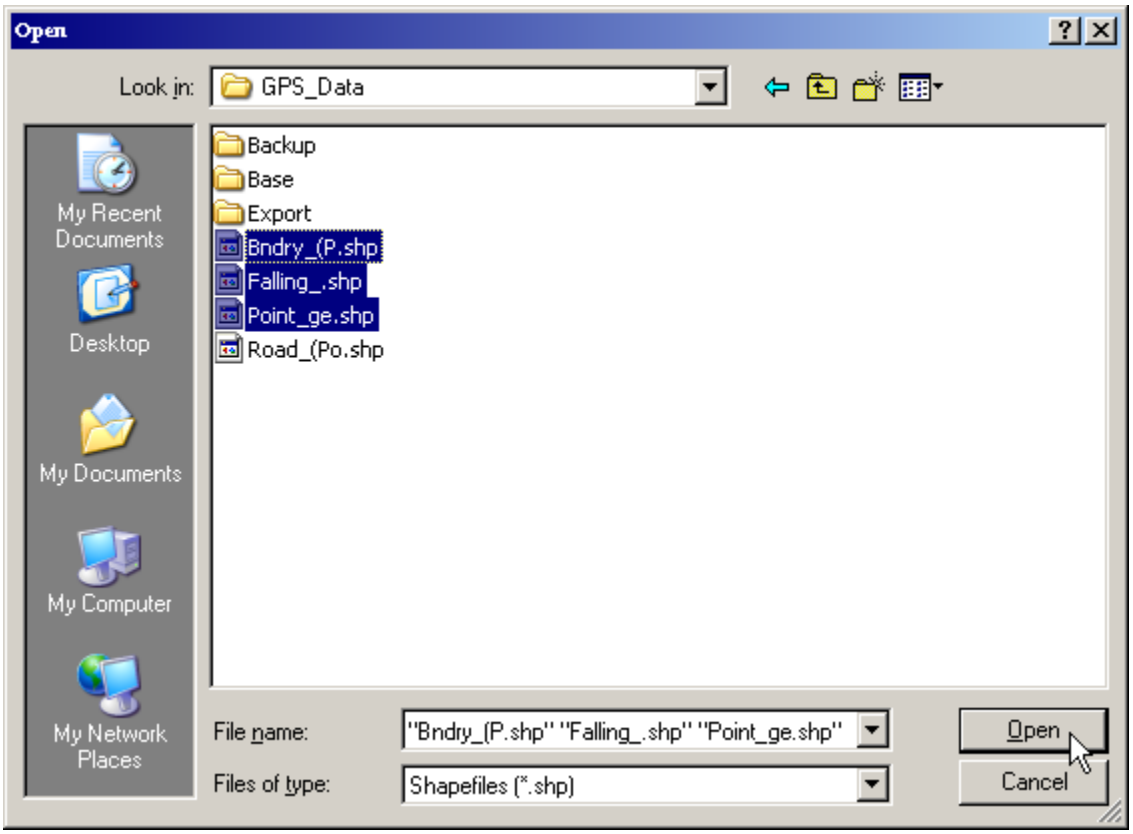

Figure 83 – Spatial Explorer: Selecting Files

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- *Click* OK to add all files to the Map Window.

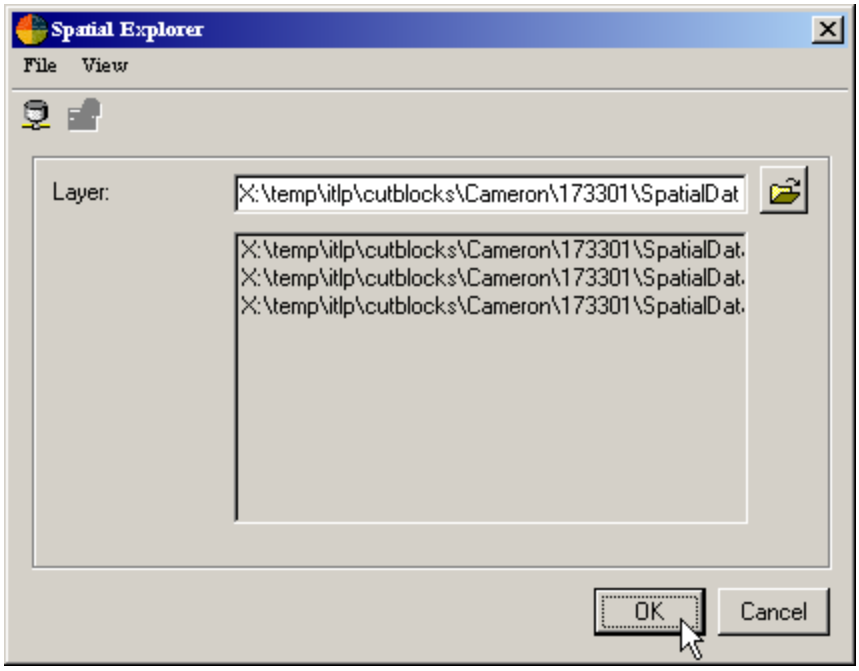

Figure 84 – Spatial Explorer: Multiple SHP Files

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5.6.2 Multiple DXF Files

To load multiple DXF files through **Spatial Explorer**:

- *Select* CAD files in the **Files of type** drop-down list;
- *Select* the required files and *click* OPEN;

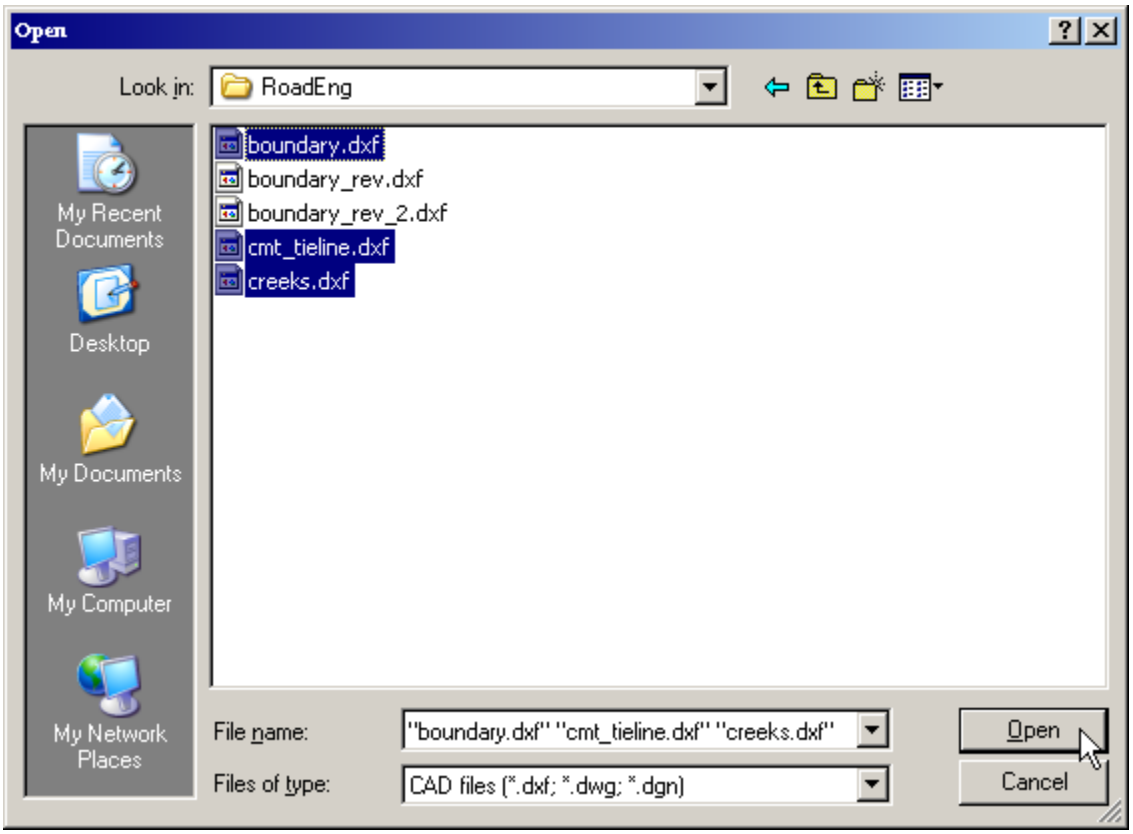

Figure 85 – Spatial Explorer: Selecting DXF Files

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- *Click* OK to add all files to the Map Window.

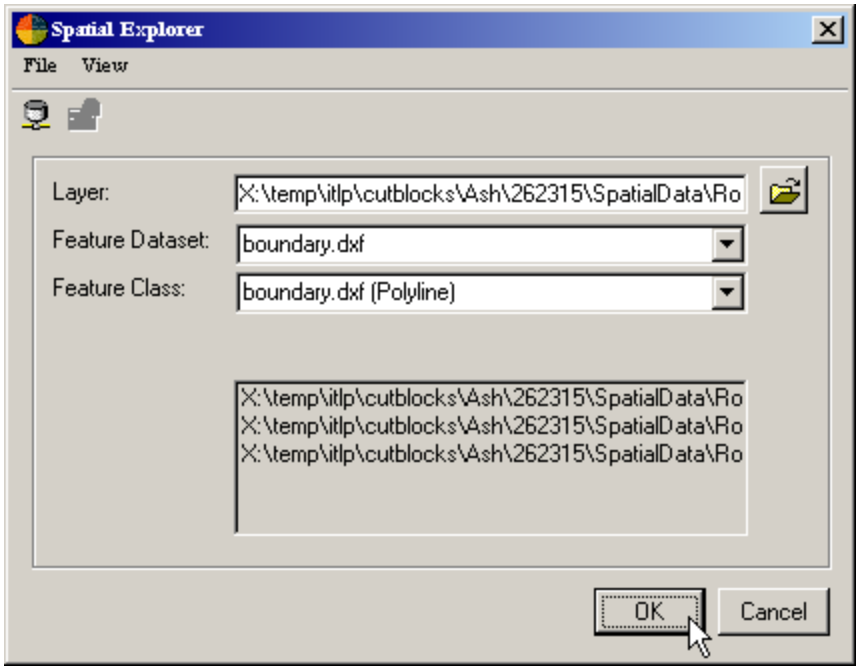

Figure 86 – Spatial Explorer: Multiple DXF Files

A single CAD file can be loaded with all feature classes in the dataset or multiple CAD files with a single feature class.

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6 MAP WINDOW FUNCTIONALITY

The following sections describe the various dialogues and tool functionality available in the Map Window.

6.1 Dialogues

Dialogue forms enable users to enter additional information based on the selected tool or menu item.

6.1.1 Buffer

Clicking the buffer button on the **Map Display** toolbar will open the **Buffer** dialogue to enable users to enter required and optional input values.

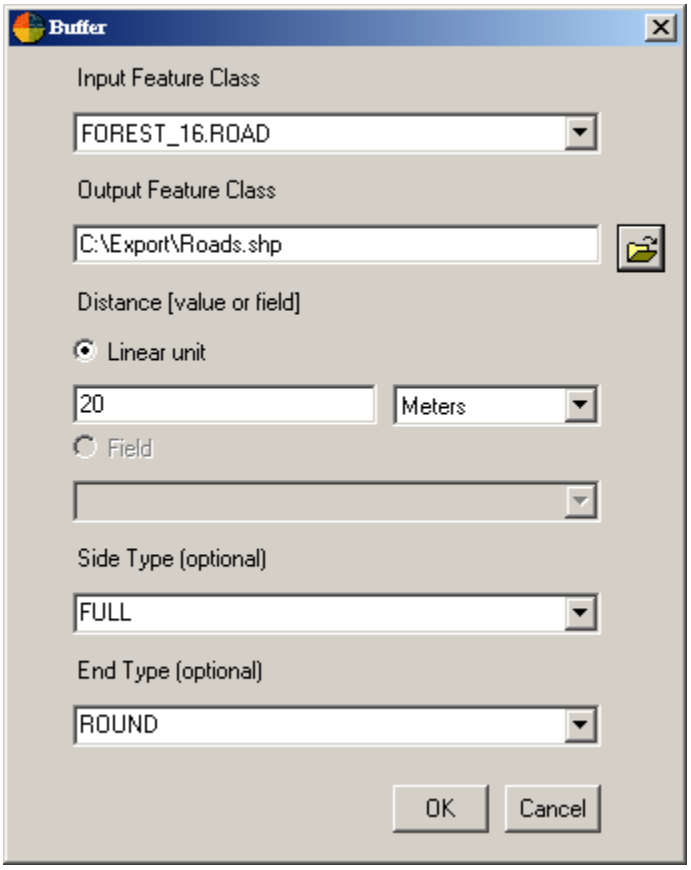

Figure 87 – Buffer Dialogue

When a feature is buffered, the initial feature and resultant are both selected after the buffering process is complete instead of just the resultant buffer.

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The following table summarizes the **Buffer** dialogue fields:

Field/Column	Description
Input Feature Class	This is a required field. *Select* the layer to be used for the buffer operation. The drop-down list will auto-populate with the active layer.
Output Feature Class	This is a required field. *Select* the file name and location where the buffered features will be saved.
Distance – Linear Unit	The distance and unit value are system defaults. *Enter* the distance and select the unit value for the buffer distance.
Distance – Field	This option is not currently in production.
Side Type	*Select* the side of the feature to buffer.
End Type	*Select* the end type to use for the buffer.

Table 21 – Buffer Dialogue Fields

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6.1.2 Select by Attribute

Clicking SELECT BY ATTRIBUTE on the **Navigation / Selection** toolbar will open the **Select by Attribute** dialogue to enable users to select spatial features based on their attribute value(s).

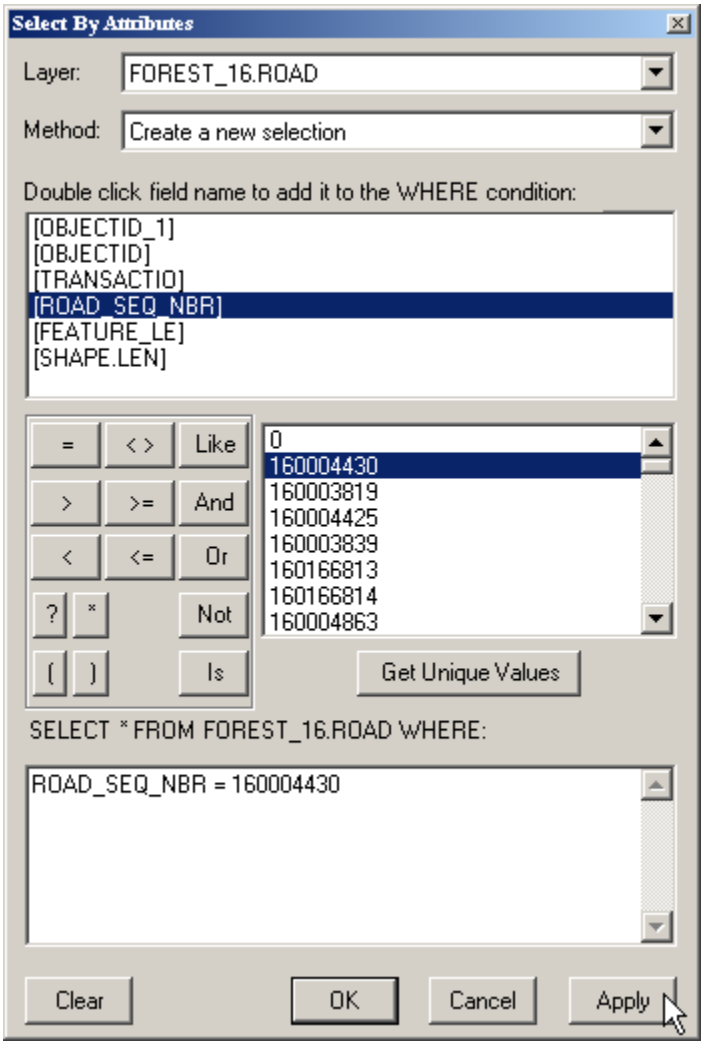

Figure 88 – Select by Attribute Dialogue

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The following table summarizes the **Select by Attribute** dialogue fields:

Field/Column	Description
Layer	*Select* the layer to be used for the search operation. The drop-down list will auto-populate with the active layer.
Method	*Select* the method to be used for the search operation.
Field List	This field populates with the available search fields based on the selected layer. *Double-click* the appropriate field to add it to the WHERE clause.
Operators	*Click* the appropriate operator to add it to the WHERE clause.
Get Unique Values	*Click* to retrieve a list of unique values for the attribute. *Double-click* the appropriate value to add it to the WHERE clause.
WHERE Clause	This field populates with the selected fields, operators, and values or *enter* the where condition values for the select statement.
Clear	*Click* to clear the WHERE clause.
OK	*Click* to save changes to the database and close the window.
Cancel	*Click* to close the window without saving changes.
Apply	*Click* to apply the changes.

Table 22 – Select by Attribute Dialogue Fields

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6.1.3 Coordinate Location

Clicking COORDINATE LOCATION on the **Map Tools** toolbar and selecting a feature will open the **Coordinate Location** dialogue to enable users to set the display units or projected coordinate systems for the X and Y values.

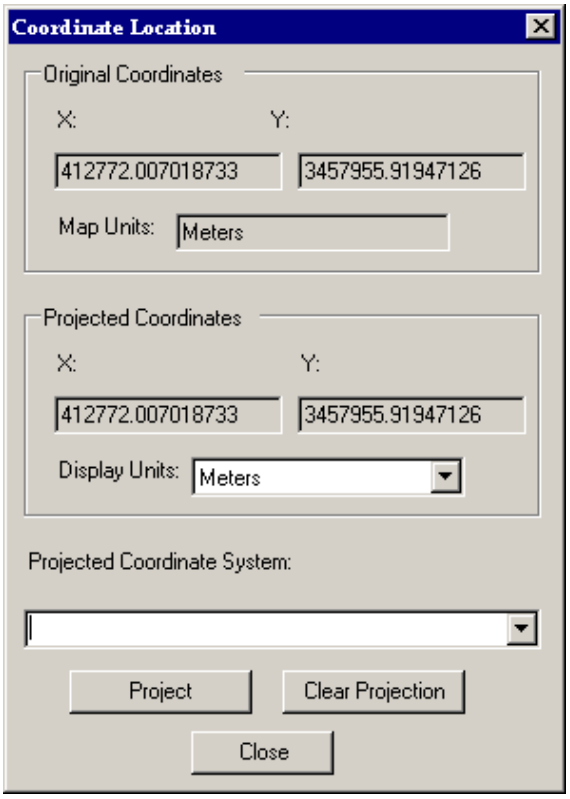

Figure 89 – Coordinate Location Dialogue

The map projection and units for the Map Window will not be transformed.

The following table summarizes the **Coordinate Location** dialogue fields:

Field/Column	Description
Original Coordinates	The **X, Y,** and **Map Units** fields are not editable.
Projected Coordinates – X and Y	The **X** and **Y** fields will transform based on the display unit or project coordinate system selected.
Display Units	*Select* the unit to transform the projected X and Y values.
Projected Coordinate System	*Select* the coordinate system to transform the projected X and Y values.
Project	*Click* to populate the Projected Coordinates section based on the selected projected coordinate system.
Clear Projection	*Click* to reset the projected coordinates.

Table 23 – Coordinate Location Dialogue Fields

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6.1.4 Copy Offset

Starting an editing session, selecting a feature, clicking COPY OFFSET on the **Advance Editing** toolbar, and clicking on the map to identify the direction of the copy offset function will open the **Copy Offset** dialogue to enable users to set the distance value and units for the copy operation.

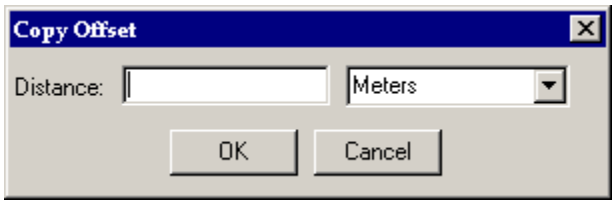

Figure 90 – Copy Offset Dialogue

6.1.5 Extend Line

Starting an editing session, selecting a feature, clicking EXTEND LINE on the **Advance Editing** toolbar, and right-clicking on the feature on the map will open the **Extend Line** dialogue to enable users to define the distance, angle, and end of line to be extended.

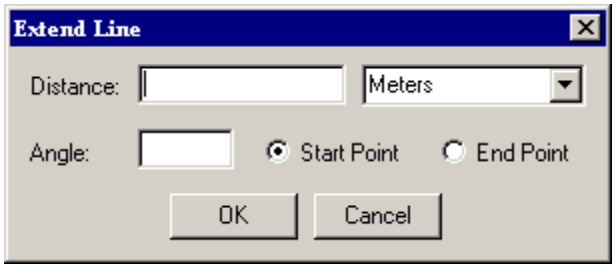

Figure 91 – Extend Line Dialogue

The start point is identified on the map with a green square and the end point with a red square.

Holding SHIFT allows snapping. In this instance, the dialogue will not appear and the feature being snapped to will flash red and the snapping feature will extend in a straight line to the selected feature.

The following table summarizes the **Extend Line** dialogue fields:

Field/Column	Description
Distance	*Enter* the distance the line will be extended.
	Select the unit of measurement.
Angle	*Enter* the angle of the adjoining line segment.
Start Point	*Click* this radio button to identify the line will be extended from the start point.
End Point	*Click* this radio button to identify the line will be extended from the end point.

Table 24 – Extend Line Dialogue Fields

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6.1.6 Trim Line

Starting an editing session, selecting a linear feature, clicking TRIM LINE on the **Advance Editing** toolbar, and selecting the linear feature to trim will open the **Trim Line** dialogue to enable users to define the distance and end of line to be trimmed.

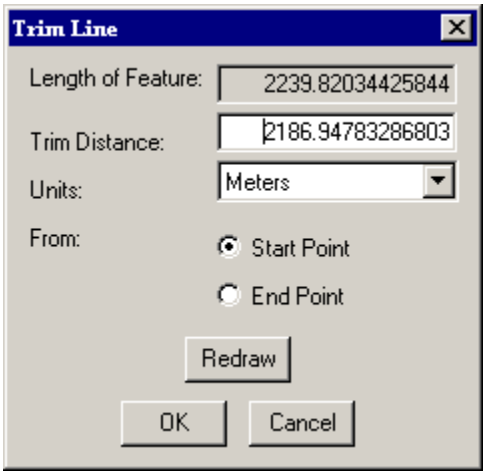

Figure 92 – Trim Line Dialogue

The start point is identified on the map with a green square and the end point with a red square.

Holding SHIFT allows snapping. In this instance, the dialogue will not appear and the feature being snapped to will flash red and the snapping feature will extend in a straight line to the selected feature.

The following table summarizes the **Trim Line** dialogue fields:

Field/Column	Description
Length of Feature	This field auto-populates with the existing length of the feature.
Trim Distance	*Enter* the distance the line will be trimmed.
Units	*Select* the unit of measurement.
Start Point	*Click* this radio button to identify the line will be extended from the start point.
End Point	*Click* this radio button to identify the line will be extended from the end point.
Redraw	*Click* to redraw the feature.

Table 25 – Trim Line Dialogue Fields

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6.1.7 Move Feature

Starting an editing session, selecting a feature, clicking MOVE FEATURE on the **Advance Editing** toolbar, and right-clicking on the feature will open the **Move Feature** dialogue to enable users to move a feature by distance and angle or coordinates.

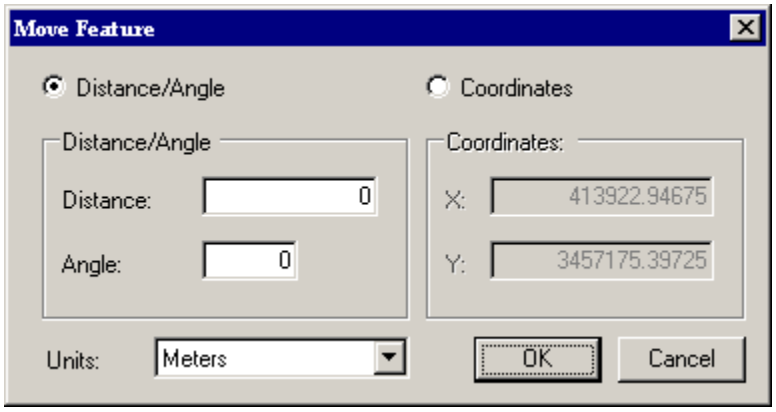

Figure 93 – Move Feature Dialogue

The following table summarizes the **Move Feature** dialogue fields:

Field/Column	Description
Distance/Angle	*Click* the radio button to move the selected feature by distance and angle.
Distance	*Enter* a positive distance value.
Angle	*Enter* the angle (must be between 0 and 360).
Coordinates	*Click* the radio button to move the selected feature by coordinates.
X	*Enter* the X coordinate.
Y	*Enter* the Y coordinate.
Units	*Select* the units of measurement.

Table 26 - Move Feature Dialogue Fields

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6.1.8 Rotate Feature

Starting an editing session, selecting a feature, clicking ROTATE FEATURE on the **Advance Editing** toolbar, and right-clicking on the feature will open the **Rotate Feature** dialogue to enable users to rotate a feature.

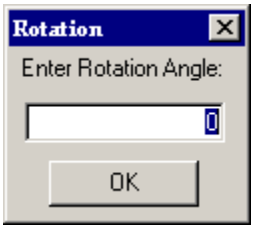

Figure 94 – Rotate Feature Dialogue

A value between 0 and 360 (can be a fractional value) is entered to rotate the selected feature.

6.1.9 Create Resources Road

Starting an editing session, clicking CREATE ROAD on the **Roads** toolbar, creating a new feature then double-clicking to end the feature will open the **Create Road** dialogue to enable users to link one or multiple roads to new or existing tabular records.

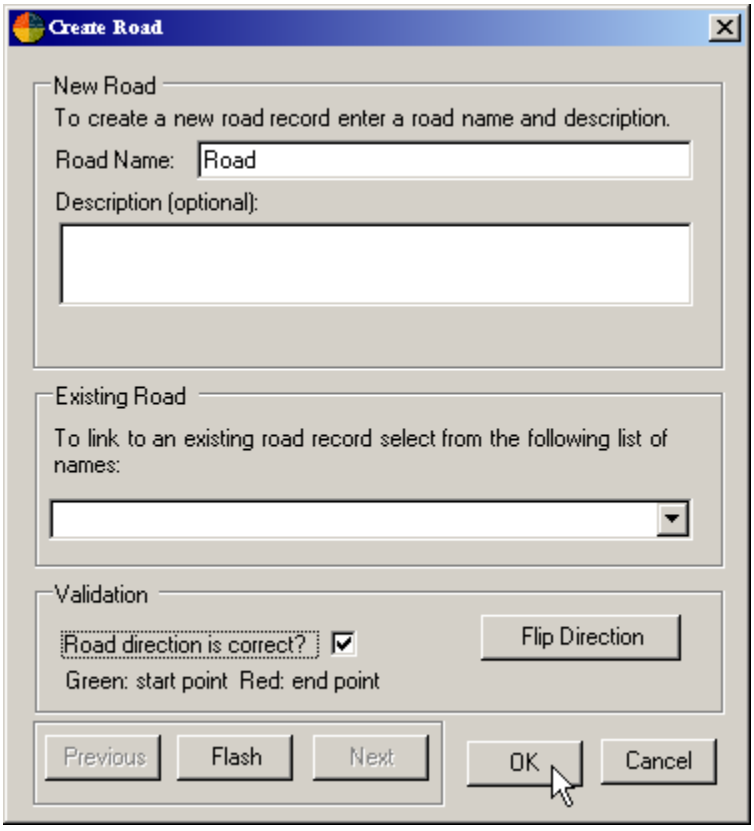

Figure 95 – Create Road Dialogue

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The following table summarizes the **Create Road** dialogue fields:

Field/Column	Description
New Road	
Road Name	This is a required field, if a tabular record does not exist. *Enter* the name of the road.
Description	*Enter* a description of the road.
Existing Road	
(drop-down list)	This is a required field, if a tabular record does exist. *Select* the name of the road or *enter* a partial road name to reduce searching for the road.
Validation	
Road direction is correct?	This is a required field. *Check off* the checkbox to confirm the direction of the road is correct
Flip Direction	*Click* to change the direction of the road.
Previous	*Click* to go to previous road when linking multiple roads.
Flash	*Click* to identify the feature in the map display.
Next	*Click* to go to next road when linking multiple roads.
OK	*Click* to save the spatial and tabular attribute records.
Cancel	*Click* to close the dialogue without saving the changes.

Table 27 – Create Road Dialogue

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6.1.10 Feature Location

Clicking FEATURE LOCATION on the **Map Tools** toolbar and selecting a feature will open the **Feature Location** dialogue to enable users to set the display units for the location of the selected feature.

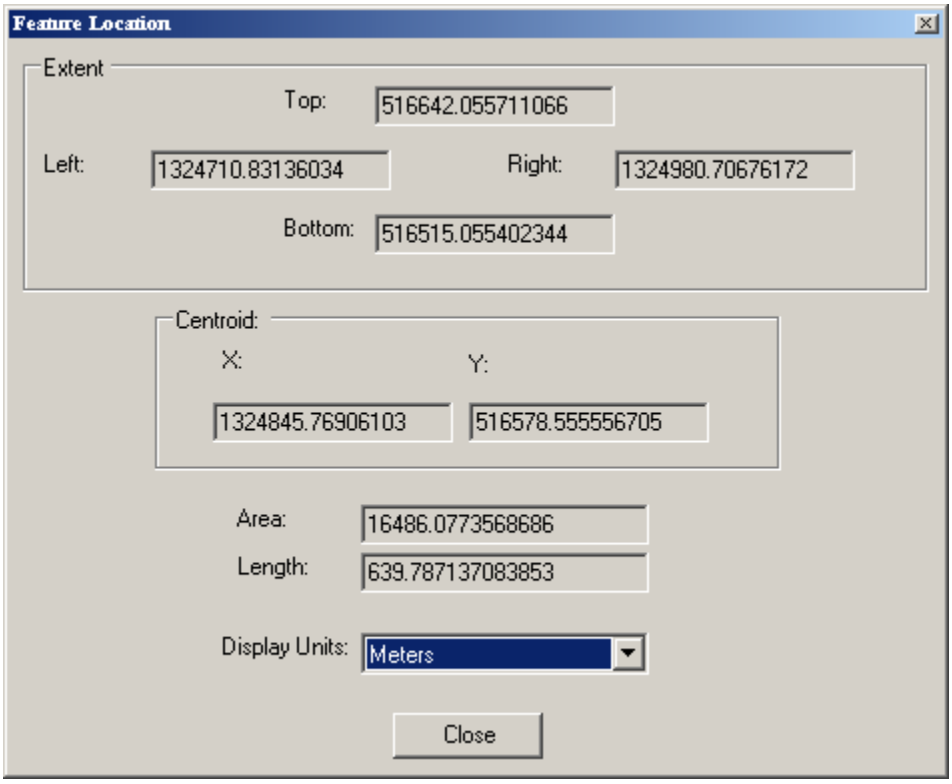

Figure 96 - Feature Location Dialogue

Holding CTRL when clicking on a multi-part feature will retrieve the measure for that segment only.

In the **System Parameters** tab of the **Common Maintenance** table parameters can be set to calculate the X and Y co-ordinates.

Set the parameters:

- Object ID: MapParameter
- Parameter Names: CentroidCalcSingle and CentroidCalcMulti
- Parameter Values: Centroid, LabelPoint, and AbsoluteCenter

Centroid returns the centre point of the weighted area;

LabelPoint ensures the reported location will always fall within the shape;

AbsoluteCenter will return the location of the centre point of the shape's bounding box;

The CentroidCalcSingle parameter defaults to Centroid;

The CentroidCalcMulti parameter defaults to LabelPoint.

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The following table summarizes the **Feature Location** dialogue fields:

Field/Column	Description
Extent	
Top	This field is auto-populated with the top extent in the measurement unit selected from the **Display Units** drop-down list.
Left	This field is auto-populated with the left extent in the measurement unit selected from the **Display Units** drop-down list.
Right	This field is auto-populated with the right extent in the measurement unit selected from the **Display Units** drop-down list.
Bottom	This field is auto-populated with the bottom extent in the measurement unit selected from the **Display Units** drop-down list.
Centroid	
X	This field is auto-populated with the X position in the measurement unit selected from the **Display Units** drop-down list.
Y	This field is auto-populated with the Y position in the measurement unit selected from the **Display Units** drop-down list.
Area	This field is auto-populated with the area in the measurement unit selected from the **Display Units** drop-down list.
Length	This field is auto-populated with the length in the measurement unit selected from the **Display Units** drop-down list.
Display Units	*Select* the appropriate measurement unit to determine the location of the feature.
Close	*Click* to close the dialogue.

Table 28 - Feature Location Dialogue

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6.1.11 Build Features

Clicking BUILD TOOL on the **Editing** toolbar will open the **Construct Features** dialogue to enable users to build new features. This tool can be used to create new features from spaghetti line work, as well to build overlapping polygons.

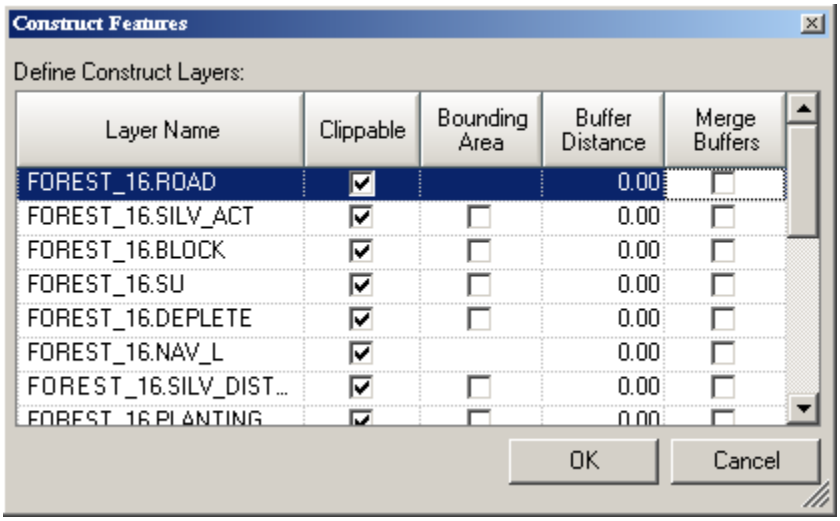

Figure 97 - Construct Features Dialogue

Please note the following important details:

- Checking off the **Merge Buffers** checkbox will merge buffers if generated (all features);
- If any previously linked features exist, users will be prompted to merge to the existing feature;
- To build overlapping polygons a parameter must be set in the **System Parameters** of the **Common Maintenance** table. Set the parameter name - AllowBuildingOverlapPolygons to equal the business class (e.g., SU). The business classes are listed in a comma delimited format;
- To hide the **Bounding Area** checkbox from the dialogue when using the CONSTRUCT tool, set the system parameter ShowBoundingAreaOnConstruct to N.

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6.1.12 Merge Features

Starting an editing session, selecting more than one feature, and clicking MERGE FEATURES on the **Advance Editing** toolbar will open the **Merge** dialogue to enable users to merge the selected features.

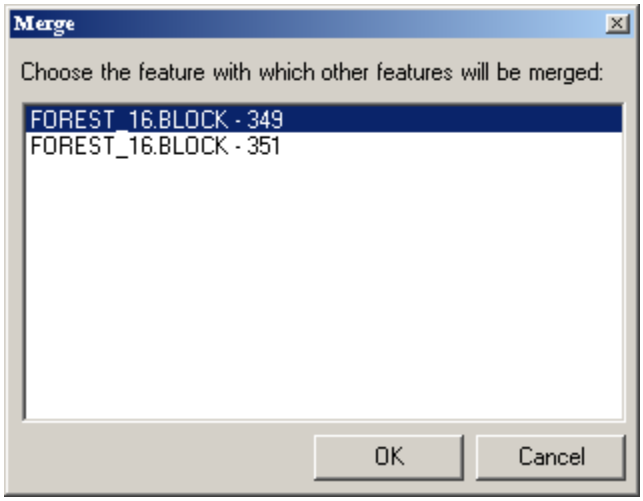

Figure 98 - Merge Dialogue

When merging features the first feature that appears in the **Merge** dialogue will be highlighted by default and the shape will flash.

6.1.13 Clip Features

Starting an editing session, selecting one feature, and clicking the clip button on the **Advance Editing** toolbar will open the **clip dialogue** to enable users to clip the selected features against another feature.

To clip a polygon:

- *Check off* the **Editable** (or **Shared Editing**) checkbox in the **Settings** tab of the **Spatial Info** panel for the layer(s) participating in editing;
- *Start* an editing session;
- *Select* the appropriate target layer;
- *Select* the feature;
- *Click* CLIP on the **Advance Editing** toolbar;
- *Turn on* the layers of the features to clip;
- *Select* the feature to clip against;

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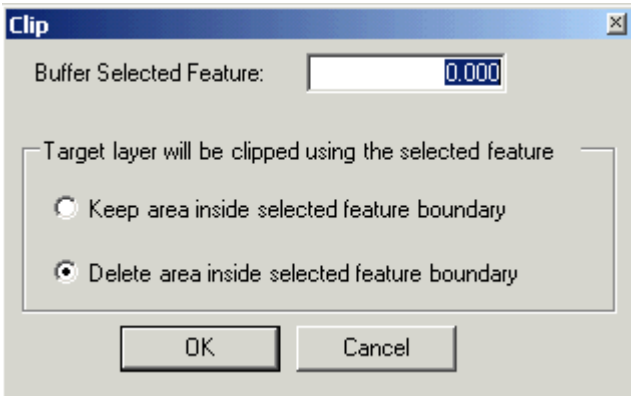

Figure 99 – Clip Feature Dialogue

- *Click* YES to clip the piece of the shape, NO to leave the shape as is or CANCEL to terminate the process.

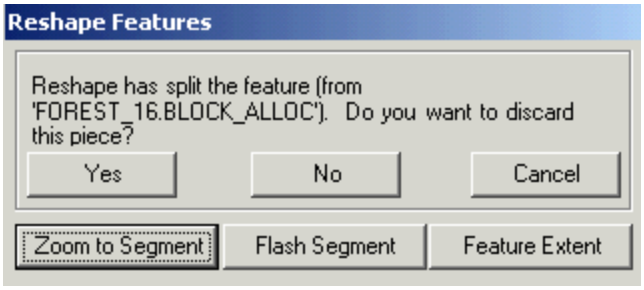

Figure 100 - Reshape Features Dialogue

- *Save* the edits.

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6.1.14 Query Builder

The SELECT FEATURES IN QUERY BUILDER ( ) tool allows records to be selected in the Query Builder that correspond to the shapes selected on the map.

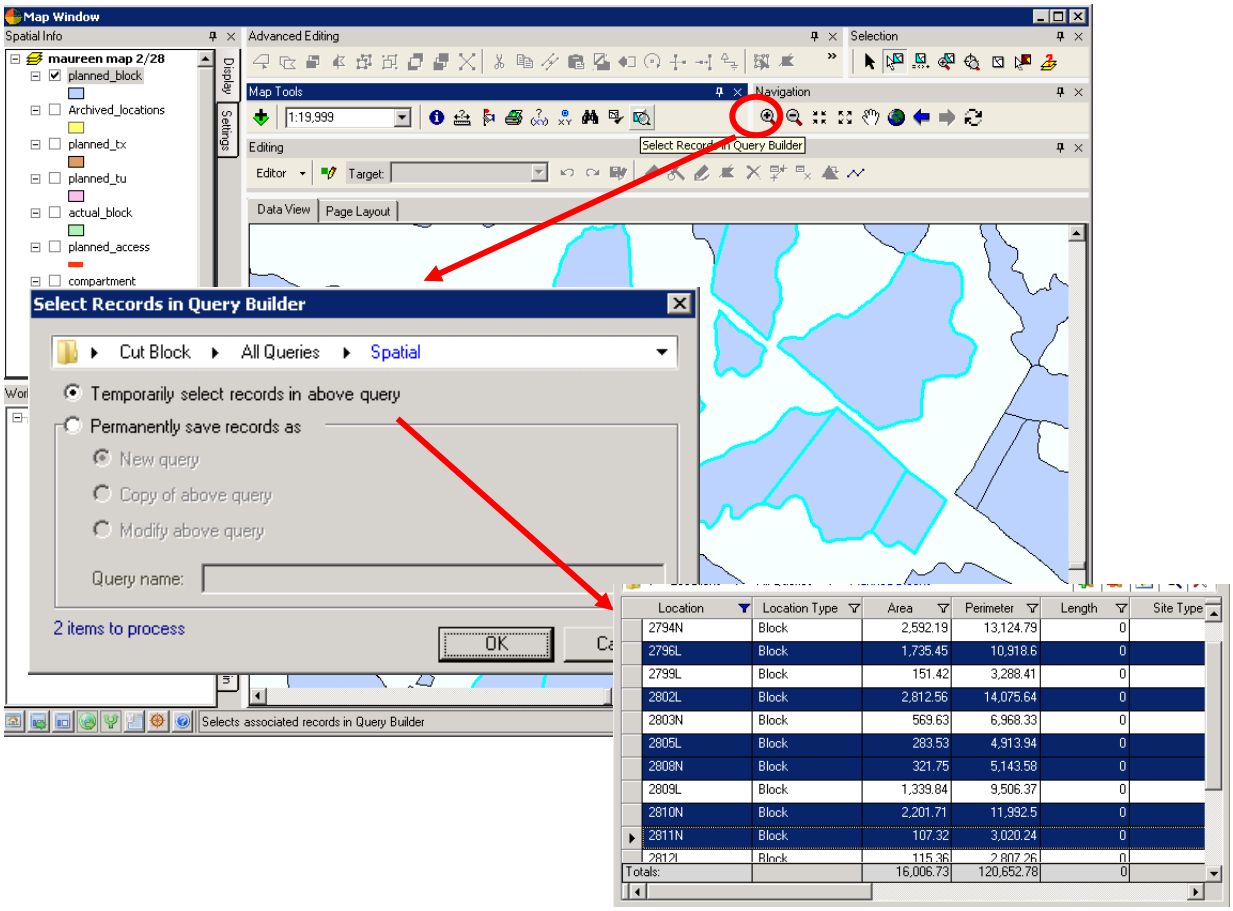

Figure 101 - Select Records in Query Builder

Shapes can be selected on the map using any spatial selection tool, and control how the records are selected in the Query Builder:

- Temporarily select records in the specified query – this highlights the matching records as shown in the screenshot above, which is useful when performing a multi-record operation on the selection such as Mass Update;
- Permanently save records as a query – this creates or updates a query containing only the matching records, which is useful when performing a single-record operation on the records such as opening the corresponding detail window.

The tool must be added to one of the toolbars using Toolbar Manager. Itcan only be used with info types that have a column that ties the tabular records to the shapes, although this column does not have to be visible. When using the tool on a non-managed layer, users will be prompted to choose the column in the layer's attribute table containing the ID value to match to the records in the Query Builder.

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6.1.15 Launch Report

The LAUNCH REPORT tool will allow reports to be launched from the map.

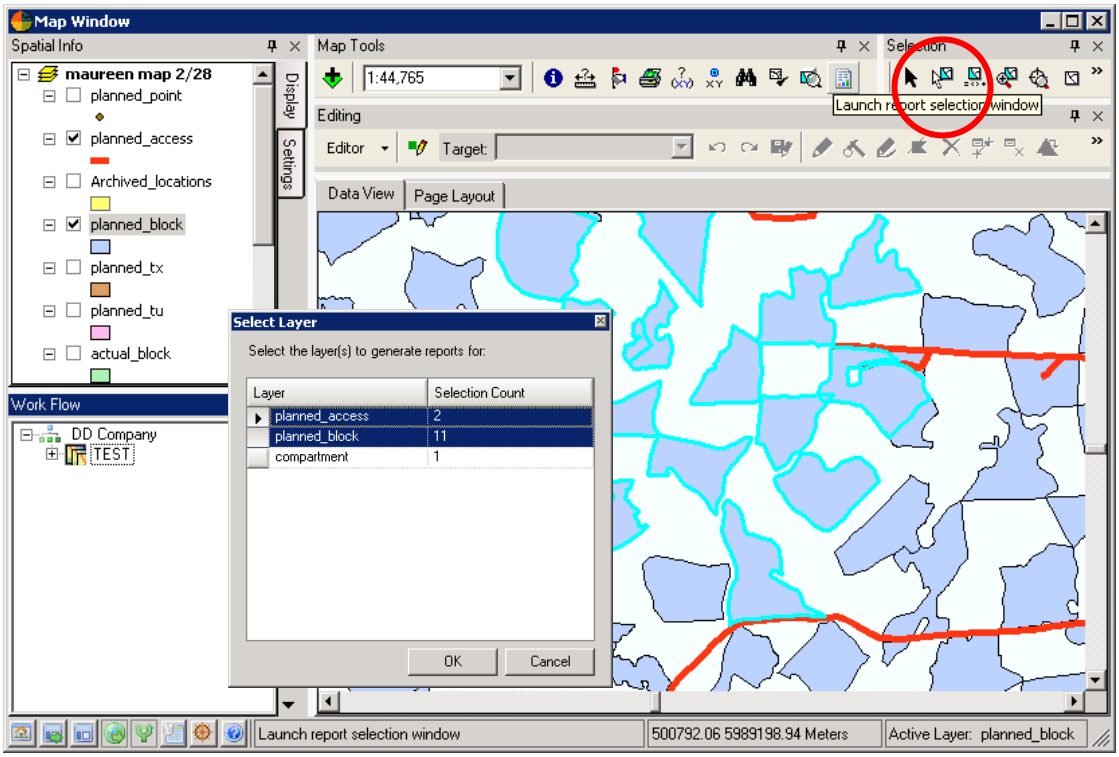

Figure 102 - Launch Report: Select Layers

The report is launched using Report Manager. The LAUNCH REPORT tool is intended to be used for the shapes that are selected on the map, although reports can also be launched if no shapes are selected on the map. Shapes can be selected using any of the spatial tools, and if shapes are selected in more than one layer users are prompted to choose which layer(s) to report on.

If a layer being reported on is a non-managed layer, users are also prompted to indicate which column in the layer's attribute table is to be used when passing data values into the report. Typically the ID values for the selected shape(s) are passed into the report, which then filters the data displayed in the report to correspond to the selected shapes.

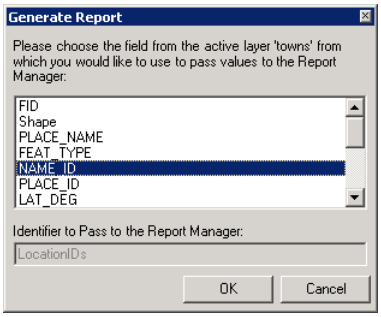

Figure 103 - Generate Report: Select Layers

The tool must be added to one of the toolbars using Toolbar Manager.

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Once the layer(s) to be reported on have been identified, the **Report Selection** window opens to allow the appropriate report to be selected and enables any additional report parameters to be entered.

Reports that are designed to accept a list of IDs from the map (that is, have a system parameter defined) are not available on the Report Selection window if no shapes are selected on the map.

The report can be previewed and printed.

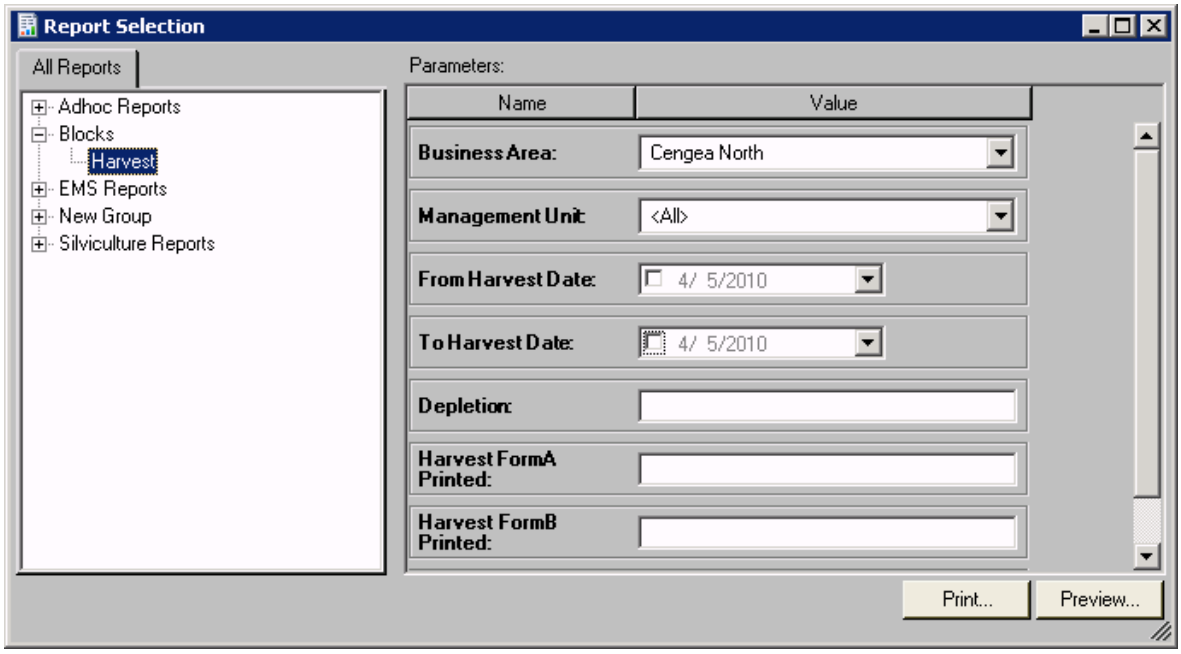

Figure 104 - Report Selection

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A report that is designed to be launched for the selected shapes on the map must have a parameter to accept a list of IDs passed from the map. Optionally it can further filter the data based on the current user if a parameter is defined for user_name.

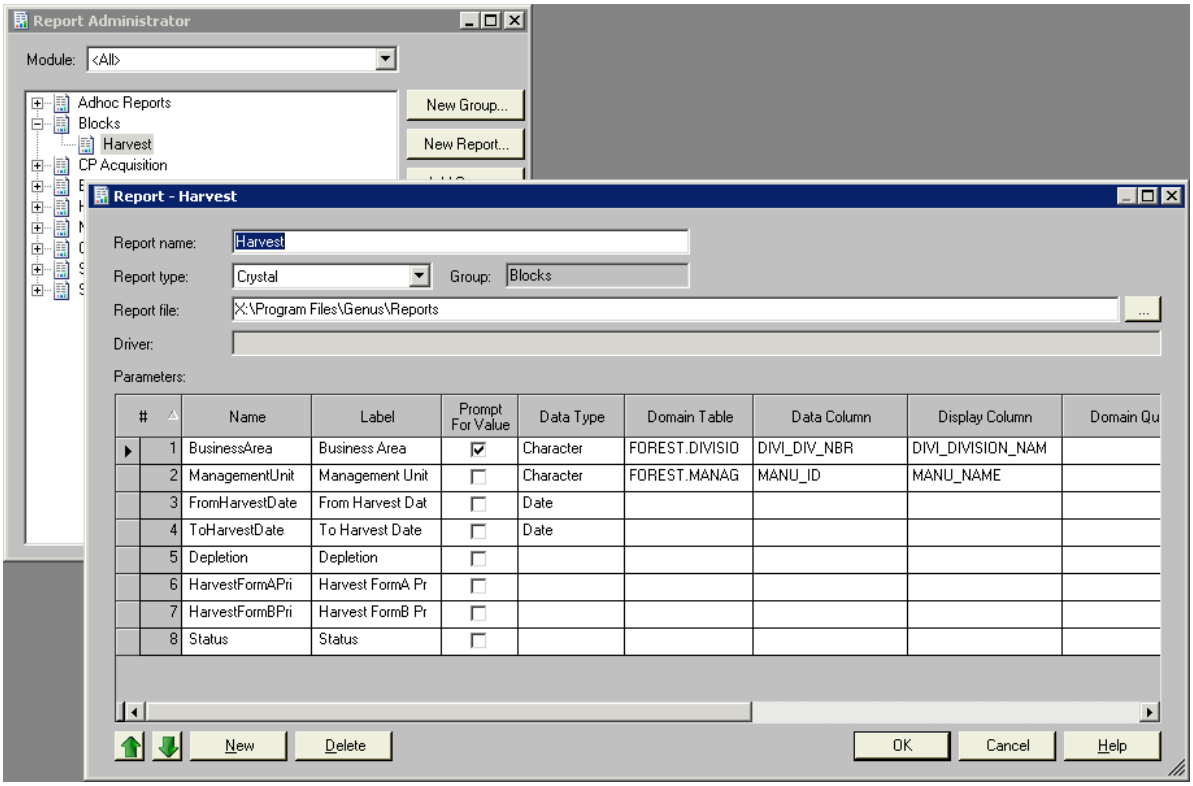

Figure 105 - Report Administrator

Please refer to the ***Report Manager Configuration Guide***, for further details.

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6.2 Advanced Reshape Feature

The ADVANCED RESHAPE FEATURE enables polygons to be altered.

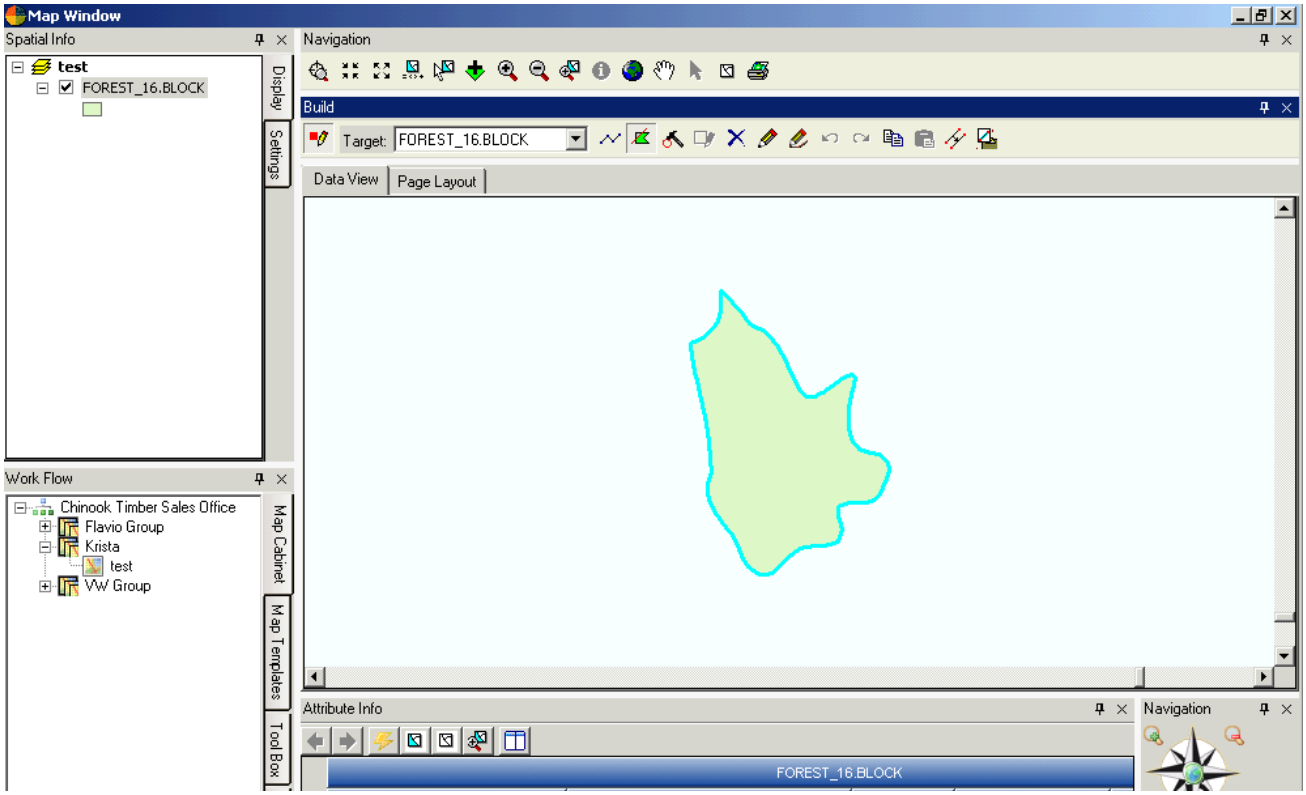

Figure 106 - Advanced Reshape Feature

To reshape a polygon:

- *Check off* the **Editable** (or **Shared Editing**) checkbox in the **Settings** tab of the **Spatial Info** panel for the layer(s) participating in editing;
- *Start* an editing session;
- *Select* the appropriate target layer;
- *Select* the feature;
- *Click* ADVANCE RESHAPE on the **Advance Editing** toolbar;
- *Edit* the features;
- *Stop* the editing session;
- *Click* YES to save the edits.

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6.3 Shared Editing Function

The shared editing function enables layers with shared vertices to be edited simultaneously.

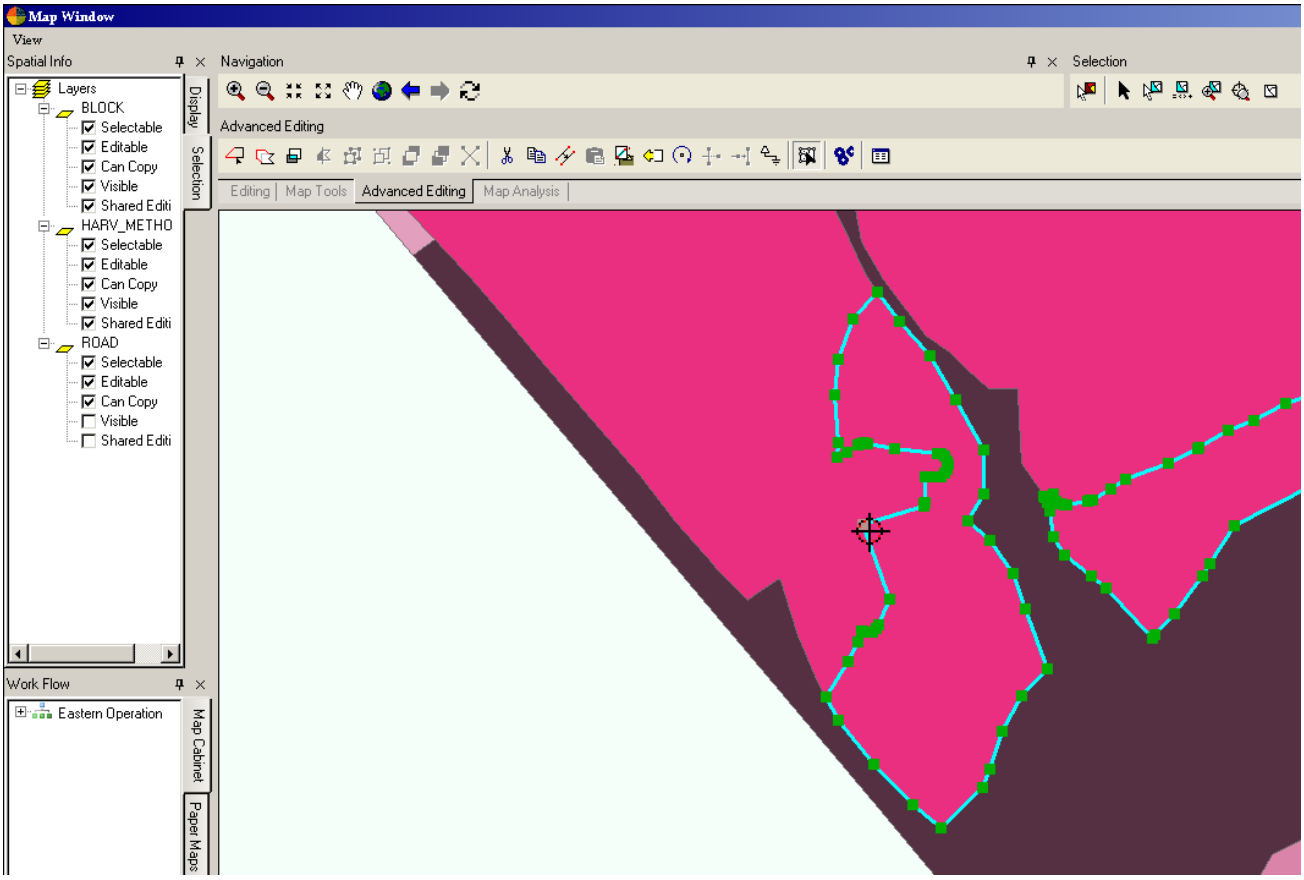

Figure 107 – Shared Editing Function

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To simultaneously edit layer vertices:

- *Check off* the **Shared Editing** checkbox in the **Selection** tab of the **Spatial Info** panel for each layer participating in the shared editing;
- *Start* an editing session;
- *Select* the appropriate target layer;
- *Select* the features with shared boundaries;
- *Click* SHARE EDITING on the **Advance Editing** toolbar;
- *Edit* the features;
- *Stop* the editing session;
- *Click* YES to save the edits.

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6.4 Add Route Event Tool

The Add Route Event tool will create a new layer in the selected map based on the selected layer and event table.

To access the Add Route Event tool:

- *Highlight* the appropriate map in the navigator in **Map Manager**;
- *Click* Tools on the menu bar and *select* Add Route Events, or;
- *Right-click* the map in the navigator and *select* Add Route Events.

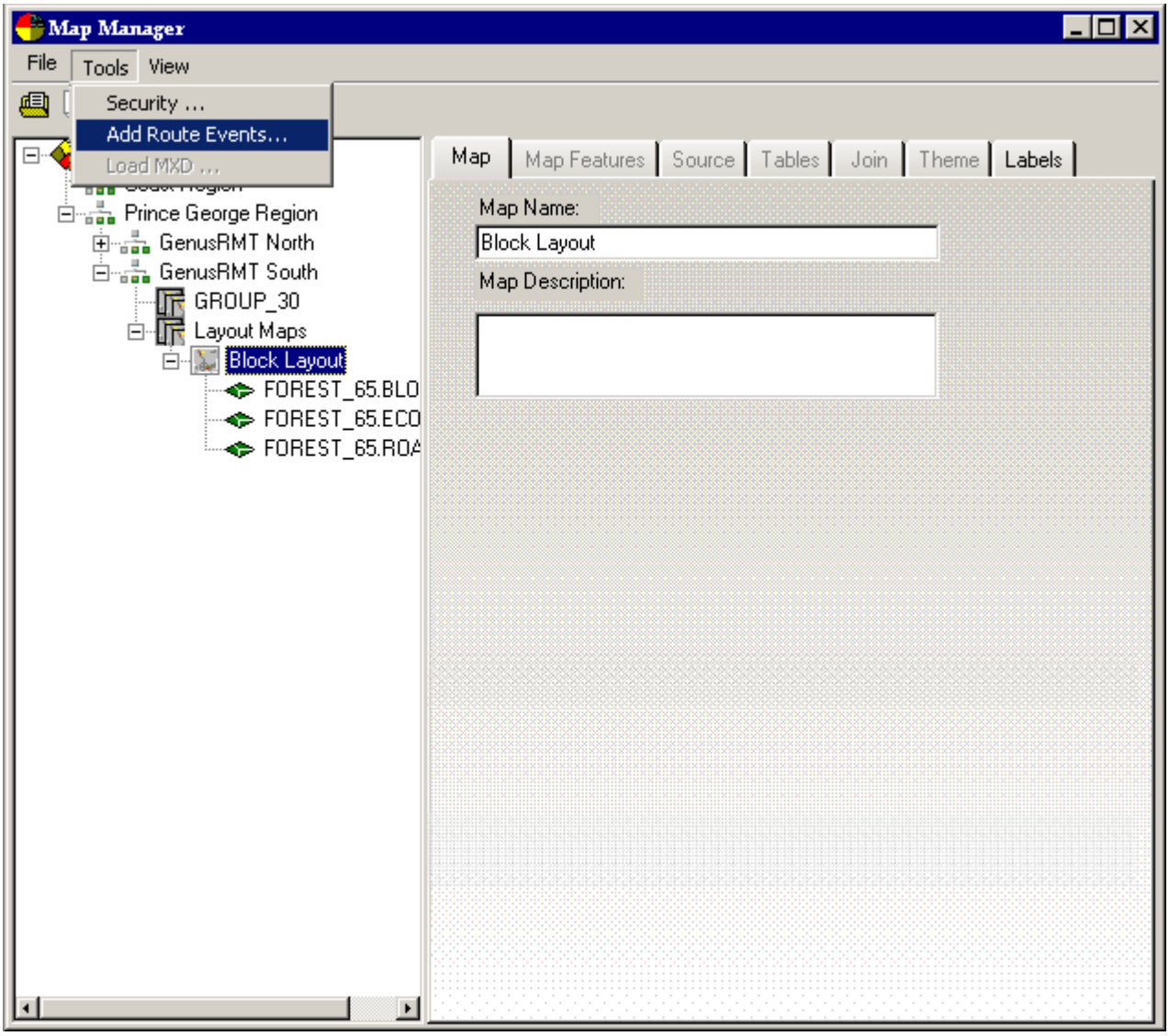

Figure 108 – Accessing Add Route Event Tool

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The following window will open once Add Route Events has been selected.

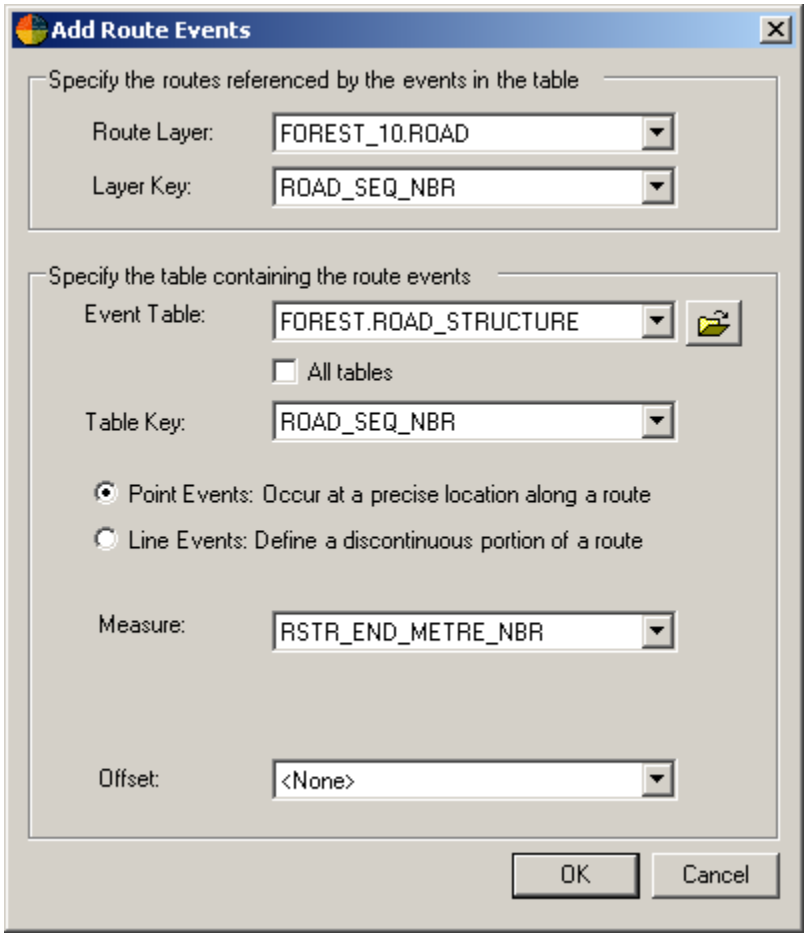

Figure 109 – Add Route Events Window

The following table summarizes the **Add Route Events** window fields:

Field/Column	Description
Specify the routes referenced by the events in the table	
Route Reference	*Select* the layer of line type within the selected map.
Layer Key	*Select* the key associated with the selected layer.
Specify the table containing the route events	
Event Table	*Click* to select the event table from the database.
All Tables	*Check off* the checkbox to retrieve all tables from all owners, except system tables. If the checkbox is unchecked only tables with owners prefixed with FOREST will be retrieved (excluding SDE owners).
Table Key	*Select* the key associated with the selected table.
Point Events	*Click* the radio button to enable the **Measure** drop-down list.
Line Events	*Click* the radio button to enable the **From Measure** and **To Measure** drop-down lists.
Measure	*Select* the appropriate measure for a point event.

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Field/Column	Description
From Measure / To Measure	*Select* the appropriate measures for a line event.
Offset	*Select* the distance that events can be offset from the route.

Table 29 – Add Route Events Window Descriptions

Clicking OPEN DIALOGUE will open the **Event Tables** dialogue:

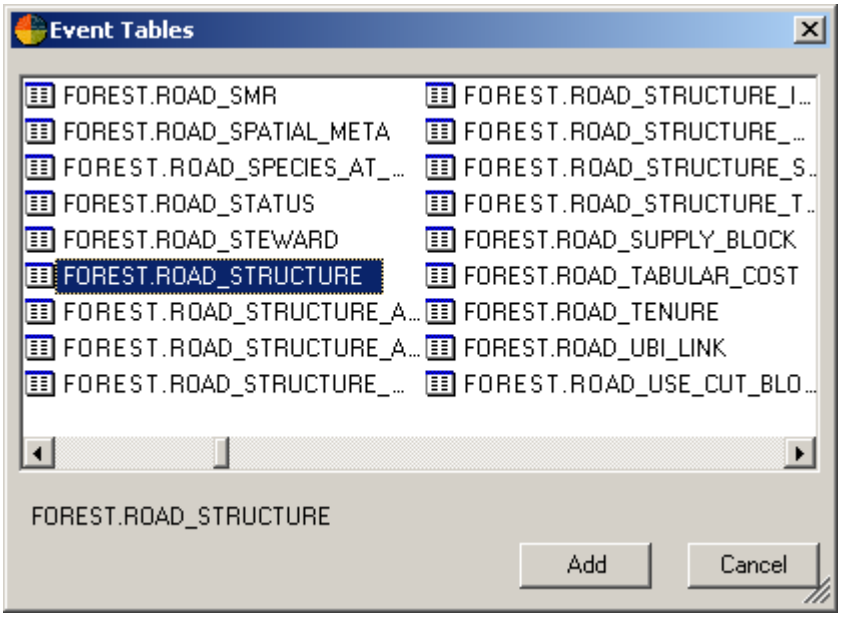

Figure 110 – Event Tables Dialogue

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6.5 Route Event Layers

To import route event layers:

- *Create* the route event layer in ArcMap;
- *Save* as an MXD file;
- *Click* LOAD MXD on the menu bar in **Map Manager** to import the MXD file.

Symbolizing the route event layers in ArcMap is not required, because the Load MXD functionality in **Map Manager** does not honour ArcMap symbology in the current release.

The route event layers can be symbolized by using simple, unique values or class break renderer in **Map Manager**.

When symbolizing a route event layer, no join is required because the **Field** drop-down list contains all the fields of the event table.

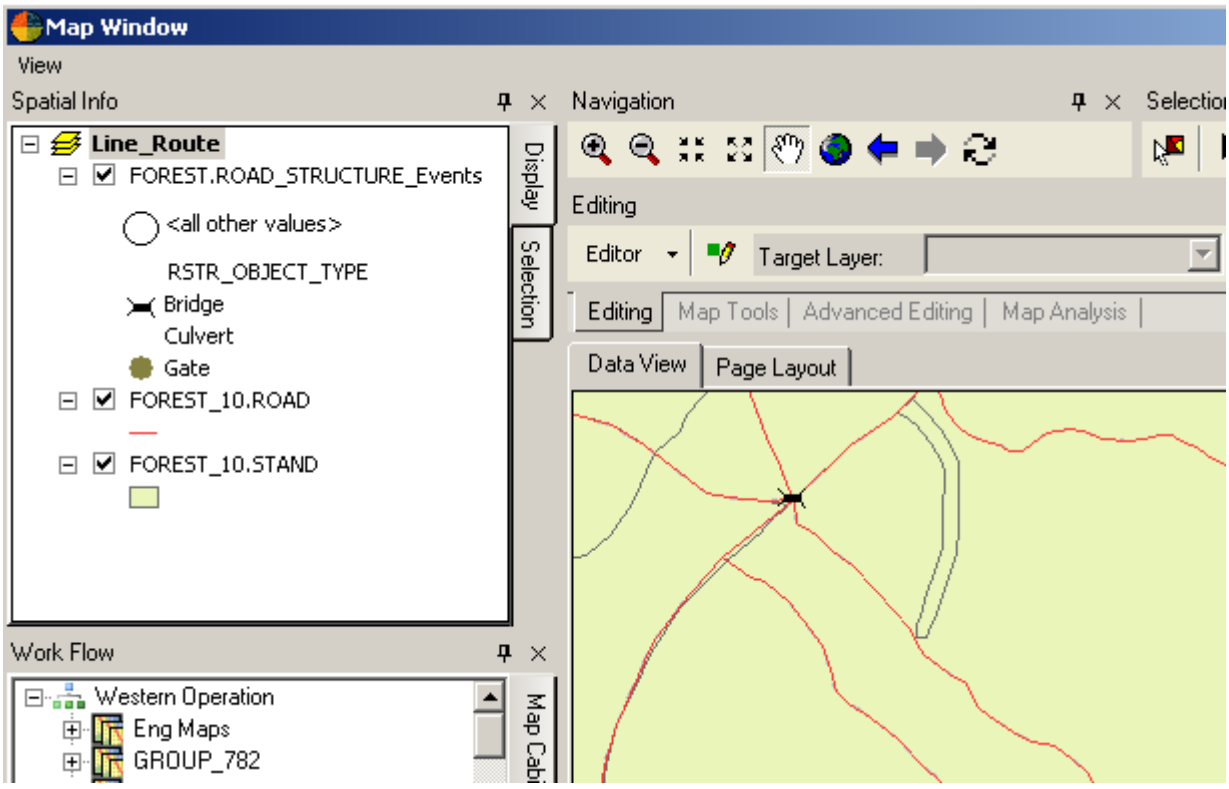

Figure 111 – Route Event Layer

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6.6 Snapping

The CREATE FEATURE and RESHAPE FEATURE tools enable features to be snapped together.

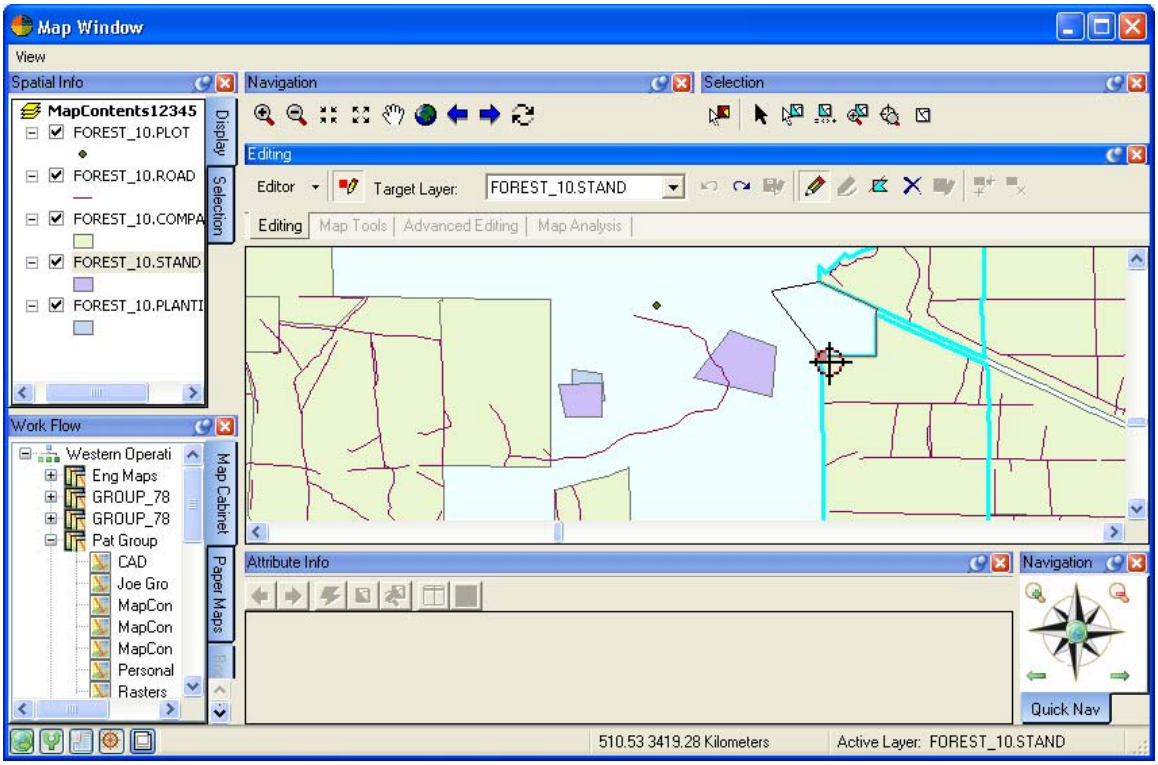

Figure 112 – Snapping Functionality

To snap a feature(s):

- *Select* the feature(s) to be included in the snapping environment;
- *Hold down* the CTRL key when sketching;

If the cursor is within the snapping tolerance (specified in the **Preference Manager**), the sketch will snap to the edge / boundary and / or vertices of the selected features. If it is snapped to a vertex, it will be indicated by a purple square below the cursor.

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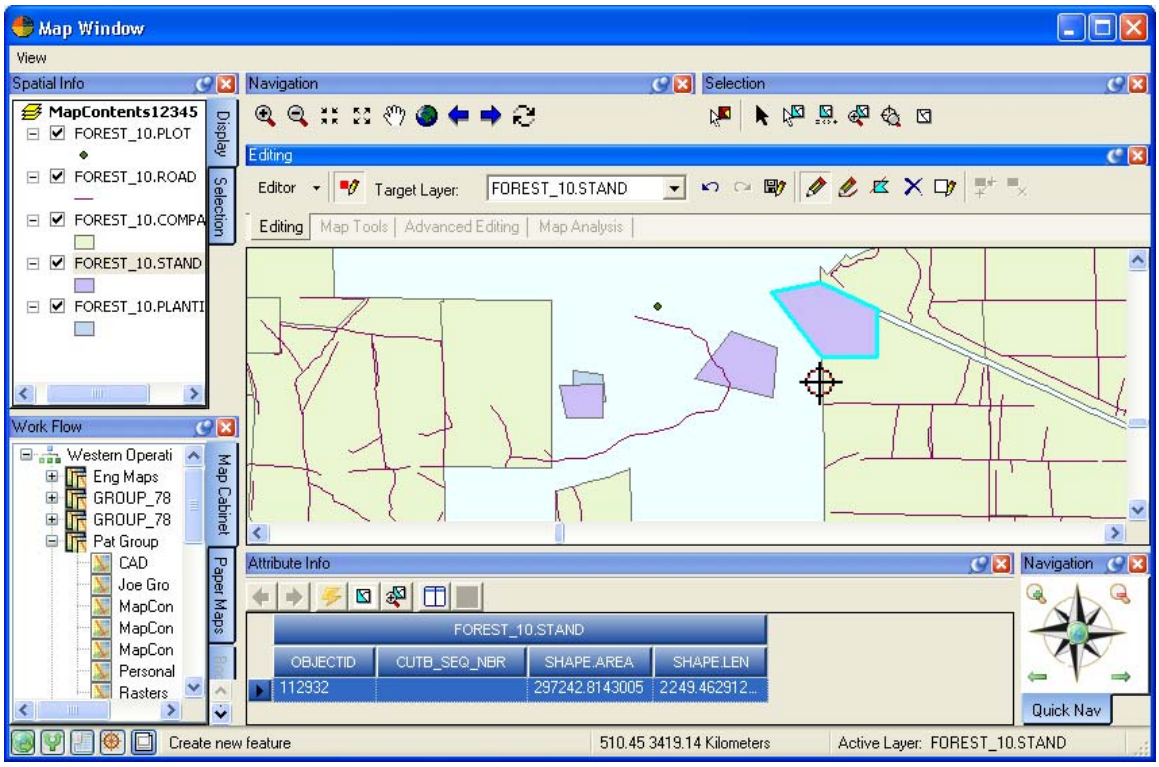

Figure 113 – Snapped Feature

- *Double-click* to end the sketch.

The same process applies when using the RESHAPE FEATURE tool.

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6.7 Splitting

Splitting features based on existing geometry.

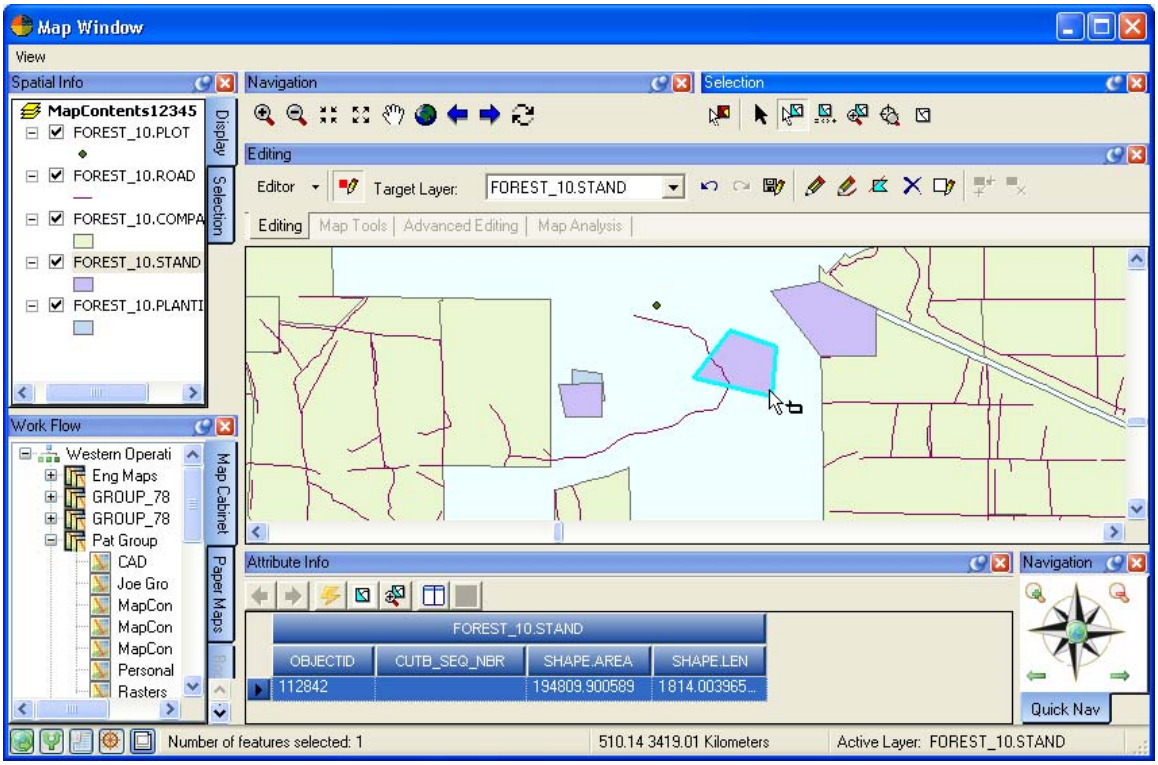

Figure 114 – Splitting Functionality

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To split a feature based on an existing geometry:

- *Select* the feature to be split;

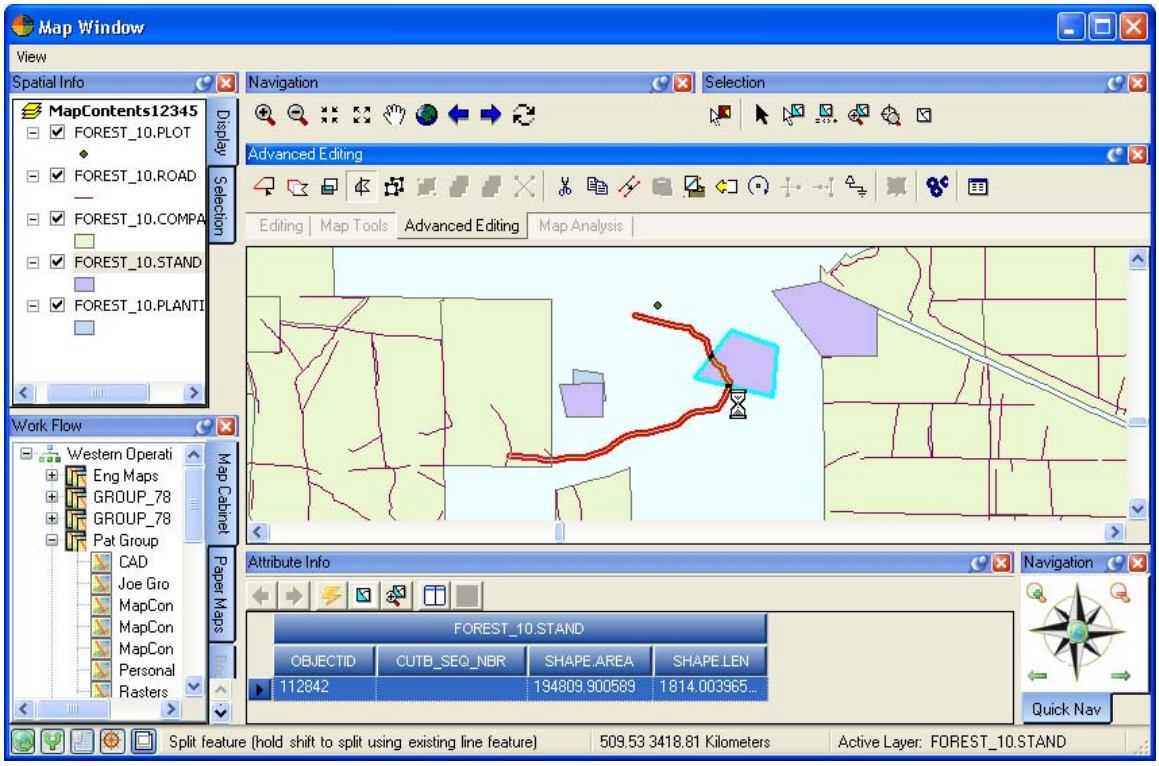

Figure 115 – Splitting the Feature

- *Hold down* the SHIFT key and *click* the geometry that crosses the feature, instead of drawing a sketch line.

The line will be highlighted in red and the selected feature will be split based upon it.

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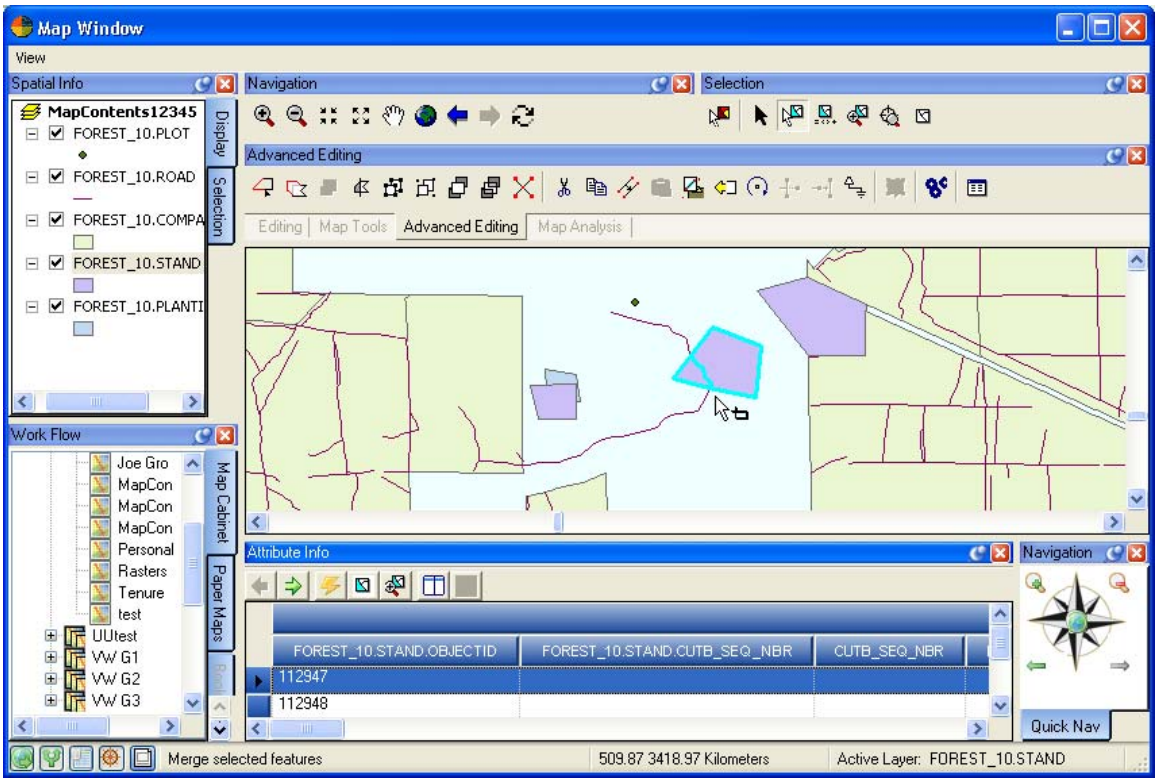

Figure 116 – Split Feature

Resulting shape has been split into two features based on the intersecting geometry.

The **Quick Navigator** functions and the PAGEUP / PAGEDOWN / HOME / END keys (for up/ down/ left/ right) enables users to pan across the map while using the SPLIT FEATURE tool.

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6.8 Intersecting

The INTERSECT tool enables features to be intersected and allows users to efficiently continue the procedure multiple times.

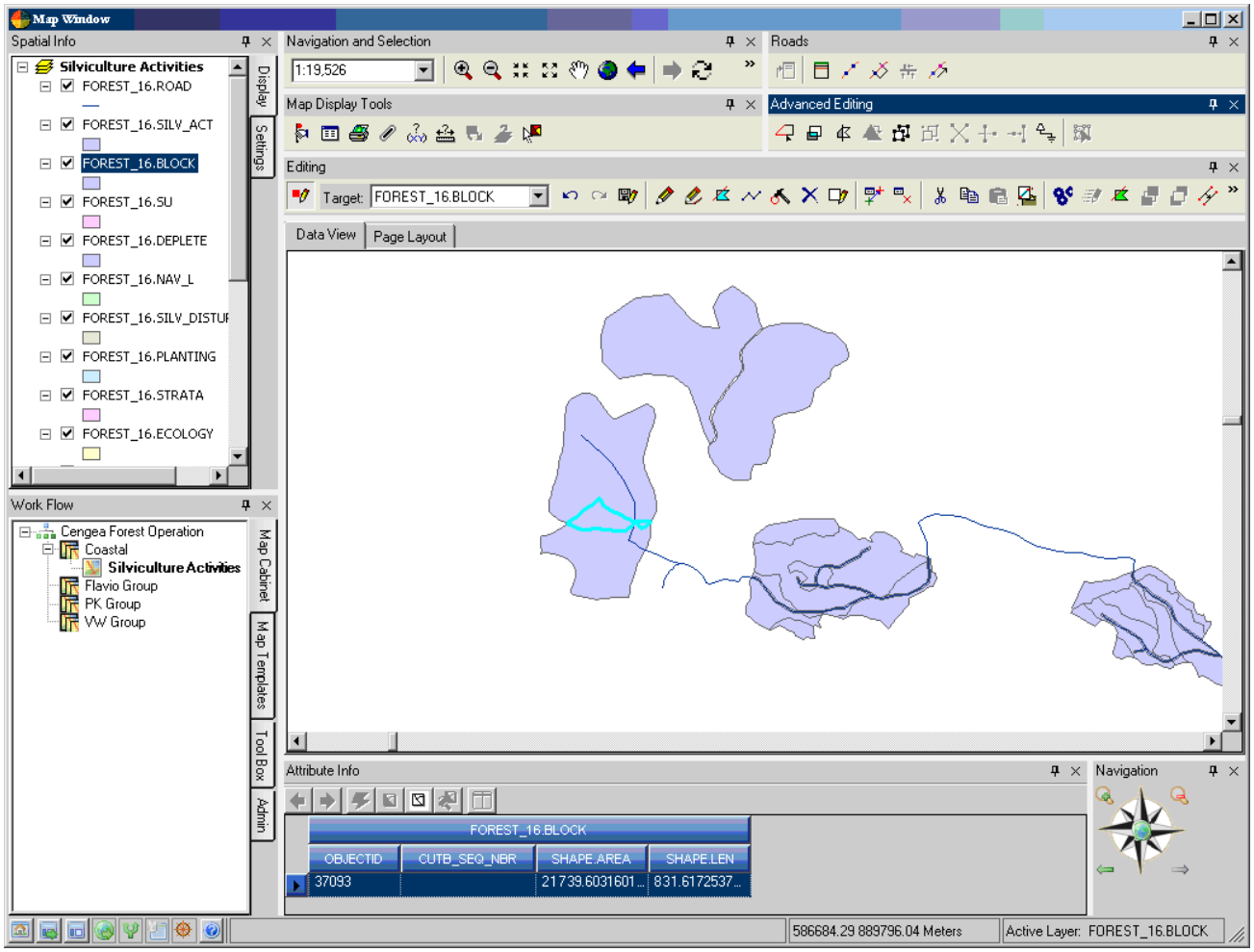

Figure 117 - Intersecting Functionality

To intersect a feature:

- *Start* an editing session;
- *Select* the appropriate target layer;
- *Select* the features with overlapping boundaries;
- *Click* the intersect button on the **Advance Editing** toolbar;

The resultant intersection will still be selected enabling the feature to be further modified.

- *Hold down* the SHIFT key and *continue* intersecting the feature;
- *Stop* the editing session;
- *Click* YES to save the edits.

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6.9 Tracing

The TRACE FEATURE tool can be used on any feature as long as it is selectable on the map (including DXF feature classes).

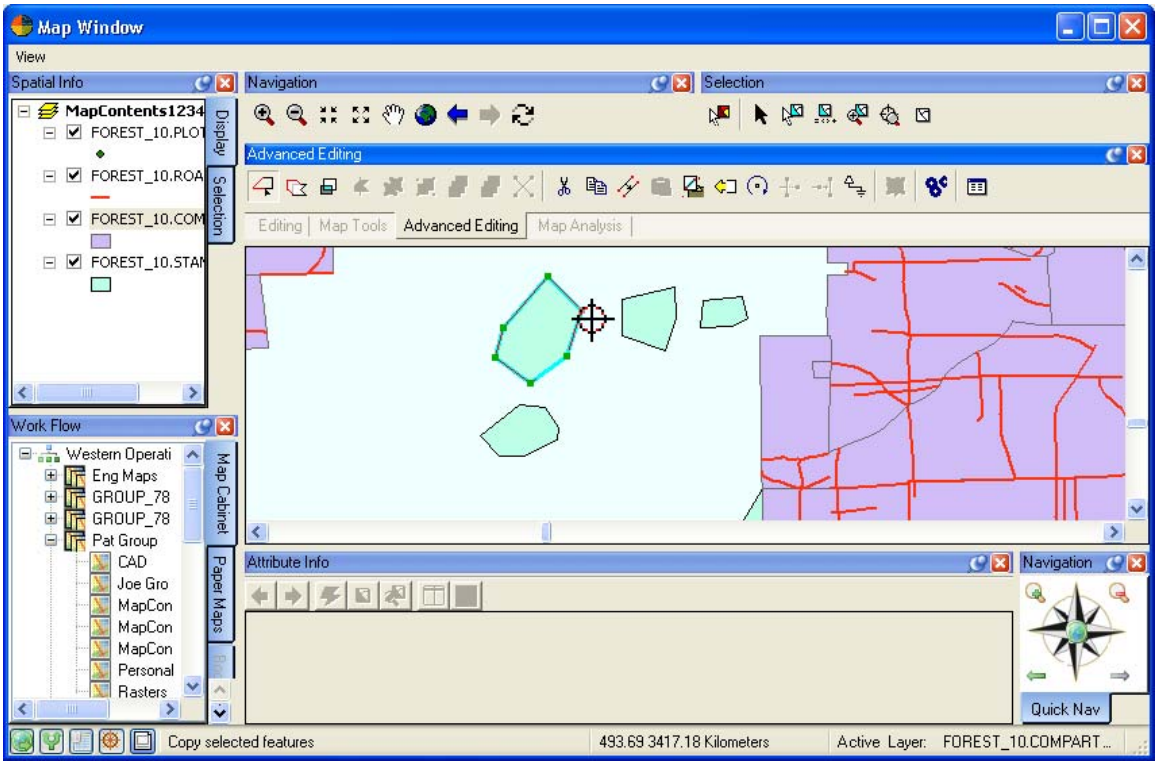

Figure 118 – Tracing Functionality

To trace a feature:

- *Select* the feature to be traced and *set* the target layer the feature should be created on;
- *Touch* each vertex of the trace feature with the cursor to automatically add the vertex to the sketch element, or;

The sketch element will snap to the boundary/vertices of the selected feature.

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- *Hold down* the CTRL key while creating the sketch to ensure it won't snap to the boundary or to have the sketch skip over a vertex (instead of automatically adding it to the sketch element);

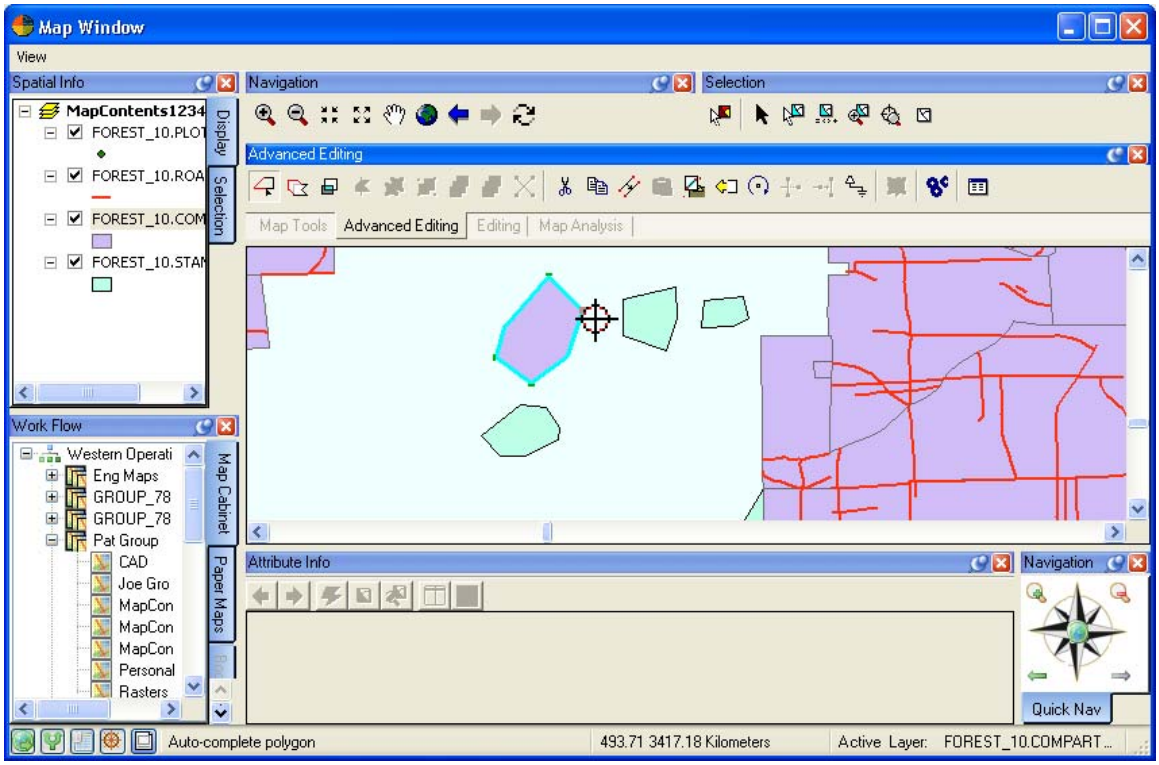

Figure 119 – Tracing a Feature

- *Double-click* to finish the sketch and add the feature to the target layer.

Hitting the ESC key will cancel the process, if required.

The **Quick Navigator** functions and the PAGEUP / PAGEDOWN / HOME / END keys (for up/ down/ left/ right) enables users to pan across the map while using the TRACE FEATURE tool.

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6.10 Tagging

To create a new template:

- *Right-click* the appropriate group and *select* New Template;

Only users with Administrator rights have the ability to add or delete Groups.

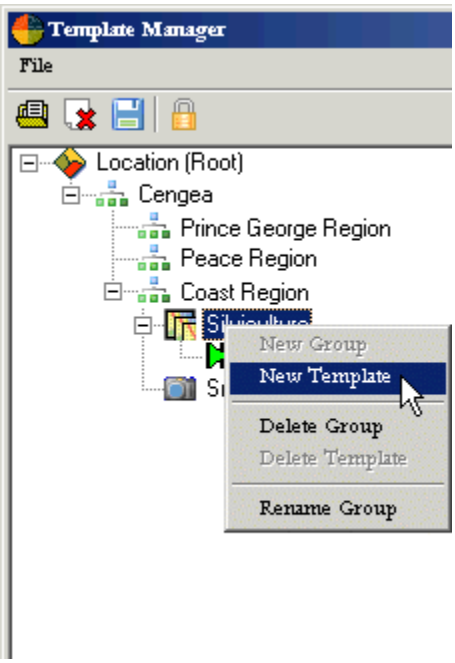

Figure 120 – Create a New Template

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- *Enter* the template a name;
- *Click* the browse button

to load a map / MXD file;

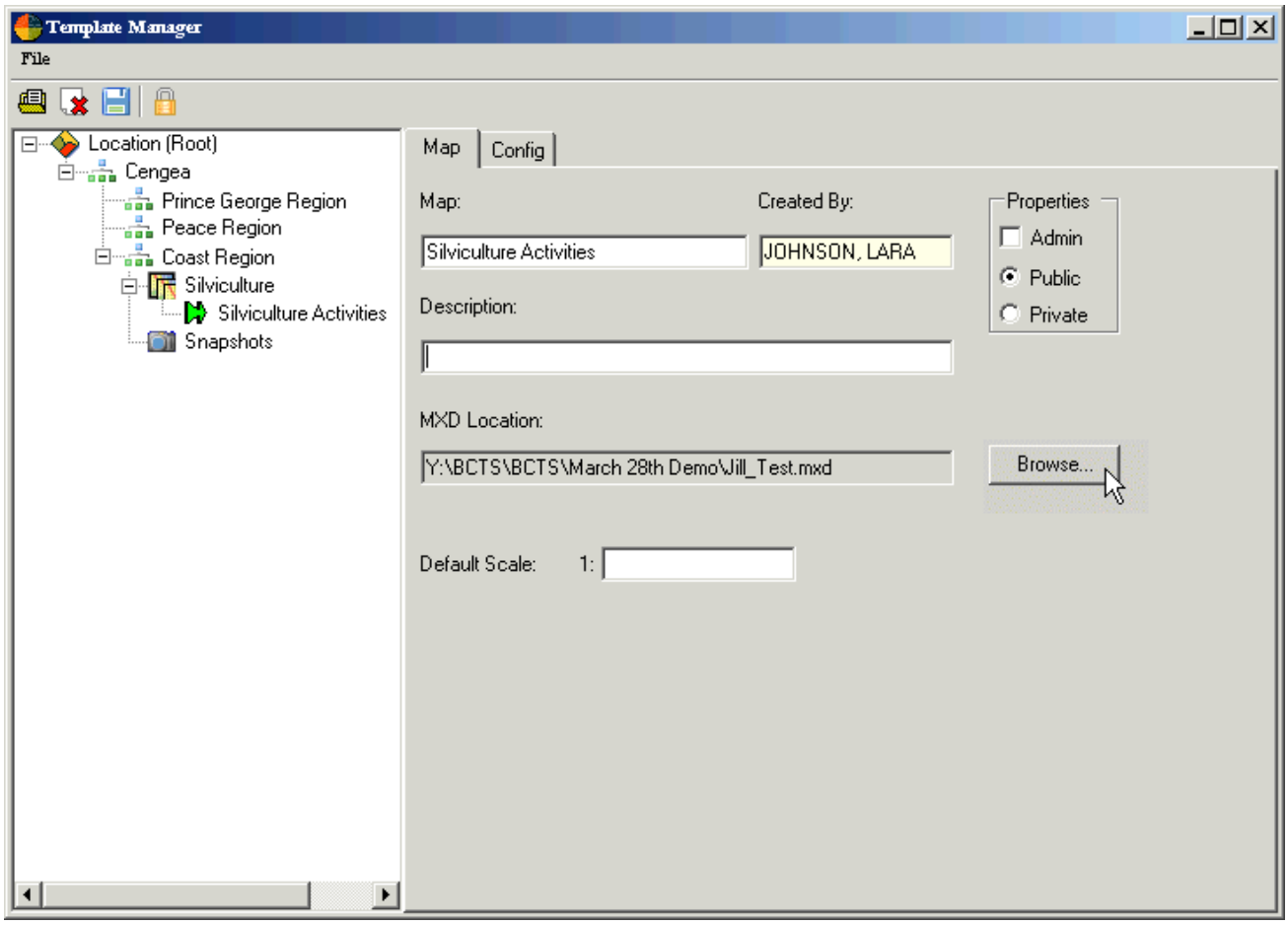

Figure 121 – Map Tab

The **Admin** checkbox is only enabled for users with Administrative privileges. Checking off the checkbox ensures only an administrator can modify the template once it has been created. However, a copy of the template can be created if users want to make changes, by clicking File in the menu bar and selecting the appropriate options.

The **Private** radio button is enabled for all users. Checking off the radio button ensures that only the user who created the template (as well as administrators) will be able to view (or edit) it in the navigator tree.

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- *Select* the **Config** tab;

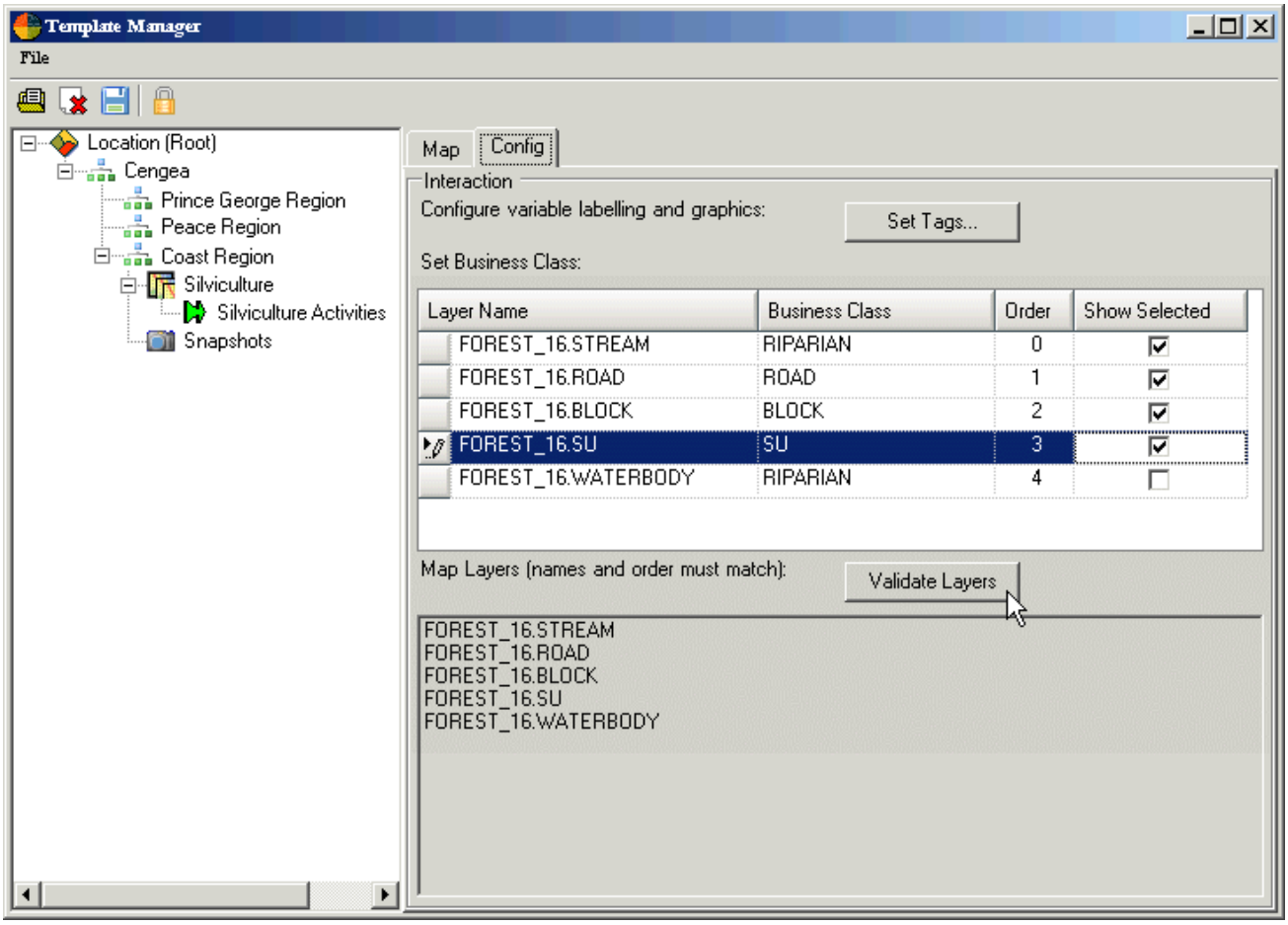

Figure 122 – Config Tab

The Set Business Class section lists the layers as defined in the database.

- *Specify* the layers to map to the associated business class functions (i.e., Road, Block, etc.) in the Set Business Class section;
- *Check off* the **Show Selected** checkbox to filter the features so that only the specified ones will be displayed on the map when plotted;

If the **Show Selected** checkbox has been checked off for a layer, clicking STOP REFRESH on the **Page Layout** toolbar for a template will not allow the tags to be refreshed.

The Map Layers section lists the layers as displayed in the actual MXD document.

- *Click* VALIDATE LAYERS to compare the database layers and the layers in the MXD document;
- *Click* Set Tags... to open the **Tags** dialogue.

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The layer definitions / orders in the two sections must match in order for the tagging to work properly.

To add layers in the template, the updated MXD document must be reloaded (a prompt will appear to keep any pre-defined tagging properties). The only requirement is that layer names specified in the MXD document must be unique.

To delete layers in the template, the MXD file has to be reloaded, or the applicable row in the Set Business Class section is highlighted and DELETE is hit on the keyboard.

6.10.1 Layer Tagging

- *Select* Layer to tag based on fields in the specified layer from the **Tag Type** drop-down list;

These fields can come directly from the SDE layer, or any joined tables/views that exist on the layer.

- *Select* the specified layer from the **Layer** drop-down list;
- *Click* the insert button to insert a record in the Tags section and *populate* the required fields;
- *Select* the appropriate display style.

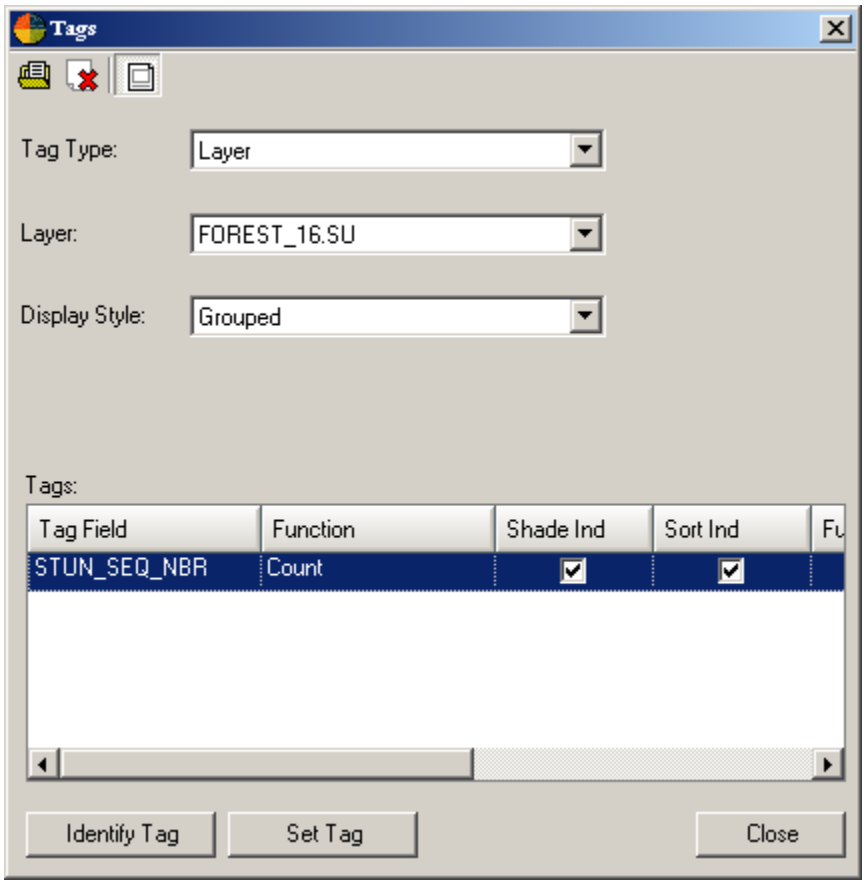

Figure 123 – Tags Dialogue: Layer Tags

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6.10.2 System Tagging

- *Select* System to tag based on the attributes listed in the **Attribute** drop-down list;
- *Click* the insert button to insert a record in the Tags section and *populate* the required fields;
- *Select* the appropriate display style.

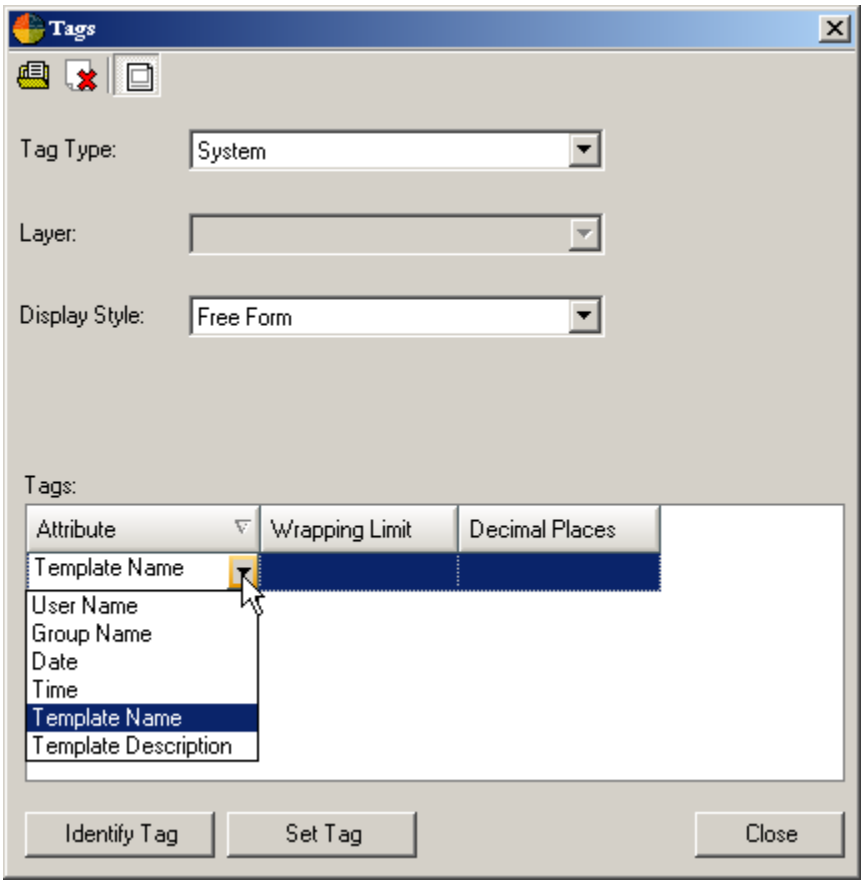

Figure 124 – Tags Dialogue: System Tags

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6.10.3 SQL Tagging

- *Select* SQL to tag based on SQL queries defined in the FOREST.SQL_SENTENCE table;

This enables tagging directly from tabular data without having to join it to a layer in the Map Window, as well as allowing one-to-many records to be returned and tagged.

- *Select* the appropriate SQL sentence;
- *Select* the display style;
  - Free Form –
  - Grouped -
- *Enter* the selection criteria.

The **Selection Criteria** field is used to dynamically get data from the SQL query by appending the criteria to the '?' at the end of the SQL sentence., based on the wildcard specified in the selection criteria. The following table summarizes the available wildcards:

Wildcard	Description
[LOC_ID]	The sequence number of the feature being mapped.
[PARENT_LOC_ID]	The sequence number of the parent of the feature being mapped, if applicable.
[QB_COLUMN = QB_VALUE] or [QB_COLUMN = 'QB_VALUE']	The value of the parent tags specified in Query Builder – QB_VALUE in brackets would be used for string values or dates.

Table 30 - Tagging: Wildcards

- *Click* the insert button to insert a record in the Tags section and *choose* the field to be used in the tag.

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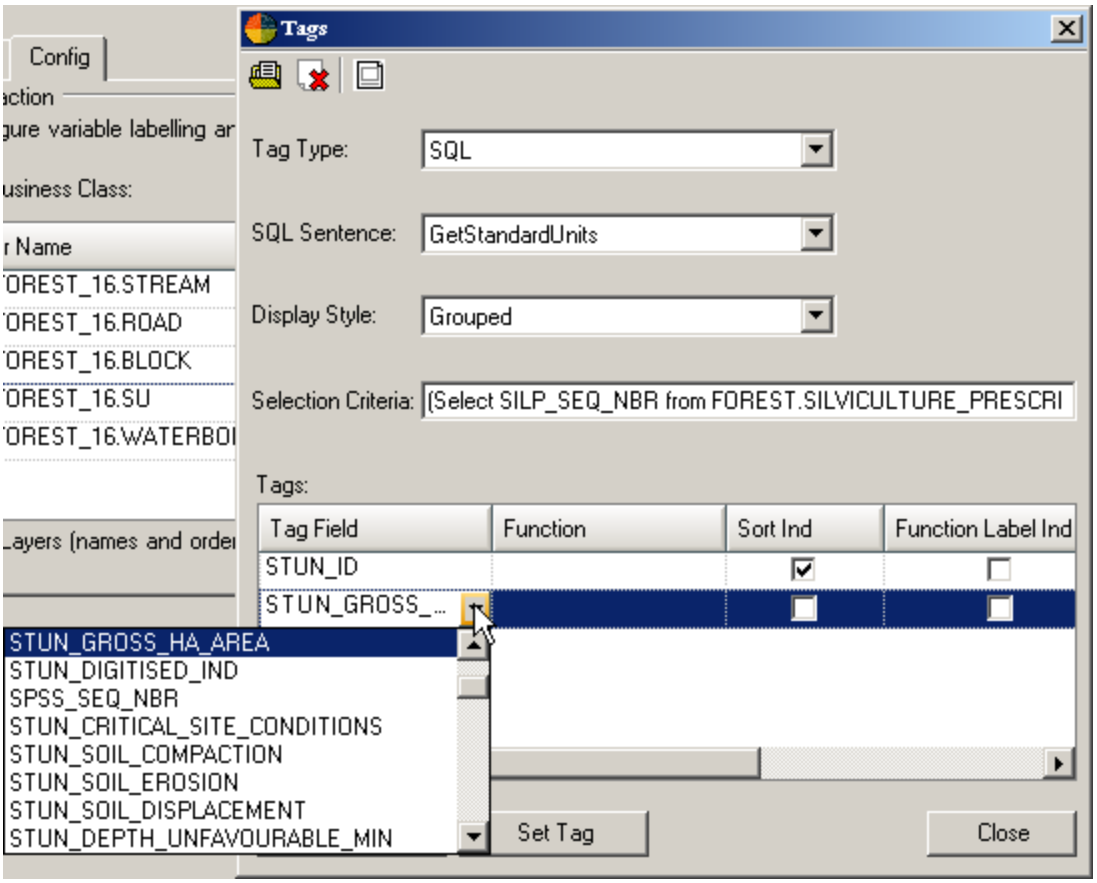

Figure 125 - Tags Dialogue: SQL Tags

When the map is generated, these SQL tags are replaced with values from features in the map.

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6.10.4 Adding Tags

Clicking SET TAGS

will also open the **Page Layout** view and the associated toolbar to enable graphic text to be inputted and tagging values to be set in conjunction with the values entered in the **Tags** dialogue. Clicking CLOSE PAGE LAYOUT will close the **Page Layout** view.

- *Create* new text elements on the layout of the map:
  - *Click* the appropriate tool (e.g., ADD LEGEND);

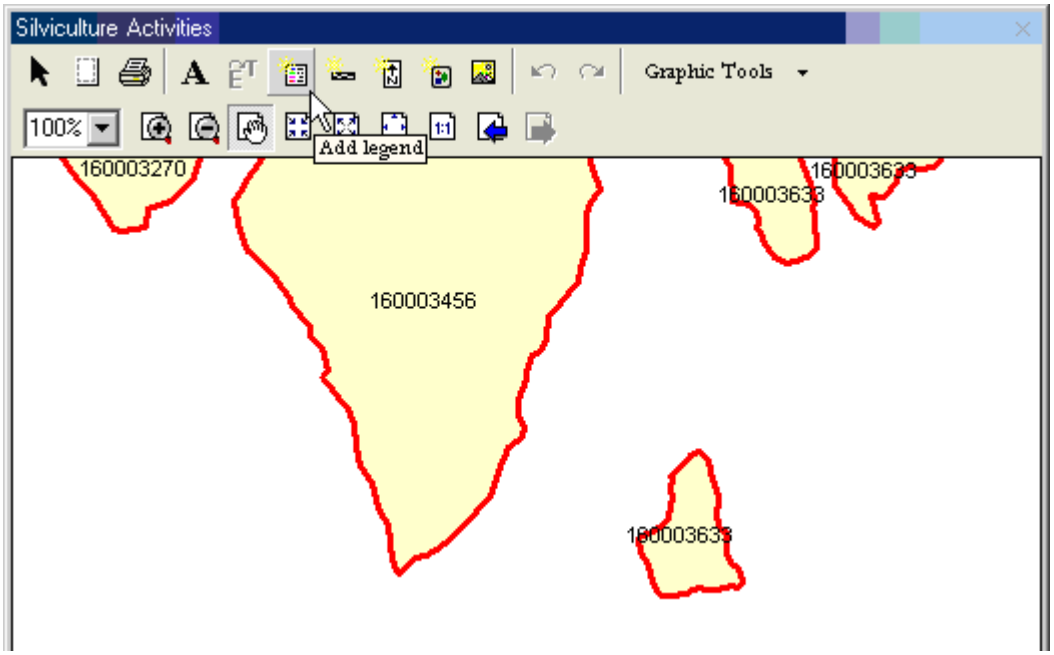

Figure 126 – Creating Text Elements

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- *Highlight* the area where the element should appear;
- *Enter* the appropriate information in the dialogue;

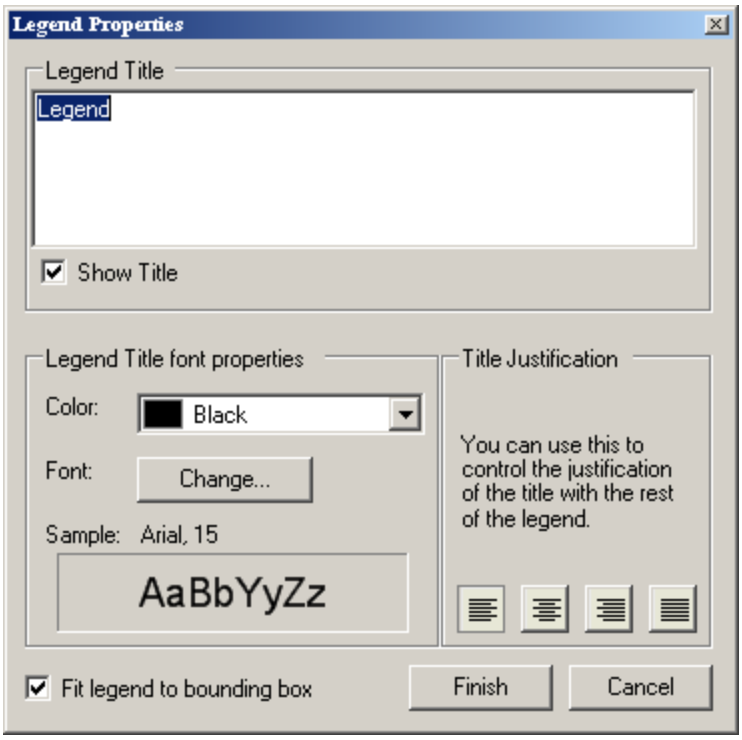

Figure 127 - Legend Properties Dialogue

Each tool has a specific dialogue associated with it that will open once the map area is highlighted.

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- *Click* the finish button

to save the changes and close the dialogue;

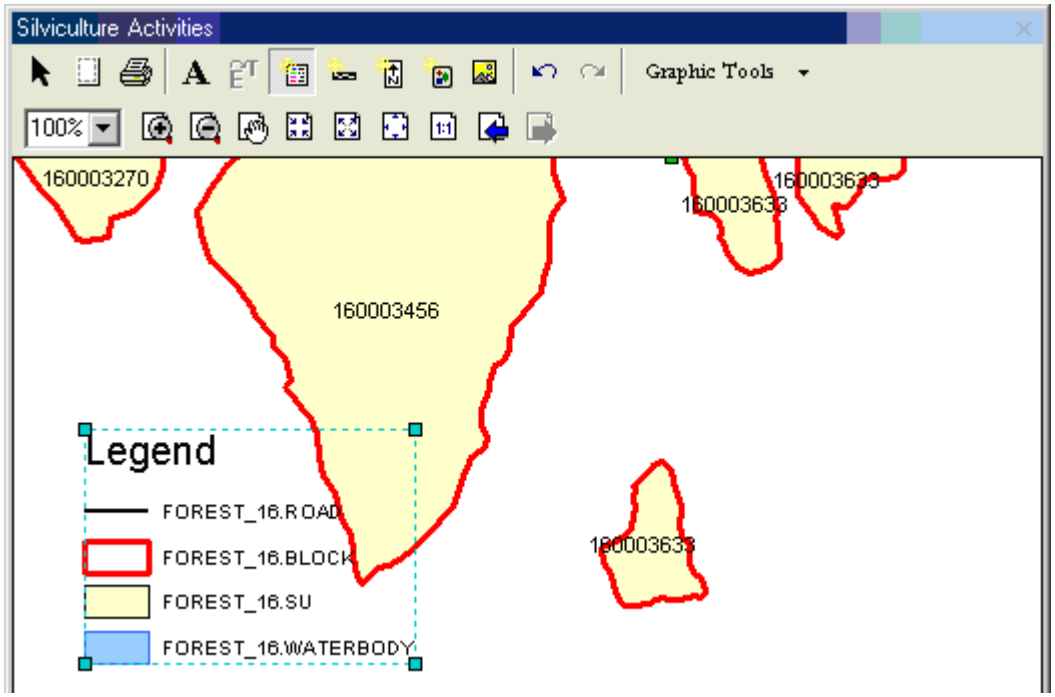

Figure 128 - Adding a Legend

Highlighting the element, then selecting the appropriate tool from the toolbar (e.g., selecting the LEGEND tool to edit a legend) and right-clicking the element on the map will modify any existing elements (e.g., text, scale bar, legend).

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To set a tag:

- *Select* the element on the page layout and *click* SET TAG in the **Tags** dialogue;

Clicking IDENTIFY TAG will do the opposite. In other words, selecting a text element from the page layout, and clicking IDENTIFY TAG, will filter the grid and the specified row that the text element is tagged to will be selected.

Shade / **Function** / **Sort** / **Wrapping Limit**, etc. fields have the same function as in the GEO Template Manager.

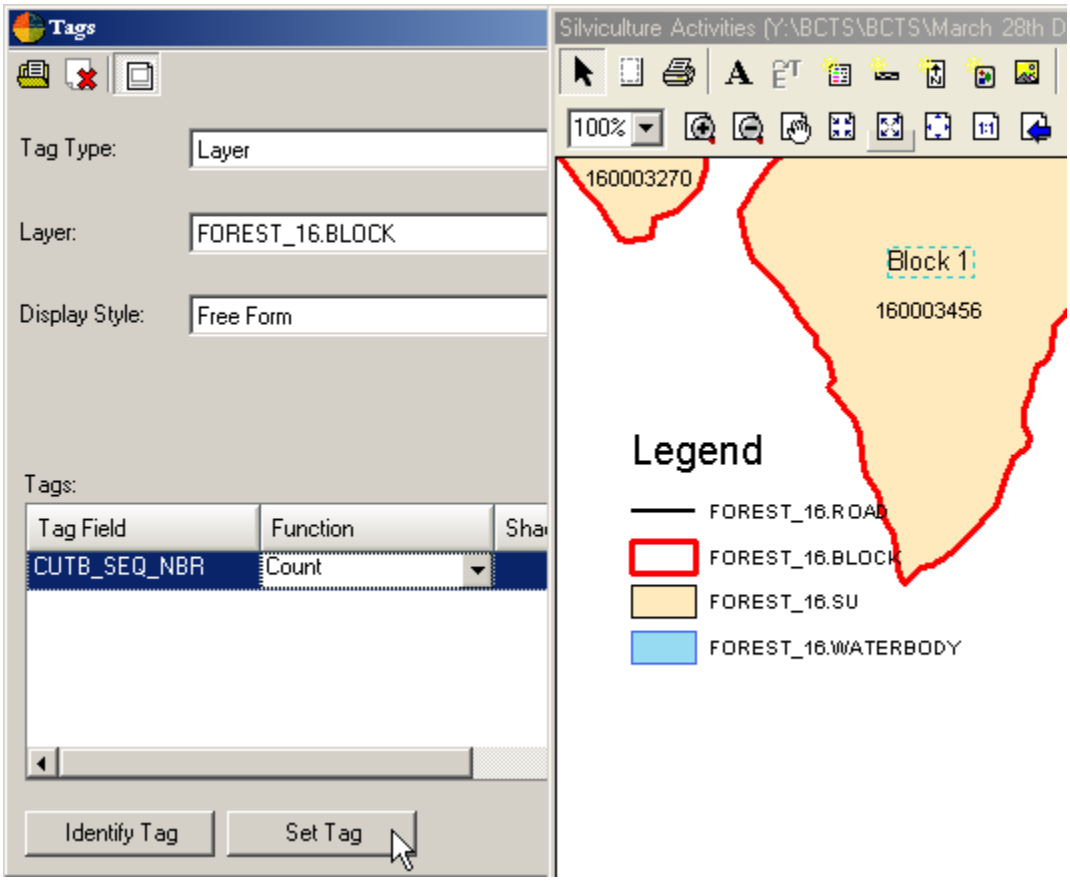

Figure 129 – Setting a Tag

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- *Close* the **Tags** dialogue, once all required tags have been set;
- *Click* YES in the **Tagging** info pop-up to save updates to the MXD document;

Figure 130 – Saving Tags Dialogue

- *Close* and *save* revisions in the **Template Manager** window;
- *Open* the Map Window;
- *Select* the **Map Templates** tab in the **Work Flow** panel;
- *Browse* to the template;
- *Right-click* and *select* Load Template to load the blank template into the map window, or;
- *Right-click* and *select* Plot Map to use the active record (selected in Cengea Forest) to plot the map and populate the tags.

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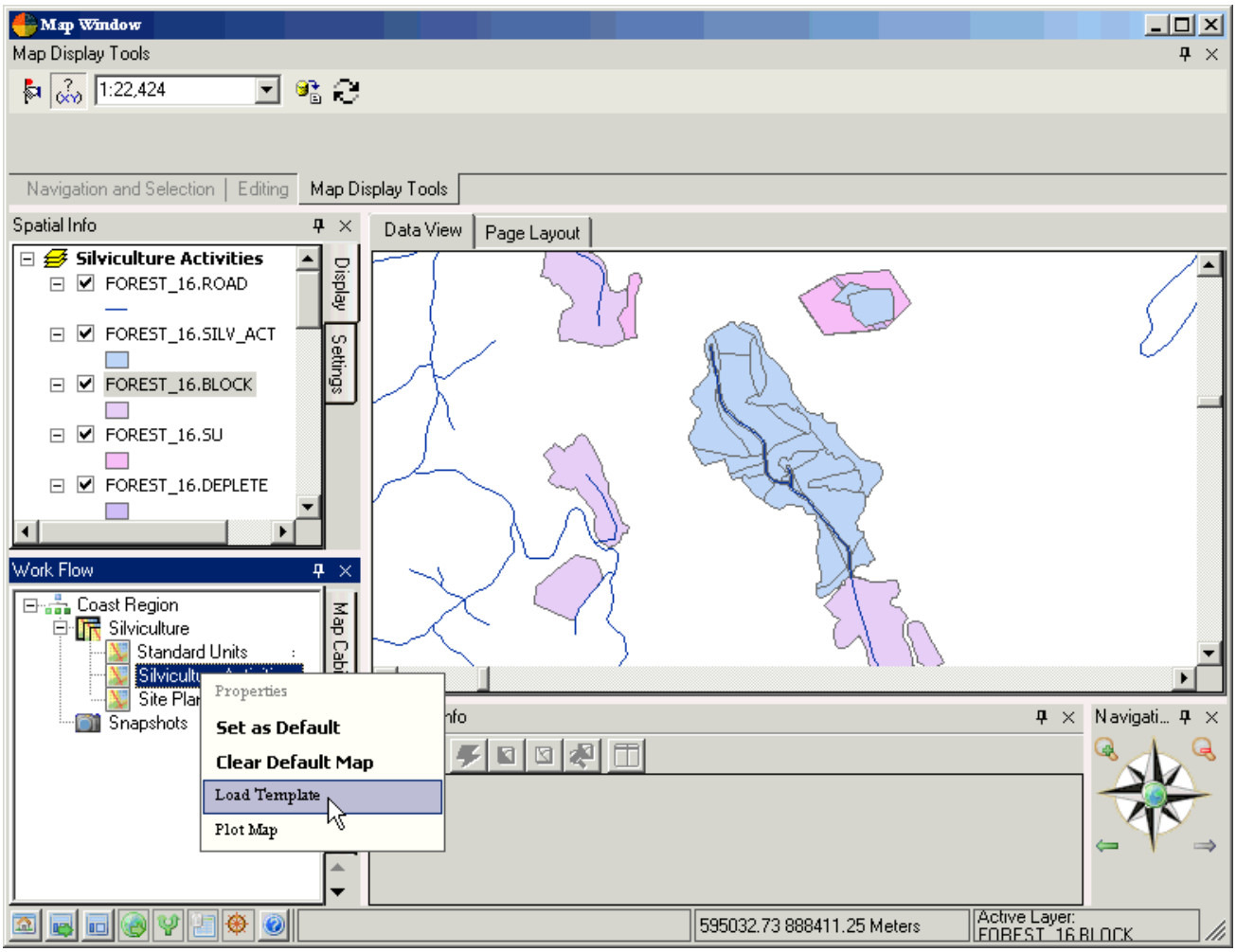

Figure 131 – Load Template Function

The map is plotted using the active feature, and the tags are populated with system values, as well as values from the layer/feature selected.

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6.11 SDE Annotation

To add SDE annotation layers:

- *Create* the SDE annotation in ArcMap;
- *Click* the add data button on the **Navigation / Selection** toolbar or **Map Features** tab of the **Map Manager**;
- *Select* the appropriate SDE annotation layer in **Spatial Explorer**.

The annotation text symbol cannot be changed in the current release.

Annotation layers can be edited.

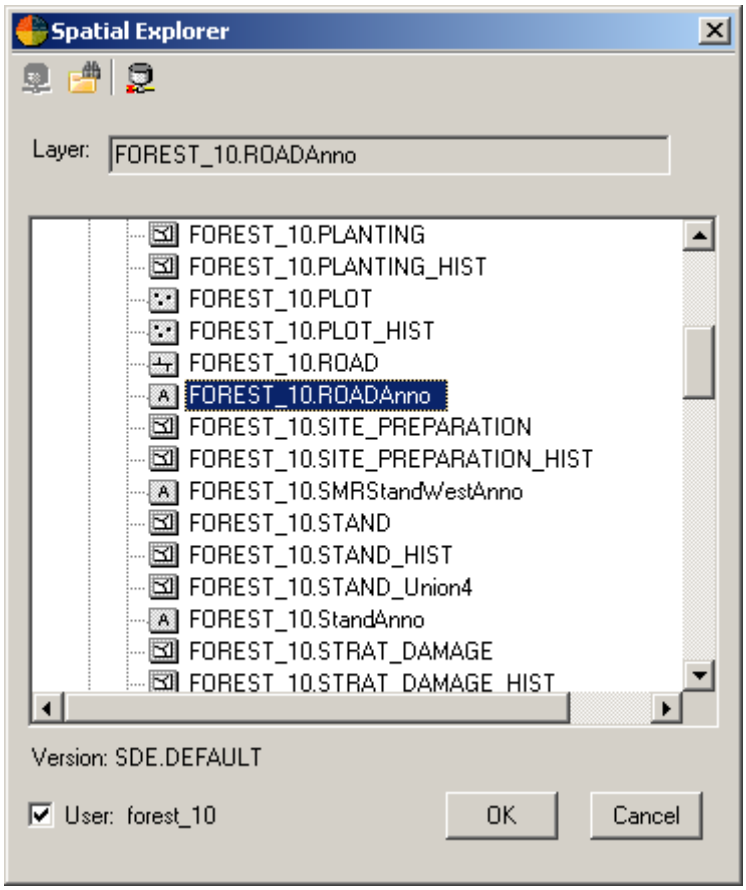

Figure 132 – Spatial Explorer

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6.12 Custom Server Style Sets

To import custom server styles:

- *Create* the style in ArcMap;
- *Save* the created style to a personal directory;
- *Access* the **Make Server Style Sets** tool in the Utilities of ArcGIS installed directory (e.g., C:\Program Files\ArcGIS\Utilities) to convert the style into a server style;

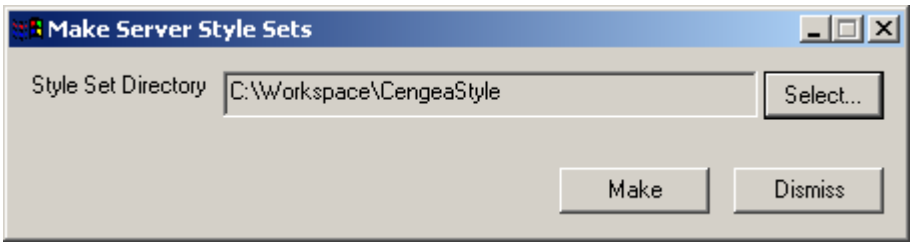

Figure 133 – Make Server Style Sets Dialogue

- *Click* SELECT to navigate to the personal directory;

For performance reasons, the Style directory in the ArcGIS installed directory is not recommended to create the server style.

- *Click* MAKE to create the server style, which will be saved to the selected directory;
- *Copy* the server style from the personal directory to the ArcGIS installed directory;

For assistance with the MakeServerStyleSet.exe, visit:
http://edndoc.esri.com/arcobjects/9.0/ArcGISDevHelp/DeveloperTools/MakeServerStyleSet.htm

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- *Access* the **ESRI Styles** dialogue in **Map Manager**;
- *Right click* in the navigator;
- *Select* More Styles;
- *Select* the imported style from the list.

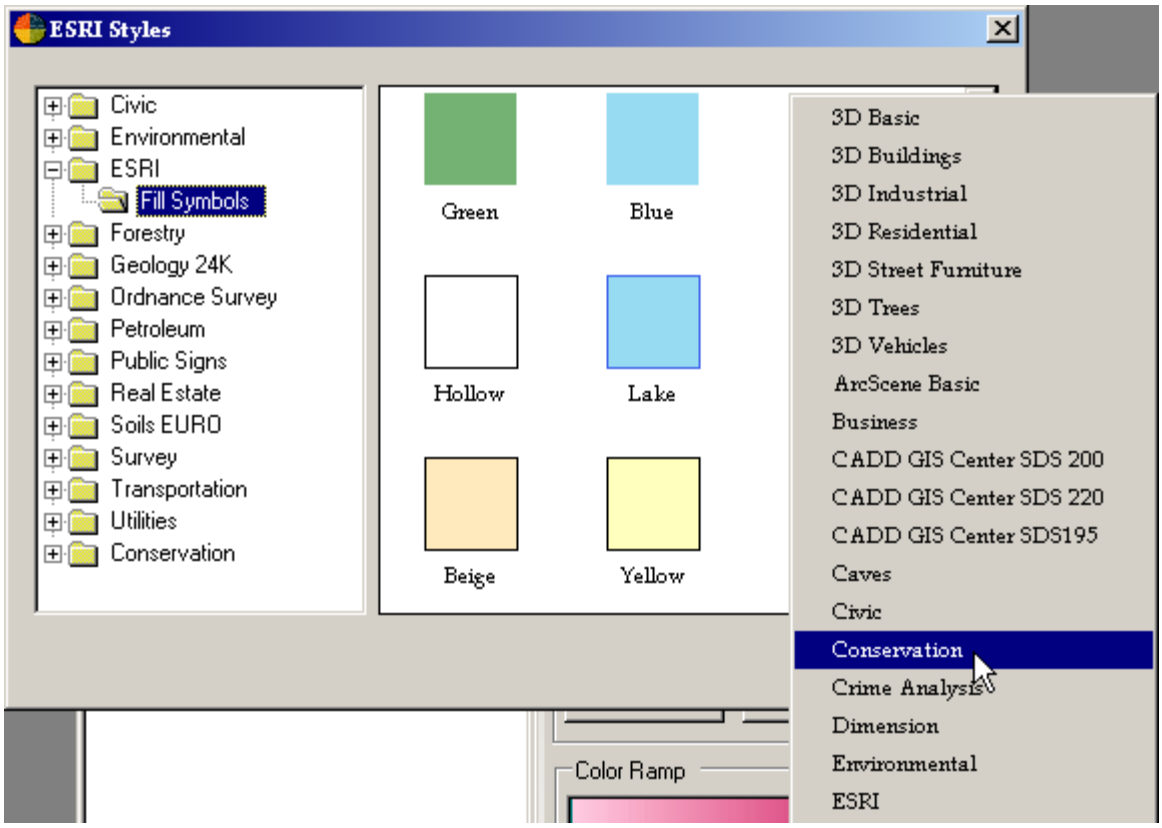

Figure 134 – ESRI Styles Dialogue: More Styles List

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6.13 Changing Symbology

To change the symbology on the current map:

- *Right-click* a symbol in the **Display** tab of the **Spatial Info** panel;

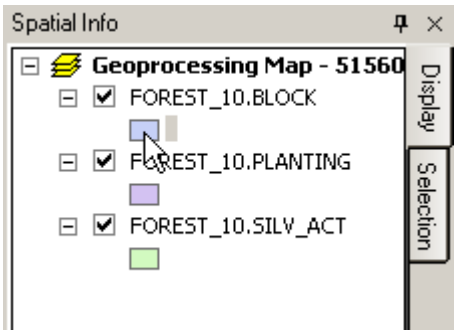

Figure 135 – Accessing ESRI Styles Dialogue: Changing Symbology

- *Select* the appropriate fill colour, outline width, and outline colour;

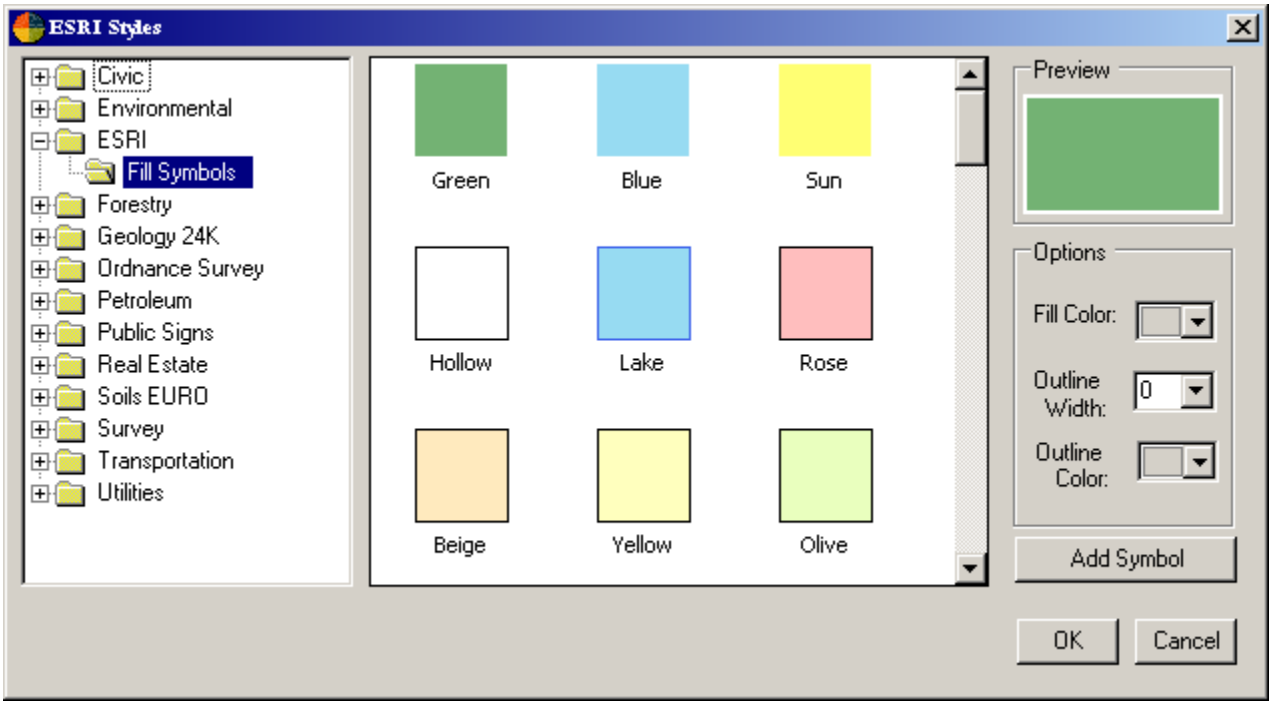

Figure 136 – ESRI Styles Dialogue

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- *Click* ADD SYMBOL to add to the list of styles;

Figure 137 – ESRI Styles Dialogue: Add Symbol

- *Click* the save button on the **Page Layout** toolbar to save the map to an MXD file.

These symbols are only saved in the current Map Window session memory, if the map is not saved to an MXD file.

6.14 Updating Linear Events

To update tabular road records in the **Road Activities** and **Road Attributes** windows when the road length has been modified spatially:

- *Ensure* the appropriate **Road Activities** or **Road Attributes** window is open;
- *Select* the Roads layer as the active layer and the target layer (layer must be visible, selectable, and editable);
- *Click* the start editing button on the **Editing** toolbar to start editing;
- *Click* the Cengea forest tool on the **Navigation / Selection** toolbar to select the Cengea Forest road feature;
- *Click* the modify feature button on the **Editing** toolbar to modify the feature;

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- *Modify* the selected road;

Figure 138 - Modifying an Existing Road

- *Click* update tabular road button to update the tabular road record (start and end stations) in the **Road Activities** or **Road Attributes** windows;

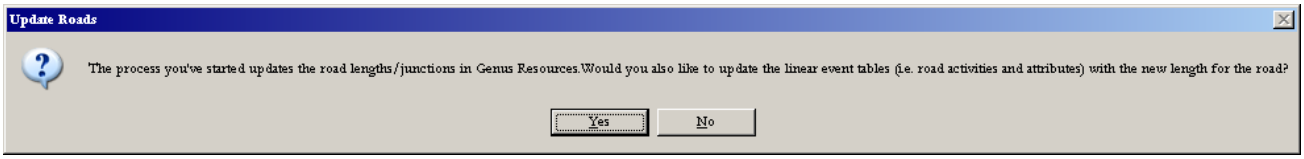

Figure 139 – Updating the Tabular Road

- *Select* Save Edits in the **Editor** drop-down list on the **Editing** toolbar to save the modification.

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6.15 Snapshots

Snapshots hold references to MXD files on the file system. Files are managed by the application and users provide the name of the file (i.e., snapshot), but cannot specify the file path.

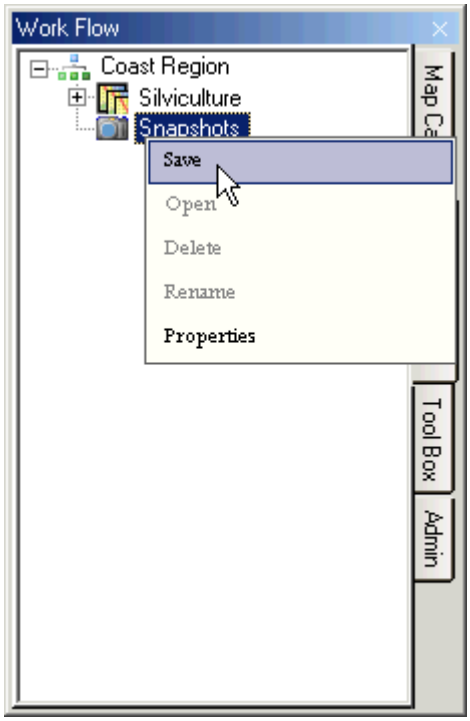

Figure 140 - Snapshots

To save a snapshot:

- *Configure* the map template view;
- *Right-click* Snapshots and *select* Save;
- *Enter* a unique name for the snapshot and a description;

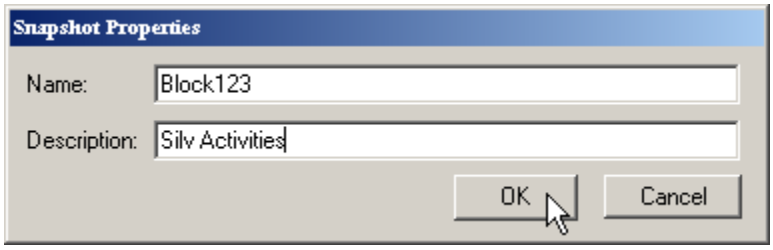

Figure 141 - Snapshots: Snapshot Properties Dialogue

- *Click* OK to close the **Snapshot Properties** dialogue.

The snapshot will be saved as an MXD file. The file path is entered in the **Systems Parameter** tab of the **Common Maintenance** table for the SnapshotName parameter.

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An existing snapshot can be saved after the layers have been added, removed, and / or re-ordered.

When saving a snapshot the system will perform a validation check to ensure that there are no duplicate layer names.

To manage snapshots:

- *Select* an existing snapshot, *right-click* and *select* Save to replace the file with the existing configuration;
- *Double-click* or *right-click* and *select* Open to open a snapshot;
- *Right-click* and *select* Delete to permanently delete the file (will also remove the records from the database and the file name from the tree structure);
- *Right-click* and *select* Rename to rename the snapshot;
- *Right-click* and *select* Properties to set the snapshot to public or private.

The tree structure is managed in **Template Manager**.

Right-clicking the map name in the **Display** tab and selecting Properties will enable users to view the description associated with the snapshot in the **Source** tab.

To plot a map:

- *Highlight* the appropriate snapshot;
- *Right-click* and *select* Plot Map;
- *Select* the **Use selected feature(s) from layer** or **Use active record** radio button;

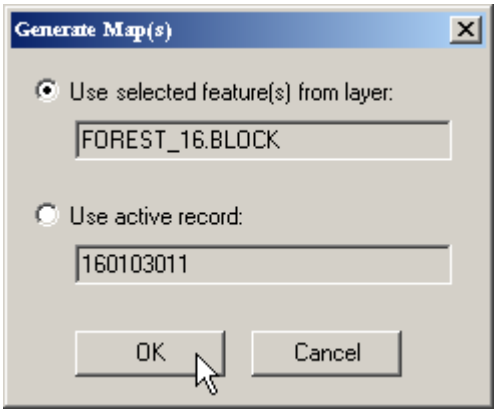

Figure 142 - Snapshots: Plot Map

- *Click* OK to close the **Generate Map(s)** dialogue;
- *Select* the appropriate options in the **Map Options** window.

Please refer to Section 6.15.3, Map Options, for details.

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6.16 Generating Maps

6.16.1 Map Window

To generate a map in Map Window:

- *Select* the spatial features;
- *Highlight* the appropriate layer in the **Display** tab of the **Spatial Info** panel;
- *Click* GENERATE MAP on the **Map Tools** toolbar;

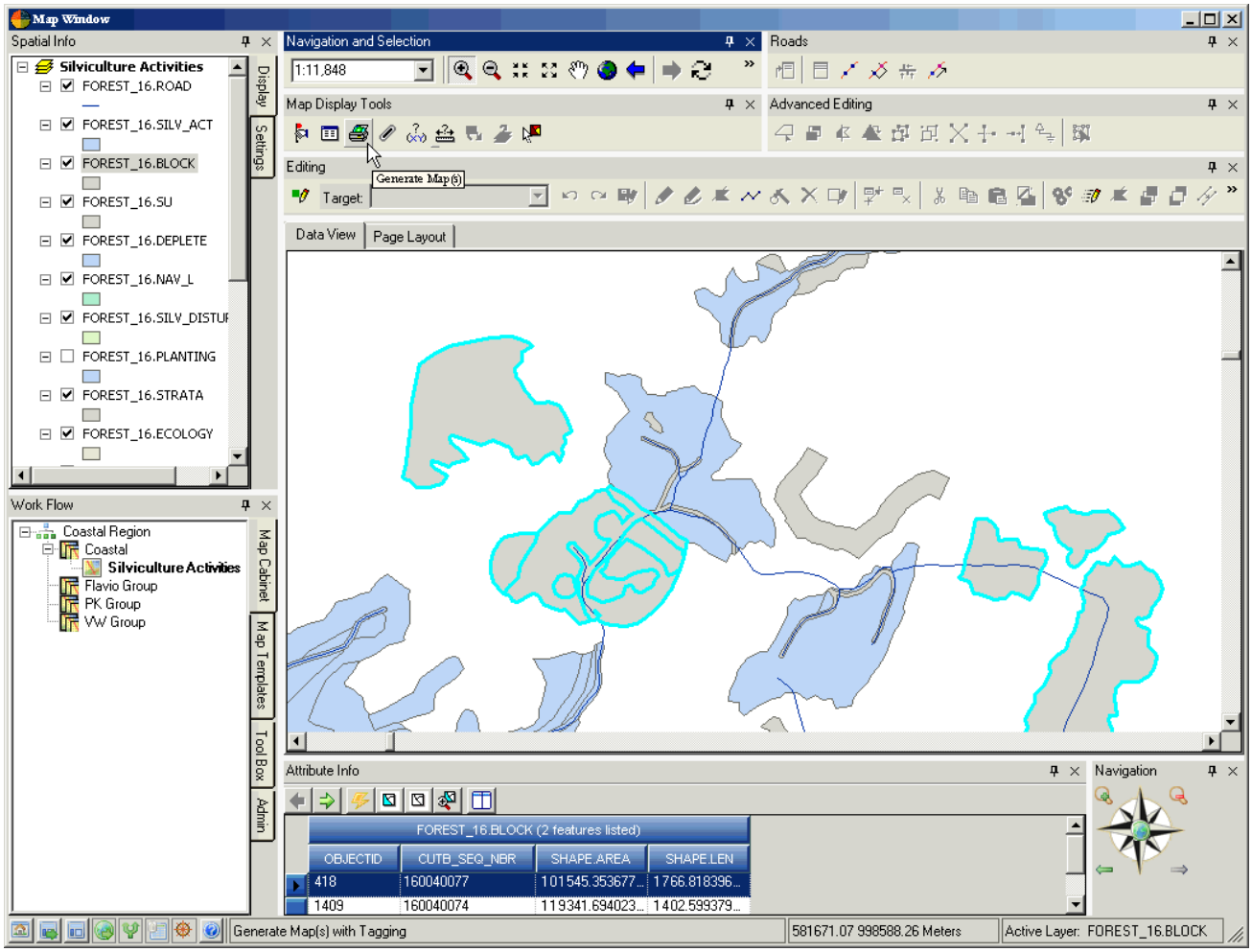

Figure 143 - Generating a Map

A map can be generated using either the original template loaded or the modified template.

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- *Select* the **Use selected feature(s) from layer** or **Use active record** radio button;

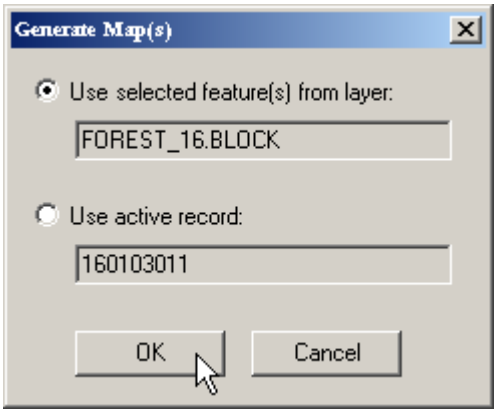

Figure 144- Generating a Map: Generate Map(s) Dialogue

- *Click* OK to close the **Generate Map(s)** dialogue;
- *Select* the appropriate options in the **Map Options** window.

Please refer to **Section 6.15.3. Map Options**, for details.

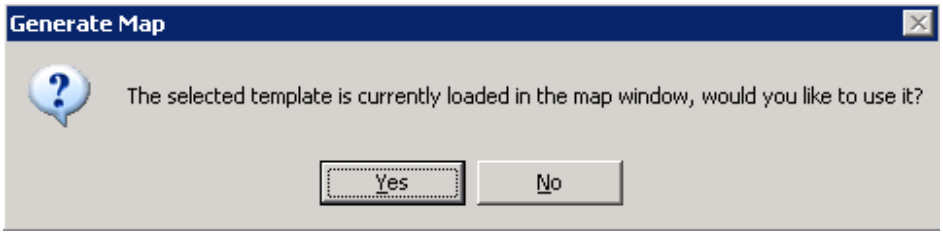

Figure 145- Generating a Map: Generate Map Dialogue

- *Click* YES to use the edited template
- *Click* NO to reload the original template and use it to create the map.

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6.16.2 Query Builder

The Query Builder tool includes batch mapping functionality.

To generate the batch mapping process:

- *Select* the appropriate info type in the **Query Builder** window;
- *Select* the appropriate query to retrieve the records;
- *Select* all required records;
- *Click* the generate map button Generate Map to launch the batch mapping process;

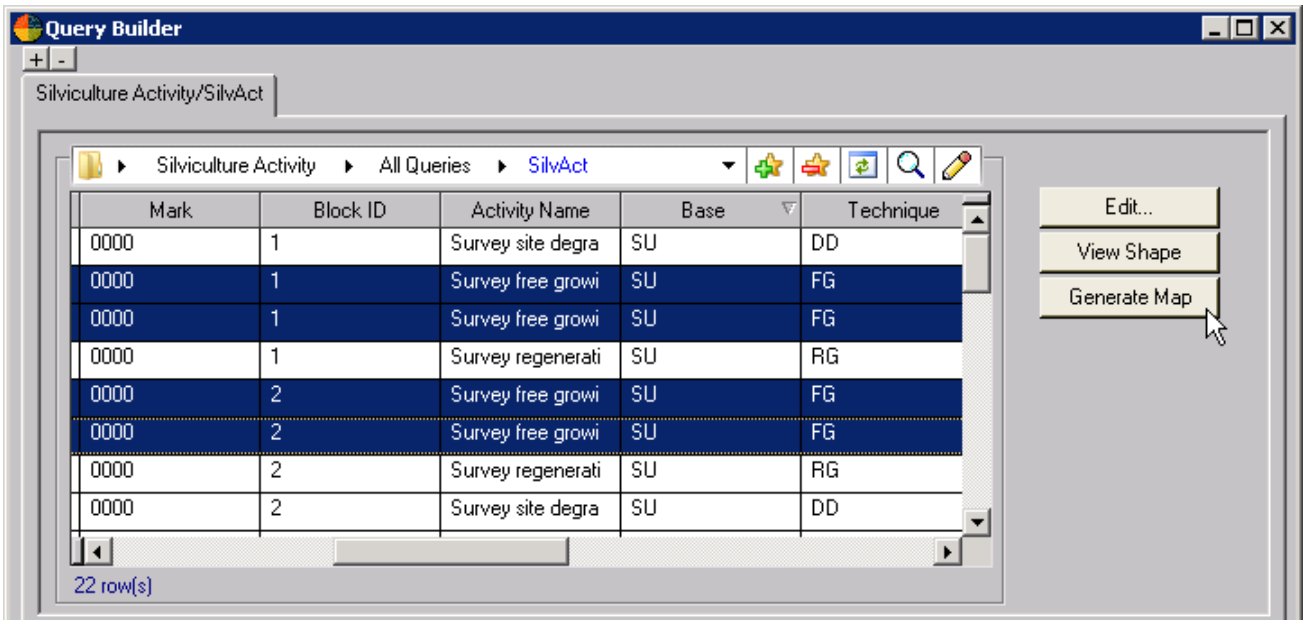

Figure 146 - Batch Mapping: Selecting Records

- *Select* the appropriate option in the **Map Grouping Options** dialogue;
- *Click* the OK button OK to open the **Map Option** window.

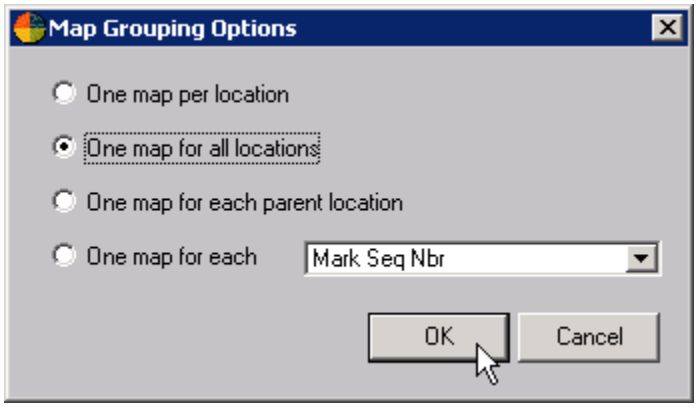

Figure 147 - Map Grouping Options Dialogue

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The following table summarizes the **Map Grouping Options** dialogue options:

Option	Description
One map per location	A single map for each selected query rows.
One map for all locations	A single map for all the selected query rows.
One map for each parent location	A single map for each parent location group.
One map for each	A single map for each attribute value (e.g., a map for each cut permit or division).

Table 31- Map Grouping Options Dialogue Options

Please refer to **Section 6.15.3. Map Options**, for details.

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6.16.3 Map Options

The **Map Option** window will open enabling users to choose which map templates are to be used, to determine printing paper map options and to export to file, if preferred.

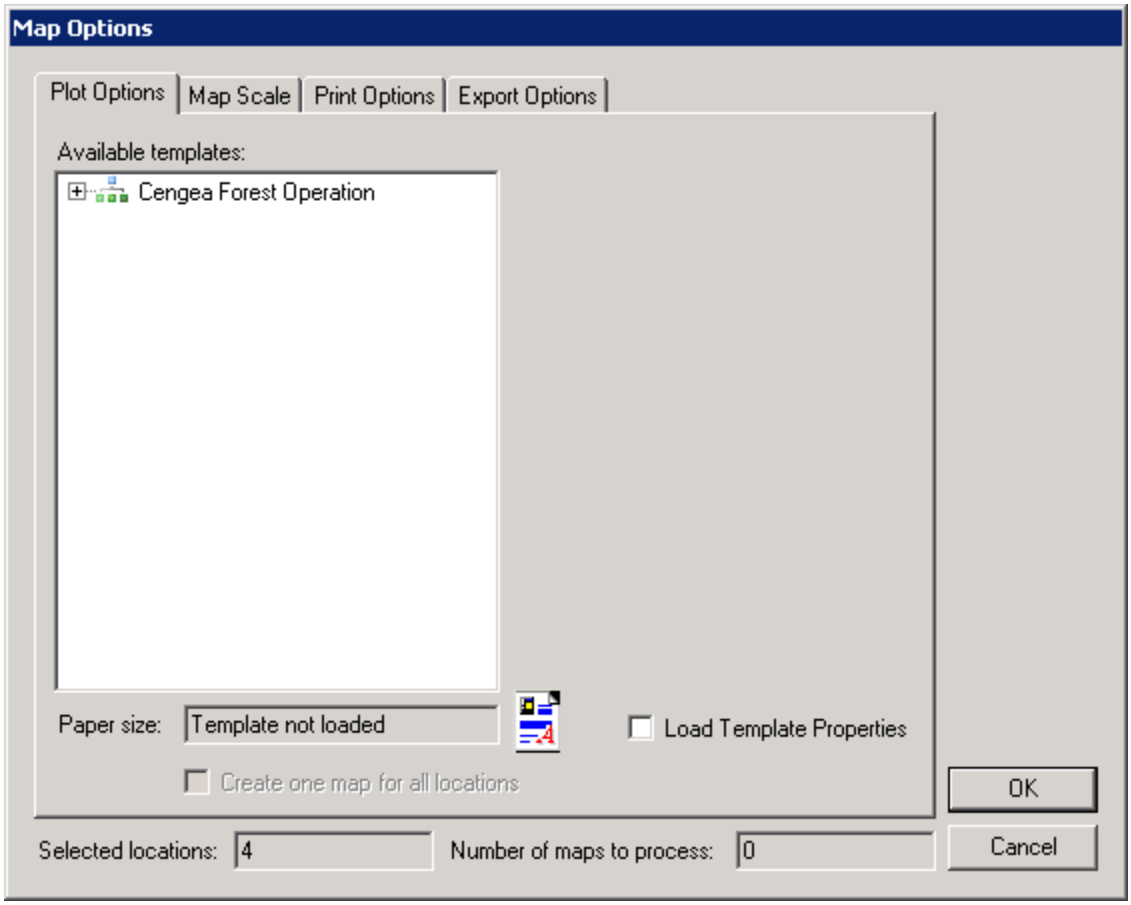

Figure 148 - Map Options Window

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To generate a map:

- *Select* the appropriate template in the **Plot Options** tab;
  - It does not have to be the same map template the features were selected from;
- *Check off* the **Create one map for all locations** checkbox, if required;
  - This checkbox is only active if the process began with spatial selection;
- *Check off* the **Load Template Properties** checkbox to display the paper size and orientation information for the selected template;
  - The number of features selected appears in the **Selected locations** field;
  - The number of maps that will be created appears in the **Number of maps to process** field;

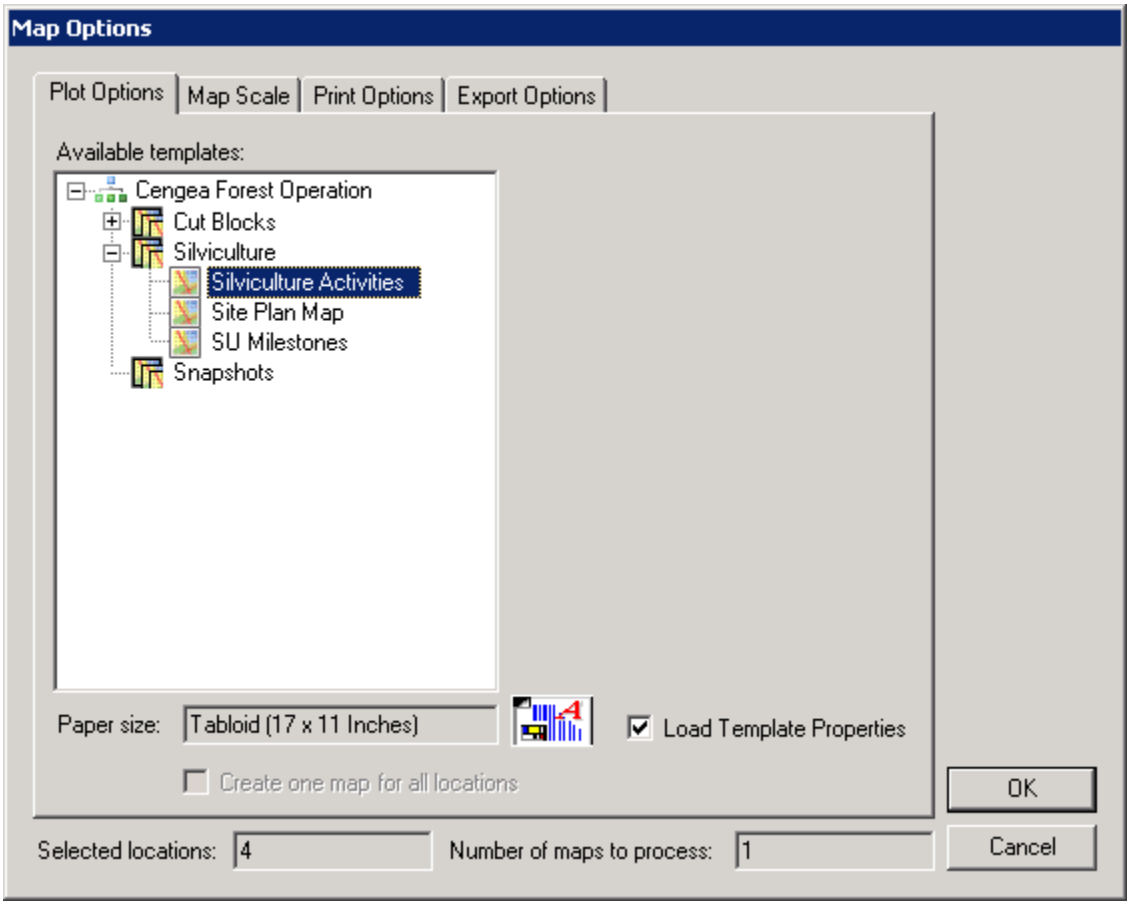

Figure 149 - Map Options: Plot Options Tab

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- *Select* the **Map Scale** tab to define the scale of the map;
  - The **Use Scale** radio button is the default and the map scale that appears is populated from the **Default Scale** field in the **Map** tab of **Template Manager**;
- *Enter* a scale for the map to be generated in, or;
- *Click* the **Zoom to location(s) at** radio button and *select* the zoom ratio of the feature(s) being mapped;
  - The **Use parent location extent for group maps** checkbox is only active if the process began in Resources using one of the group methods;

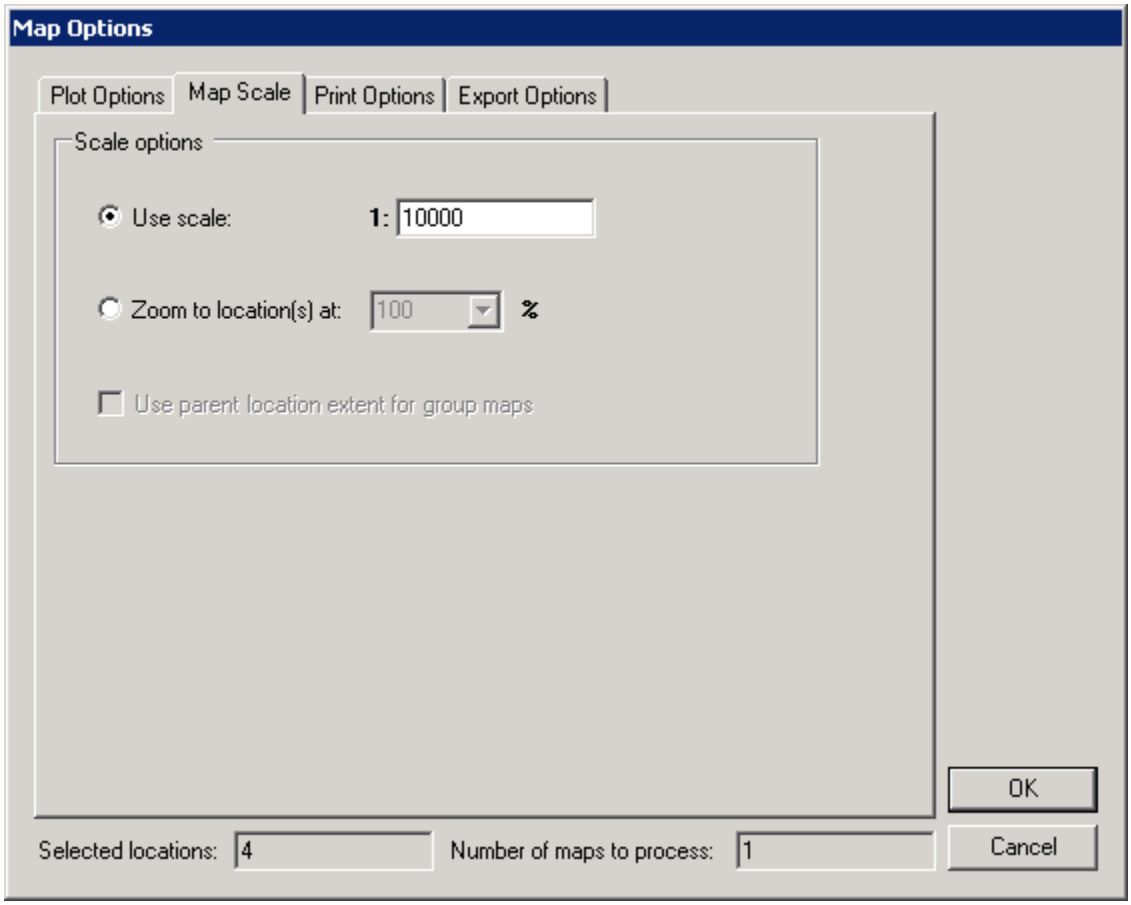

Figure 150 - Map Options: Map Scale Tab

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- *Select* the **Print Options** tab;
- *Select* the name of the printer from the **Printer** drop-down list;
- *Enter* the number of copies to be printed;
- *Check off* the **Preview layout** checkbox to generate the map but not send to the printer;
  - This checkbox is only active when there is only one map to process;

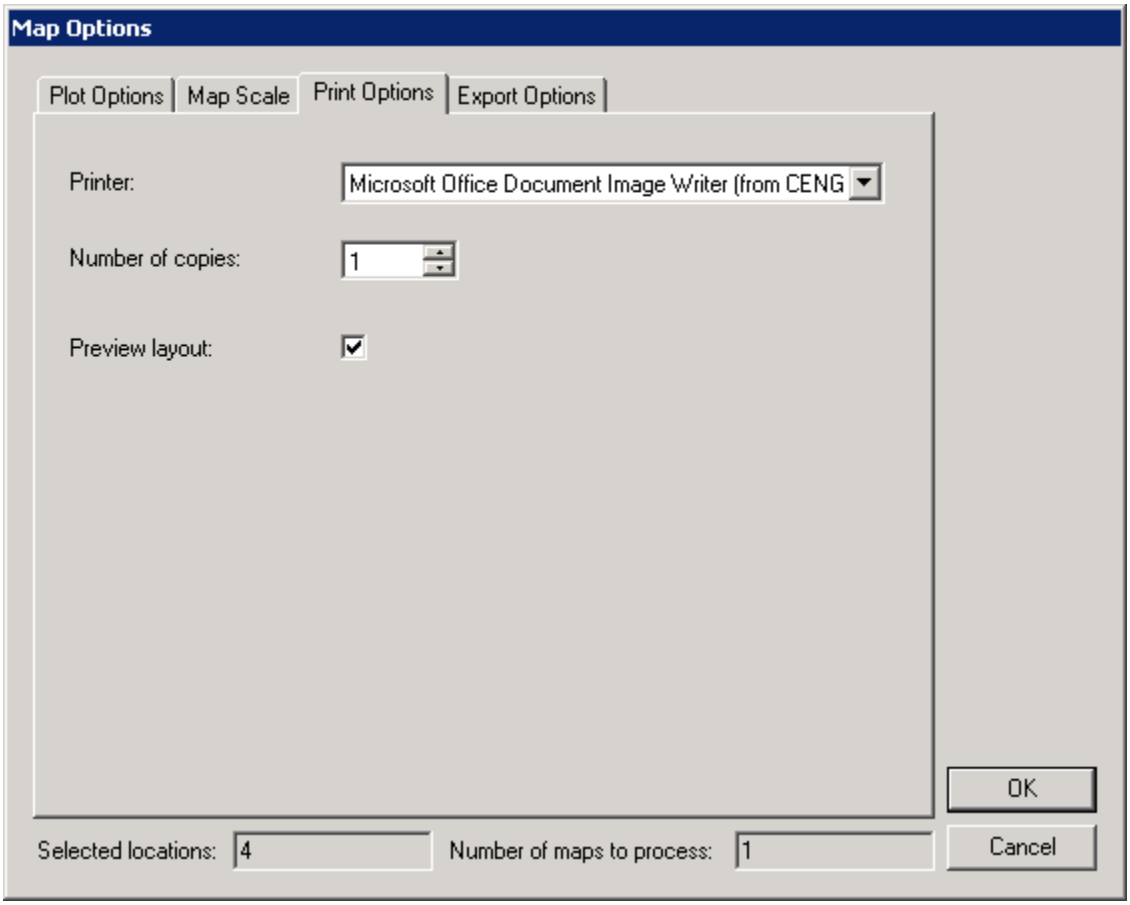

Figure 151 - Map Options: Print Options Tab

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- *Select* the **Export Options** tab;
- *Click* the required radio button in the Print actions section;
- *Select* the export options;
  - These fields are only active if the **Export only** or **Print and export** radio buttons have been clicked;

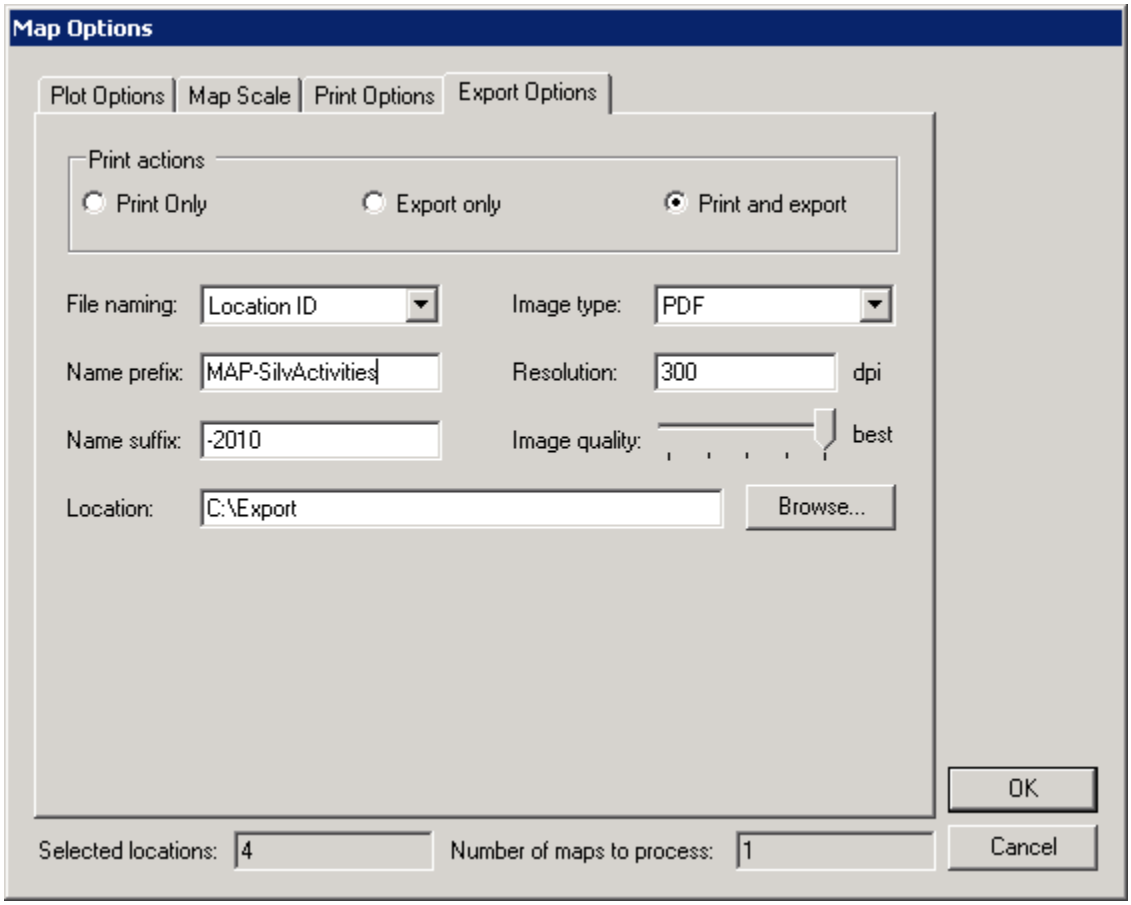

Figure 152 - Map Options: Export Options Tab

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- *Click* OK to generate the map.

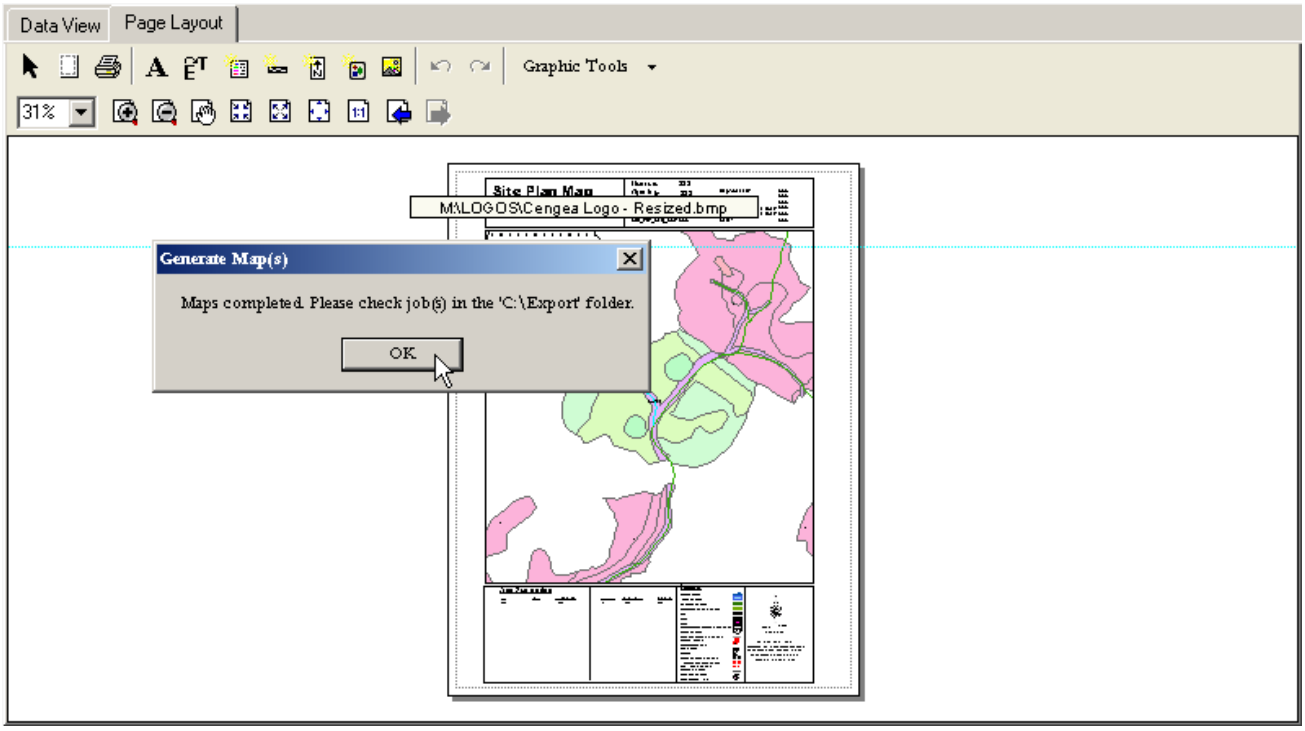

Figure 153 - Map Options: Generated Map

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7 INTERACTION WITH CENGEA FOREST

The Map Window provides an interface to the spatial data. It contains a variety of tools for displaying and revising data while working interactively with the Cengea Forest modules for digitizing, spatial overlays, spatial queries, and plotting.

The Cengea Forest modules can operate without using the spatial functionality offered by the Map Window, but the basic digitizing and overlay capabilities are useful when dealing with harvesting, cruising, cut block, and silviculture data, and road structures and activities. To leverage the functionality of the Map Window, spatial data must first be linked to the tabular (attribute) data.

The target layer is the only editable layer when an editing session has been started by clicking a Map Window icon on the **Cengea Forest** toolbar (i.e., the Enable Editing option is greyed out when right-clicking a layer in the **Display** tab of the **Spatial Info** panel). Please refer to **Section 4.3.6, Cengea Forest Toolbar**, for details regarding the available Map Window icons.

7.1 Bulk Load Road Attributes

Features can be highlighted in the Map Window and entered in to the **Bulk Load Road Attributes** window.

To select roads via the map:

- *Open* Map Window;
- *Open* the **Bulk Load Road Attributes** window and *select* the **Map** tab;

The Select Tabular Feature on the **Navigation** tool bar will be selected.

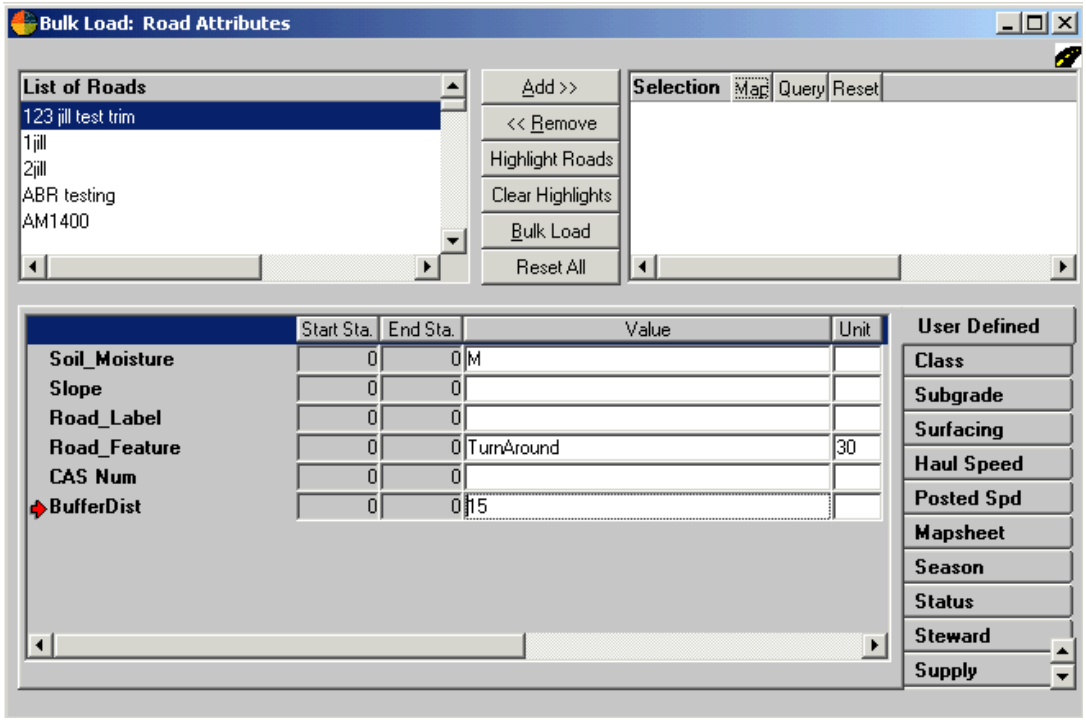

Figure 154 – Bullk Load Road Attibute: Map Tab

- *Zoom in* to the required road (s) and *select* them;

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- *Enter* the required information;
- *Click* the BULK LOAD button.

7.2 Highlighting Features

Features can be highlighted in the Map Window or the **Navigator** tree in Cengea Forest.

To highlight a feature in the Map Window:

- *Access* the Map Window;
- *Open* the appropriate map;
- *Ensure* the required layers are active;
- *Open* the **Navigator** tree in Cengea Forest and *expand* to the required level;
- *Select* the feature in the **Navigator** tree, or;
- *Open* the required module window.

If the required feature does not highlight in the Map Window the corresponding layer may not be loaded or active.

There is a system parameter to control the auto zoom within the Navigation Tree.

The spatial feature will be displayed in the map and the active layer will be set.

To highlight a cut block, cut permit, licence, stand, or compartment in the **Navigator** tree in Cengea Forest:

- *Open* the **Navigator** tree in Cengea Forest;
- *Access* the Map Window;
- *Open* the appropriate map;
- *Select* the required layer as the target layer in the TOC;
- *Click* SELECT TABULAR FEATURE on the **Navigation / Selection** toolbar;
- *Select* the appropriate polygon.

The **Navigator** will expand to the appropriate level and the feature will be highlighted.

To populate the Attributes, Structures, Activities, or Right-of-Way windows:

- *Open* the **Navigator** tree in Cengea Forest;
- *Right-click* Roads in the **Navigator**;
- *Select* Attributes, Structures, Activities, or Right-of-Way Tool from the pop-up menu;
- *Access* the Map Window;
- *Open* the appropriate map;
- *Select* the Road layer as the target layer in the TOC;

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- *Click* SELECT Cengea Forest FEATURE on the **Navigation / Selection** toolbar;
- *Select* the appropriate road to be viewed / edited.

The selected road name will appear in the **Road** drop-down list and the associated road data will populate the appropriate data entry window fields (i.e., **Attributes, Structures,** or **Activities**), or the road permit and section in the **Right-of-Way** window.

7.3 Map Option

Figure 155 – Map Option Drop-down List

The list of options in the drop-down list varies depending on the active area of the module.

7.3.1 Adding Map Options

To include other functionality in the **Map Option** drop-down list:

- *Select* the **Lookup Tables** tab in the **Common Maintenance** table;
- *Select* Digitizing functions from the **Lookup Category** drop-down list;
- *Highlight* the left side of the window and *insert* a record;
- *Enter* DIGI_NMW in the **Code** field and Digitize New in the **Description** field;
  - Below is a table of the **Code** and **Description** fields:

Code	Description Field
COPY	Copy
DEL_NMW	Delete New
DIGI_NMW	Digitize new
LATLONG	Lat/Long
LINK	Link
NWMAWI	Map Window
POPUL	Populate
SU	From SU
UNLINK	Unlink
UPDAREA	Update Area

Table 32 - Code and Description Fields

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- *Click* the add arrow to move the value to the right;
- *Insert* another record;
- *Click* SAVE CHANGES TO DATABASE.

The following table lists the window and tab where the map operations appear:

Module	Window / Tab	Functionality
Block Management	Cut Block / Details	Digitize New Delete New Lat/Long Link Unlink Update Area Map Window
Block Management	Cut Block / Allocation	Digitize New Delete New Link Unlink Update Area Populate Copy Map Window
Block Management	Cut Block / Harvest Unit Inventory (Critical Season, Harvest Method, Harvest Strategy, Block Harvest Units)	Digitize New Delete New Link Unlink Copy Populate Map Window
Block Management	Cut Block / Timber Developed	Digitize New Delete New Link Unlink Map Winodw Update Area
Block Management	Cut Block / Stratification	Digitize New Delete New Copy Link Unlink Map Window Update Area

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Module	Window / Tab	Functionality
Block Management	Cut Permit / Details	Digitize New Delete New Link Unlink Update Area Map Window
Block Management	Licence / Details	Digitize New Delete New Link Unlink Update Area Map Window
Silviculture	SU / Summary	Digitize New Delete New Link Unlink Update Area Copy Map Window
Silviculture	Ecology / Detail	Digitize New Delete New Link Unlink Update Area Copy Map Window
Silviculture	Planting / Planting Units	Digitize New Delete New Link Unlink Update Area Copy Map Window
Silviculture	Survey / Survey Units	Digitize New Delete New Link Unlink Update Area Copy From SU Map Window

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Module	Window / Tab	Functionality
Silviculture	Silviculture Treatment / Details	Digitize New Delete New Link Unlink Update Area Copy Map Window
Silviculture	Stocking Status / Detail	Digitize New Delete New Link Unlink Update Area Copy Populate Map Window
Silviculture	Harvesting	Digitize New Delete New Link Unlink Update Area Copy Populate Map Window

Table 33 - Digitize / Delete Functionality

7.3.2 Enabling Map Window Functions

To enable the Map Window functions:

- *Expand* the drop-down list;
  - The name of the selection will appear;
- *Click* on the name to activate the function.

Clicking MAP WINDOW will:

- *Open* the Map Window (if not currently open);
- *Zoom to* the feature;
- *Set* the Active the layer that corresponds to the active Resources window enabling the polygon to edited;
- *Display* child layers that are associated to the main feature.

Please refer to the Admin document for map parameters that control zooming to features and chid layers that are displayed.

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Clicking DELETE NEW will:

- *Delete* the spatial feature associate to the tabular record;
- *Update* the tabular area to "0" and *uncheck* the **Digitize** checkbox.

Delete New automatically sets the business class if it was not specified prior to clicking DELETE NEW.

Delete New will set the layer to selectable and editable to perform the delete and the set the layer back to the user's options

Clicking DIGITIZE NEW will:

- *Maximize* the Map Window;
- *Zoom* to the feature;
- *Display* child layers that are associated to the main feature;
- *Set* the active layer;
- *Start* an edit session.

User will be prompted to save any unsaved edits in the map before closing a window or extiting the application

During an edit session the DELETE key can be used to delete temporary digitzed features.

Clicking FROM SU will:

- *Replace* any tabular data in the Survey Strata window with data from the Survey Unit ;
- *Copy* the polygon(s) form the Survey Unit and pasted them in to the Strata_Hist layer.

Clicking COPY will:

- *Copy* the spatial features from the Block layer to the target layer in the Map Window ;
- *Ensure* a spatial feature currently exsits for the tabular record;
- *Update* the **Area** and *check off* the **Digitze** checkbox.

Sets the layer to selectable, editable and visible for the process and then returns the options to the users settings.

This functionality uses a system parameter to allow for polygon overlap. Please refer to the ***Map Window Admin*** user guide.

Please refer to **Section 7.4, Synchronize Updates**, for details.

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7.4 Populate

This function creates new features and tabular records from an overlay of two or more existing spatial layers.

Before the populate function can be utilized, the System Administrator needs to ensure:

- A map with the required layers has been created in the **Map Manager**;
- The map parameters have been entered in the **System Parameters** tab of the **Common Maintenance** table:
  - **Object ID** = MapParameter;
  - **Parameter Name** = GeoprocessingMapName;
  - **Parameter Value** = **must** match the map name created in the **Map Manager**.

To populate a new layer:

- *Open* the required window (e.g., **Detail** tab in the **Stocking Status** window);
- *Select* Populate from the **Map Option** drop-down list;
- *Click* POPULATE.

The polygon layers (i.e.: block, strata, strata hist, su, silv_act etc.) must be simple Polygon features , they can not contain m-values

If POPULATE is clicked in the **Detail** tab of the **Stocking Status** window a spatial overly between the **Strata_Hist, Strata** and the **Block** layers will be performed. Performing the spatial overlay will retain the strata ID names from the surveys.

For the surveys to participate in the populate process they must have Current Status checked off in the Silviculture Maintenace window.

If POPULATE is clicked in the **Ecology** tab of the **SP** window a spatial overly between the Standard Unit layer and the Ecology Unit layer will be performed. This will overwrite all existing records.

If POPULATE is clicked in the **Harvest Unit Inventory** tab of the **Cut Block** window a spatial overly between the Harvest_Method, Harvest_Season and Harvest_Strategy will be performed.

If POPULATE is clicked in the **Allocation** tab of the **Cut Block** window an overlay between the either the **Nav_P** or **Nav_L** and **Block** layers.

If Stratification information for a block is enetered the populate process will not take the merch area to be removed in to account.

7.5 Synchronize Updates

7.5.1 Updating an Existing Area

When the spatial data is saved in Map Window, the system will automatically update the tabular (attribute) data.

If the polygon has been modified, but the area in Cengea Forest has not been updated:

- *Open* the required window (e.g., **Details** tab in the **Cut Block** window);
- *Load* the appropriate map;

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- *Click* UPDATE AREA from the drop down list within the window.

7.5.2 Linking a New Polygon

When a new polygon is created, it has to be linked to the appropriate feature in Cengea Forest.

To link a polygon:

- *Open* the appropriate window (e.g., **Details** tab in the **Cut Block** window);
- *Load* the appropriate map;
- *Click* LINK from the drop down list within the window.

Sets the target layer and the business class to editable and visible.

The **Area** field will populate with the area (in hectares) and the **Digitize** checkbox will be checked off.

7.5.3 Unlinking a Polygon

To unlink a polygon:

- *Open* the appropriate window (e.g., **Details** tab in the **Cut Block** window);
- *Load* the appropriate map;
- *Click* UNLINK from the drop down list within the window.

The **Area** field will populate with the area (ha) and the **Digitize** checkbox will be un-checked.

Sets the target layer and the business class to editable and visible.

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A tabular record can also be linked to a shape using the Query Builder tool:

- *Click* Map Window on the menu bar then *select* Map Window;
- *Highlight* the appropriate layer in the **Details** tab of the **Spatial Info** panel;
- *Click* the start editing button on the **Editing** toolbar to start editing;
- *Select* the appropriate target layer;
- *Select* the feature to be linked;
- *Click* the link features button on the **Editing** toolbar to link spatial feature to a tabular record via Query Builder;
- *Click* OK;
- *Select* the appropriate info type to retrieve the required record in the **Link Shape** window;
- *Highlight* the tabular record;
- *Click* the link button Link... to link the feature;

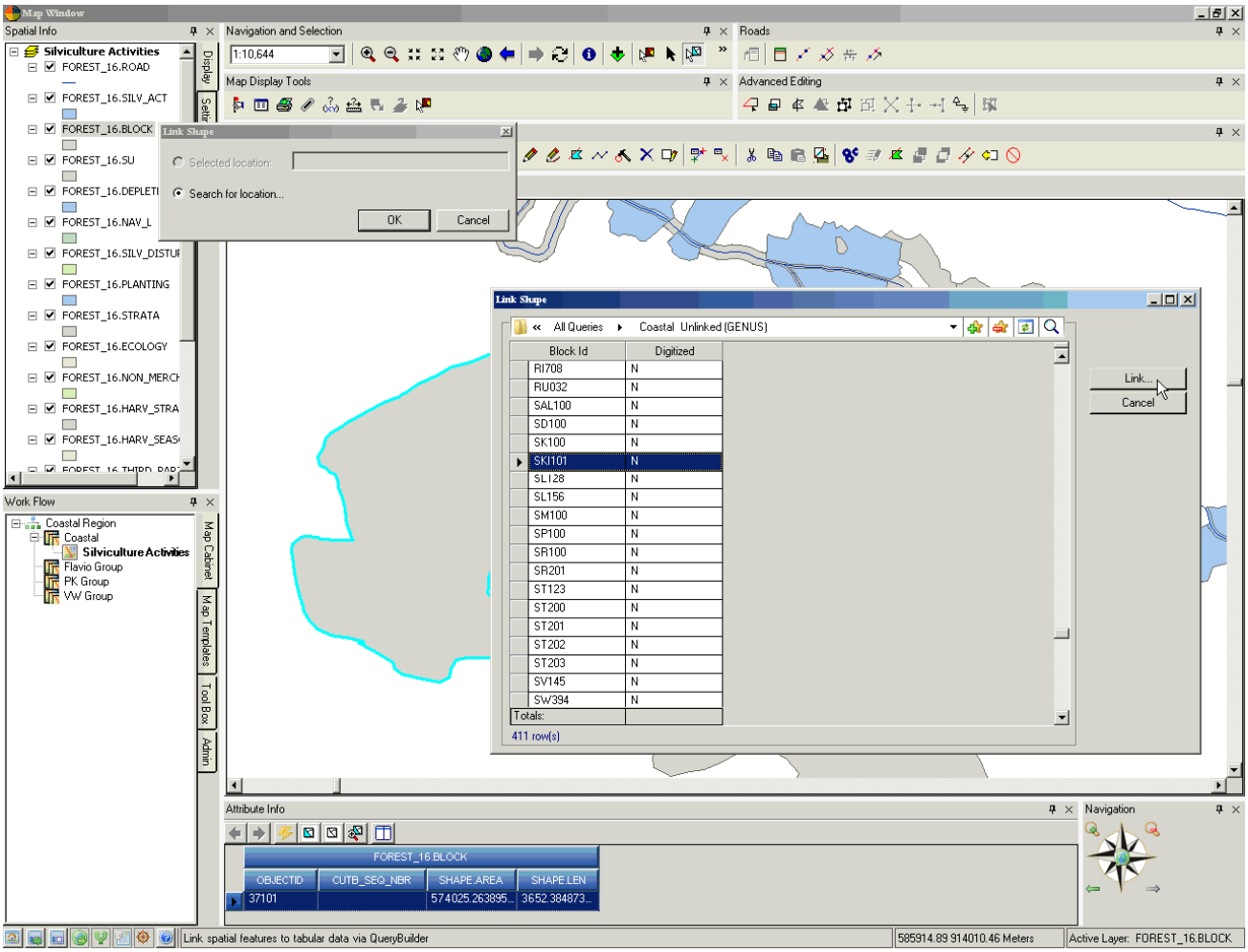

Figure 156 - Query Builder: Linking a Polygon

- *Click* OK to confirm feature has been linked.

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7.5.4 Populating Lat/Long

Once a polygon has been created, and linked to the tabular data, the latitude and longitude of the polygon can be found

To populate latitude and longitude of a polygon:

- *Open* the**Details** tab in the **Cut Block** window;
- *Select* Lat/Long from the **Map Option** drop-down list;
- *Click* LAT/LONG to perform the Lat/Long function.

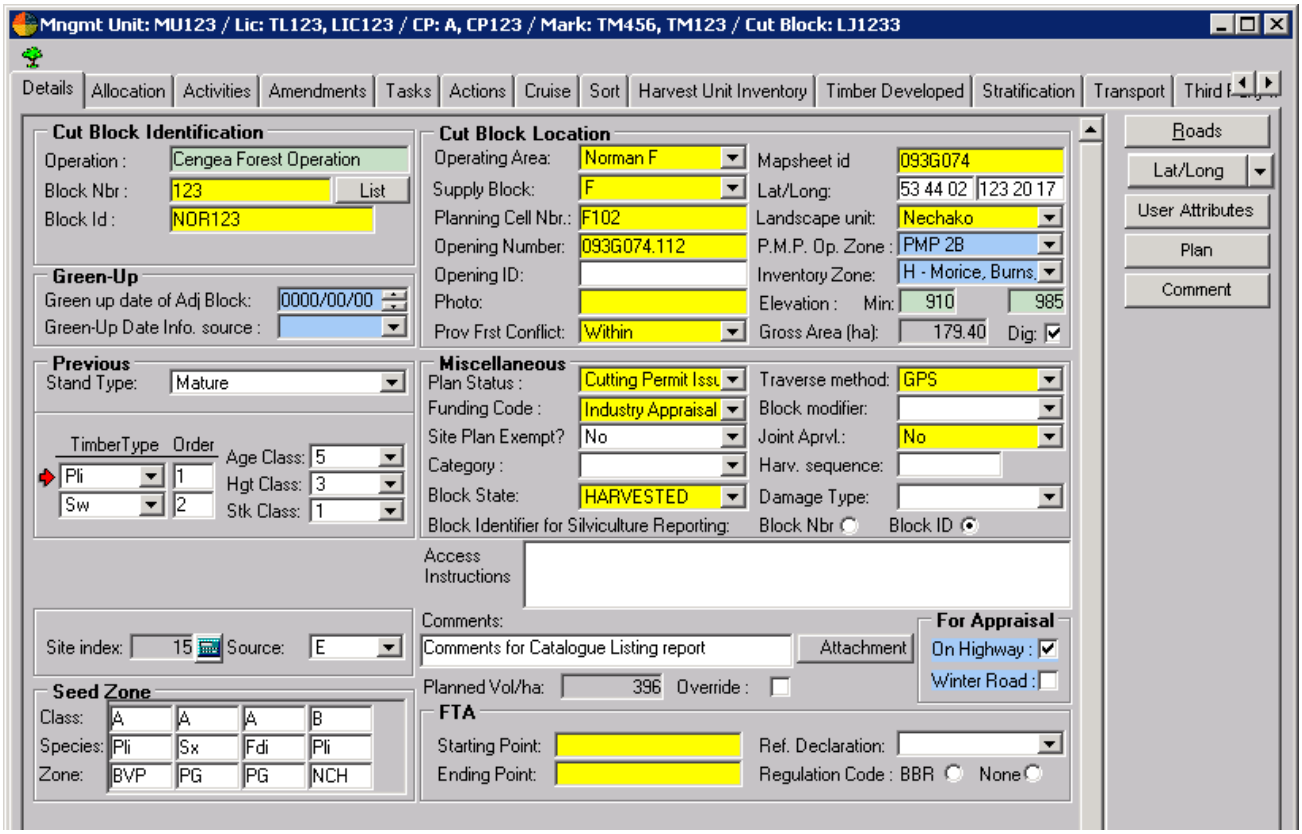

Figure 157 – Cut Block Window: Populating Lat/Long

The **Lat/Long** fields in the **Cut Block** window will populate with the latitude and longitude.

If the Northing and Easting are configured, after populating the Lat/Long clicking USER ATTRIBUTES will populate the Northing and Easting of the polygon.

7.6 From SU

- This function copies the spatial and tabular data from the SU to the Strata_Hist layer and the survey strata record.

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8 CONCLUSION

This user guide is designed to provide the knowledge and skills necessary to use the Map Window module properly. Combined with a comprehensive training session, this guide will enable map-related information to be managed effectively and efficiently.

For additional assistance on the information in this guide or presented in a training session please contact any of the resources listed in **Appendix A - List of Contact and References**.

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APPENDICES

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APPENDIX A – LIST OF CONTACTS AND REFERENCES

The following lists the key contacts for Cengea Solutions Inc. Please consult the Cengea Help Centre Web Site (see details below) or a Cengea Client Representative to obtain the latest documentation or information.

What do I need help with?	Where to go?
Obtaining a user ID and password for Cengea Forest Changing level of access Changing values of a drop-down list Changing configuration	**Cengea Forest System Administrator** (may have one by Division/Operation).
Support for the following products and tools: ▪ Road Management ▪ Block Management ▪ Silviculture ▪ Harvest Scheduler ▪ Interior Appraisal ▪ Coastal Appraisal ▪ GEO (GIS Extension Option) ▪ Map Window ▪ MapPlot Server ▪ Overlay Tool ▪ Contractor Management ▪ Projects ▪ Issue Tracking ▪ Action Plan ▪ Block Valuation ▪ Log Profiles ▪ Cengea Forest Exchange Problems, bugs, suggestions for enhancements, inquiries, comments, etc. Installation guides, data models, System Administration documentation, FAQs Release Schedule (release notes)	The **Cengea Help Centre Web Site** provides user assistance related to the Cengea Forest System. Calls and issues are logged, tracked, and directed for expert resolution. **Web Site:** www.cengeahelp.com **Email:** support@cengea.com **Call:** 1 866 776 5850 Phone support is available Monday through Friday from 8 AM to 5 PM Pacific (excluding BC Statutory holidays). The Web Site, a web-based issue-reporting tool, is available 24 hours, seven days a week. See more details in the next section.

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What do I need help with?	Where to go?
Support for / problems with: ▪ Windows environment ▪ Client Oracle installation ▪ Third-party reporting tools, such as Microsoft Access and Crystal Reports	**Company's Help Desk**
Support for / problems with: ▪ ARCInfo	**ESRI Canada - http://www.esri.ca**
Escalation of issues Need for additional training and / or documentation (standard or customized) Need for customized solutions Interested in exploring other Cengea Forest modules Need for project management, business analysis, GIS consulting, and many other professional services	**Contact a Cengea Client Representative**

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APPENDIX B - SDE LAYERS

Blocks Layers

Cengea Forest Layer Class	Description
BLOCK	**Key:** CUTB_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** This layer contains features associated with cut blocks stored in Cengea Forest. A cut block feature is the boundary off which many other features are built within Cengea Forest, such as standard units, harvest units, etc. **Pitfalls:** Altering the block boundary within Cengea Forestdoes not alter the features that were built off the block. All other features built off that block have to be adjusted separately.
BLOCK_ALLOC	**Key:** BLAL_SEQ_NBR **Types of features stored within this layer:** Polygons **Intended Use**: This layer stores the polygons resulting from a spatial overlay between a block polygon (the BLOCK layer) and the licence (NAV_L) and cut permit (NAV_P) layers. Users can run this overlay by selecting POPULATE from the **Map Option** drop-down in the **Block Allocation** tab. In this case, the system will run the overlay and will re-populate the **Block Allocation** tab with the results of the overlay. For example, if a cut block sits within two licences, two records will be populated within the **Block Allocation** tab as a result of the overlay. Digitizing directly into this layer is not possible within Cengea Forest. For some Cengea Forest clients in BC, polygons in this layer may need to be submitted to the Forest Tenure Administration system (FTA). **Pitfalls:** To properly use this layer, accurate spatial boundaries are required for licences and cut permits within the NAV_L and NAV_P layers.
NAV_P	**Key:** PERM_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** This layer allows users to digitize and store polygons associated with cut permits (operating areas in Alberta). New features can be digitized within this layer from the **Details** tab in the **Cut Permit** (**Operating Area**) window. For some Genus clients in BC, cut permit boundaries may need to be submitted to the Forest Tenure Administration system (FTA). **Pitfalls:** As of Resources 5.1.0, the system does not store the area associated with the spatial polygon for the cut permit (operating area). The cut permit area displayed in the **Details** and **Allocation** tabs of the **Cut Permit** window is a sum of all the areas for the blocks that are within the cut permit.
HARV_DEPLETION	**Key:** CBIN_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** Depletions are areas of the cut block that have been harvested. Depleted areas are digitized in the **Depletion** tab of the **Harvesting Activities** window in the Block Management module. This layer will store spatial features associated with these depletion records.

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Cengea Forest Layer Class	Description
HARV_METHOD	**Key:** CBHM_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** The **Harvest Unit Inventory** tab in the Block Management module allows users to digitize areas that are to be logged by a specific logging method (e.g., grapple yarder, cable, helicopter, etc.). **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which harvest methods are being digitized is automatically set as "clippable."
HARV_SEASON	**Key:** CBHS_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** The **Harvest Unit Inventory** tab in the Block Management module allows users to digitize areas of a cut block that have specific seasonal constraints. For example, part of a cut block might be very wet, so that it can only be logged at its driest point in the summer. The area of the cut block that must be logged in the summer would be digitized within the Harvest Season layer. The remainder of the cut block may not have any seasonal constraints at all. A feature for the rest of the cut block would be digitized and the specified season would be "None." **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which harvest seasons are being digitized is automatically set as "clippable."
HARV_STRATEGY	**Key:** CBST_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** The **Harvest Unit Inventory** tab in the Block Management module allows users to digitize areas of a cut block that have specific harvest strategy. A harvest strategy is special harvesting that may occur in Riparian Management Zones, Machine-free Zones, within cut block roads, etc. The parts of the cut block that do not have any special strategy such as "Standard Practices" or "None" would be digitized. Users may store the road buffers for cut block roads as a "Road Right of Way" strategy within this layer. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which harvest strategies are being digitized is automatically set as "clippable."
HARV_UNIT	**Key:** CBIN_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** The **Harvest Unit Inventory** tab in the Block Management module enables users to initiate an overlay among the Harvest Method, Harvest Season, and Harvest Strategy layers. Each area that has a unique Harvest Season, Harvest Method, and Harvest Strategy will become a Harvest Unit. Cengea Forest saves the features resulting from the overlay into the Harvest Unit layer. This layer cannot be digitized directly from Cengea Forest. Features can only be added by selecting POPULATE from the **Map Option** drop-down list in the **Harvest Unit Inventory** tab.

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Cengea Forest Layer Class	Description
NAV_L	**Key:** LICN_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** This layer allows users to digitize and store polygons associated with licences (management units in Alberta). New features can be digitized within this layer from the **Details** tab in the **Licence** (**Management Unit**) window. For some Cengea Forest clients in BC, licence boundaries may need to be submitted to the Forest Tenure Administration system (FTA). **Pitfalls:** As of Resources 5.1.0, the system does not store the area associated with the spatial polygon for the licence. The licence area displayed in the **Details** and **Allocation** tabs of the **Licence** window is a sum of all the areas for the blocks that are within the licence.
NON_MERCH	**Types of features stored in this layer:** Polygons **Intended Use:** This layer stores any net loss areas inside or outside of a cut block. These areas are digitized into this layer from the **Stratification** tab in the Block Management module. A net loss area may be a wildlife tree patch, a variable retention patch (VR), a rock outcrop, a pond, etc. Retention areas can be associated with a cut block or cut permit. They can reside within a cut block or outside of a cut block. Net loss areas can be planned within the Net Loss layer and SU's can be built from these existing areas or vice versa.
ROADED_INVENTORY	**Key:** BRIN_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** This layer stores areas of the cut block that are "roaded" (timber developed). It tracks areas within cut blocks that are accessible by the roads that already exist within the cut block. Users can digitize areas into this layer from the **Roaded Inventory** tab in the **Cut Block** window.

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Silviculture Layers

Cengea Forest Layer Class	Description
ECOLOGY	**Key:** ECOU_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** This layer enables users to digitize ecology units in the cut block. Each ecology unit defines an area with similar biological, geological, and climatic environments. The **SP** window enables users to overlay the Ecology Units and Standard Units. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which ecology units are being digitized is automatically set as "clippable."
SU	**Key:** STUN_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** The **Standard Unit** window allows users to digitize an area in the cut block where there is a consistent silviculture system, stocking standard, and soil conservation. Each standard unit generally corresponds with an Ecology Unit. The **SP** window enables users to overlay the Ecology Units and Standard Units. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which standard units are being digitized is automatically set as "clippable."
PLANTING	**Key:** PLUN_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** Each planting activity allows the creation of multiple strata. Users may digitize each strata, which stores the planting, and seedling information including costs, request keys, number of trees, and the species. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which planting units are being digitized is automatically set as "clippable."
SILV_ACT	**Key:** SILA_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** This layer applies to all silviculture base activities excluding planting and surveys. The silviculture activity allows users to digitize the activity area within the cut block. Non-reportable activities would also use this layer for digitizing. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which silviculture activities are being digitized is automatically set as "clippable."

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Cengea Forest Layer Class	Description
STRATA	**Key:** SIST_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** Strata layers apply exclusively to the Stocking Status. The **Stocking Status** window enables users to perform an overlay of all relevant survey activities in chronological order. Each area that has the most recent and unique survey will become a stratum. This produces a current view of the cut block. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which strata are being digitized is automatically set as "clippable."
SILV_SURV	**Key:** SISH_SEQ_NBR **Types of features stored in this layer:** Polygons **Intended Use:** The Strata History layer allows users to digitize multiple strata in the survey activity. Each stratum stores unique information on the species, pests, density, and stocking status of that area. **Suggestions for use**: The Blocks layer does not have to be set as "clippable" when digitizing in this layer. The block boundary in which strata histories are being digitized is automatically set as "clippable."

Road Layer

Cengea Forest Layer Class	Description
ROAD	**Key:** ROAD_SEQ_NBR **Types of features stored in this layer:** Route **Intended Use:** The Road layer is not currently an SDE layer; the roads are stored as arcs in coverages. The sequence number links the Road layer to the Road tables. Performing a "commit" on the road coverage creates this linkage. The Road layer should be used with the Road Management windows (**Activity, Attribute, Structure**) to identify the road sections or structures in the Map Window. Please note that the status bar in the Map Window only displays the name of the road selected in the **Timber Developed** tab in the **Cut Block** window, not from the Road Management windows.

Buffers are maintained in the context of the layers in which they are referenced within the cut block. For example, in the Silviculture module, a buffered area may be a separate Standard Unit or an Ecology Unit. In the Block Management module, a depleted area may be digitized as a Harvest Depletion Unit. The same buffered area may exist in several Cengea Forest layers. Currently, Cengea Forest does not maintain buffers outside the cut block.

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APPENDIX C – PROVIDE FEEDBACK ON THIS GUIDE

Please use this form to send us your comments about this guide, particularly errors and omissions. Your input is greatly appreciated!

Is this guide complete (given its purpose)? What information should be added or removed?

Are the contents of this guide accurate? Please describe any errors and provide the section number and page number where each error appears.

Is any of the content unclear? Please identify the subject, section number, and page number of any content that is confusing or unclear.

Is this guide well organized? How could the information be organized to better suit your needs?

The following information is optional:

Name: _____ Contact Number: _____

Company & Division: _____

Send Completed Form to:
Cengea Help Centre – **support@cengea.com** *or Fax:* **604 697 6440**

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