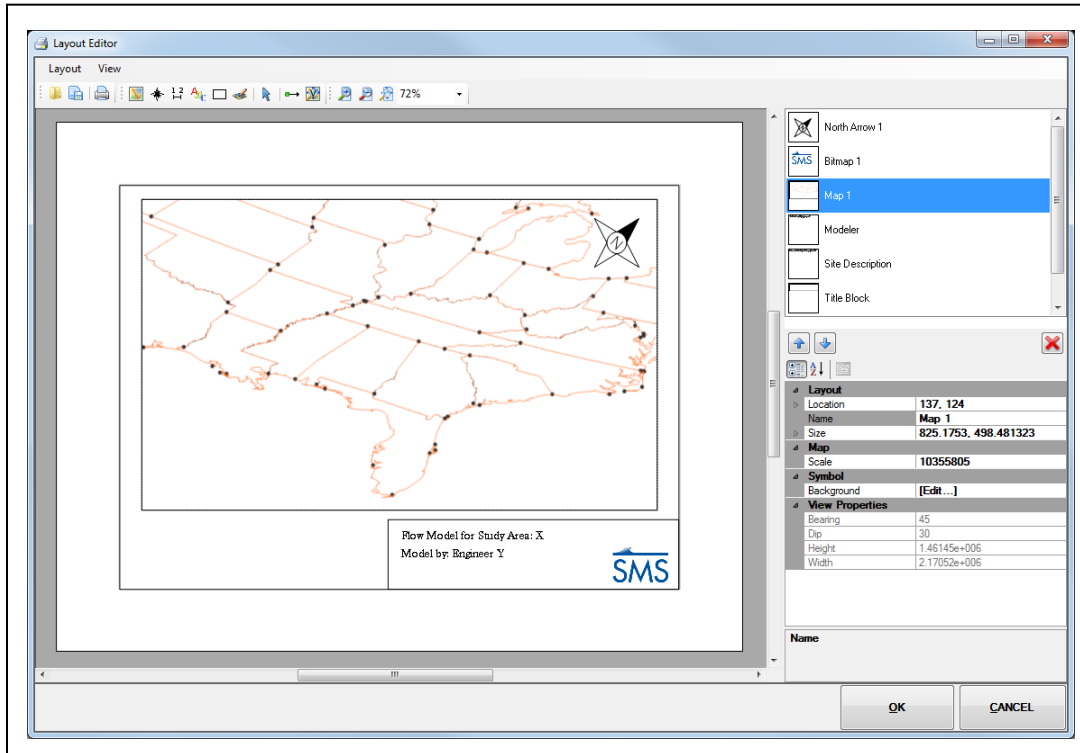


## SMS 13.1 Tutorial

### Layout Editor



### Objectives

Learn how to use the Layout Editor to create printed reports from SMS.

### Prerequisites

- Overview Tutorial

### Requirements

- GIS Module
- Map Module

### Time

- 10–20 minutes

<b>1</b>	<b>Introduction .....</b>	<b>2</b>
<b>2</b>	<b>Getting Started.....</b>	<b>2</b>
<b>3</b>	<b>Creating a Layout .....</b>	<b>3</b>
3.1	Inserting a Map .....	4
3.2	Inserting a Scale Bar.....	5
3.3	Inserting a North Arrow.....	7
<b>4</b>	<b>Adding another Map to the Layout .....</b>	<b>8</b>
4.1	Changing the Display Options .....	8
4.2	Adding the Second Map .....	9
<b>5</b>	<b>Printing the Layout .....</b>	<b>10</b>
<b>6</b>	<b>Exporting and Importing Layouts .....</b>	<b>11</b>
<b>7</b>	<b>Conclusion .....</b>	<b>12</b>

## 1 Introduction

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The Layout tool can be used to create print layouts of SMS project data. Layouts may contain multiple maps/views of project data as well as annotations, north arrows, and scale bars. The layout tool provides a mechanism for quickly preparing model outputs for reports. A layout template can also be created and used in multiple projects. This tutorial goes over the options available for creating layouts in SMS.

This tutorial will discuss importing a SMS project, creating a layout, printing that layout, exporting a layout template for use in other projects, and importing and using a previously-exported layout template.

## 2 Getting Started

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To begin the tutorial, import the project files:

1. Launch SMS. If it is already launched, press *Ctrl+N* to reset to the default settings.
2. Select *File | Open...* to bring up the *Open* dialog.
3. Select “Project Files (\*.sms)” from the *Files of type* drop-down.
4. Browse to the *data files* folder for this tutorial and select “start.sms”.
5. Click **Open** to import the project into SMS.

The project should appear similar to Figure 1.



Figure 1 Initial project

### 3 Creating a Layout

To create a print layout, do the following:

1. Select *File* / **Layout...** to bring up the *Layout Editor* dialog (Figure 2).

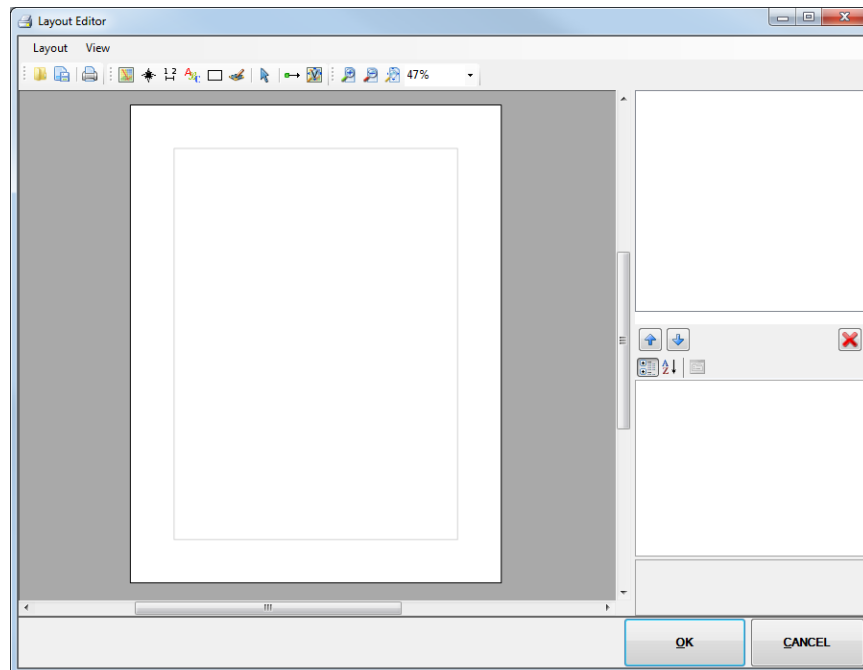








Figure 2 Layout Editor dialog

The *Layout Editor* dialog is similar to the page setup in a word processor. The default page is the typical 8" X 11" in portrait. Choose a different paper size or use landscape by



changing the settings through *File / Page Setup...* and the *Page Setup* dialog. The tutorial uses the default settings for this exercise.

There are 5 basic components that can be added to a layout:

- **Map**  – A view of the SMS data. Multiple maps (different views) may be inserted into a layout.
- **North Arrow**  – A north arrow associated with a particular map.
- **Scale Bar**  – A scale bar associated with a particular map.
- **Text**  – A text box for adding textual information to the layout; multiple text items may be included in a layout.
- **Rectangle**  – Multiple rectangles may be included in a layout.
- **Bitmap**  – A bitmap to insert an image into the layout.

### 3.1 Inserting a Map

Begin by inserting a map into the layout.

1. Click **Insert Map**  to get the  crosshair icon.
2. Click and drag a rectangle as shown in Figure 3.

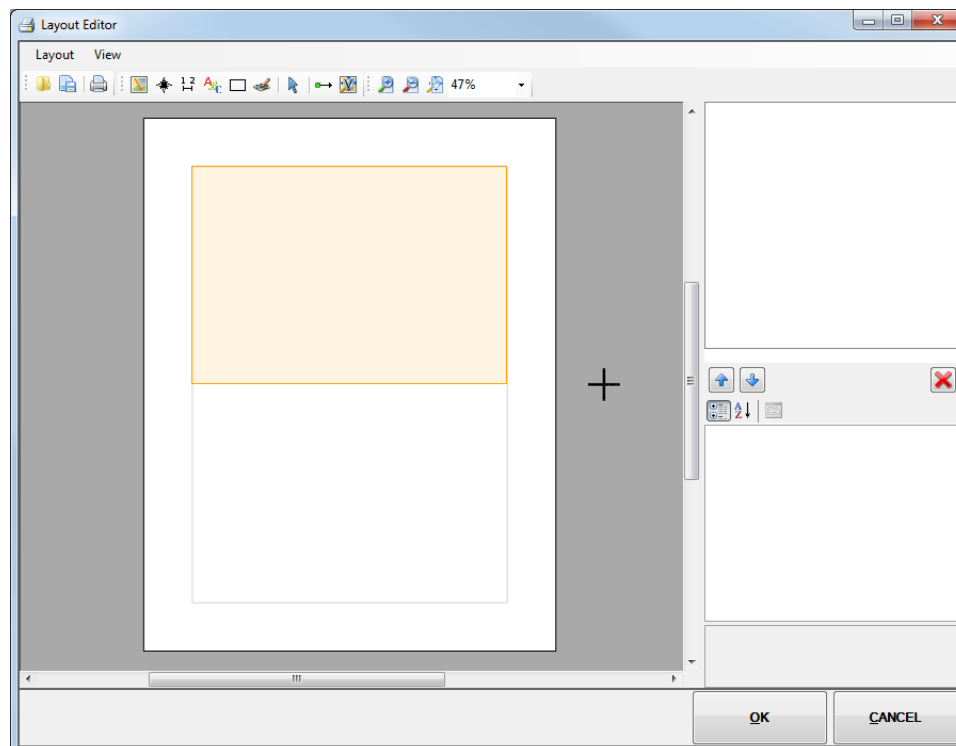


Figure 3 Location of inserted map in Layout Editor dialog

After inserting the map, the layout should look similar to Figure 4.

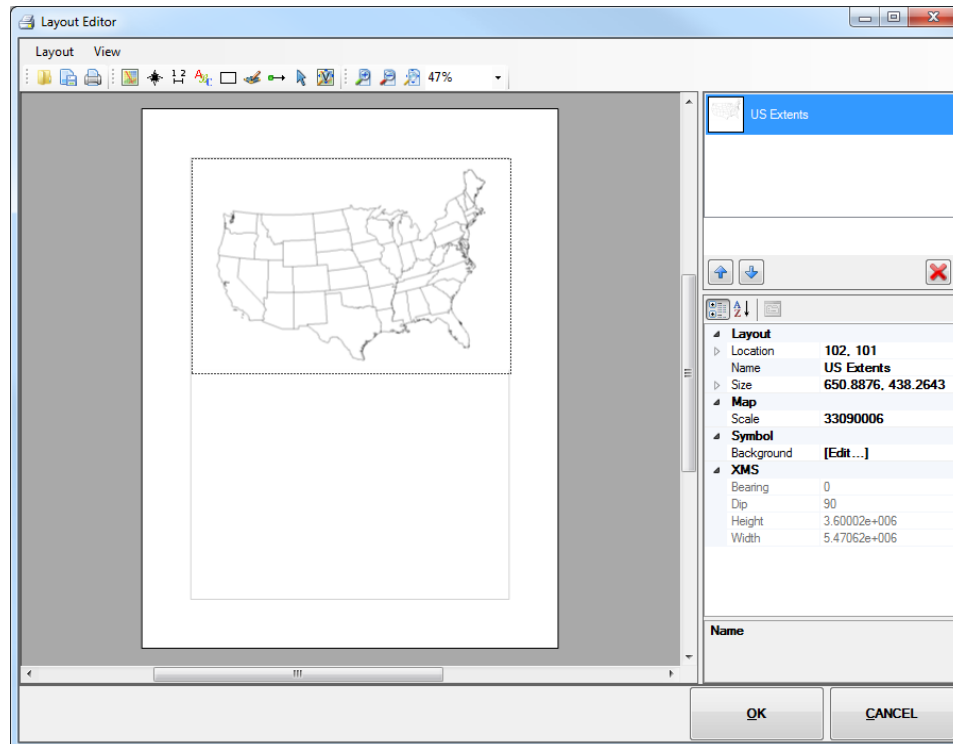


Figure 4 Layout Editor dialog with newly inserted map


On the upper right side of the *Layout Editor* dialog is a thumbnail of the map image labelled “Map 1”. The objects list shows all items that are inserted into the layout. Below the objects list is the properties section, showing the properties for the item selected in the objects list. In this case, the field shows the properties of “Map 1”: *Location*, *Name*, *Size*, *Scale*, and *Background*.

3. In the properties section, enter “US Extents” in the field to the right of *Name*.
4. Select “Map 1” in the objects list above the properties window to cause the name to update.

This map stores the view from SMS in the *Background* portion of the properties. This includes the zoom level and maximum/minimum coordinates that are visible in the current SMS view.

### 3.2 Inserting a Scale Bar

Now to insert a scale bar that will be associated with the “US Extents” map:

1. Select the **Insert Scale Bar**  tool, then click and drag a rectangle as shown in Figure 5.

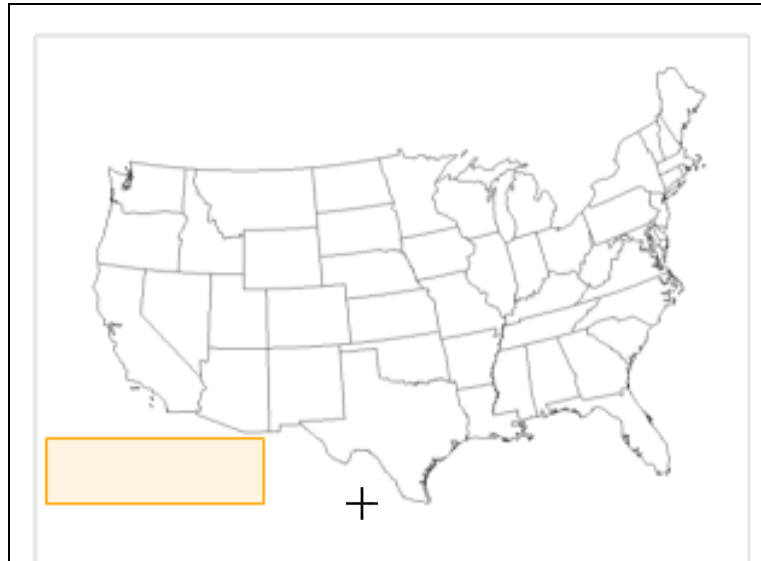


Figure 5 Inserting a scale bar

Once the scale bar is created, the layout should appear similar to Figure 6:



Figure 6 Scale bar inserted into layout

Look at the properties for the scale bar. Notice that one of the properties is *Map*. This indicates that the scale bar is associated with the “US Extents” map. When more than one map is included in the layout, this property is used to assure that the scale bar is associated with the appropriate map.


Another important property for the scale bar is the *Unit*. Currently, the *Unit* is set to “Kilometers”. To see the effect on the scale bar, change the unit to miles.

2. Select “Scale Bar 1” in the objects section.
3. Select “Miles” from the *Unit* drop-down in the properties section.
4. Enter “miles” in the *Unit Text* field.

The scale bar also has options for changing the color, font and adjusting the background. Feel free to explore those options.

### 3.3 Inserting a North Arrow

To insert a north arrow into the layout, do the following:

1. Select the **Insert North Arrow**  tool, then click and drag a rectangle as shown in Figure 7.

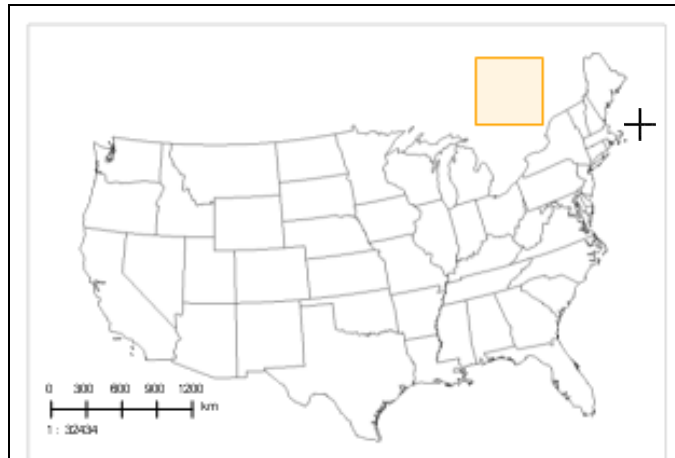


Figure 7 Inserting a north arrow

2. Select “North Arrow Style” in the objects section.
3. Select “CenterStar” from the *NorthArrowStyle* drop-down in the properties section.

Once the north arrow is created, the layout should appear similar to Figure 8. Like the scale bar, the north arrow is associated with a particular map, where *Map* is one of the properties of the north arrow. The style of north arrow can be changed by selecting the *NorthArrowStyle* property and choosing one of the items in the list.




If the north arrow is on top of part of the map, it may be hard to see. The background color for the arrow can be changed using the  button to the right of *Background* in the properties section. The color and pattern style of the background, as well as the opacity of the background and outline, can be adjusted in the *Polygon Symbolizer Properties* dialog that appears when the  button is clicked.



Figure 8 North arrow inserted into layout

4. Click in the *Background* property field. Then click on the  button to bring up the *Polygon Symbolizer Properties* dialog.
5. On the *Simple* tab below the *Pattern Type* drop-down, click the large colored *Fill Color* button to bring up the *Color* dialog.
6. Select cyan (the top color in the blue column) and click **OK** to close the *Color* dialog.
7. Move the *Fill Color* slider all the way to the right to make the color fully opaque (Figure 9).
8. Click **OK** to exit the *Polygon Symbolizer Properties* dialog.

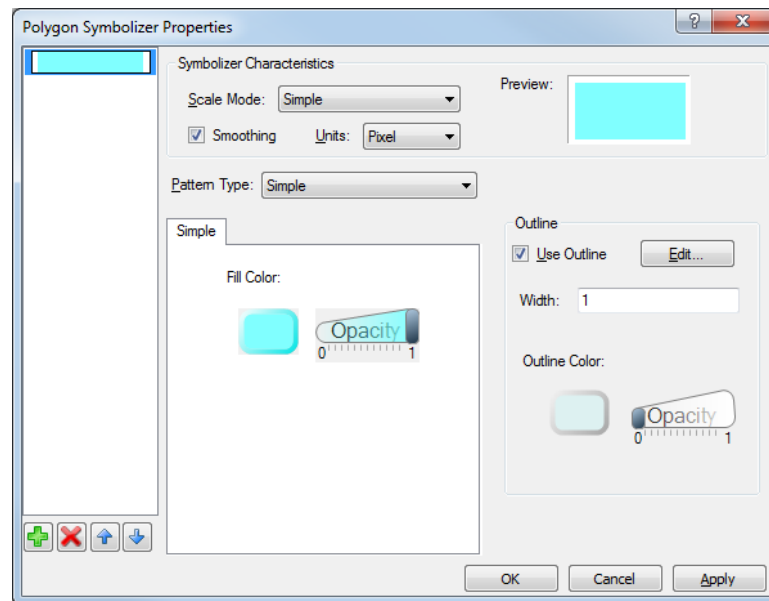


Figure 9 Polygon Symbolizer Properties dialog

Notice that the north arrow now has a cyan background. Inserting text boxes, rectangles, and bitmaps is very similar to the steps described above for north arrows and scale bars, so this tutorial will not go through those steps. Feel free to explore those options later.

9. Click **OK** to close the *Layout Editor* dialog.

## 4 Adding another Map to the Layout

Now add a second map to the layout.

### 4.1 Changing the Display Options

Before adding a second map to the layout, some of the view and display options should be changed.

1. Select *Display | View | Oblique* to change the view.

The Graphics Window should now appear similar to Figure 10.



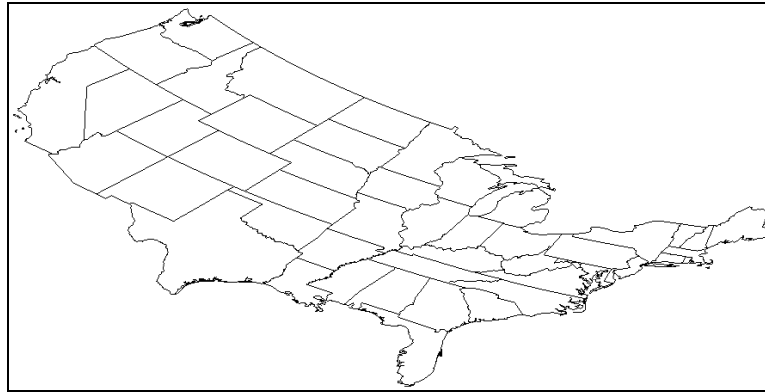






Figure 10 Oblique view of shapefile

2. Click **Display Options**  to bring up the *Display Options* dialog.
3. Select “Map” from the list on the left.
4. Turn on *Node* and *Arc* and turn off *Vertex*.
5. Click the drop-down arrow to the left of *Arc* and select “orange” from the list of colors.
6. Click **OK** to close the *Display Options* dialog.
7. **Zoom**  in to the southeastern part of the United States (see Figure 11).
8. Select *File* | **Layout...** to bring up the *Layout Editor* dialog.


Notice that the inserted map is now displayed in an orange color, with the nodes visible as black dots, in the existing map in the layout. Any map saved in the layout is updated with the current display options.

## 4.2 Adding the Second Map

To add another map to the layout:

1. Click **Insert Map**  to get the  crosshair icon.
2. Click and drag a rectangle filling the bottom half of the page.


The lower half of the *Layout Editor* window should now appear similar to Figure 11.

3. Make sure “Map 1” is selected, then select the **Insert Scale Bar**  tool.

An error message displays stating that scale bars are only supported for plan view maps. However, a north arrow can still be inserted.



Figure 11 Layout with two maps

4. Click **OK** to close the error message.
5. Select the **Insert North Arrow**  tool then click and drag a in the Gulf of Mexico (the area to the left of Florida).

After inserting the north arrow the layout should look similar to Figure 12. Notice that the north arrow is rotated to match the north direction in the map.

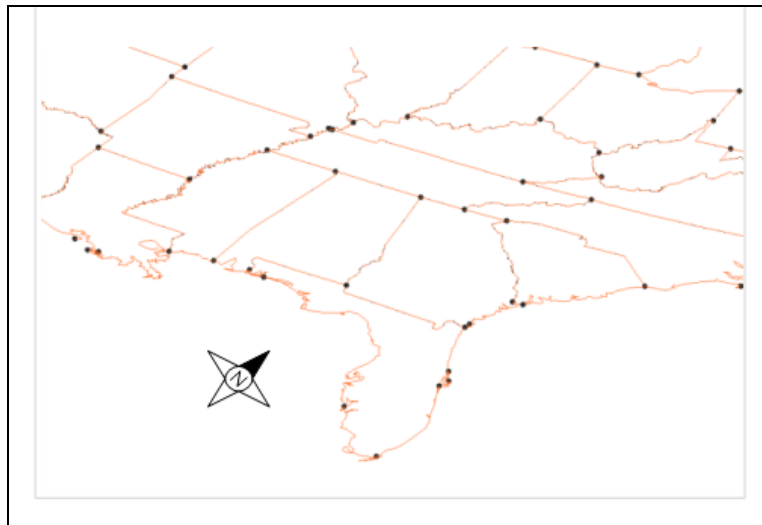


Figure 12 North arrow with oblique view map

## 5 Printing the Layout

To print the layout, do the following:

1. Select *Layout* | **Print...** to bring up the *Print* dialog.
2. In the *Printer* section, select the desired printer from the *Name* drop-down menu.
3. Click **OK** to print the layout and close the *Print* dialog.

## 6 Exporting and Importing Layouts

Layouts can be reused in different projects. Exporting a layout allows it to be used later or in other projects. To export a layout:

1. Select *Layout* | **Export...** to bring up the *Export Layout* dialog.
2. Browse to the *Tutorials\Basics\PrintLayout* directory.
3. Enter “Demo.mwl” in the *File name* field.
4. Click **Save** to export the layout and close the *Export Layout* dialog.

To import a previously-created layout:

5. Select *Layout* | **Import...** to bring up the *Load Print Layout* dialog. (Select **No** if asked to save the current print layout.)
6. Browse to the *Tutorials\Basics\PrintLayout* directory and select “TemplateLayout.mwl”.
7. Click **Open** to import the layout and close the *Load Print Layout* dialog.

The layout should appear similar to Figure 13.

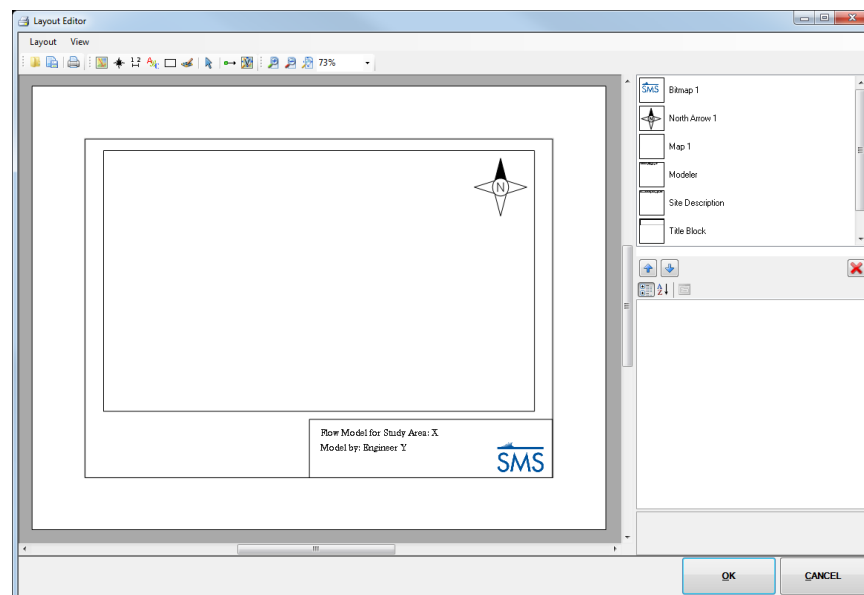



Figure 13 Imported layout

This layout contains a title block with text and a logo as well as a map and a north arrow. To update the map to match the current view in SMS, do the following:

8. Select “Map 1” from the objects list and click **Update Current View** .

The layout should now look similar to Figure 14. Notice that the north arrow updated to reflect the changes made to the map.

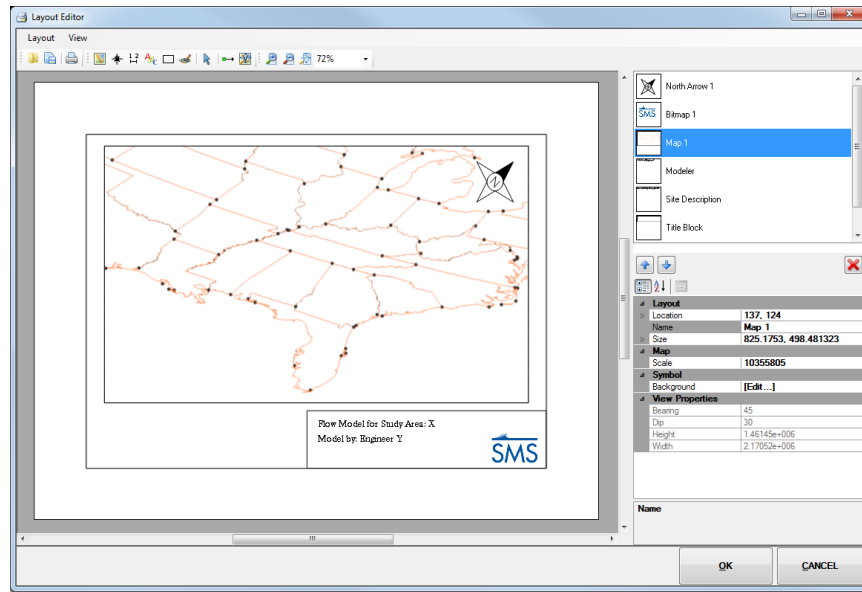


Figure 14 Updated map with north arrow updated

9. Click **OK** to close the *Layout Editor* window and return to the Main Graphics Window in SMS.

## 7 Conclusion

This concludes the “Layout Editor” tutorial. The following topics were discussed:

- How to create print layouts in SMS.
- Inserting multiple maps into a layout.
- Inserting scale bars and north arrow objects in a layout, including that scale bars can only be used with maps in plan view.
- Exporting layouts for use in other SMS projects.
- Importing saved layouts.

Feel free to continue experimenting with the SMS interface, or exit the program.