Application Name:	ODOT_DirtCalc.mvba
Current version:	V10.01.15
Required MicroStation Version:	MicroStation XM or V8i
Required GEOPAK Version:	Not required

ODOT_DirtCalc.mvba is a MicroStation Visual Basic application used to measure areas and end widths on completed cross sections in order to assist the user to generate cross section seeding and earthwork quantities. This application is primarily intended to be used on smaller projects or in situations where the GEOPAK earthwork and seeding quantity functions will not be used.

The application can be accessed by selecting **ODOT > XS Utilities > DirtCalc** from the MicroStation pull down menu, or with the following key-in command:
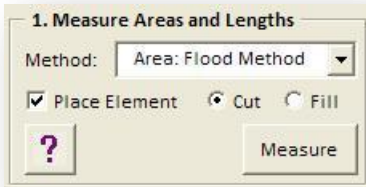
<p style="text-align:center"><code>vba load ODOT_DirtCalc.mvba;vba run DirtCalc</code></p>

Upon initialization, the dialog box below is displayed:
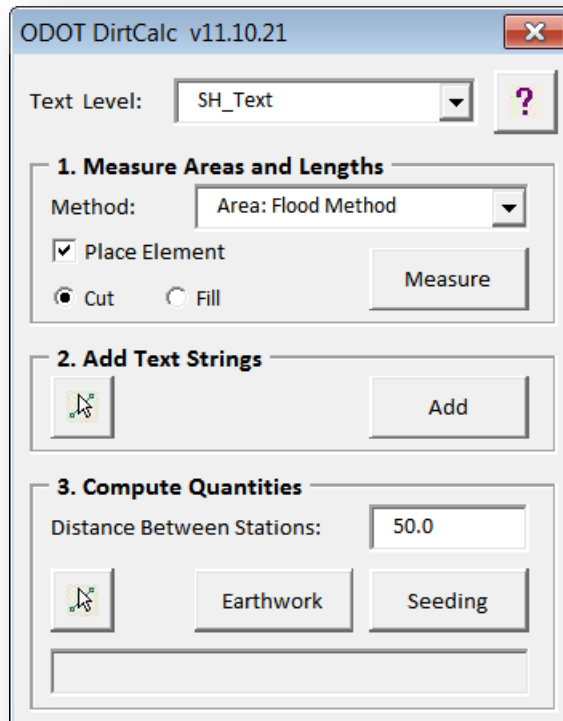
The dialog is separated into three primary sections. Each is described on the following pages.

1. Measure Areas and Lengths

The four methods detailed below are available to measure areas and lengths:

Area: Flood Method
Use this method to measure an area by flooding a closed region drawn in MicroStation. Select the **Measure** button, and then issue a data point inside the desired region. If the **Place Element** option is togged on, a shape will be drawn on the level XS_P_Earthwork_Shapes. Once the area has been selected, a text string will float on the cursor with the value for the area. Place the text at the desired location. The shape and the text are placed as color 1 (blue) if the **Fill** option is selected or color 3 (red) if the **Cut** option is selected. An example is shown below.
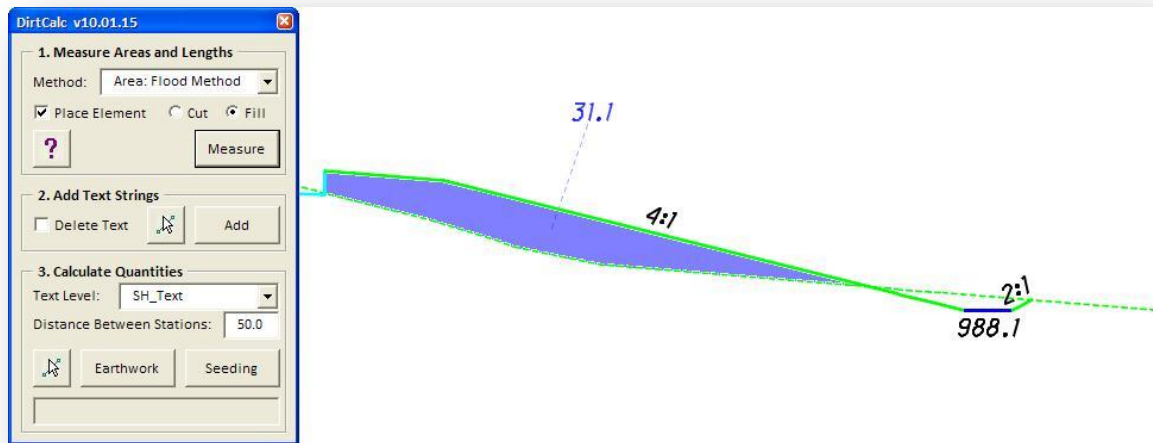
Area: Measure Shape
This option is used to measure the area of shape elements previously placed in the file. Select the **Measure** button, and then identify the previously drawn shape that you wish to measure. Once the area has been selected, a text string will float on the cursor with the value for the area. Place the text at the desired location. The **Place Element** option is not available when the **Measure Shape** method is used,

Length: By Data Points
Use this method to measure a length by issuing a succession of data points. A right-mouse click (reset) will terminate the measurement and a text string representing the specified length will float on the cursor. Place the text at the desired location in the file.

Length: Measure Element
Use this method to measure a length by selecting a previously drawn element. After selecting the desired element, a text string representing the specified length will float on the cursor. Place the text at the desired location in the file.
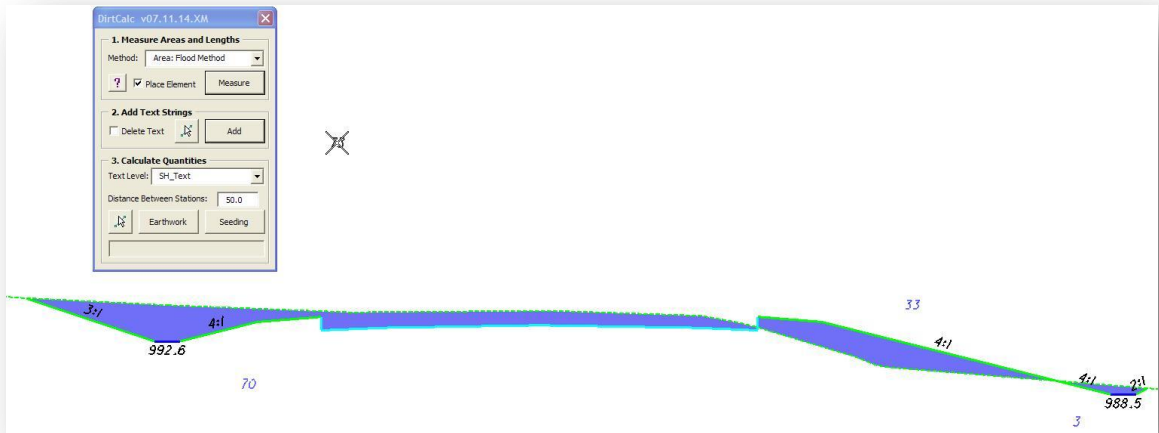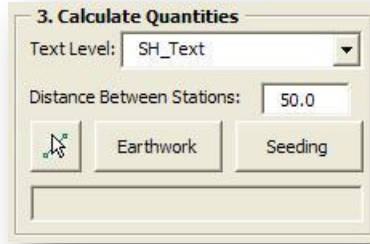
2. Add Text Strings
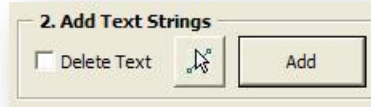
The Add Text Strings portion of the dialog is used to select text elements and add them together. The Delete Text option will delete the selected text strings as they are added together.

This is useful for adding the text previously placed using the Measure options, and placing the text in the appropriate column in the cross section sheets.

In the example below, the quantities 70 and 3, representing cut end areas, were selected and added together for a total of 73. The total is floating on the cursor and ready to be placed at the appropriate location in the active model.

3. Calculate Quantities

This option is used to add end area, or end width, quantities together to generate the earthwork and seeding quantities.

Use the **Select** button to select the text strings that will be used to calculate the quantity. In the example below, the text strings 118 and 92 were selected and added together using the **Earthwork** option to calculate the quantity. The total of 194 is floating on the cursor, ready for insertion in the active model at the specified location.
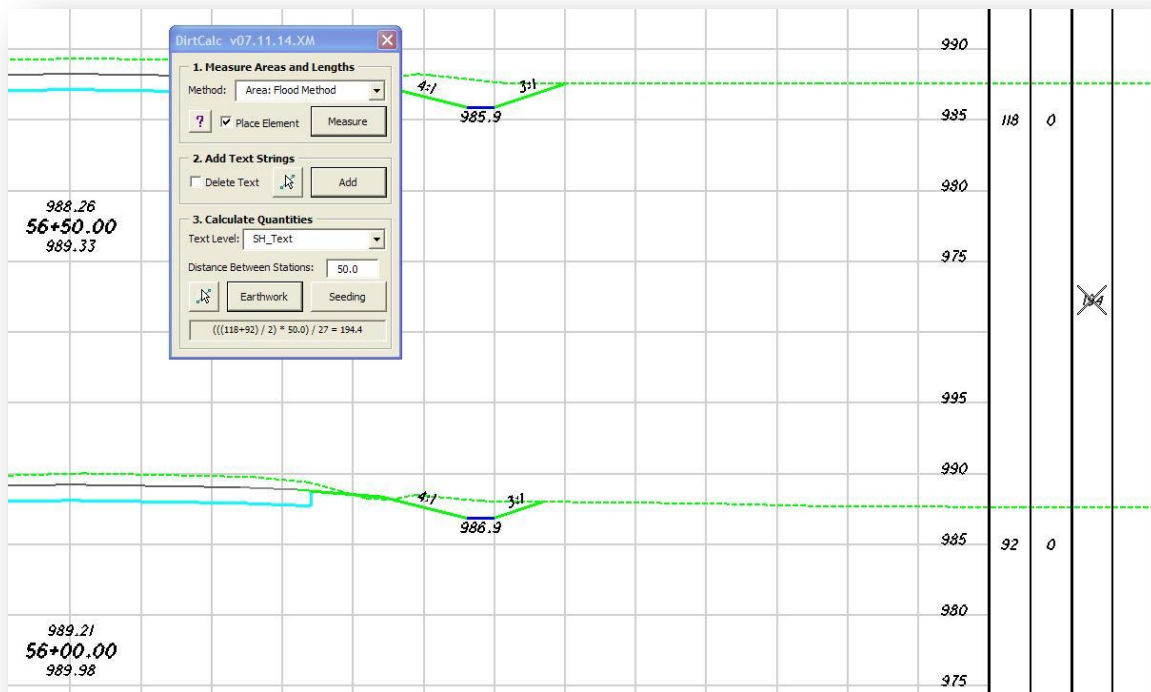
The quantity calculation is shown at the bottom of the dialog box.

Contacts