

<b>Application Name:</b>	ODOT_Signs.mvba
<b>Current version:</b>	V14.07.18
<b>Required MicroStation Version:</b>	MicroStation XM or V8i
<b>Required GEOPAK Version:</b>	GEOPAK XM or V8i

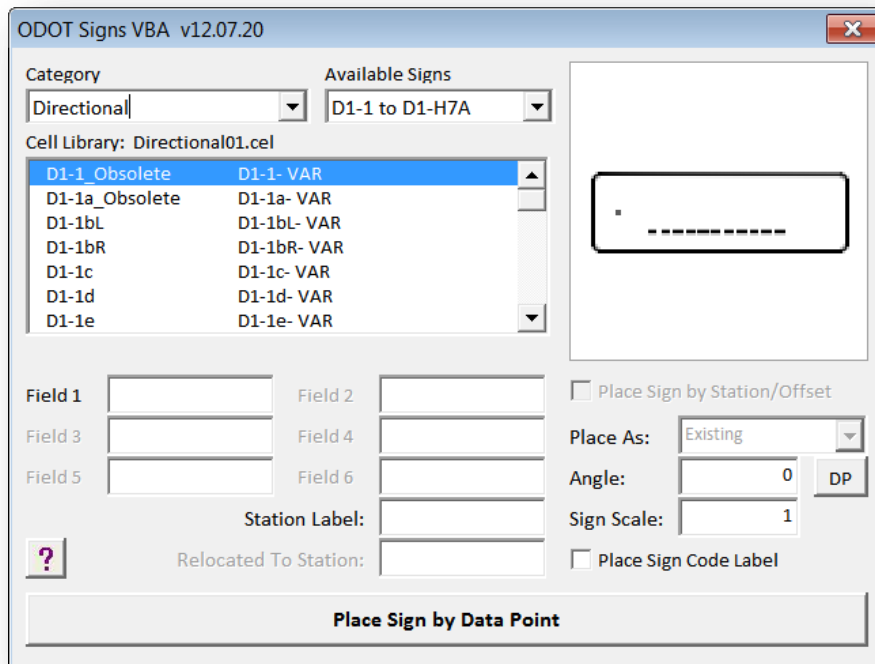
The **ODOT\_Signs.mvba** application is a MicroStation Visual Basic for Applications (mvba) program used to place sign cells that represent standard ODOT road signs. The signs are identified using the naming convention from the ODOT Sign Designs and Markings Manual (SDMM).

Most Guide signs need to be designed separately due to the variability in message or legend content. For most guide signs, there is no standard sign and as such these signs are not supported by this application.

The application can be accessed from the pull down menu by selecting **ODOT > Drafting Apps > Signs**, or by the following key-in command:

```
vba load ODOT_Signs.mvba;vba run placeSignMain
```

The Signs dialog box shown below opened:



The sign cells are contained in numerous cell libraries provided by ODOT. These cell libraries have been developed to include the signs from the ODOT Office of **Roadway** Engineering Sign Designs and Markings Manual. Note if a specific sign is not available in the sign design manual, it is not available in these sign cell libraries.

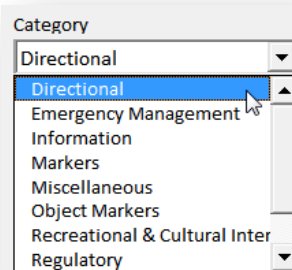
The configuration variable **ODOT\_SIGNS** must be defined to identify the path where the ODOT sign cell libraries are stored. For ODOT users, the variable has been defined as follows:

**ODOT\_SIGNS = \$(V8iSTD)/cell/signs**

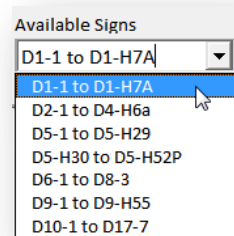
The sign cells were created to be legible on a plan sheet drawing and are not true scale representations of the actual signs. Signs can be placed as existing, proposed, removed, or relocated. The signs cells are placed on the following levels:

<b>Description:</b>	<b>Level Name:</b>
<b>Existing Signs</b>	SN_X_Public
<b>Proposed Signs</b>	SN_P_Signs
<b>Removed Signs</b>	SN_X_Public
<b>Relocated Signs</b>	SN_X_Public

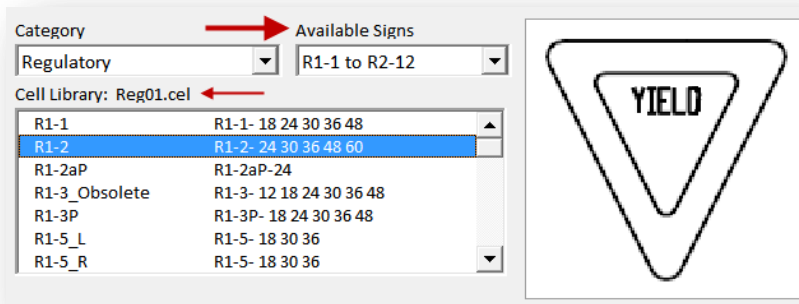
The ODOT Signs have been split into several categories as shown below:



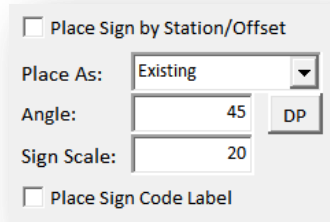
Select the desired **Category** to access the various signs associated with the category. The list of available signs for the selected **Category** is shown in the **Available Signs** list as shown at right.



Each range of cells listed in the **Available Signs** pull down menu represents a separate cell library. After selecting a sign, the list of cells contained in the selected cell library is displayed as shown below. The currently selected sign cell is displayed to the right of the dialog.

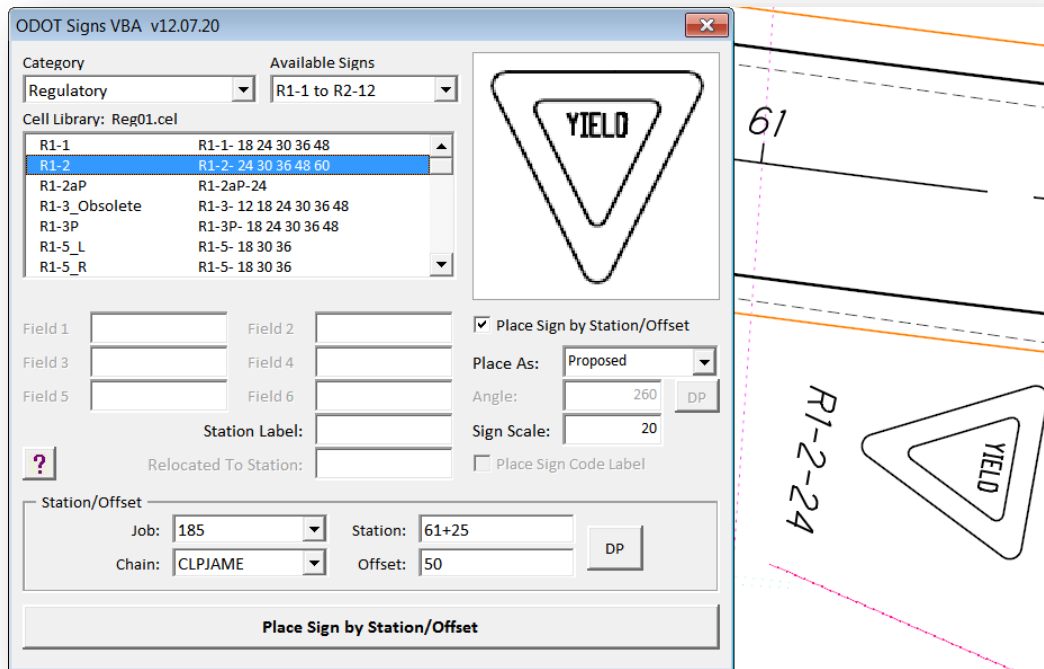


The lower right portion of the dialog as shown below contains various parameters for the sign cell placement. Each is described below.



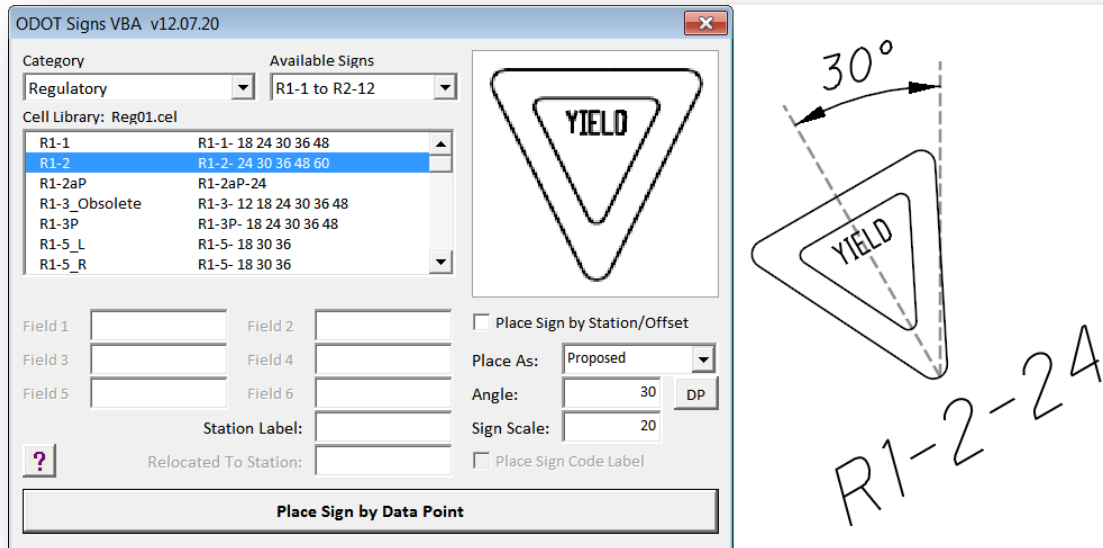
The **Place Sign by Station/Offset** function has been removed from the application.

The **Place Sign by Station/Offset** option is used to place the sign by a station and offset relative to a selected GEOPAK COGO Chain. GEOPAK must be activated in order to use this option. When this option is selected, the dialog dynamically changes as shown below:



Select the **Job** number and the **Chain**. Key in the **Station** and **Offset** values, or use the **DP** button to dynamically select the station and offset location by data point. Select **Place Sign by Station/Offset** to place the sign cell in the MicroStation file at the specified station and offset as shown in the example above. Note that the sign cell is placed rotated in relation to the centerline **Chain** read in the direction of travel. The **Angle** option is unavailable when placing signs by station and offset.

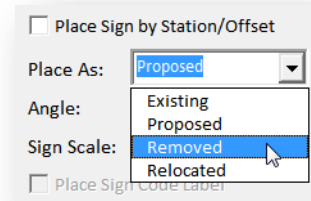
The **Angle** key-in field is used to specify the rotation angle for the sign cell placement. The angle for sign placement is measured counter-clockwise from the vertical axis of the sign. An example is shown below:



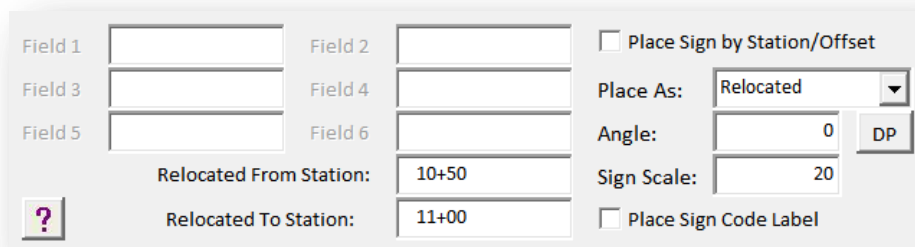
The **DP** button can be used to graphically set the sign placement **Angle** by identifying two data points in the MicroStation file representing the sign angle.

The **Sign Scale** key-in field is used to set the scale factor for sign placement. This value is set to be the current Model Annotation Scale by default.

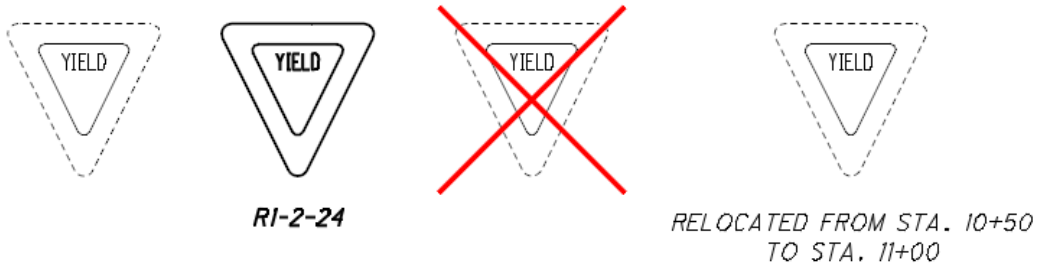
The **Place As** menu is used to select whether signs are placed as **Existing**, **Proposed**, **Removed**, or **Relocated** as shown at right:



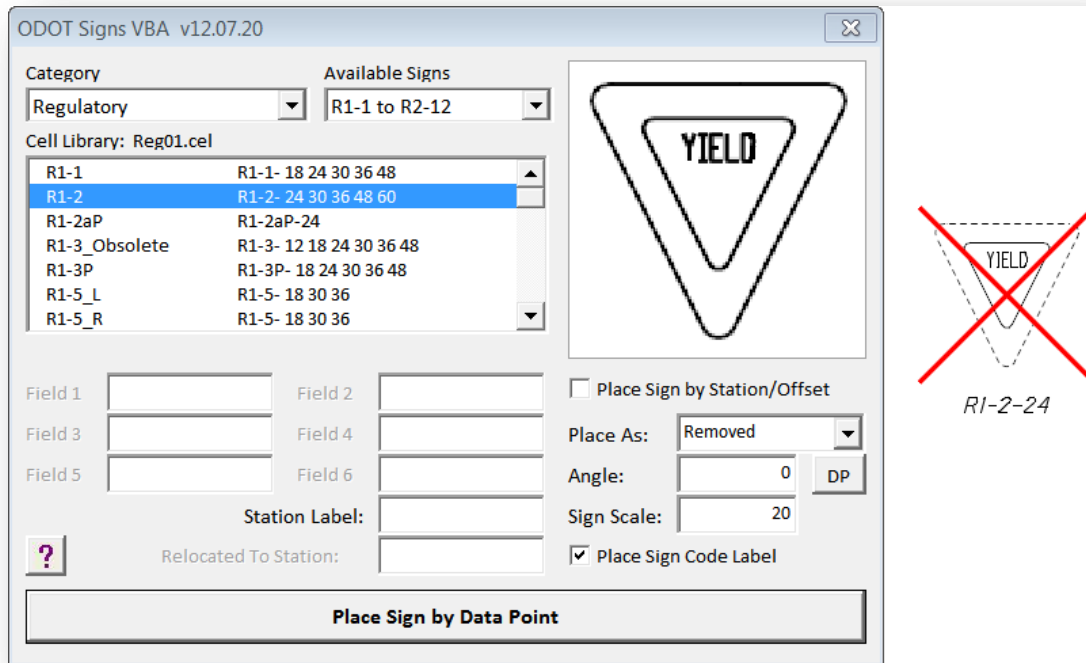
When the **Relocated** option is selected, the **Station Label** portion of the dialog changes to allow you to key-in the **Relocated From Station** and **Relocated To Station** values as shown in the partial dialog clip below:



An example of each sign placement option, **Existing**, **Proposed**, **Removed**, and **Relocated** is shown from left to right below:



The **Place Sign Code Label** toggle button is used to specify whether the sign name will be placed with the cell. Toggle the option on to place the sign name beneath an **Existing**, **Removed**, or **Relocated** cell. An example is shown below:



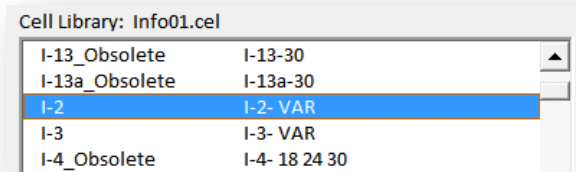
The sign code includes the size of the sign. Some signs are available in only one size, while others are available in a variety of sizes. Signs with a fixed size will automatically place the correct sign size as a part of the sign name. For signs with variable sizes, depending on the sign selected, the application will prompt you to select the sign size from a preset list, or to key-in the sign size.

**Tip:**  
The sign name is always placed for proposed signs. The **Place Sign Code** toggle is only available when placing existing or removed signs.

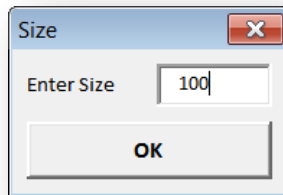
The sign description has been set up to control whether the sign is available in a set size, a preset list of variable sizes, or a user defined variable size. An example of each is shown on the following page.

### Variable Sized Signs

Variable sized signs include the text “VAR” in the cell description as shown in the example below:



The first part of the description, I-2-, is the sign name. When the cell is placed, the user is prompted to enter the size for the sign as shown below:



When the sign is placed, the size is included with the sign name as shown below:

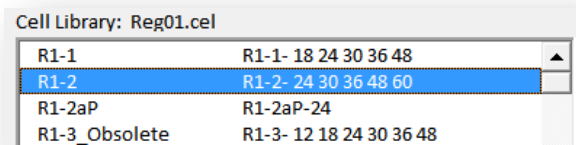


*I-2-100*

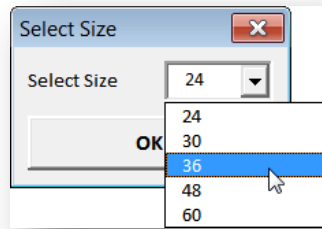
### Variable Sized Signs from a Preset List

For a variable sized sign that is available in a preset list of sizes, the cell description will contain a list of available sizes. For example, the Regulatory sign R1-2 has the following description:

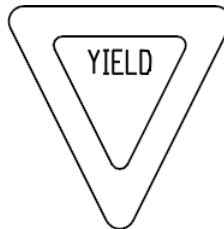
**R1-2- 24 30 36 48 60**



The first part of the description, R1-2-, is the sign name. The available sizes are separated by spaces. When a sign with this type of description is placed, the application will prompt the user to select the desired sign size during sign placement as shown on the following page.



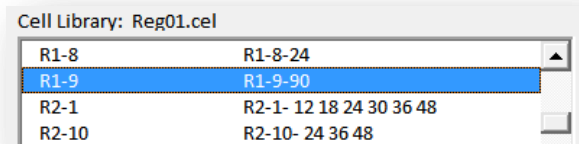
The drop down list of available sign sizes is generated from the cell description. After selecting the desired sign size, the application will place the sign name using the selected size as shown in the example below:



*R1-2-36*

**Fixed Size Signs**

Fixed size signs include the sign size in the description as shown in the example below:

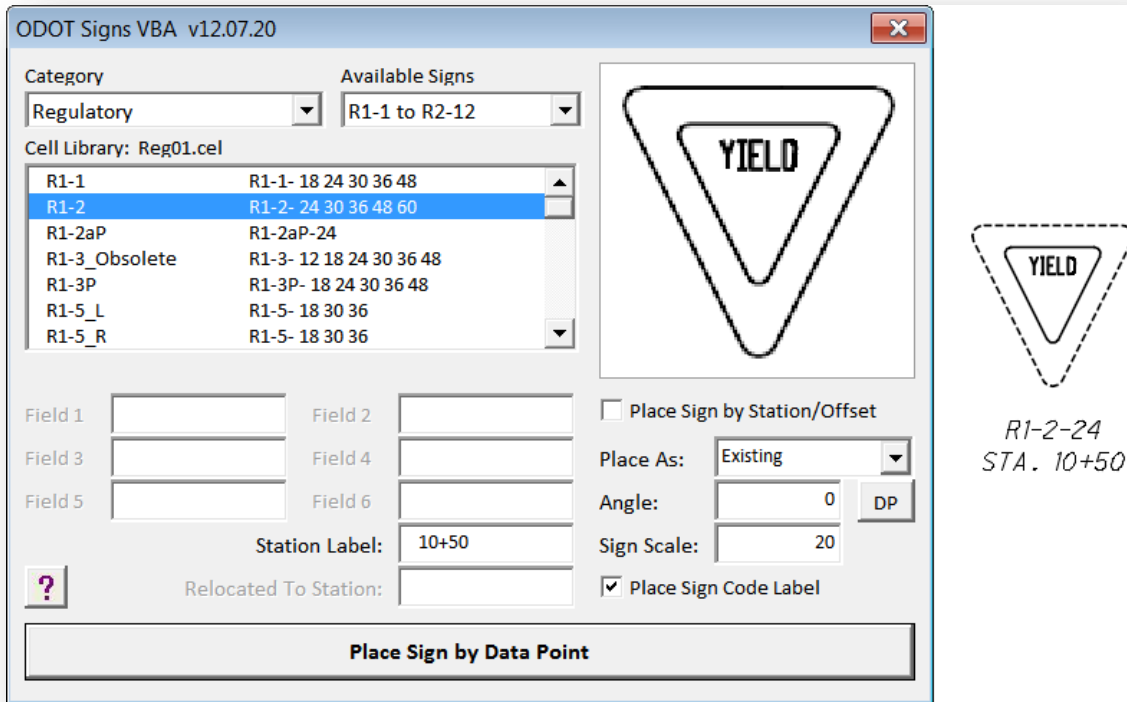


The description is placed for the sign name as shown below:



*R1-9-90*

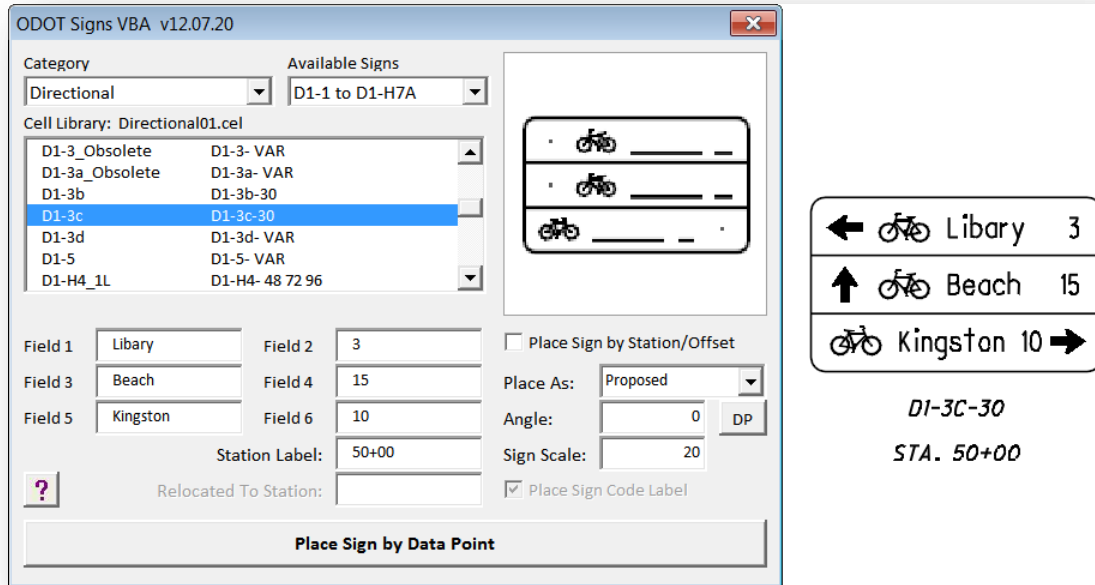
The station for a sign can also be placed in the design file by use of the **Station Label** key-in field. Key in the station value and place the sign. The station is placed below the sign code label as shown in the example below:





**DATA FIELDS**

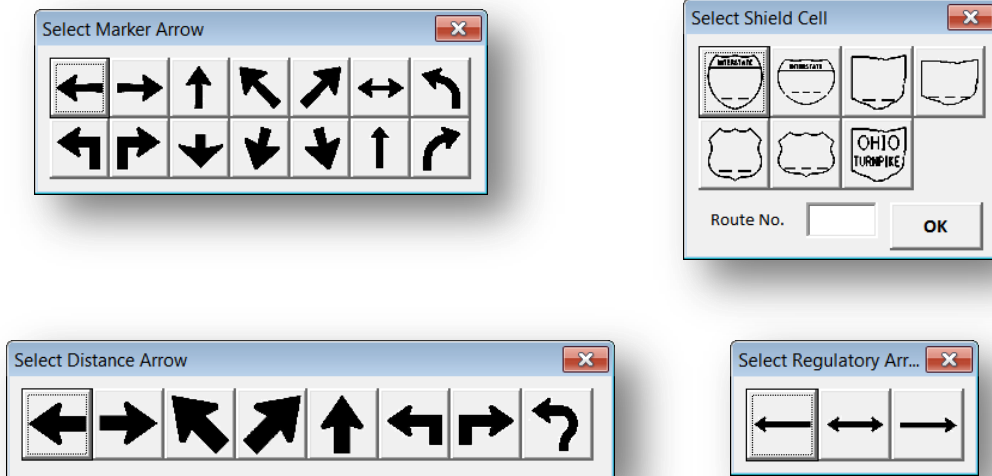
Many sign cells include Data Fields for the text content of the sign. The data fields contained within the sign cell correspond to the six key in fields on the lower portion of the *ODOT Signs VBA* dialog as shown below:



The dialog key-in fields correspond to the data fields in the cell, oriented from left to right, top to bottom. Each field is un-ghosted as necessary for the selected sign. The completed sign is shown at right in the example on the previous page. The dialog fields are cleared when a new sign is selected from the list.

## ARROWS AND SHEILDs

After the sign cell has been placed in the design file, if the selected sign requires an arrow or a shield, you will be prompted to select the arrow or shield by one of the four dialogs shown below:

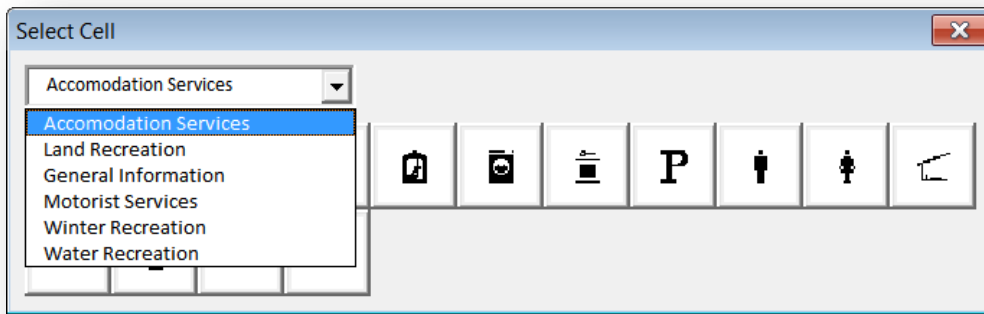


To select the desired arrow, simply click the icon in the dialog. The arrow will be placed on the cell and the dialog will close. If another arrow is required by the sign, you will be prompted to select another arrow.

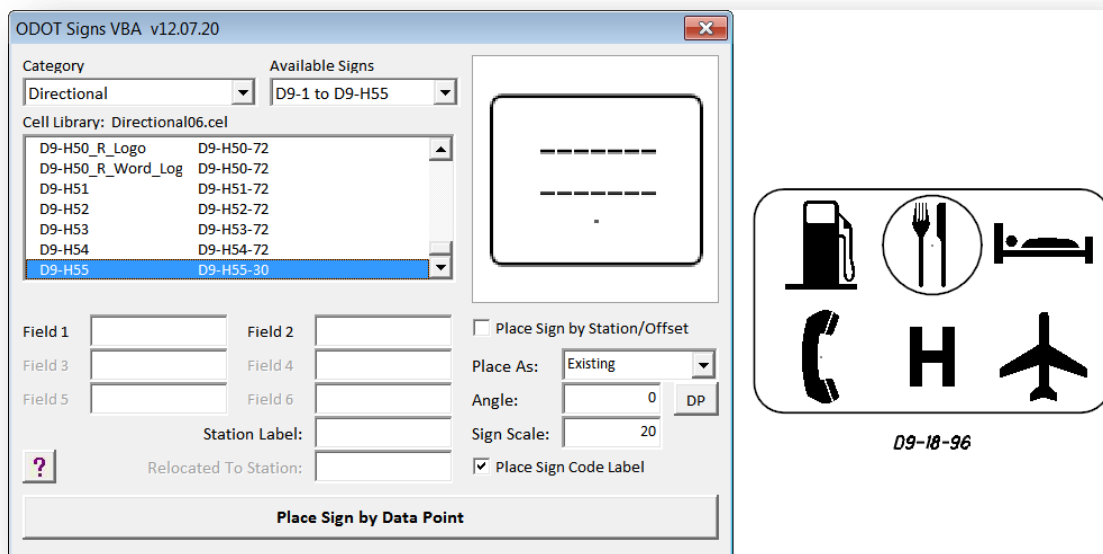
To place a shield, select the shield, key-in the route number, and then select the **OK** button. The shield cell will be placed on the sign.

**Recreational and Cultural Interest Symbols**

The following symbols are available when placing signs that require informational services:



An example of a sign using symbols from the different informational category groups is shown below:



**Contact Information:**

If you have any questions, suggestions, or problems please contact the ODOT Office of CADD and Mapping Services CADD Support team or use the following form on the ODOT web site at:

<http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD/Pages/suggestions.aspx>