

# Legend and Symbol Information Sheets

Design Manual  
Chapter 21  
Automation Tools  
Instructions

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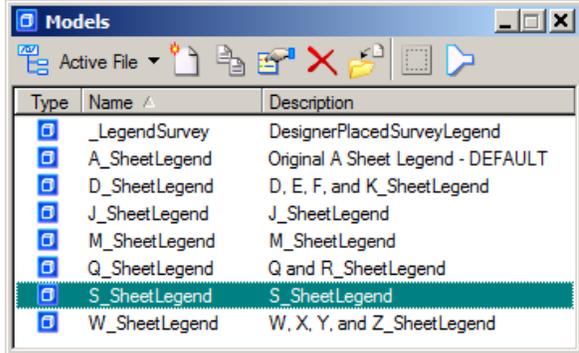
This section contains information pertaining to the preparation of **Legend and Symbol Information Sheets**, (hereinafter referred to as the **Legend Sheet**). Since plans contain multiple color sections, multiple **Legend Sheets** must be included to define the use of color across those sections. The following list of **Legend Sheets** shows which sheet letter series is covered by each one.

- Plan and Profile **Legend Sheet** – Covers sheet series D, E, F, and K
- Traffic Control and Staging **Legend Sheet** - Covers sheet series J
- Storm Sewer **Legend Sheet** - Covers sheet series M
- Soils **Legend Sheet** - Covers sheet series Q and R
- Sidewalk **Legend Sheet** - Covers sheet series S
- Cross Section **Legend Sheet** - Covers sheet series W, X, Y, and Z

Refer to Section [1F-5a](#) for more information on Plan and Profile Legend and Symbol Information Sheets.

The **Legend Sheet** seed file, for the creation of a new **Legend Sheet**, is accessed through the [CopySeed program](#). The seed file contains several models, each of which has a **Legend Sheet** for the specific sheet series, as shown at the right. The designer should name the file **CCRRRPPP\_lgd.sht** and should only need to enter data into the **\_LegendSurvey** model.

The “CCRRRPPP” Design File Naming convention, refers to the 2-digit **C**ounty, 3-digit **R**oute, and the 3-digit project **P**arenthesis number assigned to the project. See Design Manual section [20A-1](#)



Type	Name	Description
	_LegendSurvey	DesignerPlacedSurveyLegend
	A_SheetLegend	Original A Sheet Legend - DEFAULT
	D_SheetLegend	D, E, F, and K_SheetLegend
	J_SheetLegend	J_SheetLegend
	M_SheetLegend	M_SheetLegend
	Q_SheetLegend	Q and R_SheetLegend
	S_SheetLegend	S_SheetLegend
	W_SheetLegend	W, X, Y, and Z_SheetLegend

## Creating a List of Project Specific Survey Symbols

Legend sheets are to contain a list of project specific survey symbols. To create this project specific list, begin by attaching references of the **Field\_TOPO\_0100** model of the **.sur** file, and/or the **TOPO\_0100** model of the **.pho** file to the **\_LegendSurvey** model. **Clip** the referenced information to include only the information specific to the current project. Using the **Design and Computation (D & C) Manager**, run the **Legend\_Create** tool, located as shown below:

```
D&C Manager (using the DesignV8.ddb file) >
  Design Files >
    All Files >
      ODAC Tools >
        Sheeting Tools >
          Legend_Create
```

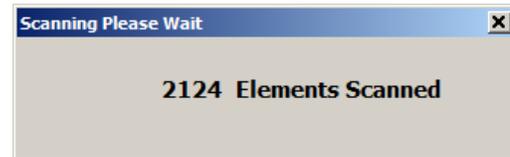
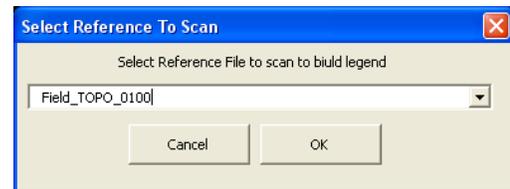
**NOTE:** The **Legend\_Create** tool is intended to be used at 100 scale with 100 scale references from the **.pho** and **.sur** files.

The **Legend\_Create** tool is intended to be used in the **...lgd.sht** file, and an error message will display if it is accessed from within any other file type.

After starting the **Legend\_Create** tool, the **Select Reference to Scan** dialog should display, as shown at the right. Using the drop-down selection arrow, *select* the **Field\_TOPO\_0100** model or the **TOPO\_0100** model.

If both the **.pho** and **.sur** files are used to generate the survey symbols, this process must be done for each reference individually. **NOTE:** If the process is run twice, the first set of data must be moved before the second set is placed directly on top of it.

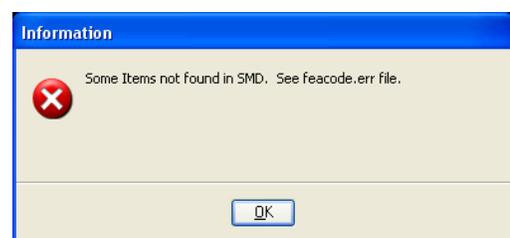
*Click* the **OK** button, above. The **Scanning** process may take a few moments to complete. While it is running, the dialog shown at the right should appear, indicating the program progress.



The **Place Legend** dialog, shown at the right, will display at the same time as the **Information** dialog shown below. It is merely displaying the text parameters that have been set by the program. No action can be taken on this dialog, and it will disappear when the **Information** dialog **OK** button is *clicked*, shown below.



The **Information** dialog box, shown at the right, will probably always appear after the legend creation process is complete. It warns of the creation of the "**feacode.err**" file. (See below for instructions on reading the "error" file) *Click* the **OK** button to continue.



The warning, at the right, indicates that symbols were discovered in the **Field\_TOPO\_0100** model and/or **TOPO\_0100** model that do not appear in the **SMD** file. However, these symbols may be available through **D & C Manager**, which indicates that **D & C Manager** and the **SMD** are out of sync. Using the Notepad program, open the **feacode.err** file, (stored in the same location as the **\_lgs.sht** file). Review the information in the file to determine if additional symbols should be added to the legend. The figure below shows a sample of a **feacode.err** file. The text in parenthesis relates to programmatic decisions made about each feature that was not found in the **SMD**.

```

LEGEND -- Feature [TLN] not found in SMD (In D&C Manager--out of sync with SMD--Contact ODAC)
LEGEND -- Feature [PVP] not found in SMD (In D&C Manager--out of sync with SMD--Contact ODAC)
LEGEND -- Feature [FB] not found in SMD (In D&C Manager--out of sync with SMD--Contact ODAC)
LEGEND -- Feature [Brush & Trees] not found in SMD (Descriptive text--omit)
LEGEND -- Feature [Building] not found in SMD (Descriptive text--omit)
LEGEND -- Feature [House] not found in SMD (Descriptive text--omit)
LEGEND -- Feature [Garage] not found in SMD (Descriptive text--omit)
LEGEND -- Feature [Shed] not found in SMD (Descriptive text--omit)
LEGEND -- Feature [CULLPLOT] not found in SMD (Linestyle--omit)
LEGEND -- Feature [PNP] not found in SMD (Linestyle--omit)
LEGEND -- Feature [Silo] not found in SMD (Descriptive text--omit)
LEGEND -- Feature [Pond] not found in SMD (Descriptive text--omit)

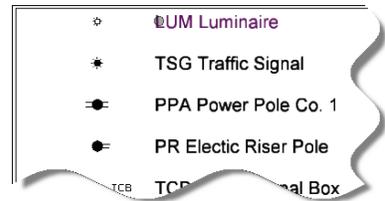
```

**NOTE:** The **Legend\_Create** program is unable to override the settings defined in the **SMD** file, so the text corresponding to the **Survey Symbol** list may have incorrect attributes that must be changed manually. The correct attributes for text corresponding to the survey symbol list are:

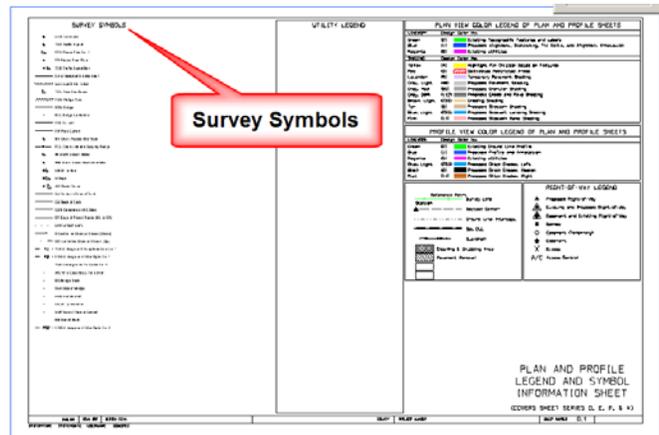
Level: dsnTextFinalPlan (ByLevel settings) Font: 36 Road\_Design\_General (Th: 13, Tw: 13)

To add any of the missing symbols to the **Survey Symbol** list, see the instructions in [Correcting the Survey Symbol list](#) section, found below.

When the above mentioned Scan process is complete, a list of project specific survey symbols will have been generated at the lower left corner of the **\_LegendSurvey** Model. The list of **Survey Symbol** items will be located within two vertically stacked boxes (not shown here) that represent two possible columns of data to be referenced to the **Legend Sheet**. A partial list example is shown at the right.



The **Survey Symbol** list, (mentioned above), will be automatically referenced to the left side of the **Legend Sheet** in the **D, M, Q,** and **S\_Sheet Legend** models, as shown at the right.

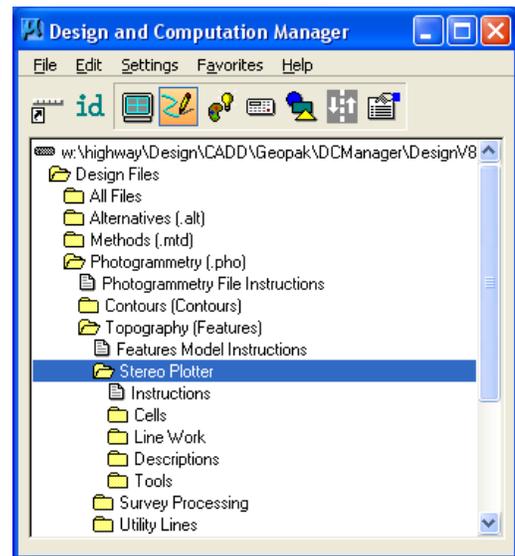


If the list of symbols is long enough, it will be referenced to the **Legend Sheet** in two columns. The layout of the legend sheets accommodates only two columns of survey symbols.

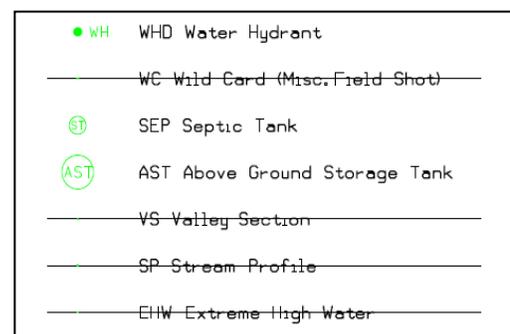
### Correcting the Survey Symbol list

For the purpose of the display on the **Legend Sheet**, the line styles used in the **\_lgd.sht** file **Survey Symbols** list are scaled by a factor of five for the 100 scale file, but the symbols (cells) in the legend are copied at the same scale as in the **.sur** and **.pho** files.

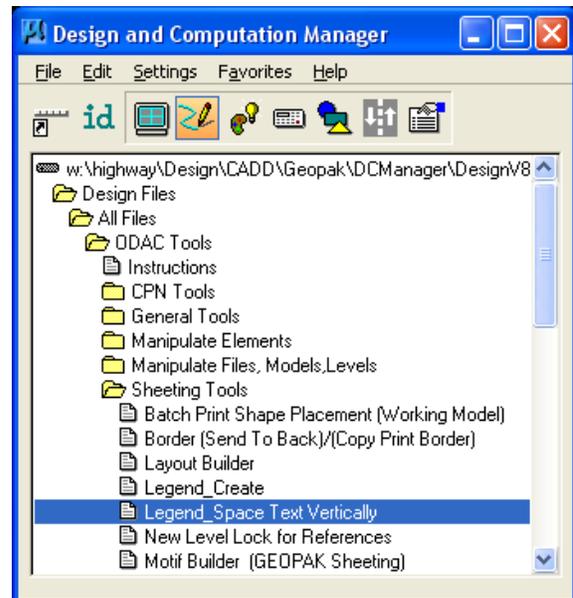
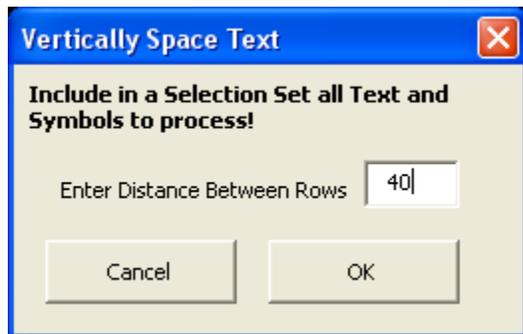
To correct any erroneous symbols, use the utilities that are found in the **Stereo Plotter** folder of the **D & C Manager**, as shown at the right.



The **Survey Symbols** in the **\_LegendSurvey** Model, generated by the **Legend\_Create** tool, should be checked to make sure erroneous items are not present. Unnecessary items, such as those that have been crossed out in the example at the right, should be removed from the legend. Any other line styles that are unnecessary for this **Survey Symbol** list, such as “back of curb” and “sidewalk”, should also be removed. The remaining items should be manually moved upwards in the list to close up the gap(s) caused by removing unwanted items and to maintain consistent spacing between items. (Spacing is set at a 40 ft increment.) See below for details on realigning the remaining items.

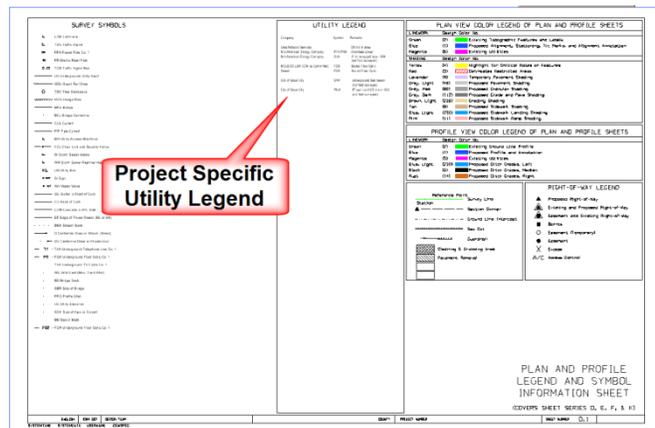


To realign the items to maintain the original 40-foot spacing, after erroneous items have been removed, use the **Legend\_Space Text Vertically** Tool from **D & C Manager** as shown at the right. First, create a selection set of all symbols and text and then input '40' into the '**Enter Distance Between Rows**' field as shown below. *Select* the **OK** button.



## Creating a Project Specific Utility Legend

The symbols in the **Project Specific Utility Legend** list provide Utility Ownership information, unlike the generic information in the **Survey Symbols** list. Utility information should be placed in the **Utility Legend** Box in the **\_LegendSurvey** model. The Utility Ownership information is first referenced from the **Field\_G\_Sheets** model of the **.sur** file. The referenced Utility information should then be copied to the **\_LegendSurvey** model. It should be edited, as appropriate, to include only the utilities that pertain to the current project limits. The Utility information is to be placed in the center of the Legend Sheet, as shown at the right.



If Utility Contact Information is available (found in the **Project Scheduling System [PSS]** and limited to the project specific utilities by the District Utility Coordinator), then that information should be input manually into the Utility Legend Box. This information includes the utility contact's name, as well as the company address, phone number, and email, if available. Refer to the [sample](#) legend and symbol information sheet for further guidance.

For direction on how to obtain utility contact information from **PSS**, refer to Section [21A-503](#).

If the utility contact information obtained from PSS is not a one-to-one match with the utility legend from the **Field\_G\_Sheets** model, then the designer must contact the District Utility Coordinator for updated contact information. If the District Utility Coordinator does not provide updated contact information, only the information provided in the **Field\_G\_Sheets** model may be shown in the legend.

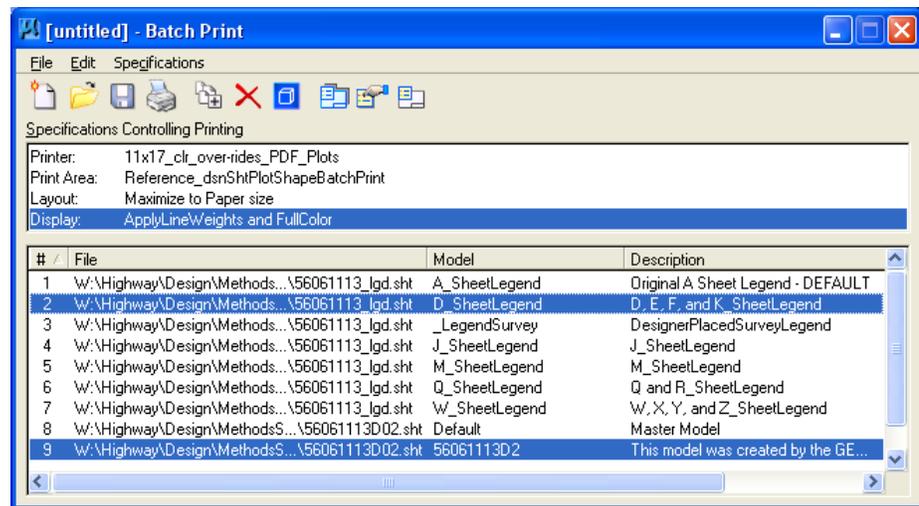
**NOTE:** Designers must input survey symbols and a utility legend that are specific to the current project. This may or may not include the entire surveyed area.

## Legend and Symbol Information Sheet Batch Printing

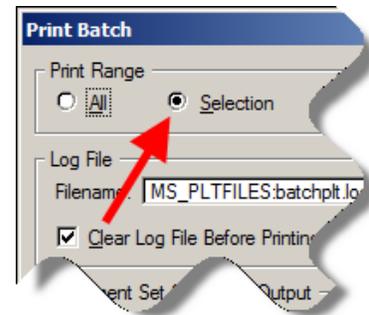
The **Legend and Symbol Information Sheet** (Legend Sheet) is normally the first sheet of the associated series of sheets and should be numbered accordingly, such as **D.1**, **M.1**, etc. However, an exception to this rule is that the **Legend Sheet** for the Traffic Control and Staging information is to follow the tabulation sheets in the “**J**” sheet series, as instructed in Section [1F-10](#). This will cause the “**J**” **Legend Sheet** to be embedded in the middle of the “**J**” sheet series, and numbered accordingly.

To Batch Print a **Legend Sheet** with the other sheets associated with the same sheet letter, both the **\_lgd.sht** file and the other **.sht** file(s) are to be added to the “Print List” during the Batch Print procedure setup. In the **Batch Print** dialog, as shown below, the order of the models can be changed by “dragging” a model name up or down to any specific location in the list. The models should be arranged so the **Legend Sheet** is in the proper print location with respect to the other sheets.

The **Batch Print** dialog, shown below, is an example of printing the D sheet series with the Plan and Profile **Legend Sheet**. Unnecessary Legend models should normally be deleted from the batch print listing.



If the unwanted models are not deleted from the list, then only the models to be printed should be selected. After **File > Print** has been initiated from the dialog shown above, the **Print Range** option should be toggled to ‘**Selection**,’ as shown at the right.



For further information on MicroStation Batch Printing, refer to Section [21E-1](#).

# Chronology of Changes to Design Manual Section:

## 021A-052 Legend and Symbol Information Sheets

9/30/2011	Revised Corrected graphic examples and links.
7/5/2011	Revised Updated to include vertical spacing tool , utility contact information, 'S' Sheet information, and link to sample legend sheet.
3/23/2011	NEW New Section