TPC Desktop Series

Quick View™ Learning Guide

2/20

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https://traverse-pc.com
Learning Center: Quick View™
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Typography
We will be using the following typography to distinguish items in the text:

[Enter]       Brackets indicate keys on the keyboard.

Italics are used to highlight words for more emphasis.

Lot 2          Numbers or text that you enter or will see on the screen.

System Requirements
This version of TPC Desktop requires Windows 10 / 8.1 / 8 or later. We recommend you have 2 GB of RAM (32-bit OS) 4 GB RAM (64-bit OS) and 60 MB of free hard disk space in which to install the program. An internet connection is required for program validation.

Important Licensing Information
Our License Agreement allows you to use TPC on only one computer at a time unless you purchase additional licenses. We do offer one courtesy installation for an additional home or field computer, but not for a second user and assuming that the two programs are not being used at the same time. To request a courtesy license contact Traverse PC.

Using the Learning Guide
Welcome to the TPC Desktop Learning Guide. It’s designed to help you learn how to do everyday tasks with Traverse PC Desktop.

The Learning Guide is divided into chapters highlighting function areas within the program. Within each chapter you’ll find step-by-step instructions on how to do the most common tasks like adding a line to a legend or adding angled text to a drawing. We’ve also included useful hints to help you work more efficiently in TPC and references to the on-line Help so you can continue to learn after you have used the Learning Guide.

Almost all of the topics in the Learning Guide apply to all Editions of Traverse PC Desktop. The ones that are limited to specific Editions are clearly labeled, usually at the start of the chapter. Some specific functions are limited to specific Editions and are clearly labeled as such when the function is discussed in the text.

This chapter demonstrates
Each chapter starts with a list of the things demonstrated in the chapter. This list corresponds with the individual tasks in the chapter.

Not available in some Edition
Each chapter has an indication like this at the start if it only applies to specific Editions.

- **We provide the starting file**
Most chapters start by having you open one of the tutorial files provided with the Learning Guide. Just open the file and jump right in.

- **One page per task**
Most of the tasks fit on a single page. Review all the tasks in a chapter first, then work through the tasks that are of interest to you. When you add up all the tasks in all the chapters there are literally hundreds of lessons in the Learning Guide.

- **Follow the steps**
Most tasks include steps for you to follow. Each task starts with step 1.

- **Menu commands only**
For the most part, the Learning Guide will include something like, choose File | Save. The bold typeface indicates text you’ll see on the screen. In this case, you would left-click the File menu to open it, then left-click the Save command to execute it. “Choose” means to left-click on a specific item.

As you become familiar with Traverse PC Desktop you can also use the short-cut keys and tool bars.

- **Windows Styles**
Depending on your version of Windows and what visual styles you have selected, your dialogs and screens may look different than what is shown in this Learning Guide. We include styles common in Windows 8, 7 and Vista in this learning guide.

Windows 8 / Windows 10 Style
Introducing Quick View™ Technology

Overview

For surveying and mapping, Quick View™ is a better way to do CAD (Computer Aided Drafting). You will use Quick View™ to create your survey drawings (much like you might use a CAD program) but you will also use Quick View™ to view the data from your data collector, analyze deeds, check the coverage of a TOPO survey, verify the drainage pattern of a subdivision, place a house on a lot and much more.

We hate to call it CAD. Here are a couple of the reasons why:

- With most CAD programs, you have to draw the lines, insert the symbols, add the text and so on - which can add up to a lot of time. With Quick View™, you select the settings you want, and Quick View™ draws it all for you. Just move a few things around, add some text and you have a drawing.
- In TPC, data like line lengths, elevations, etc. aren't stored in the drawing - they're stored in the survey. The drawing just represents the data. So if a line is 100' long, it's 100' long regardless of whether or not Quick View™ trims the lines out of the symbols.
- With TPC, if you tell Quick View™ to make a line label 0.1" high, you can change the drawing size and scale and that line label will still be 0.1" high.
  - You'll learn some more of the reasons in this chapter.

If you try to draw in TPC like you do in CAD you'll end up frustrated. This is the No CAD Zone®. Instead, let Quick View™ do your drawings for you. You'll learn how the Traverse Drawing Settings create the drawing for you, typically 90% of it. Start with a drawing template, choose your Traverse Drawing Settings then change the objects that are different from the rest, add some text and you're done. Drawing in TPC is much, much faster than it is in CAD and a lot more fun.

► Getting started

1) From the Tasks View choose Sample Surveys.
2) Double-click the LEARN QUICKVIEW.TRV file.
3) Choose File | Save Survey As then enter the name QuickView and choose Save.
4) If prompted to replace the existing file, choose Yes.
The Quick View™ Concept

TPC has used these same steps since its inception in 1987. Now millions of drawings later, it still creates drawings that same way because it works.

1) Create your data and tag the items you want to include in a drawing.

2) Use the Quick View™ settings to create the drawing objects.

3) Modify the Quick View™ settings and add Smart Drawing Objects™ to enhance your drawing.

4) Modify the settings (properties) of any individual objects that are different from the others.

5) Add any additional objects like text or background photos.

These five steps provide an efficient drawing method unparalleled in CAD software.
Introducing Quick View™ Technology

A Quick View Example

Let’s go step-by-step through an example so you can see how this works.

▶ Step 1: Creating and Tagging the Items to Include

1) In the Traverse Manager, put a check mark next to the three Lot 2 related traverses shown here. Uncheck the other traverses. TPC calls a check mark a tag.

Each drawing remembers which items in each view are tagged. It’s pretty simple.

▶ Step 2: Use the Quick View™ settings to create the drawing objects

2) Right-click the Foundation 2 traverse and choose Traverse Drawing Settings to display the Traverse Drawing Settings dialog.

3) Left-click the Fill tab and select a Solid fill then choose OK.

▶ Step 3: Modify the Quick View™ settings and add Smart Drawing Objects™ to enhance your drawing

4) Double-click a blank row in the Drawing Manager and enter Lot 2 for the drawing name. Match the other settings here, including the Mortgage template and choose OK.

TPC ships with a number of drawing templates that are ready to go. The Mortgage template includes a north arrow, scale bar and title block. These are Smart Drawing Objects™. So go ahead, rotate the drawing or change the drawing scale. These objects will update themselves automatically.

5) Pull down the scale list in the Drawing View toolbar and select 50 FT/IN.
   a) Left-click (press and release) anywhere on the drawing.
   b) Drag the survey where you want it on the page.
   c) Left-click again to end the command.

7) Double-click any property line for lot 2 in the drawing to display the Traverse Drawing Settings dialog.
   a) From the Control Points tab, choose Set Rebar from the Symbols list as shown here.
   b) From the Curves / Spirals tab turn on Label and Leader.
   c) From the Lot Labels tab turn on Name, SqFt and Acres.
   d) Choose OK.

► Step 4: Modify the settings (properties) of any individual objects that are different from the others

8) Position the cursor over the South West lot corner point symbol, right-click and choose Properties to display the Point symbol dialog.
   a) Change the Symbol to Iron Pipe.
   b) Change the symbol size to 0.12”
   c) Choose OK.

► Step 5: Add any additional objects like text or background photos

9) Choose Insert | Legend to display the Legend dialog. Choose OK to insert the legend.

You did it! You just created a drawing using Quick View™ Technology.

As you use TPC, you'll repeat these steps over and over to create working drawings, finished drawings, exhibits and new drawing templates.
Traverse Drawing Settings

The Drawing View creates the objects like lines, symbols and labels from the Traverse Drawing Settings of the traverses that are tagged (checked) in the Traverse Manager. Once these objects are created however, you can change any of its properties as needed.

► Traverse Drawing Settings

The Drawing View is very efficient because it uses the traverses to draw your survey. Choose the Traverse Drawing Settings you want for each tagged (checked) traverse and The Drawing View can draw 80%-90% of a typical drawing for you.

► Object Properties

Object Settings give you ultimate control of the objects in a drawing. Just position the cursor over a drawing object, right-click and choose Properties. Change the properties you want and choose OK. TPC will redraw the object with your changes. You can modify the object as many times as needed.

► Combining Object Properties with Traverse Drawing Settings

When you edit the properties of an object, the Traverse Drawing Settings still control the properties you don't edit. For example, if you just change the thickness of a line, the Traverse Drawing Settings still control the color, line type, line labels, etc. If you change the Traverse Drawing Settings, The Drawing View will redraw the line using the new Traverse Drawing Settings but will retain the modified thickness of the line.

Combining properties in this way allows you to make sweeping changes to your drawing without requiring you to select and change each individual object.

► Hints:

- If your computer seems to be running slowly when the Drawing View is active, choose View | Draft Mode. The Drawing View will now display fonts and lines faster, at the expense of quality. As you zoom in on an area of a drawing, the trade-off between speed and quality becomes less pronounced.
- When used with Point Codes (available in the Professional Edition only), the Traverse Drawing Settings are automated. This leaves you with very little more to do to create your map.
Traverse Drawing Settings

**Changing Traverse Drawing Settings**

This is where the Drawing View really shines. It’s so easy to change the way TPC draws the traverses in a survey.

1) In The Drawing View, position the cursor over any line of the Lot 2 traverse and double-click (or right-click and choose Traverse Drawing Settings from the pop-up menu).

2) In the Control Points tab, choose Recall Settings, select Property Lines from the list and choose OK.

*Property Lines* is a pre-defined setting that comes with TPC Desktop. You can use it as is, modify it and choose Save Settings to overwrite it or just create your own user defined settings for lot lines.

3) Choose Apply or OK to apply the settings to this traverse.

Quick View™ redraws the survey using the Traverse Drawing Settings you just selected for the Lot 2 boundary.
Trimming Symbols

In order to make the point symbols more distinguishable when drawings are plotted and reproduced, many organizations require that survey lines be trimmed out of the point symbols. You may choose to get in the habit of trimming symbols to make your own maps more readable.

1) In the Drawing View, position the cursor over any line of the Lot 2 traverse and right-click.
2) Choose Traverse Drawing Settings from the pop-up menu. If you don't see Traverse Drawing Settings, left-click anywhere on the drawing to close the menu then repeat step 1.
3) In the Control Points tab, turn off Trim Symbols.
4) Choose OK.
   Do you see how the lines go through the symbols?
5) Repeat steps 1 – 4 above, turning Trim Symbols back on.

►Trimming symbols doesn't change the line length

Notice that the distances on the lines did not change when you trimmed the symbols, even though the lines in the drawing are clearly shorter when the symbols are trimmed. That's because of the Drawing View's data association. The data for the line is not stored with the drawing in the Drawing View - it's stored back in the survey where it came from. The survey tells the Drawing View how long the line is, no matter whether the Drawing View has trimmed the line or not. This is just another reason **We Hate to Call It CAD!**

►Background Clearing

If you plan on exporting a drawing to CAD, you may want to consider an alternative to trimming symbols called *Background Clearing*. This method draws a solid filled rectangle or circle between the line and the symbol. The result is a line that looks trimmed, even though it isn't. When exported to CAD, the line has the correct length in CAD because it has not been trimmed.

1) In the Drawing View choose Tools | Drawing Settings.
2) In the Clear Background tab, turn on All Survey Space Blocks / Symbols and choose OK.
Traverse Drawing Settings

**Copying Traverse Drawing Settings**

In this task, you will copy the settings of **Lot 2** to the other lots. You could manually edit the Traverse Drawing Settings of the other lots, but copying the traverse drawing settings is much faster and more fun.

1) Right-click any lot line being drawn by Lot 2 and choose **Traverse Tools | Copy Traverse Drawing Settings**.

2) Left-click a lot line or line label in Lot 3. Now left-click one in Lot 4. TPC copies the settings to the traverse as you click it and redraws the survey.

3) Right-click any blank spot in the Drawing View or press the [Enter] key to end the Copy Traverse Drawing Settings command.

▶ **Alternate Method**

4) In the Traverse Manager, select (highlight) the traverses you want to be change.

5) Right-click any one of the selected traverses and choose **Traverse Drawing Settings**.

6) Choose the Traverse Drawing Settings you want then choose **OK**.

The settings you select will be applied to all the selected traverses.
**Adding Lot Labels**

Now let's add lot labels.

1) Right-click any object that's part of the Lot 2 traverses and choose **Traverse Drawing Settings**.

2) Left-click the **Lot Labels** tab.

3) Match the settings shown here.

4) Choose **OK**.

► **Copy the lot label settings**

1) Right-click the lot label being drawn by Lot 2 and choose **Traverse Tools | Copy Traverse Drawing Settings**.

2) Left-click any line on **Lot 3** (except for the line that is common to Lot 2).

3) Left-click any line on **Lot 4** (except for the line that is common to Lot 3).

4) Right-click to end the Copy Traverse Drawing Settings command.

The Drawing View redraws the survey with lot labels in all three lots.

The lot labels are automatically placed at the center of the traverse, which makes them overlap the foundations. In the next task, you'll learn how to move the lot labels.
Moving Objects

The lot labels created in the last task were automatically placed at the center of each traverse. This position happens to overlap the foundations - so the lot labels need to be moved. In this task, you'll learn how to move the objects you want to move but not the ones you don't.

Moving objects is done by dragging and dropping the object (called drag-n-drop). Position the cursor over an object, press and hold the left mouse button, move the mouse until the object is where you want it, then release the left mouse button. It's pretty simple, but if you haven't done it before, it takes a little practice.

1) Position the cursor over the Lot 2 label and drag-n-drop the label away from the foundation.
2) Do the same for the Lot 2 area label. The SqFt and Acres move together because the Drawing View created them as one object.

Moving survey lines

Try to move one of the foundation lines in Lot 2 using the drag-n-drop method. The Drawing View displays the message Move not allowed. This message reminds you that these lines are associated with survey data and can only be moved by modifying the survey data. The Drawing View prevents you from accidentally moving something you don't want to. Try to move any of the other lines using the drag-n-drop method. Each one displays the Move not allowed message.

So how do you move survey objects in the Drawing View?

1) Right-click a foundation line for Lot 2 and choose Modify Objects | Move from the pop-up menu. This initiates the Move drawing command.

TPC displays this message, prompting you to select Yes if you would in-fact like to move the traverse.

2) To move the traverse, choose Yes and follow the command prompts.

To learn more about selecting objects in the Drawing View

1) Choose Help | Search For Help On... and left-click the Index tab.
2) Scroll down to Selecting drawing objects, highlight it and choose Display.
3) Choose Selecting Drawing Objects and then choose Display.
Over-Riding Traverse Drawing Settings

You can over-ride the Traverse Drawing Settings and have the drawing itself control everything in the drawing - all control points, all side shots and all lot labels. It is a very quick way to see what your data looks like.

You might over-ride Traverse Drawing Settings to take a look at some data you just imported. You might turn on all side shot lines to verify the data you import from your data collector, then turn off side shot lines to verify coverage of the survey area.

► Over-riding Traverse Drawing Settings

1) In the Drawing View, choose Tools | Drawing Settings and left-click the Miscellaneous tab.

2) Turn on Over-ride Traverse Drawing Settings then choose Edit Settings and select the settings you want.

3) Choose Apply to apply the settings to the drawing or choose OK until you return to the drawing with your changes.

4) Double-clicking a traverse object like a point symbol or line will display the over-ride settings so you can edit them.

5) Generally, once you start working on a drawing, you will switch back to Traverse Drawing Settings.

► Switching back to Traverse Drawing Settings

1) Choose Tools | Drawing Settings and left-click the Miscellaneous tab.

2) Turn off Over-ride Traverse Drawing Settings and choose OK.
Drawing Settings

*Drawing Settings* make global changes to the drawing.

1) Choose **Tools | Drawing Settings**.

The **Miscellaneous** tab controls whether or not distance units are included, areas are computed and more. Because they affect the entire drawing, you can easily change how the entire drawing looks without manually changing each object in the drawing.

Other *Drawing Settings* are grouped together on their appropriate tabs, like **Dimensions** and **Dynamic Offsets**. Take some time to look at each of these.

The **Clear Background** in particular can make your drawings much more readable by clearing white space around text, leaders and symbols.

Saving and Recalling Traverse Drawing Settings

Once you decide how you want the Drawing View to draw control points, side shots, lot labels and so on, you can save those settings and re-use them anytime.

**► Saving Traverse Drawing Settings**

1) Choose **Save Settings** from the Traverse Drawing Settings dialog.

2) Select an existing **Setting** from the list or type a unique name to create a new one.

3) Choose **OK** to save the settings. The settings in the Traverse Drawing Settings dialog will be saved under the selected name.

If the current Traverse Drawing Settings don’t match any of the saved settings the list displays **Custom…**.

**► Recalling Traverse Drawing Settings**

1) Choose **Recall Settings** from the Traverse Drawing Settings dialog.

2) Select an existing setting from the list and choose **OK**.

The settings you select will be recalled into the Traverse Drawing Settings dialog. You are free to modify the settings as needed without affecting the stored setting you just recalled.
**Hiding Objects**

The Drawing View does not allow you to delete an object like a line or symbol that is drawn by a tagged traverse or surface. You can however, hide it. Hidden objects act as a *placeholder*. Because the hidden object still exists in the drawing, the Drawing View knows not to recreate it from the survey.

Hidden objects have an added advantage. Sometimes, you want to plot a drawing without a particular object like a legend item or a note. In most CAD programs, you would have to create a new layer, move that object to the new layer, then hide the new layer. In the Drawing View, you just hide it.

► **Hiding objects**

1) Right-click any line label and choose **Hide** from the pop-up menu. The object will disappear from The Drawing View.

► **Displaying hidden objects**

1) Choose View | Format View, Preferences, Show Hidden Objects. Objects that were hidden are redrawn with a gray shadow.

2) To re-hide the hidden objects, choose View | Format View, Preferences, Show Hidden Objects again.

3) You can also use the Show Hidden button on the Mode toolbar.

► **Re-Showing hidden objects**

1) Display hidden objects.

2) Right-click any hidden object and choose **Show** from the pop-up menu.

► **Creating Traverse Gaps**

1) Instead of hiding a traverse line and all of its labels, you can right-click the line and choose **Gap**. This is a special command that tells TPC you don’t want this line.

If you have lots of items you want to hide in a drawing consider using layer tools and unique traverse and surface settings.
Adding a Legend

This chapter demonstrates:
- Adding a legend to a drawing
- The parts of the legend
- Adding symbols automatically
- Editing legend item descriptions
- Editing legend item symbols
- Adding text items to a legend
- Adding line types to a legend
- Rearranging legend items
- Deleting the legend

Overview

Just about every drawing has a legend. The legend identifies symbols, lines and conventions used in the drawing. The legend reduces the text needed on the drawing since [ ] can always denote record data and ☐ can always denote a found 1" Iron Pipe.

Smart drawing objects

The legend in Drawing View is a smart drawing object. It knows how to interact with the drawing and update itself as you add to or modify the drawing. This interaction makes your drawings more efficient and accurate.

To learn more about adding a legend

1) Choose Help | Search For Help On… and left-click the Index tab.
2) Scroll down to Legends, highlight it and choose Display.
3) Choose Legends then choose Display.

Getting Started

1) From the Tasks View choose Sample Surveys.
2) Double-click the LEARN LEGEND.TRV file.
3) Choose File | Save Survey As then enter the name Legend and choose Save.
4) If prompted to replace the existing file, choose Yes.
**Adding a Legend to a Drawing**

1) From the Drawing View, choose **Insert | Legend**.

2) From the **Legend Settings** dialog, choose the options shown here then choose **OK**.

TPC inserts a legend in the lower left corner of the drawing.

> **Moving the legend**

1) Position the cursor over any part of the legend except on any legend item, then drag-n-drop the legend where you want it.

To move the legend, the cursor must be over the legend but not over a specific legend item. Just watch the status bar. When the cursor is in the correct position, it will display **Legend**. If the cursor is over a legend item like **Rebar**, you can rearrange the items in the legend.
Adding a Legend

**The Parts of a Legend**

1) Position the cursor over the word **Legend**. The Drawing View displays **Legend, Paper Space, 0 Layer** in the status bar.

2) Position the cursor over any item description in the legend like **Rebar**. The Drawing View displays **Legend Item, REBAR, Paper Space** in the status bar.

3) Position the cursor over any symbol in the legend like the **Rebar** symbol. The Drawing View displays **Block, Rebar, Paper Space** in the status bar at the bottom of the screen.

<table>
<thead>
<tr>
<th>LEGEND</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✤</td>
<td>FND 5/8&quot; REBAR, CSF 16829</td>
</tr>
<tr>
<td>○</td>
<td>PROJECTED POSITION E1/4 CORNER</td>
</tr>
<tr>
<td>◆</td>
<td>FND 3/4&quot; IRON PIPE, CSF 28365</td>
</tr>
<tr>
<td>✣</td>
<td>FND 1/2&quot; IRON PIPE, CSF 28365</td>
</tr>
<tr>
<td>□</td>
<td>MONUMENT SET THIS SURVEY</td>
</tr>
<tr>
<td>△</td>
<td>5/8&quot; X 30&quot; REBAR WITH CAP MARKED &quot;LS 1091&quot;</td>
</tr>
<tr>
<td>_</td>
<td>LINE SCALE BREAK</td>
</tr>
<tr>
<td>△</td>
<td>PROJECTED POSITION, CORNER NOT FOUND</td>
</tr>
<tr>
<td>( )</td>
<td>RECORD DATA PER CSF28362</td>
</tr>
<tr>
<td>(.addView)</td>
<td>RECORD DATA PER CSF 16829</td>
</tr>
<tr>
<td>[ ]</td>
<td>RECORD DATA PER DEED 2249R-9686069</td>
</tr>
</tbody>
</table>

The part of the legend the cursor is over makes a difference. To move the legend on the drawing, the cursor must be over the legend but not over a particular legend item. To rearrange the items within the legend, the cursor must be over the particular legend item you want to move.

► **Legend items**

Legend items are the lines within the legend. Each legend item has a symbol on the left and the description of that symbol on the right. Together, these form a legend item. You can edit and rearrange legend items within the legend, add new legend items, hide legend items and/or delete legend items.

If you position the cursor over a legend item, the status bar will display **Legend Item**, followed by the description of the legend item like **LINE SCALE BREAK**.

► **The legend**

The legend itself is any part of the legend that is not part of a particular legend item. If you position the cursor over the word **Legend** or any other part of the legend (except a legend item), the status bar will display **Legend, Paper Space, 0 Layer**.
Adding Symbols Automatically

By default, the legend adds symbols automatically as they are used in the drawing. In the drawing shown here, we changed the SW lot corner to the Monument In Case symbol, so the Drawing View added it to the legend.

► Rules for automatic symbols

➢ A symbol can be used any number of times in the drawing, but can only appear once in the legend.
➢ If the drawing is modified so that a symbol is no longer used, that symbol is removed from the legend.
➢ If the symbol is deleted from the legend, the Drawing View will add it back in because it is used. Hide the legend item instead.

► Hiding a legend item

If the legend includes a generic symbol like a tick mark or triangle that you don't want shown in the legend, you must hide the symbol. If you delete it, the Drawing View will just add it back in since it is a used symbol.

1) To hide a legend item, position the cursor over the legend item, right-click and choose Hide.
2) To unhide the legend item, choose View | Format View | Preferences | Show Hidden Objects. Right-click the hidden legend item and choose Show.

► Turning off automatic symbols

1) Position the cursor over the legend (not a legend item).
2) Right-click the legend and choose Properties to display the Legend Settings dialog.
3) Turn off the Automatic Point Symbols option.

The Drawing View leaves the legend items in the legend, but doesn't automatically add any new symbols that are used in the drawing. At this point, you could delete any of the existing legend items and the Drawing View would not automatically add them back in.
Adding a Legend

**Editing Legend Item Descriptions**

When a point symbol is added automatically to the legend, the default name of the symbol is used for the description. The default name is the name that shows up in the symbol list. If the default name is not descriptive enough or you want to add to the default name or change it in any way, you can.

1) Position the cursor over the description of the legend item you want to change.
2) Right-click and choose Properties.
3) In the Legend Item dialog enter the description of the legend item. Press Enter to move to a new line of text as needed.

The Drawing View redraws the legend, adding extra lines as needed for the description.
Editing Legend Item Symbols

Symbols that are added to the legend may not be the appropriate size, color or rotation to match the way the symbol is used in the drawing. If not, you can edit the legend symbol so that it does match the drawing.

1) Position the cursor over the symbol of the legend item you want to change.
2) Right-click and choose Properties. TPC displays the appropriate dialog for the symbol.
3) Make the changes you want and choose OK. You will probably want to specify the Height of the legend symbol.

Rotating a symbol

If a symbol (like a quarter corner) is rotated in the drawing, you can rotate it in the legend.

1) Position the cursor of the symbol, right-click and choose Properties.
2) In the symbol dialog, enter the appropriate rotation angle and choose OK.

The legend evaluates the rotated symbol and adjusts the line spacing of the legend items to accommodate the rotation.
Adding Text Items to a Legend

Sometimes you need to add a simple text item to a legend to indicate that [ ] brackets are used to denote record data or an asterisk * is used to denote information that is found on page 2 of the drawing. Making this text part of the legend eliminates the need to position and align the text to fit the other legend items.

1) Position the cursor over the legend. The status bar should display Legend, Paper Space, 0 Layer.

2) Right-click and choose Append Text Item to Legend. A Text Legend Item dialog will appear, with a question mark for both the symbol and the description.

3) Enter the appropriate text and choose OK. If you are entering brackets, leave a few spaces between the brackets like this [   ].

4) To change the symbol later, right-click it and choose Properties to display the Text dialog.

5) To change the text later, right-click the it and choose Properties to display the Legend Item dialog.

6) Enter the description and choose OK.
Adding Line Types to a Legend

1) Position the cursor over the line you want to add.

2) Right-click the line and choose Append to Legend. Drawing View will open the Legend Item Description dialog box. It will have a short description highlighted in the text box.

3) Enter the appropriate description for the line and choose OK.

4) To change the description after this legend item has been added to the legend, right-click the question mark and choose Properties to display the Legend Item dialog. Make your changes and choose OK.

Rearranging Legend Items

When point symbols are added automatically to the legend, they appear in the order they are encountered in the symbol list. When you add items manually to the legend, they are appended to the legend in the order you add them. If the resulting sequence is not correct, you can change it by rearranging the legend items.

1) Position the cursor over the legend item you want to move, then drag-n-drop the legend item within the legend. That’s it.

Here, the Monument In Case legend item was moved to the top of the legend and the 15’ CONSTRUCTION SETBACK item was moved to the bottom.

Deleting the Legend

Each drawing can have one and only one legend. If you don't want the legend, just delete it.

1) Position the cursor over the legend. The status bar will display Legend, Paper Space, 0 Layer.

Right-click and choose Delete.
Testing Your Skills

In this task, you'll test your skill at adding a legend to a drawing.

1) Open the SKILL2.TRV file in the Samples folder and save it as TEST12.TRV.
2) Change the symbol for the SW corner of lot 106 from a Set Rebar to Set Monument.
3) Insert a legend into the drawing.
4) Add the 10’ construction setback line to the legend.
5) Add the property boundary line to the legend.
6) Update the legend items to match the text shown below.
This chapter demonstrates:
- Filling drawing objects
- Clearing text in fills
- Appending a fill to the legend
- Filling traverses
- Moving objects and layers forward and backward

Overview

TPC uses the term Enhanced Hatching to refer to the three types of fills now available in TPC Desktop. The three types are, 1) solid fills 2) pattern hatching and 3) bitmap fills. Of the three, the pattern fill most closely matches what many CAD programs call ‘hatching’.

To learn more about this topic
1) Choose Help | Search For Help On… and left-click the Contents tab.
2) Scroll down to Hatching.
3) Double-click Hatching to expand the chapter, then double-click Hatching and Fills.

Getting Started
1) From the Tasks View choose Sample Surveys.
2) Double-click the LEARN HATCHING.TRV file.
3) Choose File | Save Survey As then enter the name Hatching and choose Save.
4) If prompted to replace the existing file, choose Yes.
5) Activate the Drawing View by left-clicking it or choosing Window | Drawing View.
Using Fills

**Filling Drawing Objects**

We'll start by filling the wooded area shown on the map.

1) Right-click the dashed polyline that defines the dense wooded area on the Northeast property line and choose **Properties**.

2) In the **Polyline** dialog, pull down the **Fill** list and choose **Forest (filled)**.

3) Change the line type to **Solid**.

4) Turn on the **Closed** toggle.

5) Select the **Curve Fit** option for **Smoothing**.

6) Choose **OK**.

TPC smoothes the polyline and fills it with the Forest (filled) hatching.

Now, let's fill the lake located West of the property.

7) Right-click the aqua colored polyline to the West of the property, labeled **MERCER LAKE** and choose **Properties**.

8) From the **Polyline** dialog, select **Water (filled)** for the Fill, turn on **Closed** and choose **OK**.

In the pages ahead, you'll learn how to add these fills to the legend and clear the embedded text to make the drawing more readable.
Clearing Text in Fills

Now let’s clear the text in the lake fill, making the drawing easier to read.

1) Right-click the text object **MERCER LAKE** inside the polyline you just filled for the lake and choose **Properties**.
2) From the Text dialog, choose **Clear Background**.
3) Choose **OK**.

TPC clears the area immediately behind the text with the background color for the drawing.

4) Now drag-n-drop the **MERCER LAKE** text object anywhere in the lake fill. Notice that the cleared background moves with the text object.
5) Now drag-n-drop it outside of the lake fill, then drag-n-drop it back onto the lake fill.
6) Now drag-n-drop it so that only part of it is in the lake fill.

This helps you get a feel for what TPC is doing when it clears the background of a text object.

Note: As you drag-n-drop the text object, portions of the fill may be erased. However, as soon as you drop the text object, the fill reappears properly.
Appending a Fill to the Legend

You can add the fills you use to the legend.

1) Position the cursor anywhere over the legend except on a legend item and right-click. The status bar at the bottom of the screen should display Legend. If it displays Legend Item, you are not over the legend.

2) From the context menu, choose Append Fill Item to Legend... TPC displays the Fill Type dialog.

3) Expand the Fill list and choose Forest (filled).

4) Note: The Color shown here in the dialog is used for Fill types like hatches and solids, but is not used by bitmap fills like the Forest (filled) type.

5) Choose OK. TPC adds a legend item for Forest (filled).

You don't have to use the default name for a fill type. You can change it to whatever you want.

6) Right-click the Forest (filled) text for this legend item and choose Properties.

7) Replace the Forest (filled) text with DENSE WOODED AREA and choose OK.
Filling Traverses

You can also fill traverses with any of the fill types. We'll use this feature to shade the buildings shown on the map.

1) Locate the COVERED TRAILER AREA near the center of the property. This feature was drawn by the TRAILER COVER traverse.

2) Right-click any of the lines of the covered trailer area and choose Traverse Drawing Settings from the context menu.

3) In the Fill tab, expand the Fill list and choose Solid.

4) Choose Yellow for the fill Color.

5) Notice the Clear Background toggle in the Lines section. If you fill a traverse, TPC can clear the fill from each line label, making the labels easier to read on the final map.

6) Choose OK.

TPC fills the covered trailer area with yellow, but now you can't see the COVERED TRAILER AREA text and the dimensions are harder to read. What happened?

In the next section, you'll learn how to bring objects forward or send them backwards.
Moving Objects Forward and Backward

The fill that you just placed in the COVERED TRAILER AREA was drawn on top of the text. The text is still there, but it is hidden behind the solid fill. To view the text again, you will need to move the fill to the background, behind the text. But first, let’s take a look at objects vs. layers.

Layer Tools and Editions

The Layer Tools that are referenced below are only available in the Premium and Professional Editions. Moving Objects forward or backward is available in All Editions.

Objects vs. Layers

1) To move an object forward or backward, right-click the object and choose Drawing Order from the context menu.

2) Choose an option like Move Layer to the Front. TPC re-orders the object or layer and redraws the view.

3) If you don’t get the results you expected, it could be that you need to move the entire layer forward or backward. Other layers may have precedence over the layer the object is on, in which case it isn’t enough just to move the object, you must move the layer.

With a little practice you’ll get the hang of moving objects and layers forward and backward.
Moving the Traverse Fill Backwards

The traverse fill is on the same layer as the traverse lines. To move it backwards, we have to move the traverse line layer backwards.

1) Right-click any line of the COVERED TRAILER AREA and choose Drawing Order | Move Layer to the Back.
2) To make the drawing look even better, right-click both a major and minor contour line and move their layers to the background also.

Clearing the Line Labels

You can also clear the fill from behind the line labels, making them easier to read.

1) Right-click the COVERED TRAILER AREA traverse and choose Traverse Drawing Settings.
2) Turn on Clear Background in the Lines section, then choose OK.
3) You can also move the line labels outside of the fill if you want.

Moving the Contour Lines Backwards

You usually don’t want a contour line running through a building so the fill is a good way to hide it.

Note: Contouring is only available in the Premium and Professional Editions but the contours that we created in the Professional Edition will be displayed in all editions.

1) Right-click any line of the 80’ contour line running through the COVERED TRAILER AREA and choose Drawing Order | Move Layer to the Back.

Note: You can also exclude areas from a surface, like the COVERED TRAILER AREA shown here. It’s very easy, plus, surface exclusions work with CAD files TPC imports and exports.
Adding Tables

►This chapter demonstrates:
- Understanding tables, table items and styles
- Making room for the tables on the drawing
- Adding a curve table for all curves
- Formatting an existing table
- Adding and removing line labels to a table manually
- Including record data in a table
- Adding a coordinate (point) table
Overview

The Drawing and Traverse Drawing Settings label the curves and lines automatically following these basic rules.

- Distance and/or Direction must be set to **Above** or **Below** in the settings dialog to label lines.
- **Label** must be turned on in the **Curve/Spiral** section of the settings dialog.
- The labels are inserted at the center of the line or curve.
- Line labels that are short enough to fit on the line are drawn parallel to the line.
- Line labels that are too long are drawn horizontally next to the line with an optional leader back to the line.
- Curve labels are always drawn horizontally next to the curve with an optional leader back to the line.

Line and curve tables help organize these labels.

To learn more about tables

1. Choose **Help | Search For Help On…** and left-click the **Index** tab.
2. Scroll down to **Tables**, highlight it and choose **Display**.
3. Choose **Drawing Tables** then choose **Display**.

Getting Started

1. From the Tasks View choose **Sample Surveys**.
2. Double-click the **LEARN TABLES.TRV** file.
3. Choose **File | Save Survey As** then enter the name **Tables** and choose **Save**.
4. If prompted to replace the existing file, choose **Yes**.
Understanding Tables, Table Items and Styles

Tables and Table Items

Tables are comprised of Table Items.

The Line Table numbers its items L1, L2, etc. The Curve Table numbers its items C1, C2, etc.

When a line or curve label is added to a table, the Drawing View adds the label to the appropriate table, then replaces the label in the drawing with the table item number (L2, C4, etc.).

If the table style is Manual, items can be added to and removed from the table manually. In this case, you decide the table item sequence by the order in which you select items to include in the table.

When you remove a table item from a Manual table, the Drawing View renumbers the table items so that the numbers are sequential and updates the table item references in the drawing automatically.

You can add a column to a table to include record data.

Styles

The table style determines which labels from the drawing get added to the table.

Manual - you must select a label to append it to the table. The order in which you select the labels determines their order in the table.

All - adds all curve labels to the curve table or all line labels to the line table.

Auto - available only for the line table, it automatically adds those labels that are too long for their lines.
Making Room for the Tables on the Drawing

The 8.5 X 11 page size doesn't leave much room to put the tables on the drawing. Let's switch to a legal page size.

1. From the Drawing View, choose Tools | Print | Page Setup.
2. If you get the message that The printer is not available..., choose OK.
3. From the Size list, choose Legal and click OK.

> Changing the scale
1. Left-click the down arrow next to the current scale on the Format bar.
2. Left-click 80 FT/IN from the list. The Format bar redisplays the current scale as 80 FT/IN.

> Reposition the survey on the page
1. Move the cursor over one of the lots on the drawing, but not over any objects like a line or text. The cursor should change to a + symbol. This symbol indicates that you are over the survey and that any Ctrl + drag-n-drop operation will reposition the survey on the page.
2. Use the Ctrl key and drag-n-drop the survey in the position on the page shown here.
Adding Tables

Adding a Curve Table for All Curves

Frequently, when you use a curve table, you place all the curves into the table. This makes it easy to look up curve information. The Drawing View allows you to manually place curves in the table or include them all. In this task, we'll include them all.

1. From the Drawing View, choose Insert | Curve Table to display the Curve Table dialog.
2. Turn on Border.
3. From the Style list, choose All. This style forces all curves into the table.
4. Change the Format to BHRCQ.
5. Change Hold to Lower Left.
6. Choose OK.

► Reposition the curve table
As a rule, the original position of a table is hard-wired (TPC determines where the table is inserted into the drawing). So you will probably want to reposition it where you want it.

1. Move the cursor over any part of the table. The Status bar will display Curve Table.
2. Drag-n-drop the table so that it is down near the Legend.

► Dynamic tables
Because you set the Hold option to Lower Left, the position of the Lower Left corner of the table will not change. As you add/remove/edit table items, the table is free to dynamically expand up and to the right as needed.

☞ To learn more about the options in this dialog
1. In the Curve Table dialog, press the F1 key or left-click the ? then left-click any item in the dialog.
**Formatting an Existing Table**

You can change any of the table properties, even after the table has been created.

1. Position the cursor over any part of the table except over any table item. The status bar should display Curve Table.
2. Right-click and choose Properties.
3. Reformat the table any way you want, then choose OK. TPC will redraw the table with the new format options.

<table>
<thead>
<tr>
<th>CURVE</th>
<th>BEARING</th>
<th>HORIZ DIST</th>
<th>RADIUS</th>
<th>ARC</th>
<th>DELTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>S20°34'10&quot;W</td>
<td>147.27</td>
<td>420.00</td>
<td>148.04</td>
<td>20°11'41&quot;</td>
</tr>
<tr>
<td>C2</td>
<td>N21°41'53&quot;E</td>
<td>134.07</td>
<td>430.00</td>
<td>134.62</td>
<td>17°56'15&quot;</td>
</tr>
<tr>
<td>C3</td>
<td>S3°43'04&quot;W</td>
<td>134.71</td>
<td>430.00</td>
<td>135.27</td>
<td>18°01'26&quot;</td>
</tr>
</tbody>
</table>

**Multiple columns**

You can specify the number of columns in the Columns field of any table dialog. TPC duplicates the column sequence specified in Format for each Column value you enter.

Here is a line table with 2 columns specified.

<table>
<thead>
<tr>
<th>LINE</th>
<th>BEARING</th>
<th>HORIZ DIST</th>
<th>LINE</th>
<th>BEARING</th>
<th>HORIZ DIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>N30°40'00&quot;E</td>
<td>14.08</td>
<td>L3</td>
<td>N30°40'00&quot;E</td>
<td>14.08</td>
</tr>
<tr>
<td>L2</td>
<td>N30°40'00&quot;E</td>
<td>32.44</td>
<td>L4</td>
<td>N30°40'00&quot;E</td>
<td>32.44</td>
</tr>
</tbody>
</table>
Adding Tables

Adding and Removing Line Labels From a Table Manually

We'll use the line table to illustrate how you can manually add to and remove from a line or curve table.

Notice that the two line labels shown here are drawn horizontally next to their lines. When a line label is too long to fit parallel to the line, the Drawing View automatically draws the label horizontal and places it next to the line. These two labels are candidates for the line table.

1. Position the cursor over the N30°40'00"E label.
2. Right-click and choose Append to Table. The Drawing View will tell you that the table doesn't exist and ask if you would like to create it. Choose Yes. Drawing View displays the Line Table dialog.
3. Choose Border.
5. Set Hold to Lower Left.
6. Choose OK.

Adding another label

1. Now position the cursor over the S30°40'00"W label, right-click and choose Append to Table. Drawing View adds this label to the table.

Manually removing items from a table

When you create a line or curve table with the Manual style, you are responsible to select the labels you want to include in the table. As such, you can also select the items you don't want in the table.

1. Position the cursor over the table item you want to remove from the table.
2. Right-click and choose Delete.

When you remove a table item, the Drawing View does the following:

- Removes the item from the table.
- Renumbers the table references (L1, L2, etc.) to accommodate the change.
- Redisplays the label at the line.
Including Record Data in a Table

The Drawing View lets you add an additional column to any table. This is a great way to add record data to the table. The table takes care of organizing the data, so you can move the table, change font size - just about anything, and the record data tracks right with the table.

► Adding a column heading

1. Position the cursor over any of the column headings in the line table. The status bar should display Line Table, Table Item, L0, 0 Layer.
2. Right-click and choose Properties.
3. Add ;RECORD DATA to the column headings in the text box and choose OK.

The semicolon ( ; ) tells the Drawing View that the following text goes in the extra column of the table. To specify the extra column, you can use any of the following characters :; - / \.

► Adding the record data

<table>
<thead>
<tr>
<th>LINE</th>
<th>BEARING</th>
<th>HORIZ DIST</th>
<th>RECORD DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>N30°40'00&quot;E</td>
<td>32.44</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>S30°40'00&quot;W</td>
<td>14.08</td>
<td></td>
</tr>
</tbody>
</table>

1. Position the cursor over any part of the L1 item. The status bar should display Line Table, Table Item, L1, 0 Layer.
2. Right-click and choose Properties.
3. Insert ;[32.5] following the distance in the text box and choose OK.
Adding Tables

Adding a Point Table

TPC refers to this as a Point table since it can include point labels and descriptions in addition to coordinates.

Before you can add a point table to your drawing, you must display survey point labels in the drawing. The point table includes only those points that would be drawn without the table.

1. Right-click any property line for Lot 2 and choose Traverse Drawing Settings.
2. Turn on Point in the Points section and choose OK.
3. Choose Insert | Point Table.
4. Specify YXZD for the Format and choose OK.

TPC displays the point table in the drawing.

Note: Including ‘P’ in the Format creates new point label references P1, P2, P3. This can be useful if you have long point labels, but most of the time you will want to omit ‘P’ from the Format.

Note: The Point Table lets you include additional point information like convergence and scale factor, that may not be available in the Traverse Drawing Settings.
Adding a Lot Table

The Lot table displays information about the traverses that make up the drawing. This can be handy for including areas and closures in a drawing.

Before you can add a lot table to your drawing, you must display lot labels in the drawing. The lot table includes only those lot labels that would be drawn without the table.

1. Right-click any property line for Lot 2 and choose Traverse Drawing Settings and choose the Lot Labels tab.
2. Turn on any option like Name or Acres section and choose OK.
3. Choose Insert | Lot Table.
4. Specify ABE for the Format and choose OK.

TPC displays the lot table in the drawing.

Note: Including ‘N’ in the Format creates new lot label references T1, T2, T3. This can be useful if you have long lot labels (traverse names).

Note: The Lot Table lets you include additional point information like length, linear error and relative, that may not be available in the Traverse Drawing Settings.