

Layout3D.tml

Turn 2D drawings into 3D surfaces by digitizing the plans on the screen.

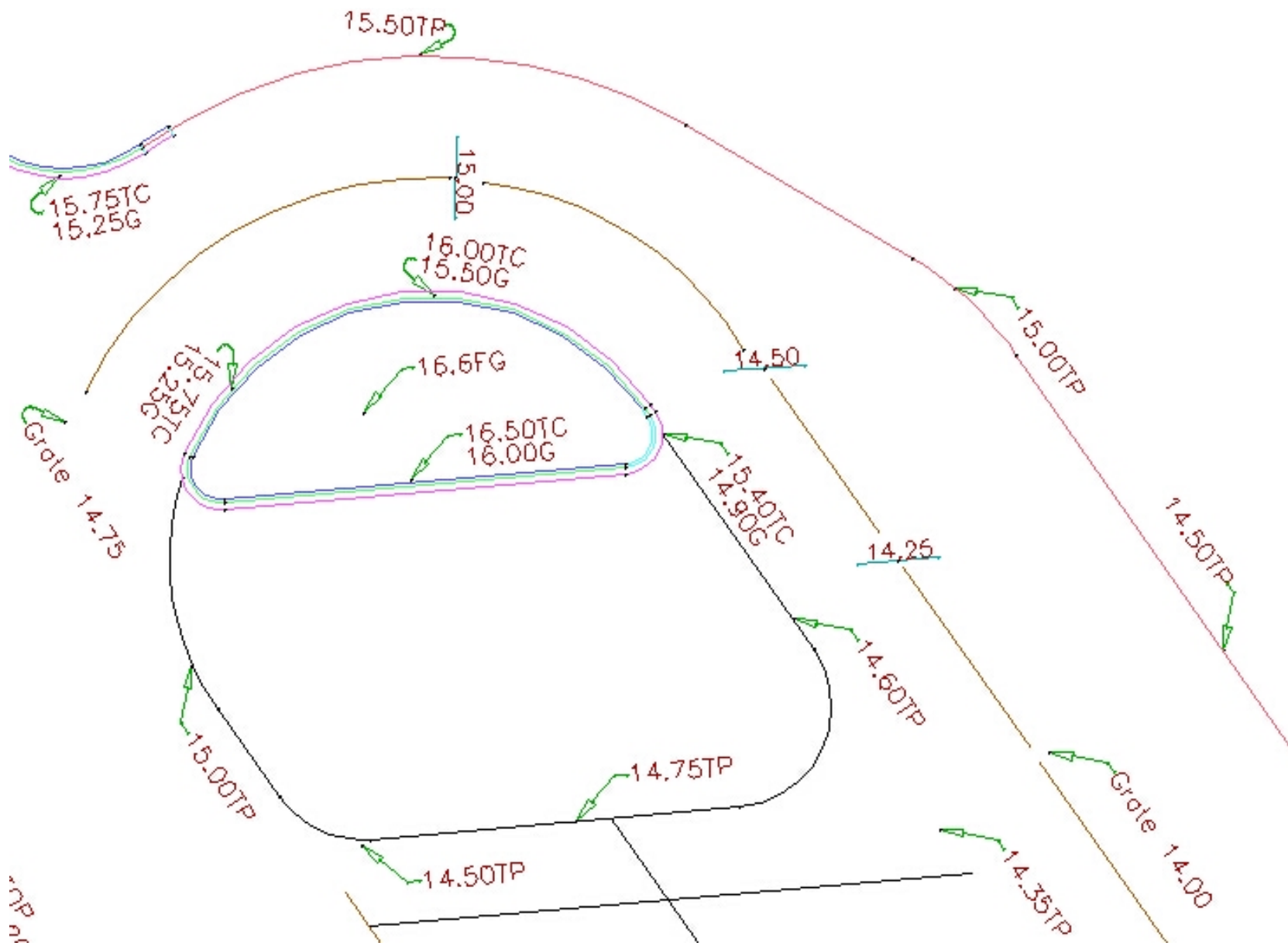
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Layout3D.tml will:

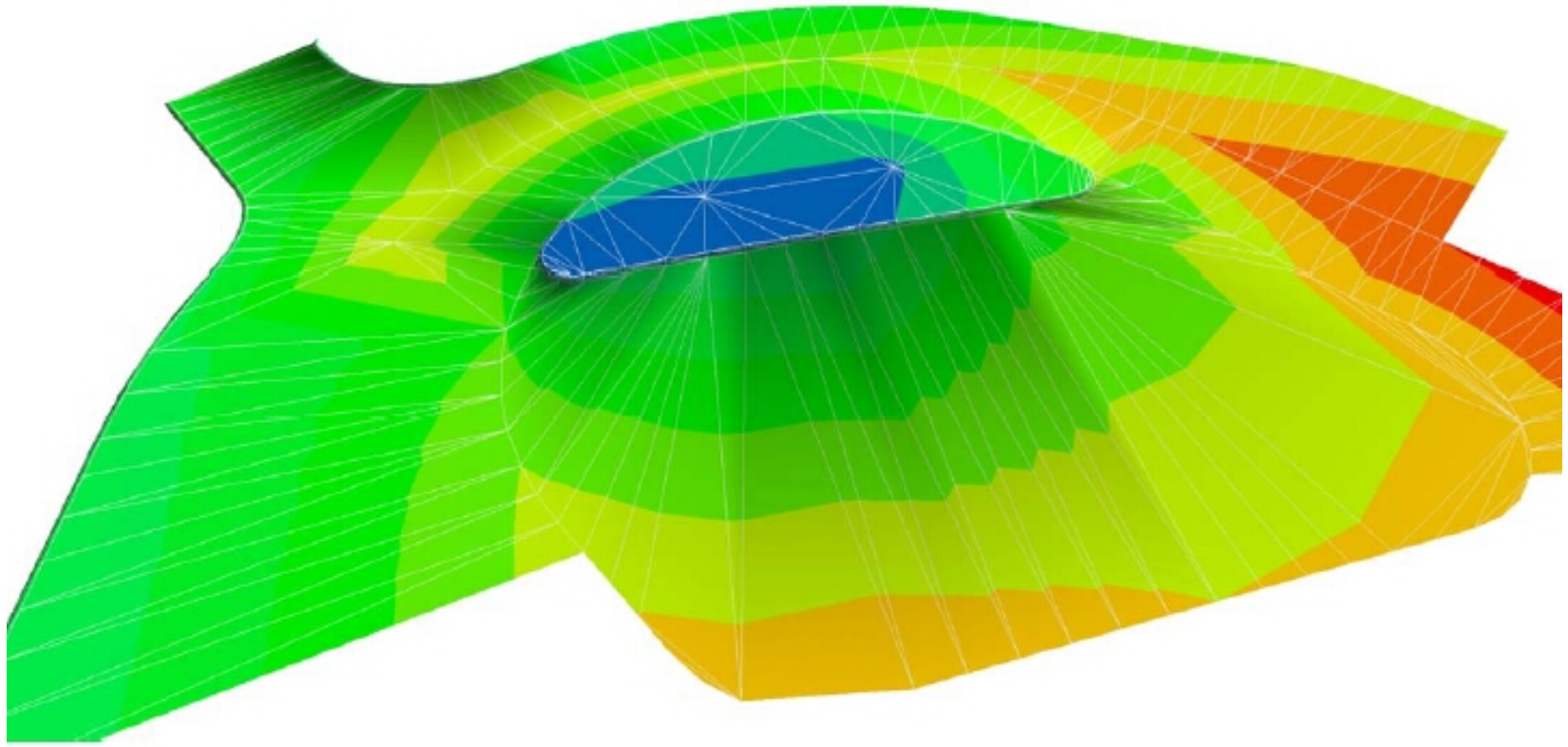
- Turn 2D linework into 3D by digitizing on the screen and picking callout text to assign elevations.
- Allow user to specify offsets to the linework that is being digitized on the fly.
- Create 3D points for DTMs along straight sections and curves and optionally create offsets.
- Create 3D points for spot elevations by picking the callout text elevation.

Start with a 2D plan with callout text elevations, run *Layout3D.tml* and digitize on the screen by picking locations for points along sets and callout text for elevation assignments. Offsets will be drawn automatically, just change the settings to change the offsets.

Start with this 2D like this:



Run *Layout3D.tml* on each line, and get this:



How to use *Layout.tml*

After downloading *Layout3D.** to the *Terramodel installation folder*\Terramodel\tmls folder, open a Terramodel project and type *layout3d* at the command line and press the < enter > key.



You will see the following:

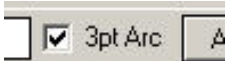


- Begin tracing the lines on the plan. For every known elevation, TAB to the *Elevation* or *Z* field before selecting a *Location* (*Loc*).

- The unknown points will have an elevation assigned at the end of the function. The known elevations will be prorated to unknown point elevations.
- When you come to a known elevation or callout text elevation, pick the text while the focus is set to the Z field. The elevation of the selected text will be entered automatically. Then select the location.
- As you digitize on the screen, a set will be drawn connecting the points you enter.

Explanation of each setting

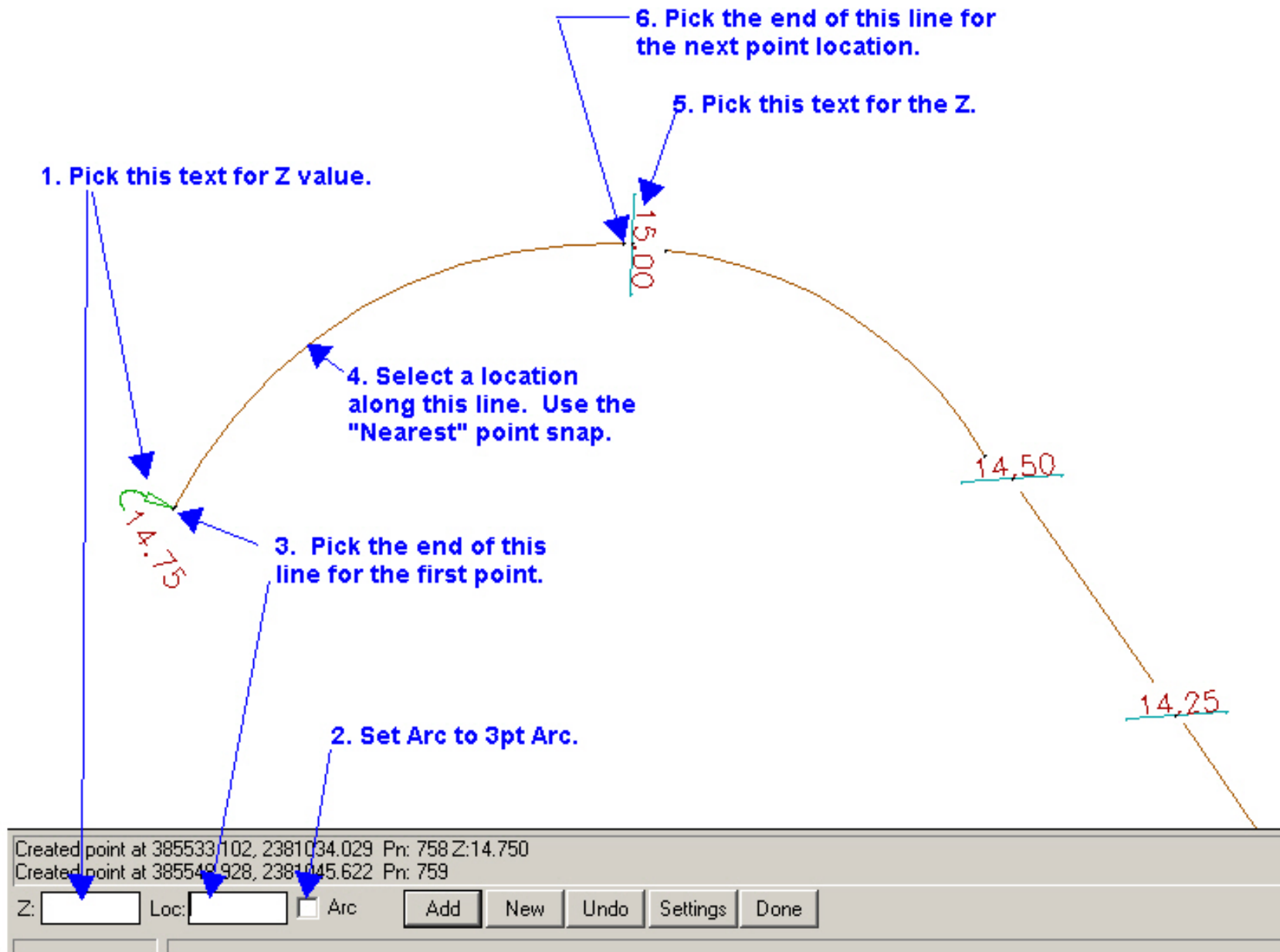
- **Z:** Elevation value for the point you are about to place. Pick a text object for this if a callout is available. If elevation is unknown, this point will have an elevation assigned at the end from the known elevations.
- **Loc:** Location of the new point. Point snaps are available. Use *Nearest* point snap to snap to a point on an existing line.
- **Arc:** If this is not checked, then straight segments are created.



- **3pt Arc:** Defining 3 points for an arc. Once the third point is defined, the arc will be drawn.

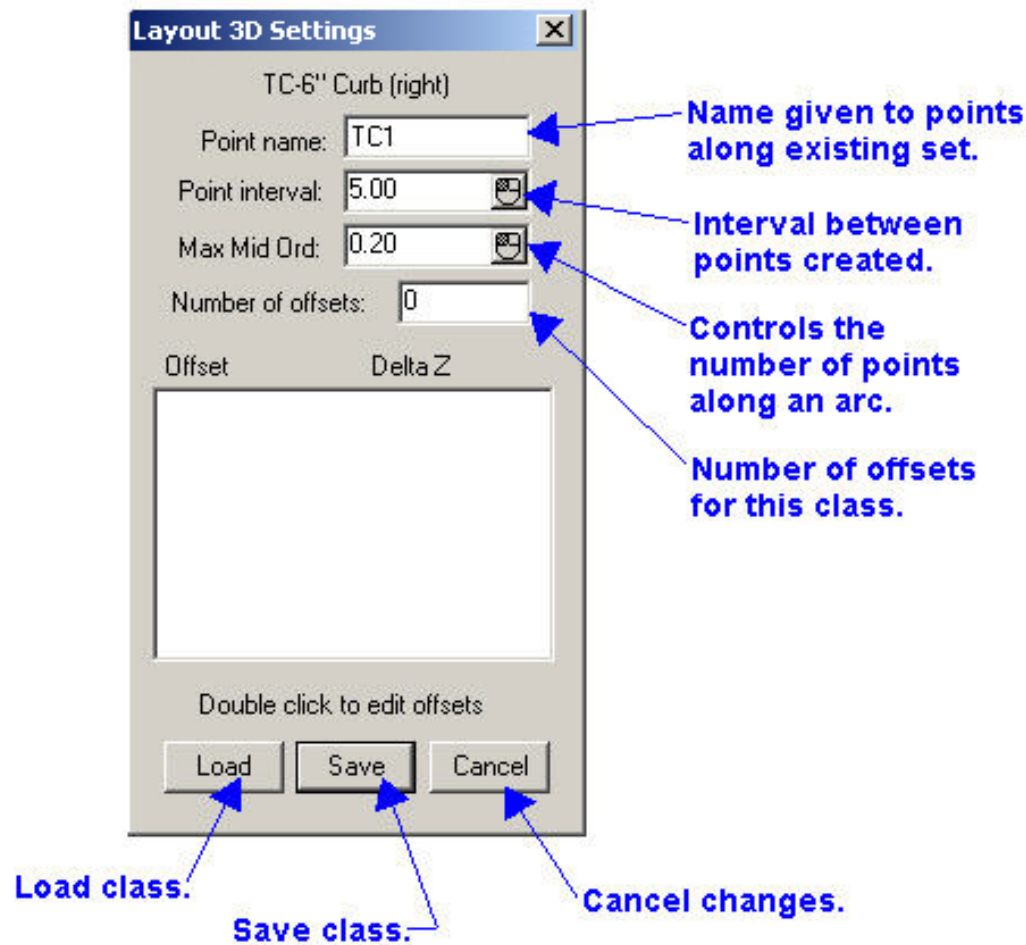


- **Tan Arc:** Defining a tangent arc. If you are drawing a straight section then begin an arc, check this option.



- **Add:** If coordinates are entered manually (typed in), then clicking *Add* will enter the point.
- **New:** Click *New* to begin a new line. The previous line will end and all related offsets will be drawn on the previous line and the next line is ready to be drawn.
- **Undo:** This option lets you backup if a mistake is made.

- **Settings:** This will open the *Layout 3D settings* dialog.



Layout 3D Settings

Note: The original set will be replaced by a set with points at the interval selected here. The offsets created will be from this replacement.

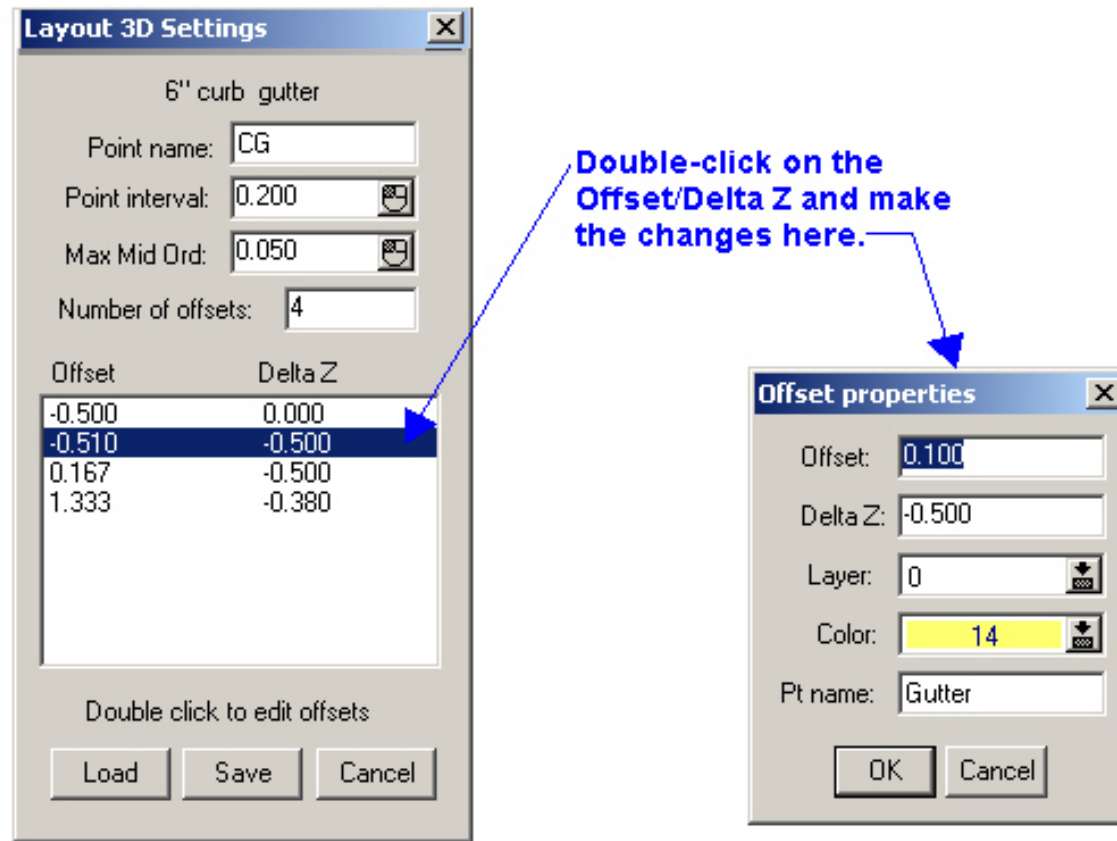
Definition Note: The original set is the one you are creating on the fly with this command.

1. **Point name:** Name given to the points along the original set.
2. **Point interval:** Interval between the points created in straight sections. Use the mouse option to pick a distance from the screen.
3. **Maximum middle ordinate:** Determines the distance between points created along an arc. Use the mouse option to pick a distance from the screen.
4. **Number of offsets:** Number of offsets for the set. When this number is decreased, the last offset is removed.

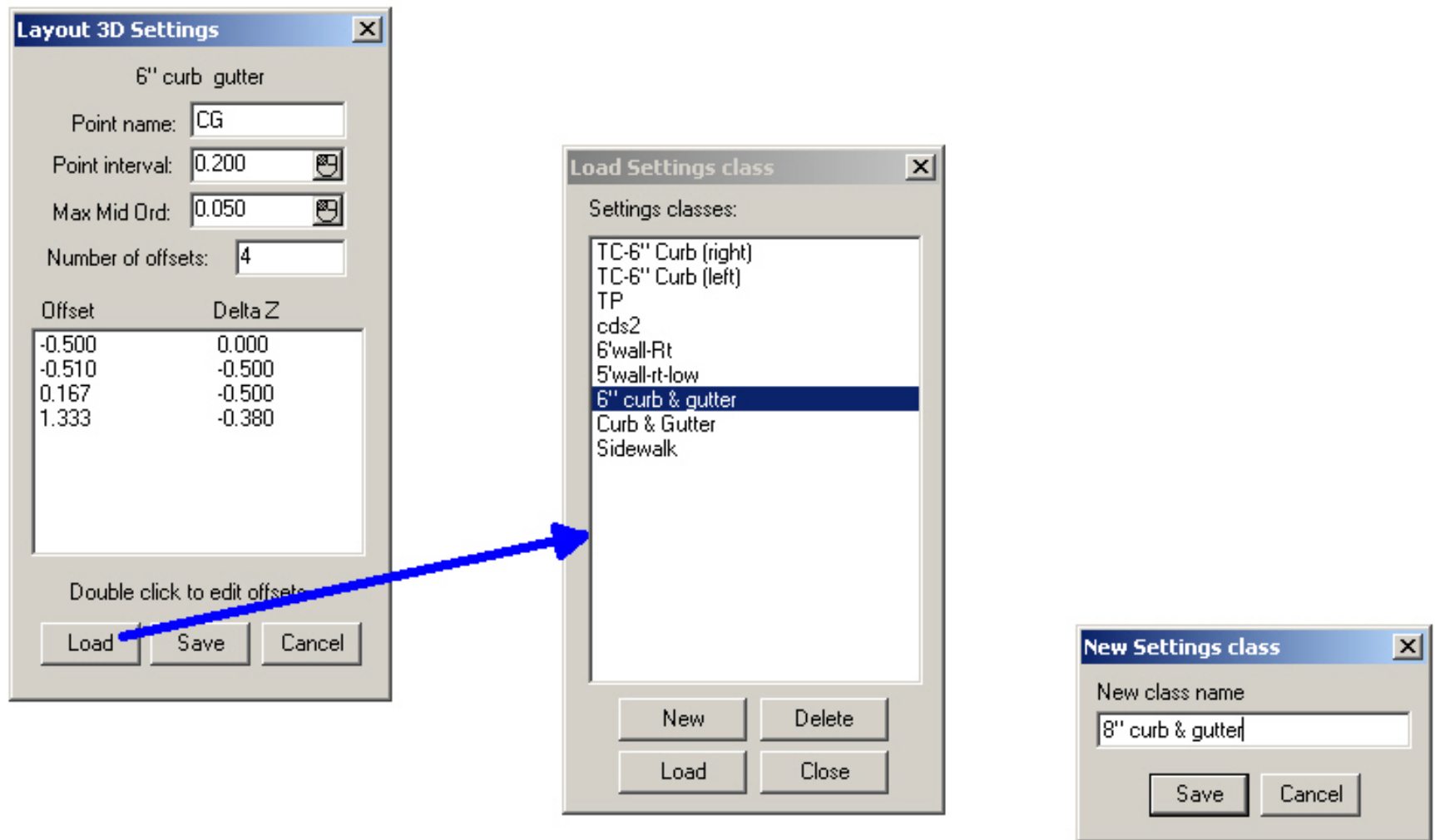
5. **Offset/Delta Z box:** Shows the offset and change in elevation of each offset created. Note: Double-click on the offset value to edit the settings.
6. **Load:** Loads previously saved offset/delta z groups or classes.
7. **Save:** Saves the current offset/delta z group.
8. **Cancel:** Cancels changes.

Add Offsets

1. Type the number of offsets desired in the *Number of offsets* field.
2. From the list of offsets now appearing in the *offset/delta z box*, double-click on the first.
3. The *Offset properties* dialog will appear.
 - **Offset:** Offset distance from the original set. Positive values are offsets to the right, negative values are offsets to the left.
 - **Delta Z:** Change in elevation from the points of the original set.
 - **Layer:** Layer this offset will be created on. Layer 0 will place the offset line on the layer of the original set.
 - **Color:** Color of this offset line and points. Color 0 will assign the color of the original set to this offset.
 - **Point name:** Name assigned to the points created on this offset.
 - Click **OK** when finished with the changes.
4. Double-click on each offset/delta z and make the necessary changes.



5. Click **Save** to save the changes to the offset settings.
6. Click **Load** to load a predefined group of offsets.
 - o Highlight the desired class and click **Load**.
 - o Click **New** to create a new class.



7. Close out of the dialog boxes after changes are made.
8. Continue selecting elevation text and point locations.
9. Click *Done* to end the command and draw the offsets if applicable.

Programmer's Note:

This command turns Terramodel into the Paydirt/Sitework program. However, you can stay in Terramodel and you don't need your digitizer.