

CREATING A NEW DRAWING/ DOWNLOADING POINTS/ CREATING A SURFACE**I. CREATING A NEW DRAWING**

1. **Open Autodesk Civil 3D 2008** ((Most likely you'll have a shortcut icon on your desktop you can double click).

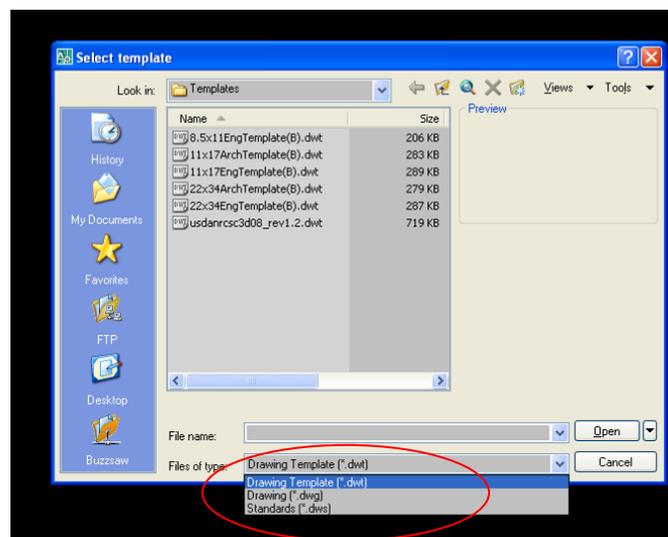
MAKE SURE YOU USE "CIVIL 3D 2008" AND NOT ANOTHER SHORTCUT LIKE "CIVIL 3D AS AUTOCAD 2008"

Once Civil 3D opens you'll have a blank screen. You'll want to start by selecting a template and selecting where you want your project stored. In Civil 3D there is a style associated with everything! A template has all the styles set which control how the points look, how surfaces are displayed, how your profile is labeled, etc.

2. **Downloading a Template**

Use of the template is strongly encouraged as all of the settings and styles for points, contours, alignments, etc. are already done for you. Starting a drawing without this template will result in wasted time adjusting the styles and settings.

- a. NRCS has created a template located on the Wisconsin NRCS website under Engineering. You can access the template location by copying the following link to your web browser:
http://www.wi.nrcs.usda.gov/technical/eng_cad.asp
- b. Select the CIVIL 3D template and then SAVE
- c. Select a location to save the template and remember where you saved it.
- d. Return to Civil 3D and select
 - i. File → New and in the window that pops up, change the files of type at the bottom of this window to *Drawing Template (*.dwt)*



- ii. Now navigate to where you saved your drawing template and click Open

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- e. Select File → Save As → (Navigate to the appropriate folder where you want to save your drawing) → name the file → click Save
 - f. If you want to download the template from the NRCS website each time you start a new drawing, skip to the section “IMPORTING POINTS”, otherwise continue to step 3.
3. **Saving a Template as Your Default Template (Only need to do this once and do it BEFORE downloading points)**
- a. Save the template in a chosen location such as: C:\My Documents or on your H: drive. It is recommended you create a folder named “template” to store this and other templates you create.
 - b. In Model Space, right click and select “Options”
 - c. In the “File Tab” click the + next to “Template Settings”
 - d. Click on the + next to “Drawing Template File Location”
 - e. Click on the file path ... if it is not the same as to where you where you saved your template, click the “Browse” button and navigate to the folder where you saved the template in step “a.” above.
 - f. Click on the + next to “Default Template File Name for QNEW”
 - g. Click on the file path, click the “Browse” button and navigate to where you saved the template from step “a.” above.

Now every time you open Civil 3D this will be your “default” drawing template that appears.

If you want to create customized templates, continue to step 4. Otherwise, skip to the section “IMPORTING POINTS”

4. **Creating and Saving Customized Templates (do this BEFORE downloading points)**

You may decide you want to have a templates for different practices (dams, manure pits, etc.). This way, you can open your “dam template”, for example, and standard drawings for a dam you’ve already brought into the original template will be there.

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- a. Begin customizing the original template by adding practice specific standard drawings (refer to the Civil 3D “Helpful Hints” help sheet on the web on adding drawings to your template).
- b. After you’ve added all the drawings you need, click **File >Save As** and select **DWT** as the file type and save them in your template folder. Then when you open Civil 3D and **File >New** you will see all your specific templates you have created!

Remember, when you use this template to start up a particular job in the future, do a "Save as", and save as a different name than your template.

II. IMPORTING POINTS

If you already have the survey data downloaded as a *.csv or *.txt file, skip to step 2. Windows based data collectors (ex. Trimble, Topcon, TDS Ranger) do not require Survey Link to download to the computer. DOS based data collectors (ex. Husky) require Survey Link to transfer the points from the data collector to the computer.

1. Downloading from the Data Collector

- a. For DOS based data collectors (example: **HUSKY**):
 - Select Survey from pull-down menu and select Survey Link
 - if you do not have Survey Link in the pull-down menu, enter **STARTSURVEYLINK** at the command prompt
 - Instructions on downloading a data collector using Survey Link are located on the NRCS website at http://www.wi.nrcs.usda.gov/technical/eng_CADtraining.asp under Land Desktop Help Sheets and are titled “Download-Data Collector”
 - If you are unable to get Survey Link to start, you will need to use Land Desktop to download your points.
- b. For WINDOWS based data collectors (example: **TDS, TOPCON**):
 - Refer to the Civil 3D help sheet titled “1-Downloading Points Using Active-Sync” to download points.

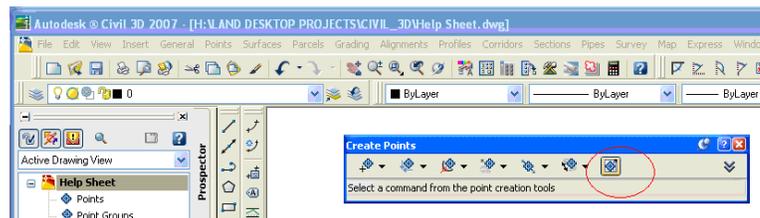
When you complete Step 1, you will have points downloaded as a *.csv or *.txt file

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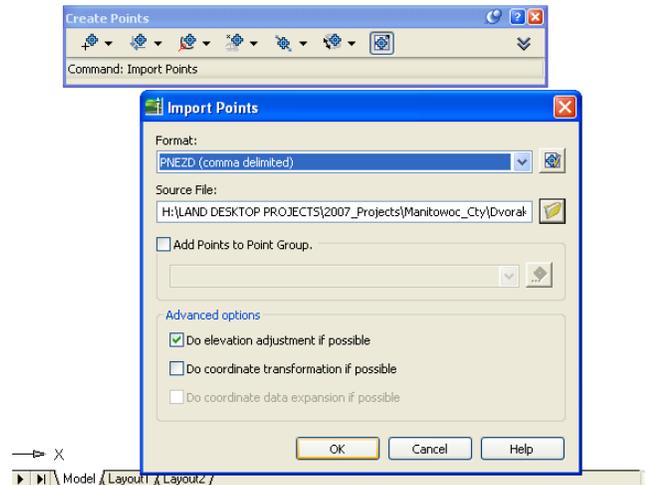
2. Bringing Points Into Civil 3D

Now that you have a *.csv or *.txt file downloaded from the data collector:

- a. Click on the Points menu on the top of your screen.
- b. Pick Create Points. You'll get a Create Points tool bar.
- c. On the far right of the toolbar will be a symbol with a box around it. When you let your crosshairs sit on it, it should say Import Points



- d. When you pick the symbol, you'll see a dialog box with a familiar process to import points.



- e. Be sure to choose a recognizable point format (i.e. PNEZD, comma delineated) and navigate to the appropriate folder where you saved your points when downloading the data collector.
- f. After clicking OK your points should appear on the screen. You may have to type ZE (zoom extents) into your command line.

3. Insert existing Land Desktop project-based points into Civil 3D

Once you have created a drawing in Civil 3D you can convert old points to Civil 3D points by:

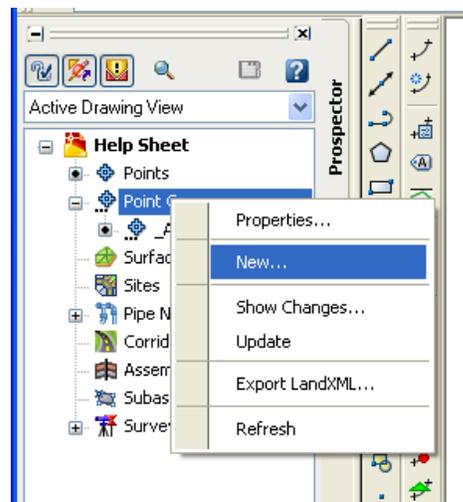
- a. DDinsert an existing Land Desktop project-based drawing

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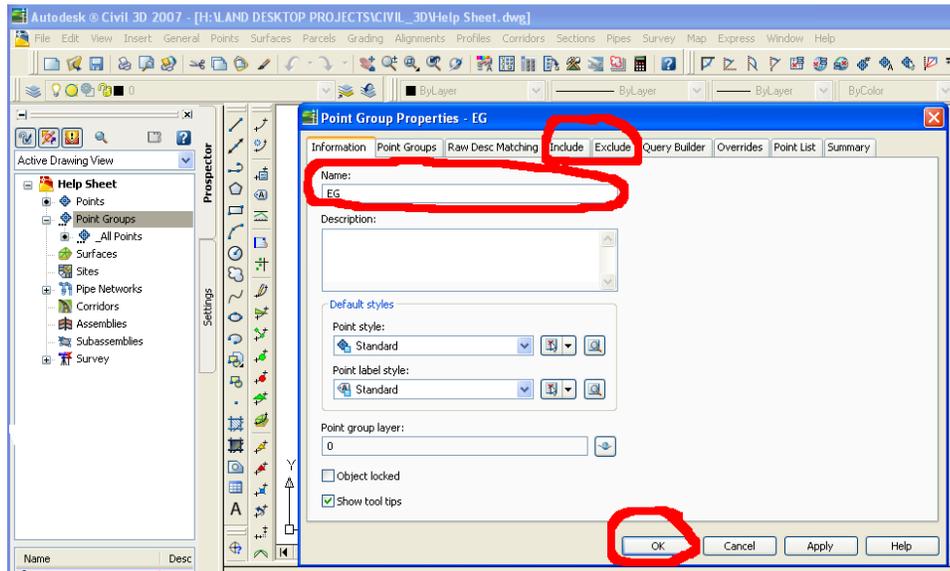
- i. Make sure 0,0,0 is your insertion point
- ii. Make sure the drawing is exploded.
- b. From the screen menu:
 - i. Points → Utilities → Convert Land Desktop points
 - ii. The old land desktop points will be converted into Civil 3D points
 - iii. You can use any existing breaklines to create a new surface.
 - iv. Make sure you erase the old LDD contour and surface layers.

III. CREATING A POINT GROUP

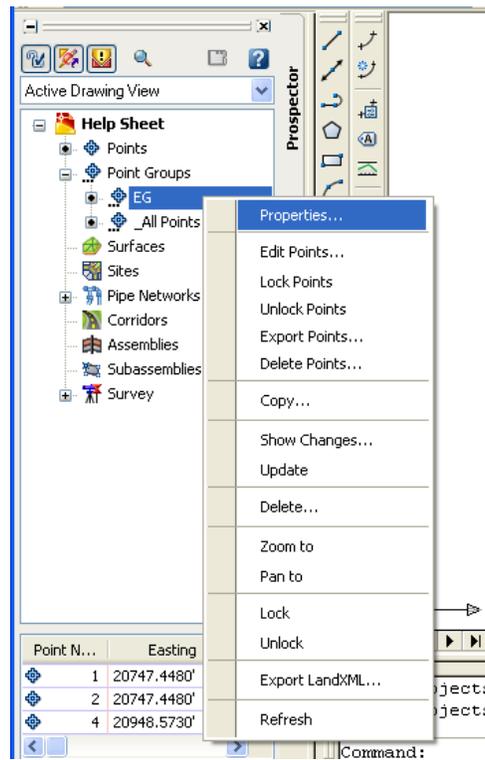
- a. Toolspace toolbar → Prospector tab → Point Groups subdirectory
- b. Right-click on the Point Groups directory.
- c. From the menu pick New



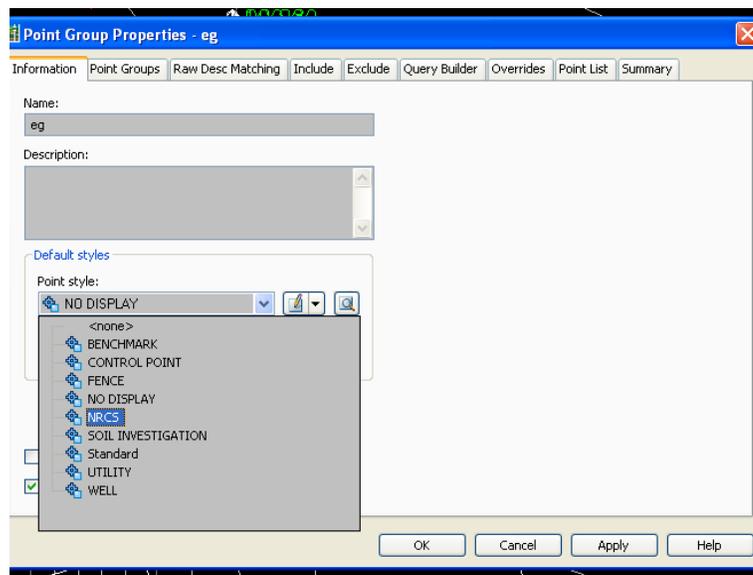
- d. You'll get a large dialog box called Point Group Properties
 - i. First, under the "Information tab, give your point group a name (your surface name, ex. EG).
 - ii. Then go to the Include tab and choose the points you want to include in your surface.
Omit points not on the ground such as Benchmarks, tops of culverts, etc.
 - iii. When you are finished, pick Apply and OK or just OK.

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- Later if you determine there are more points that should be omitted from the point group, you can right-click on your point group name. Pick Properties. Instead of hitting the Include tab, pick the Exclude tab. Type in the point numbers to be excluded or pick them from your drawing.
- e. Editing Point Groups
- i. To edit your point group go to your point group in Toolspace toolbar → Prospector tab → Point Groups subdirectory → EG
 - ii. From the toolbar, right click on the point group you want to edit
 - iii. Select Properties to open the Point Group Properties dialog

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- f. In the window that pops up, select a different “Point Style” to change how the points are displayed and select OK.



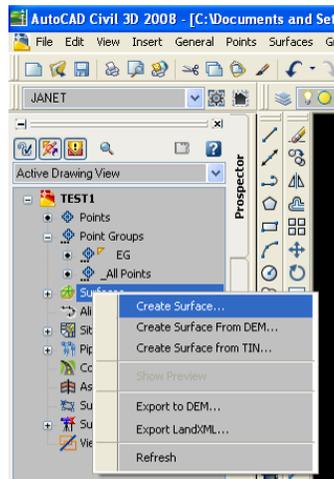
- g. From the toolbar, right click again on your point group and select “Update”.

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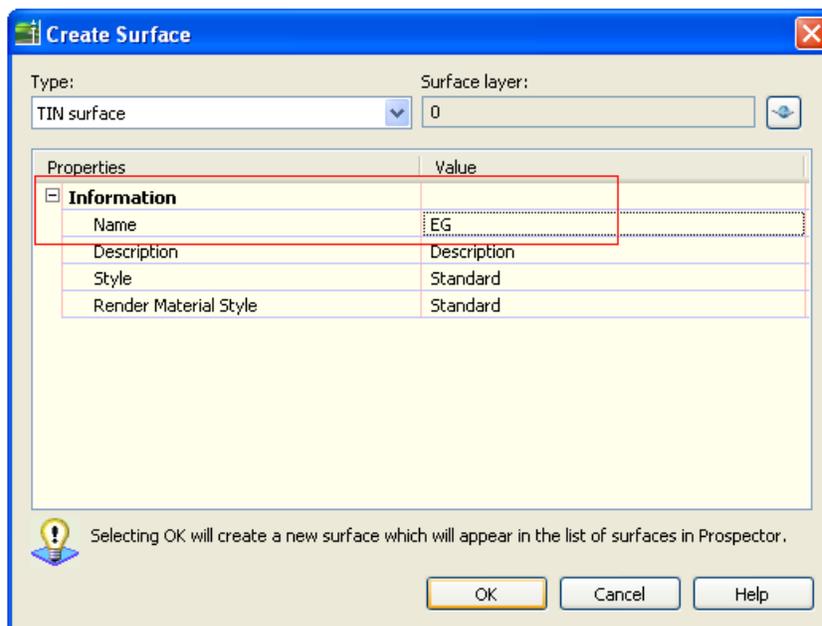
IV. CREATING CONTOURS

1. Create a New Surface

- a. From the Toolspace toolbar → Surfaces → right-click → CREATE SURFACE

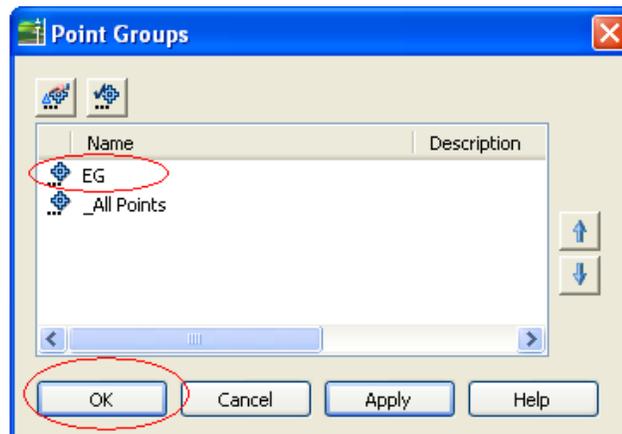
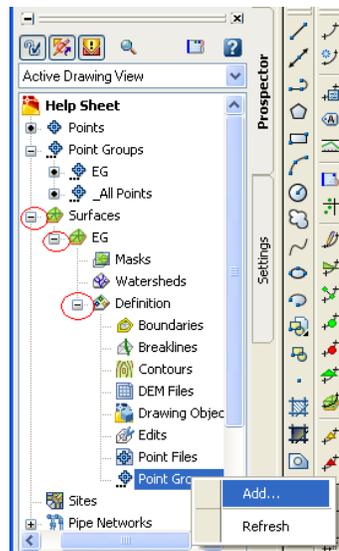


- b. You'll get a Create Surface dialog box.
- Under Information, to the right of where it says Name, replace the value with the name of your surface (EG).
 - Pick OK

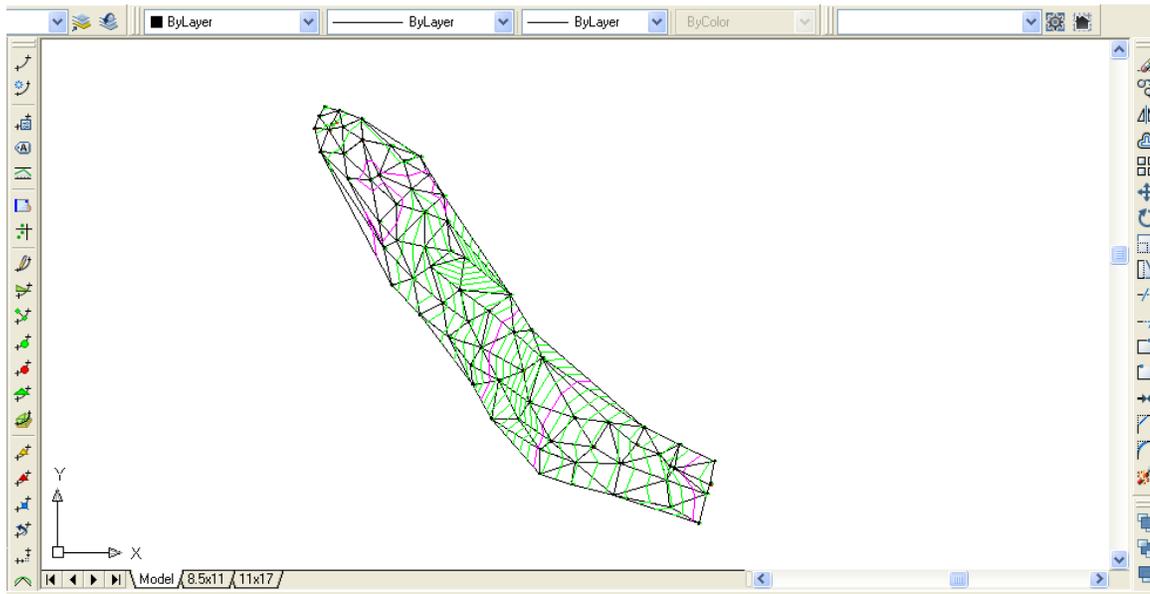


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- c. A plus (+) box appears next to the Surfaces subdirectory.
 - i. When you pick the (+) box, your surface name should appear under Surfaces.
 - ii. Pick the (+) box next to your surface name.
 - iii. Pick the (+) box next to Definition
- d. Right-click on the Point Groups subdirectory.
 - i. Pick Add.
 - ii. The point group you created should be on the list. Chose it and pick OK.
 - iii. Your surface should appear, already built.

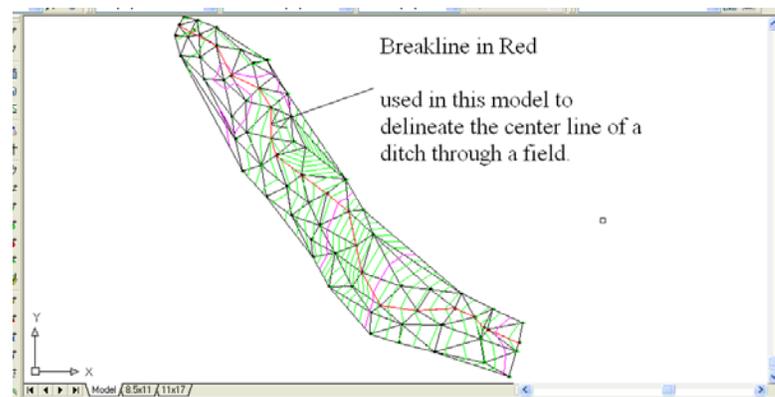


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2. Adding Breaklines to your Surface

- a. Using the 3d polyline draw tool, draw a 3d polyline, attaching it to the Nodes of the points that define it. (Unlike *Land Desktop*, *Civil 3D* points are placed at the actual elevation they express.)

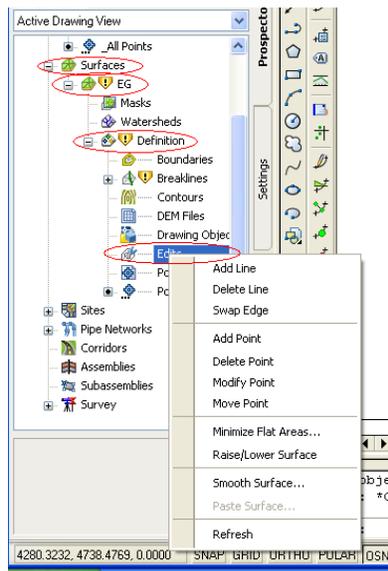


- b. From the Toolspace toolbar → Surfaces directory → EG → Definition subdirectory
 - i. Right-click on Breaklines.
 - ii. Pick Add. You will be prompted to give a description (optional), pick OK.
 - iii. Your command line will ask you to Pick Objects. Pick the polylines you wish to be breaklines. Hit Enter.
 - iv. The surface will rebuild itself using the polylines.

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Note: at this point you may get an annoying incident dialog box popping up, If the surface does what you want, ignore the box. In fact in most cases you can ignore that box. Pick the corner to close the box.

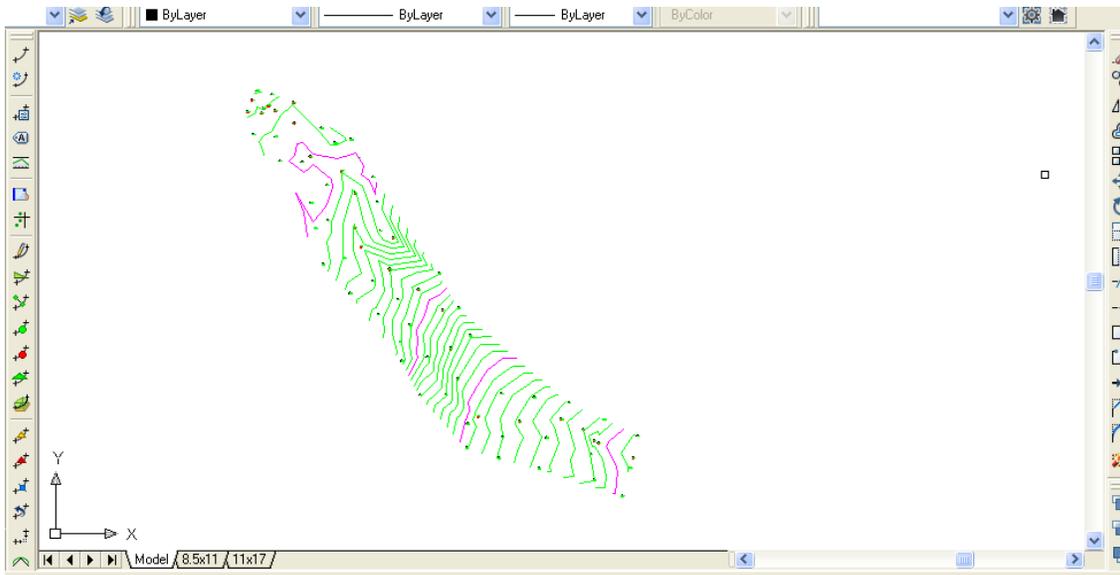
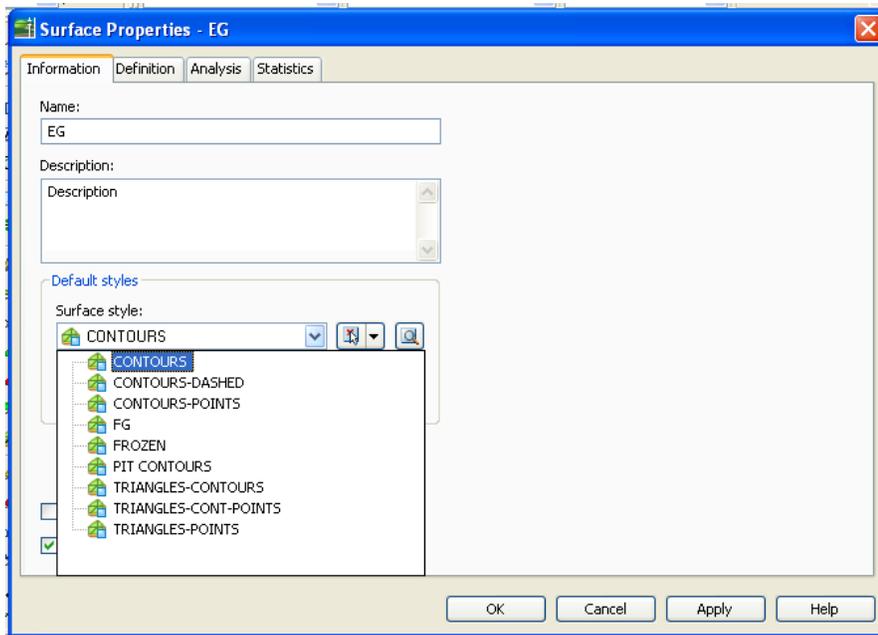
- c. Further editing the surface can be accomplished by Right-clicking the Edits subdirectory under Definition.
 - i. In here, there will be the familiar editing tools, like: Add or Delete line; Add or Delete point, etc. *Note: Flip Face is now called Swap Edge.*
 - ii. In order to edit your surface, it is recommended that you have your contours, tin lines and points all showing.



3. When you are done refining your surface, and you want to only see the contours,

- a. Right-click on your surface name.
- b. The top option in the menu should be Surface Properties. Pick that.
- c. In the large dialog box that appears, the Information Tab should be foremost.
- d. Under the window marked Surface Style, pick the scroll button on the right.
- e. Choose CONTOURS from the options.
- f. Pick OK.
- g. Your surface will show contours and the original points. You can freeze the points if you want to.

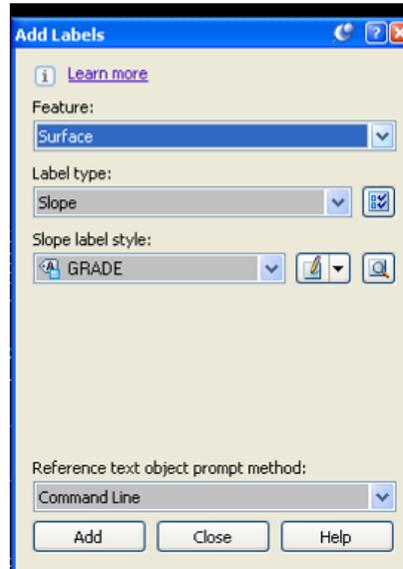
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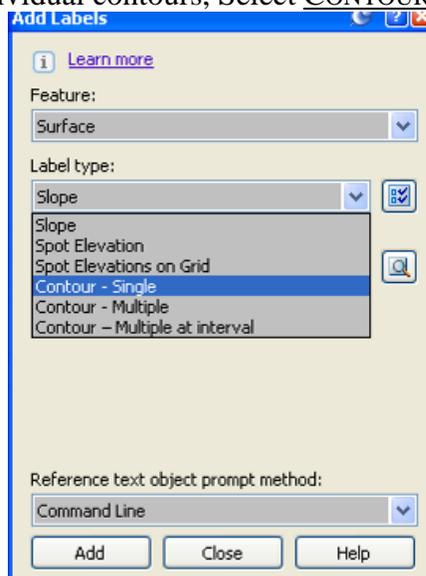
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V. LABELING THE SURFACE**1. From the pull down Menu:**

- a. SURFACES → ADD SURFACE LABELS → ADD SURFACE LABELS

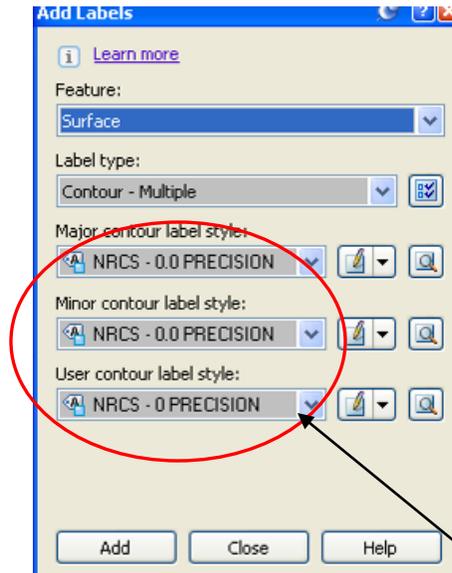


- b. If you want to label individual contours, Select CONTOUR SINGLE



- c. If you want to label multiple contours, Select CONTOUR MULTIPLE

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- d. To change the contour label precision, use the drop down boxes
- e. Select Add
- f. Follow the command line to select your surface.