

# [Digital Canal Corporation](#)

## Solution Papers

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### Summary: *Creating a Pole Barn*

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**Overview:** SolidBuilder has the ability to create pole sheds, with the use of its standard functionality. The user just needs to change some of *SolidBuilder's* standard settings for the program to create this type of design. This solution paper aids you in making the necessary changes to *SolidBuilder's* settings, and show you the necessary steps to create a pole shed. This solution paper does assume that you have completed the *SolidBuilder* tutorial, and have a basic understanding of how the program works.

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## Creating a New Model

Begin by creating a new model.

- **Select File → New → Model.**
  - **Enter a drawing name and location.**
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## Creating a Series of Points

The first item we create is a series of points that help us place our posts quickly and accurately.

1. Click on the Outline icon.
2. In the drop list for the type of outline you would like to create, select Rows.
3. The command line prompts you to select a location of the corner point.
4. Click your left mouse button in the lower left hand corner of the screen.
5. The command line now prompts to select a second point along the row.
6. Type X on the keyboard and type in a distance of 10' in the X field.
7. This is the distance between the posts across the front of our building.
8. A dialog box is now displayed prompting you to enter the number of points along this row.
9. Type 10 in this dialog box and click on OK.
10. This places 10 points along the front side of our building to be used to locate the posts.
11. The command line prompts to indicate a distance to the next row.
12. Type Y on the keyboard and type in a distance of 40' in the Y field.
13. This spaces the next row of points 40' away from the first row.
14. A dialog box is now displayed prompting you to enter the number of rows of points.
15. Type 2 in this dialog box, and click on OK.
16. This places the second row of points 40' away from the first row making the building 40' wide.
17. All your points have been created for placement of the posts. You may need to do a Zoom All to see all the points.

18. *NOTE: More points could be placed just by using the points option instead of rows. These extra points could represent locations of center posts, or posts in the end walls.*

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## Place Post

Now that we have all the points created, we can use those points for placement of our post.

1. Click on the Girder/Post icon.
2. Select Post from the drop list.
3. Click on the Options icon.
4. This displays the Post Options dialog box.
5. Enter the following information in the options dialog box:
  - Width = 6" (This makes our post a 6x6)
  - Depth = 6" (This makes our post a 6x6)
  - Height = 14' (This makes our total post height 14' tall, the actual walls are only 10' tall, but we are assuming there are 4' in the ground)
  - Shape = Rectangle
  - Match Elevation to = Bottom (Meaning that our post starts at the bottom and is built up 14')
  - Draw by Centerline is checked (This will allow us to place the center of the post around the center of the points)
  - Miter is not checked
  - Miter if turn angle exceeds = 135
6. Once all the settings are correct click on OK.
7. The command prompts: Indicate center of post
8. You use one of *SolidBuilder's* jump commands to place these posts.
9. Type P to execute the Point jump command.
10. The command line prompts:
11. Select close to point
12. Your moveable cursor becomes a mouse pointer.
13. With the mouse pointer click on the point that is located in the lower left hand corner of the screen.
14. Your crosshair is moved over that point and the command line prompts you to indicate the center of the post.
15. Since your crosshair is located on that first point, click your left mouse button to place the first post at this point.
16. Your first post has now been placed, and the command line prompts: Indicate center of post
17. Use the same series of commands specified in the steps above to place the remainder of the posts around you building.
18. Make sure to use the jump command to get the exact location of the posts.

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## Place Girders

Now that we have all the posts placed, we can place the girders that support the roof. We begin this process by setting the correct elevation to get the girders at the correct height.

1. Click on the elevation icon (This is located at the bottom of your drawing screen).
2. This Build Elevation dialog box displays a list of all the items that can be used as an elevation.

3. Highlight post and click on OK.
4. The command line prompts you to select the post for elevation.
5. You can select anyone of the posts in the drawing because they all have the same starting and ending elevation.
6. Click on one of the posts.
7. This displays the Model Elevation dialog box that displays the top and bottom elevation of this post.
8. Top = 14'
9. Bottom = 0'
10. The girder is at the top of the posts and then built downward.
11. Select Top and click on OK.
12. This sets the current drawing elevation to 14'.
13. Now since we are already in the girder/post mode you can just switch the drop down list from post to girder.
14. Now make sure that the method to create this girder is set to Free Form.
15. Click on the Options icon.
16. The Girder Options dialog box displays.
17. Enter the following information into the Options dialog box.
  - Width = 1\_1/2" (This makes the girder 1 1/2" wide)
  - Depth = 11\_1/4" (This makes the girder 11 1/4" deep). We assume that we are using a 2x12
  - Shape = Rectangle
  - Match Elevation To = Top (This has the girder start at the top, elevation 14' and built downward 11\_1/4")
  - Draw By Centerline is not checked
  - Miter is not checked
  - Miter if turn angle exceeds = 135
18. Once all the settings are correct, click on OK.
19. You place one girder on each side of the posts that run the length of the building.
20. The command line prompts: Mark first point of girder point
21. Type E to execute the endpoint jump command.
22. The command line prompts: Select close to endpoint
23. You now have a mouse pointer.
24. Using that mouse pointer, click near the endpoint at the intersection of the post that is located in the lower left hand corner.
25. Select the outside endpoint that is towards the bottom and the left of this screen
26. Your crosshairs are jumped to this location and the command line prompts: Mark first point of girder
27. Click your left mouse button at this location to start the girder here.
28. The command line prompts: Mark end corner of girder
29. As you drag you mouse away, notice that there is a rubber band line that is attached to your cursor and the corner of the post.
30. Use the endpoint jump command to locate your cursor at the endpoint of the bottom, right corner of the post located in the bottom right corner of the screen.

31. Once you select this point for the girder corner the command line prompts you to select the other side of the girder.
32. Select a point to the outside of the building
33. You are ready to attach to the last point with a rubber band line.
34. Click the right mouse button to detach the rubber band line.
35. Use the same sequence of commands listed in the steps above to draw a girder on the backside of the building. Make sure it is on the outside.
36. *NOTE: Watch the direction you mark for the other side of the girder. This is basically asking you on what side would you like the program to build the width of the girder.*

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## Create Walls

Now that we have the post and girders placed we can fill in the rest of the building with walls. To start you need to make sure that you have the elevation set correctly so the walls start at the correct spot.

1. Click on the elevation icon.
2. The Build Elevation dialog box is displayed, with a listing of all the items that are currently in the drawing which can be used for an elevation.
3. Highlight post and click on OK.
4. We use the post as a reference elevation since our walls start up on these posts by four feet.
5. The command line prompts:
6. Select post for elevation
7. Click on any of the posts to be used as the base elevation.
8. The Model Elevation dialog box is displayed.
9. Select bottom and type 4' for a vertical offset.
10. This makes the wall start four feet from the bottom of the post, allowing the post to be four feet in the ground.
11. Click on the wall icon.
12. Select Exterior from the Wall drop list and change the method to Free Form.
13. Click on the Options icon.
14. The Wall Settings dialog box displays.
15. Change the settings in this dialog to match the ones listed below.
  - Type = Elevation (This allows us to use the girder as a reference for the wall height)
  - Width = 1\_1/2"
  - Match Elevation To = Bottom (This makes the wall start at the bottom and to be built upward)
  - Draw By Centerline is toggled off.
  - Miter is toggled off.
  - Miter if turn angle exceeds = 135
16. Once you have all the options set correctly, click on the settings button.
17. This displays the Wall Settings dialog box.
18. Within the settings dialog box make the following changes:
  - Studs Tab
  - Center to center = 100' (This makes it so the program does not put any vertical studs in our wall)

- End Studs = 0 (This way you do not get studs at the end of your walls)
  - Plates Tab
  - Bottom Plate Thickness = 3\_1/2" (This places one purlin at the bottom of the wall)
  - Bottom Plates = 1 (This way the program puts in one bottom plate)
  - Top Plates = 0 (This way the program does not put in any top plates)
  - Blocking Tab
  - Place a line at height = 2'
  - Blocking Thickness = 3\_1/2"
19. Once all the changes are made to the Settings dialog box click on OK.
  20. This returns you to the Options dialog box.
  21. Click on OK in the Options dialog box.
  22. This returns the Top Wall Elevation dialog box, with a list of items you can use to specify the top height of the wall.
  23. Highlight girder and click on OK.
  24. We are using the girder to specify the top height of our walls.
  25. The command line prompts: Select girder for elevation
  26. Click on one of your girders.
  27. The Model Elevation dialog box displays specifying the top and bottom elevation of the girder you selected.
  28. Select the bottom radio button and click on OK.
  29. We are using the bottom of the girder as the top of our wall.
  30. Now using the endpoint jump command, select the corner of the post in the lower left hand corner.
  31. You may need to zoom in and out during this process to make sure you are getting the correct endpoint.
  32. Then use the endpoint jump command again to select the other end of the wall.
  33. This would be the corner of the post in the lower right hand corner.
  34. After selecting the second point, the command line prompts:
  35. Select B-Side of wall
  36. Select a point to the outside of the building.
  37. This builds the width of the wall to the outside of the posts.
  38. Now you are rubber banding from the last point you selected.
  39. Continue around the building using the endpoint jump command to create the remainder of the walls. Be sure to have all four walls created before canceling the command.

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## Notes

- **Using the information you previously learned in the tutorial you are able to insert openings in the walls of this pole shed.**
- **Using the information you learned in the tutorial you are able to create planes on these girders and then generate roofs from these planes.**
- **Ribbed steel siding and roofing can be accomplished using either an assembly or by adjusting your sheathing database to have the correct sizes.**