

DRAFTING (LEVEL 1) CAD ASSSIGNMENT 3

SHED DESIGN

You need to design a garden/storage shed for your backyard. Your package will consist of two or three separate drawings. The first will be a floor plan and elevations (perhaps a 2nd drawing) of the shed, and the third (second) will be a site plan showing where the shed is placed in the yard

READ THE REQUIREMENTS BELOW AND FOLLOW THE STEP BY STEP INSTRUCTIONS.

REMEMBER: A few minutes planning on paper may save a lot of time later.

1) FLOOR PLAN: 10 marks (Max. 3m x3m)

The shed must have the following

- a) room for 4 bicycles
- b) a working space (work desk)
- c) a least 1 window
- d) a double door as an entrance

2) ELEVATIONS: 10 marks

You will need to make a copy of the floor plans file.
Go to File, Save as, and name as Shed Elevations.

You will need to add

- a) a roof design with overhanging eaves
- b) 100mm thick concrete floor
- c) Textures on walls, roof, and foundation

3) SITE PLAN: 10 marks

Your shed is to be placed in a backyard measuring 16m X 10m.
Create a new Vectorworks file with a proper scale to fit a 10 x 16 m backyard.
Copy your shed from your elevation drawing a paste into this new file. Move it into the right place.

You will need to use your **RESOURCES** file in order to place landscaping in the backyard. The site plan will include the following:

- a) at least 2 large trees
- b) a hedge
- c) a path to the shed
- d) a small garden

MARKING:

1FLOOR PLAN

Layout	2
Dimensions	3
Scale	2
Difficulty	3

ELEVATIONS

Roof	2
Texturing	5
Floor	2

SITE PLAN

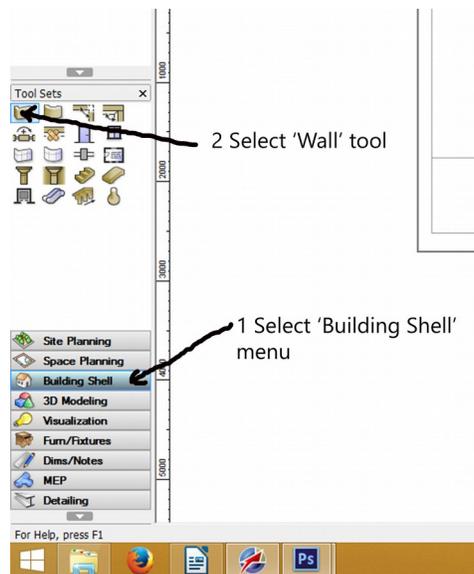
Layout	3
Resources	4
Difficulty	3

Step by Step Instructions: FLOOR PLAN

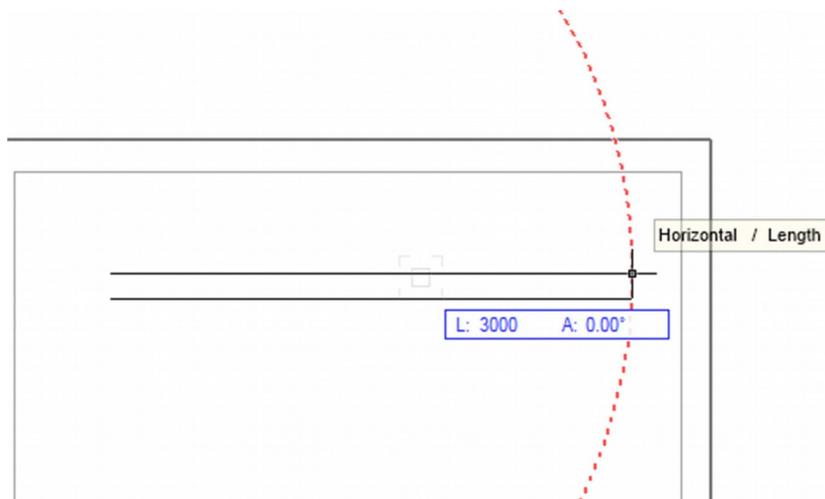
- 1) Hand Sketch your Garden shed (no larger than 3m x 3m)
- 2) Open Vectorworks and select the appropriate titleblock for the shape of your shed.
- 3) Save As 'SHED FLOOR PLANS'
- 4) Change the scale of your OBJECT layer to 1:20

MAKING WALLS:

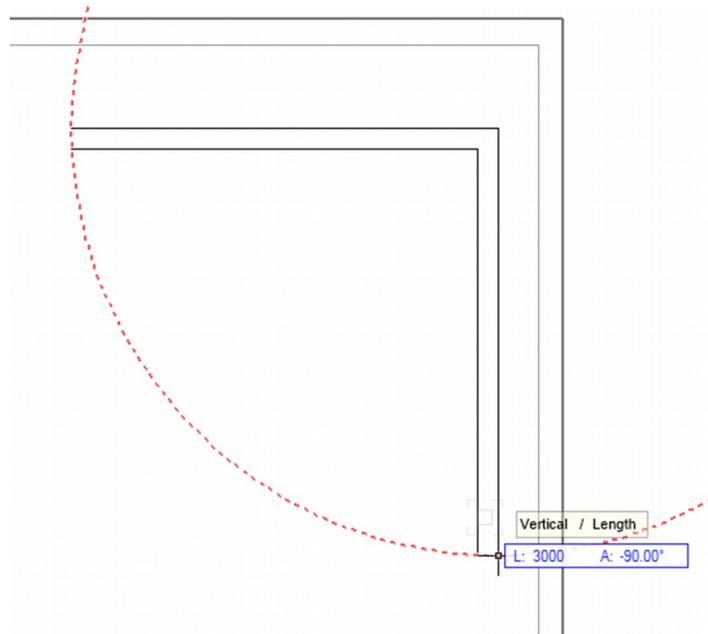
- 5) Using the "Building Shell" menu select the 'Wall' tool.



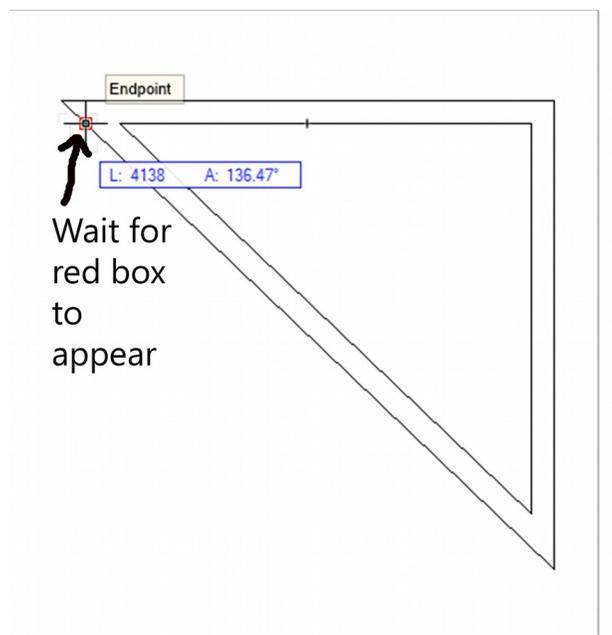
- 6) In your **Attributes** window set your Fill to **Solid**.
Begin drawing your 1st wall, use the upper keyboard numbers to type in the correct length.
Press ENTER to set length, then Left Click once when horizontal (or vertical) to set direction and start new wall.

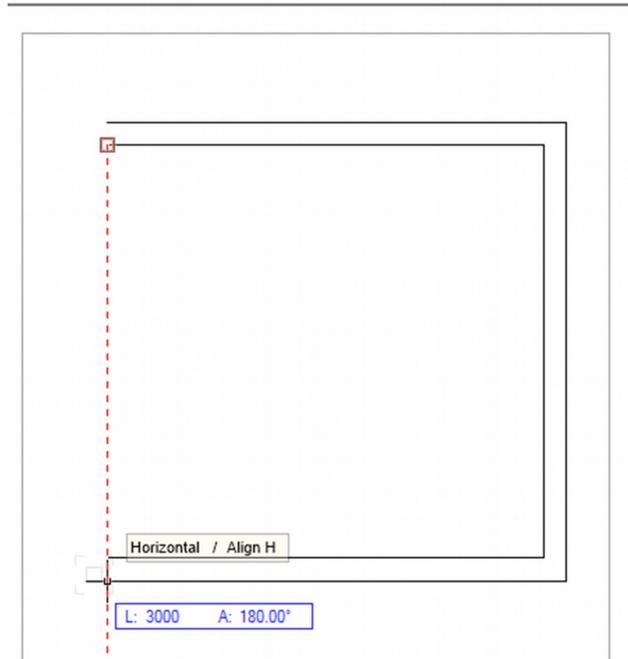


- 7) Continue to draw your 2nd wall, type in length, press ENTER, Left Click.

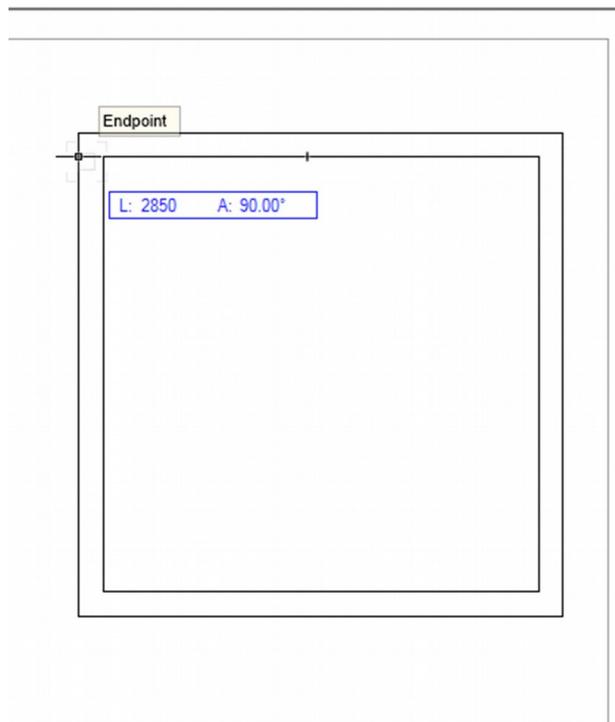


- 8) Use the 'Smart points' feature by hovering the cursor over the 1st point, wait for red box to appear around point, pull down and left click when aligned vertically and horizontally.



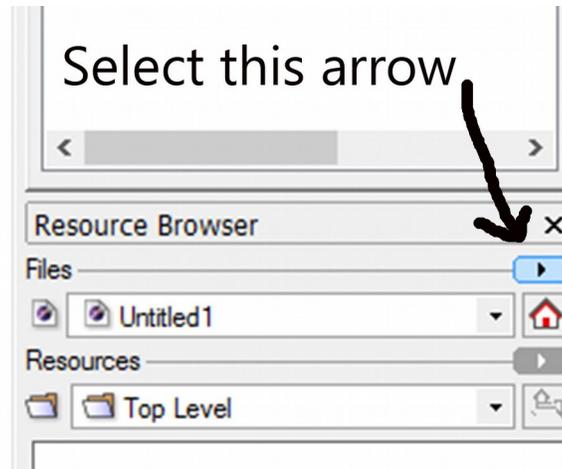


9) Finish the shed walls by connecting to the 1st point

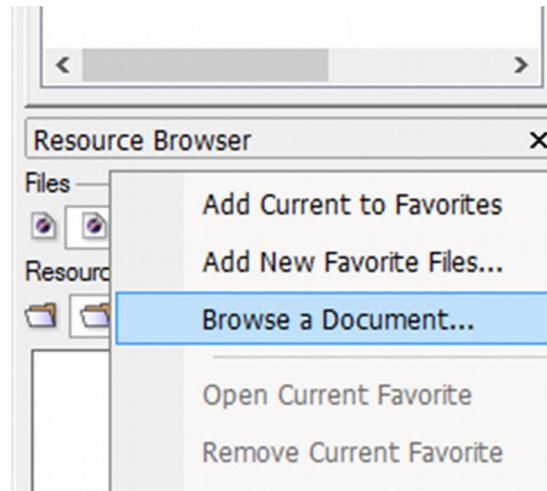


ADDING WINDOWS AND DOORS

10) In to *Resource Browser* window select the right arrow beside the word FILES



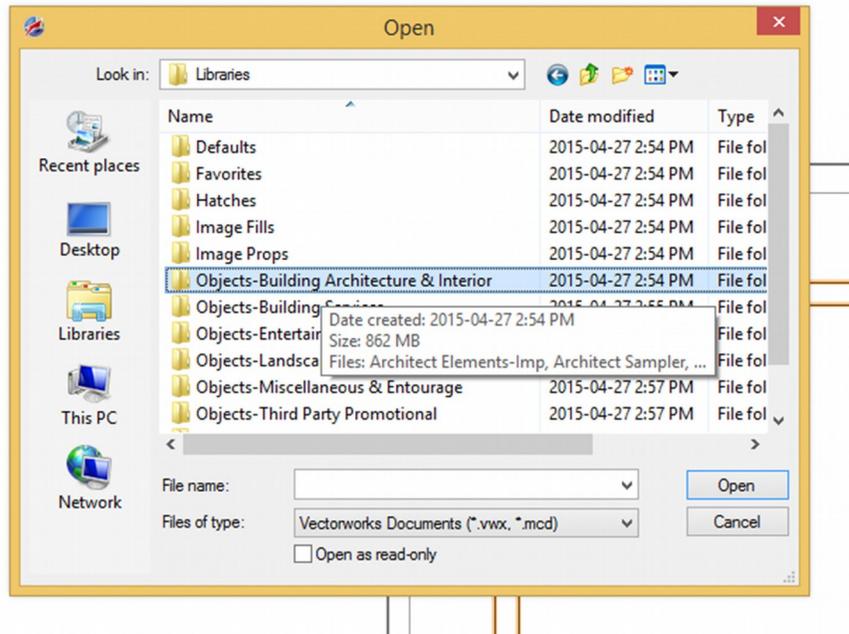
11) Select '*Browse a Document*' from the pop up menu



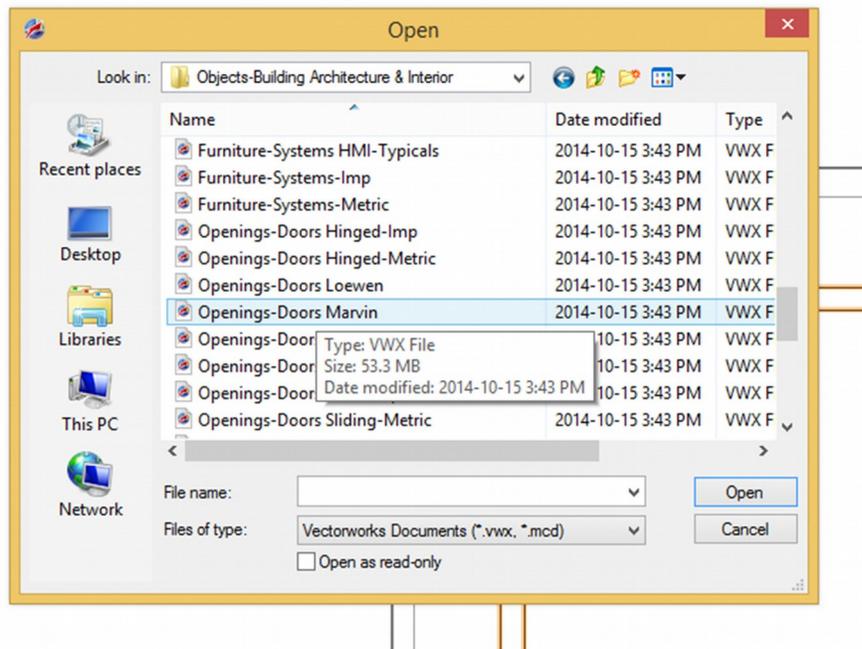
12) Hopefully you moved your *Shortcut to libraries* icon from the shared drive, Classes, Beeston, Drafting folder to your desktop when you did your Vectorworks setup booklet process. If you did not, minimize Vectorworks and copy the icon to your desktop now.

This will save your lots of time later.

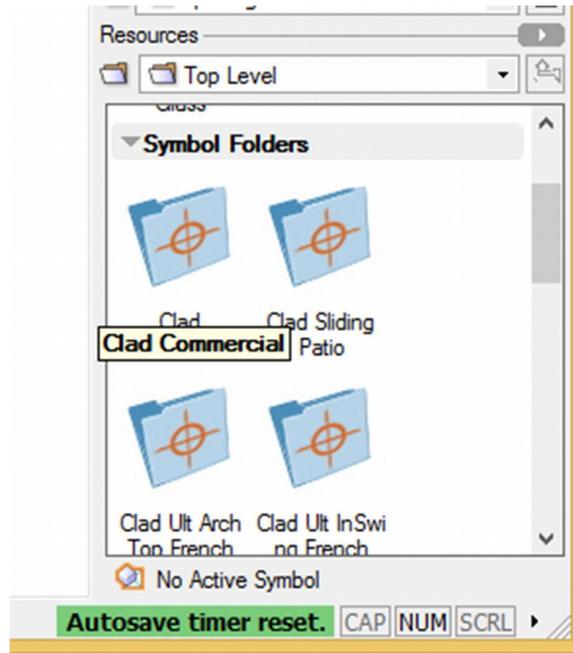
You should see a list of different categories of libraries. The one we use most often is *Objects-Building Architecture and Interior*



- 13) Open this Category and scroll to select one of the door libraries. I've selected the '*Openings-Doors Marvin library*'.

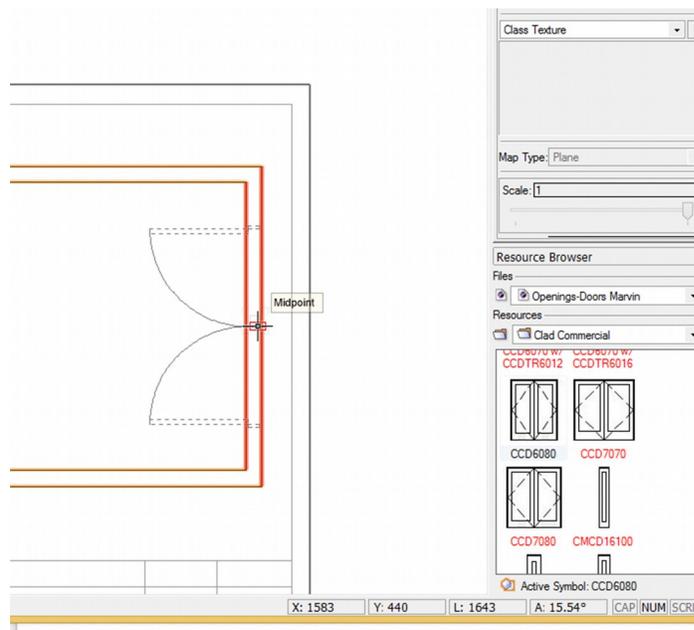


- 14) In your *Resource Browser* window you will now see several folders with doors in them. I opened the '*Clad Commercial*' (double click). You will now see many different doors to choose from. You need a double door for this project so scroll down until you see the double doors and double click on one.



Activate Window

Drag the door into the workspace and onto the wall into which you would like to place it. Wait for the wall to turn a darker red and left click to place. Move the cursor to set the swing in or out and left click again. You can change door height, width, swing, etc in the *Object Info* window later.



15) Repeat this process for windows, your workplace (desk), etc.

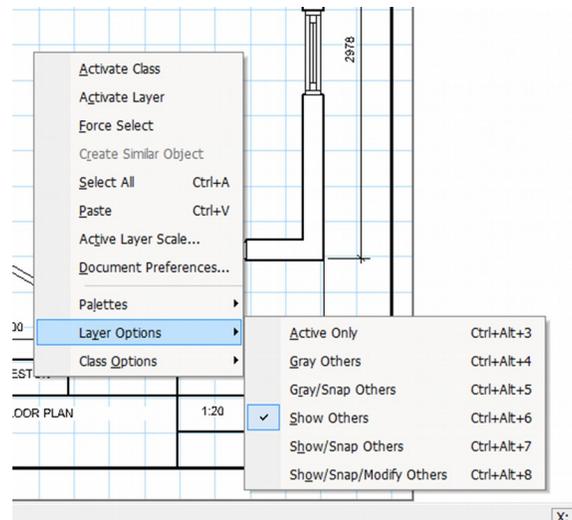
ADDING DIMENSIONS:

16) Change to your *Dimension* layer and make sure to set the scale to 1:20. Add dimensions so you did in your *Desk Organizer* project.

Remember to measure to the middle of all doors, windows, and walls but to the outside of exterior walls.

17) Complete your titleblock with the proper description, scale, and date.

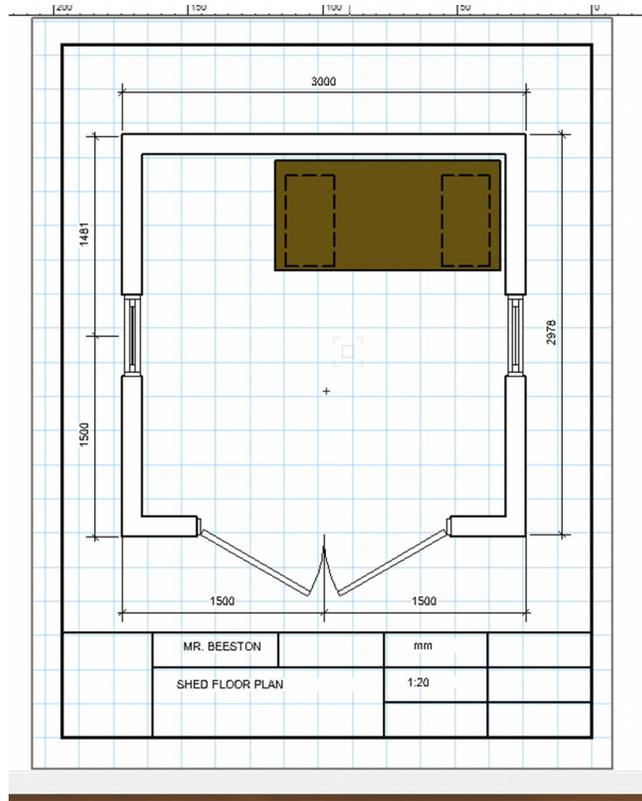
Right click, Select Layer Options, Show All to display all layers



Before you save please check the basics like line density, object placement, Dim placement, etc.

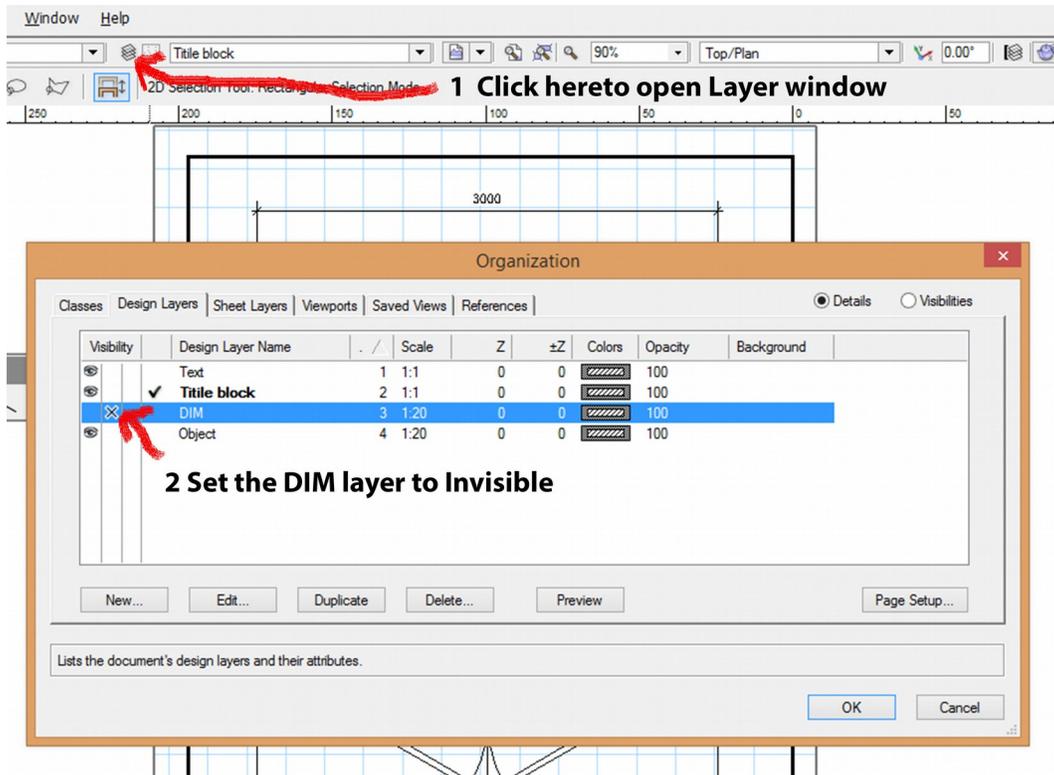
SAVE your drawing to your space.

Your finished Floor Plan should look something like this:



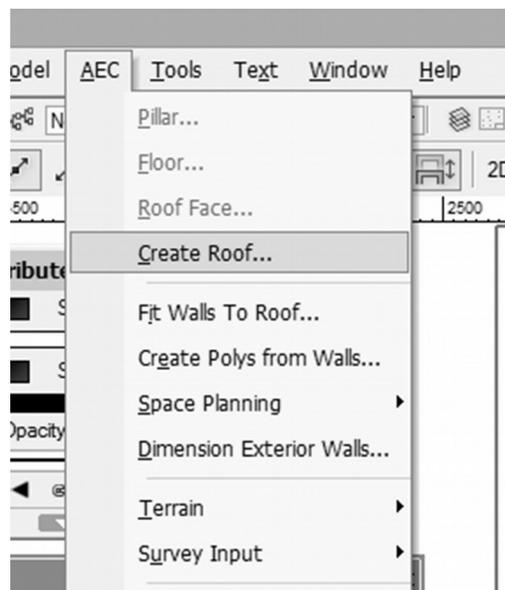
ELEVATION DRAWING:

- 18) **SAVE AS** your *Shed Floor Plan* and name it *Shed Elevations*.
- 19) Hide your *Dimension* layer by opening up your Layer window and click under the *Visibility* heading in the centre column. An 'X' should appear next to the Dimension layer making it invisible.



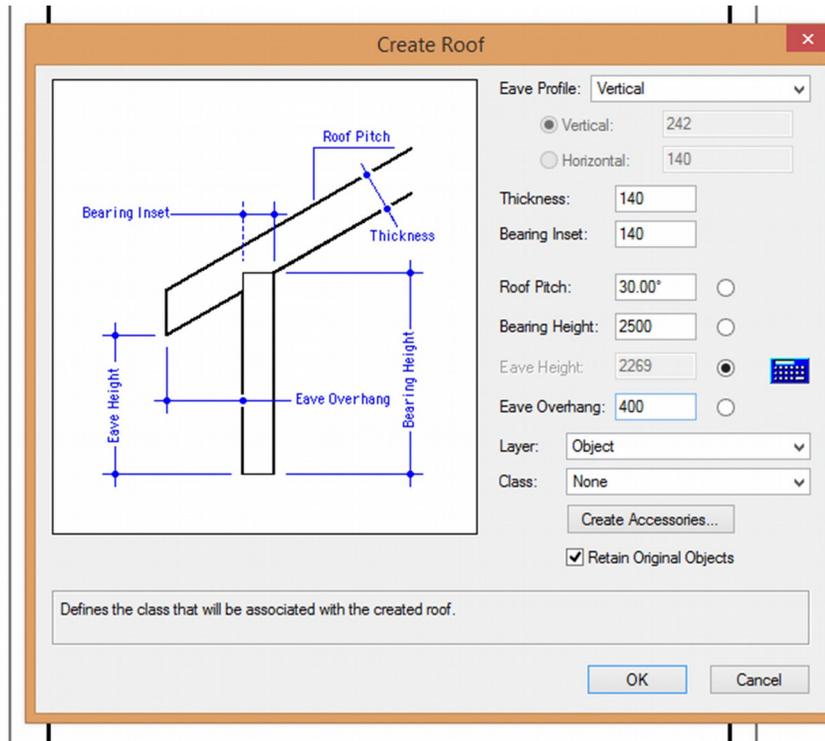
ADDING A ROOF:

- 20) Hold down your SHIFT key and click on all four walls.
You should see '4 WALLS' in the Object Info window.
- 21) Under the AEC tab at the top of the screen select 'Create Roof'

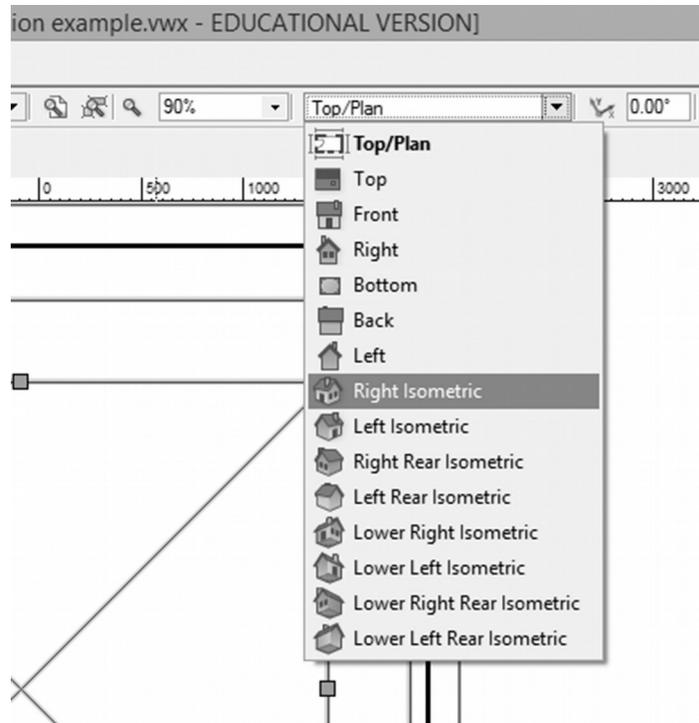


22) In the 'Create Roof' pop up window enter the following settings:

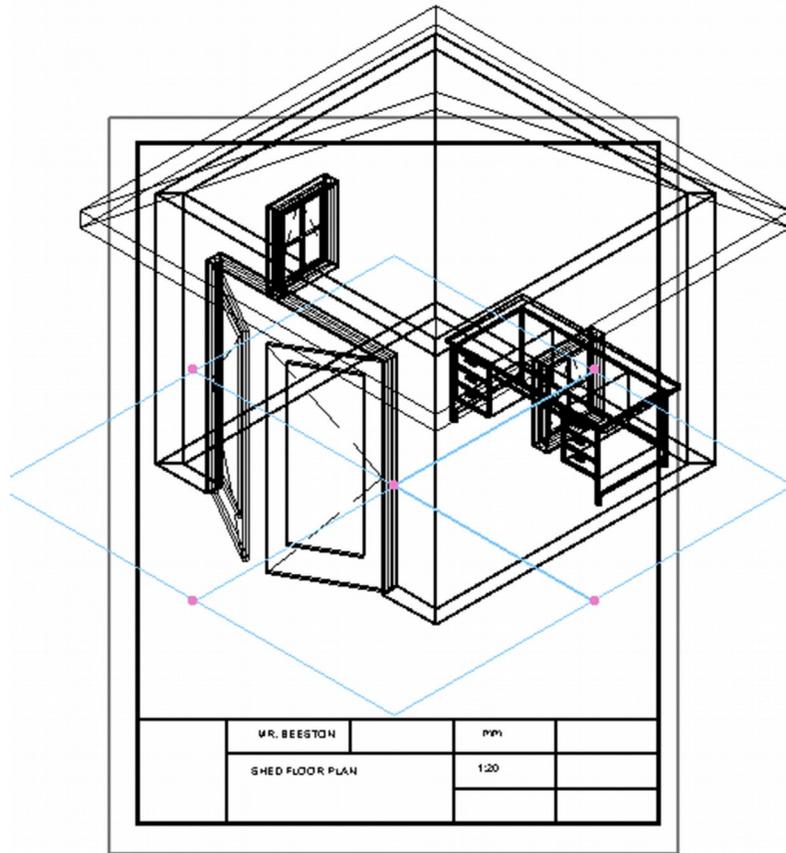
Eave Profile: Vertical
Eave Overhang: 400
Class: None



23) Your roof will appear on top of your shed.
Click on the down arrow of your **View** menu and choose '*Right Isometric*'.

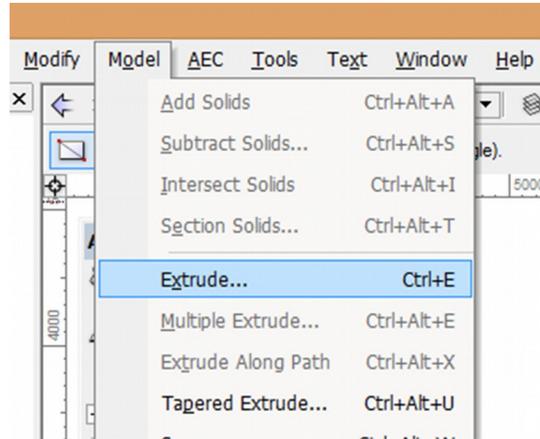


You should see something like this:

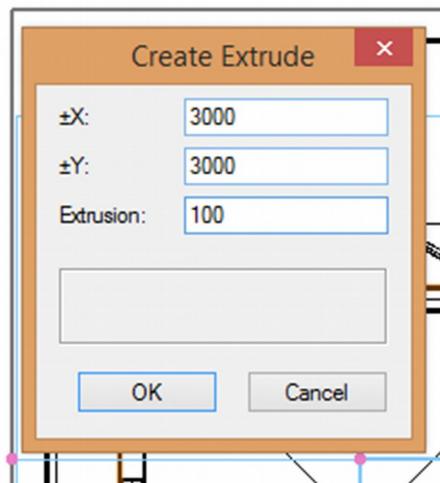


ADDING THE FOUNDATION SLAB:

- 24) Change your view to **Bottom**. Select the **Rectangle Tool**, Draw a rectangle from an outside corner of your wall to the opposite corner. Make sure you're drawing a **SOLID** rectangle.
- 25) We now need to give thickness to the rectangle. Click the **Model** tab and select '*Extrude*'.



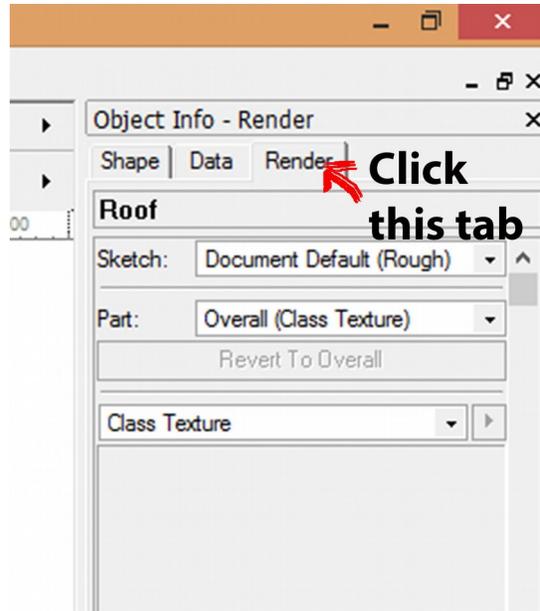
26) In the **Create Extrude** pop up window set the *Extrusion* to 100(mm).



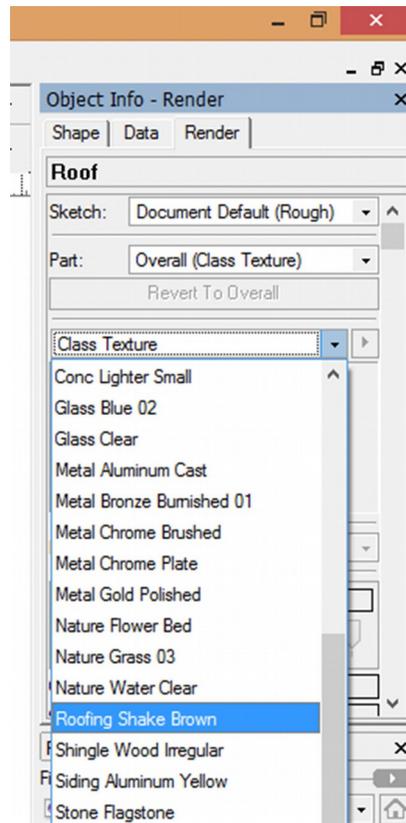
27) Go to your Front view to make sure that the slab is on the bottom of the walls. If not, move it to the bottom now.

ADDING TEXTURES TO YOUR SHED:

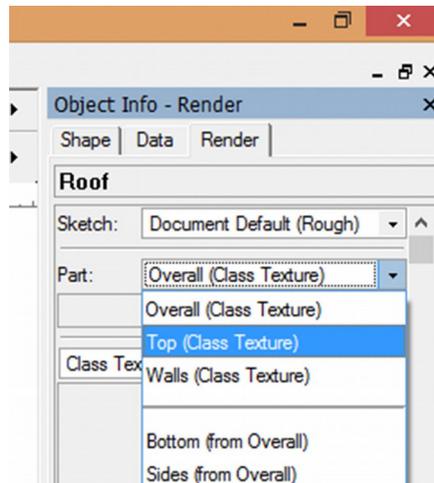
28) Select your roof and then click the 'Render' tab under the *Object Info* window.



29) Select the arrow in the 'Class Texture' box. I selected '*Roofing Shake Brown*'.

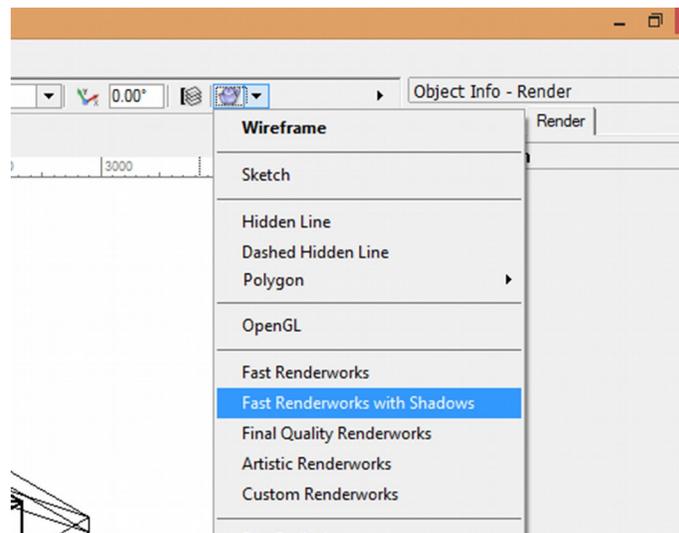


- 30) You now need to select the part of the roof to apply the texture.
In the **Part** box click on the arrow and select '*Top*'.
Now click on the **Revert to Overall** button below.



- 31) Great, but why can't I see my texture!! Well we're looking at the object as a 'Wireframe' and textures won't show.

Go to your **Render Mode** selection box and select '*Fast Renderworks with Shadows*'.



- 32) Yeah! A roof with singles texture!

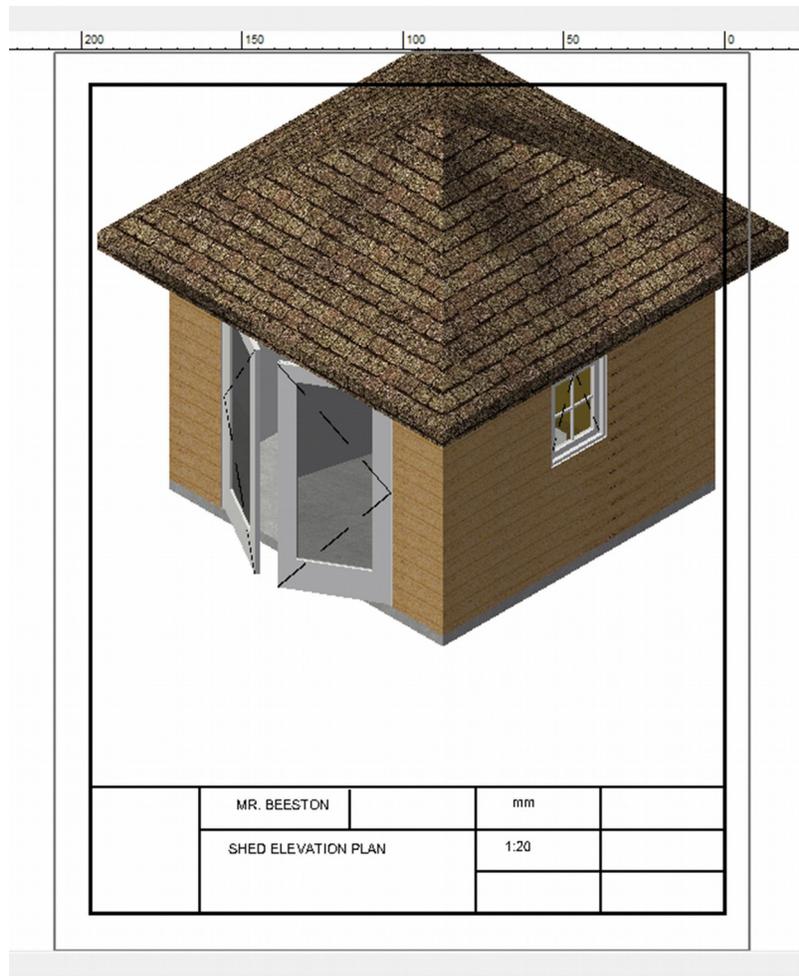
Repeat this process for the walls and concrete slab.

HINT: Walls usually need to be textured on the left side.

Your finished **Elevation** drawing should look something like this.

Note: your titleblock may not show up in Render mode and parts of your shed may be outside of the title block– that's OK

Change your title block description and **SAVE** your drawing!



STARTING YOUR SITE PLAN:

33) Open your blank *Landscape Title block*.

Set your *Object* layer to a scale that will allow a 10m x 16m rectangle (your backyard) to fit on the page.

SAVE AS Shed Site Plan

34) Copy a *Top View* of your shed from your *Elevation* drawing and paste in to your *Site Plan*.

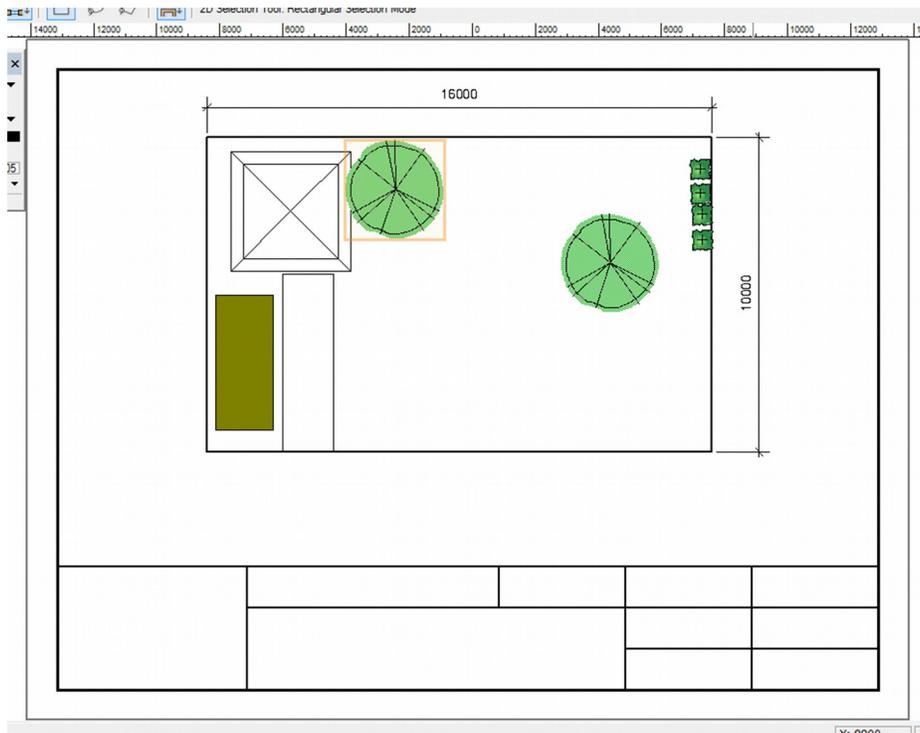
You should have something like this.

35) Find trees and plants in the Resource Browser and add them to your drawing.

Make a walkway (using 2D or 3D tools), add a garden.

Remember to dimension your lot size with appropriate line thickness and change your title block info.

36) **SAVE** your drawing! You should have something like below.



37) You should now have 3 drawings saved to your space: **Shed floor Plan**, **Shed Elevation**, and **Shed Site Plan**.