

# Automatically Building the Basic Roof Styles

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Reference Number: **KB-00359**

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The information in this article applies to:



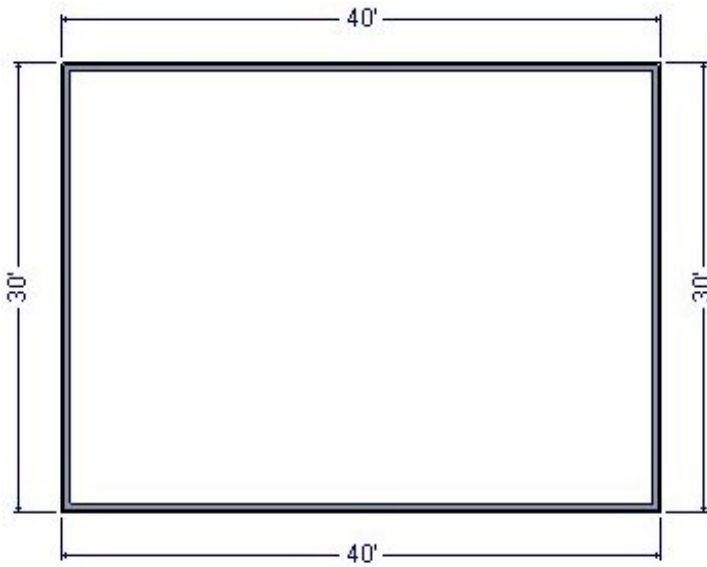
## QUESTION

How do I use the automatic roof tools to create some of the basic kinds of roof styles?

## ANSWER

Automatically creating the basic roof styles in Home Designer can be easy using the Roof panel of the Wall Specification dialog. The Pitch value set in the Build Roof dialog only sets the default pitch for all roof planes in a plan. This default value can be overwritten by specifying a different pitch on the Roof tab of an individual wall's Wall Specification dialog.

For this tutorial we will begin by creating a basic 40' x 30' enclosed rectangular structure as in the image below. Use this basic plan when making the changes on any of the following instructions.

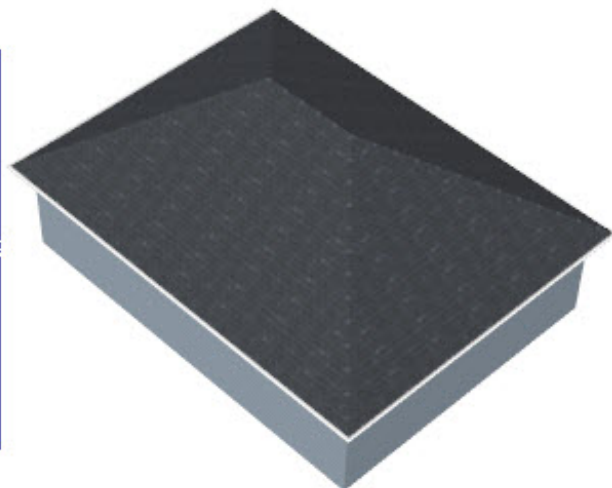
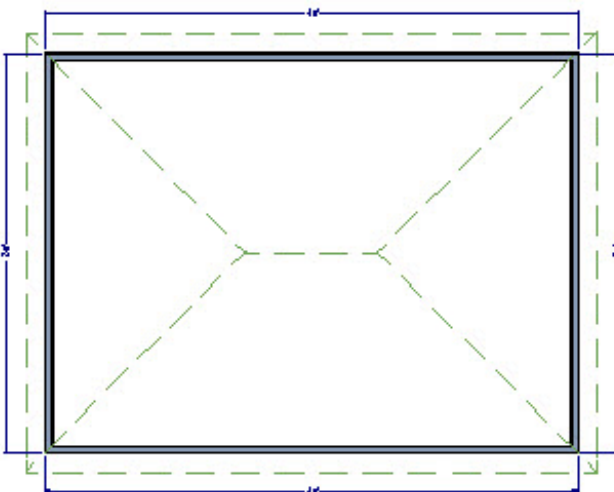


In this article, we will show you how to create the following roof styles automatically:


- [Hip](#)
- [Gable](#)
- [Shed](#)
- [Gambrel](#)
- [Gull Wing](#)
- [Half Hip](#)
- [Mansard](#)

## HIP ROOF

A [hip roof](#) has a roof plane built over every exterior wall in the plan that does not have another wall drawn above it, as shown in the image below.

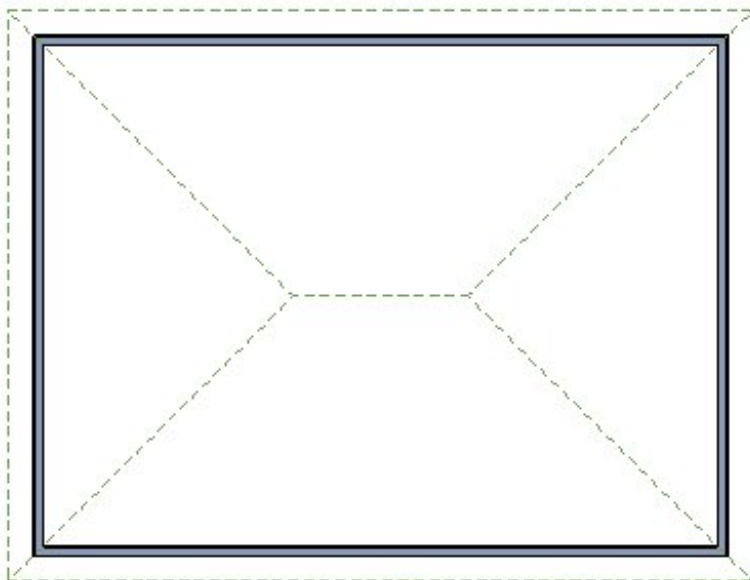


## To create a hip roof

1. By default, a Hip Roof will be automatically created on our 40' x 30' structure without making any changes.
2. Select **Build> Roof> Build Roof**  to display the **Build Roof** dialog.
3. The **ROOF** panel of this dialog will allow you to change the default **Pitch** of the entire roof, its **Minimum Alcove** setting, and the **Roof Overhang** values.

**Note:** If you're using Home Designer Pro, place a check in the "Build Roof Planes" option at this time. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.

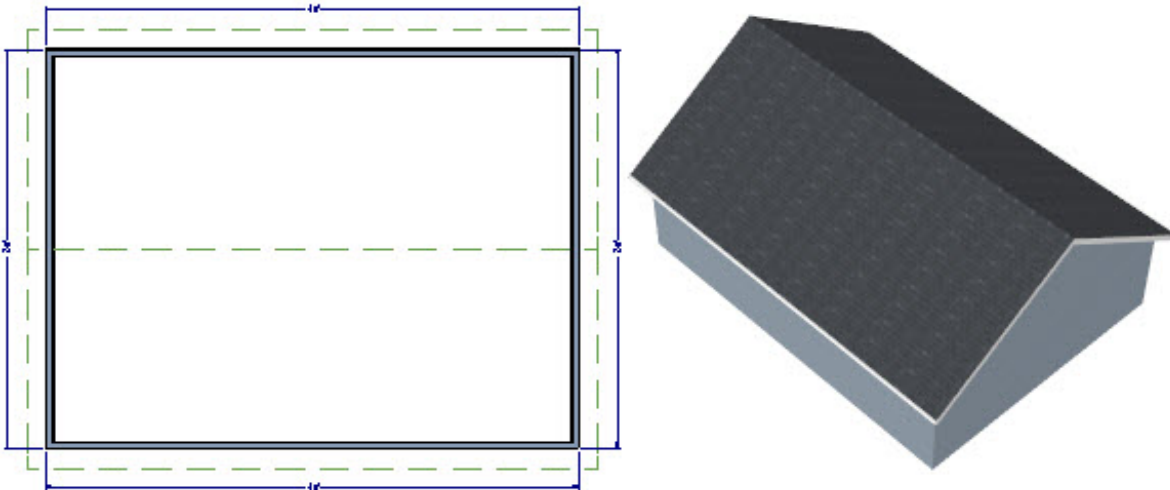
4. Go to the **MATERIALS** panel to change the default Roof material, as well set the material for that of other roof aspects, such as the Gutter.
5. Click **OK** to apply any changes made in this dialog to rebuild the roof with the new settings.



The floor plan view of a standard hip roof will look like the image above.



## GABLE ROOF

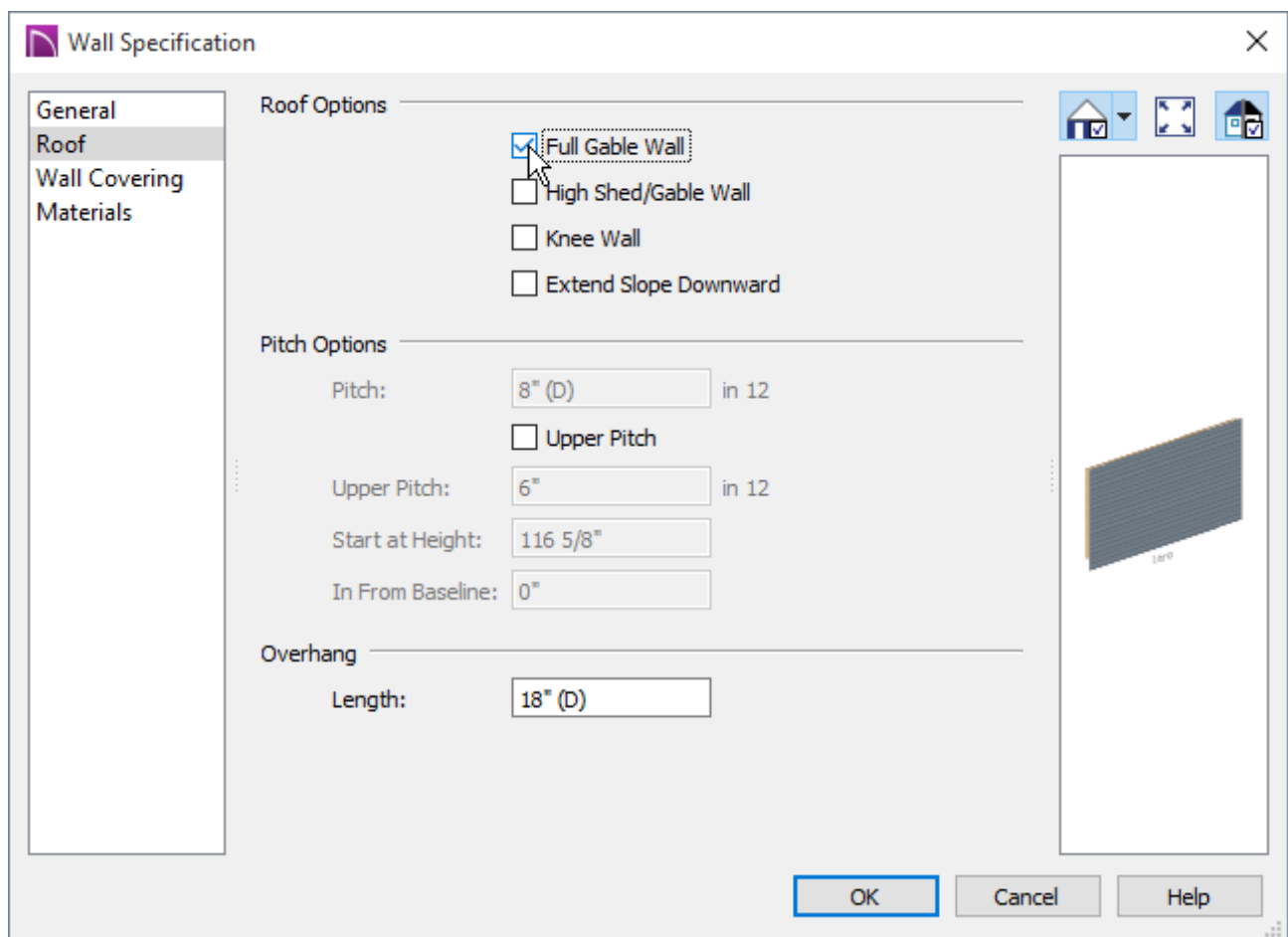
If a wall does not have a roof plane bearing on it, then it's a gable wall.




### *To create a gable roof*

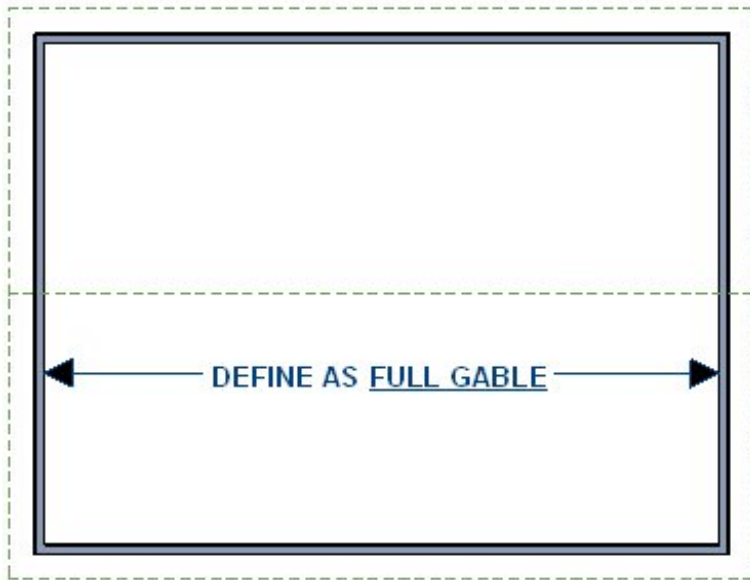
To create a basic gable style roof, we need to tell the program to not build a hip roof plane over the two 30' walls in our plan

1. Use the **Select Objects**  tool to select the left 30' wall, then click on the **Open Object**  edit tool to display the **Wall Specification** dialog.
2. Select the **ROOF** panel, place a check in the **Full Gable Wall** box, then click **OK**.



3. Follow the same steps for the right 30' wall.
4. If you have **Auto Rebuild Roofs\*** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

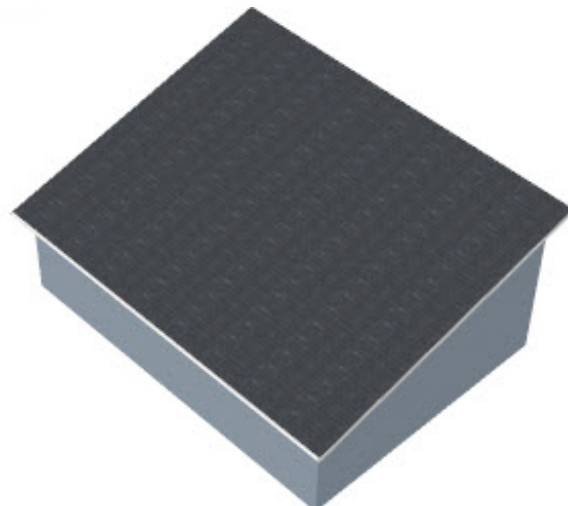
\*Auto Rebuild Roofs is not available in the Home Designer Essentials version of the program, so you will need to build the roof manually using the process above.



The floor plan view of a standard gable roof will look like the image above. We have indicated the two walls that should be defined as **Full Gable Walls** to create this roof style.





## SHED ROOF

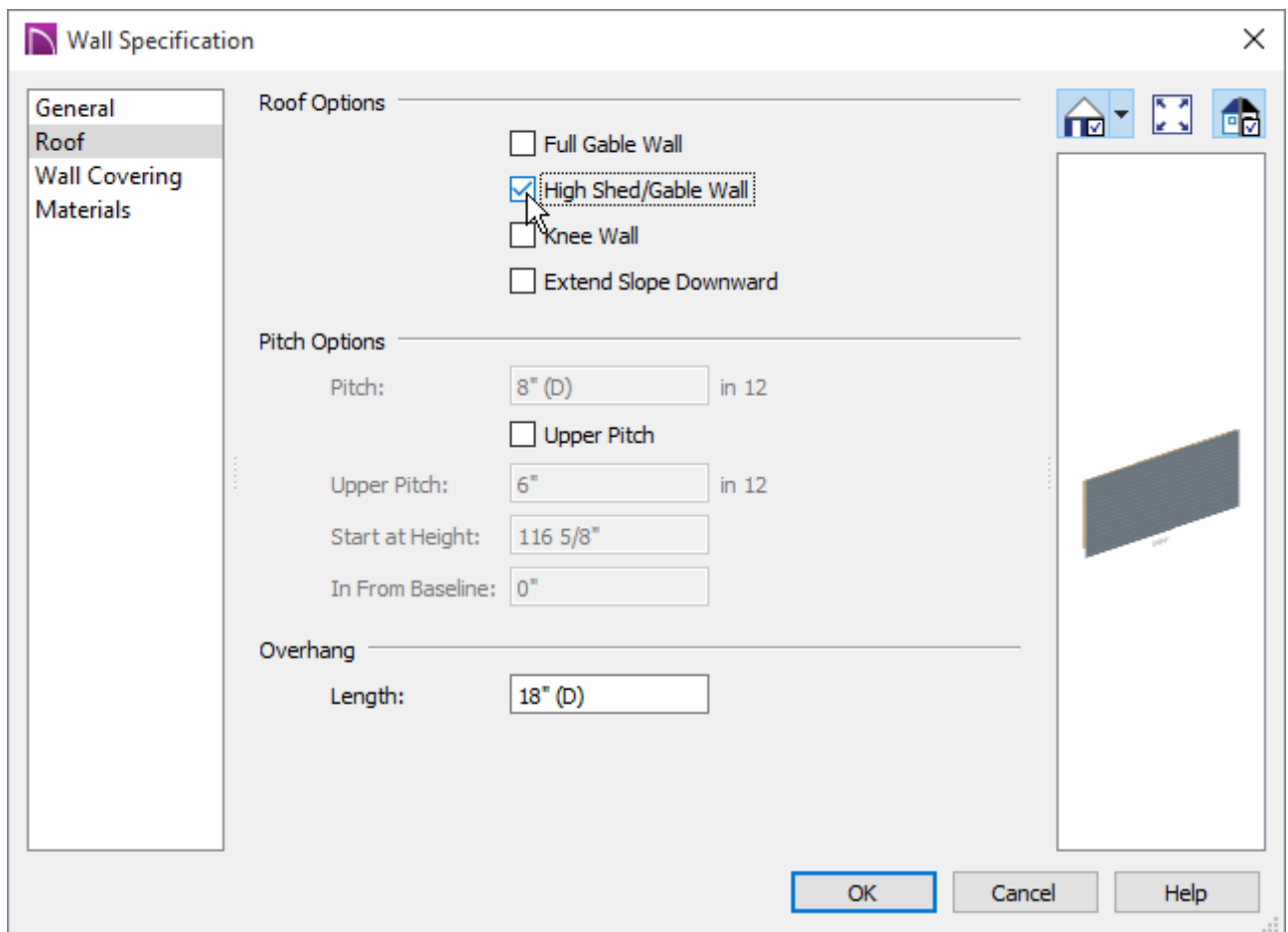
A Shed Roof is a single, sloping roof plane.




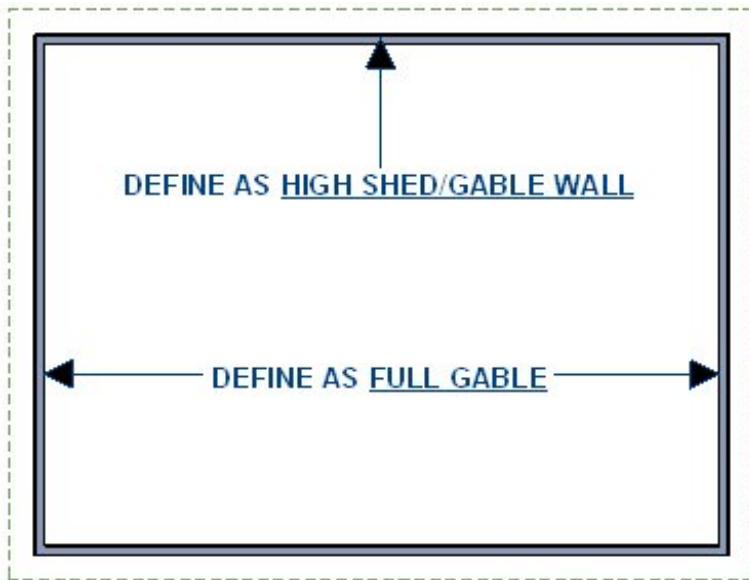
*To create a shed roof*

First, we need to tell the program to not build a hip roof plane over the two 30' walls in our plan, set one wall to be a High Shed/Gable wall, and we will also lower the Pitch on the roof so it's not so steep.

1. Use the **Select Objects**  tool to select the left 30' wall to select it, then click on the **Open Object**  edit tool to display the **Wall Specification** dialog.
2. Select the **ROOF** panel, place a check in the **Full Gable Wall** box, then click **OK**.
3. Follow the same steps for the right 30' wall.
4. Finally, use the **Select Objects**  tool to select the upper 40' wall, click on the **Open Object**  edit tool, select the **ROOF** panel, place a check in the **High Shed/Gable Wall** box and click **OK**.



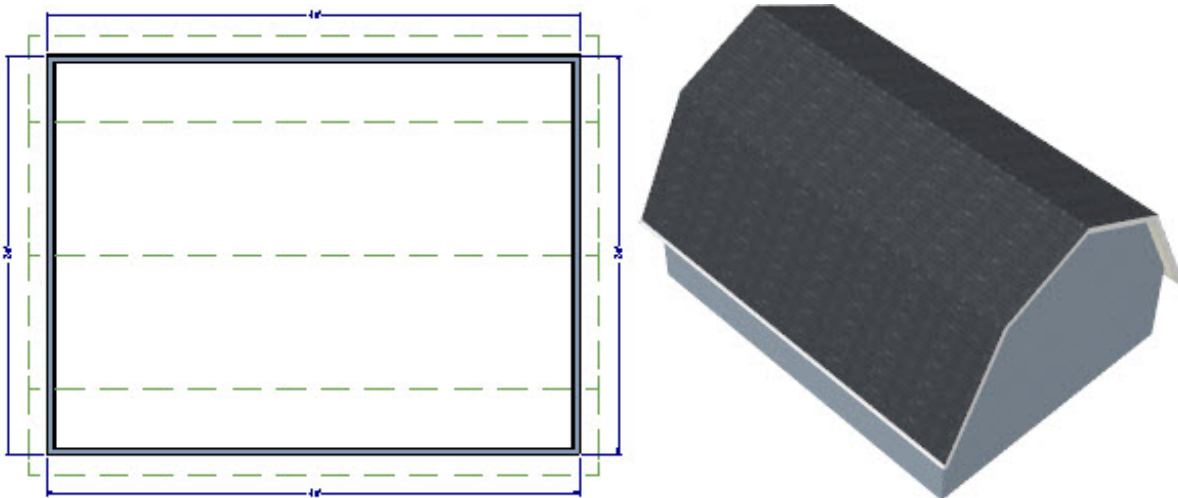
5. Next, select **Build> Roof> Build Roof**  to display the **Build Roof** dialog.
6. Set the **Pitch (in 12)** value to 4", then click **OK** to apply the change and rebuild the roof with the new setting.



The floor plan view of a standard shed roof will look like the image above with a single roof plane. We have indicated the two walls that should be defined as **Full Gable Walls**, and the wall that should be specified as a **High Shed/Gable Wall**, to create this roof style.

## GAMBREL ROOF





A gambrel, or barn style, roof has two pitches on each side of the ridge. The first (lower) pitch on either side is steeper than the pitch near the ridge.



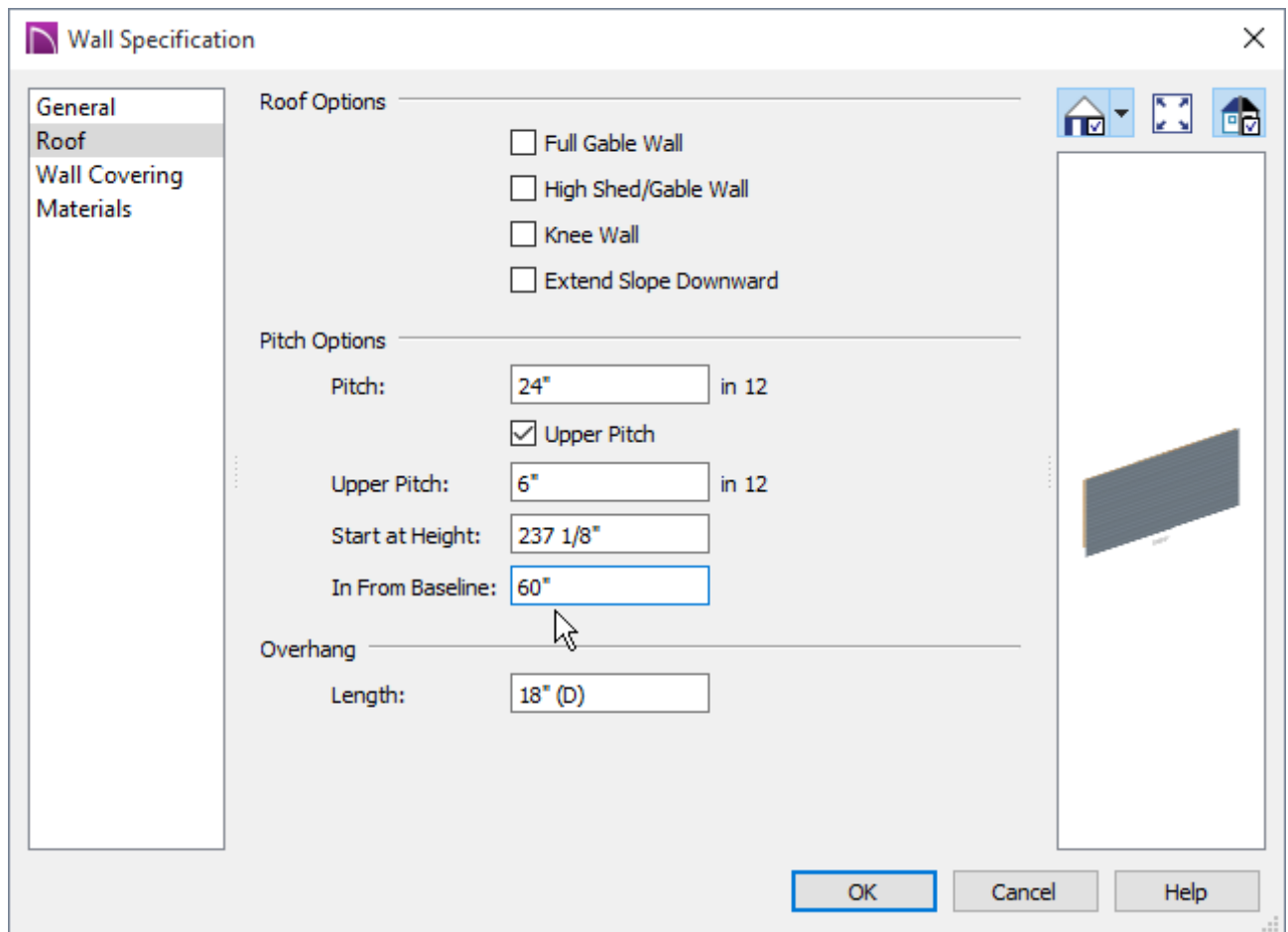
*To create a gambrel roof*




To create a basic Gambrel Roof, we need to tell the program to not build a hip roof plane over the two 30' walls in our plan, as well as to set the appropriate Lower and Upper Pitches for the two 40' walls.

1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool to display the **Wall Specification** dialog.
2. Select the **ROOF** panel, place a check in the **Full Gable Wall** box, then click **OK**.
3. Follow the same steps for the right 30' wall.
4. Use the **Select Objects**  tool to select the upper 40' wall, click on the **Open Object**  edit tool, select the **ROOF** panel, and specify the **Lower** pitch as **24"** in 12.
5. Place a check in the **Upper Pitch** box and set its pitch as **6"** in 12.
6. Change the **In From Baseline** value to **60"** so that the second pitch will begin 5' in from the top plate.

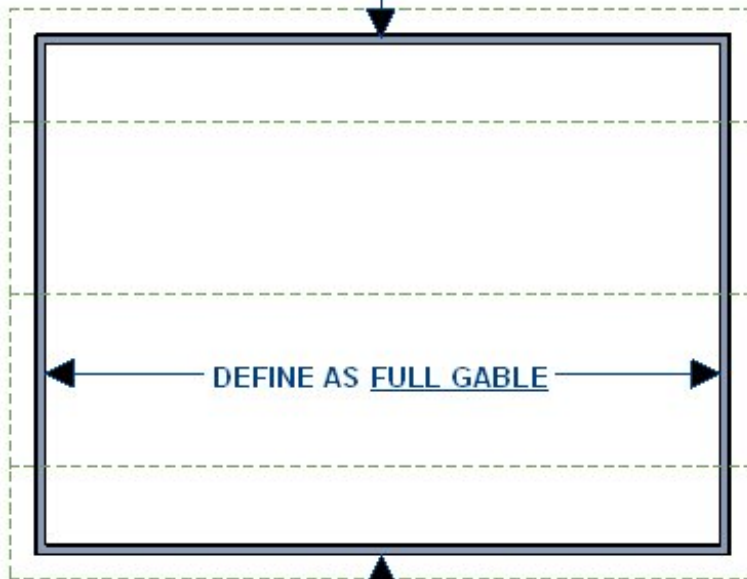
The Start at Height will adjust automatically based on the other values entered.



7. Click **OK** to apply these changes and close the dialog.
8. Follow this same procedure for the remaining 40' wall.
9. If desired, experiment with alternate pitches and overhangs. Also, try varying the height at which the second pitch begins so that you can see the effect it has on your gambrel roof design.
10. If you have **Auto Rebuild Roofs\*** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

\*Auto Rebuild Roofs is not available in Home Designer Essentials version of the program, so you will need to build the roof manually using the process above.

SET THE LOWER PITCH - SET THE UPPER PITCH  
&  
SET THE HEIGHT TO START THE UPPER PITCH  
OR  
SET THE DISTANCE IN FROM BASELINE TO START THE UPPER PITCH

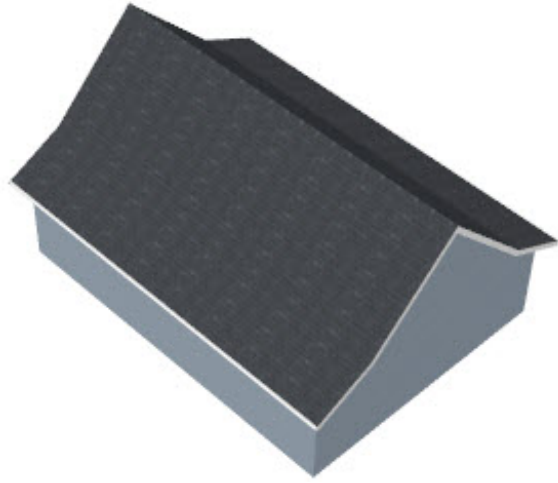
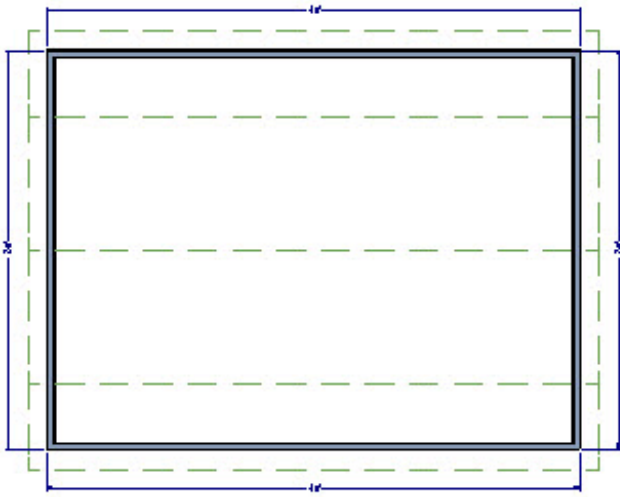


SET THE LOWER PITCH - SET THE UPPER PITCH  
&  
SET THE HEIGHT TO START THE UPPER PITCH  
OR  
SET THE DISTANCE IN FROM BASELINE TO START THE UPPER PITCH

The floor plan view of a standard gambrel roof will look like the image above. We have indicated the two walls that should be defined as **Full Gable Walls**, and other two walls that need to have the **Upper, Lower Pitch** and distance **In From Baseline** to create this roof style.





## GULL WING ROOF

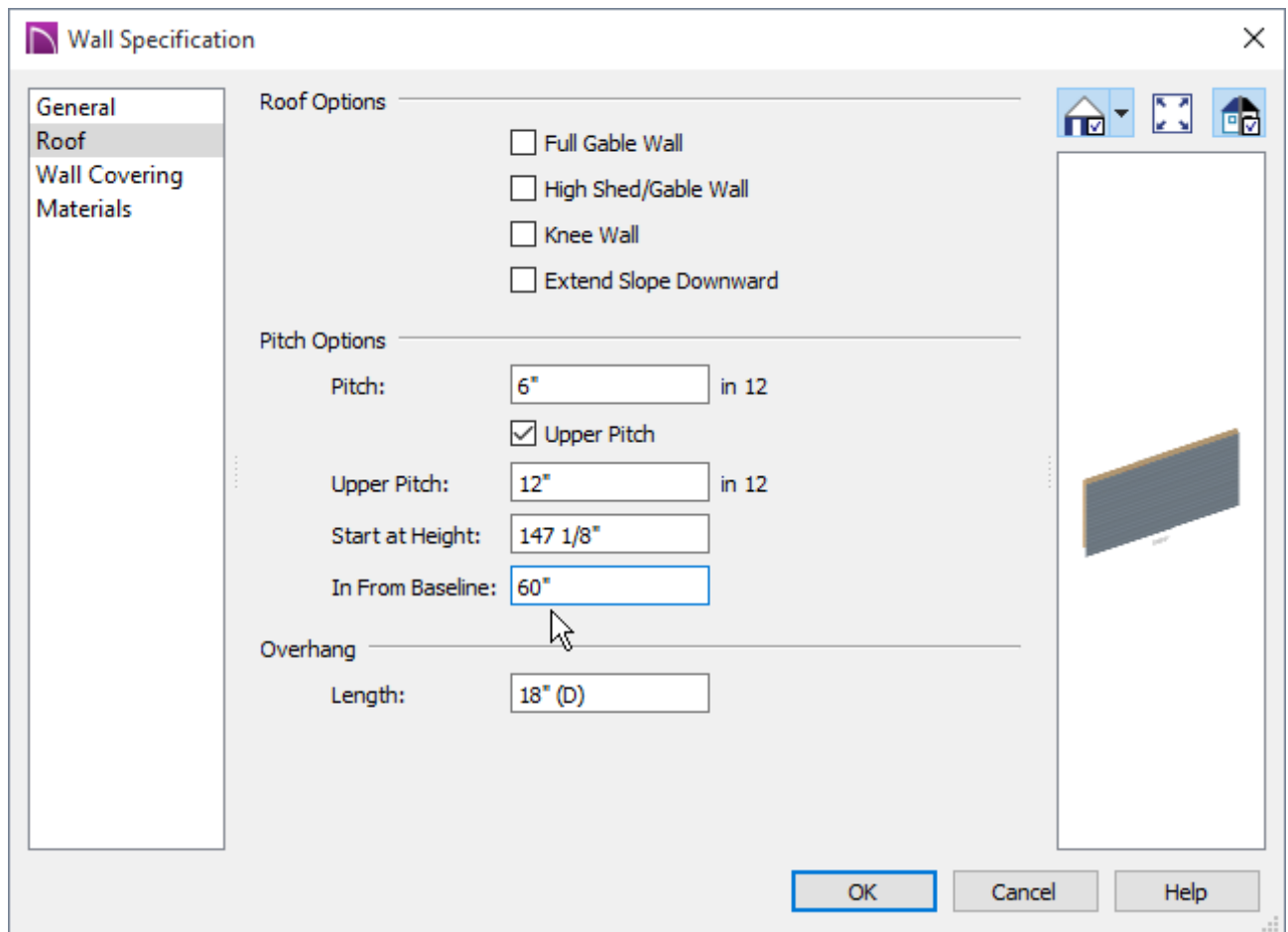
A gull wing style roof has two pitches on either side of the ridge, where the first pitch is shallower than the second.




### *To create a gull wing roof*

First, we will need to tell the program to not build a hip roof plane over the two 30' walls in our plan as well as to set the appropriate Lower and Upper pitches for the two 40' walls.

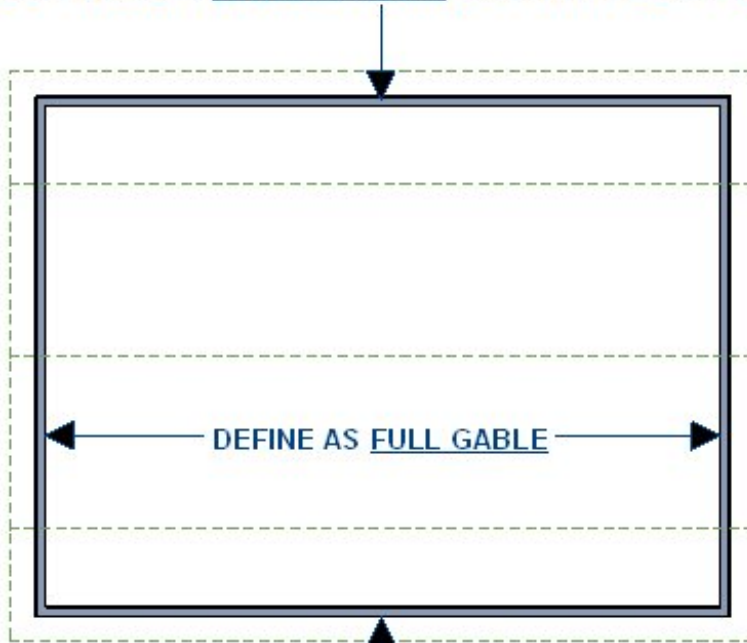
1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool to display the **Wall Specification** dialog.
2. Select the ROOF panel, place a check in the **Full Gable Wall** box, and click **OK**.
3. Follow the same steps for the right 30' wall.
4. Use the **Select Objects**  tool to select the upper 40' wall, click on the **Open Object**  edit tool, select the ROOF panel and specify the **Lower** pitch as **6"** in 12.
5. Place a check in the **Upper** box and set its pitch as **12"** in 12.
6. Change the **In From Baseline** value to **60"** so that the second pitch will begin 5' above the top plate.



7. Click **OK** to apply these changes and close the dialog.
8. Follow this same procedure for the remaining 40' wall.
9. If desired, experiment with alternate pitches and overhangs. Also, try varying the height at which the second pitch begins so that you can see the effect it has on your gull wing roof design.
10. If you have **Auto Rebuild Roofs\*** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

\*Auto Rebuild Roofs is not available in *Home Designer Essentials* version of the program, so you will need to build the roof manually using the process above.

SET THE LOWER PITCH - SET THE UPPER PITCH  
&  
SET THE HEIGHT TO START THE UPPER PITCH  
OR  
SET THE DISTANCE IN FROM BASELINE TO START THE UPPER PITCH



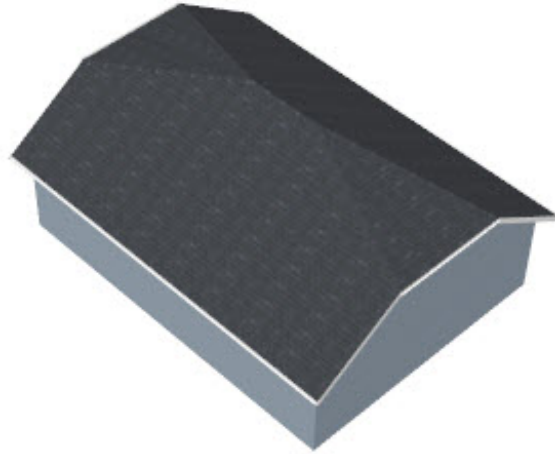
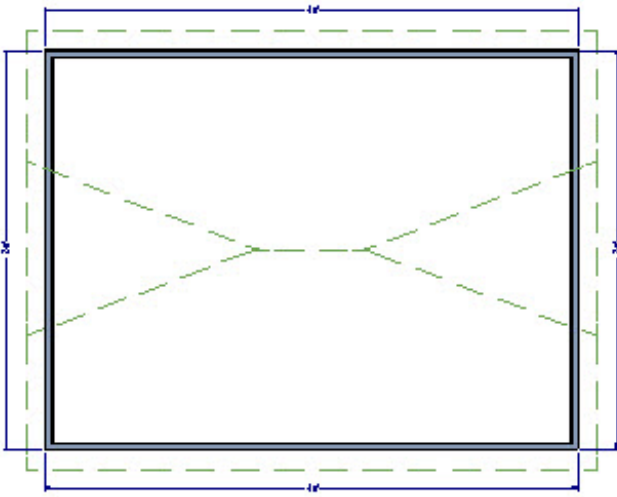
SET THE LOWER PITCH - SET THE UPPER PITCH  
&  
SET THE HEIGHT TO START THE UPPER PITCH  
OR  
SET THE DISTANCE IN FROM BASELINE TO START THE UPPER PITCH

The floor plan view of a standard gull roof will look like the image above. We have indicated the two walls that should be defined as **Full Gable**, and other two walls that need to have the distance **In From Baseline** to create this roof style.

Notice that in floor plan view, this roof style can look identical to the gambrel roof, so it's important to verify that you have your upper and lower pitches set correctly, and verify with a camera view.



## HALF HIP ROOF

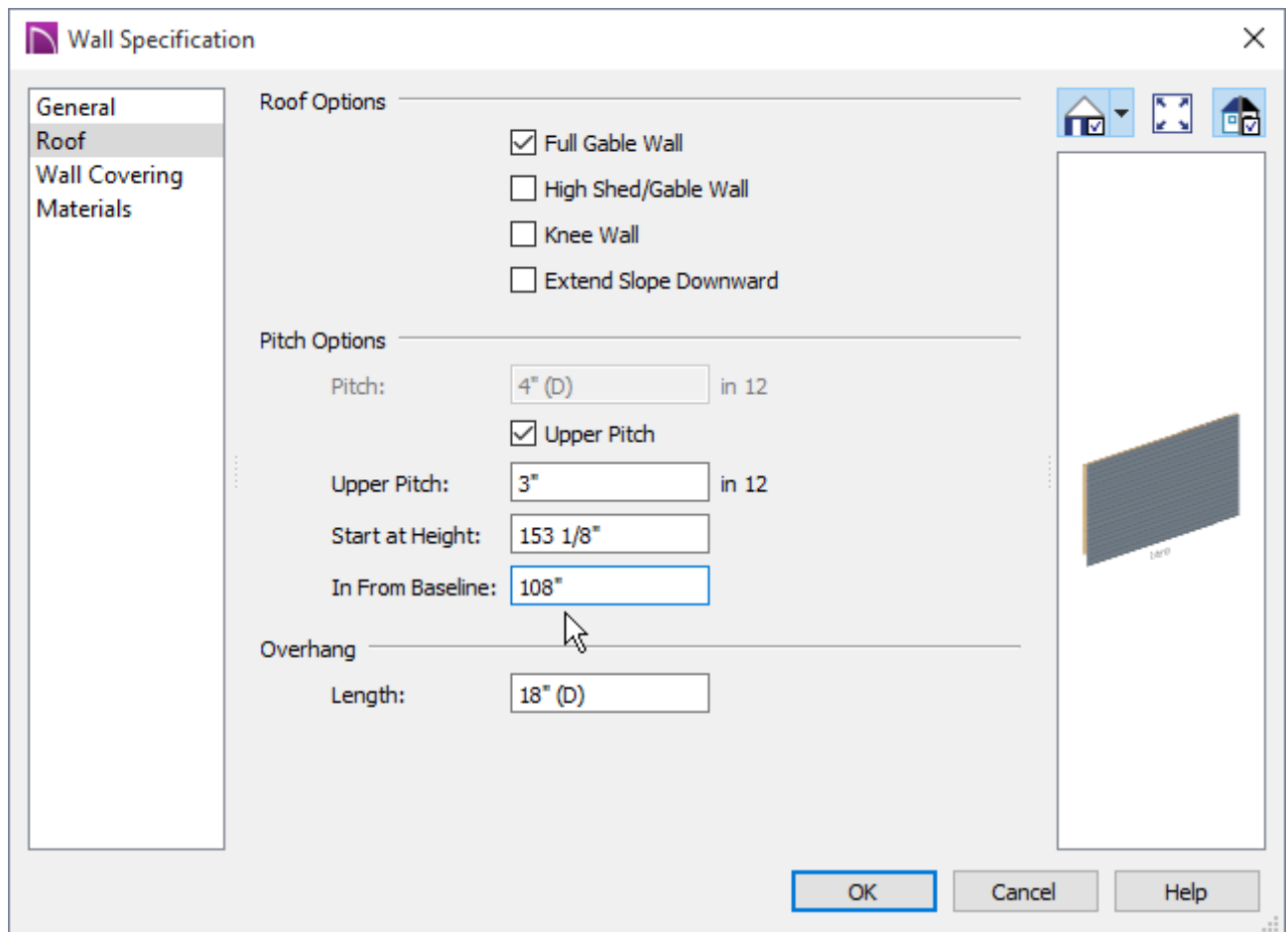
A half hip roof has two gable ends, but at the top of each gable is a small hip that extends to the ridge. It is a combination of gable and hip roof styles in which a hip roof plane builds upward from a partial gable wall.




### *To create a half hip roof*

We need to tell the program to not build a hip roof plane over the two 30' walls in our plan

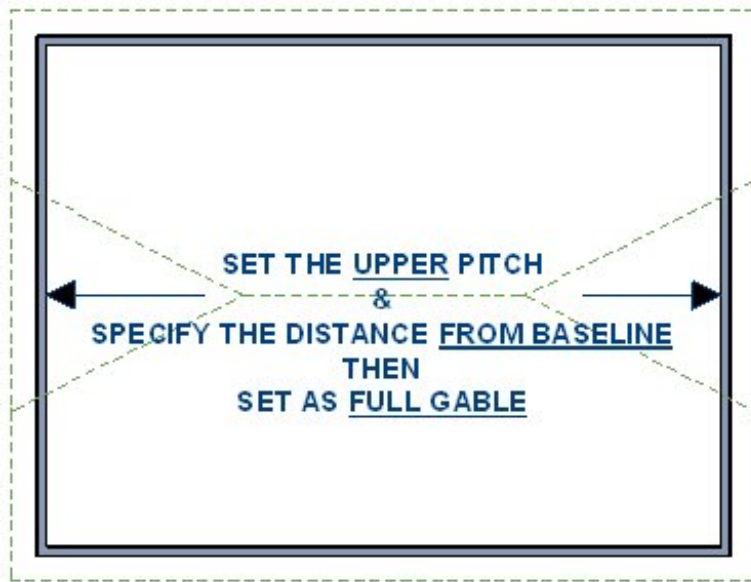
1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool to display the **Wall Specification** dialog.
2. Select the **ROOF** panel, place a check in the **Full Gable Wall** box.
3. Check the box next to **Upper** pitch, then specify the **Upper** pitch as 3" in 12.
4. Set the **In from Baseline** value at **108"** and click **OK**.



5. Follow the same instructions for the right 30' wall.
6. If you have **Auto Rebuild Roofs\*** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

\*Auto Rebuild Roofs is not available in Home Designer Essentials version of the program, so you will need to build the roof manually using the process above.



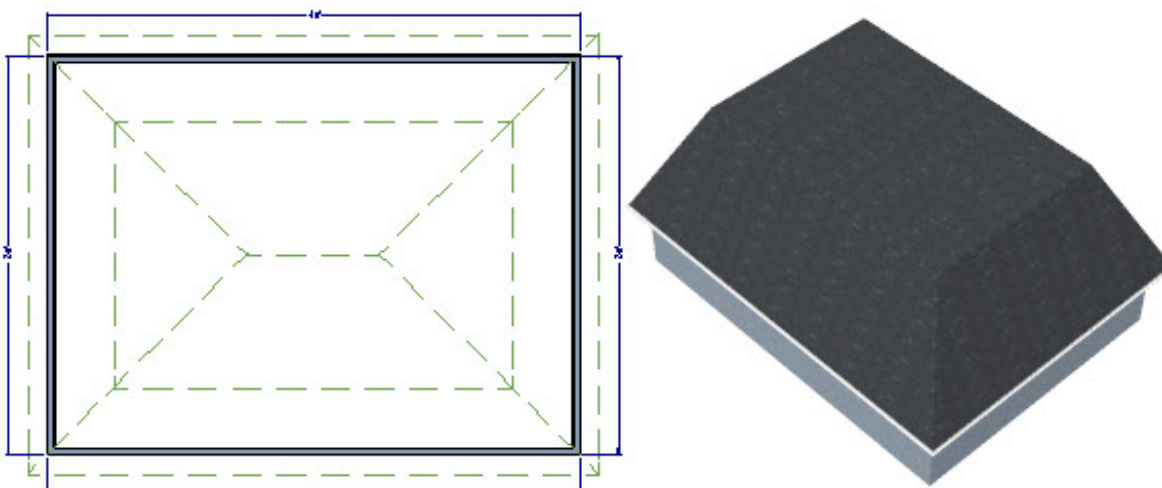


The floor plan view of a standard half-hip roof will look like the image above. We have indicated the two walls that should be defined as **Full Gable Walls**, the same walls that need to have the **Upper** Pitch and distance **In From Baseline** to create this roof style.

The top and bottom walls can be left at the default value set in the **Build Roof** dialog for their pitch.



## MANSARD ROOF

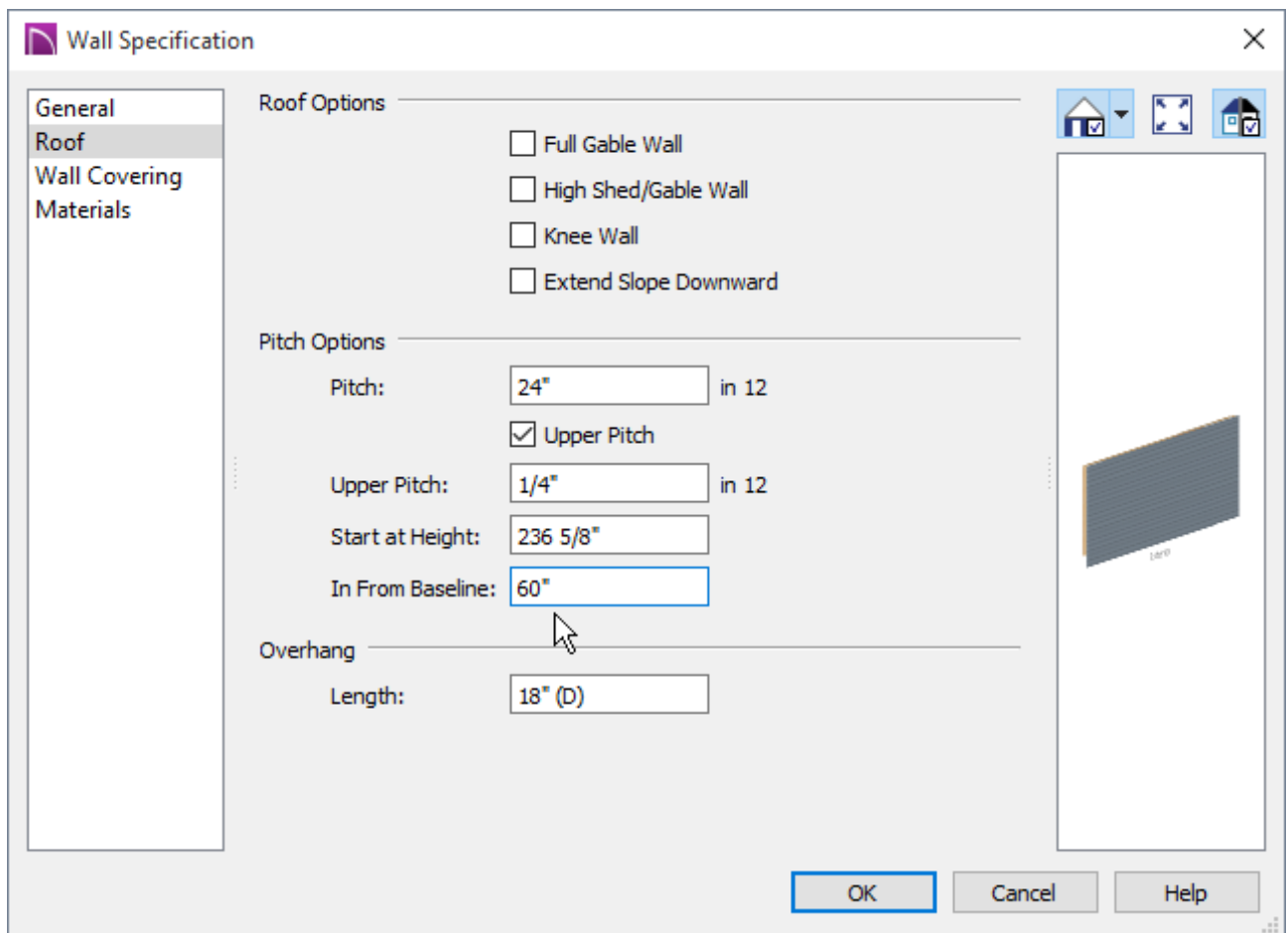
A mansard roof is a hip roof with two slopes on the roof sections above each of the four walls. The second slope begins at the same height above each wall. The upper slope is usually quite gentle and the lower slope, much steeper.




## To create a mansard roof

To create a Mansard style roof, we will need to change the **Roof** panel of the Specification dialog for all four walls in the .plan file.

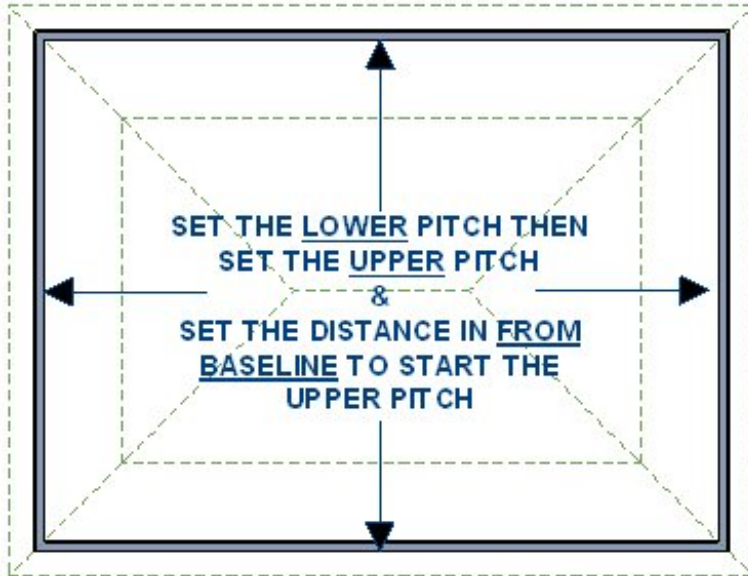
1. First, using the **Select Objects**  edit button, select the left wall and click on the **Open Object**  edit tool to display the **Wall Specification** dialog.
2. On the **Roof** panel:



- Under the Pitch heading, specify a **Lower** pitch of 24"
  - Place a check next to the **Upper** box and specify a pitch of **1/4"**.
  - Put 60" for **In from Baseline** value.
3. Click **OK**, and repeat this process for the remaining three walls in the plan.

4. If you have **Auto Rebuild Roofs\*** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

\*Auto Rebuild Roofs is not available in *Home Designer Essentials* version of the program, so you will need to build the roof manually using the process above.



The floor plan view of a standard mansard roof will look like the image above. We have indicated that all four walls should have their **Upper** and **Lower** Pitches defined, along with an **In From Baseline** distance, to create this roof style.

## MORE INFORMATION

All of these instructions, and more can be located within your software by selecting the **Help** menu, and clicking on **Launch Help** to launch the software's searchable resources.

You may also want to review some of the other articles within the [Knowledge Base](https://www.homedesignersoftware.com/support/database.html) (<https://www.homedesignersoftware.com/support/database.html>), as well as the online [Training Videos](https://www.homedesignersoftware.com/videos/) (<https://www.homedesignersoftware.com/videos/>), to learn more about how to create custom roof styles.

[Resources for Creating a Complex Roof Plan \(/support/article/KB-00158/resources-for-creating-a-complex-roof-plan.html\)](/support/article/KB-00158/resources-for-creating-a-complex-roof-plan.html)

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