12’ x 10’ wood shed

1 - Tools and Material list

Tools for foundation

Tape measure
Marking paint
Level
Drill
Sledgehammer
Circular saw
Screw gun
Staple gun/hammer tacker
Shovel
Rake
Tamper
Wheelbarrow
protective equipment
optional: Laser level , Mini skid steer ,
Plate compactor

Tools for shed

Pliers
Saw
Knife
Chisel
Spirit level
Spade
Electric Screwdriver
Measuring Tape
Screwdriver
Drill
Hammer
carpenter's square
ladder
tin snips
roofing nailer

Foundation	Size	Quantity	Unit	Location
option 1: Gravel				
Pressure treated lumber 4"x6"	14'-6"	4 or 6	pcs	
Pressure treated lumber 4"x6"	11'-4"	4 or 6	pcs	
½" rebar	2'	12	pcs	
4" exterior screws		64	pcs	
Stabilization fabric/geotextile/weed barrier		23	Yd2	
Crushed stone		6	Yd3	
option 2: concrete piers				
Gravel		0.2	ft3	
Concrete		0.6	Yd3	
Post cap 4"		9	pcs	
Pressure treated post 4"x4"	2' 6"	9	pcs	
Floor				
Pressure treated lumber 4"x4"	12'	3	pcs	frame: skid
Pressure treated lumber 2"x6"	10'	2	pcs	frame: joist
Pressure treated lumber 2"x6"	11'-8"	9	pcs	frame: joist
Pressure treated plywood 3/4"	48" x 96"	4	pcs	subfloor
Silicone				subfloor
Wood screws	5"	270	pcs	frame: joist
Post cap screws		180	pcs	frame: skid
Front wall frame				
Pressure treated lumber 2"x4"	7'-3"	8	pcs	stud
Pressure treated lumber 2"x4"	2'-1"	2	pcs	sole plate
Pressure treated lumber 2"x4"	10'	1	pcs	top plate
Pressure treated lumber 2"x4"	9'-4"	1	pcs	double top plate
Pressure treated lumber 2"x5"	6'-2"	2	pcs	header
Plywood 1/2"x5"	6'-2"	1	pcs	header
Pressure treated lumber 2"x4"	6'-10"	2	pcs	trimmer
Back wall frame				
Pressure treated lumber 2"x4"	7'-3"	11	pcs	stud
Pressure treated lumber 2"x4"	10'	1	pcs	sole plate
Pressure treated lumber 2"x4"	10'	1	pcs	top plate
Pressure treated lumber 2"x4"	9'-4"	1	pcs	double top plate

Right wall frame	Size	Quantity	Unit	Location
Pressure treated lumber 2"x4"	7'-3"	10	pcs	stud
Pressure treated lumber 2"x4"	11'-4"	1	pcs	sole plate
Pressure treated lumber 2"x4"	11'-4"	1	pcs	top plate
Pressure treated lumber 2"x4"	12'	1	pcs	double top plate
Pressure treated lumber 2"x4"	3'- 1 1/2"	4	pcs	bottom cripples
Pressure treated lumber 2"x5"	3'-4"	2	pcs	header
Plywood 1/2"x5"	3'-4"	1	pcs	header
Pressure treated lumber 2"x4"	3'-4 1/2"	2	pcs	trimmer
Pressure treated lumber 2"x4"	3'	2	pcs	sill
Left wall frame				
Pressure treated lumber 2"x4"	7'-3"	10	pcs	stud
Pressure treated lumber 2"x4"	11'-4"	1	pcs	sole plate
Pressure treated lumber 2"x4"	11'-4"	1	pcs	top plate
Pressure treated lumber 2"x4"	12'	1	pcs	double top plate
Pressure treated lumber 2"x4"	3'- 1 1/2"	4	pcs	bottom cripples
Pressure treated lumber 2"x5"	3'-4"	2	pcs	header
Plywood 1/2"x5"	3'-4"	1	pcs	header
Pressure treated lumber 2"x4"	3'-4 1/2"	2	pcs	trimmer
Pressure treated lumber 2"x4"	3'	2	pcs	sill
Roof				
Pressure treated lumber 2"x4"	6'-6 1/2"	14	pcs	rafter
Pressure treated lumber 2"x4"	1'-8"	2	pcs	ridges
Pressure treated lumber 2"x4"	1'-8 3/4"	4	pcs	ridges
Pressure treated lumber 2"x2"	9'	2	pcs	ceiling joist
Pressure treated lumber 2"x4"	10 3/4"	2	pcs	gables
Pressure treated lumber 2"x4"	1'-8 1/4"	2	pcs	gables
Pressure treated lumber 2"x4"	2'-2 3/4"	1	pcs	gables
Plywood 1/2"	11" x 2'-1 1/2"	14	pcs	gussets
Pressure treated lumber 2"x2"	13'-8"	10	pcs	purlins
Plywood 1/2" x 6'-7 1/2"	48"	6	pcs	sheathing
Plywood 1/2" x 6'-7 1/2"	20"	2	pcs	sheathing
Tar paper		240	ft2	underlayment
Shingles		240	ft2	roof shingles
Pressure treated lumber 1"x8"	13'-8"	2	pcs	fascias
Pressure treated lumber 1"x8"	6'-7"	4	pcs	fascias
Aluminium panels	39'-6" x 10"			soffit
Aluminium vent panels	8"	6	pcs	ventilation in soffits
Guttering system				
Galvanized steel profile	13'-8"	2	pcs	drip edge
Gutter wedge	13'-8"	2	pcs	gutter
Gutter	13'-8"	2	pcs	roof drainage
Downpipe	8'-6"	2	pcs	roof drainage
Front wall sheathing				
Plywood 1/2"	9’ x 2’-1”	2	pcs	sheathing
Plywood 1/2"	3’-9” x 2’-11”	2	pcs	sheathing
Plywood 1/2"	2’-11” x 9”	2	pcs	sheathing
Plywood 1/2"	6” x 5’-10”	1	pcs	sheathing
Back wall sheathing				
Plywood 1/2"	8’ -8 1/4” x 4’	2	pcs	sheathing
Plywood 1/2"	8‘-8 1/4” x 2’	1	pcs	sheathing
Plywood 1/2"	4’ x 2’-1/2”	1	pcs	sheathing
Plywood 1/2"	4’ x 2’-6 3/4”	1	pcs	sheathing
Plywood 1/2"	2’ x 1’-1/4”	1	pcs	sheathing

Right wall sheathing	Size	Quantity	Unit	Location
Plywood 1/2"	8’ x 2 1/2”	2	pcs	sheathing
Plywood 1/2"	8‘ x 4’	2	pcs	sheathing
Plywood 1/2"	3’ x 5”	1	pcs	sheathing
Plywood 1/2"	3’ x 3’-4 1/2”	1	pcs	sheathing
Plywood 1/2"	4’-1 1/2”	1	pcs	sheathing
Left wall sheathing				
Plywood 1/2"	8’ x 2 1/2”	2	pcs	sheathing
Plywood 1/2"	8‘ x 4’	2	pcs	sheathing
Plywood 1/2"	3’ x 5”	1	pcs	sheathing
Plywood 1/2"	3’ x 3’-4 1/2”	1	pcs	sheathing
Plywood 1/2"	4’-1 1/2”	1	pcs	sheathing
Wall siding				
building paper		375	ft2	underlayment
wood siding boards		375	ft2	siding
aluminium or wood profile	12'	2	pcs	molding
Door				
Pressure treated lumber 1"	6’-6” x 5”	1	pcs	casing
Pressure treated lumber 1"	4” x 6’-11”	2	pcs	casing
Pressure treated lumber 7"	5’-10” x 3”.	1	pcs	trim
Pressure treated lumber 7"	6’-10” x 2”	2	pcs	trim
Pressure treated lumber 4"	2’-9” x 4”	4	pcs	door leaf
Pressure treated lumber 4"	4” x 6’	4	pcs	door leaf
Pressure treated lumber 2"	2’-1” x 1'-1/4”	6	pcs	door leaf
Pressure treated lumber 2"	1’-10 3/4” x 1”	6	pcs	door leaf
Pressure treated lumber 2"	2’-1” x 1"	4	pcs	door leaf
glass 1/8"	11 1/4” x 1’-10 3/4”	4	pcs	door leaf
Windows				
Pressure treated lumber 1"	3’-7” x 2”	4	pcs	casing
Pressure treated lumber 1"	2” x 3’-8 3/4”	4	pcs	casing
Pressure treated lumber 2"	1’-6 1/2” x 3’-2 3/4”	4	pcs	shades
Pressure treated lumber 7"	3’-3” x 1”	4	pcs	trim
Pressure treated lumber 7"	3’-6 3/4”x1”	4	pcs	trim
Pressure treated lumber 2"	1’-6 1/2” x 2”	8	pcs	leaf
Pressure treated lumber 2"	3’-2 3/4” x 2”	8	pcs	leaf
glass 1/8"	’-2 1/2” x 3’-2 3/4”	4	pcs	leaf
Interior decoration				
Slate tiles	max 16"x16"	105	ft2	floor
Primer for the plywood				floor
Tile adhesive		105	ft2	floor
Tile grout		105	ft2	floor
Plywood 1/2"		400	ft2	walls and roof
sealant				walls and roof
paint		400	ft2	walls and roof
Hardware				
Wood screws 3"		1250	pcs	
Galvanized nails 2"		2000	pcs	
Staples		500	pcs	
Galvanized nails 1 1/2"		500	pcs	
Safety equipements				
Roof safety harness				

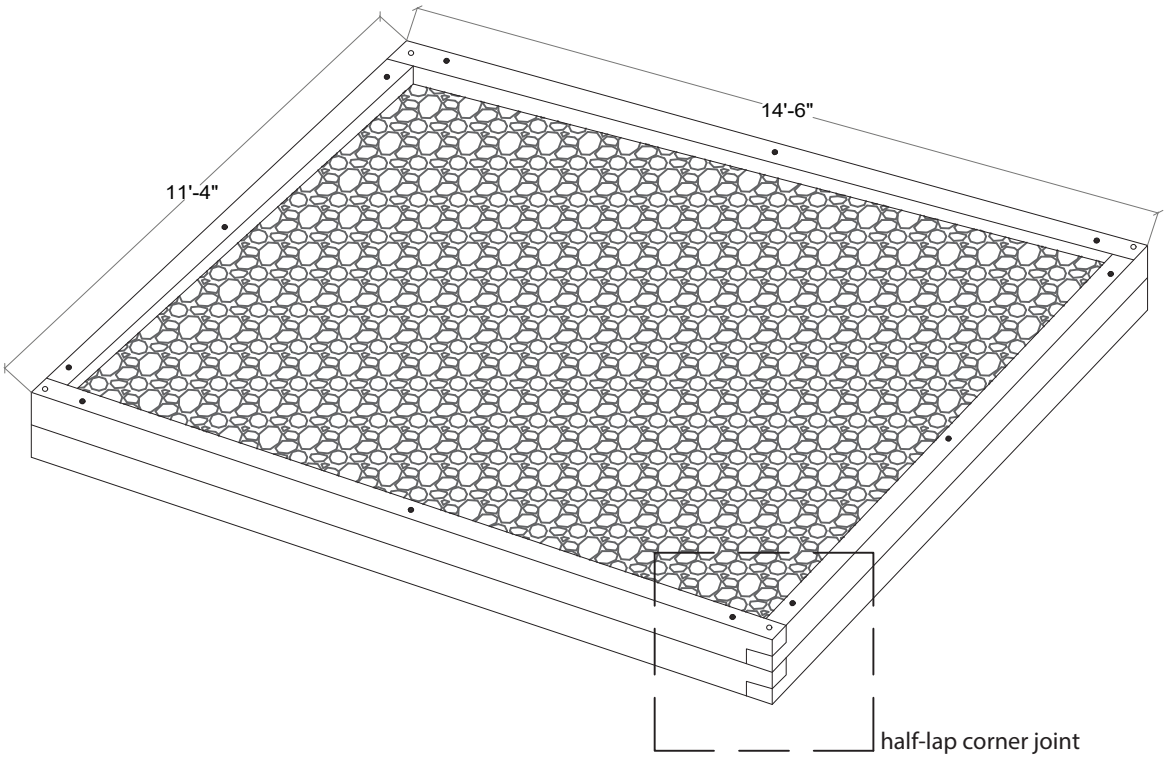
2 - Ground and foundation work

2 - a - option 1 - Gravel

Pros:
Great drainage: the bottom of your shed will be protected from rot and moisture damage.
Crushed stone supports the shed structure equally.
Good for sloped sites.
Cost is lower than concrete.

Cons:
May require the addition of concrete footers for frost protection requirements in some locations

1- Get your perimeter exactly level.
2- Dig out a strip of topsoil and add 4″x6″ with the 4″ side turned down the whole way around the perimeter.
3- Add bracing to your gravel shed foundation.
4- Anchor the foundation lumbers with1/2″ rebar every 6′ to 8′.
5- Backfill and level the dirt inside the foundation.
6- Add Stabilization fabric/geotextile/weed barrier to your foundation.
7- Add crushed stone, not actual gravel.
8- Tamp the gravel in a circular pattern.



2 - Ground and foundation work

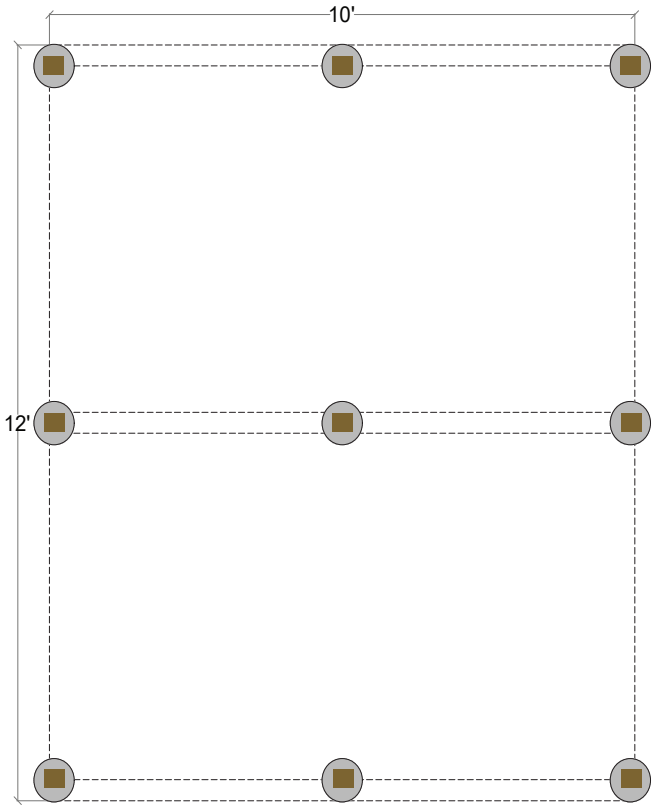
2 - b - option 2 - concrete piers

Pros:
Can be installed on sloped sites.
Great drainage: the bottom of your shed will be protected from rot and moisture damage.
Concrete will last forever: durable.

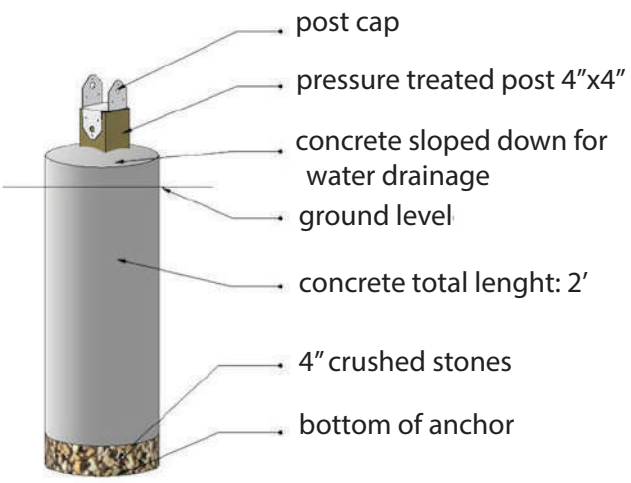
Cons:
More expensive than some foundation options.
More labor-intensive than other shed foundations.

1- Get your perimeter exactly level.
2- Dig the Pier holes.
3- Prepare the Fiber-Form Tubes: 1′ diameter and 2′ depth.
4- Install the tubes.
7- Pour the mixed concrete.
8- Smooth the top with a trowel.
9- Place a post down into the center of each pier while the concrete is still wet.
10- Place gravel to close the gaps.
11- Cure the concrete.
12- Fix the post cap to the pressure treated post.

Or you can use Ready-Made or handmade Piers:
Soak the piers and then place them on the footings after the footings have been poured and hardened.
level the piers in both directions.



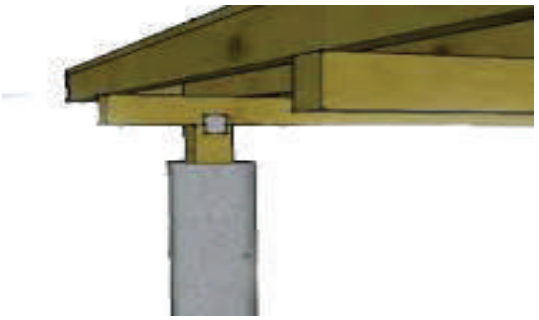
anchor detail

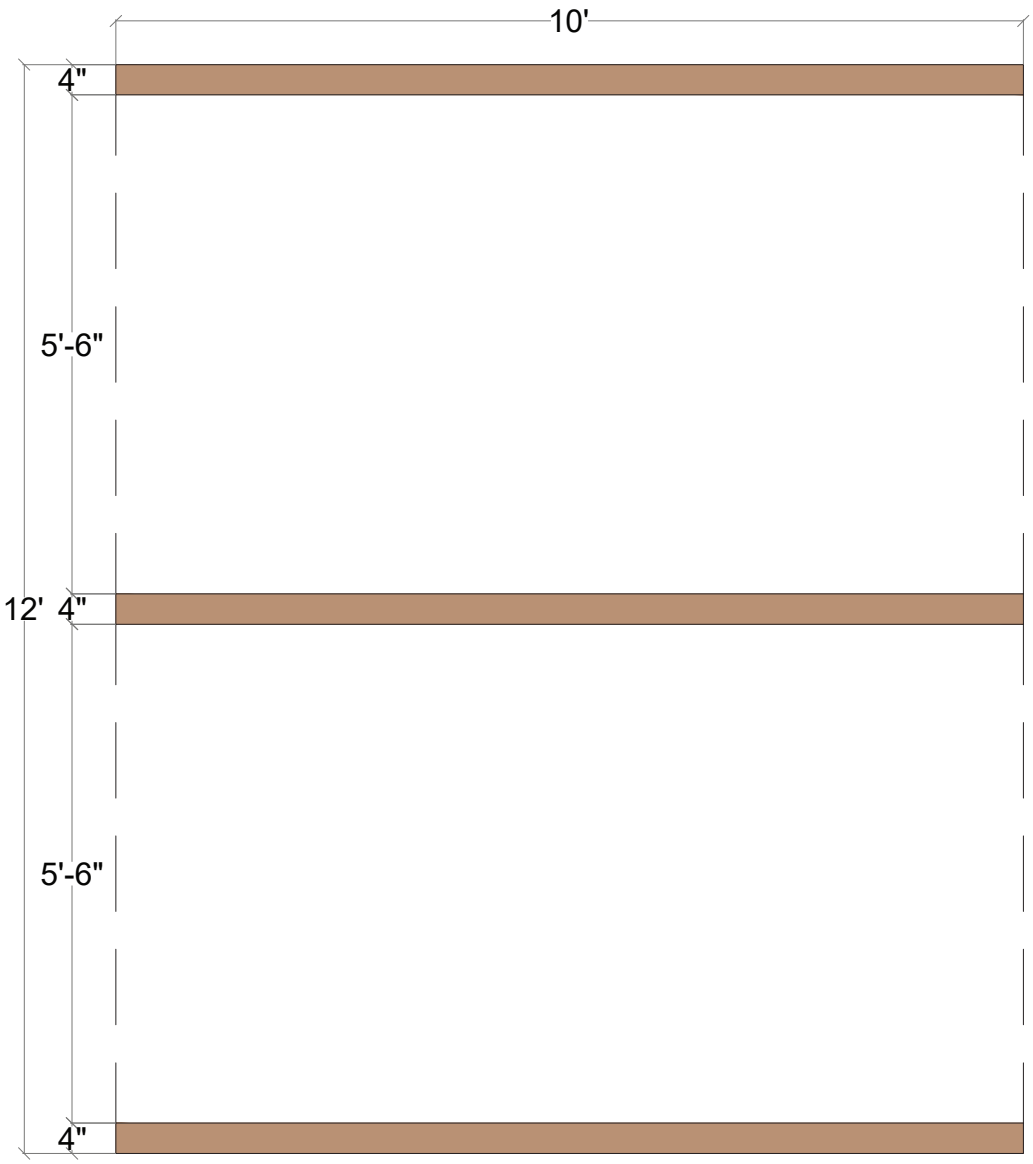


3 - Floor frame plan

skids spacing

Fix the 4" skid to the post cap with 20 post cap scews for every pressure treated post





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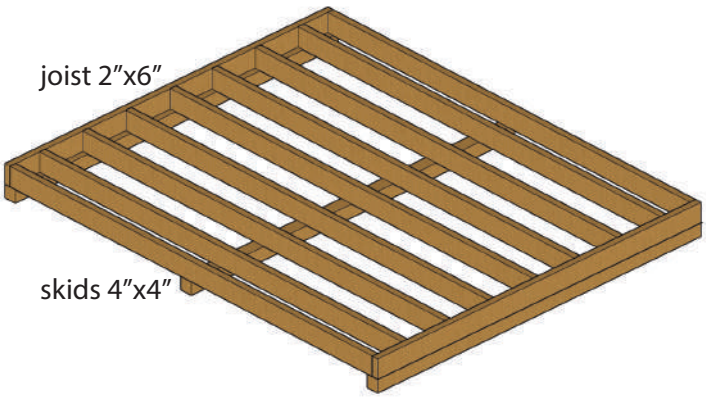
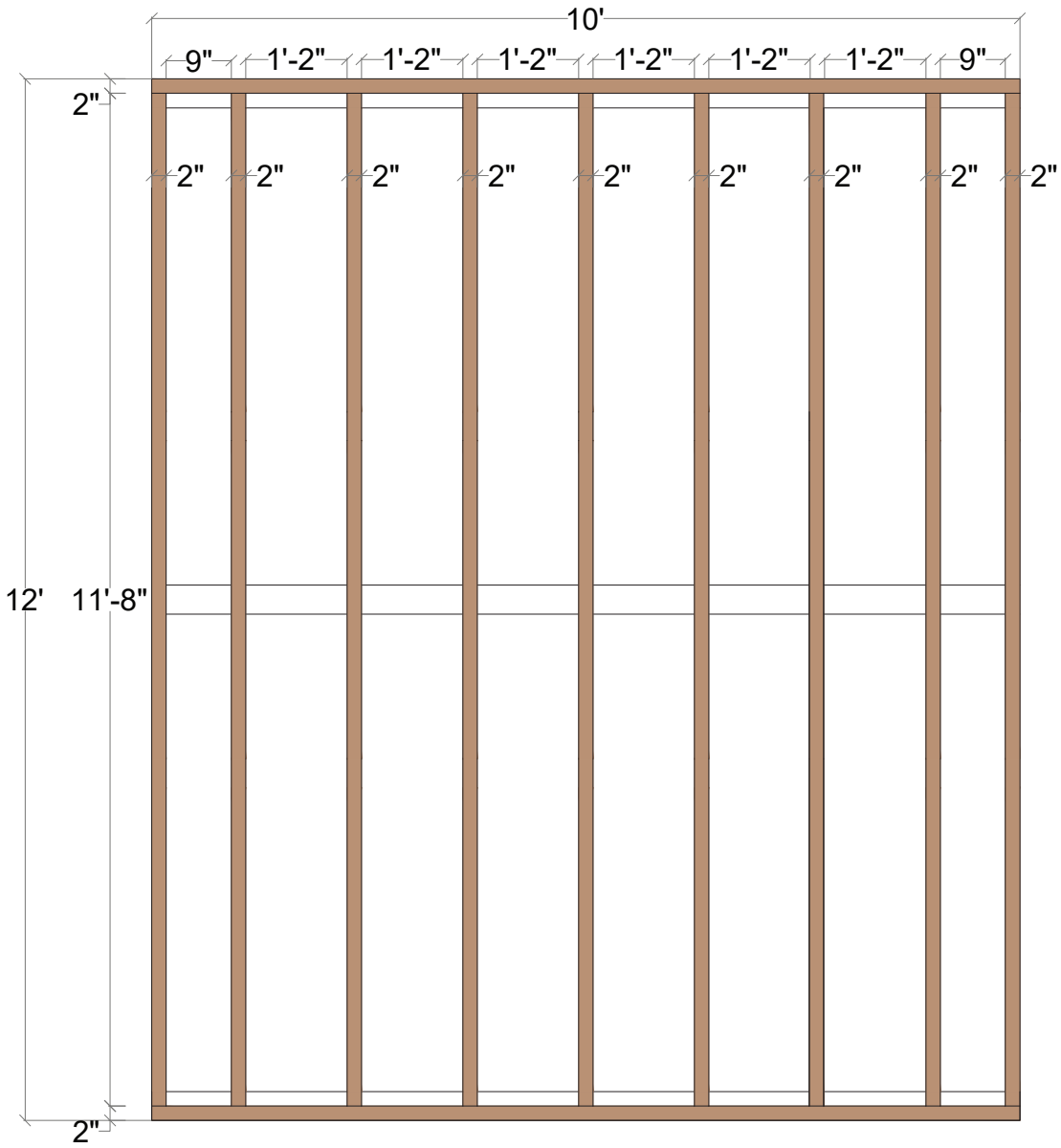
4 - Floor frame plan

joist spacing



1- Install frame and secure the beams with 5" wood screws.
2- Use a carpenter's square to check if the corners are 90°.



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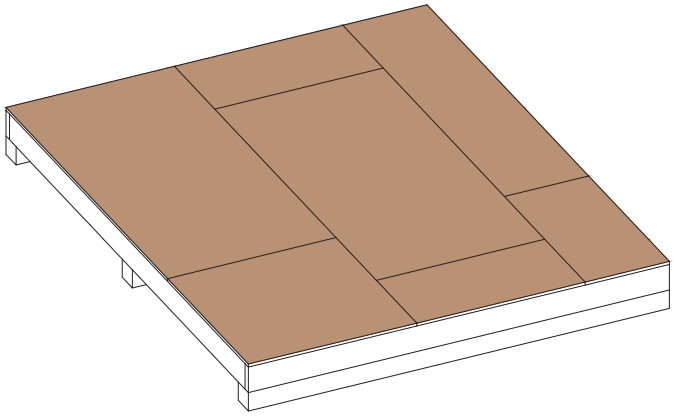
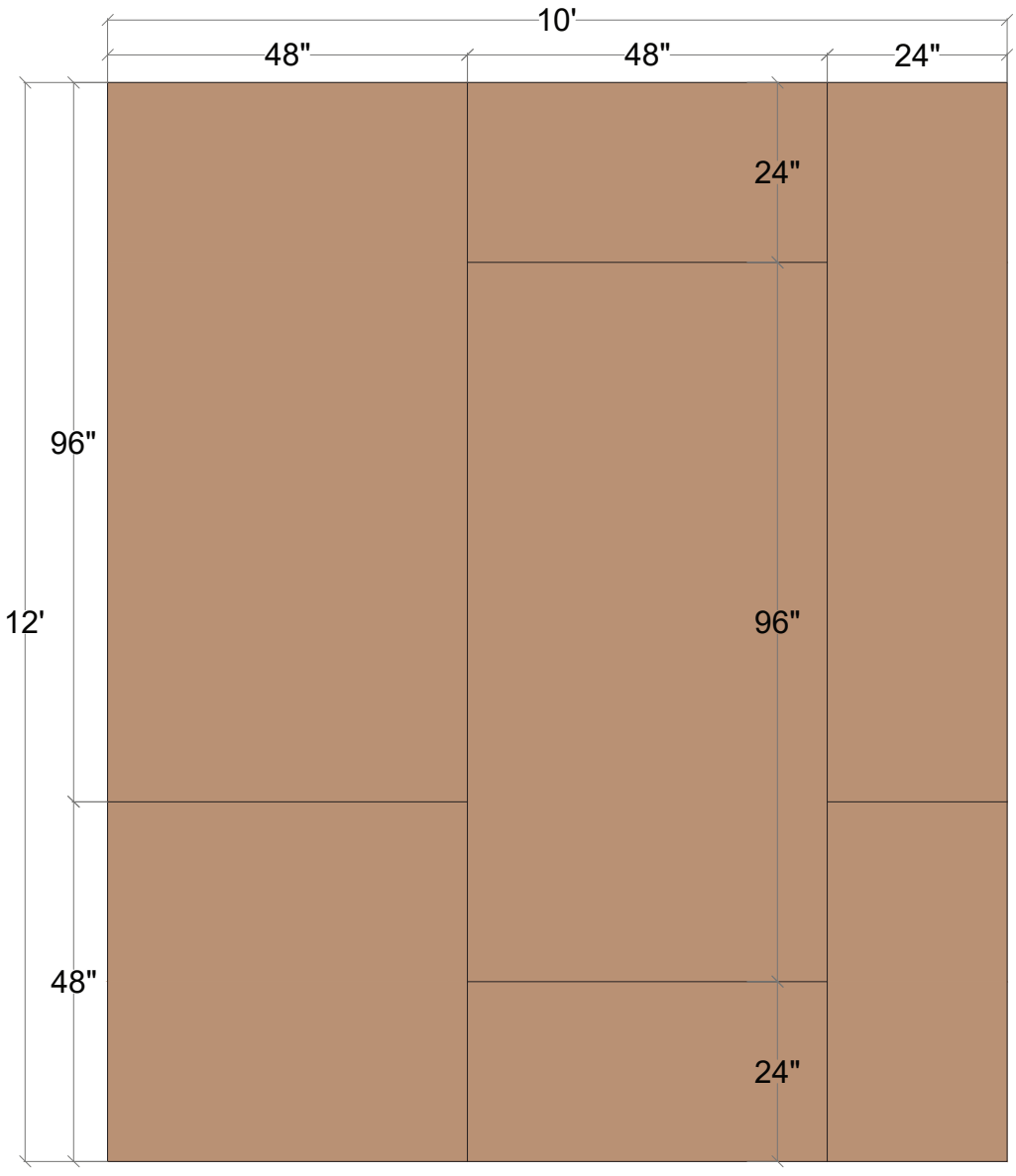
5 - Floor plywood plan



1- Screw the sheets of plywood to the joists and leave 3/4" to allow for expansion.

2- Fill the gaps with silicone sealant to prevent them being filled with tile adhesive when fixing the tiles.



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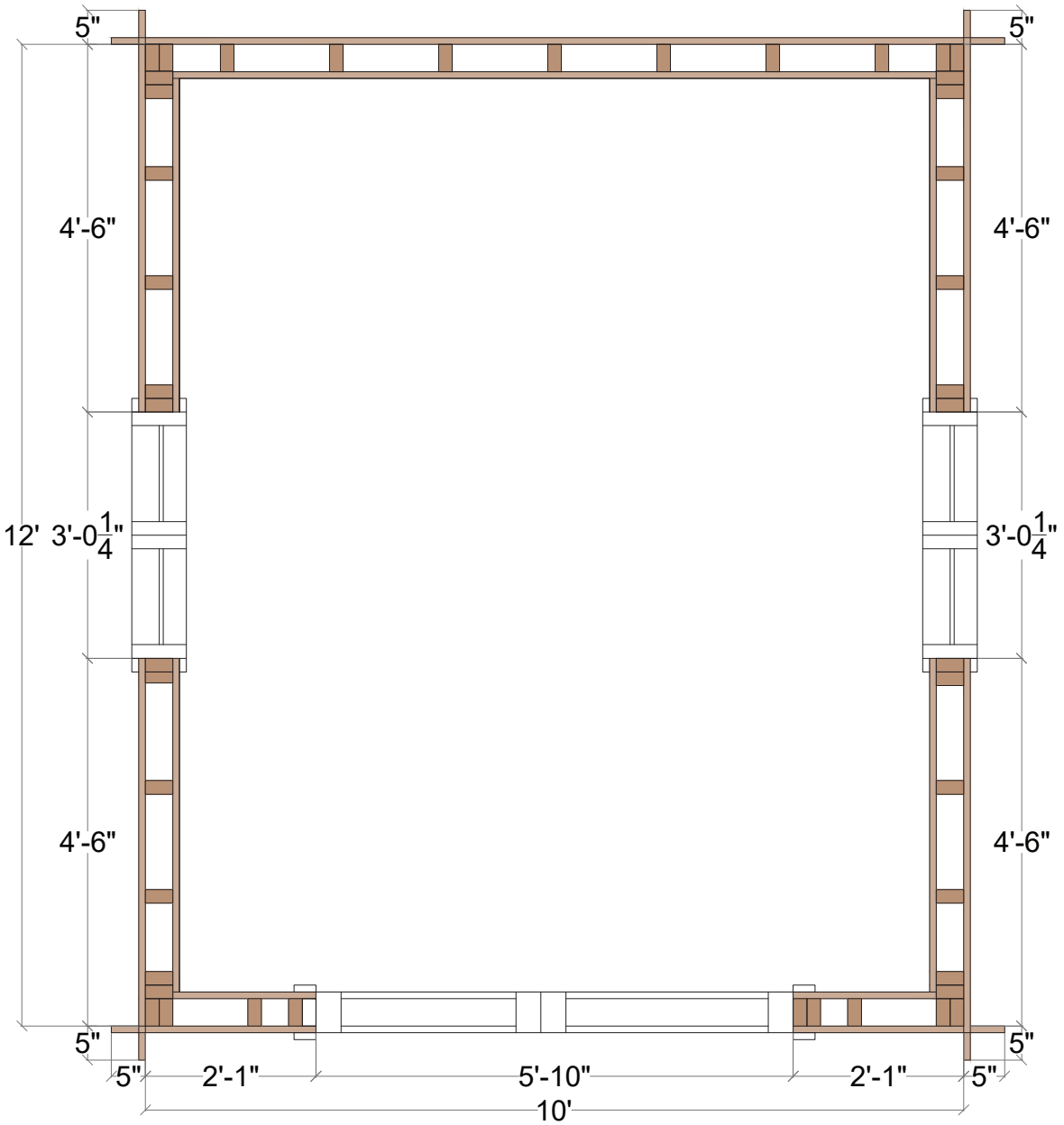
6 - Layout plan

Top section of the shed to view the windows and door location.



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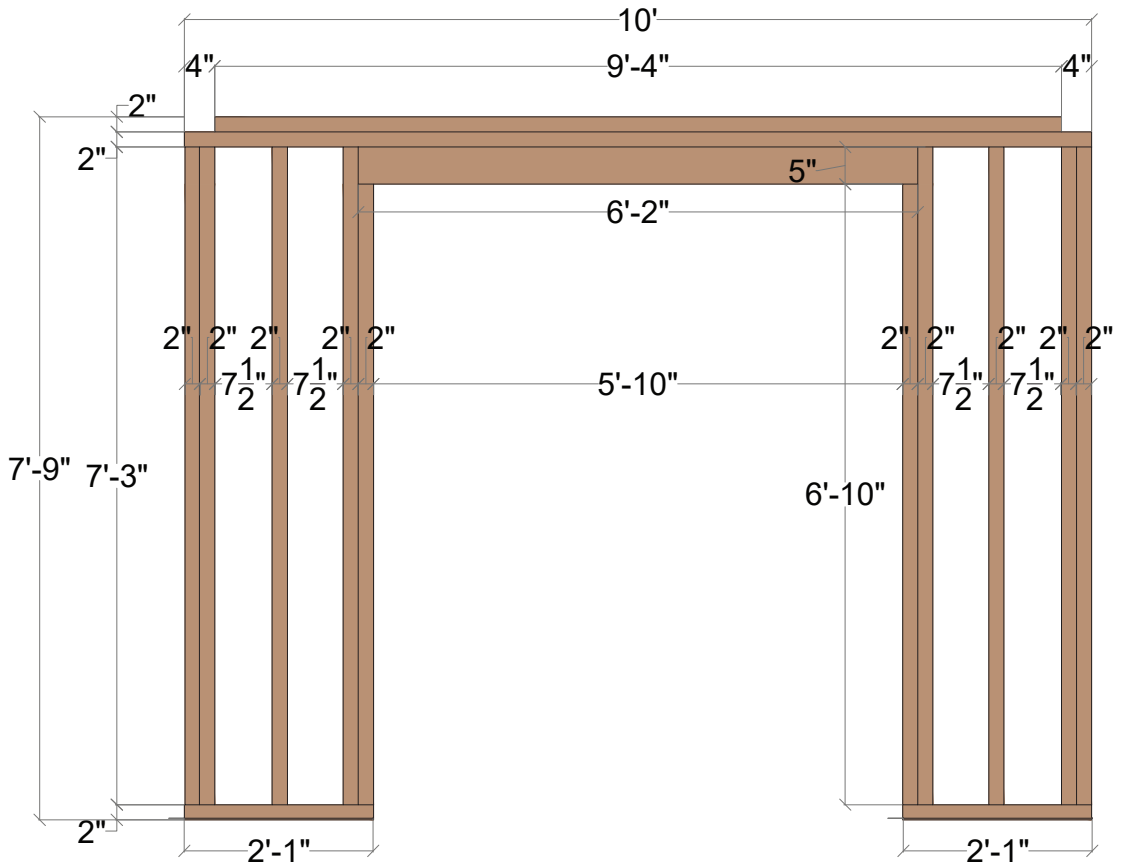
7 - Front wall frame

1- Use 2" x 4" pressure-treated lumber to construct the front wall frame using the drawing below as a reference:

studs: 8 boards cut to 7'-3"
sole plate: 2 boards cut to 2'-1"
top plate: 1 board cut to 10'
double top plate: 1 board cut to 9'-4"
door opening:
header: 2 boards of 5" cut to 6'-2" and 1 sheet of 1/2" x 5" plywood cut to 6'-2" glued in between.
trimmer: 2 boards cut to 6'-10".

2 - Connect the beams with 3" wood screws.

3- Use a carpenter's square to check if the corners are 90°.



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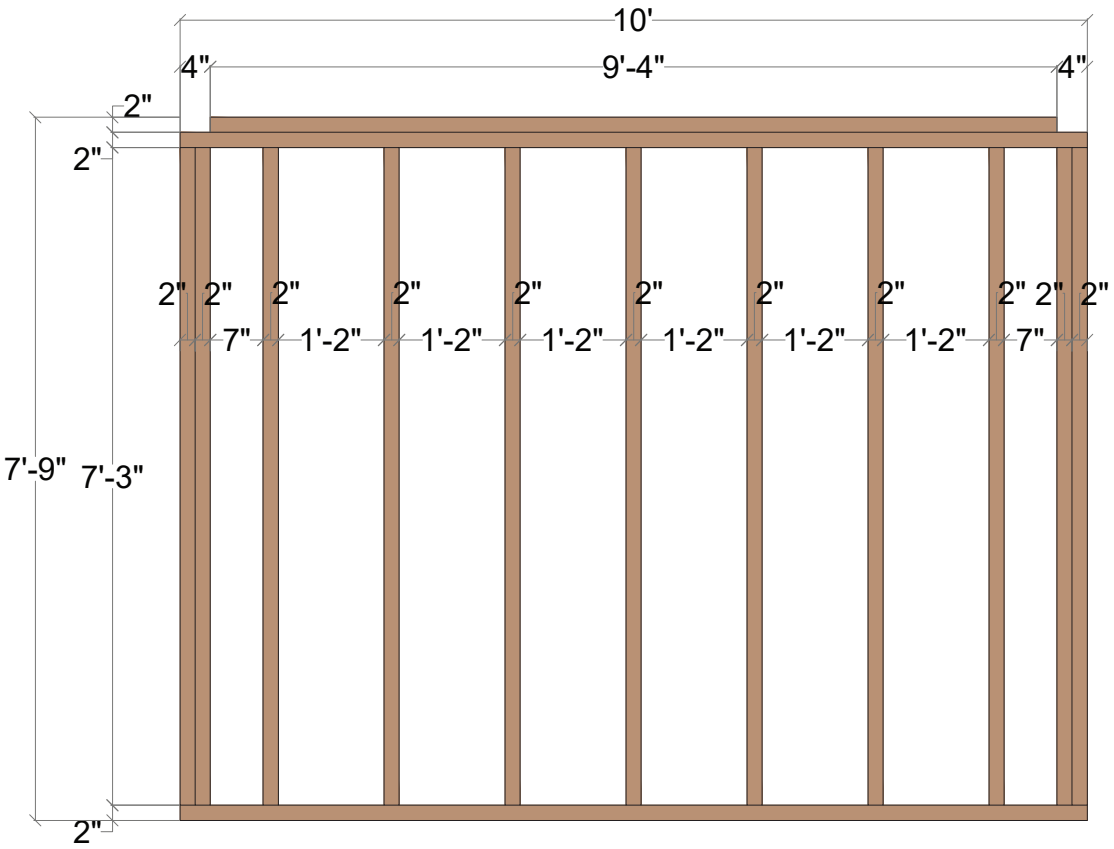
8 - Back wall frame

1- Use 2" x 4" pressure-treated lumber to construct the front wall frame using the drawing below as a reference:

studs: 11 boards cut to 7'-3"
sole plate: 1 board cut to 10'
top plate: 1 board cut to 10'
double top plate: 1 board cut to 9'-4"

2 - Connect the beams with 3" wood screws.

3- Use a carpenter's square to check if the corners are 90°.



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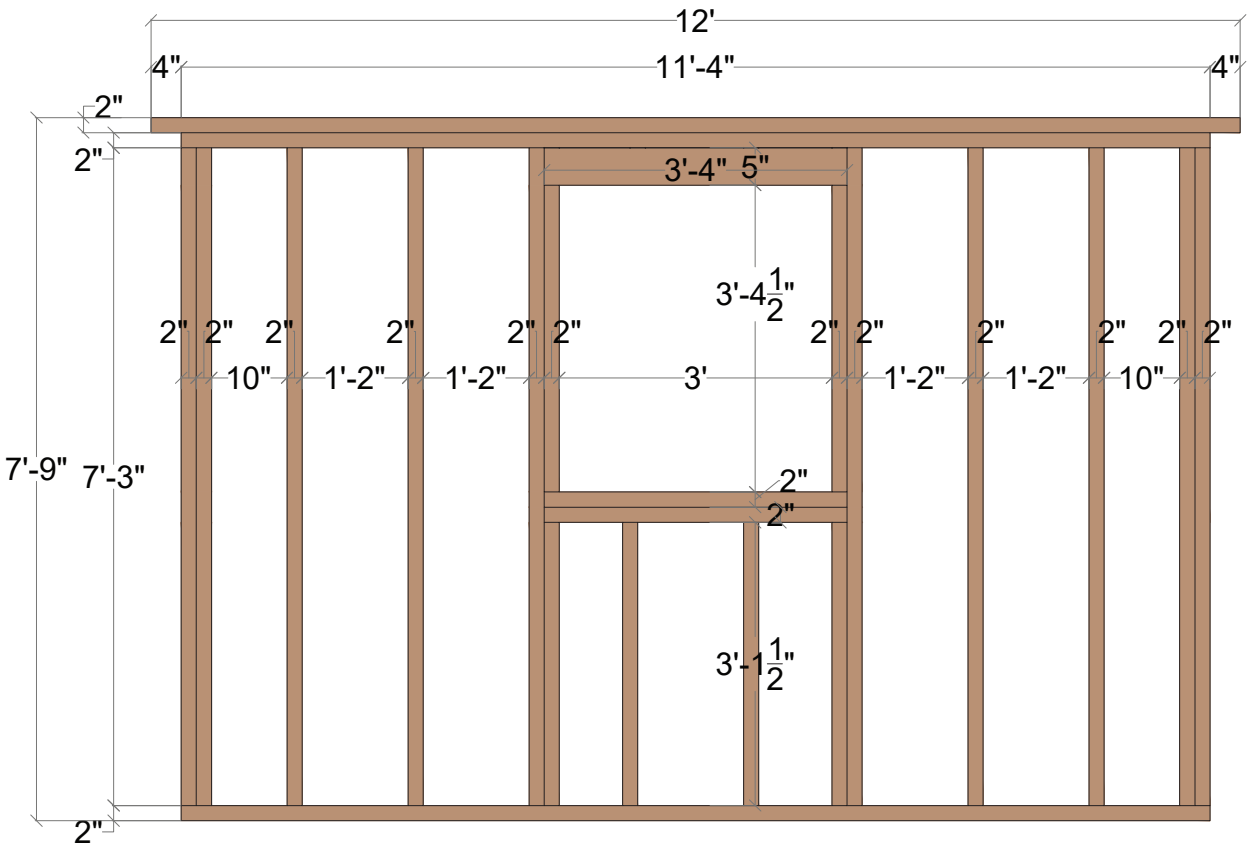
9 - Right and Left wall frame

1- Use 2" x 4" pressure-treated lumber to construct the front wall frame using the drawing below as a reference:

studs: 10 boards cut to 7'-3"
sole plate: 1 board cut to 11′-4″
top plate: 1 board cut to 11′-4″
double top plate: 1 board cut to 12′
bottom cripples: 4 boards cut to 3'-1 1/2"
window opening:
header: 2 boards of 5″ cut to 3′ -4″ and 1 sheet of 1/2″ x 5″ plywood cut to 3′ -4″ glued in between.
trimmer: 2 boards cut to 3′-4 1/2″
sill: 2 boards cut to 3′

2 - Connect the beams with 3" wood screws.

3- Use a carpenter's square to check if the corners are 90°.



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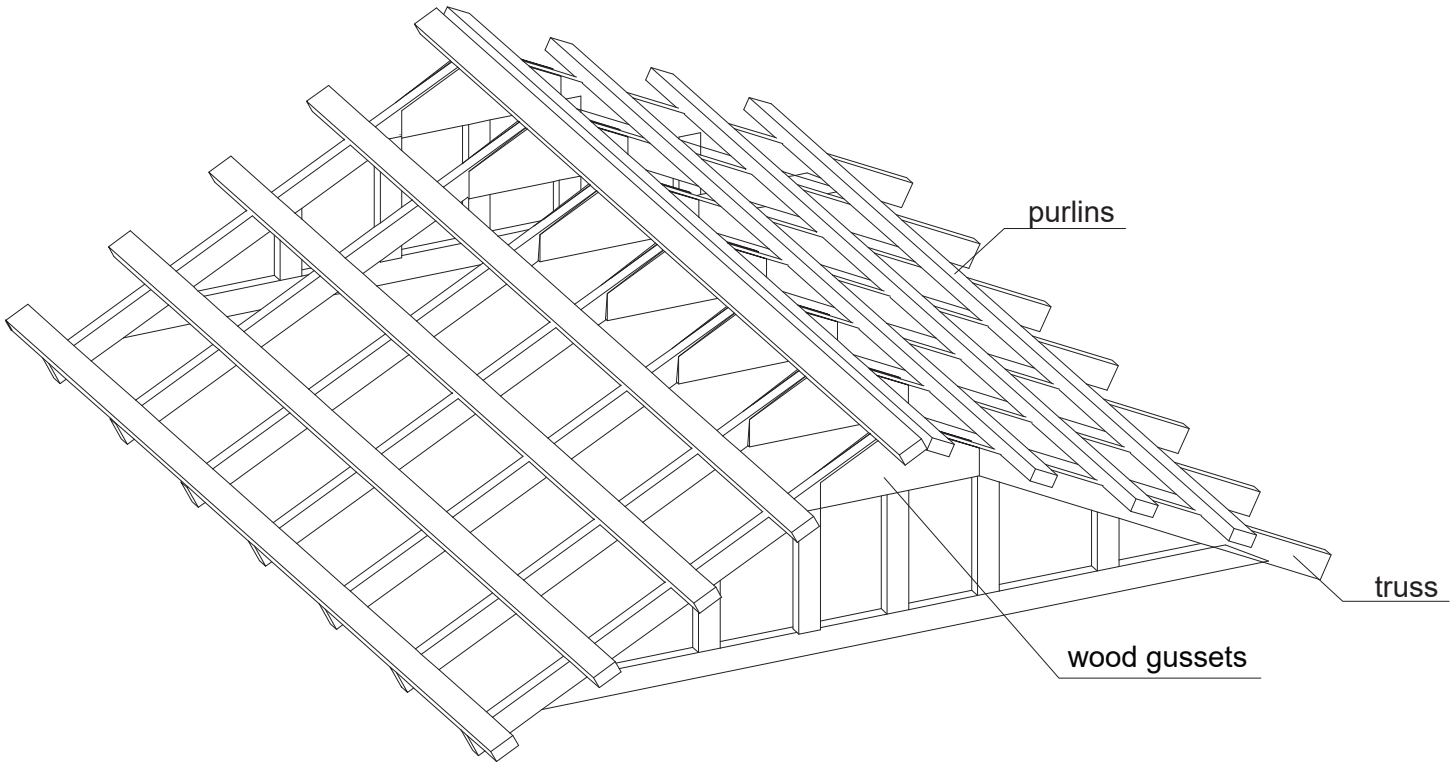
10 - Roof assembly

Roof stucture assembly



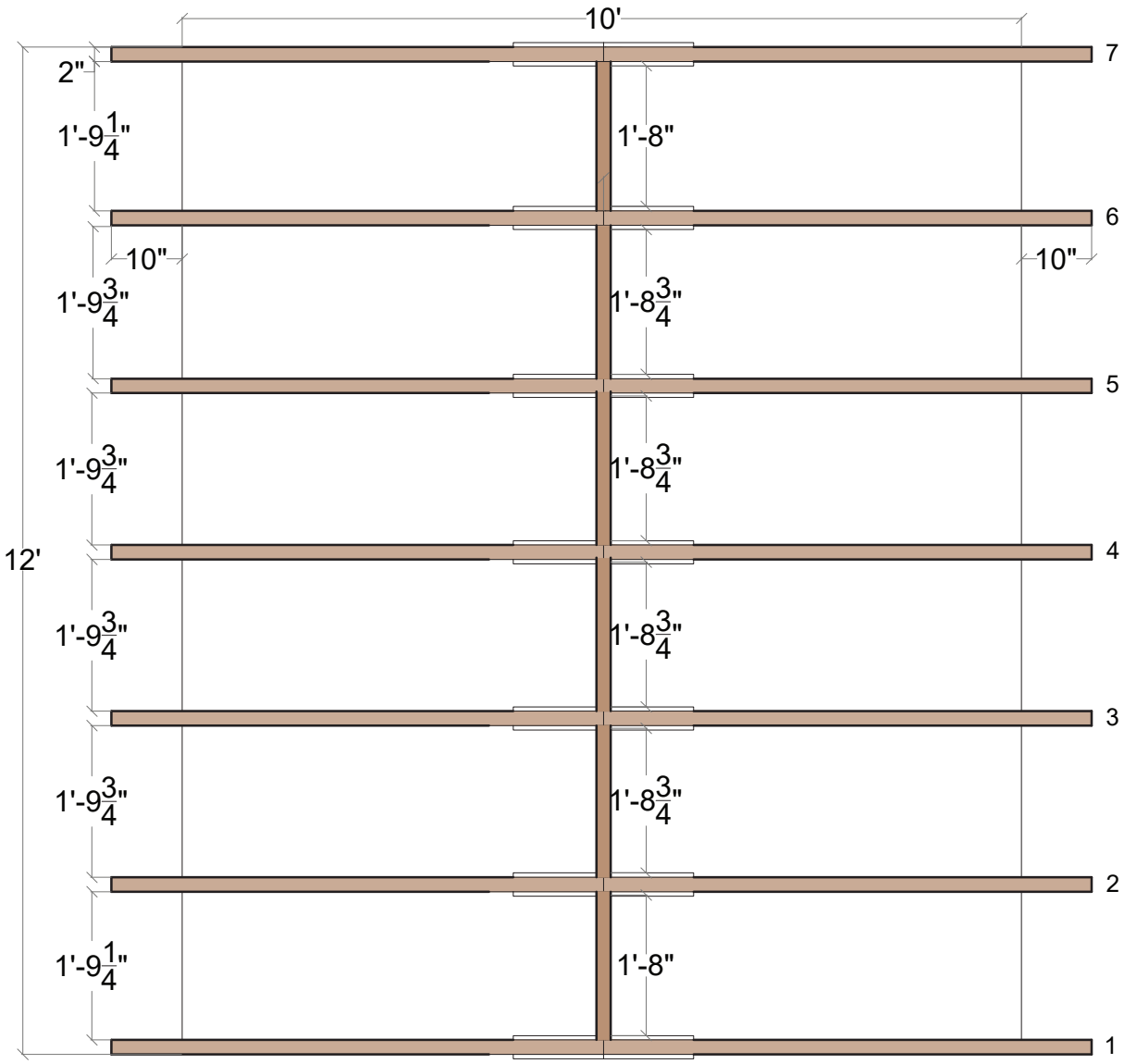
11 - Roof truss plan

1- Use 2" x 4" pressure-treated lumber to construct the roof frame using the drawing below and the truss details as a reference:

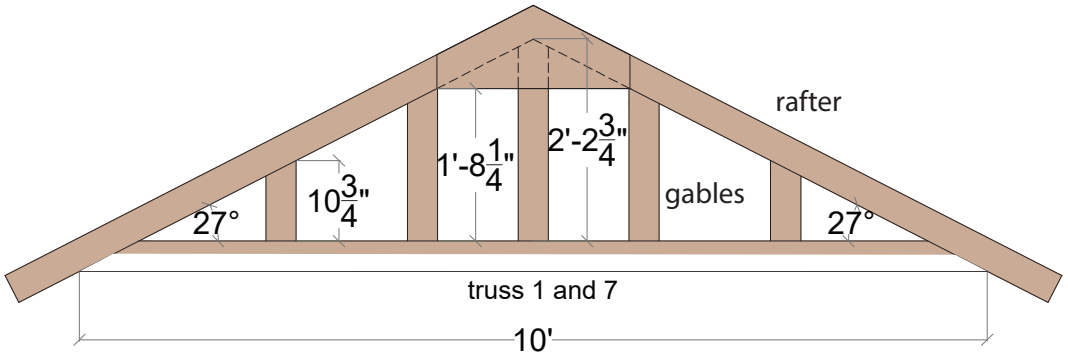
rafters: 14 boards cut to 6'-6 1/2"
ridges: 2 boards cut to 1'-9 1/4" and 4 boards cut to 1'-9 3/4"
ceiling joist: 2 boards cut to 9'-7 3/4"
gables: 2 boards 10 3/4", 2 boards 1'-8 1/4" and 1 board 2'-2 3/4"

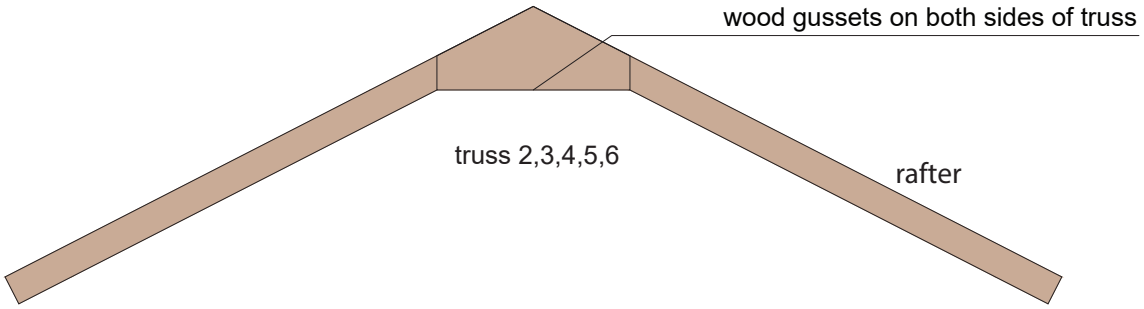
gussets: 14 boards of 1/2" plywood

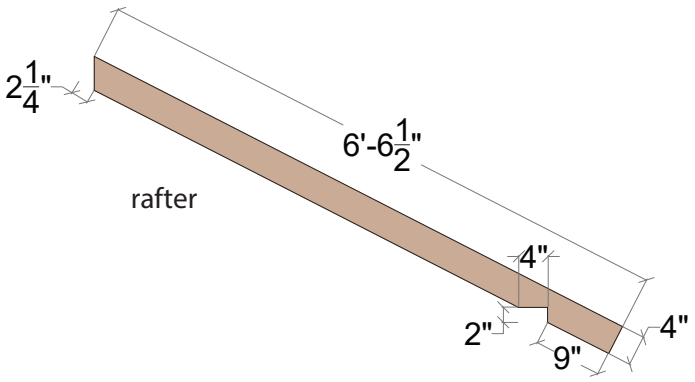
2 - Connect the beams with 3" wood screws and the gussets with nails

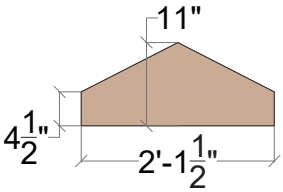


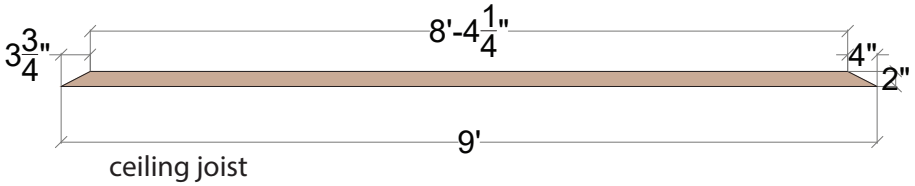
12 - truss details











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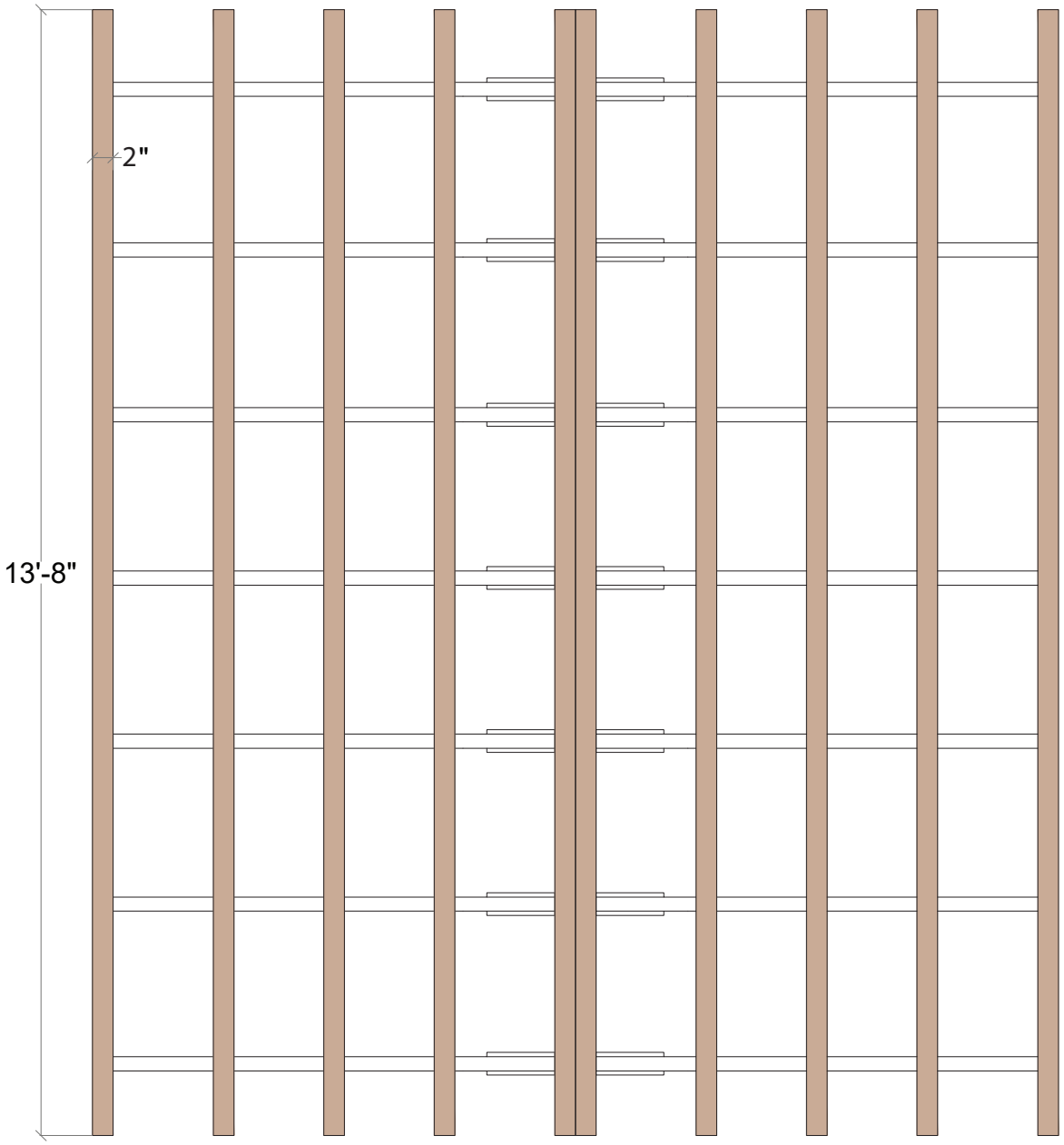
13 - Roof purlins

Purlins are the frame for the sheathing on the roof to rest on.

1- Use 2" x 2" pressure-treated lumber to construct the purlins using the drawing below as a reference:

purlins: 10 boards cut to 13'-8"

2 - Connect the beams with 3" wood screws and the spacing should not be more than 2' - 0" apart.



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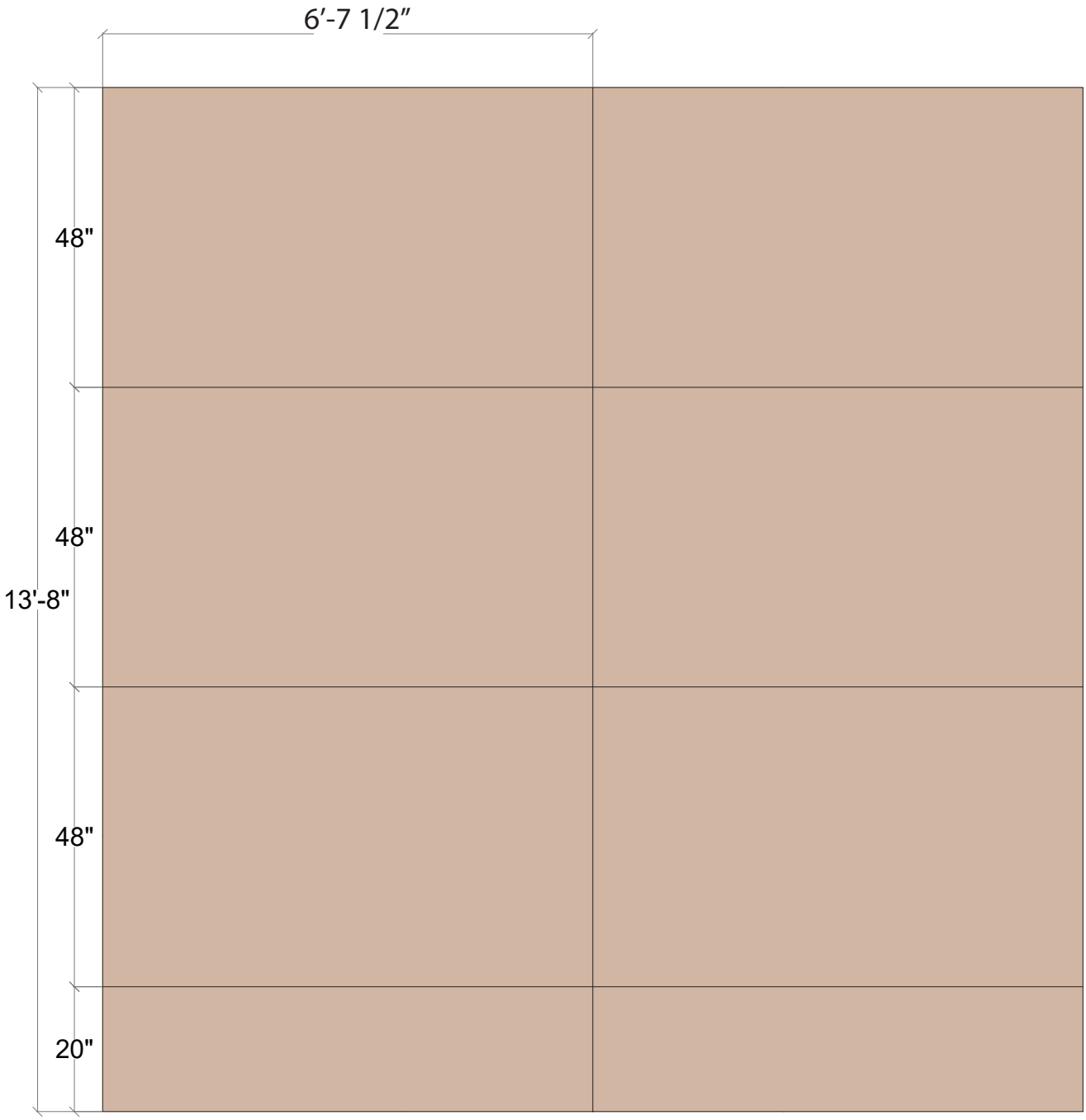
14 - Roof plywood

1- Use 96" x 48" sheets of 1/2" plywood for the roof sheating using the drawing below as a reference:

plywood: 6 sheets cut to 4' x 6'-7 1/2" and 2 sheets cut to 1'-8" x 6'-6 1/2"

2 - Connect the plywood with 2" wood screws



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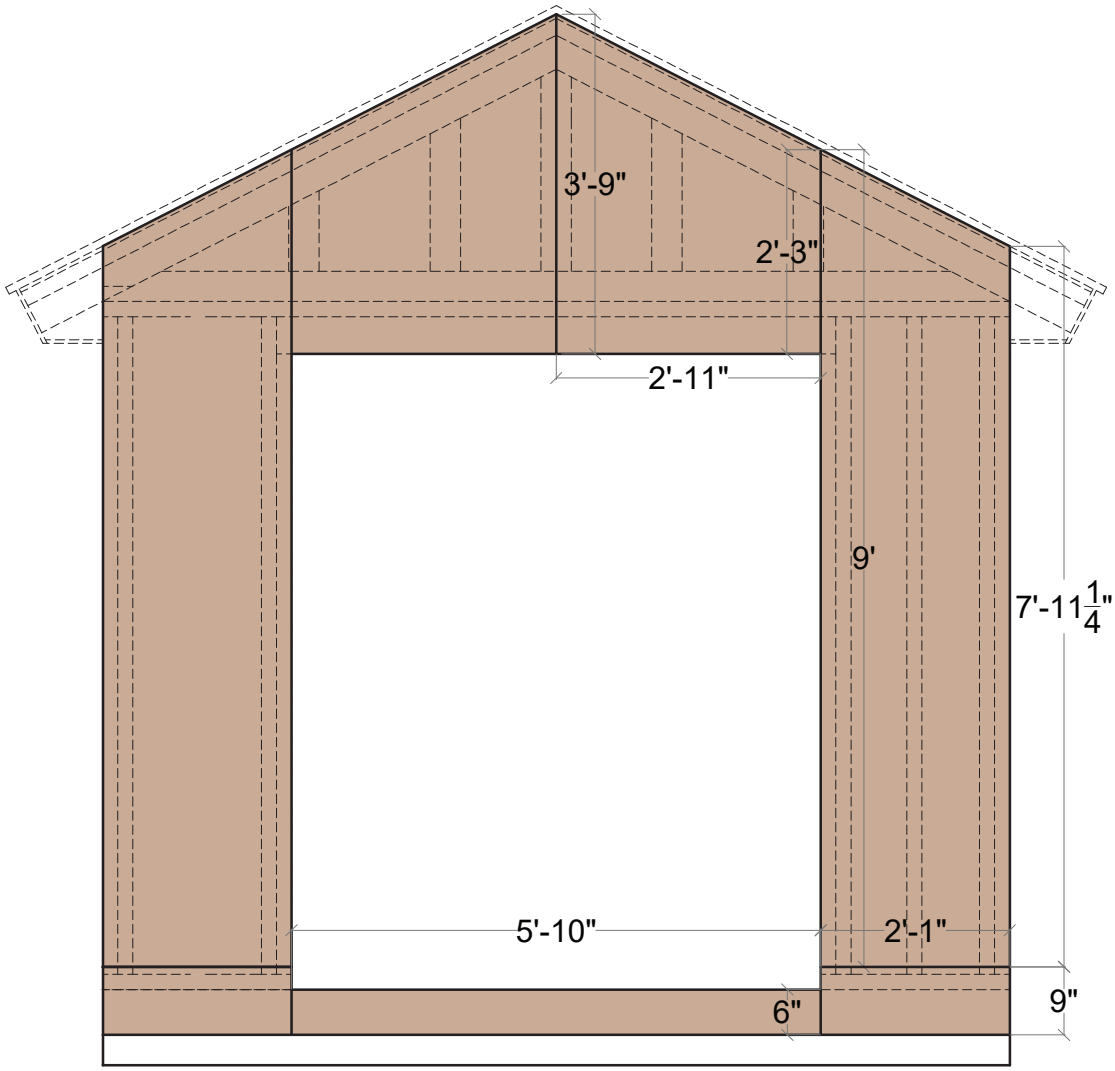
15 - Front plywood wall

1- Use 96" x 48" sheets of 1/2″ plywood for the roof sheating using the drawing below as a reference:

plywood: 2 sheets cut to 9′ x 2′-1″, 2 sheets cut to 3′-9″ x 2′-11″, 2 sheets cut to 2′-11″ x 9″ and 1 sheet cut to 6″ x 5′-10″

2 - Connect the plywood with 2" wood screws



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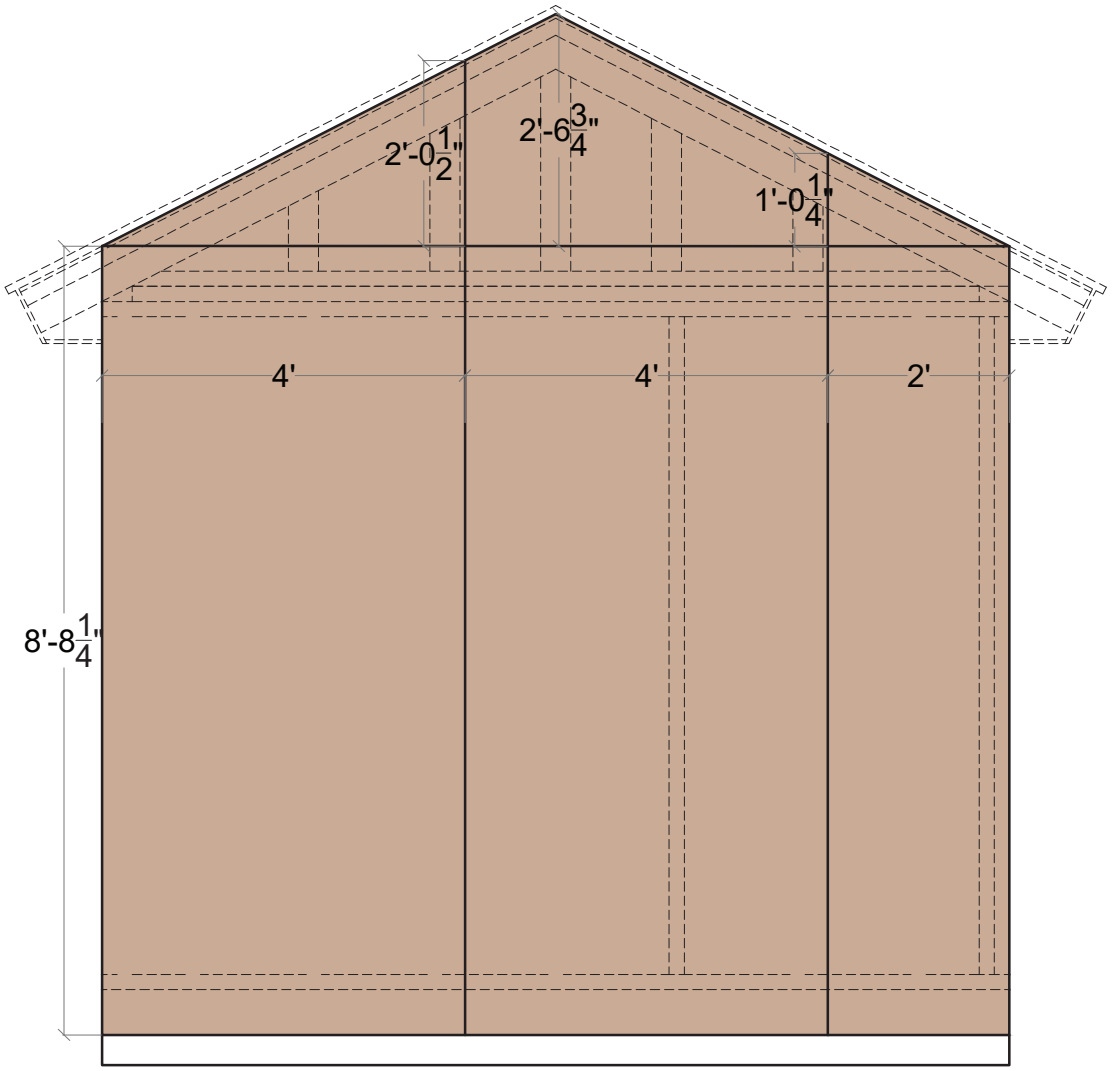
16- Back plywood wall

1- Use 96" x 48" sheets of 1/2" plywood for the roof sheating using the drawing below as a reference:

plywood: 2 sheets cut to 8' -8 1/4" x 4' , 1 sheet cut to 8'-8 1/4" x 2' , 1 sheet cut to 4' x 2'-1/2" , 1 sheet cut to 4' x 2'-6 3/4" and 1 sheet cut to 2' x 1'-1/4".

2 - Connect the plywood with 2" wood screws



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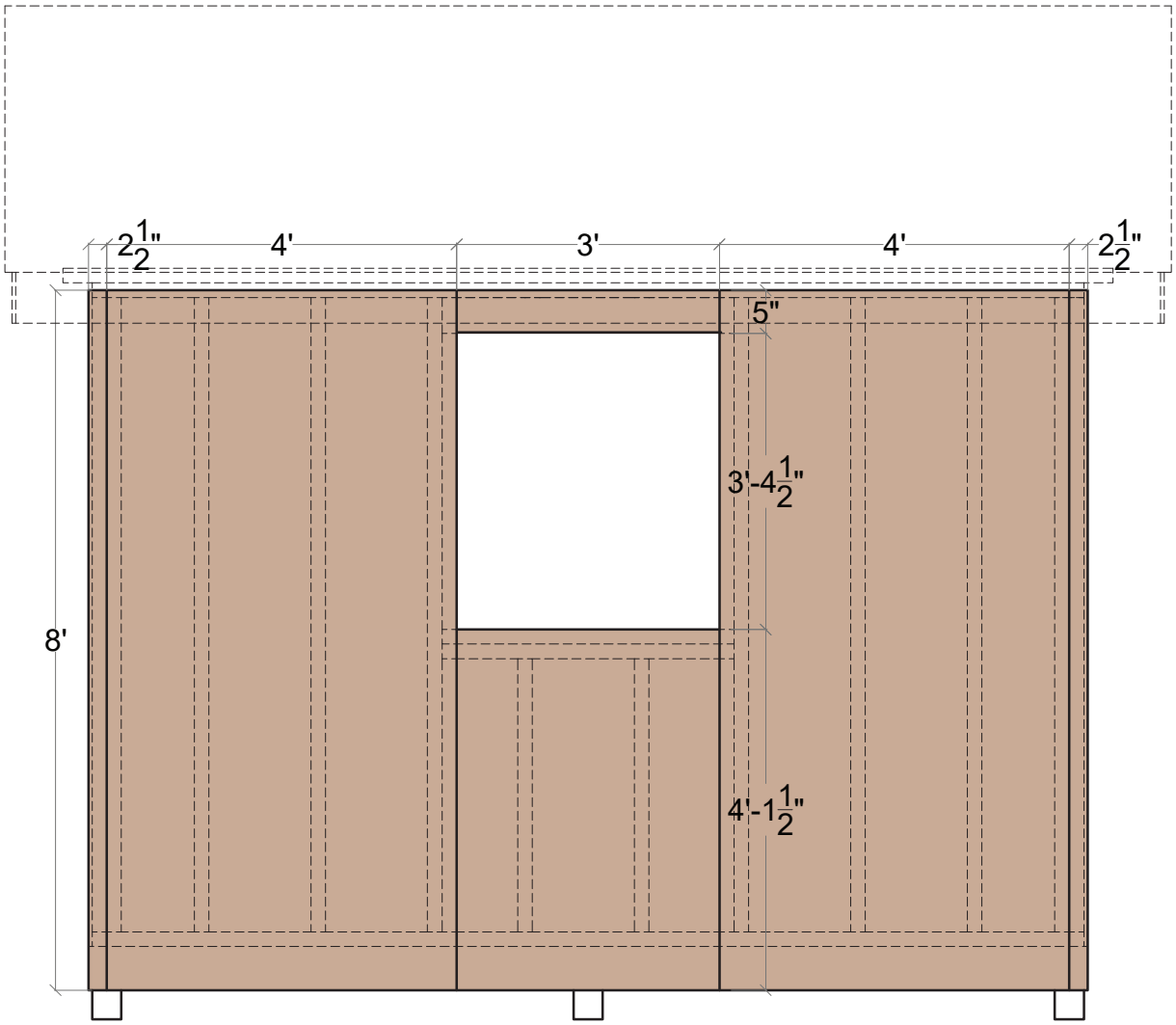
17 - Right and left plywood wall

1- Use 96" x 48" sheets of 1/2" plywood for the roof sheating using the drawing below as a reference:

plywood: 2 sheets cut to 8' x 2 1/2", 2 sheet cut to 8' x 4', 1 sheet cut to 3' x 5", 1 sheet cut to 3' x 3'-4 1/2" and 1 sheet cut to 4'-1 1/2"

2 - Connect the plywood with 2" wood screws



18 - Roof cover assembly

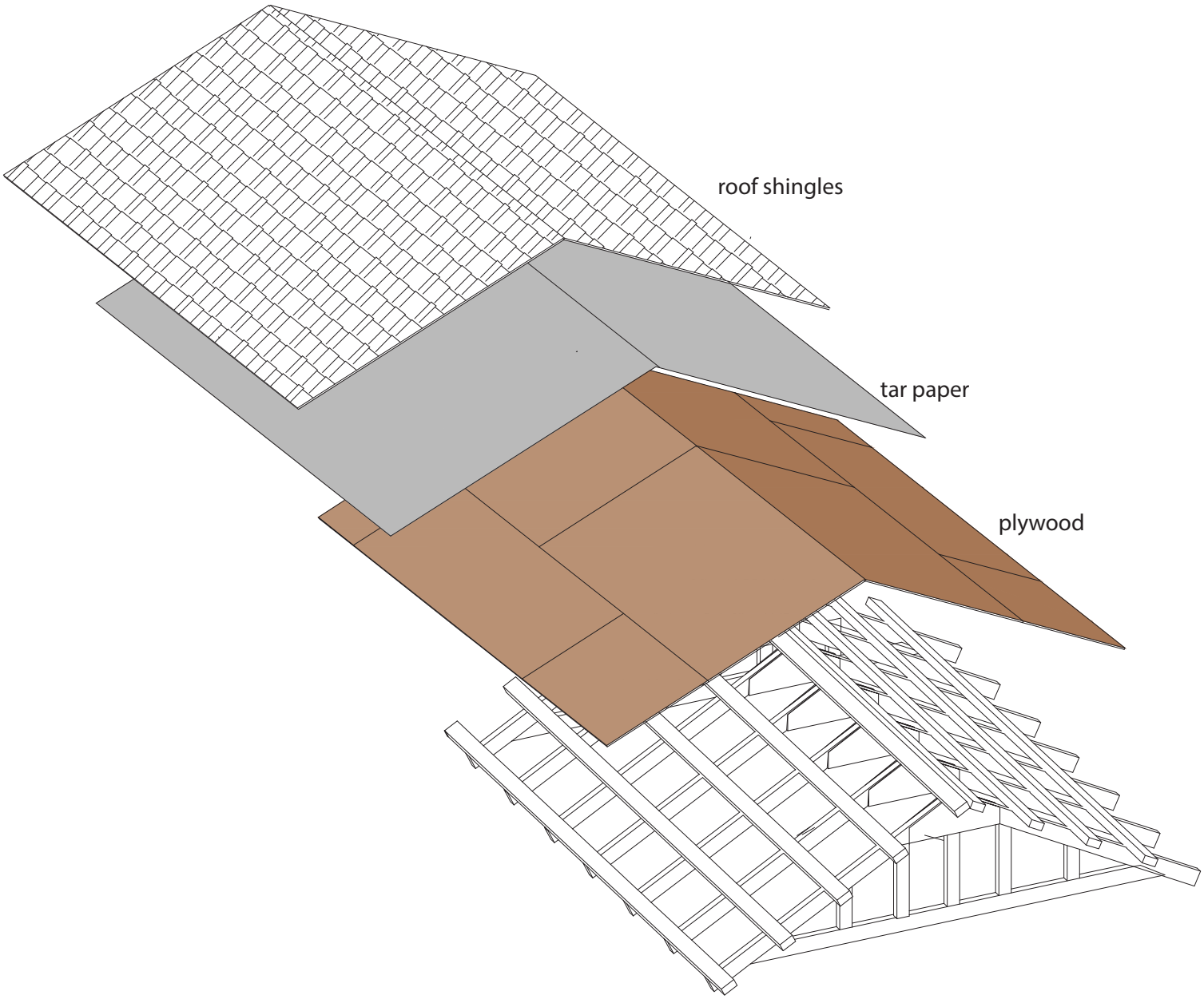
1- Begin with first row of tar paper from the bottom of the roof. Cut it to fit your roof using a knife.

2-Tack the tar paper in place with a staple gun on the roof sheathing. Alternatively, you can use a hammer and galvanized nails.

3- Lay a second strip of tar paper above the first strip, overlapping it by about 5 inches.

4- Add a roof drip edge on the tar paper. Leave a gap between the drip edge and the fascia to break water surface tension and improve drainage.

5- Use 1 1/2" nails to secure the shingles in overlapping rows that covers seams and nails. Any exposed nails should be sealed to prevent roof leaks.



19 - Roof drainage

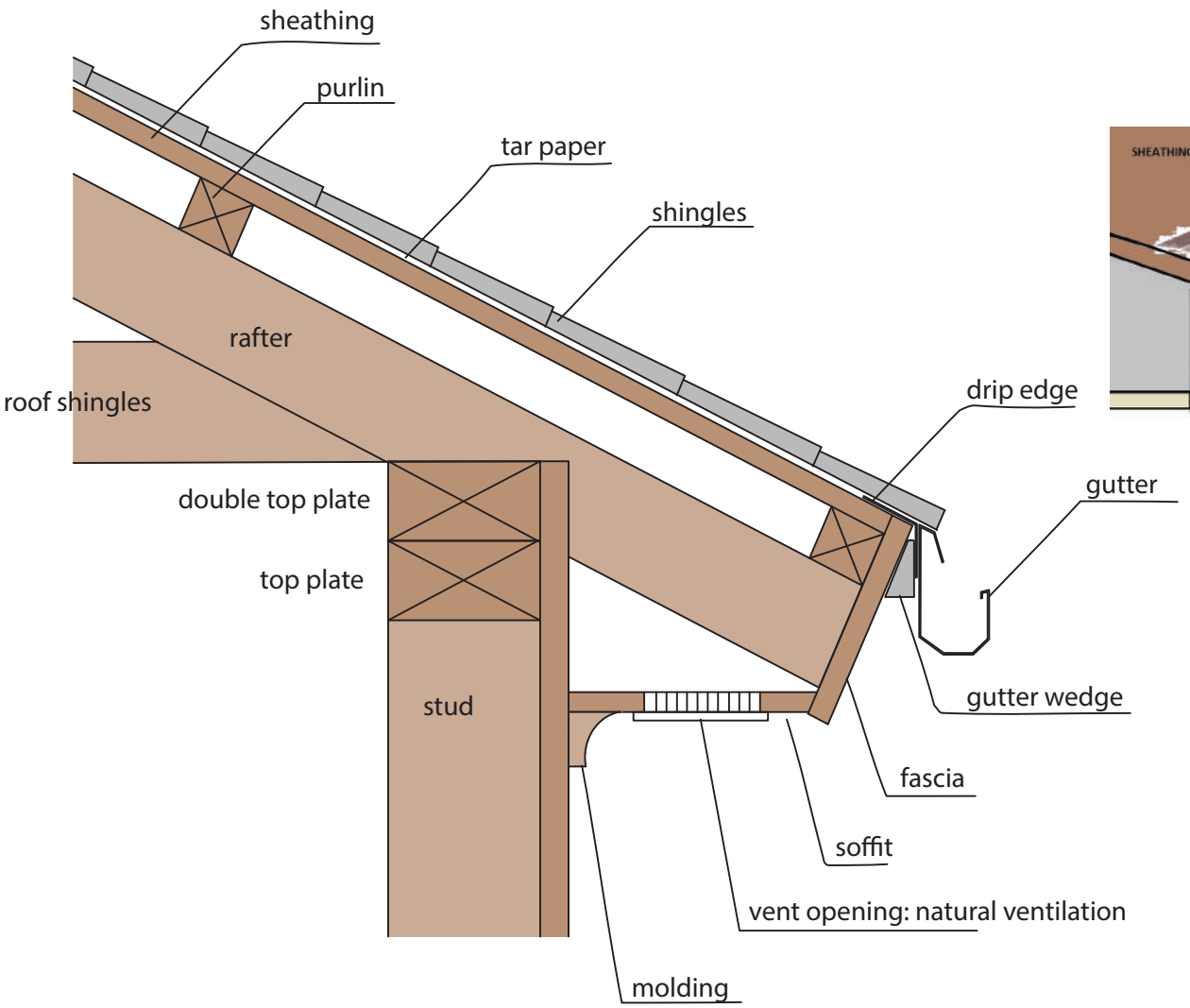
1- Install fascias (1" x 8" x 13'-8") to the purlins.

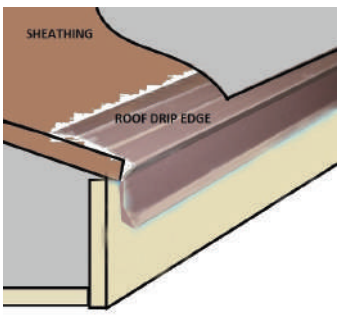
2-Install soffits

3- Lay a second strip of tar paper above the first strip, overlapping it by about 5 inches.

4- Add a roof drip edge on the tar paper. Leave a gap between the drip edge and the fascia to break water surface tension and improve drainage.

5- Use 1 1/2" nails to secure the shingles in overlapping rows that covers seams and nails. Any exposed nails should be sealed to prevent roof leaks.





20 - Fascias and soffits

1- Use 1" x 8" pressure-treated lumber to construct the fascias using the drawing below as a reference:

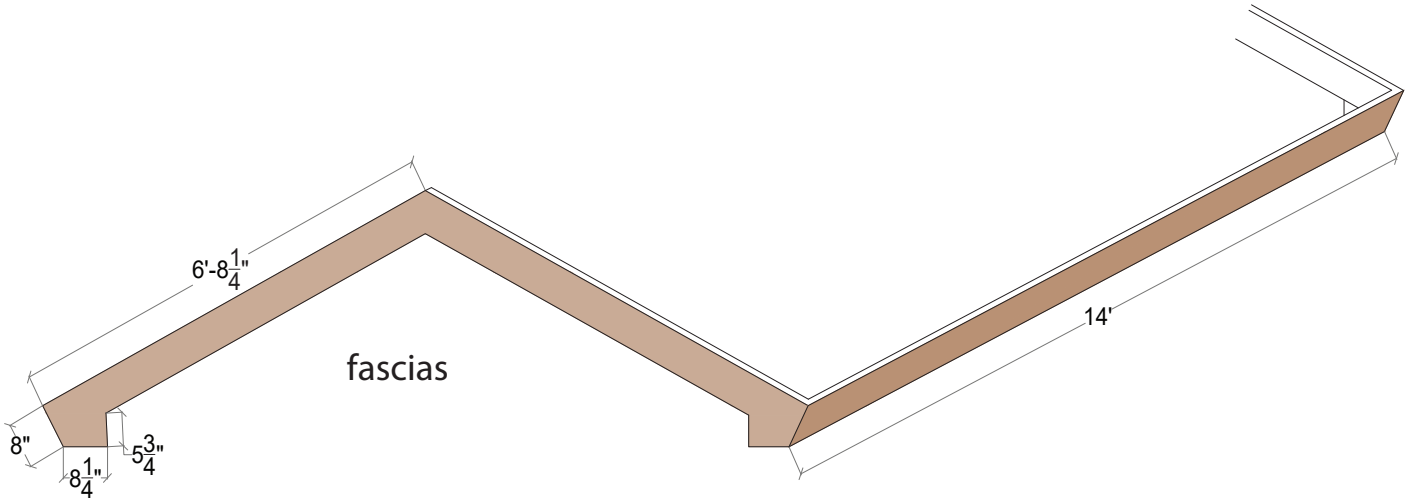
4 boards cut to 6'-8 1/4"
2 boards cut to 14'

2 - Connect the beams with 2" wood screws.

3- Cut the corners to a 45 degree angle to close the corners

4- Install the soffits.

5- Attach the Vent to the Soffits

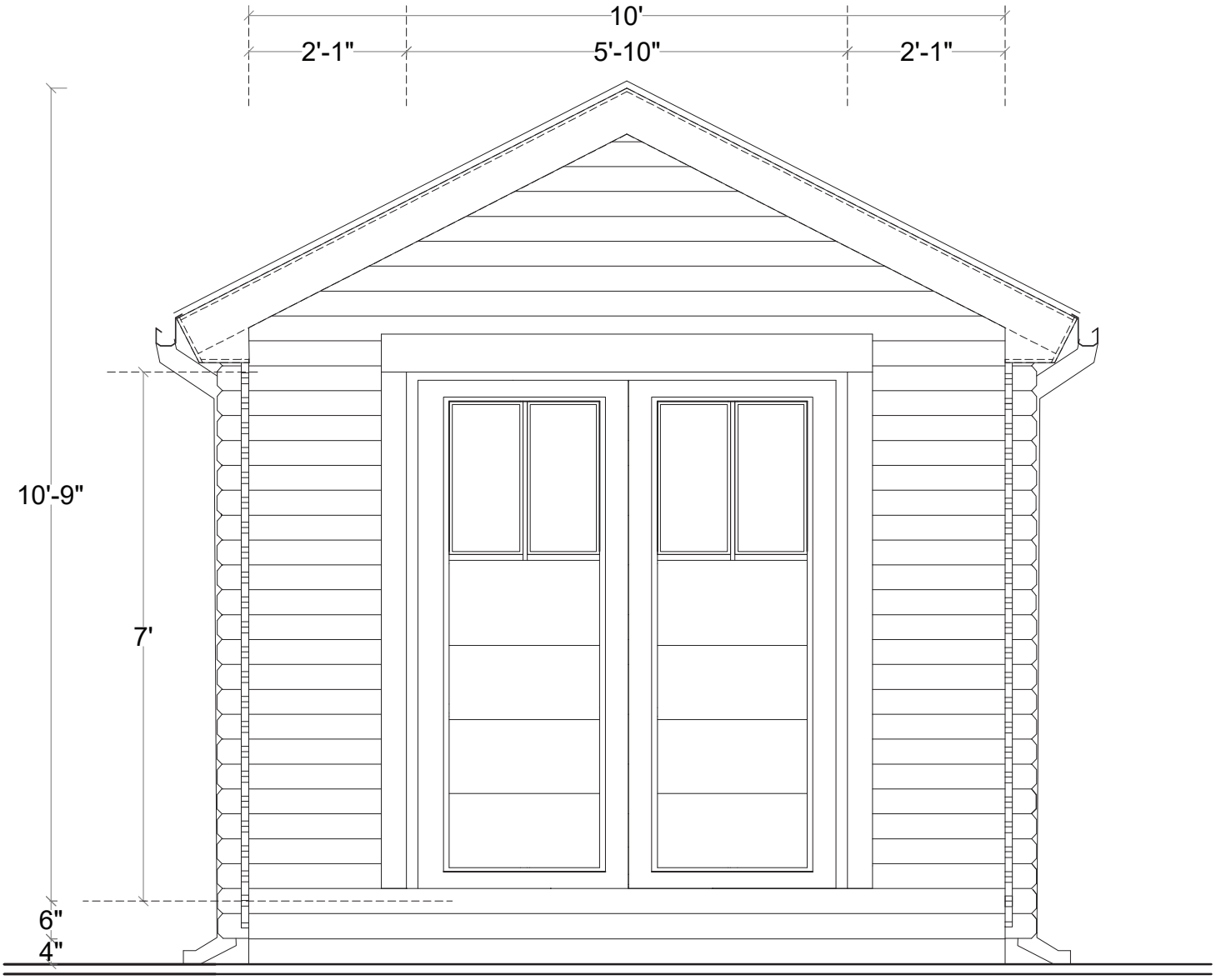


21 - Front wall siding

1- Cover the walls with building paper. You will need in total 375 sq ft. of building paper for the four walls.

2- Install the exterior siding using horizontal siding boards .

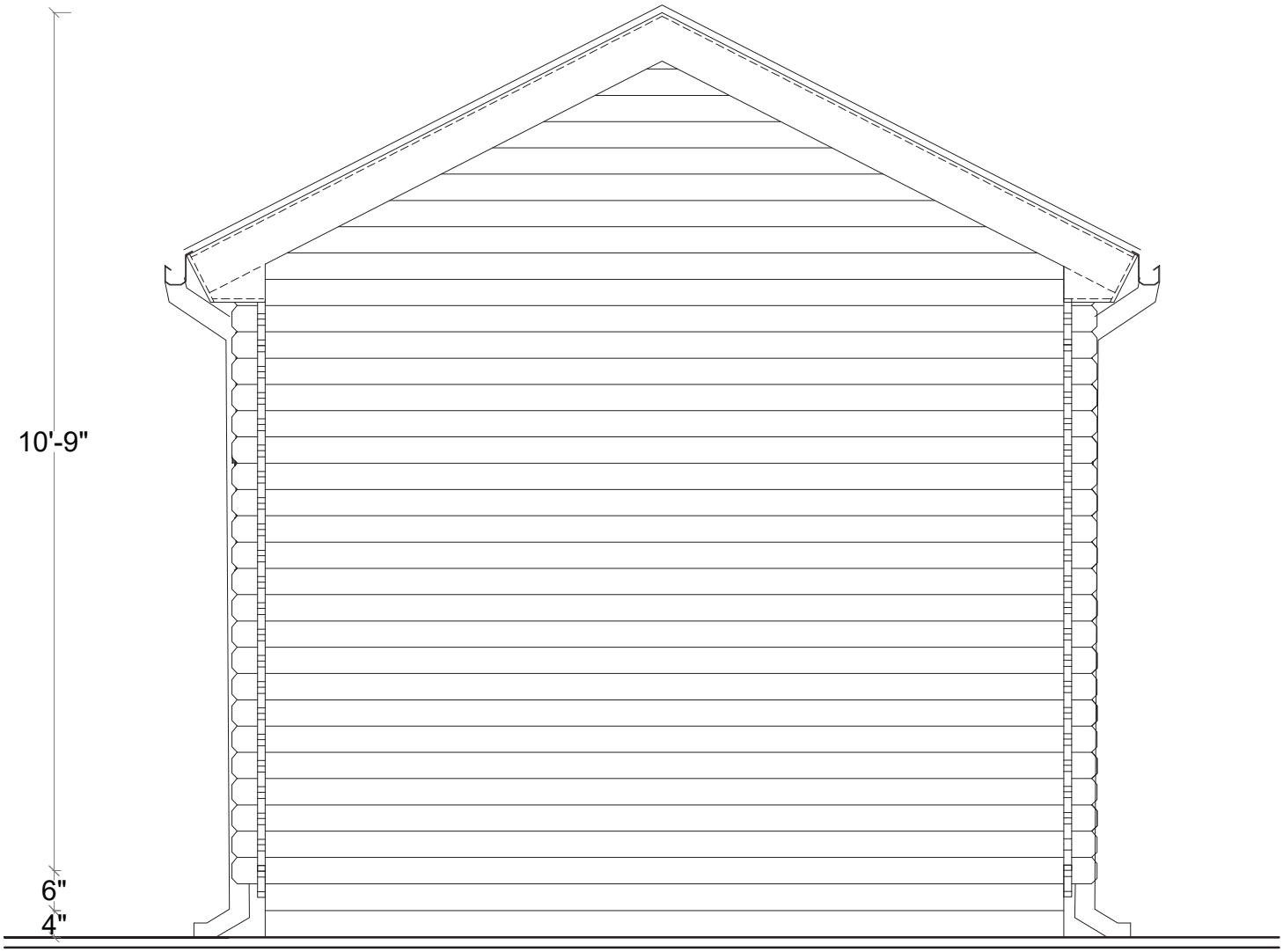
3- Provide opening for door.



scale 1/50

22 - Back wall siding

1- Install the exterior siding using horizontal siding boards .



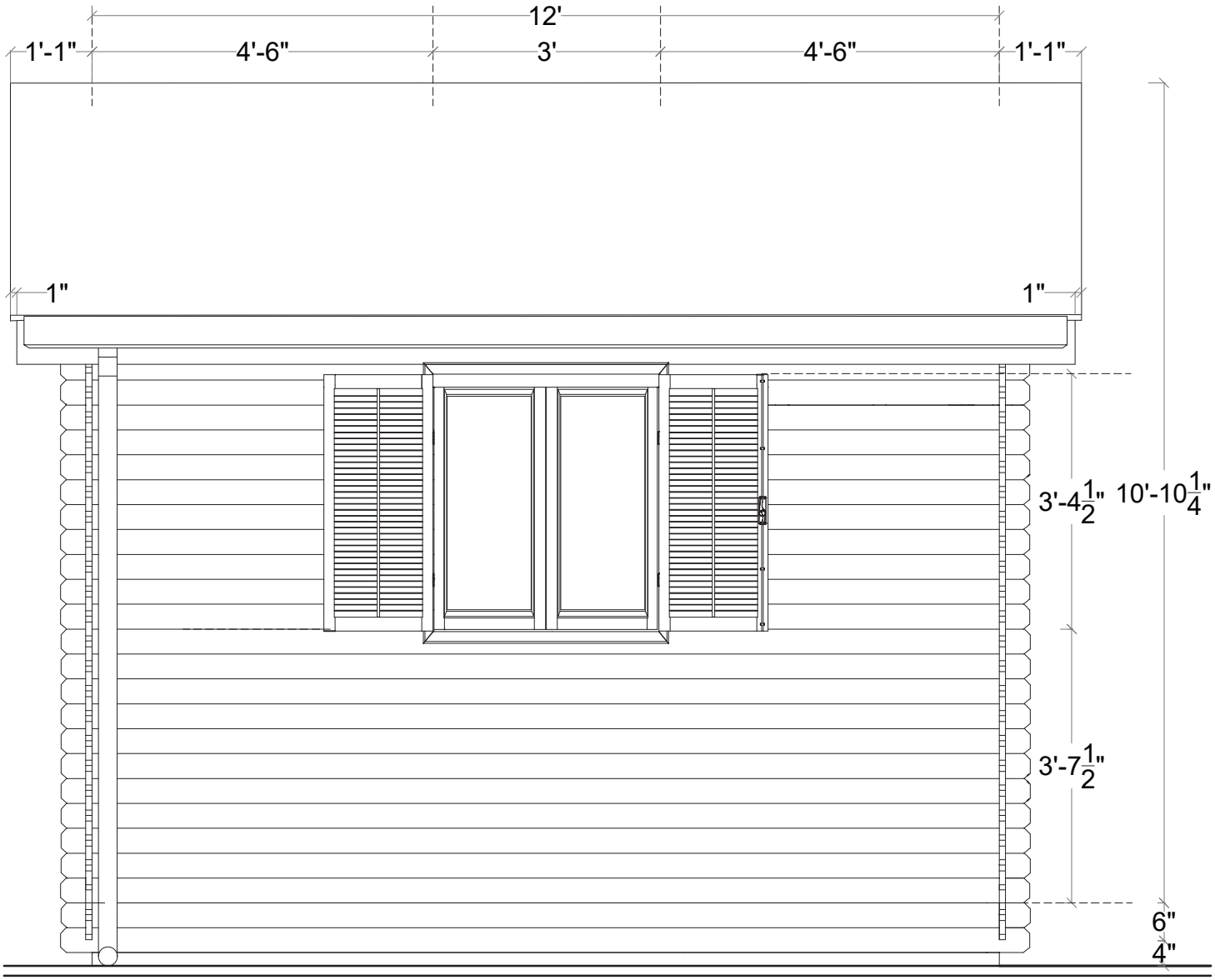
scale 1/50

23 - Right wall siding

1- Install the molding profile.

3- Install the exterior siding using horizontal siding boards .

4- Provide opening for window



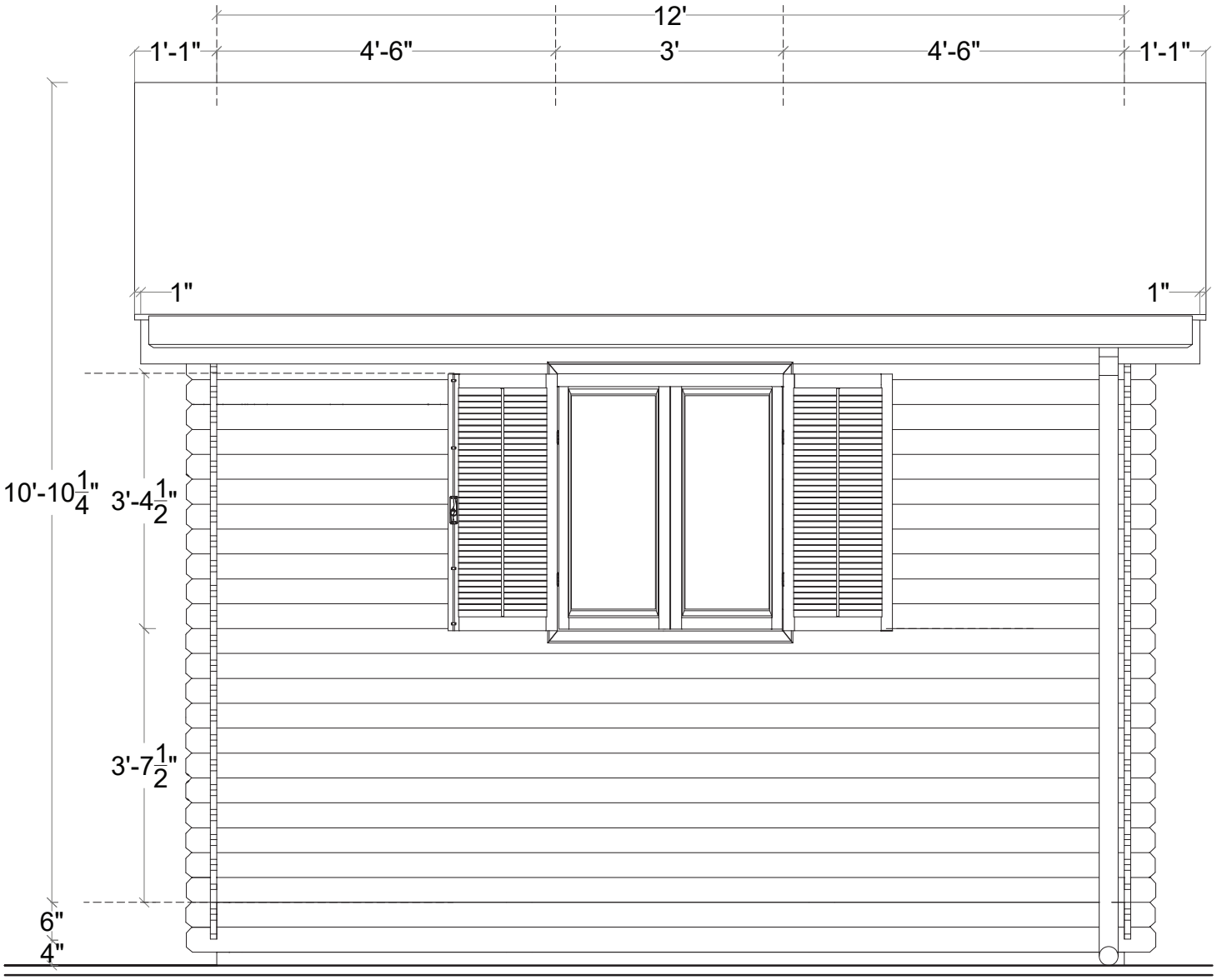
scale 1/50

24 - Left wall siding

1- Install the molding profile.

3- Install the exterior siding using horizontal siding boards .

4- Provide opening for window



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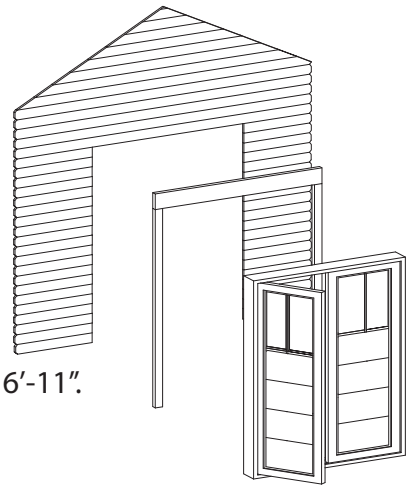
25 - Door

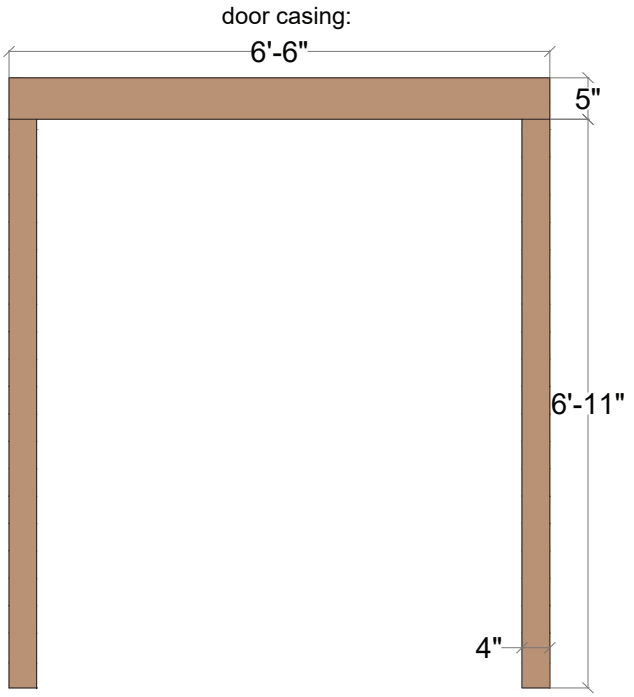


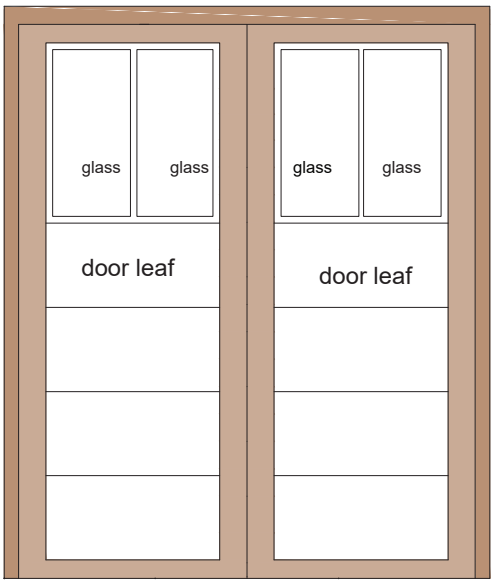
1- Install insulation

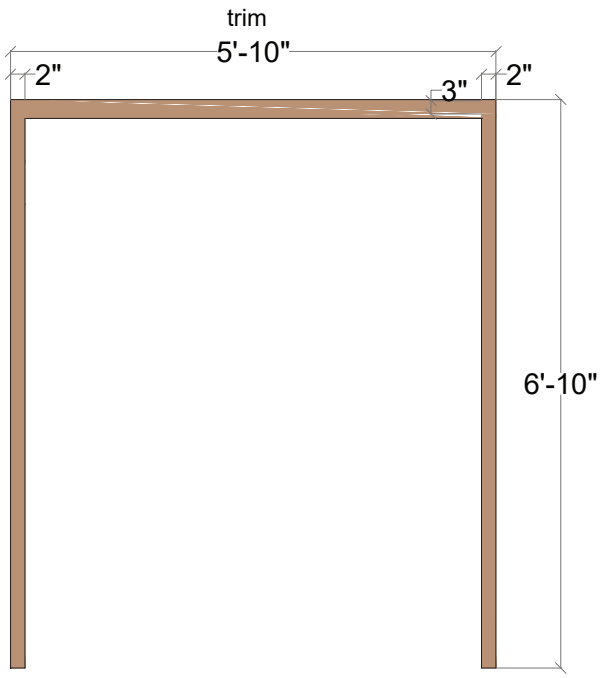
2- Use pressure-treated lumber to construct the door using the drawing below as a reference:

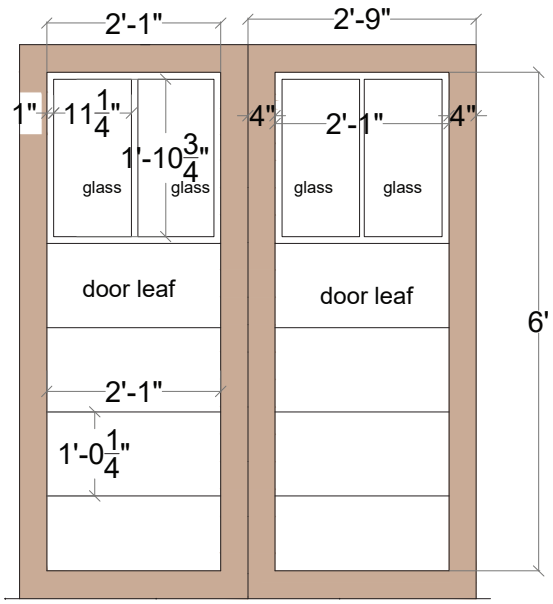
door casing: 1″ lumber to have: 1 board cut to 6′-6″ x 5″ and 2 boards cut to 4″ x 6′-11″.
trim: 7″ lumber to have: 2 boards cut to 6′-10″ x 2″ and 1 board cut to 5′-10“ x 3″.
door leaf: 4″ lumber to have: 4 boards cut to 2′-9″ x 4″ and 4 boards cut to 4″ x 6′,
2″ lumber to have: 6 boards cut to 2′-1″ x 1′-1/4“
2″ lumber to have: 4 boards cut to 2′-1″ x 1″ and 6 boards cut to 1′-10 3/4″ x 1″

4 boards of 1/8“ glass cut to 11 1/4″ x 1′-10 3/4″









26 - Windows

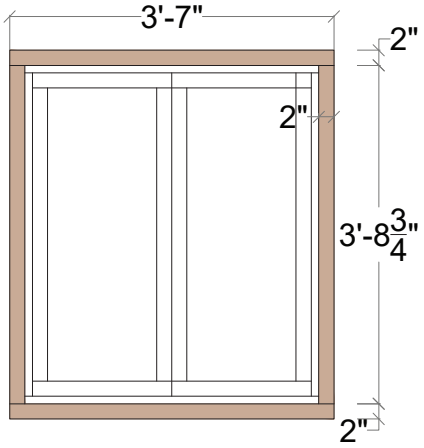
1- Install insulation.

2- Use pressure-treated lumber to construct the windows using the drawing below as a reference: (quantity for 2 windows)

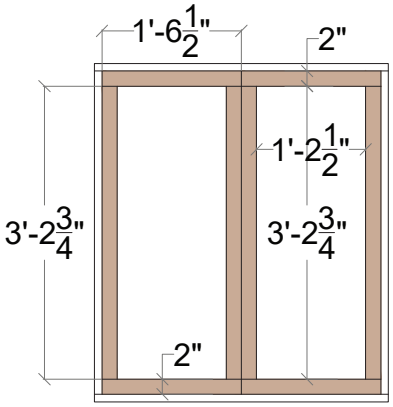
casing:1″ lumber to have: 4 boards cut to 3′-7″ x 2″ and 4 boards cut to 2″ x 3′-8 3/4″.
shades: 4 boards cut to 1′-6 1/2″ x 3′-2 3/4″ .
trims: 7″ lumber to have: 4 boards cut to 3′-3″ x 1″ and 4 boards cut to 3′-6 3/4″x1″
window leaf: 2“ lumber to have: 8 boards cut to 1′-6 1/2″ x 2″ and 8 boards cut to 3′-2 3/4″ x 2″

4 boards of 1/8“ glass cut to 1′-2 1/2″ x 3′-2 3/4″.

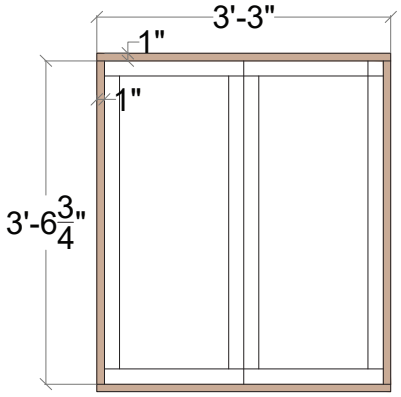
casing



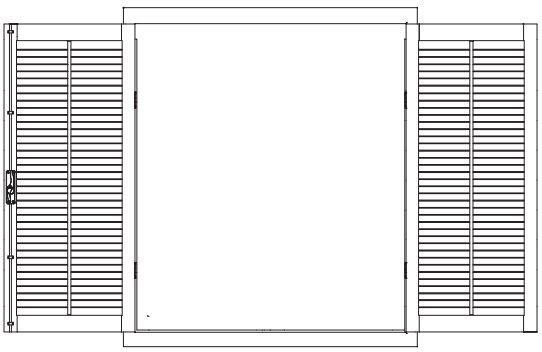
leaf



trim



shades



installing slate tiles”

1- Sand and wipe the surface to create a smooth and even face.

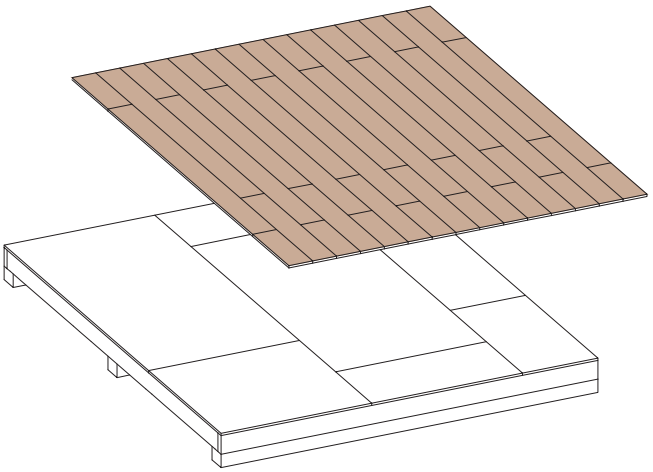
2- Prime the plywood.

3- Lay tiles with a 3mm bed of improved flexible tile adhesive and leave 3mm wide joints for grouting.

4- Leave tile adhesive to set.

5- Fill joints with a flexible floor tile grout.

6- Seal the perimeter joints with silicone sealant .



interior finishing:

1- Install the plywood sheet on the walls and roof and provide openings for door and windows

2- Fill joints with a sealant

3- Add door and windows casings. use the same dimensions as the exterior casing.

4- Paint the plywood.