Zacs Garden

Making the Most of Your Outdoor Space

12X12 SHED PLANS

MATERIAL LIST AND BUILDING GUIDE

LEGAL

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First Edition

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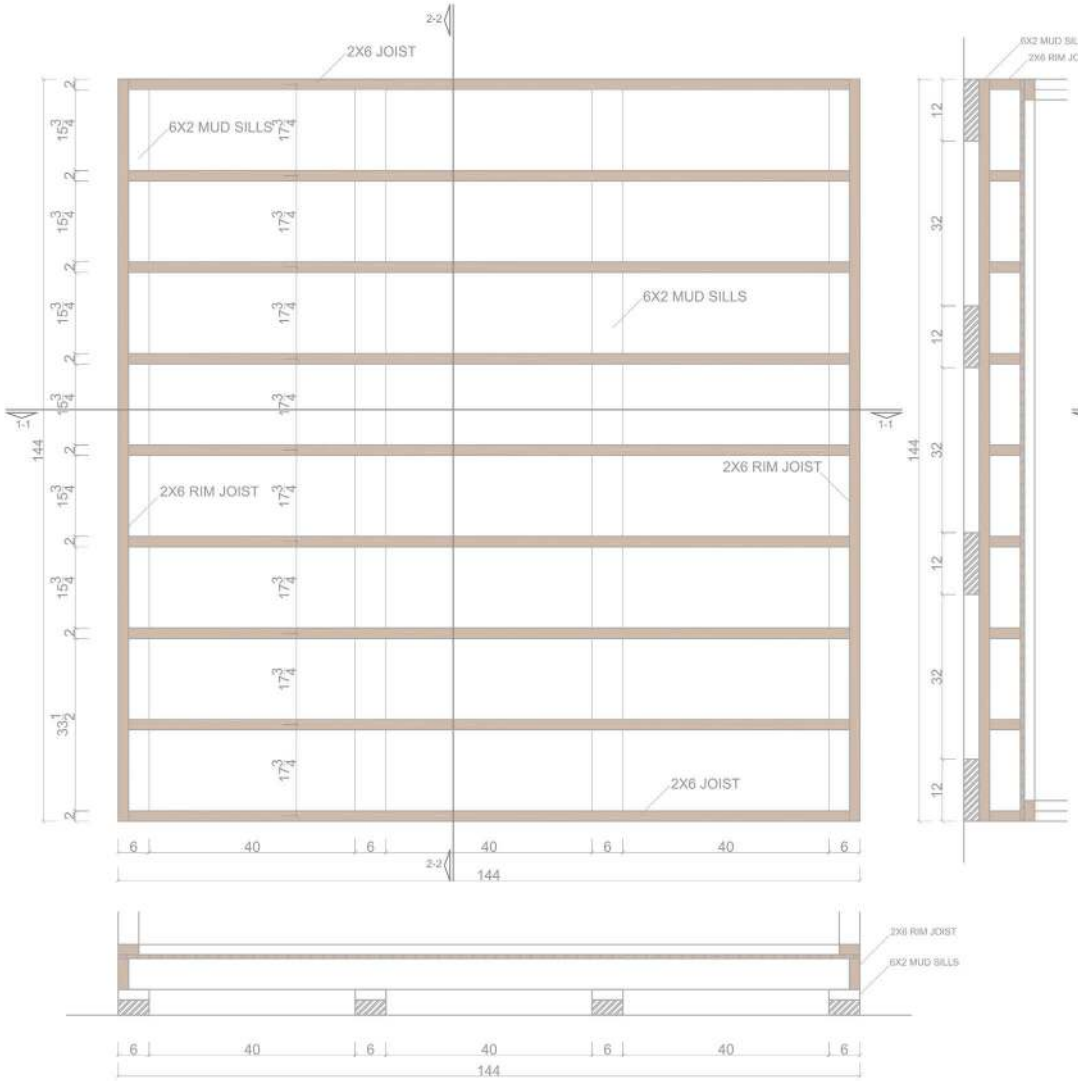

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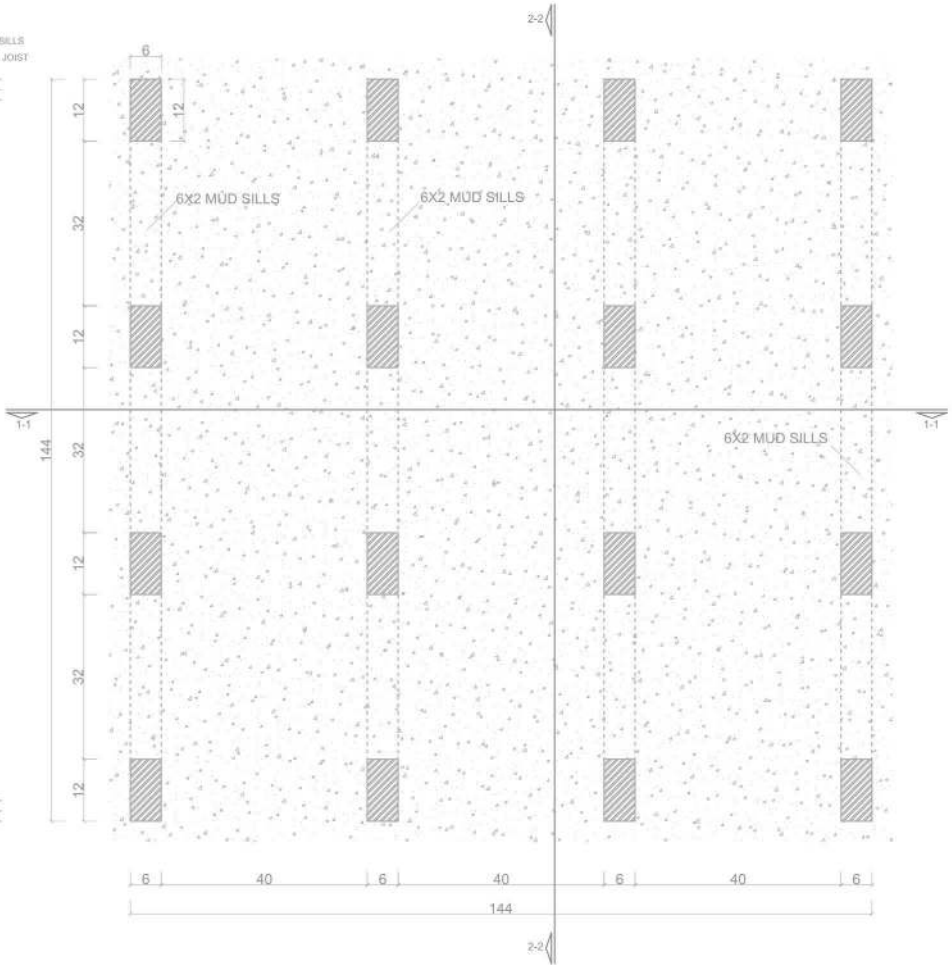

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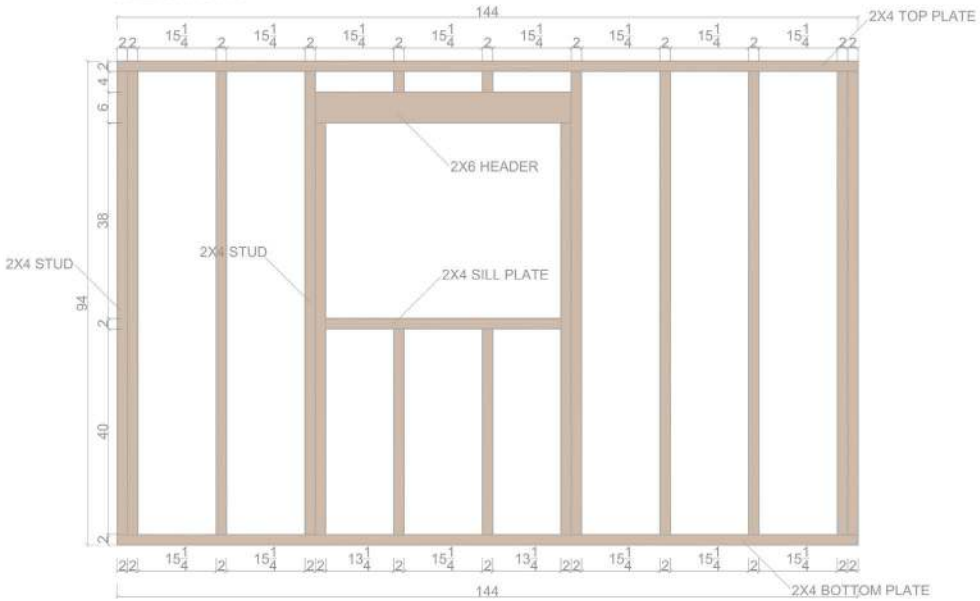

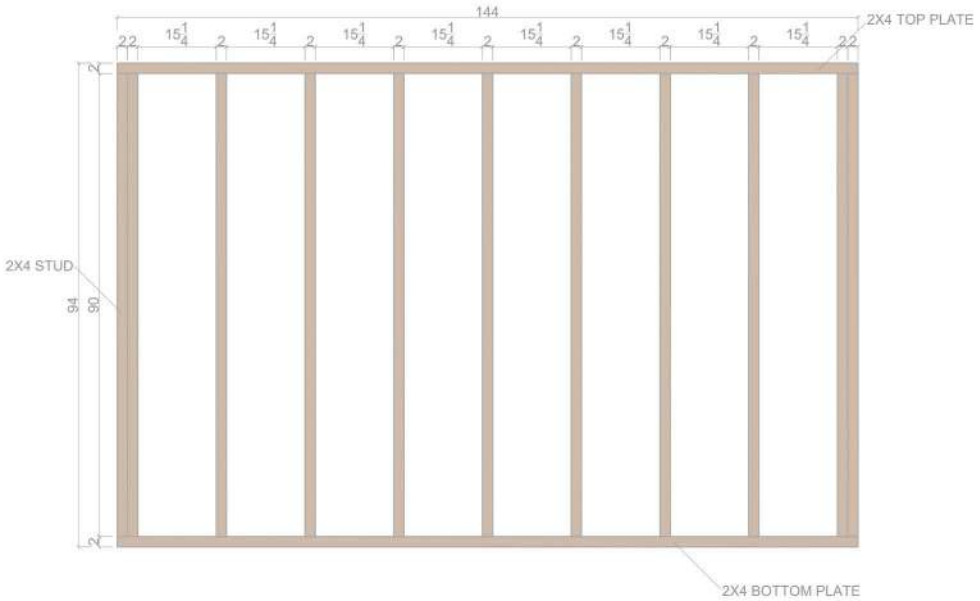

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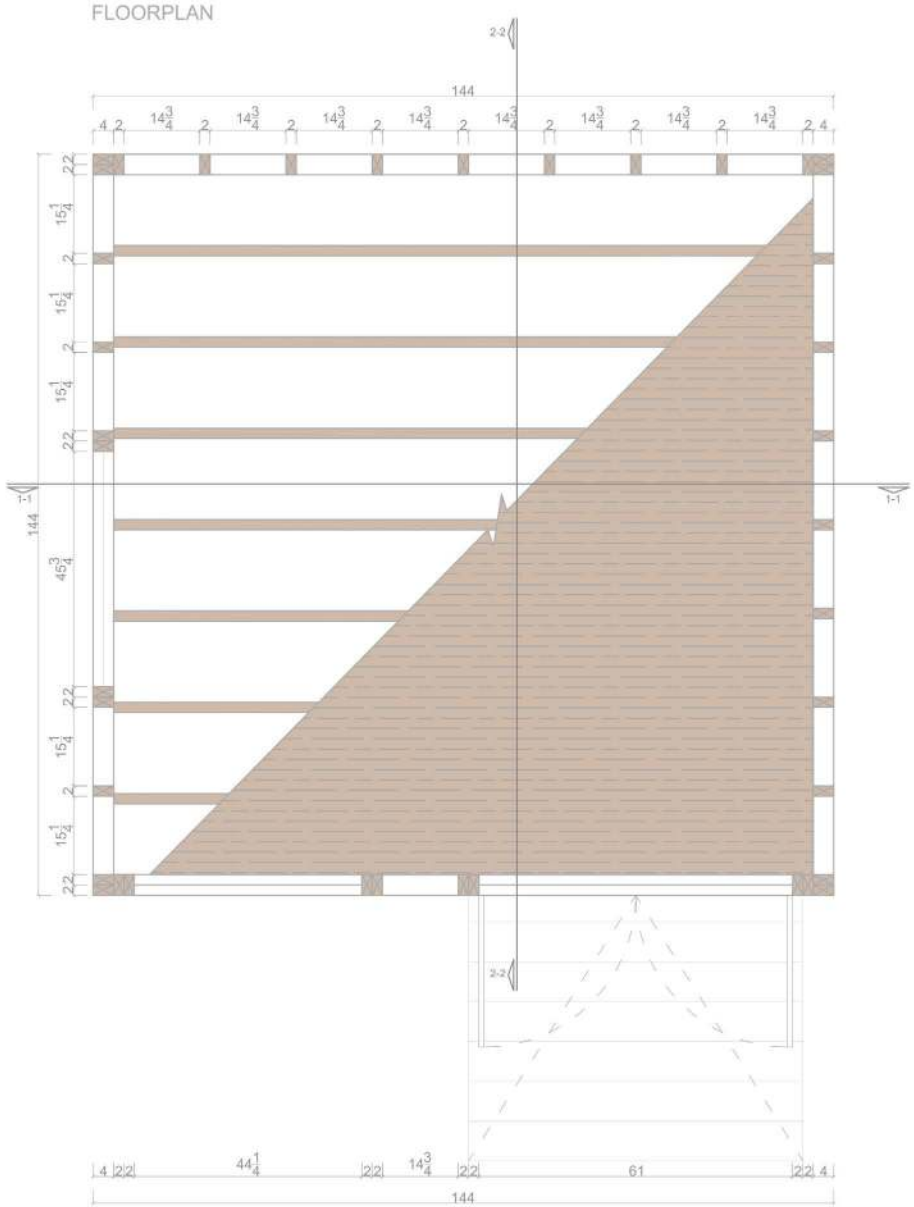

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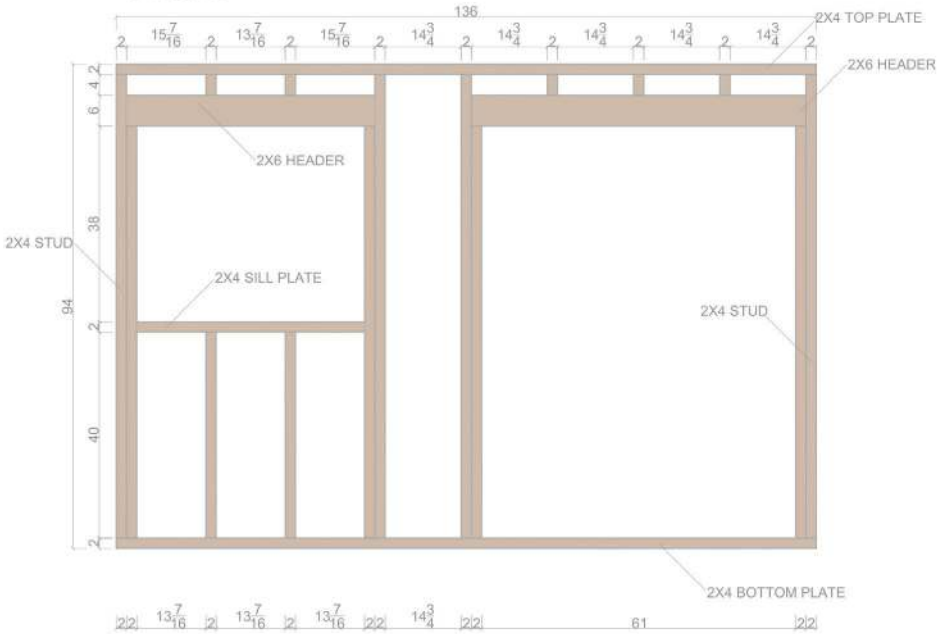

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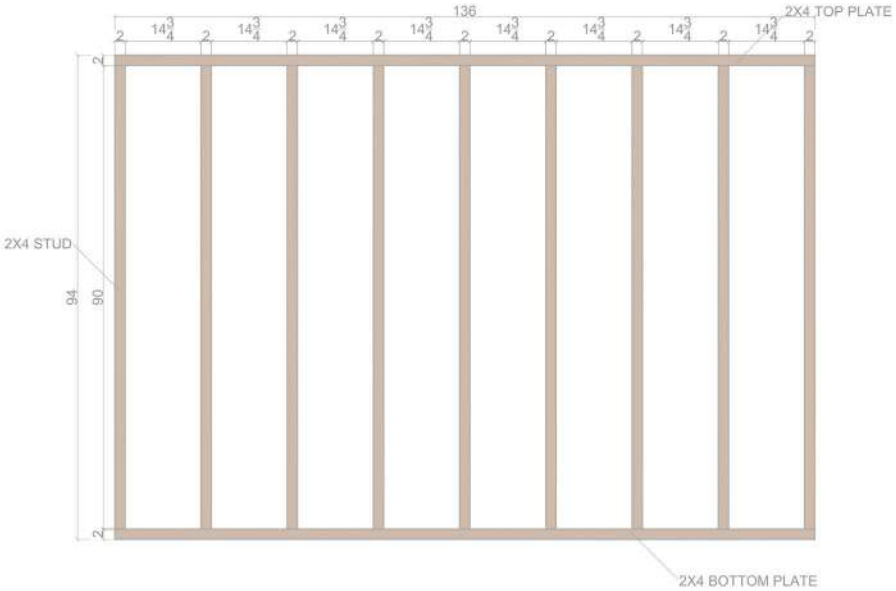

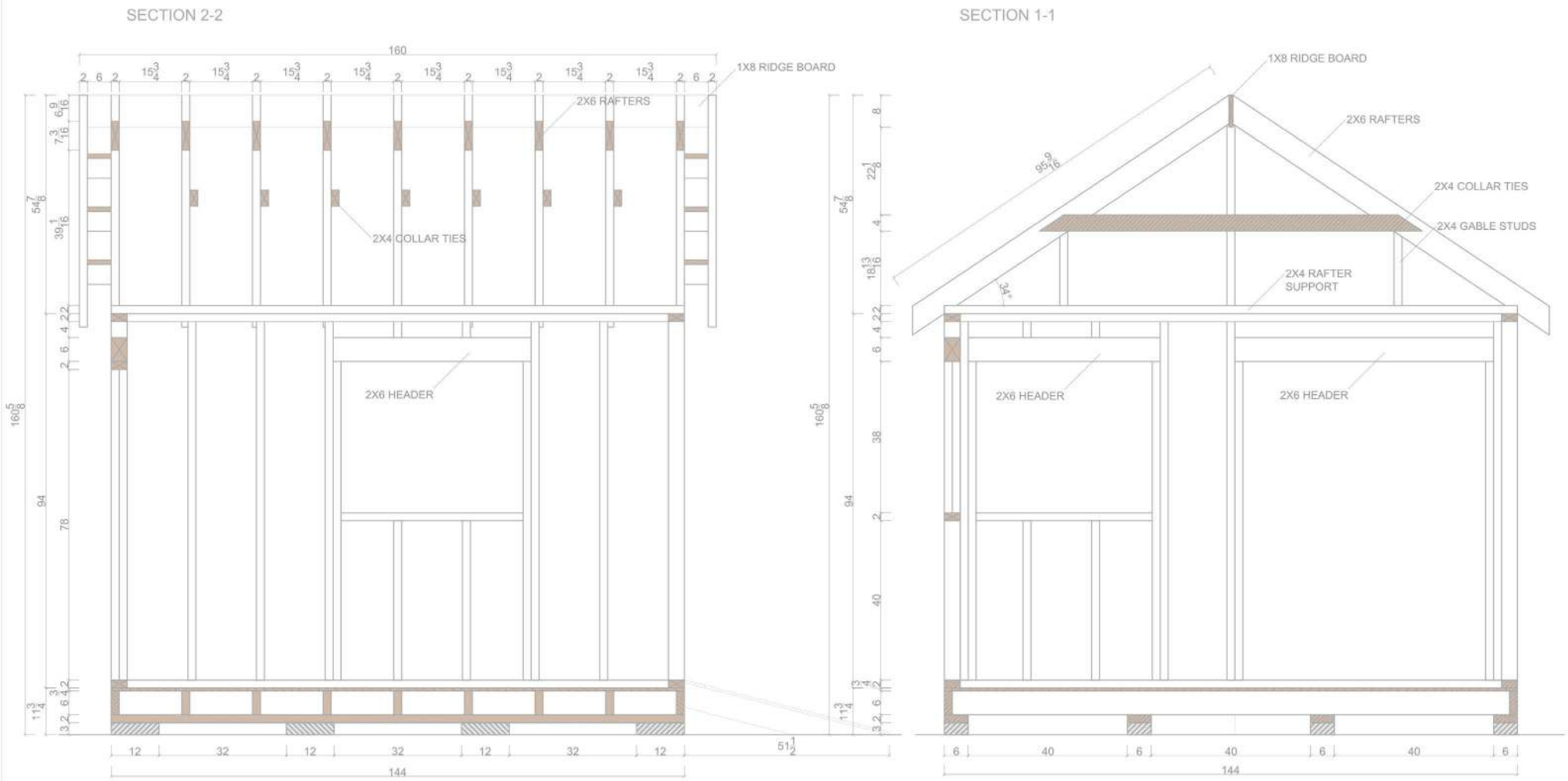
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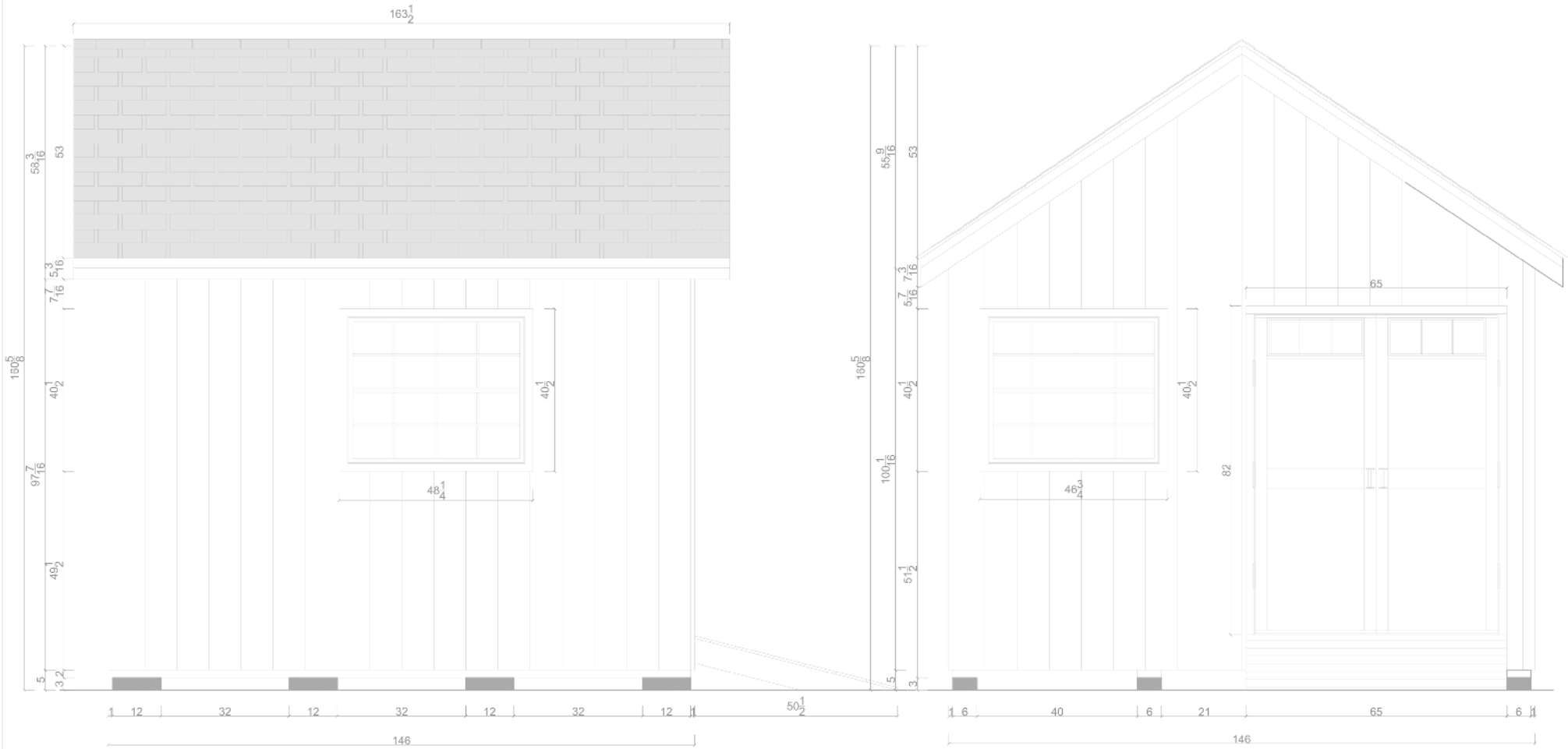
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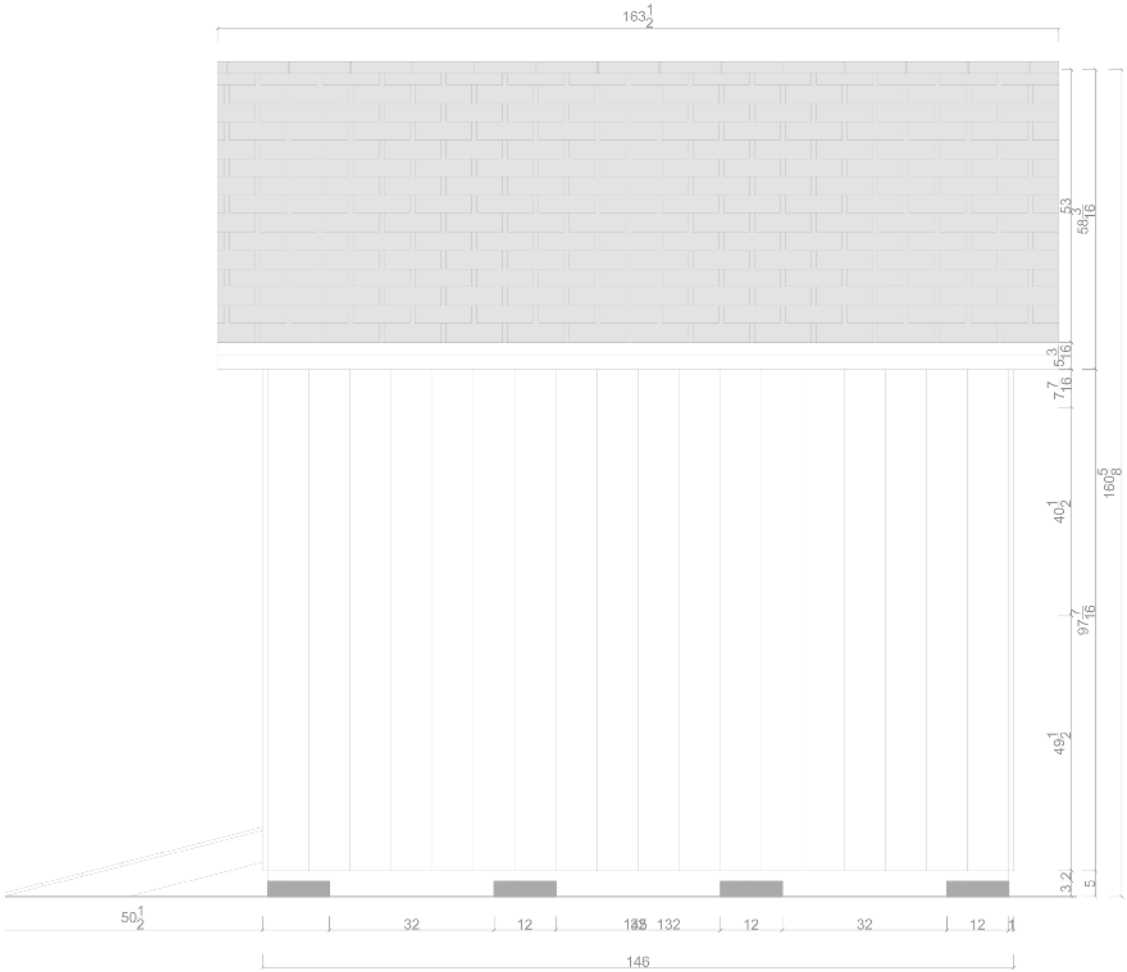

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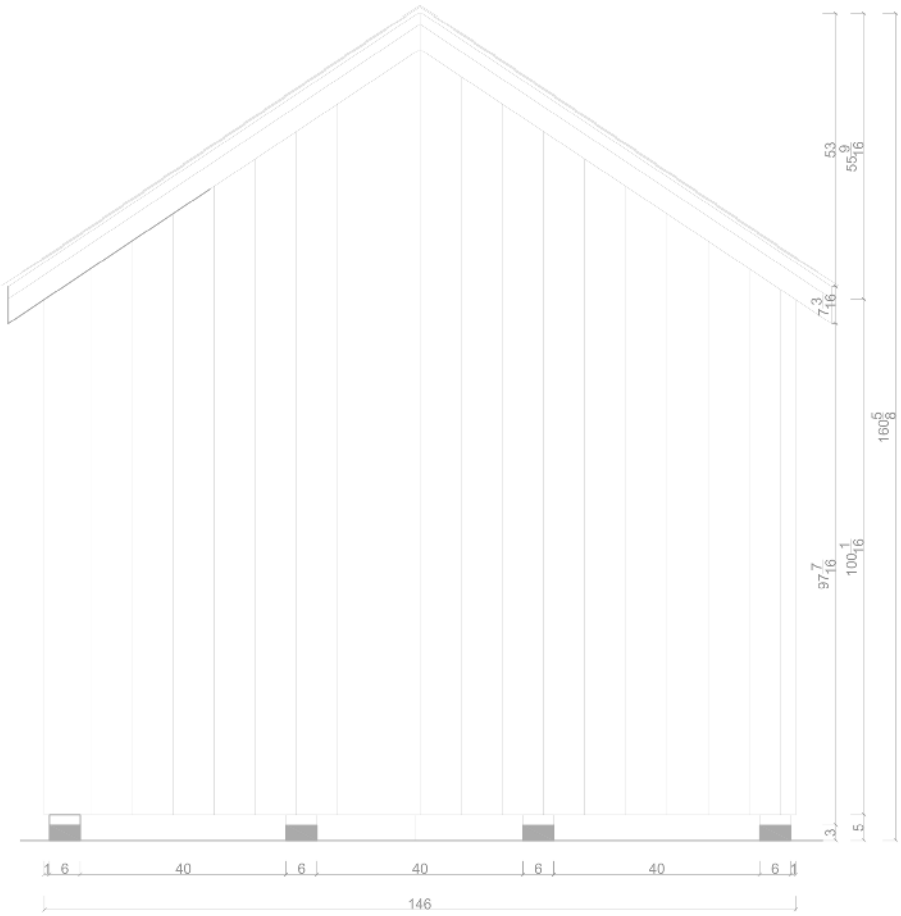

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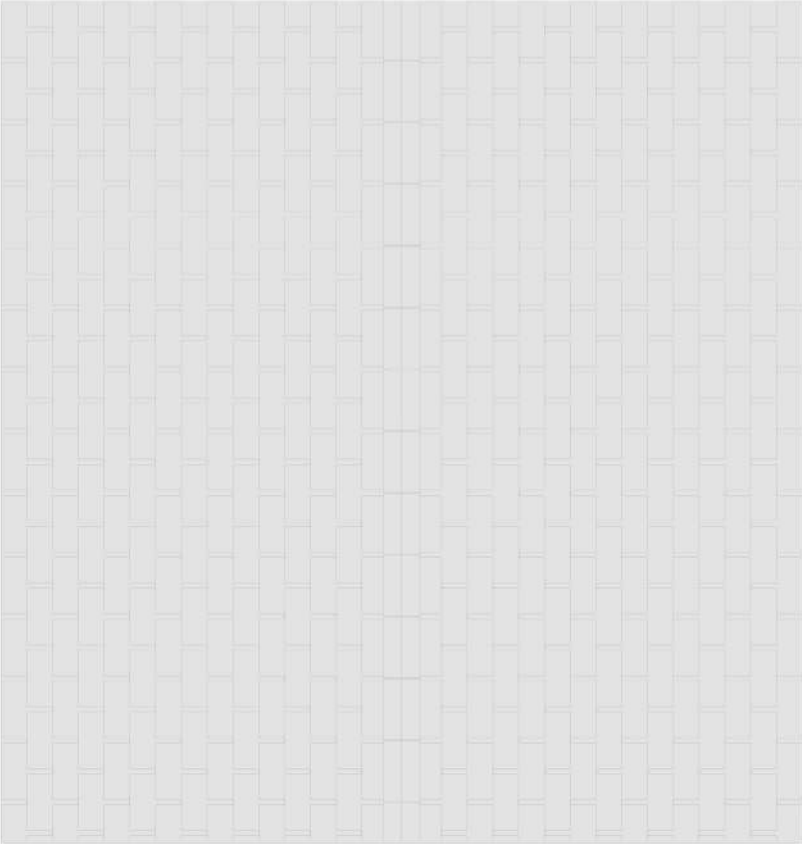

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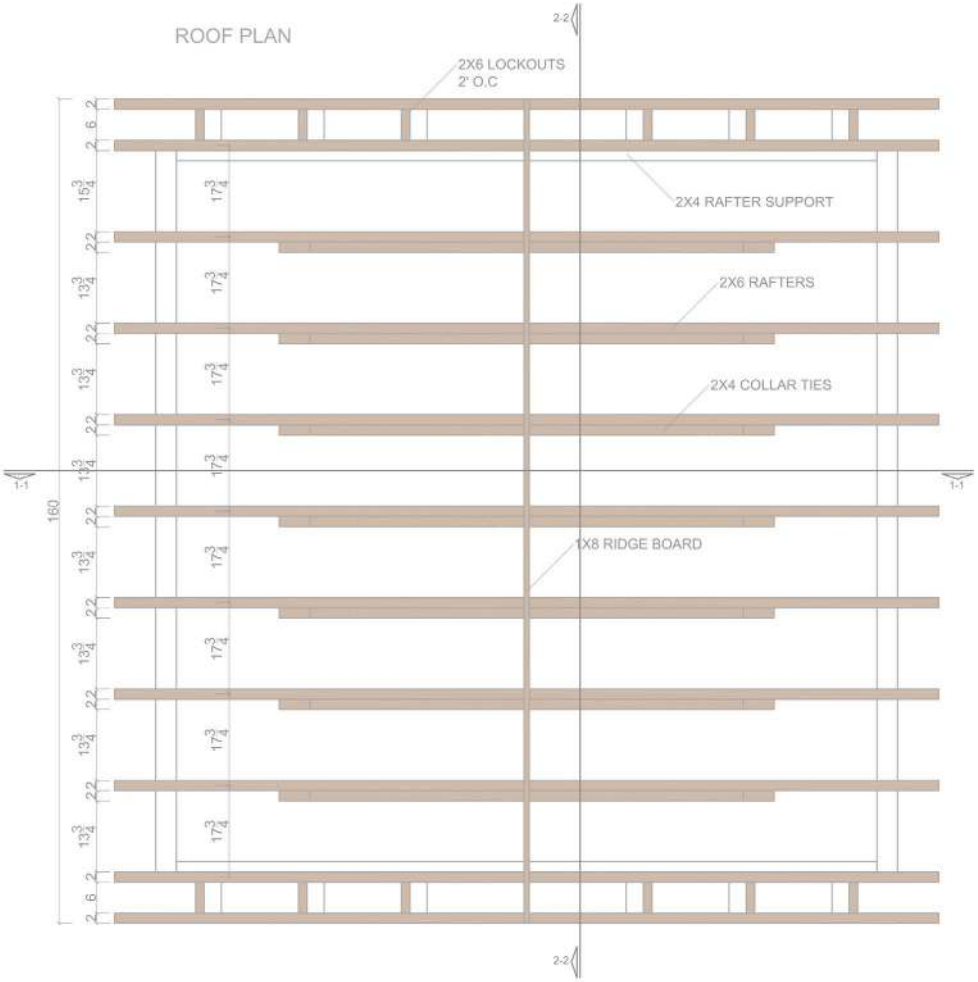

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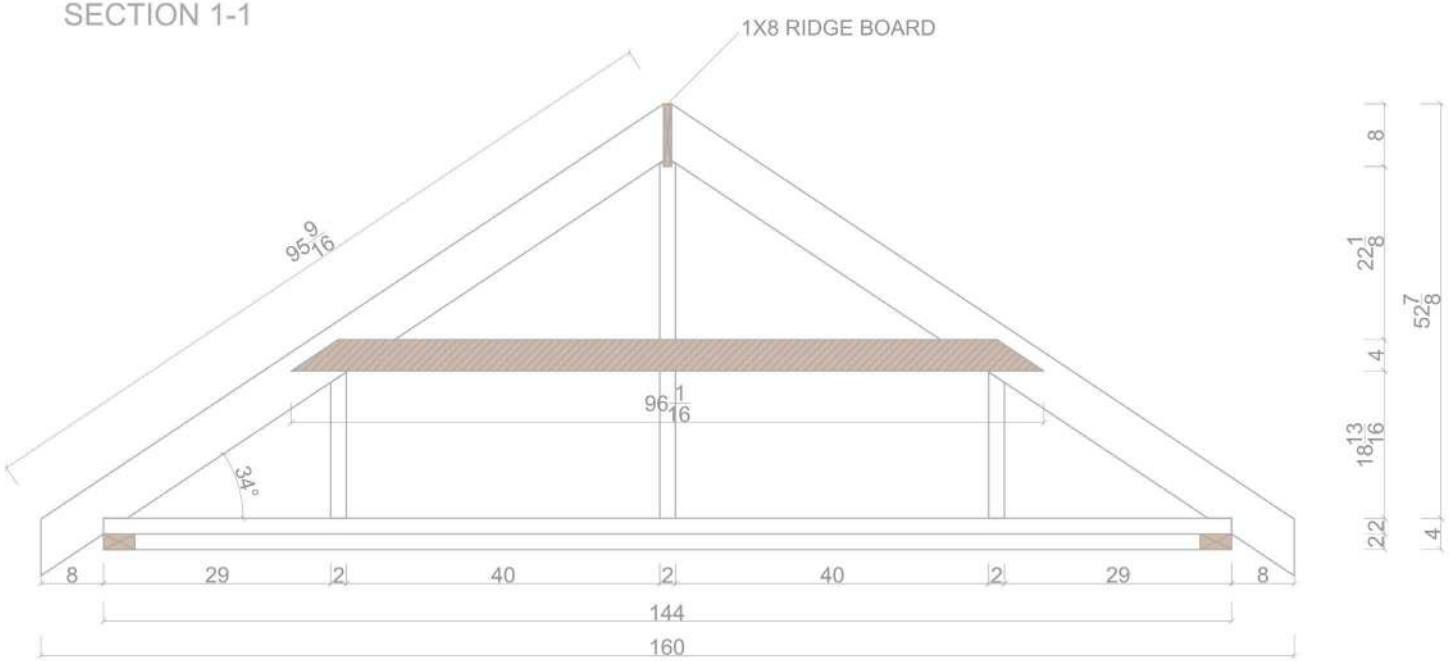

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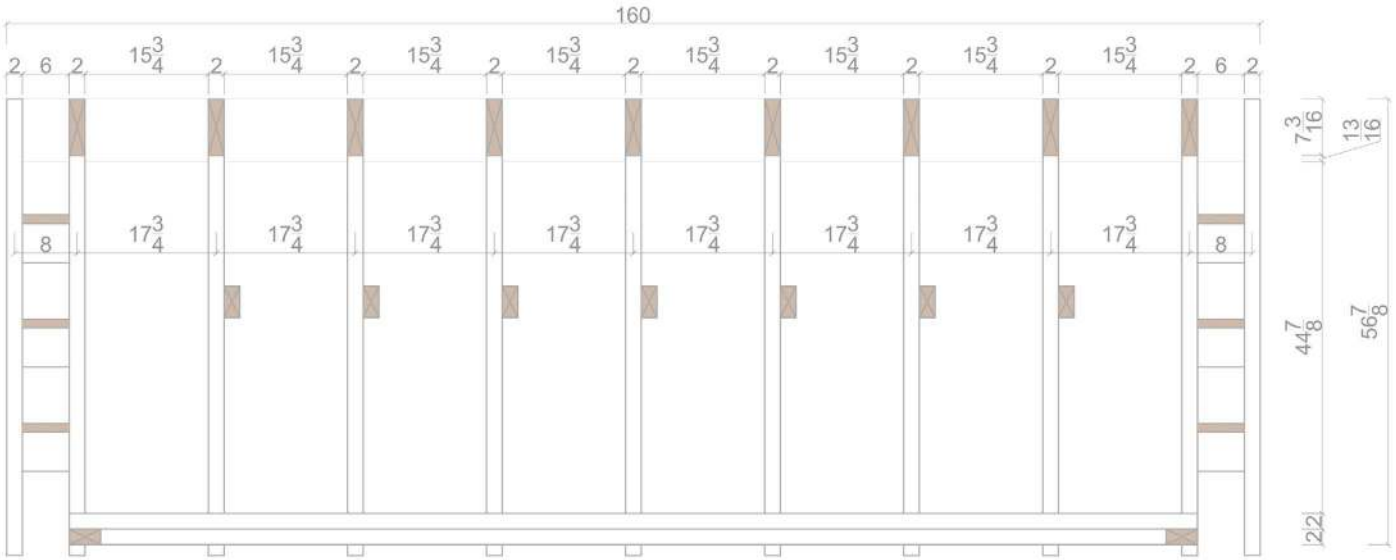

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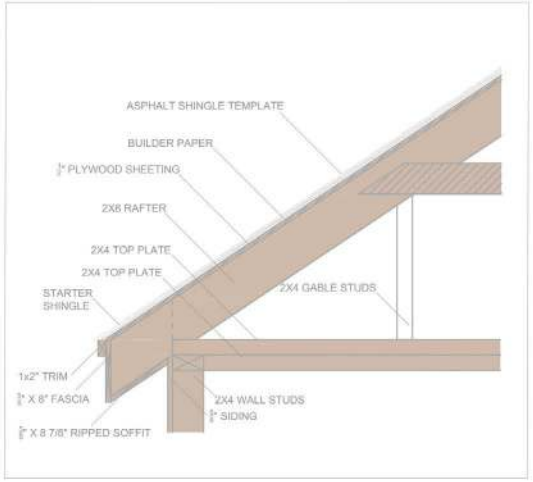

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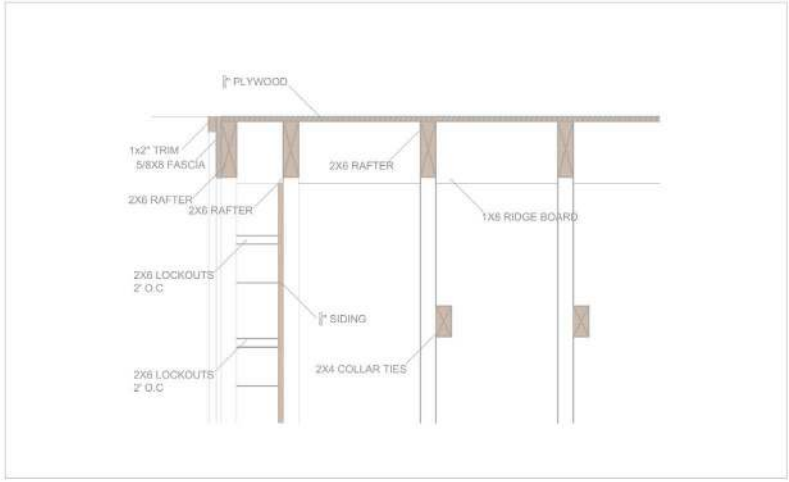

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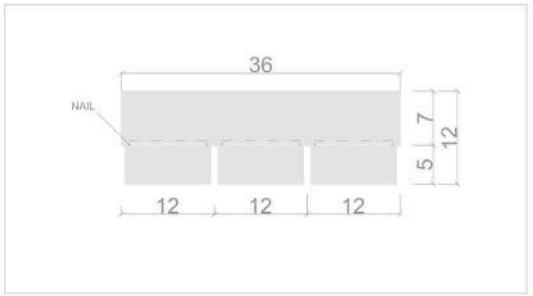

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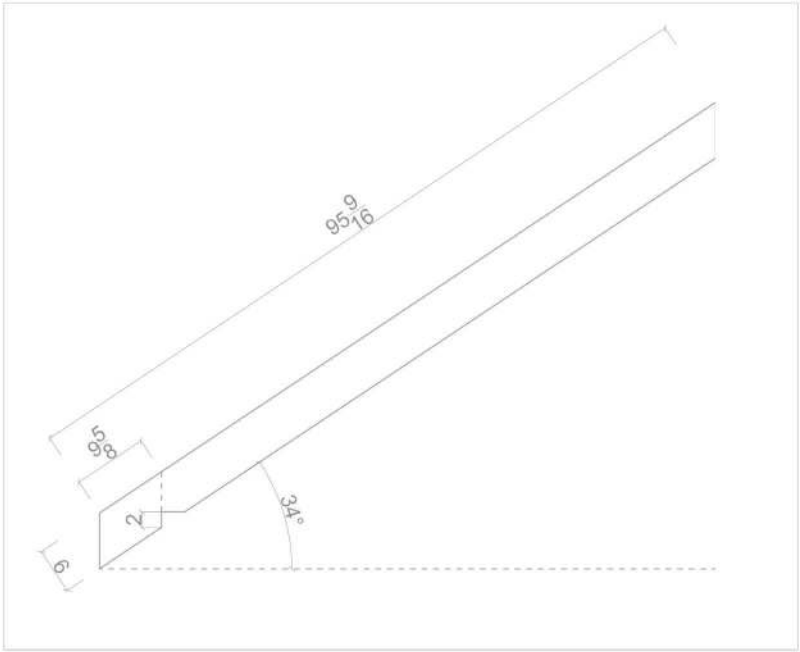

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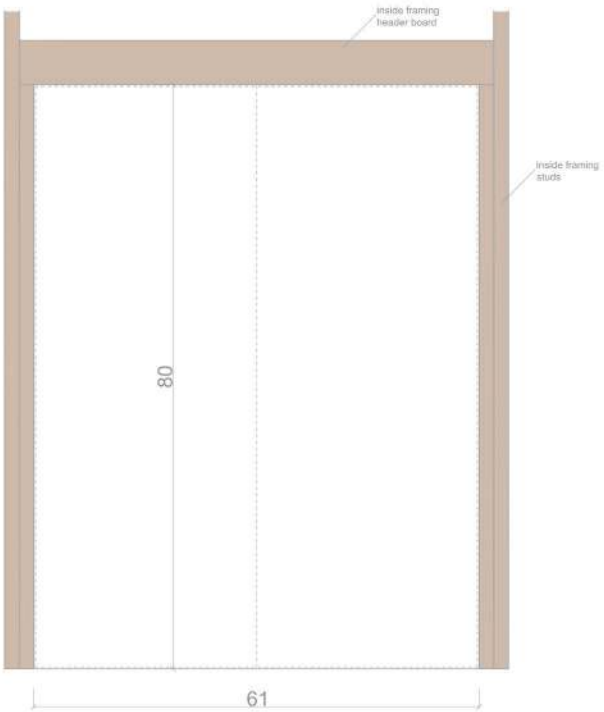

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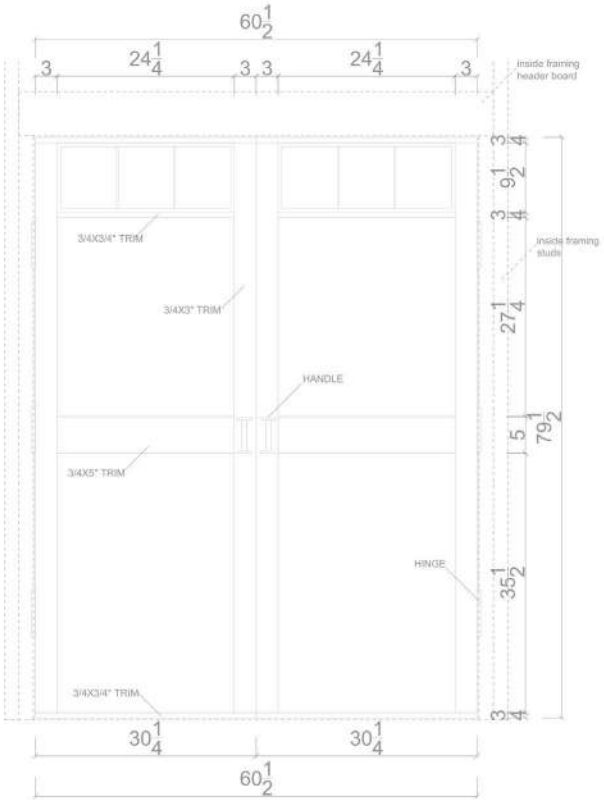

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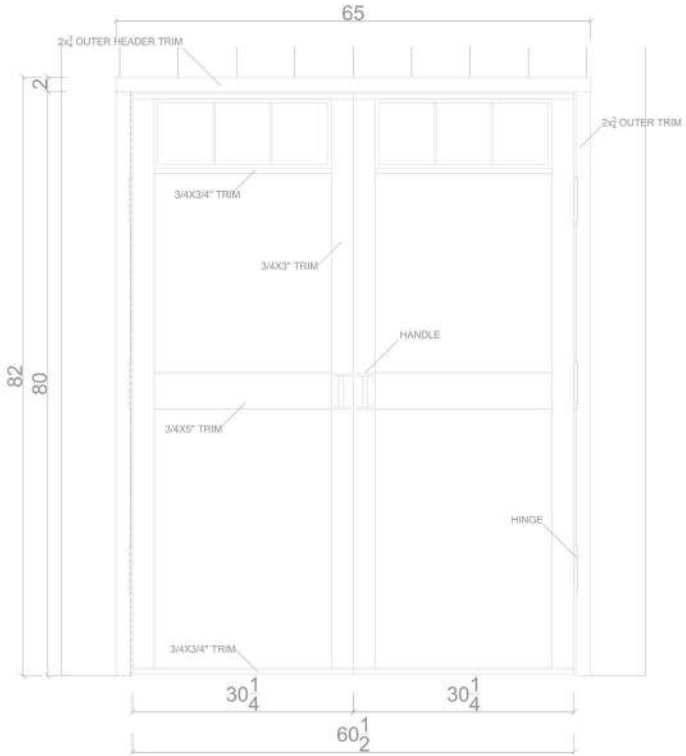

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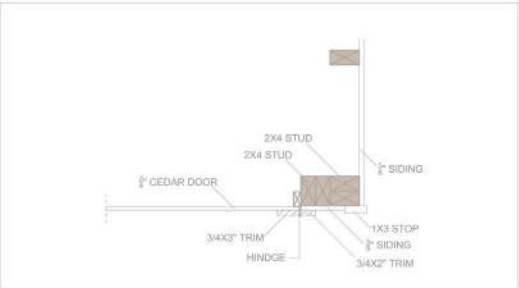

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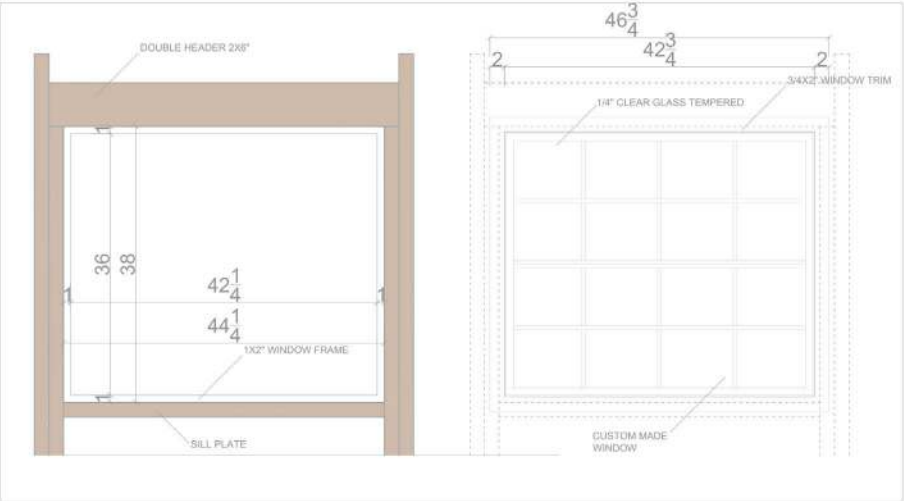

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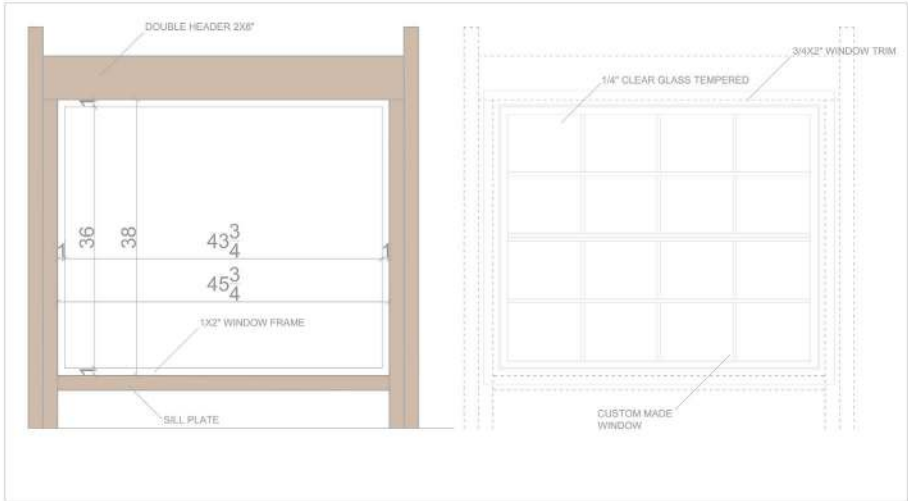

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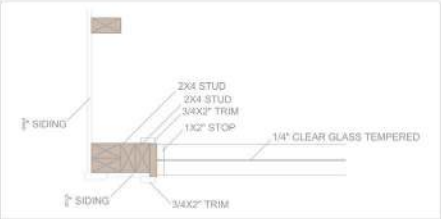

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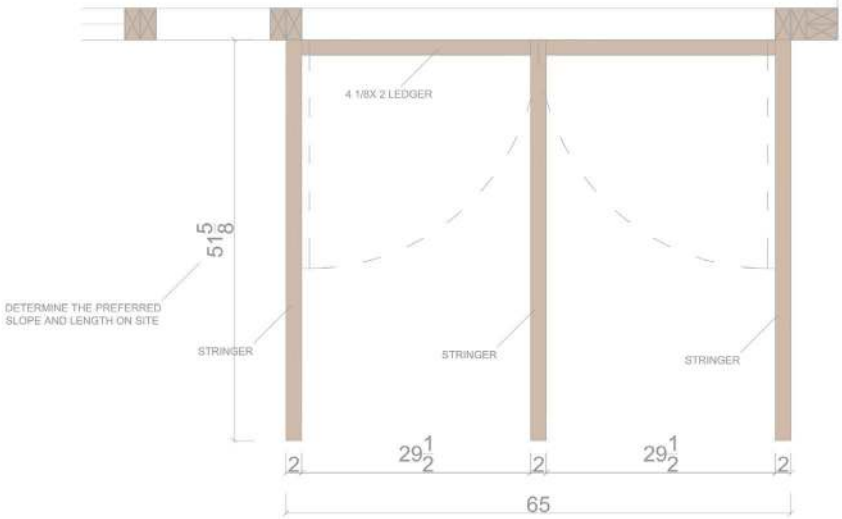
4 1/8X 2 LEDGER
$51\frac{5}{8}$
DETERMINE THE PREFERRED SLOPE AND LENGTH ON SITE
STRINGER
STRINGER
STRINGER
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$29\frac{1}{2}$
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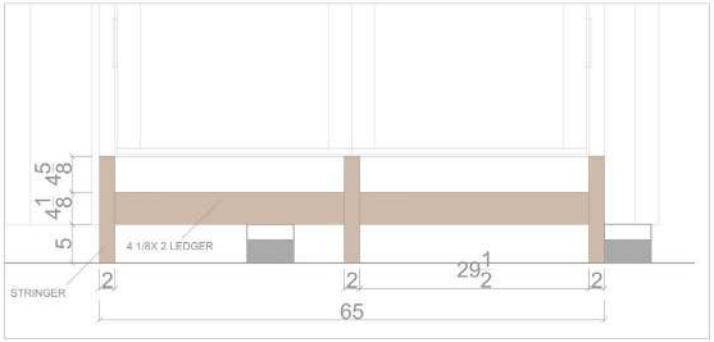
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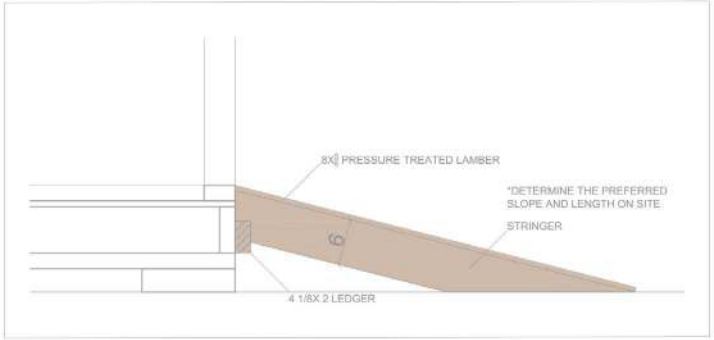
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*DETERMINE THE PREFERRED SLOPE AND LENGTH ON SITE
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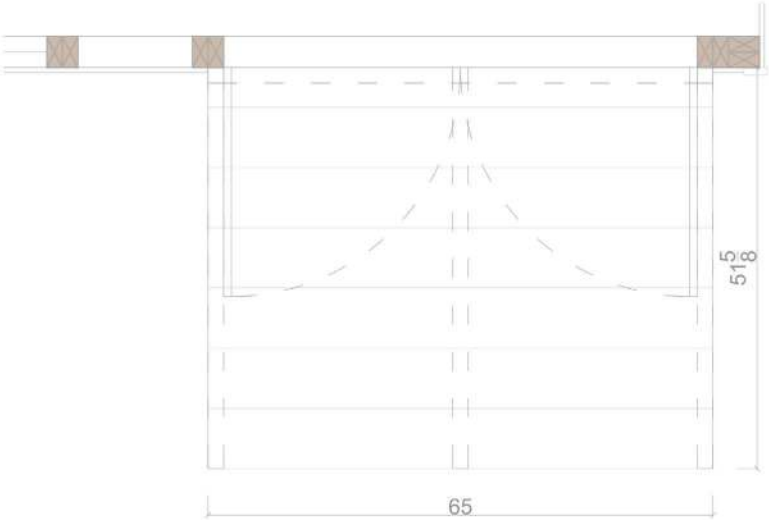
4 1/8X 2 LEDGER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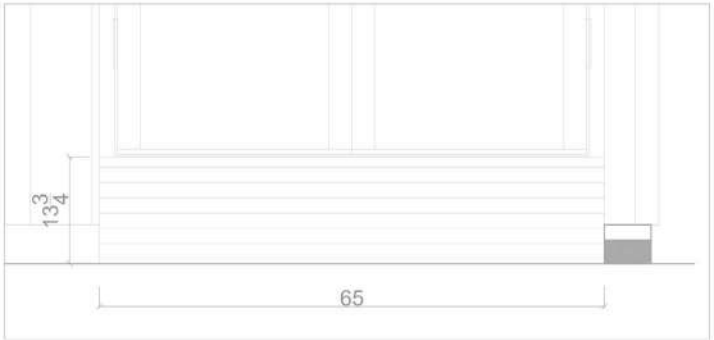
$13\frac{3}{4}$
65

ELEMENT	SIZE/QUANTITY	MATERIAL
FOUNDATIONS		
Drainage material	1.75 cu. yd.	Compactible Gravel
Concrete Blocks	16@ 6"x12"x3"(h)	Concrete
Mudsills	4 @ 144"	2"x6" pressure treated landscape timber
FLOOR FRAMING		
Rim Joists	2 @144"	2"x6" pressure treated
Joists	9 @ 140"	2"x6" pressure treated
Floor sheating	1 sheet - 144"x144"	3/4" plywood
Joist Clip angles	4	3"x3"x3" galvanized
WALL FRAMING		
Bottom Plates	2 @ 144"; 2 @ 140"	2"x4" rough-sawn cedar
Top Plates	2 @ 144"; 2 @ 140"	2"x4" rough-sawn cedar
Studs	33 @ 90"; 6 @ 80";4 @ 40"	2"x4" rough-sawn cedar
Header	1 @48 1/4"; 1 @ 65"; 1 @ 49 3/4"	2"x6" rough-sawn cedar
Sill Plate	1@ 45 3/4"; 1 @ 44 1/4"	2"x4" rough-sawn cedar
Cripple Stud	7 @ 4"	2"x4" rough-sawn cedar
ROOF FRAMING		
Rafters	22@ 100"	2"x6"
Collar Tie	7@ 96 1/16"	2"x4"
Ridge Board	1 @ 160"	1"x8"
Gable Studs	9 @45 5/16"; 18 @ 18 11/16"	2"x2"
Rafter Support	9 @ 144"	2"x4"
Rafter Fascia	4 @ 100"	5/8"x8"
Rafter Fascia Trim	4 @ 100"	1" x 2"
ROOFING		
Roof Sheathing	2 @96 5/16"x160"	1/2" ext.-grade plywood
Asphalt Shingles	220 sq. ft.	Asphalt Shingles
Starter Shingles	2 @ 161 1/2" linear feet	Asphalt Shingles
Building Paper	220 sq. ft.	
Ridge Cap Shingles	161 1/2" linear feet	Asphalt Shingles
Roofing Cement	2 tubes	
EXTERIOR FINISHES		
Siding (type1)	31 @ 100 3/4"; 5 @ 12"; 10 @ 50 3/4"; 4 @ 148 7/16"; 3@143 7/16"; 3@138 1/16"; 2@132 3/4"; 2 @ 127 7/16";2 @ 122 1/16"; 2 @ 116 3/4"; 2 @ 111 7/16"; 4 @ 106 1/16"; 1 @ 54 11/16", 1 @ 49 5/16"; 1 @ 44"; 2 @ 38 11/16"; 2 @ 33 5/16"; 2 @ 28"; 2 @ 22 11/16"	8"x5/8" rough-sawn cedar painted white
Weather board stops	4 @ 102 1/16"	1"x3" rough-sawn cedar painted white
Fascia	2 @ 163 1/2"	8"x5/8" rough-sawn cedar painted white
Fascia Trim	2 @ 163 1/2"	1" x 2" rough-sawn cedar painted white
Ripped Soffit	2 @ 163 1/2"	8 7/8"x5/8" rough-sawn cedar painted white
Roof Vents (optional)	2 units	
WINDOW		
Frame	2@38"; 2 @ 42 1/4"	1"x4 5/8" dressed ceder painted brown
Stops	4@36"	1"x2" dressed ceder painted brown
Glass	2 pieces - field measure	1/4" temepred clear
Outer Trim	2@48 1/4"; 2 @ 36 1/2"	2"x3/4" dressed ceder painted brown
Inner Trim	2@48 1/4"; 2 @ 36 1/2"	2 "x3/4" dressed ceder painted brown
WINDOW		
Frame	2@38"; 2 @ 43 3/4"	1"x4 5/8" dressed ceder painted brown
Stops	4@36"	1"x2" dressed ceder painted brown
Glass	2 pieces - field measure	1/4" temepred clear
Outer Trim	2@46 3/4"; 2 @ 36 1/2"	2"x3/4" dressed ceder painted brown
Inner Trim	2@46 3/4"; 2 @ 36 1/2"	2 "x3/4" dressed ceder painted brown
DOOR		
Trim 1	2@60 1/2"	3/4"x3/4" dressed ceder painted brown
Trim 2	4 @ 78"	3"x3/4" dressed ceder painted brown
Trim 3	2 @ 24 1/4"	5"x3/4" dressed ceder painted brown
Trim 4	2 @ 24 1/4"	3/4"x3/4" dressed ceder painted brown
Stops	2@79 1/2"; 1@60 1/2"	1"x2" rough-sawn cedar
Door Windows	2 @ 24 1/4"x9 1/2"	1/2" thick framed glass
Door Hinges with screws	6 @ 3 1/2"	
Flashing	6 linear feet	Aluminium
Door Panels	2 @ 30 1/4" x 79 1/2"	dressed ceder painted brown
RAMP		
Stringers	3 @ optional according to slope	2"x6" pressure trated timber painted brown
Ledger	1 @ 65"	2"x4 1/8" pressure trated timber painted brown
Planks	number according to slope @ 65"	5/8"x8" rough-sawn cedar painted brown
FASTENERS		
Anchor Bolts	4	
16d galvanized nails	200 (4 lb.)	3 1/2"
16d common nails	700 (10 lbs.)	3 1/2"
10d galvanized nails	80 (2 lb.)	3"
10d common nails	40 (2 lb.)	3"
8d galvanized nails	1200 (10 lbs)	2 1/2"
6d common nails	260 (2 lb.)	2"
3d galvanized nails	140 (2 lb.)	1 1/4"
2d galvanized nails	600 (2 lb.)	1"
Door hinges with screws	6	6@ 3 1/2"
Door handle	2	
Door headbolt	1	
Door footbolt	1	
Doorlock (optional)	1	

BUILDING A WOODEN SHED - STEP BY STEP GUIDE

1. PREPARING THE BUILDING SITE

4” layer compatible gravel, min. covered surface 144” x 144”

1.a Remove 4” of soil in an area wider than 144” x 144”.

1.b Add 4” layer compatible leveled gravel and rake it until it is leveled fairly.

2. ON-GRADE CONCRETE FOUNDATIONS

16 concrete blocks, 12” x 6”, placed in 4 parallel rows

This type of foundations is the quickest and simplest to build. They are made of solid concrete blocks (an alternative would pressure-treated timber).

2.a In order to position the concrete blocks use mason’s lines. Mark the positions of the 12” long and 6” wide concrete blocks on the strings, and then mark them onto the ground. Place them in 4 parallel rows, 4 blocks in each row (as in the foundation plan).

2.b Put stakes in the intersections and remove the mason’s lines.

3. FLOOR FRAMING

6” x 2” x 144” mudsills x4

2” x 6” x 140” joists x8

2” x 6” x 144” rim joists x2

3/4” x 144” x 144” plywood floor cover

3”x3”x3” galvanized joist clip angles x 4

The floor frame construction is usually made of pressure-treated lumber.

3.a Hammer the mudsills (lowest wood members) right on the concrete foundations, as marked in the floor plan. Use 2 to 4 anchor bolts on the outer corners to anchor the mudsills.

3.b Attach the rim joists to the outer edges of the mudsills and frame the floor perimeter.

3.c Add floor joists on the top of the mudsills, between the rim joists, spanning the width of the building.

Use 16d common nails to attach the joists. Additionally, add four joist clip angles to reinforce the flooring structure.

3.b The floor frame is covered with a 3/4in. thick exterior-grade plywood. Fasten the plywood with 8d galvanized common nails.

4. WALL FRAMING

2”x4”x144” bottom plates x2

2”x4”x 140” bottom plates x2

2”x4”x144” top plates x2

2”x4”x140” top plates x2

2”x4”x90” studs x33

2”x4”x80” studs x6

2”x4”x40” studs x4

2”x6”x48 1/4” header x1

2”x6”x65” header x1

2”x6”x49 3/4” header x1

2”x4”x45 3/4” sill plate x1

2”x4”x44 1/4” sill plate x1

2”x4”x4” cripple stud x7

The wall frame construction is usually made of rough-sawn cedar.

Stick-built construction: The wall frame is built of individual sticks of lumber and it consists of vertical studs, horizontal top and bottom plates, as well as headers above the door and windows. Each wall frame is assembled on the floor deck, and then placed on the floor and nailed. This method is the fastest, easiest and cheapest.

4.a Build each wall frame by nailing the bottom and top plates to the studs using 16d common nails. Follow the wall frame construction elevations to position the studs and openings correctly. The side elevations are identical.

4.b Fasten the wall frames to the flooring construction by using 16d common nails, and attach them to each other on the corners, reinforce the corners using joist clip angles.

5. ROOF FRAMING

2”X6”X100” rafters x 22

2”x4”x96 1/16” collar tie x 7

1”x8”x160” ridge board x 1

2”x2”x45 5/16” gable studs x 9

2”x2”x18 11/16” gable studs x 18

2”x4”x144” rafter support x 8

2”x6”x100” rafter fascia x4

1”x2”x100” rafter fascia trim

Gable roof

5.a Place the rafter support on top of the top plates, following the construction outline.

5.b Cut the wood boards according to the rafter template scheme.

5.c Place the outer rafters and fasten them together with the ridge board. Connect the two end rafters on both sides with 2x6 lookouts, as in the roof framing template.

5.d Add the remaining inner rafters (O.C. 17 3/4“).

5.e Cut seven collar ties 2“x4“ and position them according to the drawing, on the fourteen inner rafters. Facenail them to the rafters with 10d common nails.

5.f Position the rafter fascias and cover the gable overhang rafters with them. Add the 1x2“ trim along the facsias as a drip edge.

5.g Attach the ripped soffits and roof end fascias and connect and cover tohe rafter ends with them, as in the roof detail. Add the 1x2 trim along.

6. SIDING AND EXTERIOR FINISHES

8”x5/8”x100 3/4” siding x 31

8”x5/8”x12” siding x 5

8”x5/8”x50 3/4” siding x 10

8”x5/8”x148 7/16” siding x 4

8”x5/8”x143 7/16” siding x 3

8”x5/8”x138 1/16” siding x 3

8”x5/8”x132 3/4” siding x 2

8”x5/8”x127 7/16” siding x 2

8”x5/8”x122 1/16” siding x 2

8”x5/8”x116 3/4” siding x 2

8”x5/8”x111 7/16” siding x 2

8”x5/8”x106 1/16” siding x 4

8”x5/8”x54 11/16” siding x 1

8”x5/8”x49 5/16” siding x 1

8”x5/8”x44” siding x 1

8”x5/8”x38 11/16” siding x 2

8”x5/8”x33 5/16” siding x 2

8”x5/8”x28” siding x 2

8”x5/8”x22 11/16” siding x 2

1”x3”x 102 1/16” weather board stop x 4

8”x5/8”x163 1/2 fascia x2

1”x2”x163 1/2 fascia trim x2

8 7/8”x5/8”x163 1/2” ripped soffit x 2

roof vents (optional) 2 units

Rough-sawn cedar

6.a Install the siding on the shed, as in the drawings.

Install the rough-sawn cedar siding tightening it to the joists and rim joists on the bottom, and the timber wall frame. Use 4d galvanized nails. Start placing the siding boards 8”x5/8” symmetrically (from the centers of the walls), as shown on the elevation siding scheme, and for the corners use weatherboard stops.

7. DOORS AND WINDOWS

Doors

3/4"x3/4"x60 1/2” trim x 2

3/4"x3"X78” trim x 4

3/4"x5"x24 1/4” trim x 2

3/4”x3/4”x24 1/4" trim x2

1”x2”x79 1/2" stops x2

1”x2”x60 1/2" stops x1

1/2”x30 1/4"x79 1/2" door panels x2

1/2”x9 1/2”x24 1/4” door windows x2

strap hinges x 6

6 linear feet flashing Aluminium

Double shed door

7.1.a Cut the door panels at 30 1/4"x79 1/2" and install the trim as in the door detail. Glue the trims on the door panels with a suitable wood glue and fix with screws or nails. Add the stops as in the door detail.

7.1.b Leave a gap between the door panels and the frame 1/4” and then fix the door panels with hinges.

To improve security, use hidden hinges – fix them between the inside of the siding and the edge of the door panels.

Window 1

1"x4 5/8"x38” frame x 2

1”X4 5/8”X42 1/4” frame x2

1"x2"x36” stops x 4

glass x 2 field measure

2"x3/4"x48 1/4" outer trim x2

2"x3/4"x36 1/2" outer trim x2

2"x3/4"x48 1/4” inner trim x2

2"x3/4"x36 1/2” inner trim x2

Window 2

1"x4 5/8"x38” frame x 2

1”X4 5/8”X43 3/4” frame x2

1"x2"x36” stops x 4

glass x 2 field measure

2"x3/4"x46 3/4" outer trim x2

2"x3/4"x36 1/2" outer trim x2

2"x3/4"x46 3/4” inner trim x2

2"x3/4"x36 1/2” inner trim x2

7.2.a Cut the window frames, connect the frame pieces with 2 1/2" deck screws. Make sure that they are straight and firm.

7.2.b Install the window frames inside the rough openings on the walls. Nail them with 10d galvanized nails. Use shims to make sure that the frame is plumb.

7.2.c Install the inner stops with 6d galvanized finished nails.

7.2.d Install the glass, cut in needed dimensions.

7.2.e Apply the glazing tape to the stops and to both sides of the glass.

7.2.f Install the outer stops.

8. ROOFING

96 5/16”x160”x1/2” roof sheathing x 2

asphalt shingles 220sq.ft

161 1/2" linear feet starter shingles x 2

building paper 220sq.ft

161 1/2" linear feet metal drip edge x 2

161 1/2" linear feet ridge cap shingles

roofing cement 2 tubes

8.a Nail 1/2” plywood sheathing to both sides of the roof frame, as in Gable detail. Nail the plywood sheathing to the rafters with 8d common nails, 10” apart.

8.b Cover the plywood roof deck with builders paper. It needs to overhang the rafter fascia trim (drip edge) by 3⁄4". Smooth out any wrinkles and trapped air. Fasten it with 2d galvanized nails.

8.c Place the starter shingles along the eave. Fasten the starter shingles with 4d galvanized roofing nails. Place the starter shingles 3/4” apart.

8.d Place the 1st line of asphalt shingles on top of the starter shingles, fastening them with 4d galvanized roofing nails.

8.e Place a wide strip of granulated water and ice barrier (polypropylene ridge vent). Press it down and nail it with 4d roofing galvanized nails, 12” apart. Cover it with 6” wide ridge tiles, each fastened with 2 nails.

9. RAMP

2”x6”x a (optional length according to the slope) stringers x3

2x 4 1/8” x65” ledger

5/8”x8”x65” wood planks x b (determine the needed number of planks according to the slope)

9.a Use a board to determine the suitable slope of the ramp. Position one end of the board on the entrance of the shed, on the floor level, and experiment until you find the right angle. Mark the end of the ramp on the floor.

9.b Mark a line 4 5/8” below the floor of the shed, parallel to the floor surface. Place the top edge lodger on that line.

9.c Cut the stringers as in the ramp detail. Fasten the stringers to the ledger. Fasten the ledger to the shed flooring with galvanized nails.

9.d Cut the decking in the length of the ramp and fasten them to the stringers with galvanized nails.

CONGRATS ON YOUR FINISHED SHED!

For more information on security, ventilation, storage, maintenance etc for your shed go to

https://zacsgarden.com/how-to-build-a-shed/shed-accessories/

Zacs Garden

Making the Most of Your Outdoor Space