

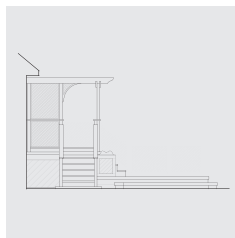
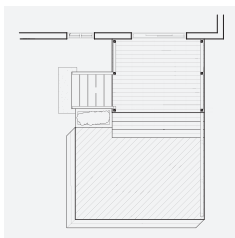
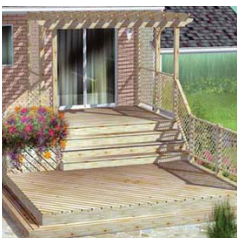
BUILD A TWO-LEVEL DECK

CONSTRUCTION PLAN



Difficulty level: TTTTTI **EXPERT**

Completion time: **5 days**



BUILD A TWO-LEVEL DECK

Outdoor kitchen, open-air living room or playground: however you use it, a deck is your ticket to making the most of summer. It's also the kind of asset that will increase the value of your home.

Building a deck is a project for experienced DIYers to be completed over several days. The attached plan is for a deck on two levels: a 120" x 96" lower level and 139" x 168" upper level, for a total of 235" x 168". This deck is also partially covered by a pergola and enhanced with a flower planter.



TOOLS AND MATERIALS NEEDED

TOOLS

- > Gardener's hoe
- > Chalk line
- > Hammer
- > Drill bit
- > Level
- > Shovel
- > Electric drill
- > Hammer drill
(for masonry walls)
- > Pickets
- > Tape measure
- > Circular saw
- > Square

MATERIALS

Foundation

- > 24 In.ft. - 10" Sonotubes - Piers
- > 1 cu.yd. - 3000 (20 Mpa) x 3/4" concrete - Piers
- > 6 pieces 1/2" x 7 1/2" anchor bolts - Anchorage
- > 6 pieces Beam hanger brackets - Anchorage

Floor system (level 1)

- > 3 pieces 2" x 4" x 120" Treated lumber - Sill
- > 2 pieces 2" x 4" x 144" Treated lumber - Low wall
- > 7 pieces 2" x 10" x 96" Treated lumber - Joists
- > 2 pieces 2" x 10" x 120" Treated lumber - Headers
- > 7 pieces 2" x 10" Single joist hangers - Joists
- > 18 pieces 1 1/4" x 6" x 120" Treated lumber - Decking
- > 3 pieces 1 1/4" x 4" x 120" Treated lumber - Finishing

Floor system (level 2)

- > 6 pieces 2" x 10" x 168" Treated lumber- Beams
- > 13 pieces 2" x 10" x 144" Treated lumber - Joist
- > 4 pieces 2" x 10" x 144" Treated lumber- Headers
- > 26 pieces 2" x 10" Single joist hangers - Joists
- > 31 pieces 1 1/4" x 6" x 144" Treated lumber- Decking
- > 4 pieces 1 1/4" x 4" x 120" Treated lumber- Finishing

Railing /privacy wall / pergola (level 1)

- > 6 pieces 4" x 4" x 96" - Posts
- > 1 pieces 2" x 6" x 144" - Hand rail
- > 2 pieces 2" x 4" x 144" - Bottom rails
- > 3 sheets 48" x 96" Treated lumber lattice - Finishing
- > 10 pieces 96" "U" shaped lattice moulding - Finishing

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MATERIALS

Pergola (level 1)

- > 1 piece 2" x 8" x 120" Treated lumber - Headers
- > 10 pieces 2" x 8" x 120" Treated lumber - Roof joists
- > 2 pieces 2" x 8" x 144" Treated lumber- Roof beams
- > 1 sheet 1/2" Treated plywood - Decorations
- > 1 sheet 48" x 96" Treated lumber lattice - Finishing

Railing (level 2)

- > 1 piece 4" x 4" x 144" - Post
- > 1 piece 2" x 6" x 96" - Hand rail
- > 1 piece 2" x 4" x 144" - Bottom rail
- > 2 sheets 48" x 96" - Finishing
- > 6 pieces 96" "U" shaped lattice moulding - Finishing

Staircase (level 1 – ground level)

- > 1 piece 2" x 10" x 96" Treated lumber - Stringer
- > 1 piece 2" x 10" x 120" Treated lumber - Stringer
- > 3 pieces 2" x 10" x 96" Treated lumber - Treads
- > 1 piece 4" x 4" x 96" Treated lumber - Post
- > 1 piece 2" x 6" x 144" Treated lumber - Hand rail
- > 1 piece 2" x 4" x 144" Treated lumber - Bottom rail
- > 1 sheet 48" x 96" Treated lumber - Finishing
- > 6 pieces 96" "U" shaped lattice moulding- Finishing

Staircaser (level 1 – level 2)

- > 2 pieces 2" x 10" x 96" Treated lumber - Stringer
- > 6 pieces 1 1/4" x 6" x 120" Treated lumber - Treads
- > 3 pieces 2" x 8" x 120" Treated lumber - Risers

Staircase (level 2 – ground level)

- > 4 pieces 2" x 8" x 120" Treated lumber - Structure
- > 2 pieces 2" x 8" x 168" Treated lumber - Structure
- > 4 pieces 1 1/4" x 6" x 96" Treated lumber - Treads
- > 2 pieces 1 1/4" x 6" x 144" Treated lumber - Treads
- > 4 pieces 1 1/4" x 4" x 96" Treated lumber - Finishing

Finishing (below deck)

- > 6 pieces 2" x 4" x 96" Treated lumber - Structure
- > 1 piece 2" x 4" x 144" Treated lumber - Structure
- > 17 pieces 1" x 6" x 72" Treated lumber - Finishing

Flower box

- > 2 pieces 2" x 4" x 120" Treated lumber - Structure
- > 3 pieces 2" x 2" x 96" Treated lumber - Structure
- > 2 sheets 1/2" x 48" x 96"
Treated lumber Plywood exterior type - Structure
- > 6 pieces 1/4" x 4" x 96" Treated lumber- Finishing
- > 12 pieces 1" x 4" x 96" Treated lumber- Finishing

Hardware

- > (See plan) Wall anchorage - Anchorage
- > 12 pieces 3/8" x 2 1/2" Galvanized lag screws - Beams
- > 12 pieces 3/8" x 2 1/2" Galvanized lag screws - Pergola
- > 12 pieces 3/8" x 3" Galvanized lag screws - Structure
- > 30 pieces 3/8" Galvanized washers - Structure
- > 300 pieces 3 1/2" Exterior wood screws - Structure
- > 1000 pieces 2 1/2" Exterior wood screws - Decking
- > 300 pieces 2" Exterior wood screws - Finishing
- > 5 lb 3 1/2" Ardox galvanized nails - Structure
- > 1 lb 1 1/2" Ardox galvanized nails - Hangers

BUILD A TWO-LEVEL DECK

NOTE ON TREATED WOOD

TREATED WOOD SHOULD BE HANDLED WITH PRECAUTIONS.

- Wear gloves and long sleeves when handling treated wood to avoid skin contact and to protect against splinters.
- Wear dust mask, eye protection, gloves and long sleeves when sawing, sanding or shaping treated wood to avoid skin contact with or inhalation of sawdust, to protect against splinters and to protect eyes from flying particles. When making cross cuts, use a cut sealer as the factory-treatment rarely goes to the heartwood.

DURING CONSTRUCTION

- Apply a wood preservative on the cut ends.
- Use nails, screws, bolts, connectors and other hardware resistant to corrosion: stainless steel, hot dipped galvanized, yellow zinc or other hardware specially coated for outdoor use. Ordinary fasteners will rust, causing unsightly stains and weakening the structure, ultimately causing it to fail.
- Make certain the wood is thoroughly dry before painting or staining, and follow the coating manufacturer's recommendations. Use only good quality oil or acrylic coatings on water repellent pressure treated wood.
- Do not dispose of treated wood remnants or sawdust in compost heaps, wood chips, or mulch.
- Do not use it as animal bedding or litter.

Never burn treated wood.

IMPORTANT

The National Building Code of Canada establishes guidelines for the construction of buildings and various structures, including decks. However, these standards can vary depending on the local building requirements in effect in a particular province or municipality.

For instance, in the case of a deck, the height of the deck's surface above the ground determines the requirement for the railing height:

Height of deck = Height of railing

- Under 24" = Optional or decorative railing
- 24" to 70" = 36"
- Over 70" = 42"

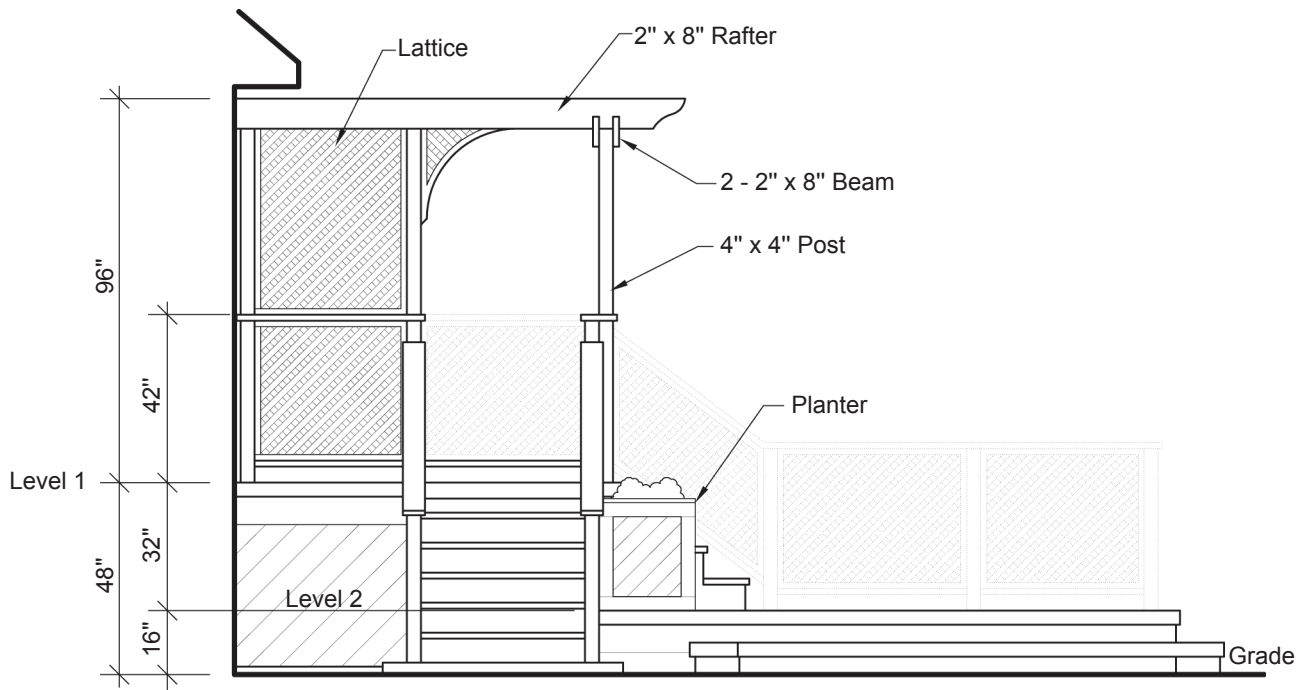
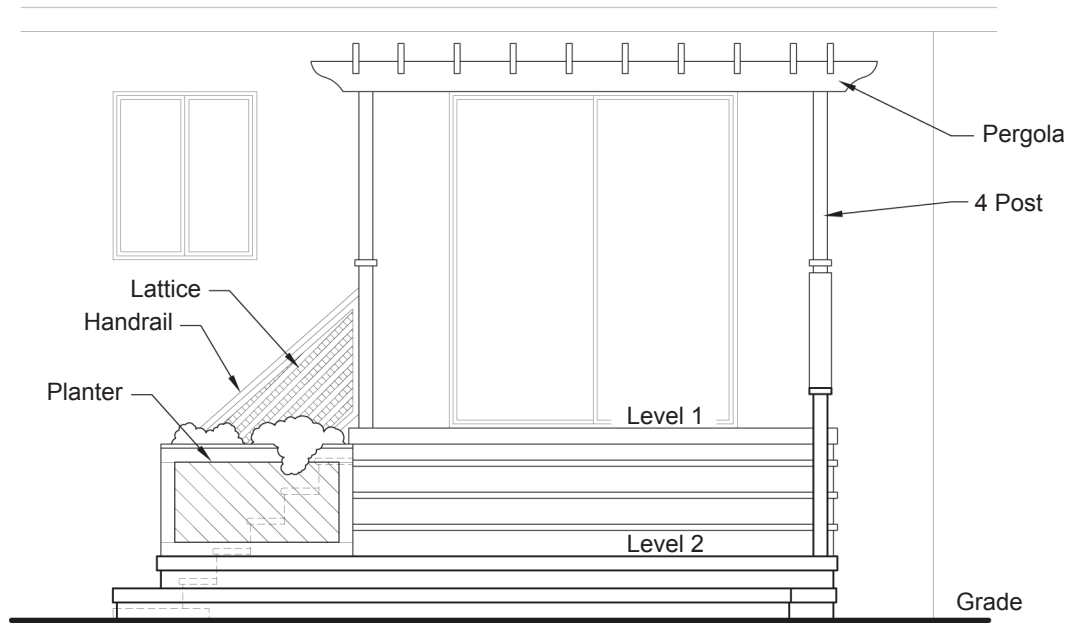
Also note that the maximum distance between the balusters and under the bottom rail is 4".

For a stairway, the treads should be no less than 9 ¼" deep and the risers no more than 8" high.

Always check the local building requirements for your area before beginning any such construction project.

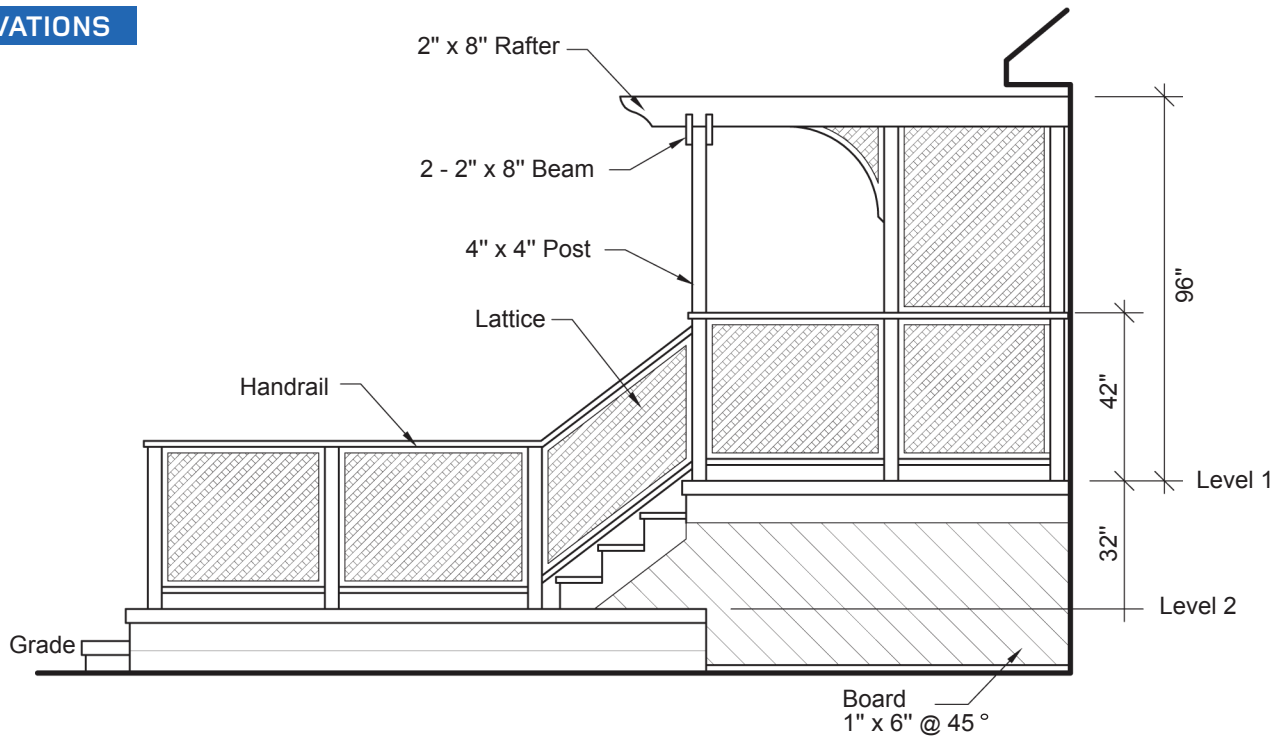
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ELEVATIONS

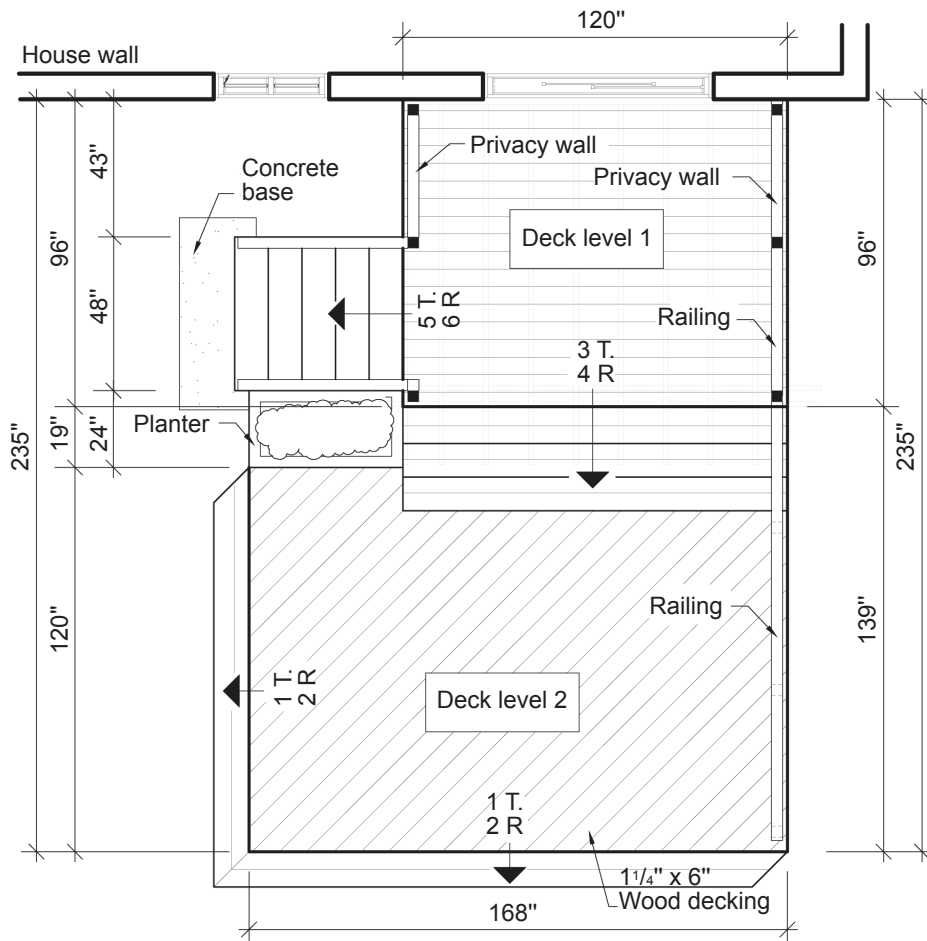


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ELEVATIONS

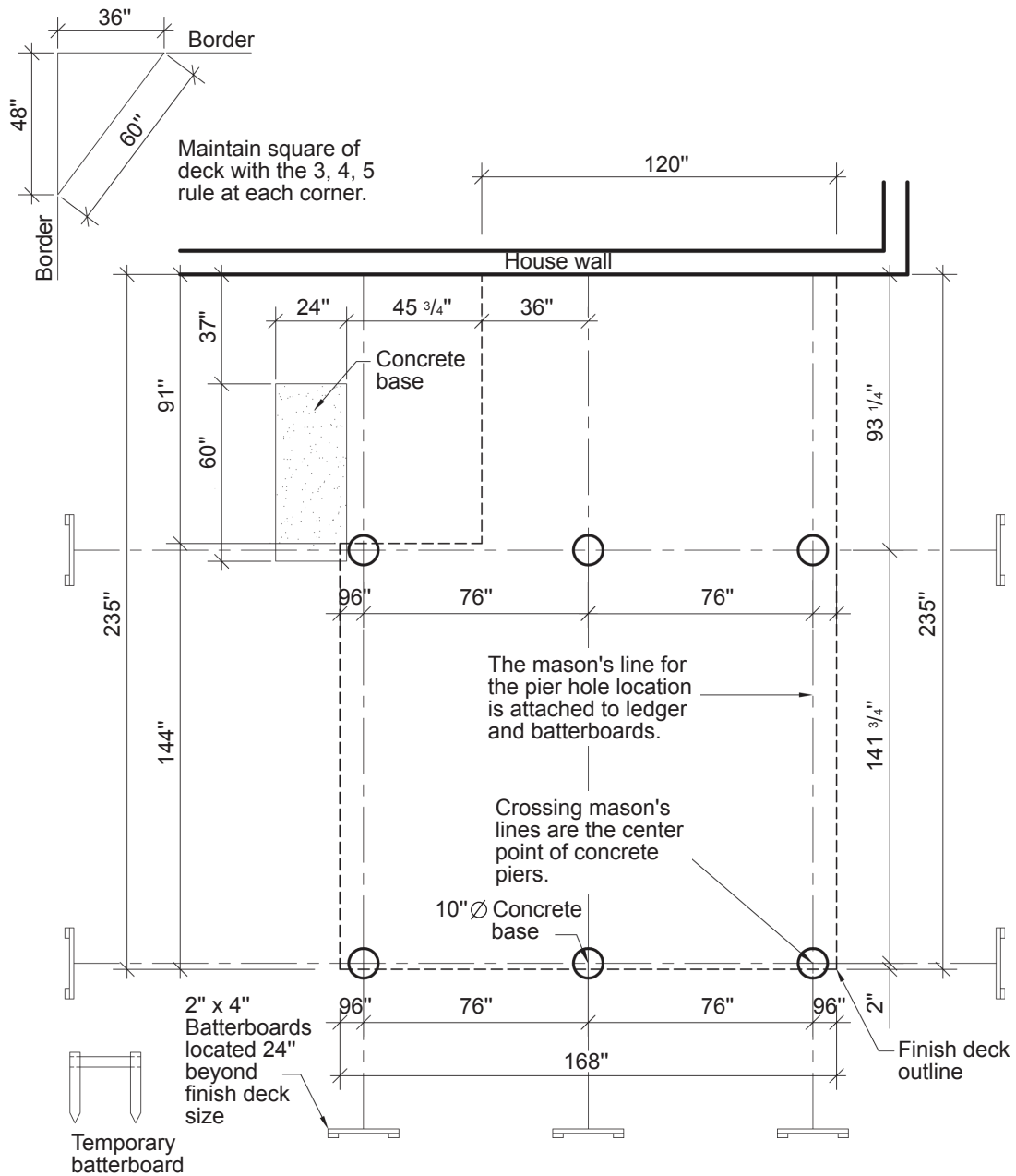


PLAN VIEW



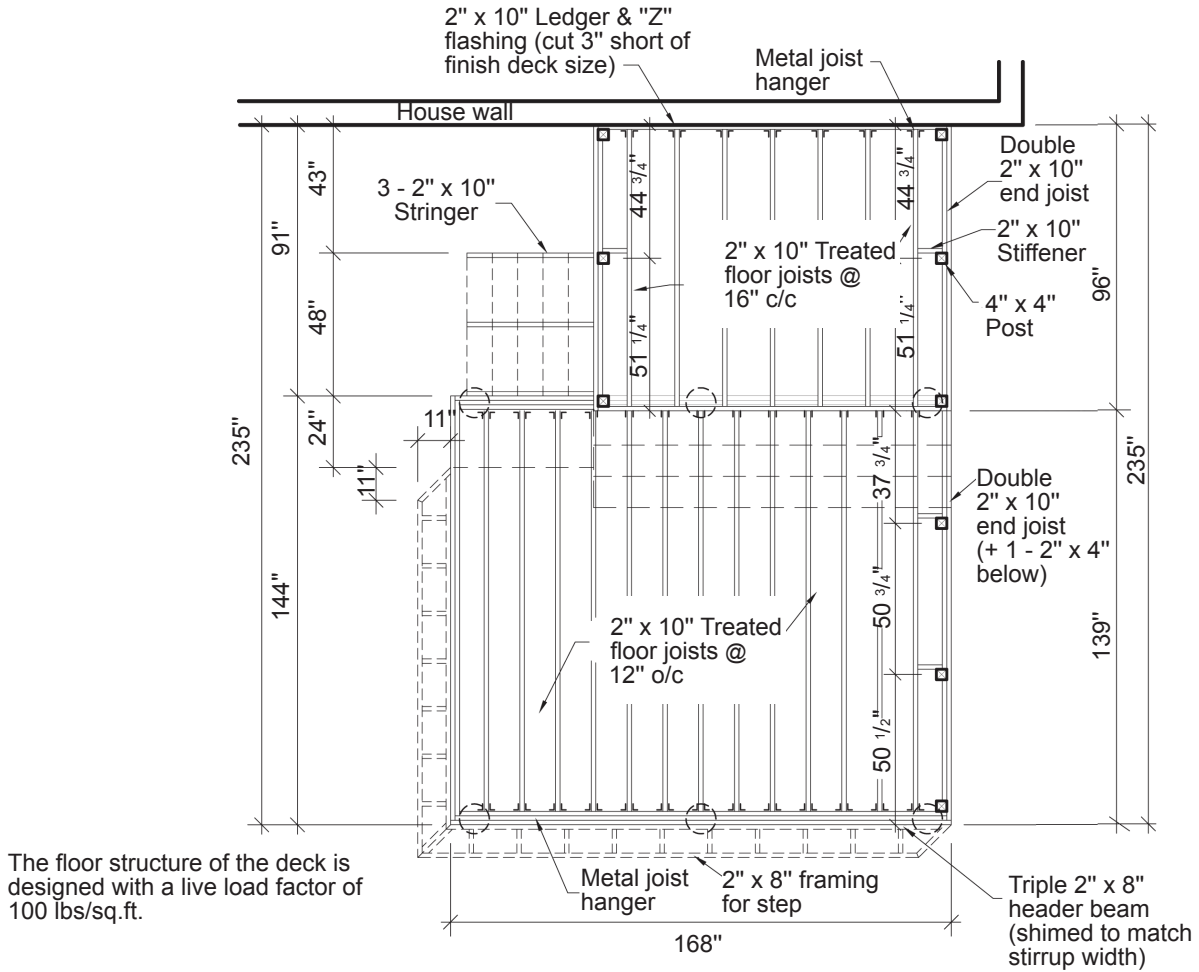
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PIER LAYOUT



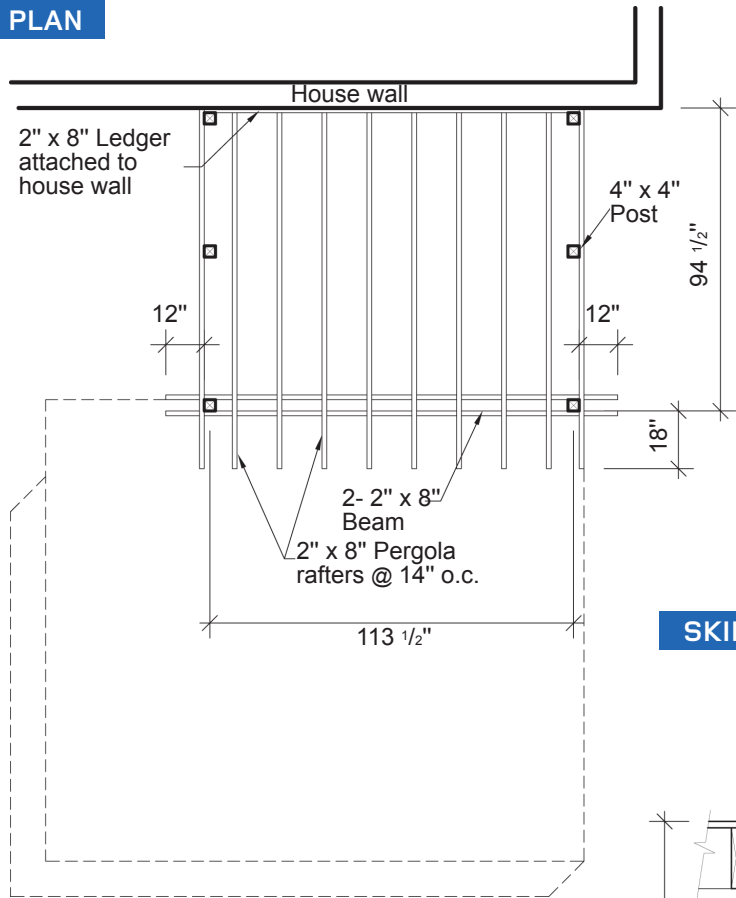
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FRAMING PLAN

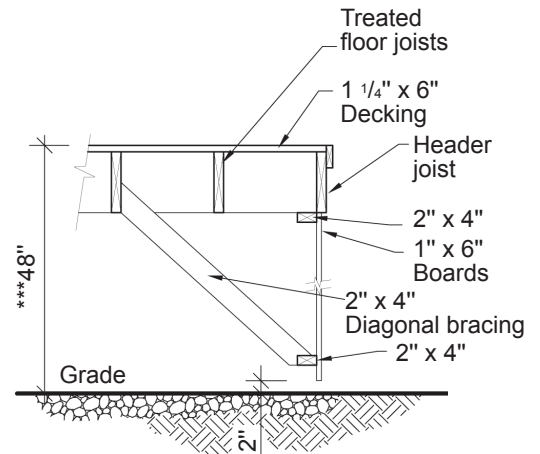


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PERGOLA FRAMING PLAN

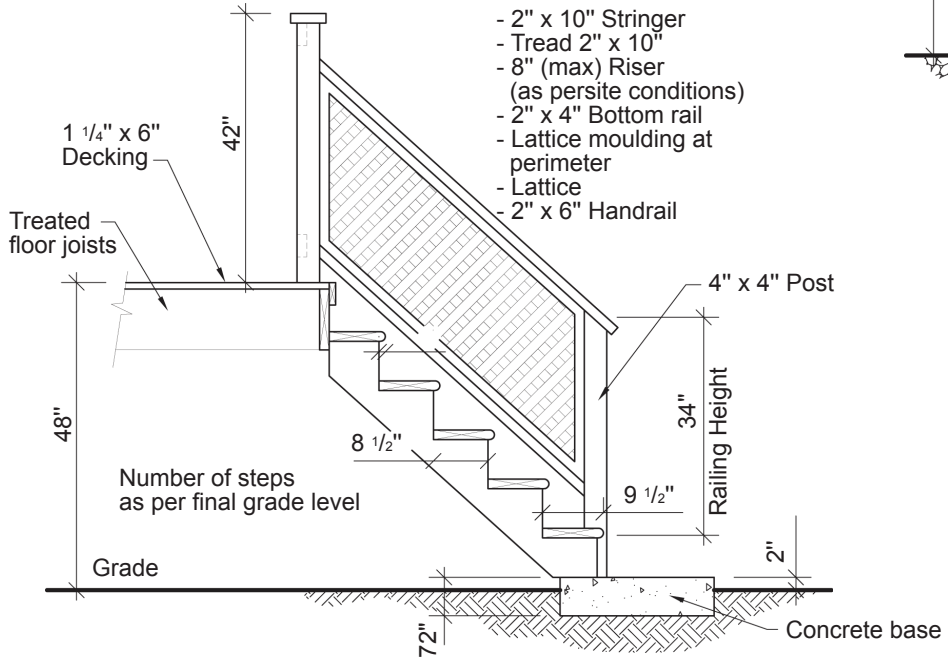


SKIRTING DETAIL



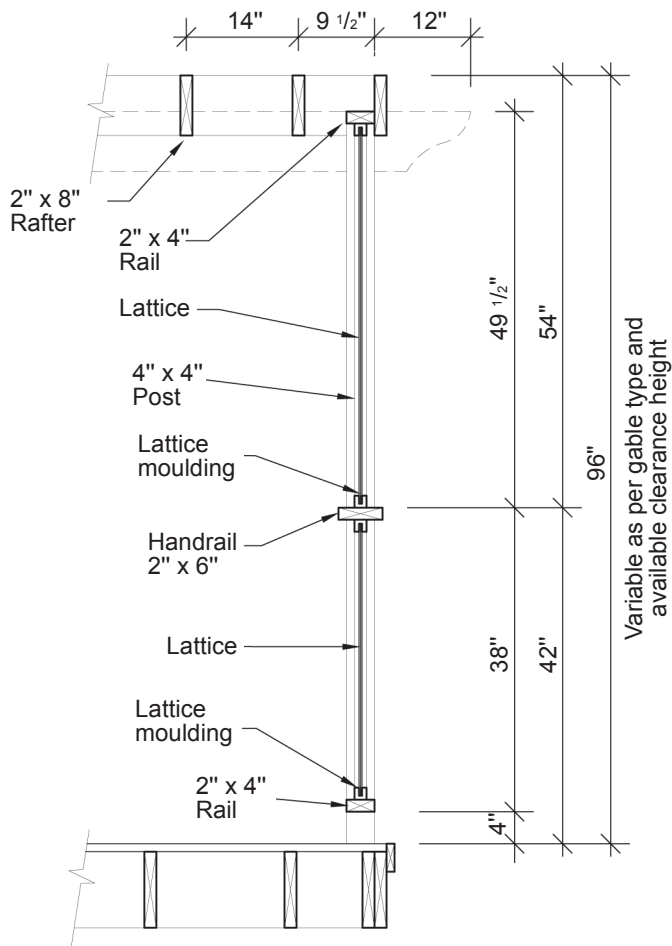
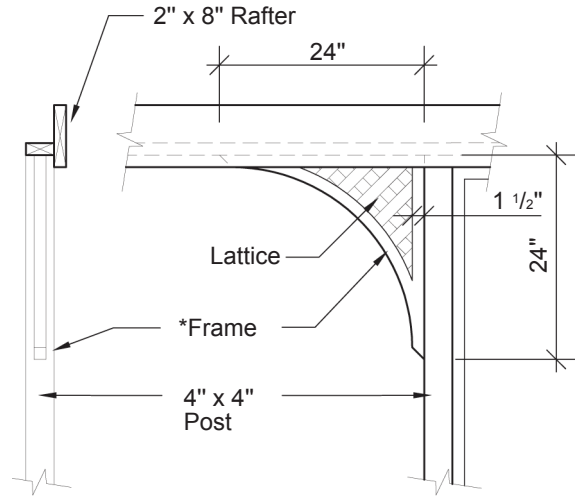
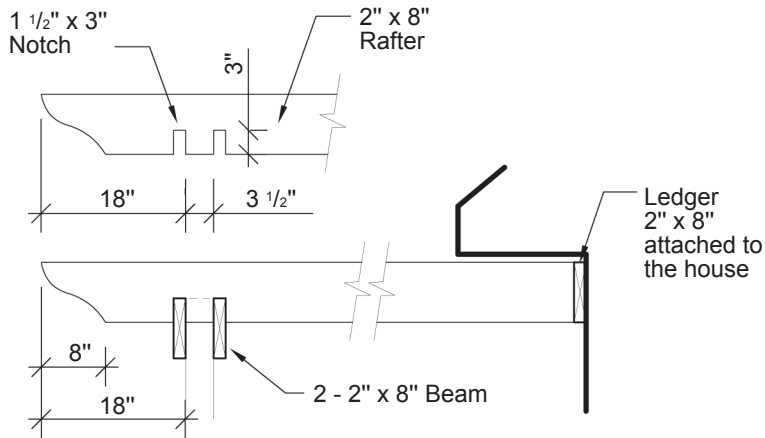
***Variable as per site conditions

STAIR SECTION



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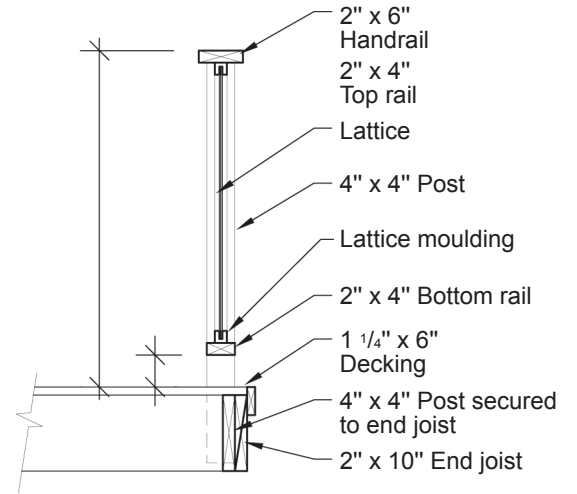
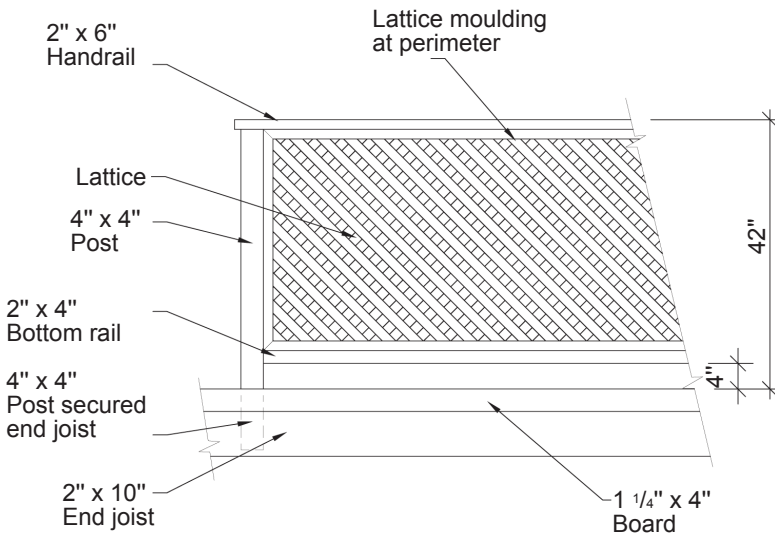
PERGOLA ASSEMBLY



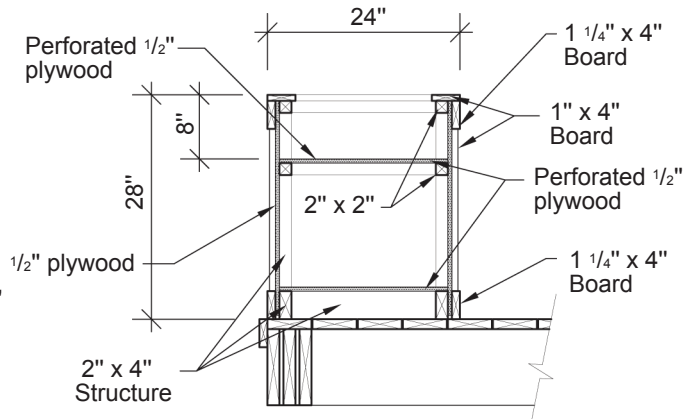
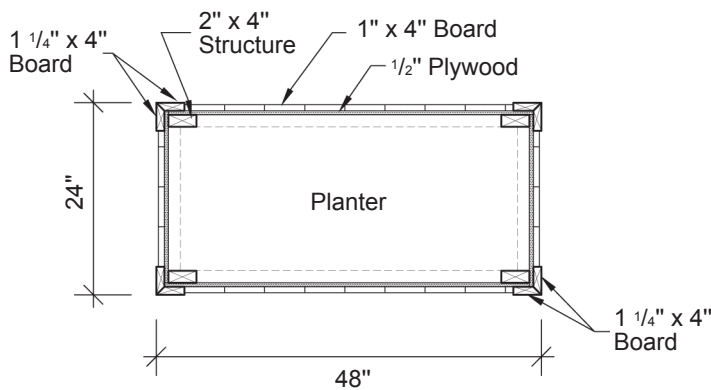
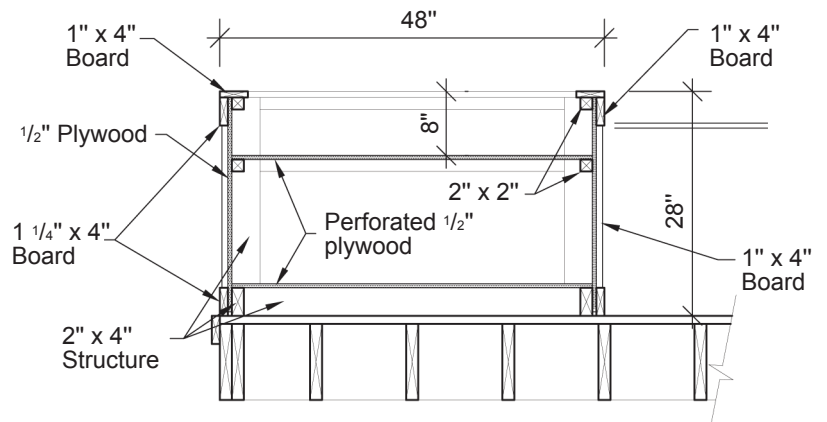
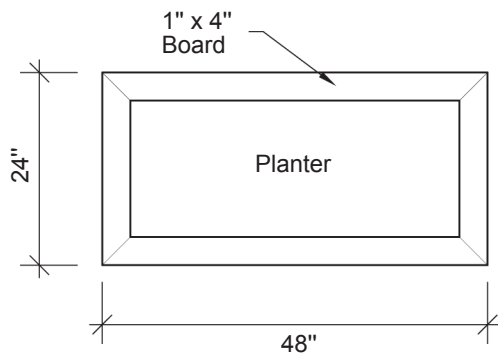
* The shape of the frame as illustrated, is cut from a sheet of 1/2" Plywood, after making two frames (1 1/2" wide), attach the lattice between them and install on the pergola.

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RAILING ASSEMBLY



PLANTER ASSEMBLY



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ASSEMBLY

