



Lowe's Deck Design For

**Bob**

Print this document and take it to your local Lowe's.  
One of our associates will help you find the materials you need.

## Deck layout diagram



Top view without planks

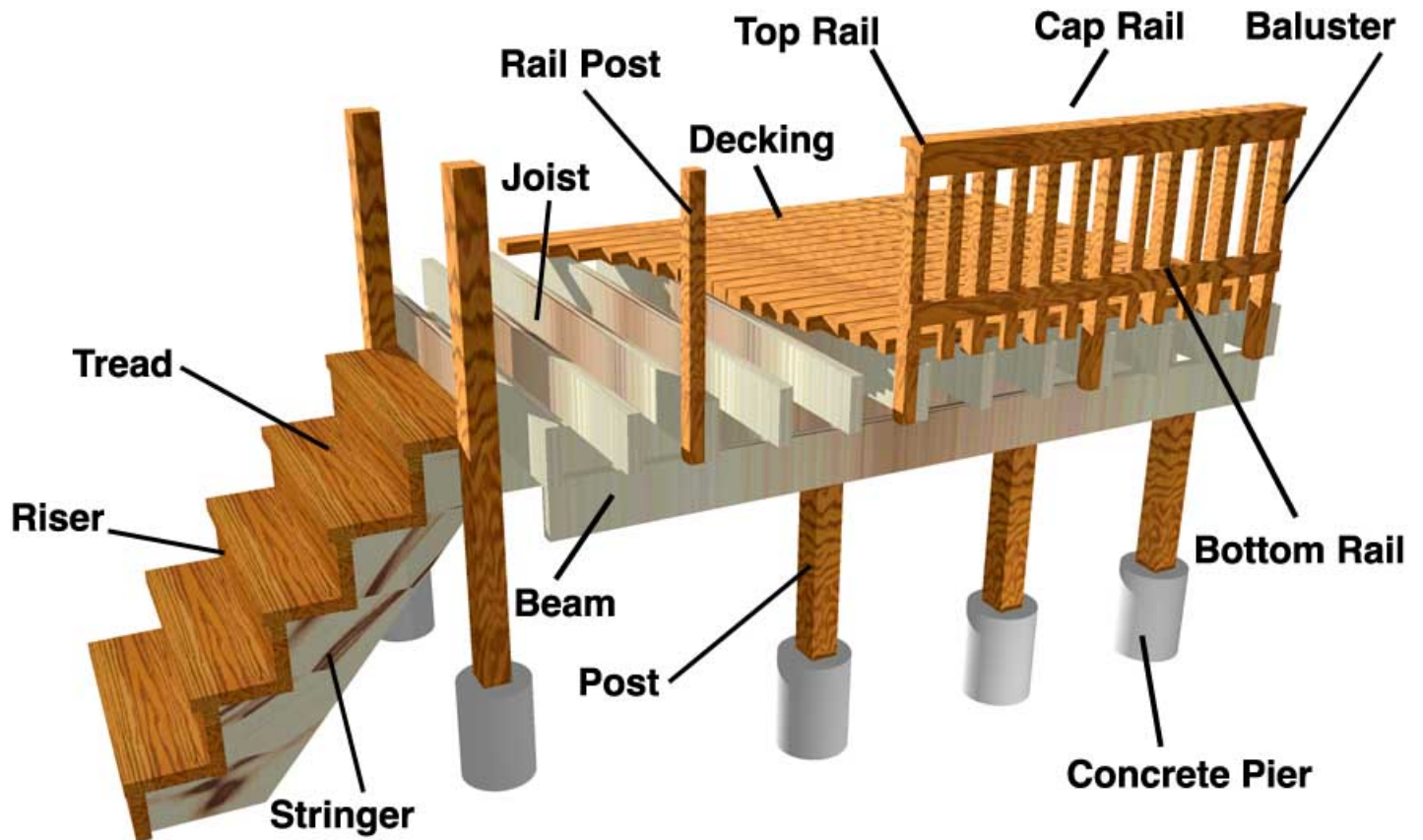


Bottom view with planks



Top view with planks

## Deck Part Identification



<b>Baluster</b>	The vertical pieces of a railing spaced at regular intervals between posts.
<b>Beam</b>	A horizontal framing piece, which rests on posts and supports joists.
<b>Decking</b>	The boards used to make the walking surface of the deck
<b>Joist</b>	A horizontal frame piece that supports the decking and spreads the weight over the beams
<b>Ledger</b>	A horizontal strip that connects the deck to the house.
<b>Concrete Pier</b>	A vertical piece of concrete, used as a footing to support a post.
<b>Post</b>	A vertical framing piece, used to support a beam or a joist.
<b>Riser</b>	The board attached to the vertical cut surface of a stair stringer.
<b>Stringer</b>	The diagonal board used to support treads and risers on a stairway.
<b>Tread</b>	The horizontal surface of a stair, perpendicular to the riser.
<b>Bottom Rail</b>	The lower horizontal piece that connects rail posts
<b>Top Rail</b>	The upper horizontal piece that connects rail posts
<b>Cap Rail</b>	The top horizontal trim on railing.
<b>Rail Post</b>	The vertical posts connected to the deck framing, to which railing is secured.

## Installation Checklist

### Building code and zoning requirements

Check deed restrictions, building codes and/or zoning laws to make sure your deck complies.  
Check with local utility companies to make sure deck construction will not disturb piping or wiring.

### Deck function

While planning your deck, determine how it will be used.

### Your climate

While planning your deck, consider local weather.  
Take advantage of good views.

### Install ledger

Install ledger to anchor deck to house.  
Ledger placement determines the deck floor level, normally 2-4" below floor line.  
If unsure about attaching a ledger board, consult a professional.  
Use batterboards and mason's string to mark off deck area and locate footing.

### Square with string

Attach string to ledger and/or batterboards.  
Batterboards go just outside perimeter corners of the deck.  
Use the 3-4-5 method to get a 90 degree angle in one corner.

### Install posts

Footing/posthole depth is dictated by local codes.  
Check with local utility companies to make sure deck construction will not disturb piping or wiring.

## Installation Checklist

### Post bracing

Brace posts as dictated by local codes.

### Attach beams to posts

Determine the desired deck floor height on the posts.

Determine height for securing the top of the beam to the post.

### Attach joists

Joists are attached to ledger board with joist hangers or by toenailing.

Determine where blocking will go and snap a chalk line, but make sure to stagger pieces for ease of nailing.

### Lay decking

Attach boards "bark side up" to minimize cupping and warping.

The deck boards can be trimmed after they are installed.

### Railings

Railings must be firmly attached to the framing members of the deck.

Check for local code restrictions on railings.

### Stairs

Check local codes on stair restrictions.

Measure the rise and run of the stairs.

### Multi-level decks

When planning a multi-level deck, for aesthetics make one deck larger than the other.

## Tools Required & Tips for Success

### Tools Required:

Carpenter's level	Hearing protection	Ruler
Carpenter's square	Hammer	Safety glasses
Chalk line	Hand saw	Screwdrivers
Chisel	Hoe and hose (to mix concrete)	Shims or spacers
Circular saw	Ladder	Shovel
Claw hammer	Line	Socket wrench
Combination square	Mallet	Stakes or batter boards
Crescent wrench	Nail set	String
Drills and bits	Pencils	Tamper
Dust mask	Pick	Tape measure
Extension cord	Plumb bob	Transit
Framing square	Post hole digger	Tool belt
Gloves	Rafter square	Two foot level

### Tips for success:

1. When cutting or drilling wood, always wear eye protection to prevent injury from flying wood particles
2. When cutting lumber, a fabric breathing mask will help to avoid ingestion of the dust. Wear gloves as the surface is rough and can cause splinters.
3. For outdoor projects, nails and other hardware should be hot-dipped zinc-coated or equally well-protected material to keep them from rusting.
4. To help prevent splitting, drill pilot holes in each piece of lumber before nailing or screwing.
5. Make sure to treat your deck to prolong its lifespan.
6. Before you apply a finish on your deck, test for moisture by sprinkling the surface of a small area of the deck with water. If the droplets bead up, the wood is still wet. Wood that is dry enough for treatment will quickly soak up the water.
7. Deck finishes come in both water and oil based. While oil-based finishes penetrate deeper into the wood, water-based products are easier to clean up and are more forgiving in damp conditions.
8. When applying finish or cleaner to your deck, protect surrounding vegetation by wetting with a hose and covering with plastic.
9. Invest in a pair of kneepads if you are doing floor jobs or working on a deck.
10. Dispose of scraps in the regular trash or take to a landfill - never burn.

### "How to Guide" Download Information

If you have not read our deck building article, read it at [Lowe.com/YourDeck](http://Lowe.com/YourDeck)

**Below are the Specifications And Materials  
that you have selected for your deck.**

<b>Overview</b>	Number of Levels: 2 Total Square Feet: 225	Footer Depth: 30" Live Load: 41 psf Dead Load: 10 psf
-----------------	---	---

<b>Component</b>	<b>Size</b>	<b>Wood Type</b>
Joists	2 x 6	Top Choice Treated
Beams	2 x 8	Top Choice Treated
Posts	4 x 4	Top Choice Treated
Decking	5/4 x 6	Cedar
Railing		Cedar
Bench		None
Lattice		None

FooterDepth	30"	Live Load	41 psf
		Dead Load	10 psf

## Item Numbers May Vary By Location

Some Items May Not Be Available In All Locations

### Material List

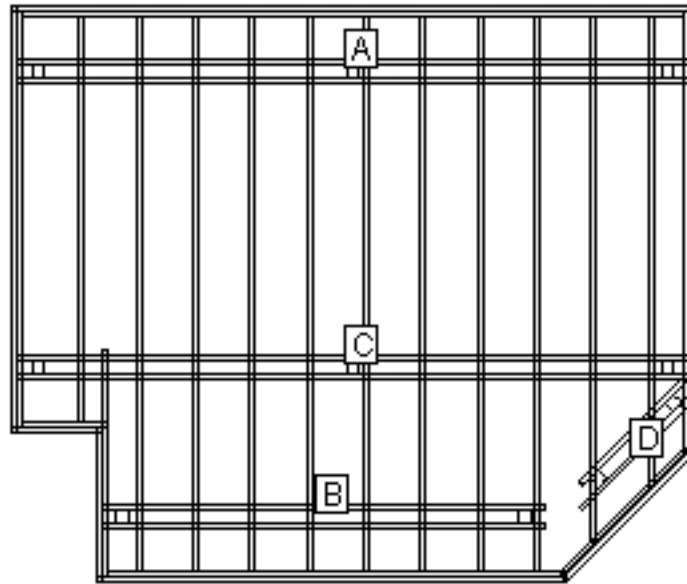
Lumber Materials			
Item Number	Quantity	Description	Usage
36333	11	2X6X14 TOP CHOICE STRUCT HF ACQ	Internal Joist
24272	3	2X6X12 TOP CHOICE STRUCT HF ACQ	Internal Joist
24551	4	2X8X16 TOP CHOICE STRUCT HF ACQ	Beam
30271	2	2X8X12 TOP CHOICE STRUCT HF ACQ	Beam
46258	12	WRC GRN CEDAR FLUETED HANDRAIL	Top Rail
4247	2	4X4X8 CEDAR	Railing Post
4362	8	4X4X10 CEDAR STD/BTR S4S GRN	Railing Post
119870	12	6' Cedar Insta Rail	Hand Rail
30180	3	2X6X10 TOP CHOICE STRUCT HF ACQ	Cladding
24665	2	2X6X16 TOP CHOICE STRUCT HF ACQ	Cladding
6715	3	2X6X20 ACQ TREATED	Cladding
5406	2	5/4X6X12 CEDAR	Deck Planking
5422	33	5/4X6X16 CEDAR	Deck Planking
121	14	4X4X6 #2 .40 ACQ TREATED	Post
23712	2	2X8X8 TOP CHOICE STRUCT HF ACQ	Beam
4643	6	3-STEP STRINGER #1 WATER REPELENT	Stair Stringer
24661	1	2X6X8 TOP CHOICE STRUCT HF ACQ	Rim Joist
107961	1	2X8X14 TOP CHOICE STRUCT HF ACQ	Beam
5405	1	5/4X6X8 CEDAR	Stair Tread
119875	4	6' Cedar Insta Stair Rail	Rail Section

Other Materials			
Item Number	Quantity	Description	Usage
2411	16	4X4 2-SIDE POST ANCHOR TZ (14354)	Footing to Post
103283	22	BASIC CONCRETE MIX 80LB	Footing to Post
10748	16	RFB#4X5 1/2X5 RETROFIT BOLT	Footing to Post
69262	2	NAIL COMMON GALV 5 LB 10 D	Footing to Post
63449	128	GALV ROUND WASHER 1/2"	Post to Beam
67357	64	GALV CARRIAGE BOLT 1/2 X 8	Post to Beam
67342	64	GALV 1/2 HEX NUT	Post to Beam
90575	72	HURRICANE TIE	Joist Framing
69138	15	NAIL COMMON GALV 1LB 8D	Joist Framing
68408	2	JOIST HGR.NAIL 1 LB 1-1/2"NA111CD	Joist Framing
115180	21	H2.5AZ REVERSIBLE HURR CLIP ZMAX	Joist Framing
95991	24	LUS26Z ZMAX 2X6 JOIST HANGER	Joist Framing
184956	1	10DX1 1/2" NAIL (5 LB.) MC	Joist Framing
87727	10	L70Z 7" ANGLE ZMAX	Joist Framing
27388	1	Olympic Maximum Waterproofing Clear Sealant	Deck Planking



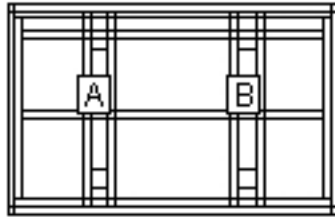
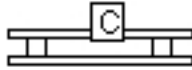
Other Materials			
Item Number	Quantity	Description	Usage
61342	54	DPT7Z 4X4 DECK POST TIE	Railing Post
41196	5	3/8" HEX NUT GALVANIZED (25) PP	Railing Post
41706	9	3/8" FLAT WASHER GALV (25) PP	Railing Post
67353	108	GALV CARRIAGE BOLT 3/8 X 8	Railing Post
69264	1	NAIL COMMON GALV 5 LB 16 D	PlankingOrRail
1411	4	LSU26-R 2X6 SLOPE/SKEW HANGER	CladRimOrStair

## Beam Layout Level 1



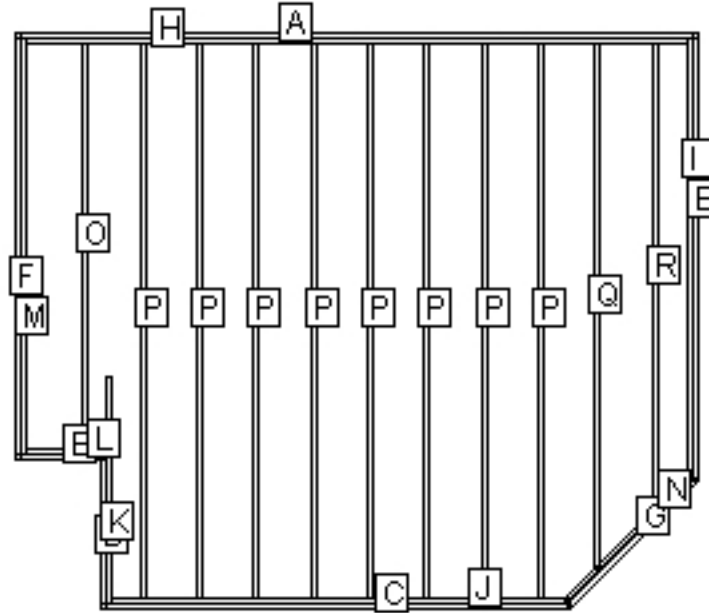
BEAM LABEL	BEAM LENGTH	POST COUNT	POST SPACING
A	15' 9"	3	7' 4 3/4"
B	10' 4 1/2"	2	9' 5"
C	15' 9"	3	7' 4 3/4"
D	3' 9 1/4"	2	2' 6 1/4"

## Beam Layout Level 2



BEAM LABEL	BEAM LENGTH	POST COUNT	POST SPACING
A	3' 3"	2	2' 3 1/2"
B	3' 3"	2	2' 3 1/2"
C	3' 1/2"	2	2' 1"

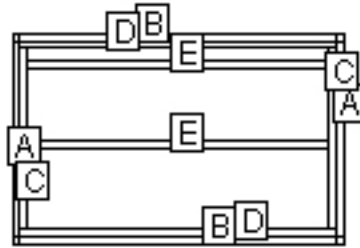
## Materials Cut List: Level 1



LABEL	NAME	QTY	LENGTH	BEVELS	LABEL	NAME	QTY	LENGTH	BEVELS
A	Fascia	1	16'	F45 S45	J	Header	1	10' 8 1/2"	
B	Fascia	1	10' 6"	F45 S45	K	Outer Joist	1	5' 3 3/4"	
C	Fascia	1	11'	F45 S45	L	Header	1	2'	
D	Fascia	1	3' 7 1/2"	F45 S45	M	Outer Joist	1	9' 9"	
E	Fascia	1	2' 1 1/2"	F45 S45	N	Header	1	4' 1 3/4"	
F	Fascia	1	10'	F45 S45	O	Joist	1	9' 6"	
G	Fascia	1	4' 3"	F45 S45	P	Joist	8	13'	
H	Header	1	15' 6"		Q	Joist	1	12' 4"	
I	Outer Joist	1	10' 4"		R	Joist	1	11'	

**Cut Angles: L=Left, R=Right, F=Front, S=Side**

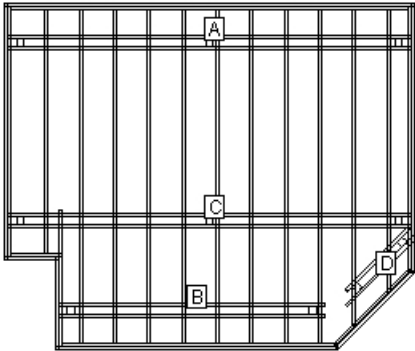
## Materials Cut List: Level 2



LABEL	NAME	QTY	LENGTH	BEVELS	LABEL	NAME	QTY	LENGTH	BEVELS
A	Fascia	2	3' 6"	F45 S45	D	Outer Joist	2	5' 3"	
B	Fascia	2	5' 6"	F45 S45	E	Joist	2	5'	
C	Header	2	3'						

Cut Angles: L=Left, R=Right, F=Front, S=Side

## Permit Page: Level 1



### LOAD AND SUPPORT:

Your deck will support a 41 PSF live load.  
Posts have 30" below ground support.

### DECK AND POST HEIGHT:

You selected a height of 72" from the top of the decking to the ground level. The top of the deck support posts will therefore be 65.25" above ground level.

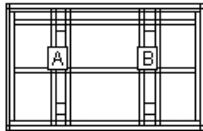
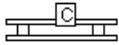
### Joists:

Set joists on top of beams, 16"; center to center.

## Stress Analysis: Level 1

Component	PSF
Joist Deflection	172
Joist Bending	56
Joist Shear	81
Joist Compression	196
Beam Deflection	50
Beam Bending	50
Beam Shear	56
Bolt Shear	123
Post Stability	187

## Permit Page: Level 2



### LOAD AND SUPPORT:

Your deck will support a 311 PSF live load.  
Posts have 30" below ground support.

### DECK AND POST HEIGHT:

You selected a height of 54" from the top of the decking to the ground level. The top of the deck support posts will therefore be 47.25" above ground level.

### Joists:

Set joists on top of beams, 16"; center to center.

## Stress Analysis: Level 2

Component	PSF
Joist Deflection	11103
Joist Bending	482
Joist Shear	321
Joist Compression	556
Beam Deflection	1059
Beam Bending	1059
Beam Shear	658
Bolt Shear	1124
Post Stability	1702

**Warning:** This may not be a final design plan. Variations in building codes, specific architectural considerations, or site conditions may require changes to this design. You are responsible for the final structural, code verification, material usage, and structural safety of this design. Be sure to check and verify the design with your architect, engineer and building inspector.

Lowe's is a supplier of material only. Lowe's does not engage in the practice of engineering, architecture, or general contracting. Lowe's does not assume any responsibility for design, engineering, or construction; for the use of installation of materials; or for compliance with any building code or standard of workmanship. Always refer to information on fastener packaging for use with pressure treated lumber.

**Preferences:** Certain assumptions have been made in order to provide an accurate material quote for your Deck Project. Because local codes vary throughout the country, it is imperative that you check with your local municipality for compliance with local building codes. The following building practice assumptions have been made in providing the materials for your project:

Footer Depth:	30
Footer Type:	Post On Concrete
Joist Cantilever:	12 inches
Joist Spacing:	16" center to center
Spacing Between Deck Planking:	1/8 inch
Stair Stringers:	10 inches
Deck Live Load:	40 psf
Deck Dead Load:	10 psf
Stairs Live Load:	40 psf
Stairs Dead Load:	10 psf

Be sure to check and verify the design with your architect, engineer and building inspector.

**Note:** It is recommended that joist that meet on top of beams should be spliced with gussets. The gussets should be 2- by wood the same width at the joist and overlap by 6 inches on each side. These gussets should be held in place with 12 16d galvanized nails.

## Handling Precautions for Pressure-Treated Wood

**Disposal:** Dispose of treated wood by ordinary trash collection. Treated wood should not be burned in open fires, stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g construction sites) must be disposed of in accordance with state and Federal regulations, which may include burning only in commercial or industrial incinerators or boilers. Always refer to information on fastener packaging for use with pressure treated lumber.

**Operating Conditions:** Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing, sanding and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood. (Lowe's in-store saws are equipped with a vacuum to minimize airborne sawdust).

**Protection:** When power-sawing and machining, wear goggles to protect eyes from flying particles.

**Clean Thoroughly:** Wear gloves when working with the wood. After working with the wood, and before eating, drinking, toileting, and use of tobacco products, wash exposed areas thoroughly.

**Wash Separately:** Because preservatives or sawdust may accumulate on clothes, they should be laundered before reuse. Wash work clothes separately from other household clothing.

**For Additional Information:** [www.epa.gov](http://www.epa.gov) - [www.healthybuilding.net](http://www.healthybuilding.net) - [www.ccasafetyinfo.com](http://www.ccasafetyinfo.com)  
[www.treatedwood.com](http://www.treatedwood.com) - Call: (800)282-0600 or (800)356-AWPI