



City of St. Peters Residential Deck Guide

The information provided in this guide is intended to meet the requirements of the 2015 International Residential Code, as adopted.

A building permit is required to build, repair or replace a deck.

St. Peters Deck Guide

The City of St. Peters Building Department has compiled the following information to assist residents who are planning to build a deck. Remember, a building permit must be obtained before starting work. This helps to ensure your deck meets the building code's strength and safety requirements, both for your benefit, and for the benefit of whoever else might own your house in the future.

To obtain a permit for your deck, please submit the following items:

1. A completed permit application (1 copy). There's a permit application on the last page of this deck guide.
2. A site plan showing the deck location (1 copy). The submitted site plan should show both the location of your house relative to your property lines and the location of the deck. Make a copy of the plot plan you received when you bought your house and show the location of the deck relative to the house and to the property lines. If for some reason you don't have your plot plan you will need to measure your lot and your house and measure the house location relative to the property lines, then add the deck location information to this. *Please see the sample site plan on the following pages.*
3. A framing plan for the deck (2 copies). The framing plan can be very simple, but it must show the size of the deck, how it is attached to the house; the joist, beam and post sizes, spacing and spans, and the type of lumber and decking being used. Also include pier/footing depth and width and indicate any stairs being built. *Please see the sample framing plan on the following pages.*

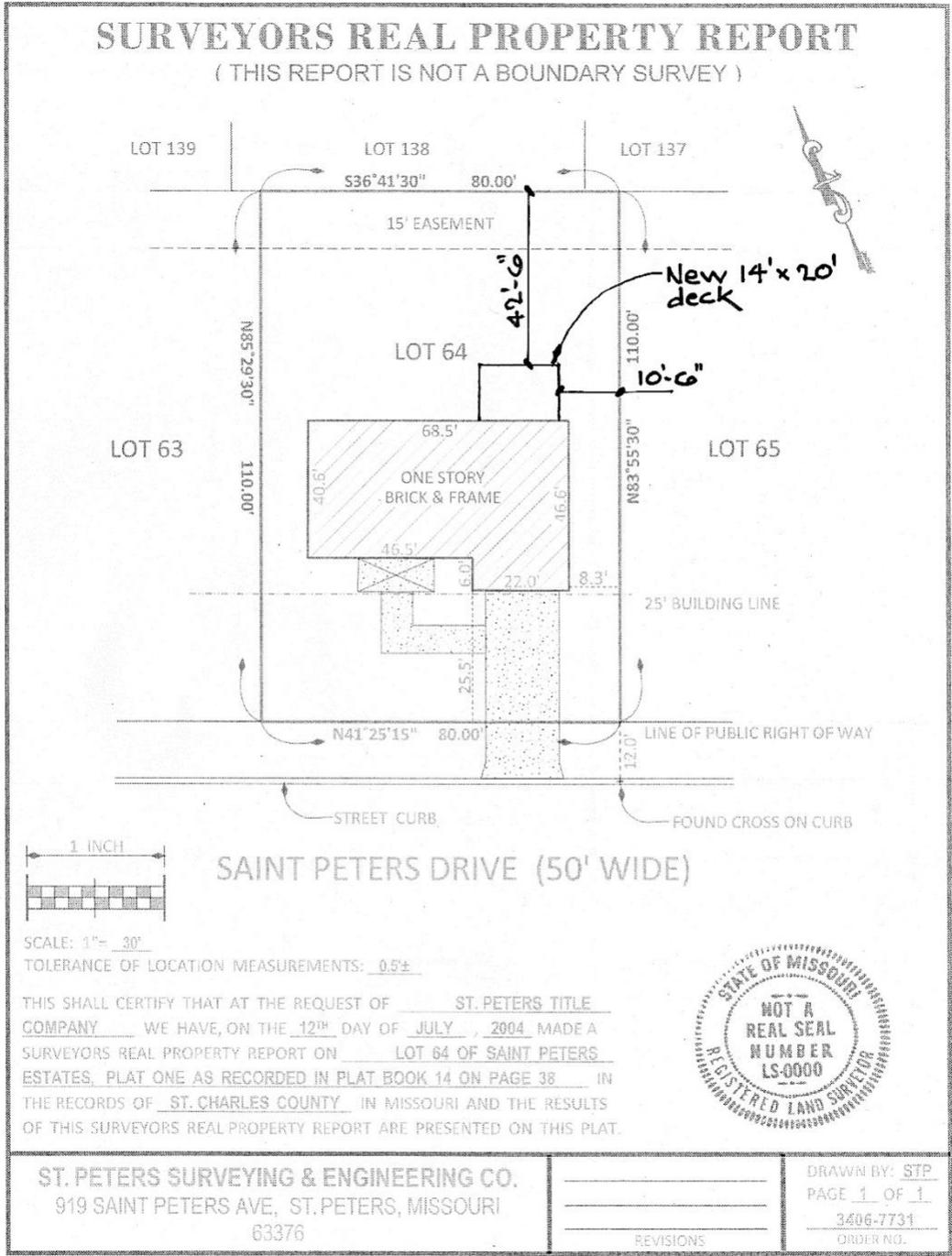
The city's building department will review your submittal (this usually takes a week or two) and you will receive a call when it is ready to be picked up. If there are issues with what you submit the reviewer will either add notes to the permit clarifying the code requirements (these will be listed under "Conditions" on your permit), or the reviewer will call you to discuss more complicated issues.

INSPECTIONS

- The Footing Inspection is to be performed after the piers have been excavated, but before pouring the concrete. The inspector will measure these footings to see that they are the proper depth and width. The location of your deck will also be verified to ensure compliance of the property line restrictions.
- The Final Inspection will be performed when all necessary work has been completed. (If your deck will be so low to the ground that inspecting the structure or making any required corrections would be difficult, it will be necessary to also call for a Rough Framing Inspection before installing the decking boards.)

To schedule an inspection, please call our office at least 24 hours in advance. If you should need to cancel an inspection for whatever reason, please call us as soon as you can.

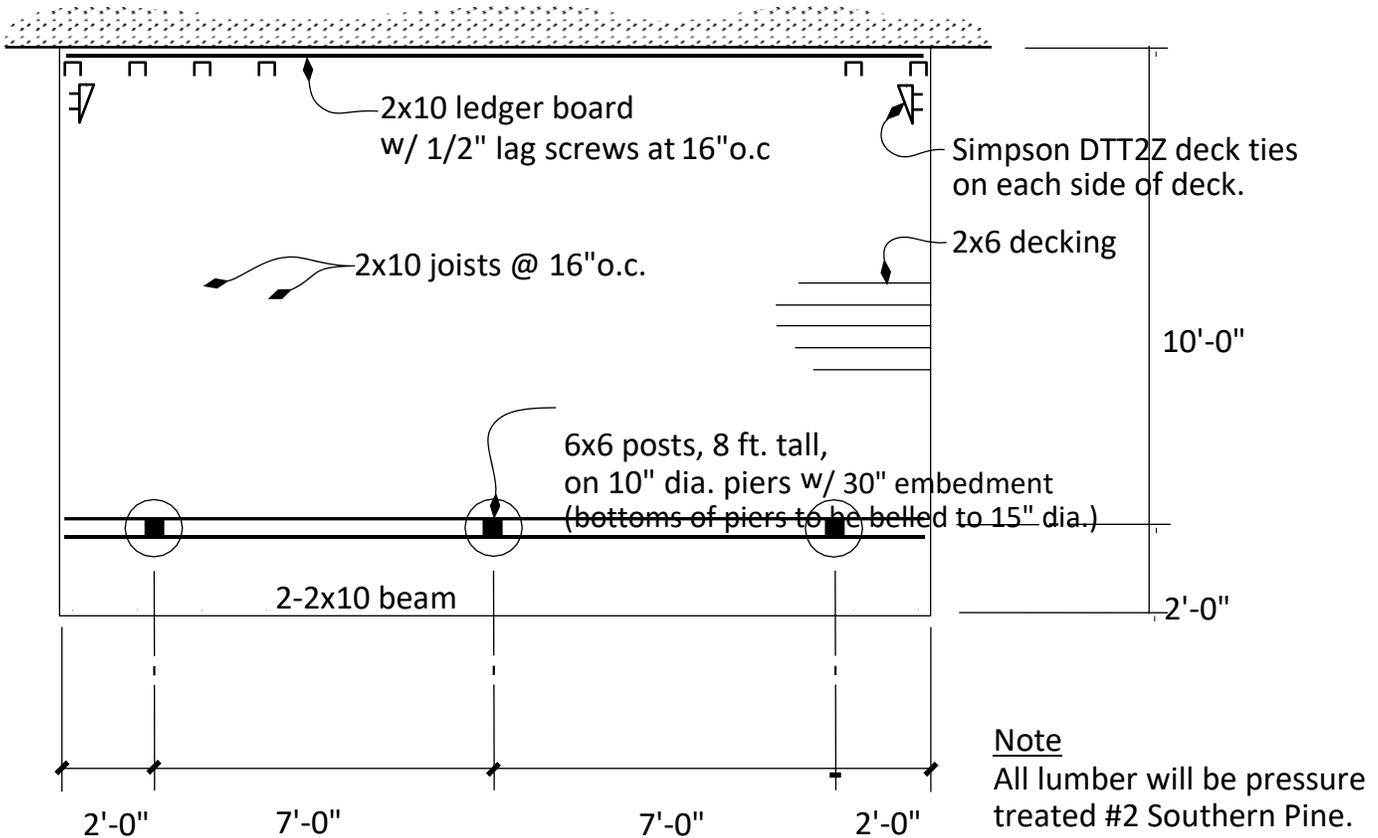
To talk to an inspector regarding your permit or to schedule an inspection, please call (636) 477-6600, extension 1670.



Sample Site Plan Submittal

The site plan you submit should look something like this

Just make a copy of the plot plan you received when you bought your house and then show where the new deck is going to go. Show the distances from the deck to the property lines. Remember, the deck has to be at least 6 feet from any property line, and it can't extend into any legal easements recorded on your property.



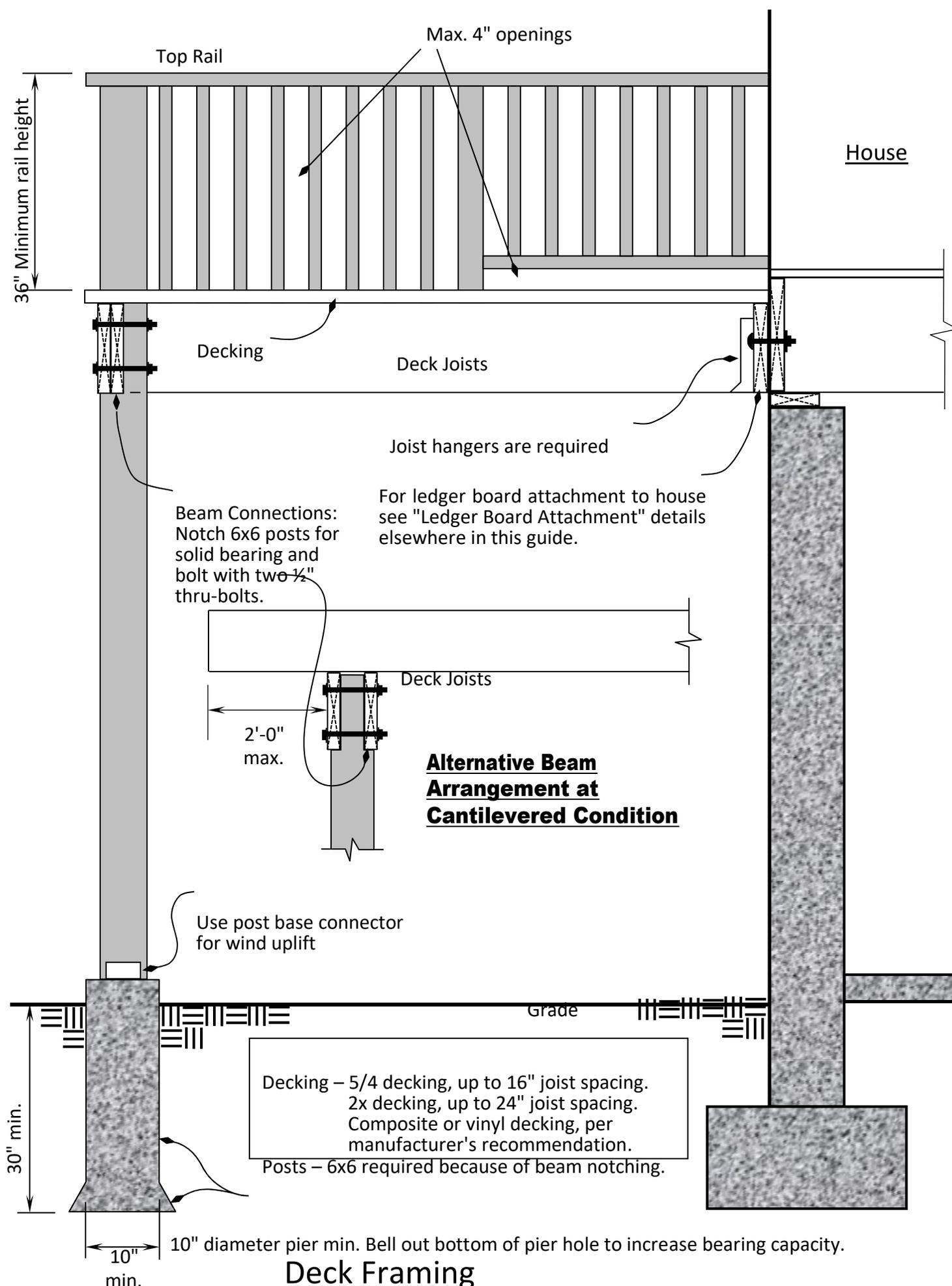
Sample Framing Plan Submittal

The framing plan you submit can be as simple as this

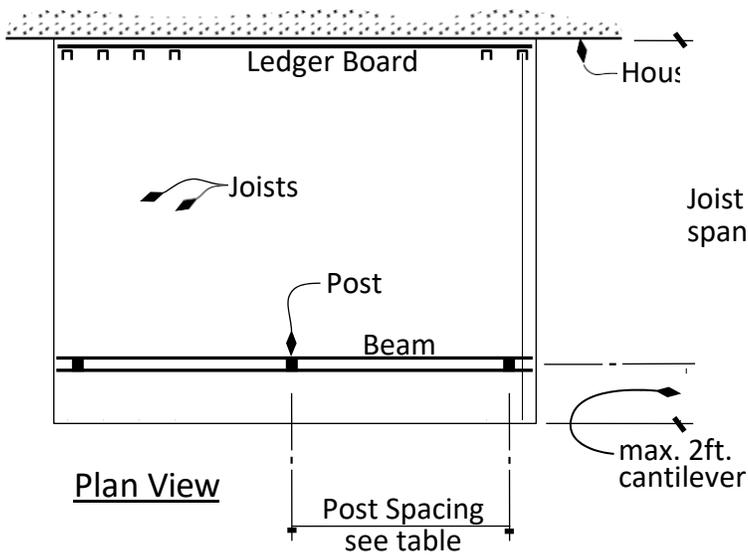
We just need to know the size of the deck and the size and locations of all the framing members. If the deck has stairs then show the size and location of the stairs on the framing plan. See elsewhere in this guide for more information about stairs. If you want to do anything unusual you should note it on your submittal and, if in doubt, call the building department to find out what the code allows.

DECK CONSTRUCTION ISSUES AND REQUIREMENTS

- Check with your neighborhood association about any subdivision restrictions.
- The structures and paved areas on your lot, including your house, driveway, any accessory buildings and decks (but not swimming pools), shall cover no more than 50% of the area of the lot.
- All structures (pools, decks, sheds) must be located a minimum of six (6) feet from the property lines, and may not be located in an easement.
- All deck piers shall be at least 30" deep for frost protection, and a minimum of 10" wide. When digging the holes for the piers bell out the bottoms of the holes for additional bearing capacity.
- Deck posts are to be anchored to the piers.
- Deck joists, beams, and ledger boards shall be pressure-treated Southern Pine. Cedar lumber cannot be used for beams, joists and ledgers. Cedar lumber *can* be used for decking boards, railings, trim and posts (provided posts are at least 6x6).
- Deck joists shall not cantilever beyond the deck beam more than 2 feet.
- Remove siding when installing ledger boards. The only material that is allowed to be sandwiched between the ledger board and the house rim board is structural plywood (or OSB), and building paper (e.g., Tyvek). See the Ledger Board Attachment Detail in this guide for more information.
- Provide flashing at ledger boards. Flashing starts under the siding and goes over the top of the ledger board and then bends down.
- Do not use roofing nails or deck screws to attach joist hangers to the ledger. Use hot dipped galvanized common wire nails, or approved nail substitutes (e.g., Simpson SD10 screws).
- Decks shall not be supported on any cantilevered parts of the house.
- All deck H-framing must attach directly to the house rim board, not to the deck ledger.
- The code requires decks over 100 ft² to have special "lateral load connectors" to reinforce the connection between the deck and the house. Typical connectors meeting this requirement would be four Simpson DTT1Z connectors evenly spaced, or two Simpson DTT2Z connectors.
- Guardrails are to be a minimum of 36" in height above the deck surface with spindles spaced not more than 4" apart. If a guardrail is part of a swimming pool barrier, the top of the railing should always be at least 48" above the adjacent ground. This includes any railings at stairs.
- Guardrails shall be provided along all open-sided walking surfaces that are more than 30" above the grade or surface below.
- Stairs are to have a minimum 10" tread cut and maximum 7¾" rise. **Important: tread widths and riser heights shall not vary between any two stairs more than 3/8".**
- If total height of stairway is 30" or more then stair risers are to be closed off or blocked and guard rails are required on both sides of stairs.
- Stairs with four or more risers are required to have standard code-compliant graspable handrails.
- Stair handrails are to be 34" to 38" high measured vertically above the nosing of the treads.
- Any overhead electrical wires must be at least 12 feet above the deck surface.
- Oversized decks require full-height cross bracing between the posts.



Deck Framing



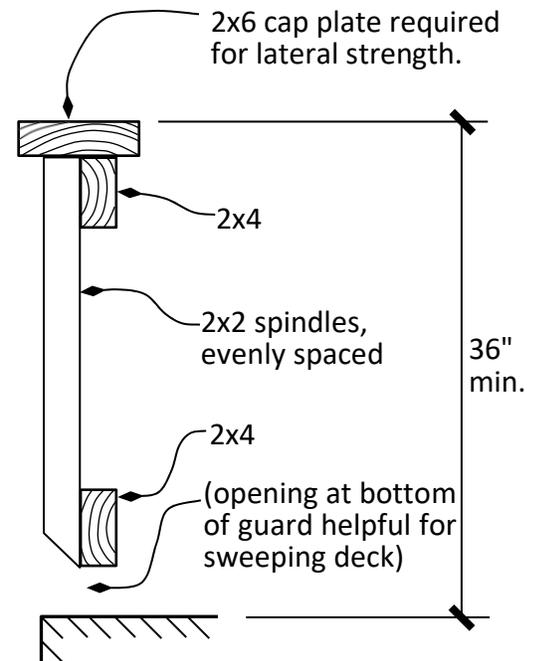
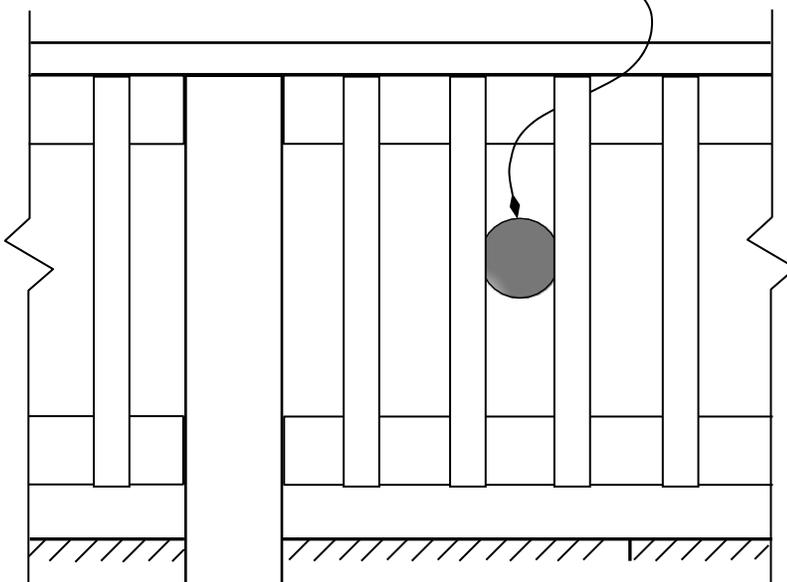
Maximum Deck Post Spacing			
Span of Deck Joists	Size of Beam Member		
	2-2x8	2-2x10	2-2x12
8'	7'-7"	9'-0"	10'-7"
10'	6'-9"	8'-0"	9'-5"
12'	6'-2"	7'-4"	8'-7"
14'	5'-9"	6'-9"	8'-0"
16'	5'-4"	6'-4"	7'-6"

Maximum Deck Joist Spans			
Joist Size	Joist Spacing		
	@ 12"oc	@ 16"oc	@ 24"oc
2x6	9'-11"	9'-0"	7'-7"
2x8	13'-1"	11'-10"	9'-8"
2x10	16'-2"	14'-0"	11'-5"
2x12	18'-0"	16'-6"	13'-6"

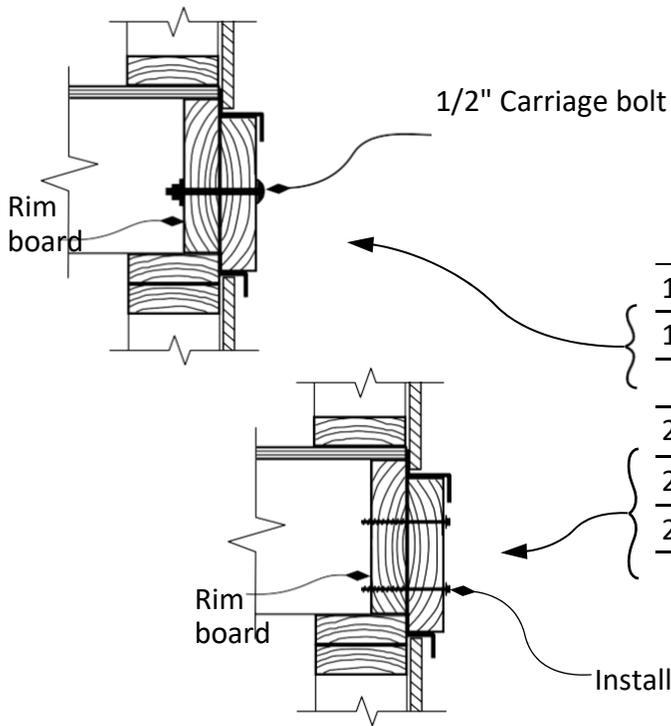
- These tables are based on the following assumptions:
- A live load of 40 psf and a dead load of 10 psf.
 - Lumber is #2 Southern Pine, Pressure Treated.
 - Splices of beam members are centered on posts.

Deck Post Spacing and Deck Joist Spans

All openings in guardrail shall be sized so as to prevent the passage of a 4" diameter ball.



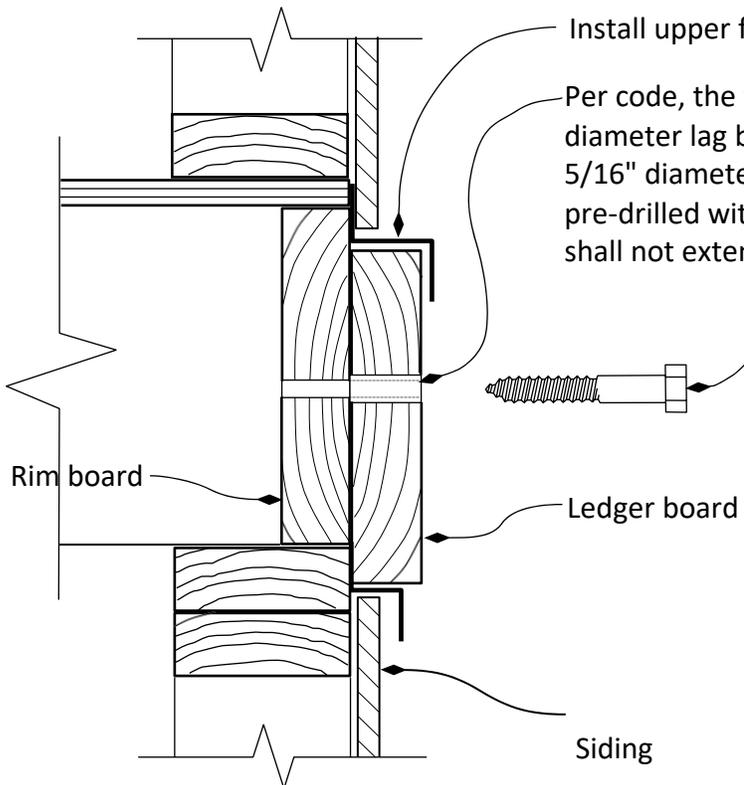
Typical Guard Rail Configuration



Non-Lag Bolt Ledger Attachment Options

Ledger Attachment	Maximum Span of Joists Supported by Ledger
1/2" Carriage Bolts @ 24" o.c.	14'-0"
1/2" Carriage Bolts @ 16" o.c.	18'-0"
2 LedgerLok Screws @ 24" o.c.	7'-8"
2 LedgerLok Screws @ 16" o.c.	11'-6"
2 LedgerLok Screws @ 12" o.c.	15'-0"

Alternative Methods for Ledger Attachment



Install upper flashing per code.

Per code, the threaded portion of a 1/2" diameter lag bolt is to be pre-drilled with a 5/16" diameter bit and the shank portion is pre-drilled with 1/2" diameter bit. The shank shall not extend into the rim board.

1/2" diameter hot-dipped galvanized lag bolts. See table below for spacing. Install with a wrench, do not hammer into place. Lag must be long enough that its tip will be exposed on the inside of the rim board.

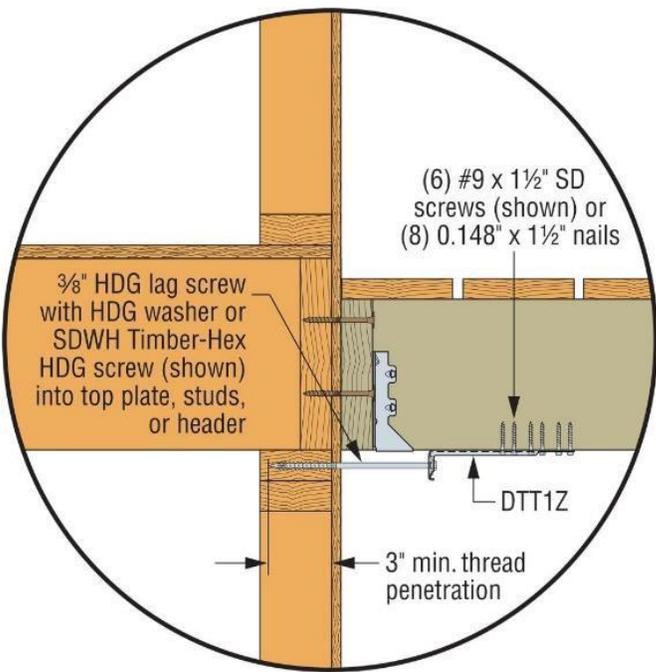
1/2" Lag Bolt Spacing*	Maximum Span of Joists Supported by Ledger
24" o.c.	7'-8"
16" o.c.	11'-6"
12" o.c.	15'-0"

*Also provide bolts within 6" of each end of each board.

Ledger Attachment using Lag Bolts

Ledger Board Attachment Details

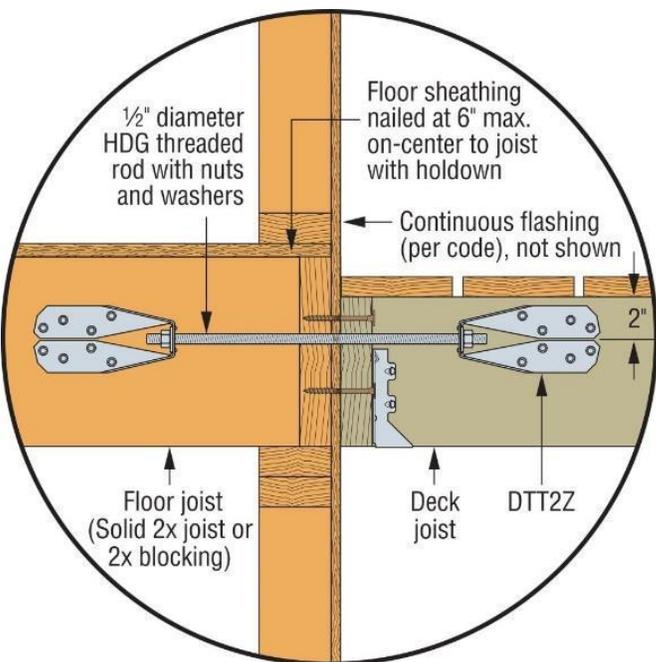
Typical Deck Stairs



750 lb. Tension Tie Notes

- Per code requirement provide at least four of these connectors, evenly spaced.
- These are difficult connectors to install because you have to accurately locate the stud wall top plate and center the screw on it.

750 lb. Tension Tie Option - 4 required
(using Simpson DTT1Z as an example)



1500 lb. Tension Tie Notes

- Per code requirement provide at least two of these connectors, one on each side of deck.
- The threaded rod connector can be angled up to 5 degrees and the length of the rod can be increased as necessary if floor and deck framing don't line up.

1500 lb. Tension Tie Option - 2 required
(using Simpson DTT2Z as an example)

Required Lateral Ties at Decks

(Reinforces deck connection to house.)