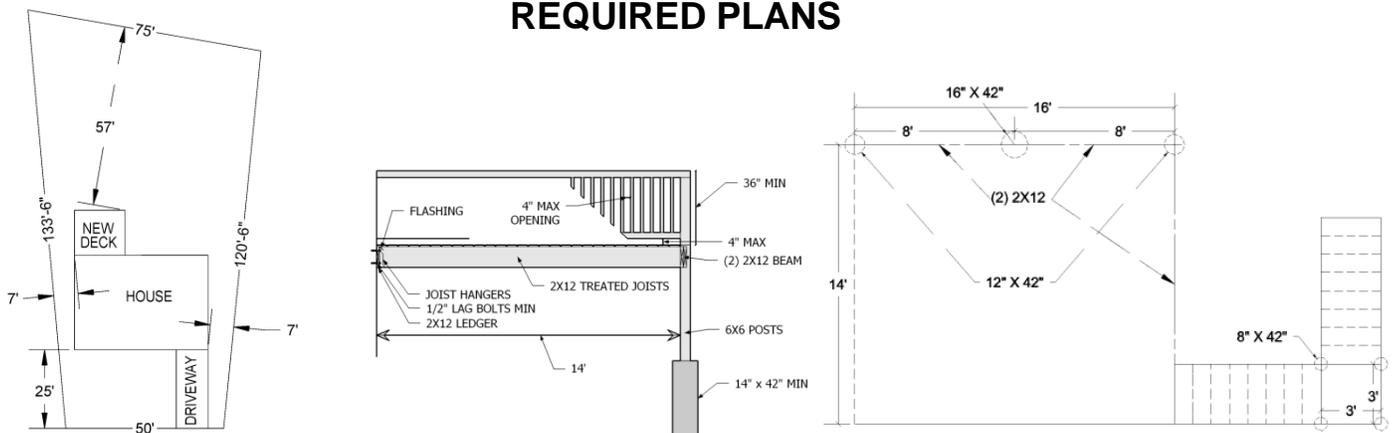
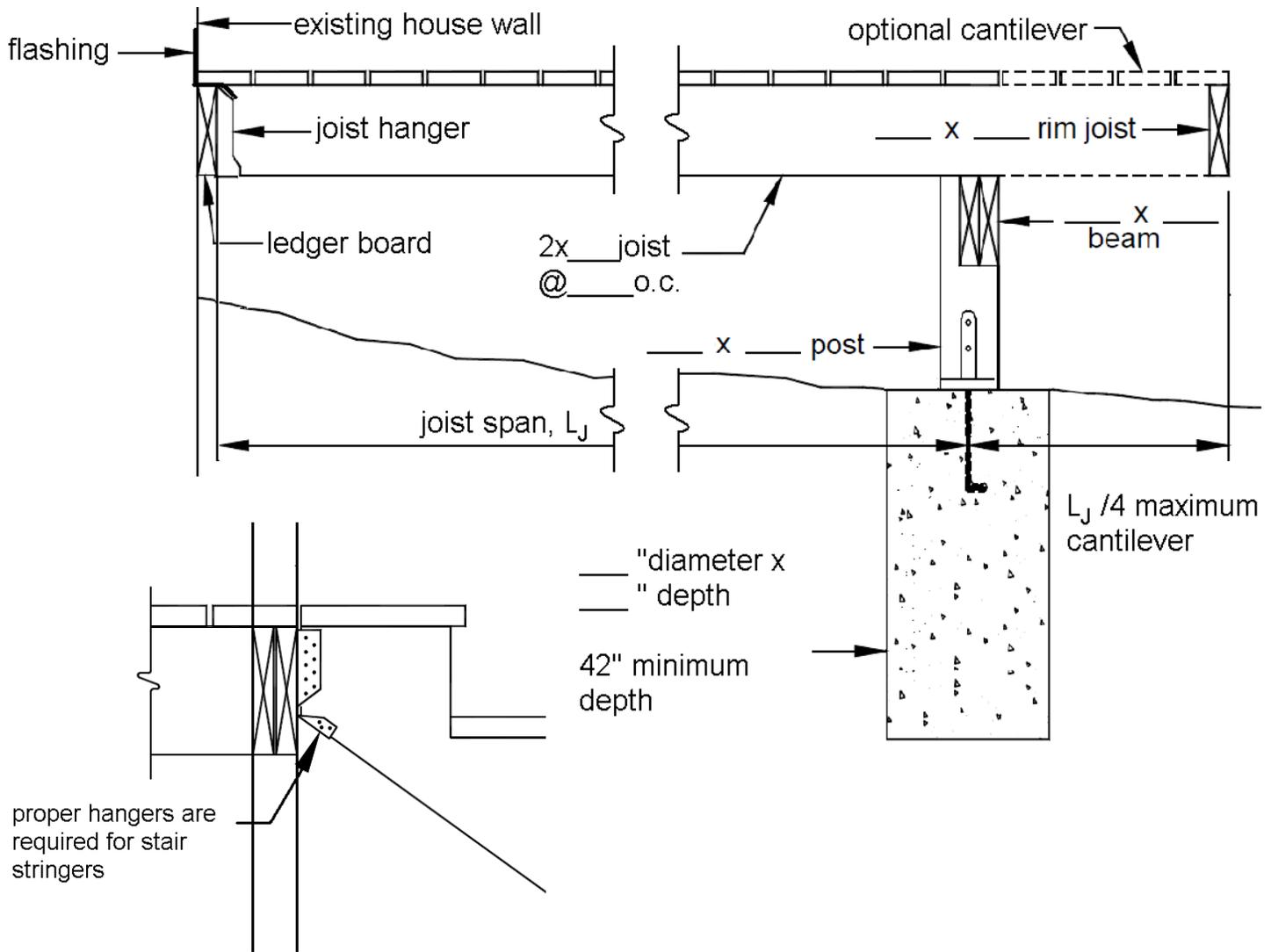


# City of Omaha Residential Deck Guidelines

1. Permits are required for all new decks and deck replacements. Repairs on existing decks involving the handrails, guardrails, floor joists, beams, posts or footings require a permit. Permit applications must include three (3) copies of a plot or site plan, a cross section drawing and a footing layout plan.
    - a. The plot plan must show all the lot lines and the distances of the deck from the lot lines.
    - b. The cross section must show all the construction details from the footings to the house connection.
    - c. The footing layout plan must clearly show the deck size, footing diameter, depth and locations.
  2. All lumber used in construction that is exposed to the weather must be naturally durable or pressure-preservative-treated wood.
  3. Footings for decks must extend 42" below grade to the bottom of the footing if the deck is attached to the residence. The footing diameter will vary depending on the size of the deck and the load on the footing. **Hot tubs or pools cannot be supported on decks unless the plans are approved by a Nebraska licensed engineer.**
  4. Posts must be anchored to the footing by an approved mechanical fastener. The posts may be set in the concrete; however, the posts must be left at least 8" from the bottom of the footing.
  5. Extreme care should be taken to assure the ledger board is properly fastened to the house.
- Generally, a ½" diameter bolt every 12" is sufficient to connect the ledger to the rim board, however, this will vary depending on the size of the deck. **BE SURE THAT YOU ARE BOLTING INTO SOLID, STRUCTURALLY SOUND MATERIAL!!!**
6. A 36" min. high guardrail is required around any deck more than 30" above the adjoining grade. A 34" min guardrail is required at stairs more than 30" above grade. No guardrail shall allow the passage of a 4" sphere through the rail at any location within the guardrail.
  7. A 34" to 38" handrail is required on one side of any stairway with more than three (3) risers. The ends of the handrails must return to the posts or floor.
  8. Your lumber salesperson can help with lumber sizes and spans as well as beam and post sizes. If you have any unanswered questions, you may contact the City of Omaha Permits and Inspections office for assistance.
  9. Any product used in the construction of the deck that has a manufacturer specific installation manual must be installed per the manufacturer's instructions and according to the 2006 IRC. The installation manual must be on site and available for the inspector.
  10. Decks require a footing, a framing and a final inspection. If the underside of a deck that is over 6ft off the ground is left open, the framing and the final inspections can be combined.

## REQUIRED PLANS





## Floor Joists

Floor joist size is determined by the total span of the floor joist. The measurement must be made from the inside face of the beam to the inside face of the ledger board. This distance is the floor joist span. Different size of floor joists will be able to span greater distances. The floor joist must be hangered to the ledger. If the floor joists are cantilevered at the beam, the hangers must be able to resist the uplift.

### JOIST SPANS

SPACING		2X6			2X8			2X10			2X12		
	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	
ACQ	10'9"	9'9"	8'6"	14'2"	12'10"	11'0"	18'0"	16'1"	13'1"	21'9"	18'10"	15'5"	
CEDAR	9'2"	8'4"	7'3"	12'1"	11'0"	9'7"	15'5"	14'0"	12'3"	18'9"	17'0"	14'11"	

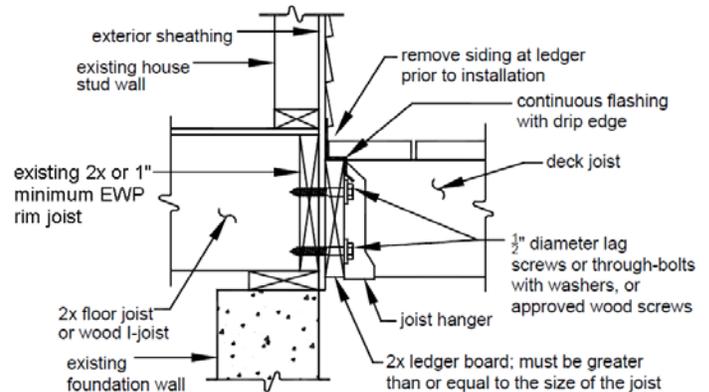
- Deck must be attached to a continuous rim joist or it must be designed as a self-supporting deck.
- The tip of the lag screw shall fully extend beyond the inside face of the rim joist.
- Ledgers shall be flashed to prevent water from contacting the house rim joist.
- Lag screws and bolts need to be staggered along the length of the ledger.
- Lag screws and bolts shall be placed at least 2" in from the bottom and tops of the ledger and at least 2" from the ends.
- The width of the ledger shall not be less than the width of the floor joists.
- If engineered rim joist is used, an engineered design will be required.  
Exception: if a 1 1/2" sawn lumber is placed on the basement side of the rim joist.

## LEDGER BOLT SPACING (Staggered)

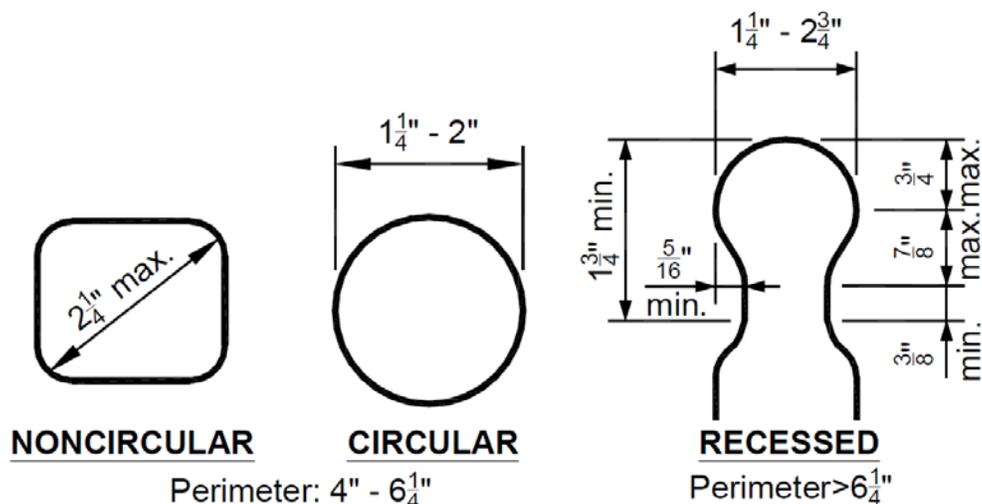
JOIST SPAN	6'	8'	10'	12'	14'	16'	18'
MINIMUM BOLT SIZE	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
MAXIMUM BOLT SPACING	24"	18"	16"	12"	12"	12"	9"

## Ledger Attachment

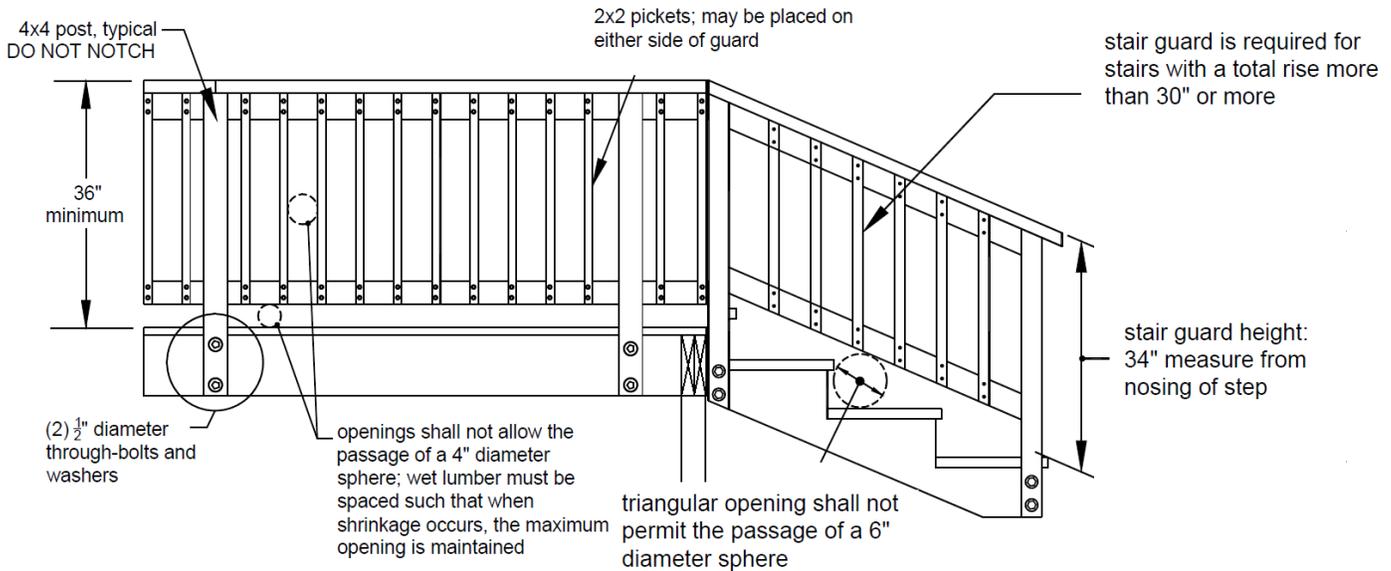
Ledger bolt spacing is based on the same span as the floor joist span. Other approved ledger bolts are allowed as long as they are installed per the manufacturer's installation instructions.



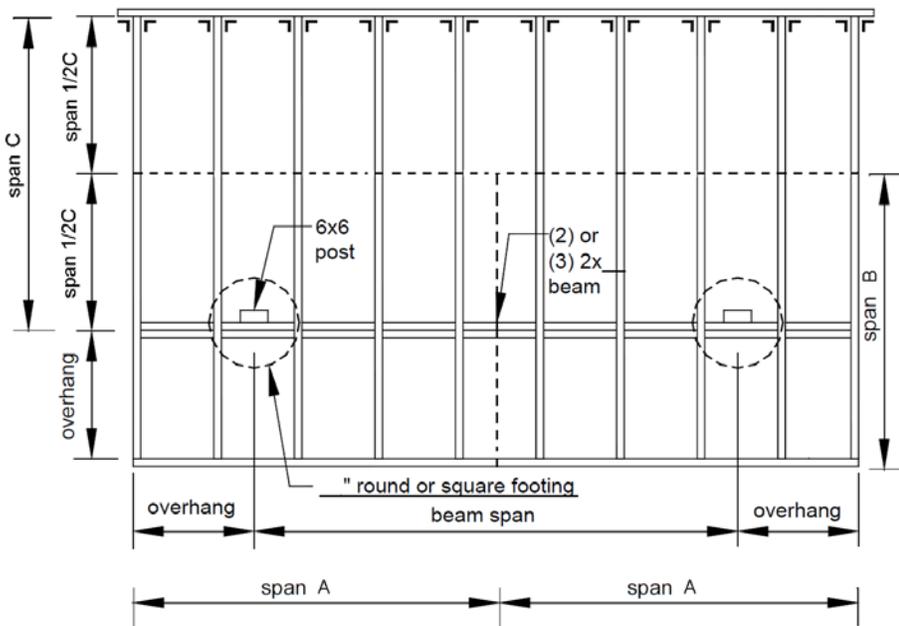
## Handrails



# Guardrails



# Footings



Deck footings are figured by a simple calculation. First you must figure how much of the deck each footing is carrying (the tributary area). Each footing must carry 1/2 the total area between the footings and the house plus any overhang or cantilevered area. It must also carry 1/2 the distance between the footings plus any overhang. In the adjacent example, span B is equal to 1/2 span C plus the overhang. Simply measure span A and span B and multiply by each other.

Multiply the square footage by 50lbs to get the pounds per square foot in the table below.

## FOOTING SIZES

FOOTING DEPTH	8" DIAM.	10" DIAM.	12" DIAM.	14" DIAM.	16" DIAM.	18" DIAM.	20" DIAM.
42"	941	1340	1805	2334	2930	3591	4316
48"	1481	2071	2747	3509	4360	5298	6323