



1670 Stieger Lake Lane
PO Box 36
Victoria, MN 55386
P - 952-443-4210
F - 952-443-2110
www.ci.victoria.mn.us

Building Inspections Department

Decks

DECK BUILDING AND ZONING REQUIREMENTS

SUBMITTALS FOR PERMIT:

- Signed and completed Building Permit application form.
- (2) copies of a Certificate of Survey, drawn to scale indicating the lot dimensions, the location and ground coverage area of existing structure(s), and the location and area of the proposed structure. Indicate the setbacks from property lines. A Certificate of Survey for the property may be on file at City Hall.
- (2) copies of plans showing proposed designs and materials. Plans shall be drawn to scale and shall include the following information:
 - A. A floor plan indicating the following:
 - Proposed deck size.
 - Size and spacing of floor joist and beams.
 - Size and type (if man-made product) of decking.
 - Size, location and spacing of posts.
 - Species and grade of lumber to be used.
 - B. Elevations indicating the following:
 - Height of structure from established grade.
 - Diameter and depth of footings.
 - Guardrail height (if any).
 - Spacing of intermediate rails (if any).
 - Stairs (location and size).

Attached are examples of drawings which are intended as a **GUIDE ONLY!!**

GENERAL BUILDING AND ZONING CODE REQUIREMENTS

1. Footings shall be designed and constructed below frost depth (42" minimum ground cover required from bottom of footing to grade or side slope).
2. Approved wood of natural resistance to decay or treated wood shall be used.
3. Guardrails shall be a minimum 36-inches above the finished deck boards for decks that are more than thirty (30) inches above grade. Open guardrails and stair railings shall have horizontal, vertical or diagonal rails such that a sphere four (4) inches in diameter cannot pass through.
4. Floor joist and stair stringers spaced at twenty-four (24) inches on center requires minimum two- (2) inch nominal decking. Floor joists or stair stringers spaced at sixteen 16"- o/c. may use 5/4-inch minimum decking. (5/4-inch decking cannot be installed diagonally across 16" o/c. joists unless approved by manufacturer).
5. Decks shall be capable of supporting a forty (40) pound per square foot live load, and ten (10) pounds per square foot snow load.
6. Metal flashing required at deck ledger attached to house. Seal bottom and sides of ledger.
7. Splices in beam members shall occur over posts.

8. Provide connection between posts and footings (foundation anchor strap or an approved post holder).
9. Provide connection between posts and beams (Bolted shoulder cut post or approved bracket. Strapping is not approved).
10. All fasteners (screw and nails) must be corrosion resistant. Only joist hanger nails may be used in joist hangers, with all holes filled. (Roofing nails are prohibited)
11. Cantilevers on decks may not exceed:

JOIST SIZE (Nominal)	JOIST SPACING (Inches on center)	MAXIMUM CANT (Inches)
2 x 10	12	36
	16	24
	24	18
2 x 8	12	24
	16	18
	24	12
2 x 6	12	12
	16	12

12. Maximum cantilever of beam past a post cannot exceed 12 inches.
13. A special design is required for decks attached to house cantilevers.
14. If deck is built to support a future porch, posts must be at the outer portion of deck rims. Beam cantilevers are not permitted and larger diameter footings may be required.
15. Stair stringers shall be attached to the deck rim with approved galvanized strapping.
16. All stair and stair landings shall be illuminated.
17. All lumber shall be stamped indicating grade and species.
18. NOTE: The above represent general code requirements relative to deck requirements.

**For specific code requirements, please contact the
Building Inspection Department at (952) 443-4220**

REQUIRED INSPECTIONS

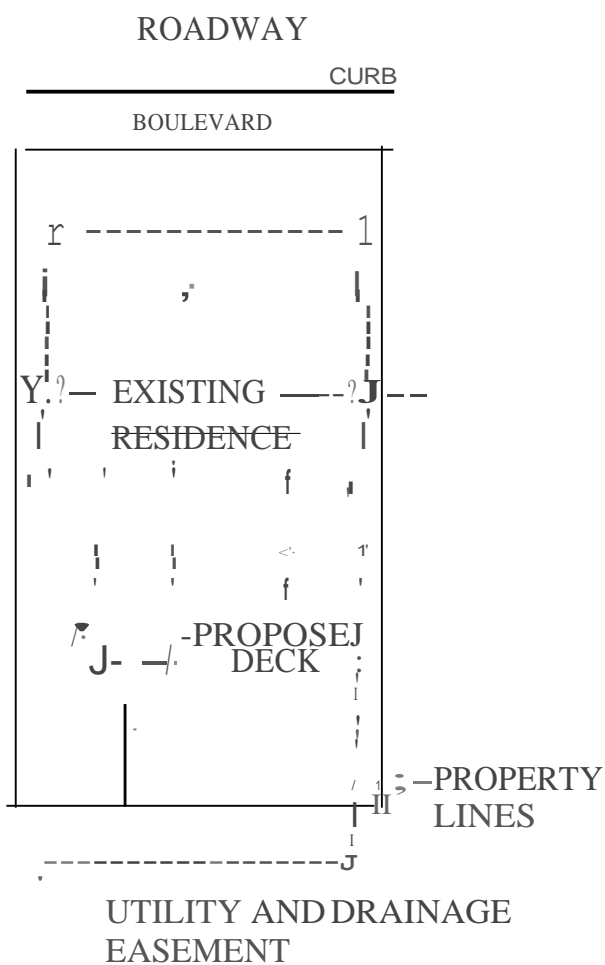
- Footings:** After the holes are dug, but prior to pouring concrete
Framing: Required on decks built low to the ground. Call before decking is installed.
Final: When the structure has been completed.

GENERAL NOTES

1. The stamped, approved Plan and Survey shall be kept on the job site until the final inspection has been made.
2. The Inspection Record Card shall be made available at inspections. If no one is home during an inspection, the plans, survey, and permit card, must be placed in an obvious location. Cards should be protected from the weather.
3. Prior to digging call Gopher Services at (651) 454-0002 to verify utility locations. Forty-eight hour notice is required, excluding weekends and holidays.
4. Call **(952) 443-4210** between 8:00 AM and 4:30 PM to schedule an inspection.

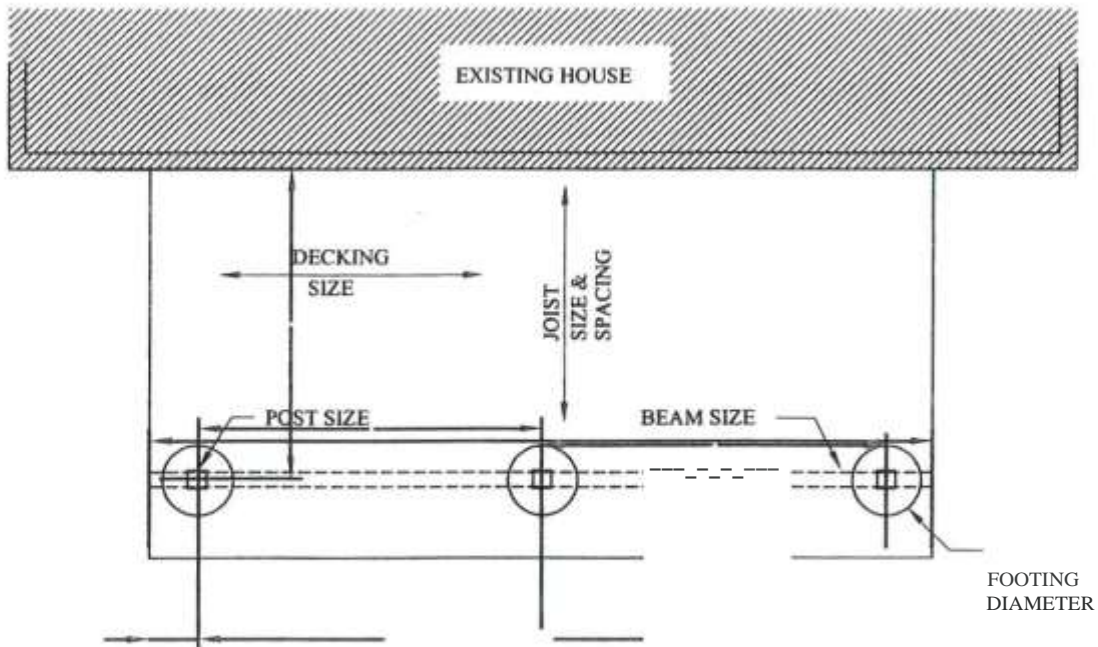
PLEASE GIVE A 24-HOUR NOTICE WHEN SCHEDULING INSPECTIONS

SURVEY SAMPLE

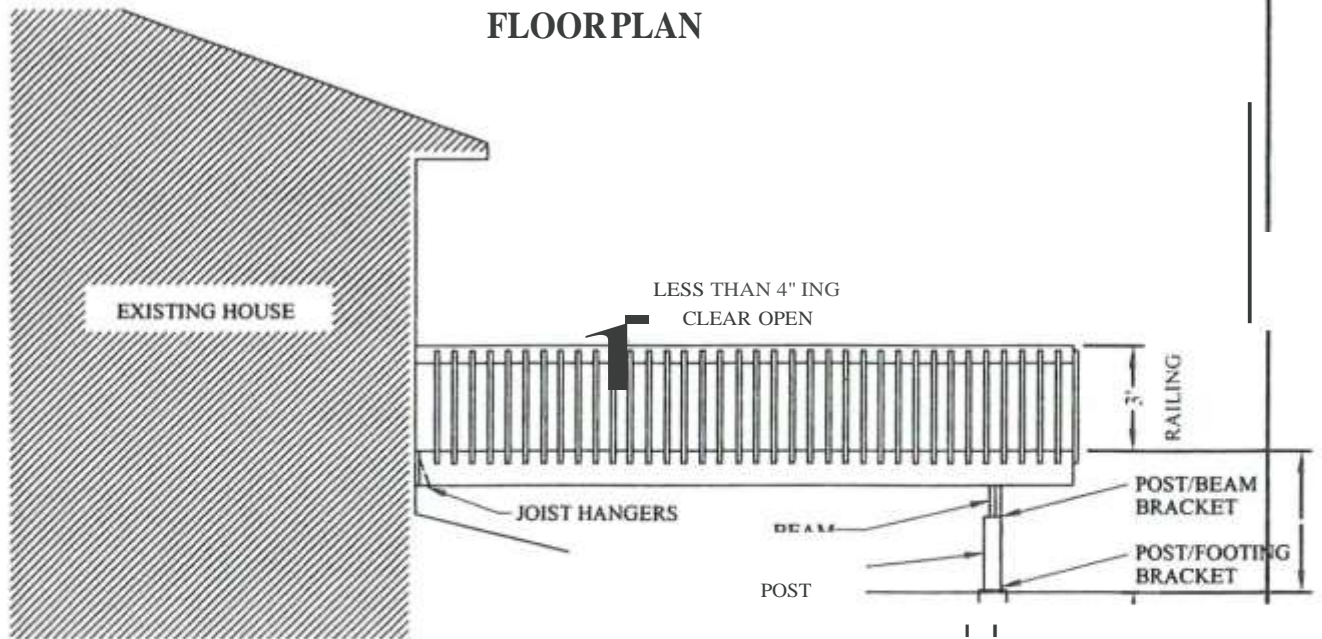


NOTE:

SHOW ANY ADDITIONAL STRUCTURES THAT EXIST ON THE PROPERTY (I.E. POOL, SHED, ETC.)



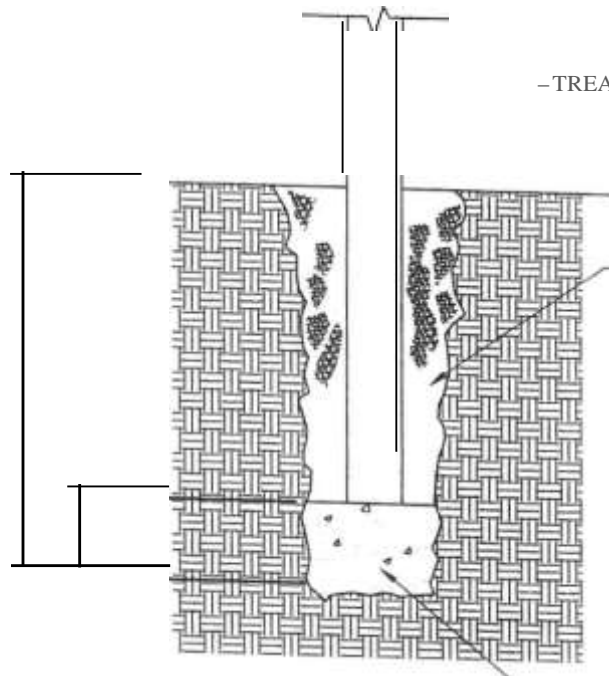
FLOORPLAN



SIDE ELEVATION

42" DEEP FOOTINGS
VERIFY

DECK AND PORCH FOOTING DETAILS



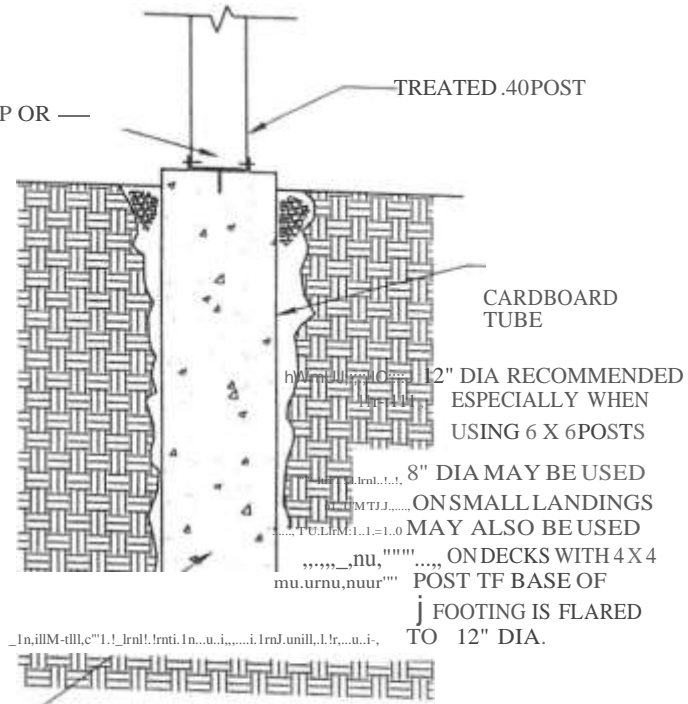
- TREATED .60 POST

ANCHOR STRAP OR
POST HOLDER

PLACE ORIGINAL
EARTH MATERIAL
AROUND POST
COMPACTING AS
HOLE IS
BACKFILLED

CONCRETE

**Shallow Concrete
Pier Footing**



TREATED .40 POST

CARDBOARD
TUBE

12" DIA RECOMMENDED
ESPECIALLY WHEN
USING 6 X 6 POSTS

8" DIA MAY BE USED
ON SMALL LANDINGS

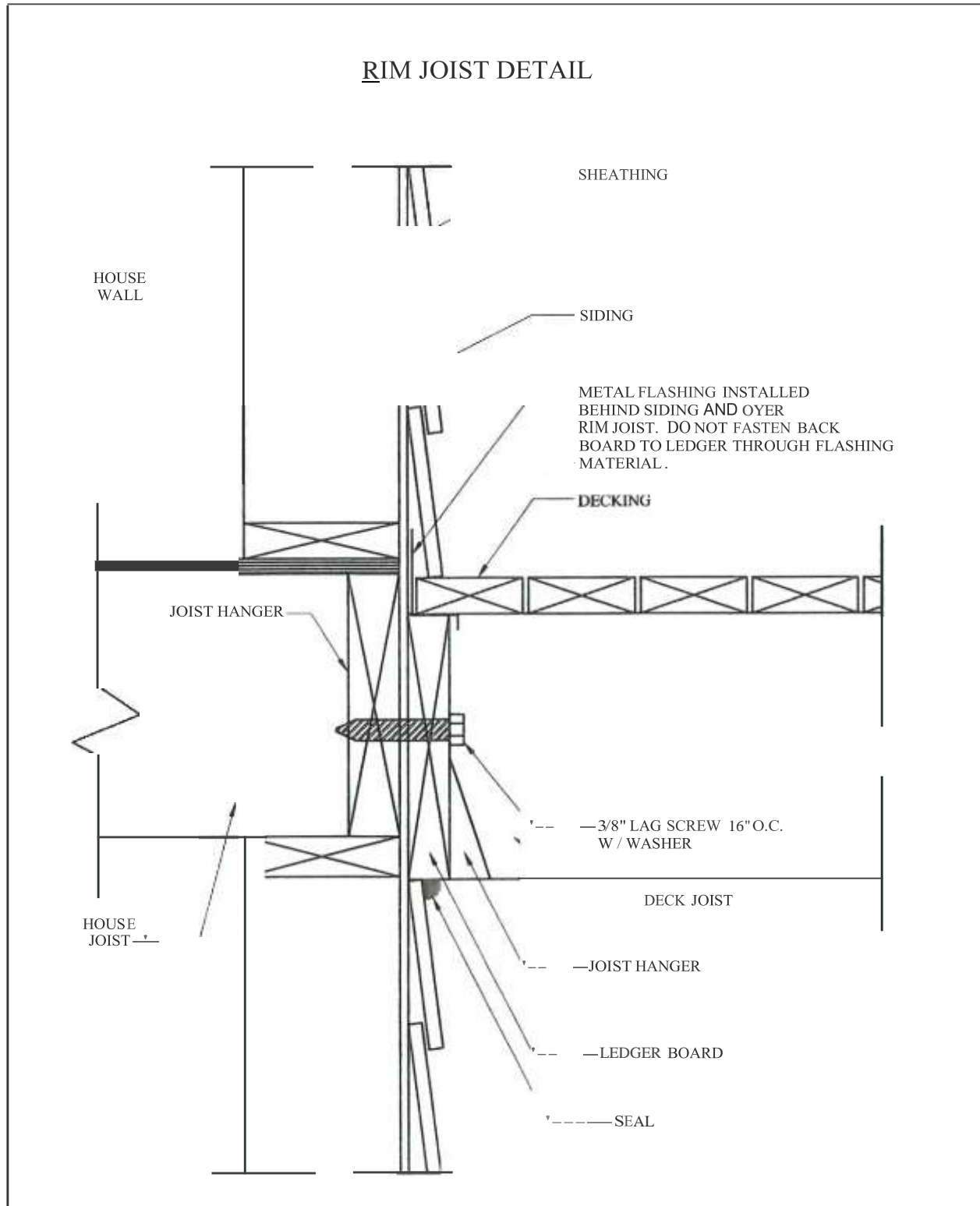
MAY ALSO BE USED
ON DECKS WITH 4 X 4
POST TF BASE OF

FOOTING IS FLARED
TO 12" DIA.

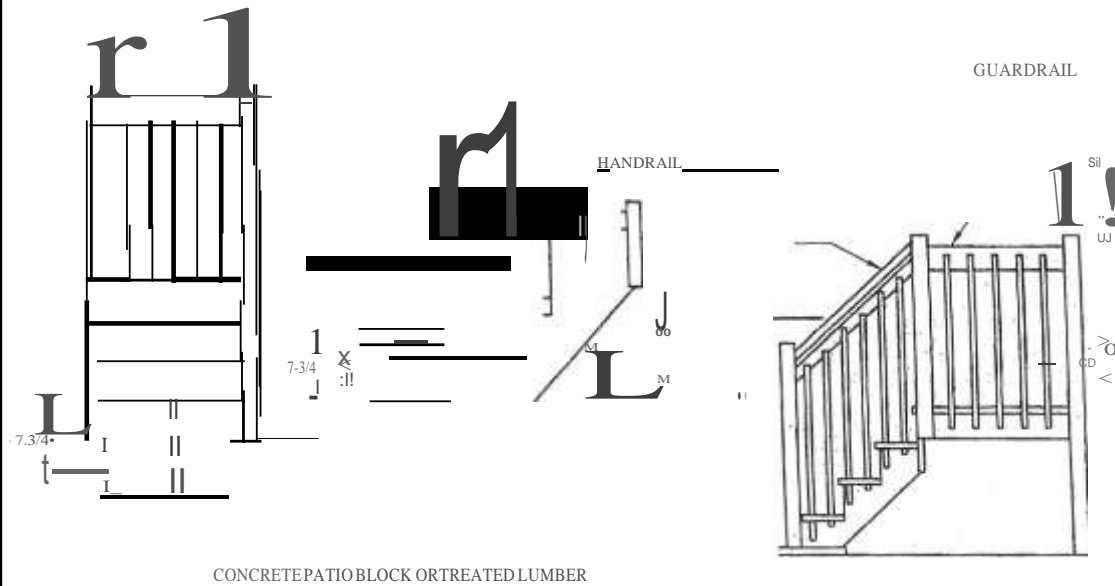
PORCH FOOTINGS REQUIRE
A MIN_ DIA. OF 24" AT THE
FOOTING BASE.

**Cardboard Tube Concrete
Pier Footing**

RIM JOIST DETAIL



STAIR AND LANDING REQUIREMENTS FOR DECKS



CONCRETE PATIO BLOCK OR TREATED LUMBER

GENERAL BUILDING CODE REQUIREMENTS

1. STAIRWAYS, STRINGERS SHALL BE SUPPORTED ON CONCRETE PATIO BLOCKS, CONCRETE SLABS, PRESSURE TREATED LUMBER FOOTINGS.
2. PRESSURE TREATED LUMBER OR AN EQUIVALENT ROT RESISTANT LUMBER SHALL BE USED.
3. STAIRWAYS SHALL HAVE A MINIMUM WIDTH OF THIRTY-SIX (36) INCHES. STAIRWAYS SHALL HAVE A 7-3/4 INCH MAXIMUM RISE AND A TEN (10) INCH MINIMUM RUN. STAIR RISERS AND TREADS AND TREADS CANNOT VARY BY MORE THAN 3/8" GREATEST TO LEAST DIMENSION.

4. A STAIRWAYS WITH FOUR (4) OR MORE RISERS SHALL BE PROVIDED WITH A HANDRAIL (ON ONE SIDE OF STAIR) THIRTYFOUR (34) TO

NINETY EIGHT (98) INCHES ABOVE THE NOSE OF THE TREADS TO THE TOP OF HANDRAIL, TO POSTS.

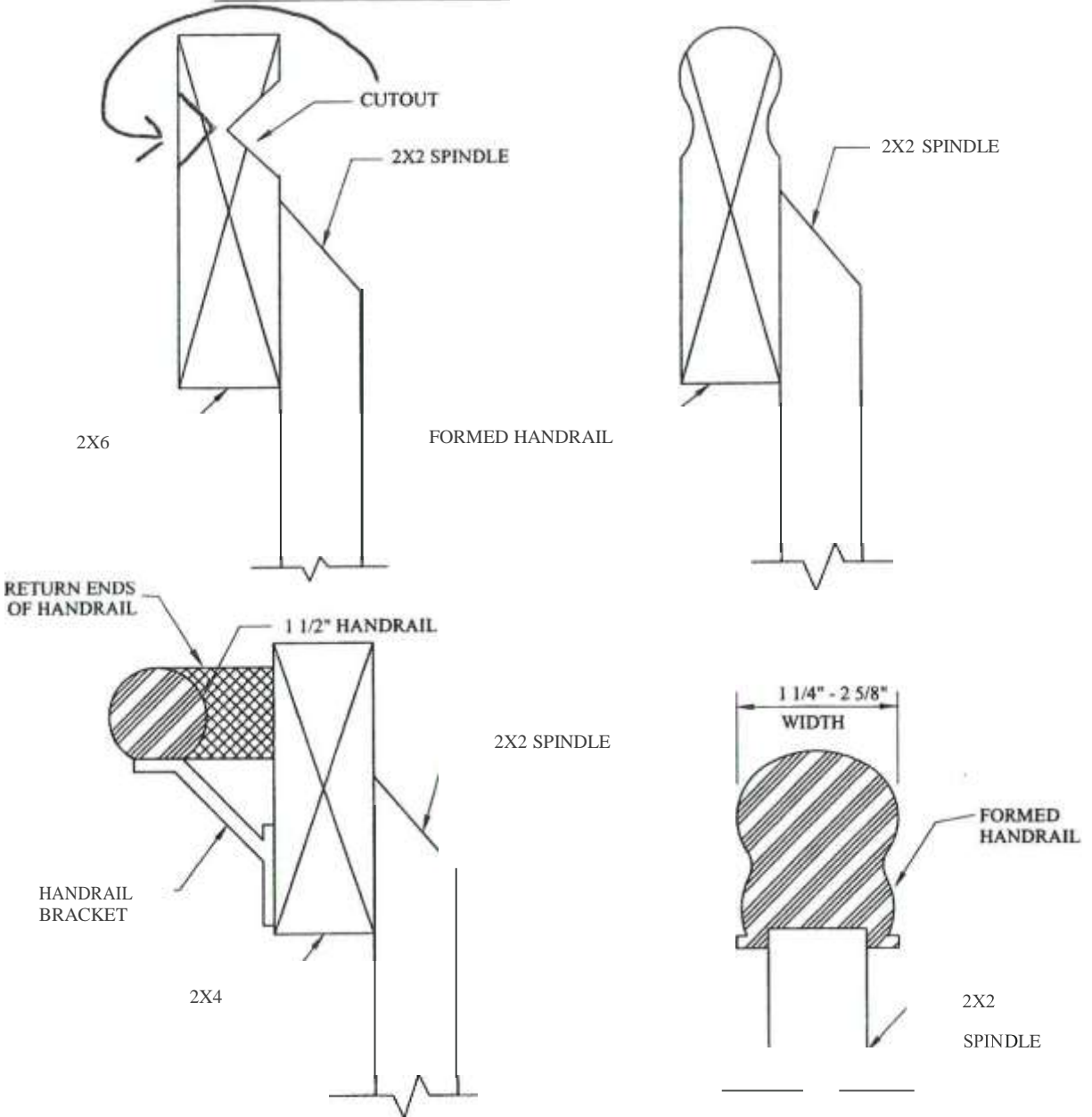
5. WHEN A STAIRWAY IS OPEN ON BOTH SIDES, A GUARDRAIL SHALL BE REQUIRED ON EACH OPEN SIDE.

THE HANDRAIL PORTION OF A HANDRAIL SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRWAY.

7. OPEN GUARDS AND STAIR GUARDS SHALL HAVE HORIZONTAL, VERTICAL OR DIAGONAL RAILS SUCH THAT A SPHERE FOUR (4) INCHES IN DIAMETER CANNOT PASS THROUGH DECKS WHICH ARE MORE THAN THIRTY (30) INCHES ABOVE GRADE SHALL BE PROTECTED BY A GUARD NOT LESS THAN THIRTY-SIX (36) INCHES IN HEIGHT. NOT LESS THAN THIRTY-SIX (36) INCHES IN HEIGHT STAIR GUARDS SHALL BE A MINIMUM HEIGHT 34" ABOVE NOSE OF TREADS.

8. A MINIMUM WIDTH OF STAIR X 36" LANDING SIZE IS REQUIRED AT BOTTOM OF AND TOP OF ALL STAIRS

HANDRAIL DESIGNS



NOTES:

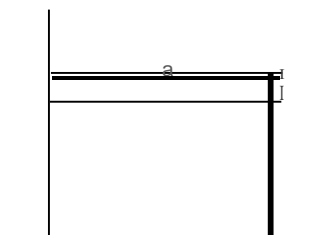
1. OTHER SHAPES MAY BE ACCEPTABLE IF THEY PROVIDE AN EQUIVALENT GRIPPING SURFACE.
2. FLAT 2X4 OR 2X6 HANDRAILS ARE NOT ACCEPTABLE .
3. APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD SHALL BE USED.
4. RETURN ENDS OF HANDRA ILS AT TOP AND BOTTOM OF STAIRS TO POST OR NEWELL
5. 1-1/2" MINIMUM SPACE BETWEEN HANDRAIL AND GUARDRAIL OR WALL

JOIST SPAN TABLE

Based on No. 2 or better wood grades.
(Design Load=40#LL+10#DL, Deflection=U360)

	PONDEROSA PINE			SOUTHERN PINE			WESTERN CEDAR		
	12"OC	16"OC	24"OC	12"OC	16"OC	24"OC	12"OC	16"OC	24"OC
2x6	9'-2"	8'-4"	7'-0"	10'-9"	9'-9"	8'-6"	9'-2"	8'-4"	7'-3"
2x8	12'-1"	10'-10"	8'-10"	14'-2"	12'-10"	11'-0"	12'-1"	11'-0"	9'-2"
2x10	15'-4"	13'-3"	10'-10"	18'-0"	16'-1"	13'-5"	15'-5"	13'-9"	11'-3"
2X12	17'-9"	15'-5"	12'-7"	21'-9"	19'-0"	15'-4"	18'-5"	16'-0"	13'-0"

Sample Calculations for Using Joist Span And Beam Size Tables



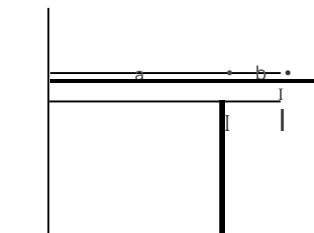
Refer to tables for joist and beam size requirements.

Example: a=12'; Post Spacing=8'

Use the Joist Span table to find the acceptable joist sizes for a 12' span, 2x8's at 12"O.C., 2x JO's at 16"O.C. or 2x12's at 24"O.C.

Use the Beam table and find the 8' post spacing column.

With a 12' deck span, the beam may be either two 2x8's or two 2x10's, depending on wood used.

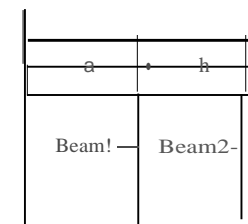


Use "a" to determine Joist size and "a" + "b" to determine beam size. The length of "b" is restricted by both the length of "a" and the size of the joists.

Example: a=8', b=2', Post Spacing=10'

Refer to the Joist Span table. For an 8' joist span, either 2x8's at 24"O.C. or 2x6's at 16"O.C. are acceptable.

For sizing the beam, use a joist length of 10' (8'+2') and a post spacing of 10'. The Beam table indicates that the beam may be either two 2x10's or two 2x12's, depending on wood used.



Use "a" or "b", whichever is greater, to determine joist size. Use 'a'+ 'b' to determine the size of Beam 1. Use joist length "b" to determine the size of Beam 2.

Example: a=6', b=7', Post Spacing=9'

Joist size is determined by using the longest span joist (7'). The Joist Span table indicates the 2x6's at 24"O.C. would be adequate for this span.

For Beam 1, use a joist length of 13' (6'+7') and a post spacing of 9'. The Beam table indicates the the beam may be two 2X10's or two 2x 12's depending on the wood used.

For Beam 2 use a Joist length of 7' and post spacing of 9'.

The beam may be two 2x8's or two 2x10's, depending on wood used.

BEAM SIZE TABLE

Based on No.2 or better Ponderosa Pine and Southern Pine
(Treated for weather and/or ground exposure)

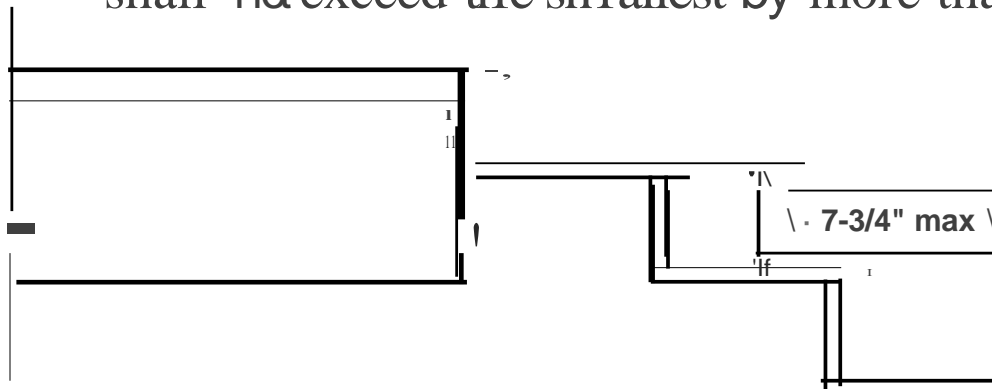
		POST SPACING										
		4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
f.	Southern Pine Beam	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10
	Ponderosa Pine Beam	1-2x6	1-2x6	1-2x8	2-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10
	Southern Pine Beam	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x12
	Ponderosa Pine Beam	1-2x6	1-2x6	1-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x12	3-2x10	3-2x10
	Southern Pine Beam	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12
	Ponderosa Pine Beam	1-2x6	2-2x6	2-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	3-2x10	3-2x10	3-2x12
	Southern Pine Beam	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10
	Ponderosa Pine Beam	1-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	3-2x10	3-2x10	3-2x12	3-2x12
	Southern Pine Beam	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x10
	Ponderosa Pine Beam	1-2x6	1-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12	ENGBM
U	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	ENGBM
D	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x10	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x6	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x12	3-2x12	ENGBM	ENGBM
:	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x6	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x12	3-2x12	ENGBM	ENGBM
-	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12	ENGBM	ENGBM	ENGBM
BM	Southern Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	ENG
	Ponderosa Pine Beam	2-2x6	2-2x8	2-2x8	2-2x10	3-2x10	3-2x10	3-2x12	3-2x12	ENGBM	ENGBM	ENGBM
	Southern Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	ENGBM
	Ponderosa Pine Beam	2-2x6	2-2x8	2-2x10	2-2x10	3-2x10	3-2x10	3-2x12	3-2x12	ENGBM	ENGBM	ENGBM

NOTES:

1. Joist length is total length of joist, including any cantilevers.

Stairways: Rise and Run

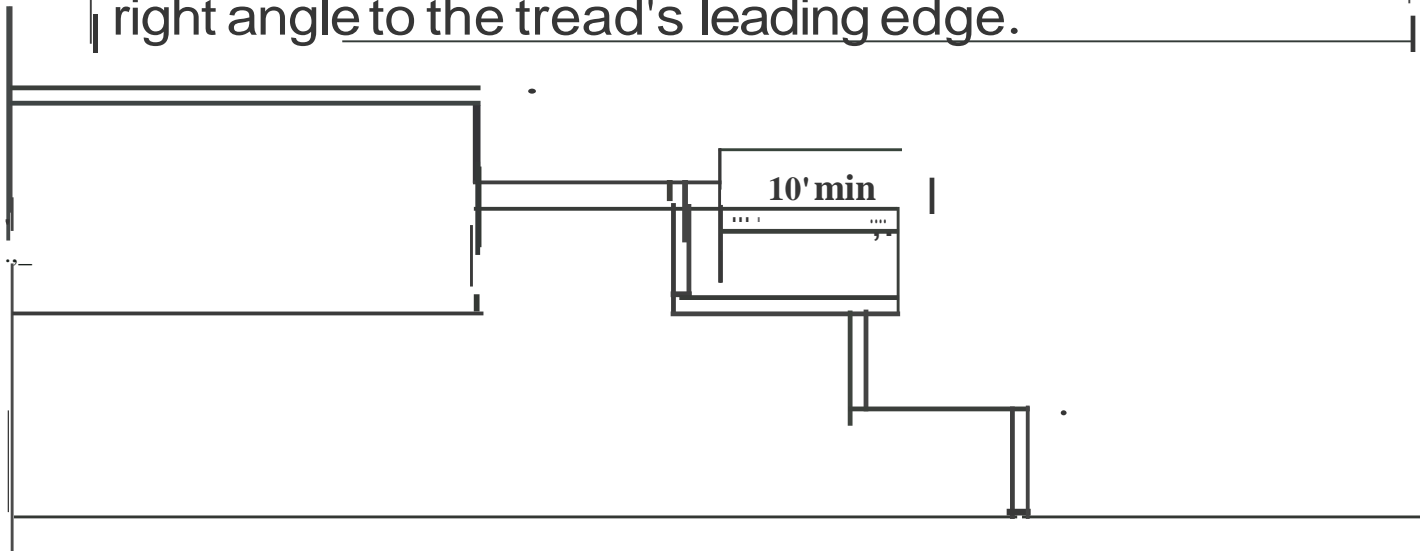
R311.5.3e1 Riser height. The maximum riser height shall be $7\frac{3}{4}$ inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within a flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ inch (9.5



IRC section R703.1

Stairways: Rise and Run

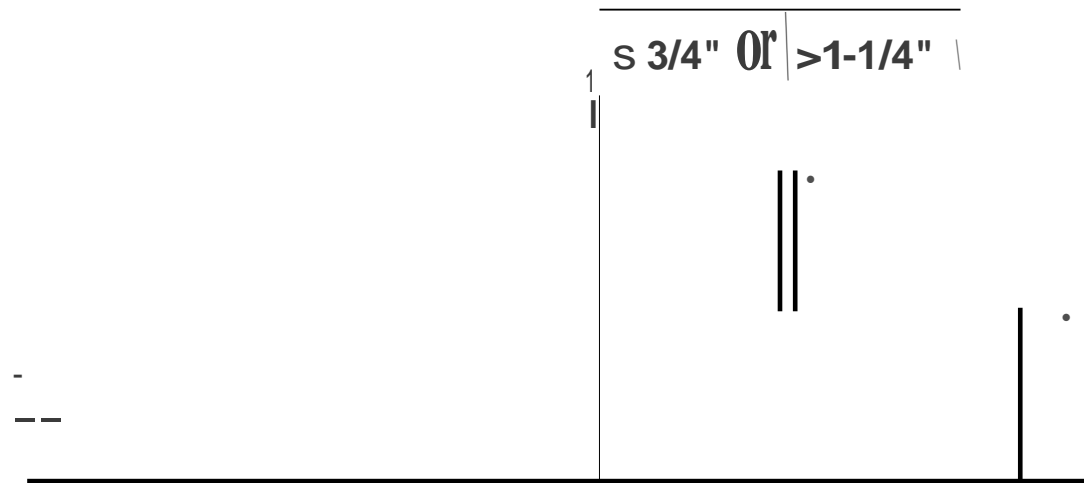
R311.5.3.2 Tread depth. The minimum tread depth shall be 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge.



IRC section R 703.1

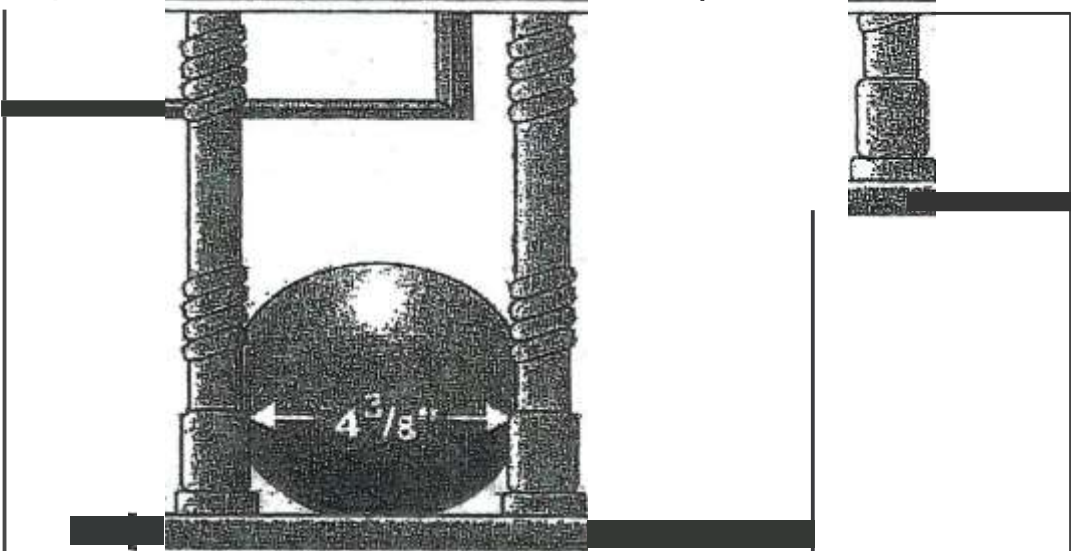
Stairways: Nosing

R311.5.3.3 Profile. The radius of curvature at the leading edge of the tread shall be no greater than 9/16 inch (14mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inch (32 mm) shall be provided on stairways with solid risers



IRC section R302.1

r
i

R312.2 b.	R312.2	R316.2	Guard opening limitations
 <p>The guard opening limit on the sides of stair treads was revised from 4 inches to 4 3/8 inches.</p>			