

DECKS

Zoning Requirements (Where Can I Build My Deck?)

- Attached decks more than 8 inches high must meet the same zoning requirements as those for principal structures. Setbacks from property lines vary depending on lot width and orientation. Contact the Planning Division (763-593-8095 or planning@goldenvalleymn.gov) for information about setbacks on your property, including:
 - front, rear, and side setback amounts
 - information on any past variances granted to your property
- Contact the Inspections Division (763-593-8090) to verify permits and inspections for the original deck if it will be replaced with a deck of the same size and design.
- A [Zoning Permit](#) is required for free-standing decks or for decks attached to accessory structures.
- Practical difficulties in meeting the zoning requirements may be grounds for receiving a variance. A certified as-built survey is required in order to fully evaluate such a request.

Building Permit Requirements

Decks require either a Building Permit or a [Zoning Permit](#). When applying for a Building Permit, include the following with your [application \(on ePermits\)](#):

- Submit certified as-built survey and a site plan showing setbacks from property line. (If there isn't an as-built survey in your street file, you will have to locate survey corner stakes and have a building inspector verify the setback.)
- Submit two complete sets of construction drawings showing proposed design and materials, which should include:
 - 1/4" = one foot scaled foundation plan (see example inside) showing:
 - overall dimensions
 - size and dimensions of footings, posts, and beams
 - direction, materials, size, and spacing of floor joists
 - size and anchoring of ledger board
 - 1/4" = one foot scaled floor plan showing:
 - overall dimensions
 - materials
 - location and size of stairs
 - 3/8" = one foot (minimum) scaled wall section (see example inside) showing:
 - size, depth, and shape of footings
 - beams, joists, decking material, anchors, and guardrail construction
 - all vertical dimensions

Additional information may be required, including soil tests (if existing house is on piles or other soil correction, then the deck foundation must be engineered), elevations, and important details.

CALL BEFORE YOU DIG



Call at least 2 full business days before you dig.

651-454-0002
800-252-1166

www.gopherstateonecall.org

THREE INSPECTION MUSTS

1. Post the inspection report card or summary sheet on the job site until the final inspection is completed.

2. Notify Inspections when the installation is completed.

3. Schedule a final inspection at least 24 hours in advance (please have your permit number available).

You can reach the Inspections Department between 8 am and 4:30 pm at 763-593-8090.

Building Requirements

FOOTINGS

- Frost footings must be a minimum of 42 inches deep.
- Footings must be on undisturbed soil.

JOINTS & LEDGER BOARDS

- Ledger board must be anchored to existing rim joist with ½-inch lag bolts minimum at eight inches OC staggered. Alternate ledger anchoring must be identified and approved before permit is issued.
- Anchor floor joists to ledger board and flush beams with joist hangers of appropriate size. Make certain correct fasteners are used in double shear joist hangers.
- Joist hangers must be approved for use with treated material.

POSTS

- Buried posts must be surrounded with granular fill for drainage.
- Maximum height for a 4x4 post is 8 feet. Maximum height for a 6x6 post is 14 feet. A post higher than 14 feet must be engineered.

GUARDRAILS

- Decks 30 inches or more above grade require a 36-inch minimum high guardrail. Open guardrails shall have intermediate rails so that a 4-inch-diameter sphere cannot pass through.

STAIRS

- Stairway shall be at least 36 inches wide with a 7¾-inch maximum rise and a 10-inch minimum run. A four-inch-diameter sphere cannot pass through riser.
- Stair and landing illumination is required.
- Handrails and frost footings shall be provided for all stairs having four or more risers.
- Handrails shall be graspable and placed not less than 34 inches or more than 38 inches above the nosing of treads. Handrails must not have open ends.
- Stair stringers shall be a maximum 18 inches OC. With composite deck, stringer spacing shall be per manufacturer's instructions.

USE APPROVED MATERIALS

- All materials used for posts, joists, beams, and decking shall be approved treated wood or approved wood of natural resistance to decay, such as cedar, redwood, or composite decking material.
- Not all composite decking materials are approved for use in Minnesota. Check with the Inspections Department for verification.
- All fasteners shall be of approved materials and grades.

Post Footings

(based on 1500-lb per square foot soil load bearing capacity)

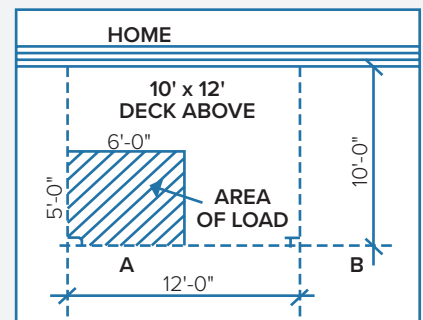
Diameter	Square Feet	Lbs Supported	Tributary Area Supported (square feet)
8"	.35	525	10
9"	.44	660	13
10"	.55	825	16
11"	.66	990	19
12"	.79	1185	23
13"	.92	1380	27
14"	1.07	1605	32
15"	1.23	1845	36
16"	1.40	2100	42
17"	1.56	2340	46
18"	1.77	2655	53
19"	1.97	2955	59
20"	2.18	3270	65
21"	2.41	3615	72
22"	2.64	3960	79
23"	2.89	4335	86
24"	3.14	4710	94

Example

To figure load on footing **A** in example below:

Total Load On Soil = Area × (Dead Load + Live Load)

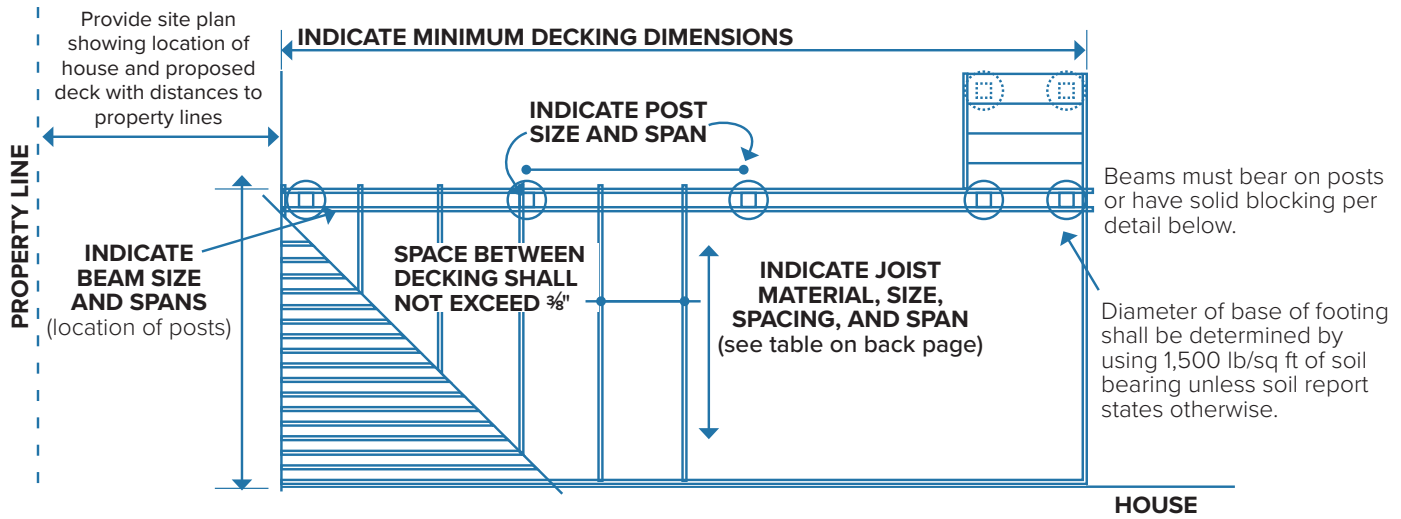
- Area of load on footing: 5' x 6' = 30 square feet
- Dead Load + Live Load for deck = pounds per square foot (psf). This example uses 50 psf.
- Total Load On Soil = 30 square feet x 50 psf = 1,500 lbs



For typical soil conditions, go down the Lbs Supported column until you come to a number larger than 1,500 (in this case 1,605). Read to the left for 14"-diameter size footing.

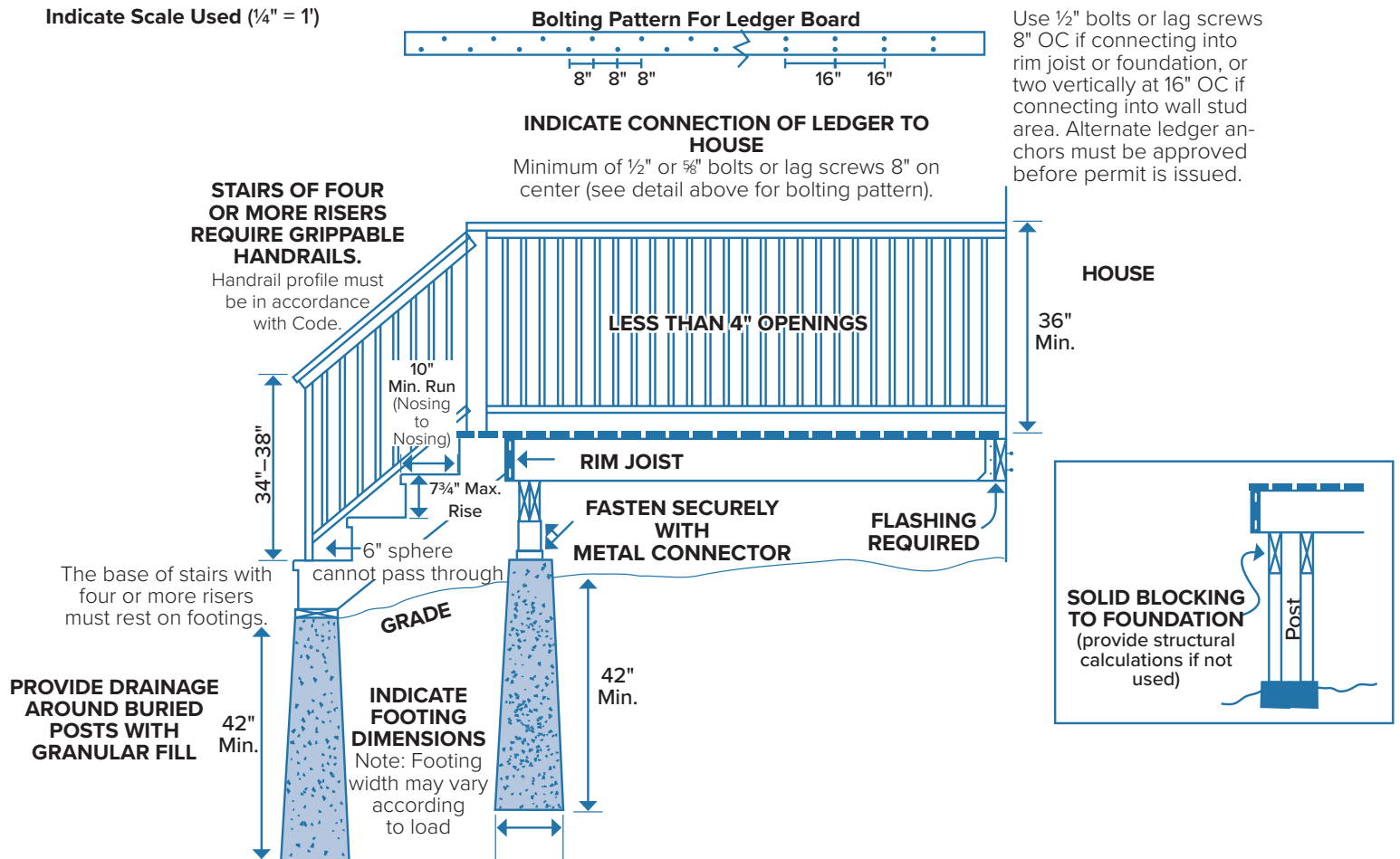
Example: Foundation Plan

Indicate Scale Used ($\frac{1}{4}'' = 1'$)



Example: Wall Section Plan

Indicate Scale Used ($\frac{1}{4}'' = 1'$)



Joist & Beam Size Chart^{a,b,c}

Joist Length

		Joist Length					
		6'	8'	10'	12'	14'	16'
Joist Sizes^d		2x6 24" OC	2x6 16" OC 2x8 24" OC	2x8 16" OC 2x10 24" OC	2x8 12" OC 2x10 16" OC 2x12 24" OC	2x10 12" OC 2x12 16" OC	2x12 12" OC
Beam Sizes^e	4' Post Spacing	(2) 2x6	(2) 2x6	(2) 2x8	(2) 2x8	(2) 2x8	(2) 2x10
	5' Post Spacing	(2) 2x6	(2) 2x8	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x12
	6' Post Spacing	(2) 2x8	(2) 2x10	(2) 2x10	(2) 2x12	(2) 2x12	(3) 2x10
	7' Post Spacing	(2) 2x10	(2) 2x10	(2) 2x12 (3) 2x10	(3) 2x10	(3) 2x10	(3) 2x10
	8' Post Spacing	(2) 2x10	(2) 2x12 (3) 2x10	(3) 2x10	(3) 2x10	(3) 2x12	(3) 2x12
	9' Post Spacing	(3) 2x8 (2) 2x12	(3) 2x10	(3) 2x10	(3) 2x12	Eng. Beam Required	Eng. Beam Required
	10' Post Spacing	(3) 2x10	(3) 2x10	(3) 2x12	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required
	11' Post Spacing	(3) 2x10	(3) 2x12	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required
	12' Post Spacing	(3) 2x12	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required
	13' Post Spacing	(3) 2x12	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required
14' Post Spacing	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	Eng. Beam Required	

a. Assumes 40 psf live load, 10 psf dead load, and L/360 deflection

b. Spruce-Pine-Fir No. 2 grade, and wet service conditions

c. Section R502.3 and R502.5 of the 2015 MN Residential Code is acceptable as an alternate to this table. This table is provided as a courtesy to construct a deck that meets or exceeds the requirements of the 2015 MSBC.

d. Maximum cantilever of 2x6 joist over beam is 12", 2x8 joists is 18", and all others is 24"

e. Maximum cantilever of beam over post is 12"

Lateral Load Connections

- Hold down tension devices must be installed in no less than two locations per deck, and each device shall have an allowable stress design capacity of no less than 1,500 pounds. (MN IRC Section R507.3.2)

Ledgers Attached To Cantilevers

- Engineered design is required for any deck ledgers attached to cantilevered portions of the main structure. Ledgers shall not be supported on stone or masonry veneer.
- Girders supporting deck joists shall not be supported on deck ledgers or band joists.

Any Other Information In This Area

Required Inspections

- **Footing:** Before concrete is poured.
- **Framing:** Before decking is installed if deck is less than 48 inches above grade, any-time after framing is completed if deck is 48 inches or more above grade.
- **Final:** Before deck is occupied.

Other inspections may be required by the building inspector to assure code compliance.

