



1 & 2 Family Deck Permits

City of Oshkosh Inspection Services Division

This handout will help guide you through the permit application process. Following the steps below will help to expedite the issuance of your building permit. Please plan ahead and pick one of the following methods to apply for your permit. **All decks/landings serving an exit, attached or detached, require frost protected footings.** We suggest that you apply for the permit a minimum of 2 weeks prior to your start date and include any possible plans for a future hot tub, panter, etc. that may require structural analysis. Permits can be applied for by using the following methods below:

In Person:

This is the best method to discuss the specifics of your project with a planner and inspector. Typically if all the required information is submitted, and the information is found acceptable, the permit can be issued at that time.

How to Apply

Step 1: Obtain site plan approval from Planning Services. They are located in RM 204 on the 2nd floor of City Hall. A scaled site plan will need to be submitted for their review. If you have questions about your project contact their office at (920) 236-5059. The planning office is open 8:00am-4:30pm Monday through Friday.

Step 2: After you've obtained site plan approval you may apply for your permit at the Inspection Services Division RM 205 on the second floor of City Hall.

Submit the following for review:

- A detailed description of all proposed work
- Deck framing plans and the enclosed deck details page. This information must provide the following: Overall size, Ledger size/attachment (minimum 2x8), Footing size/location, Post size/locations, Beam size/span/location, Joist size/span/spacing, Height of the deck above grade, Guardrail height/spindle spacing, Connection details (footing –post/post-beam/beam-joist), Flashing type, Decking material (wood/composite), lateral support.

Owners may obtain permits for construction projects if the house is owner occupied. All contractors shall include their Dwelling Contractor Certification and Dwelling Contractor Qualifier Certification numbers from the Department of Safety and Professional Services. Our office is required by the State of Wisconsin to verify these certifications prior to issuing permits to contractors performing work on one and two family dwellings. Typically if all the required information is submitted, and the information is found acceptable, the permit can be issued at that time. Inspectors are available for consultation and permit issuance 7:30am-4:30pm Monday through Friday.

Payment

The City of Oshkosh accepts cash, check or credit/debit cards for payment (a service fee applies when using cards). If you have questions on permit fees please see page 2.

Inspection Requests

After the permit is obtained inspections can be requested by calling the Inspection Request Line at (920) 236-5128. This is an automated line, and you will need the permit number or address and inspection type you are requesting to schedule.

Underground Utilities: Call Diggers Hotline 3 Work Days Before You Dig! 1-800-242-8511

Online:

When applying for a permit online please follow this link: <http://www.oshkoshwi.gov/EvolvePublic/>

How to Apply

- Step 1: Click on “*New Account*” or “*Login*” located in the upper right hand corner and enter your contact information. If you have an existing account with our department you may need to contact our office at (920) 236-5050 to set up a password.
- Step 2: Click on “*Permit Application*” on the left side of the screen. Select “*Residential Building*” for the category and “*Deck*” for the type, click Next.
- Step 3: Enter the address of the project, click next. If the address does not show up enter it in the 3rd box, click next.
- Step 4: Enter the description of your project and the cost. It also needs to include the fair market values for labor (even if you are doing the work) and material costs. Only the highlighted fields need to be filled in, click next.
- Step 5: If you are applying as the owner, you may also if you choose, add any contractors you may have hired for your project. This is not required. Only contractors that have obtained permits in the past with the City of Oshkosh may be added, as they will have an existing account.
- Step 6: Upload the following for review: site plan, framing plans, beam/header calculations deck design sheet.
- Step 7: Read the Esignature statement and check the “I agree to conditions” box, hit finish.
- Step 8: You will see a message that your application has been submitted for review. Someone from the City will contact you if additional information is required and/or when the permit is ready to be issued.

Please check your junk/spam folder if you do not receive contact from the City.

- * Please note that no construction can commence until after the permit is approved and obtained.
- * When the permit is ready to be issued you’ll be able to make payments.
- * Inspections will be able to be scheduled after the permit has been obtained.

Permit Fees: See the following link to view permit fees: <https://www.oshkoshwi.gov/InspectionServices/PermitFeeSchedule.pdf>

See the following fee schedules to determine the permit fees:

- Inspection Services fee schedule for **building fees**. Questions please contact (920) 236-5050.
- Assessors fee schedule for **property record maintenance fees**. Questions please contact (920) 236-5070.
- Planning Services fee schedule for **zoning fees**. Questions please contact (920) 236-5059.

Please make checks payable to “City of Oshkosh”.

Building Code Requirements:

Effective January 1, 2016, The WI Department of Safety and Professional Services adopted Appendix B and C in the Uniform Dwelling Code . Please note that the following building code requirements are not all inclusive. To view Appendix B and C please follow this link: <http://dsps.wi.gov/Programs/Industry-Services/Industry-Services-Programs/One-and-Two-Family-UDC/UDC-Admin-Code/>

All decks will need to comply with these requirements or be designed by a structural engineer:

- All lumber must be pressure preservative treated unless it’s a naturally durable species such as cedar. The lumber must also be graded and stamped.
- Nails must be threaded, which includes ring-shanked and spiral-grooved.
- All fasteners must be galvanized steel, stainless steel, or approved for use with treated wood.
- All hardware, hangers and anchors must be galvanized steel with 1.85 ounces of zinc per square foot or stainless steel.
- A deck that has concentrated loads that exceed 40 pounds per square foot (planters, hot tubs, multi level decks, etc.) will require engineering analysis.

Footings:

- Minimum compressive strength of 3,000 pounds per square inch.
- Footing size and thickness must be in accordance with the chart below.
- Footings must include any roof loads that may exist if used to support. Example covered front/side porch.
- Each post must bear directly over the middle one-third of a footing.
- Footings must bear on solid ground at least 48 inches below finished grade. Bearing onto unprepared fill material, organic soil, alluvial soil, or mud is prohibited.
- If the edge of a deck footing is closer than 5 feet to an existing house wall, the footing must bear at the same elevation as the existing footing for that wall.

FOOTING SIZE (In Inches)^{1,2,3}

Joist Length		Post Spacing (Measured Center to Center)										
		4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
6'	Corner Footing	8	9	10	11	11	12	12	13	14	14	15
	Intermediate Footing	10	11	12	13	14	15	15	16	17	17	18
	Footing Thickness	6	6	6	6	6	6	6	6	6	6	8
7'	Corner Footing	9	10	11	11	12	13	13	14	15	15	16
	Intermediate Footing	11	12	13	14	15	16	17	17	18	19	19
	Footing Thickness	6	6	6	6	6	6	6	6	8	8	8
8'	Corner Footing	10	10	11	12	13	14	14	15	15	16	17
	Intermediate Footing	12	13	14	15	16	17	18	19	19	20	21
	Footing Thickness	6	6	6	6	6	6	8	8	8	8	8
9'	Corner Footing	10	11	12	13	14	14	15	16	16	17	18
	Intermediate Footing	12	14	15	16	17	18	19	20	20	21	22
	Footing Thickness	6	6	6	6	6	8	8	8	8	8	8
10'	Corner Footing	10	12	12	13	14	15	16	16	17	18	18
	Intermediate Footing	13	14	15	17	18	19	20	21	21	22	23
	Footing Thickness	6	6	6	6	8	8	8	8	8	8	10
11'	Corner Footing	11	12	13	14	15	16	16	17	18	19	19
	Intermediate Footing	13	15	16	17	19	20	21	22	22	23	24
	Footing Thickness	6	6	6	6	8	8	8	8	8	10	10
12'	Corner Footing	11	12	14	15	15	16	17	18	19	19	20
	Intermediate Footing	14	15	17	18	19	20	21	22	23	24	25
	Footing Thickness	6	6	6	8	8	8	8	8	10	10	10
13'	Corner Footing	12	13	14	15	16	17	18	19	19	20	21
	Intermediate Footing	14	16	17	19	20	21	22	23	24	25	26
	Footing Thickness	6	6	6	8	8	8	8	10	10	10	10
14'	Corner Footing	12	13	15	16	17	18	18	19	20	21	22
	Intermediate Footing	15	17	18	19	21	22	23	24	25	26	27
	Footing Thickness	6	6	8	8	8	8	10	10	10	10	10
15'	Corner Footing	12	14	15	16	17	18	19	20	21	22	22
	Intermediate Footing	15	17	19	20	21	23	24	25	26	27	28
	Footing Thickness	6	6	8	8	8	10	10	10	10	10	12
16'	Corner Footing	13	14	15	17	18	19	20	20	21	22	23
	Intermediate Footing	16	18	19	21	22	23	25	26	27	28	29
	Footing Thickness	6	8	8	8	8	10	10	10	10	12	12

¹All footing sizes are base diameters².

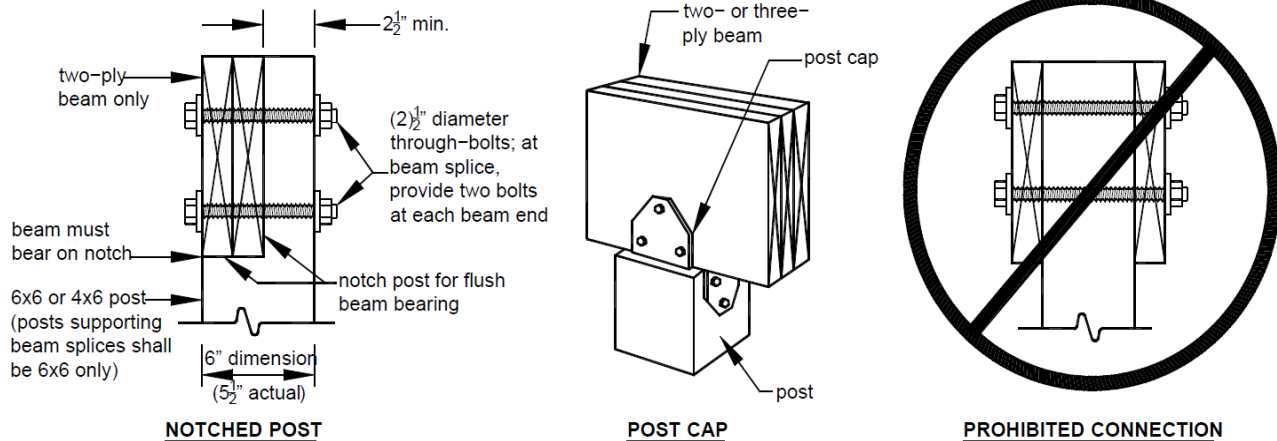
²For square footings, insert the diameter (d) into the following formula: $\sqrt{((d/2)^2 \times \pi)}$. This number will give you the square dimension and must be rounded up to the nearest inch.

³Joist length is the joist span plus any overhang beyond a beam. See section 5.4.

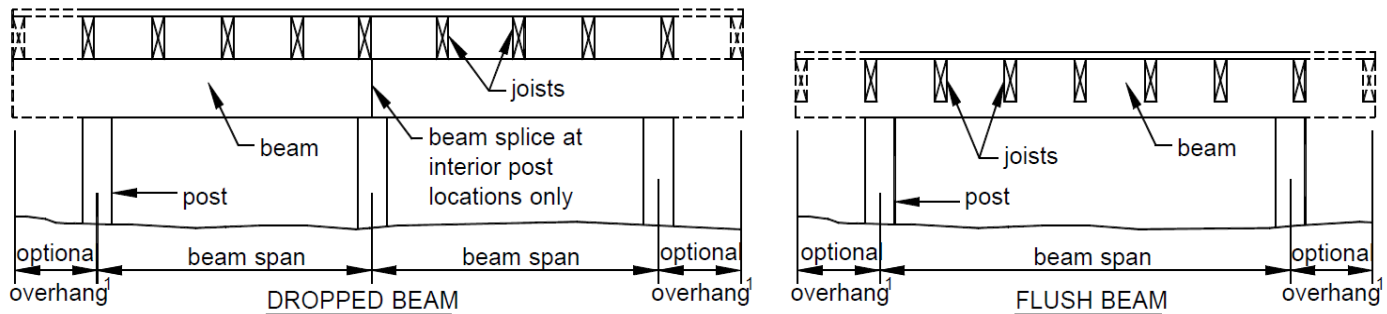
Posts & Beams:

- Maximum post height for a 4"x4" post is 6', a 6"x6" is 14' (measured from the top of the footing to the underside of the beam).
- Any post supporting a beam splice must be a 6"x6".
- Posts must be properly attached to the beams per the below diagrams.
- **Beams must comply with the following:**

POST-TO-BEAM CONNECTIONS



BEAM TYPES



¹The maximum length of the overhang is equal to one-fourth of the actual beam span length (0.25 x beam span).

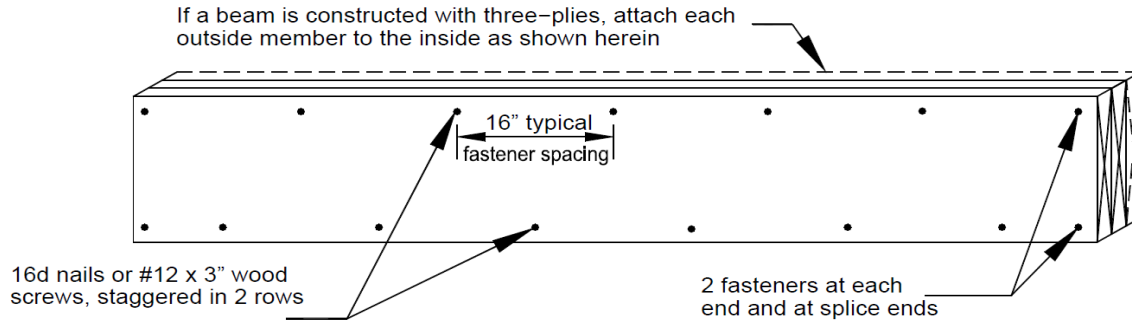
MAXIMUM BEAM-SPAN LENGTH FOR SOUTHERN PINE¹

Joist Span	(Number of Plies)				Beam Size ² - Inches			
	(2) 2x6	(2) 2x8	(2) 2x10	(2) 2x12	(3) 2x6	(3) 2x8	(3) 2x10	(3) 2x12
≤ 6'	6'-11"	8'-9"	10'-4"	12'-2"	8'-2"	10'-10"	13'-0"	15'-3"
≤ 8'	5'-11"	7'-7"	9'-0"	10'-7"	7'-5"	9'-6"	11'-3"	13'-3"
≤ 10'	5'-4"	6'-9"	8'-0"	9'-5"	6'-8"	8'-6"	10'-0"	11'-10"
≤ 12'	4'-10"	6'-2"	7'-4"	8'-7"	6'-1"	7'-9"	9'-2"	10'-9"
≤ 14'	4'-6"	5'-9"	6'-9"	8'-0"	5'-8"	7'-2"	8'-6"	10'-0"
≤ 16'	4'-3"	5'-4"	6'-4"	7'-6"	5'-3"	6'-8"	7'-11"	9'-4"
≤ 18'	4'-0"	5'-0"	6'-0"	7'-0"	5'-0"	6'-4"	7'-6"	8'-10"

¹Spans are based on 40 psf live load, 10 psf dead load, normal loading duration, wet service conditions, and deflections of $\Delta = L/360$ for main span and $L/180$ for overhang with a 220 lb. point load.

²Beam depth must be equal to or greater than joist depth if joist hangers are used (see Figure 8, Option 3).

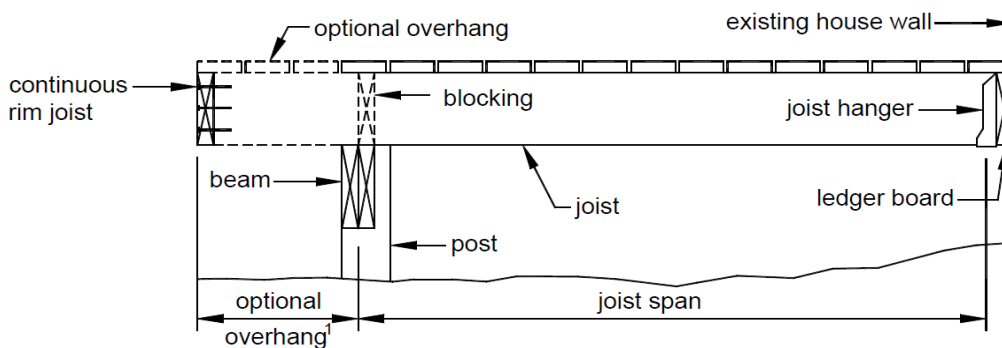
BEAM ASSEMBLY



Joists:

- Joists must bear at least 3" onto beams unless joist hangers are used.
- Joists may overhang past the center of the beam up to one-fourth of the joist span.
- Full depth blocking or bridging is required for 2"x10" or deeper joists at intervals not exceeding 8' with (3) 10d toe-nails at each end.

JOISTS WITH DROPPED BEAM – DECK ATTACHED AT HOUSE



¹The maximum length of the overhang is equal to one-fourth of the actual joist span length (0.25 x joist span).

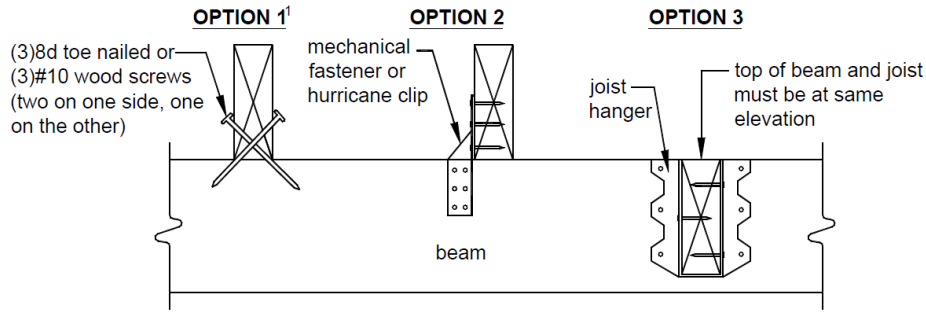
MAXIMUM JOIST-SPAN LENGTH¹

Joist Spacing (on center)	Joist Size	Douglas Fir/Larch, Hem/Fir, SPF ²		Southern Pine	
		Without Overhang	With Over- hangs	Without Overhang	With Over- hangs
12"	2"x6"	9'-1"	8'-1"	9'-6"	8'-7"
	2"x8"	12'-6"	9'-5"	13'-1"	10'-1"
	2"x10"	15'-8"	13'-7"	16'-2"	14'-6"
	2"x12"	18'-0"	18'-0"	18'-0"	18'-0"
16"	2"x6"	8'-3"	8'-0"	8'-7"	8'-7"
	2"x8"	11'-1"	9'-5"	11'-10"	10'-1"
	2"x10"	13'-7"	13'-7"	14'-0"	14'-0"
	2"x12"	15'-9"	15'-9"	16'-6"	16'-6"
24"	2"x6"	6'-9"	6'-9"	7'-6"	7'-6"
	2"x8"	9'-1"	9'-1"	9'-8"	9'-8"
	2"x10"	11'-1"	11'-1"	11'-5"	11'-5"
	2"x12"	12'-10"	12'-10"	13'-6"	13'-6"

¹Spans are based on 40 psf live load, 10 psf dead load, normal loading duration, wet service conditions, and deflections of $\Delta = L/360$ for main span and $L/180$ for overhang with a 220 lb. point load.

²Incising is assumed.

JOIST-TO-BEAM CONNECTIONS



¹Option 1 is not allowed on free-standing decks.

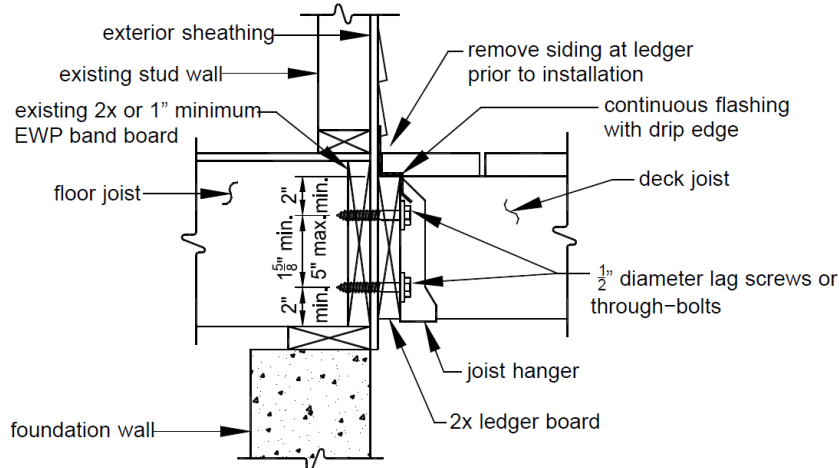
Joist Hangers:

- The joist hanger depth must be at least 60 percent of the joist depth.
- The joist hanger must accommodate the number of plies being carried.
- Do not bend hanger flanges to accommodate field conditions.
- Screws are not allowed unless recommended by the manufacturer of the hanger.

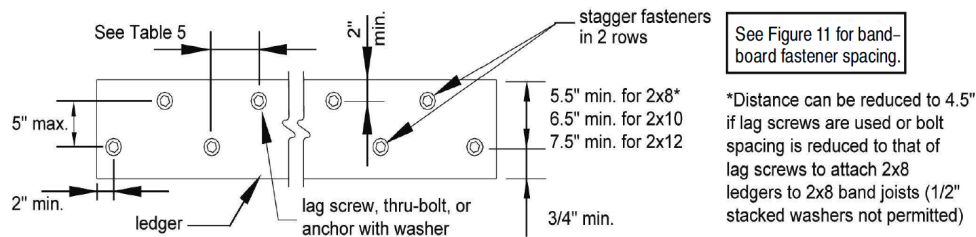
Ledger Attachments:

- Ledgers must be greater than or equal to the depth of the joist but never less than a 2"x8".
- Ledgers can not be attached to the house when I joists or floor trusses are installed unless manufacturer approval is granted. A free standing deck would be required.
- The top of the ledger board and the top of the deck joists must be at the same elevation.
- Siding must be removed in the area of the ledger and flashing must be installed.
- Ledgers can not be attached through an exterior veneer such as brick, stone or to a house overhang.

ATTACHMENT OF LEDGER BOARD TO BAND BOARD OR BAND JOIST



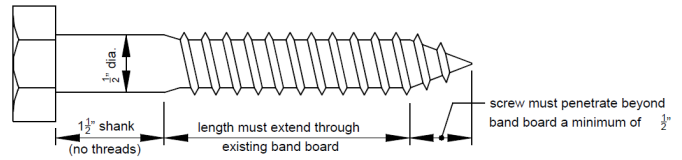
LEDGER BOARD FASTENER SPACING AND CLEARANCES



LEDGER BOARD FASTENER SPACING, ON CENTER^{1,2,3}

Fastener	Band Board	Joist Span: less than or equal to						
		6'	8'	10'	12'	14'	16'	18'
Lag screws	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1 1/8" EWP	28"	21"	16"	14"	12"	10"	9"
	2x Lumber	30"	23"	18"	15"	13"	11"	10"

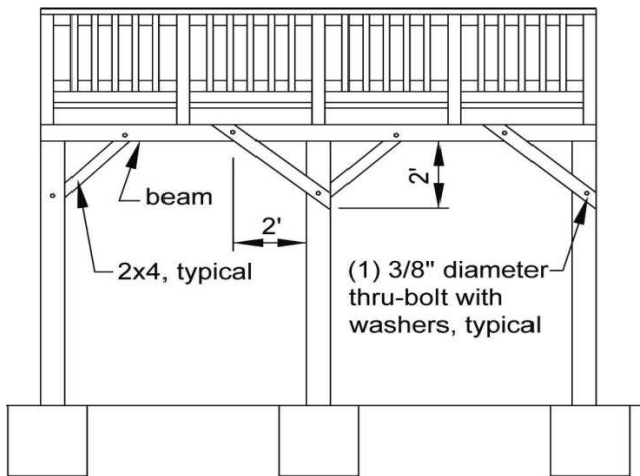
LAG SCREW



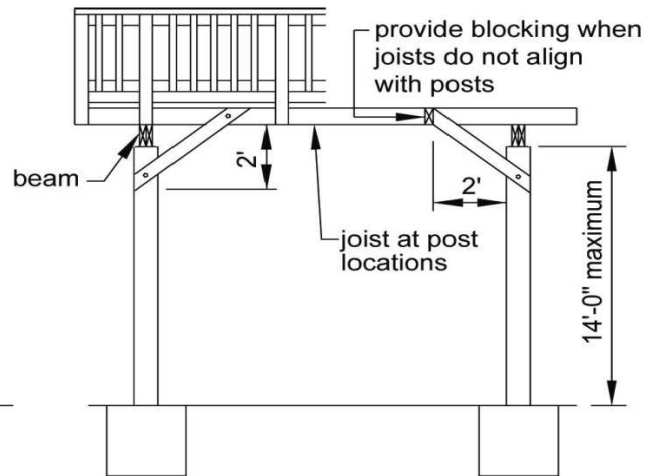
Lateral Support:

- Diagonal bracing shall be provided both parallel and perpendicular to the beam at each post for all decks greater than 24" above grade. Where parallel to the beam, the bracing must be bolted to the post at one end and to the beam at the other. Where perpendicular to the beam, the bracing must be bolted to the post at one end and to a joist or blocking between the joists at the other. Where a joist does not align with the bracing location, provide blocking between the adjacent joists.
- Bracing is not required perpendicular to the house for a deck that is attached to the house with both a ledger and minimum of 4 tension ties or 2 hold down tension devices.
- Parallel bracing may be omitted for a deck which is attached to the house and which has all of its decking installed at a 45 degree angle to the deck joists.

DIAGONAL BRACING REQUIREMENTS

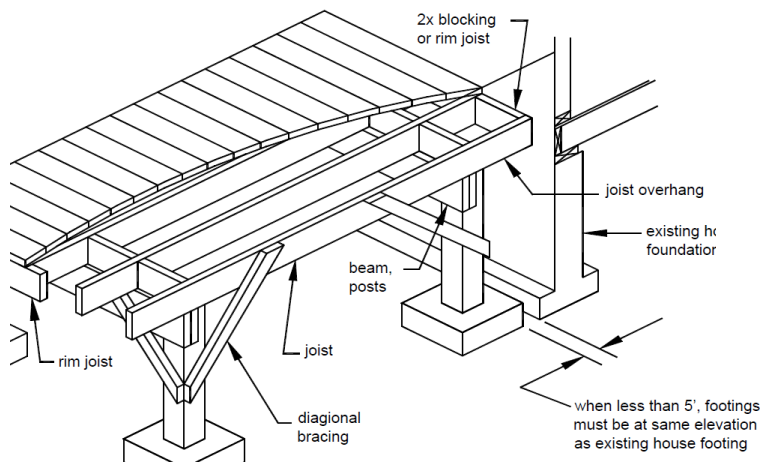


BRACING PARALLEL TO BEAM

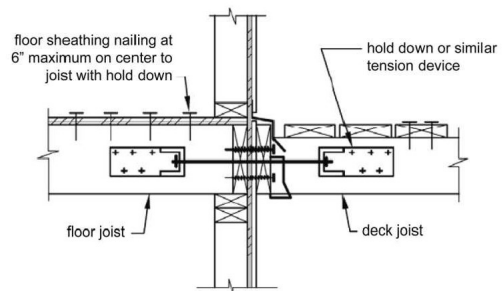


BRACING PERPENDICULAR TO BEAM

FREE-STANDING DECK

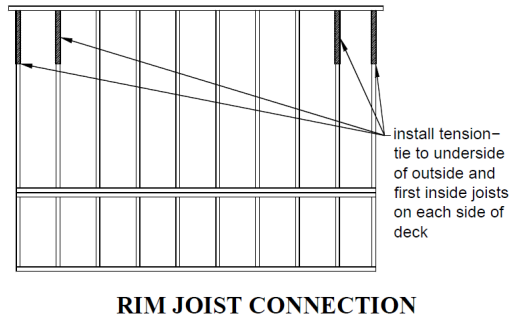
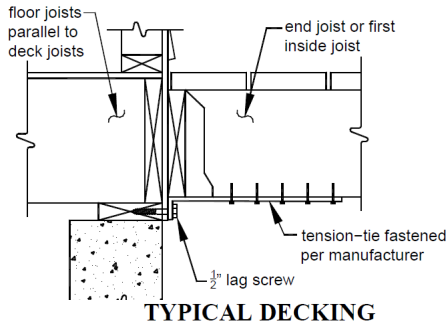


HOLD-DOWN TENSION DEVICE, WITH LEDGER BOARD



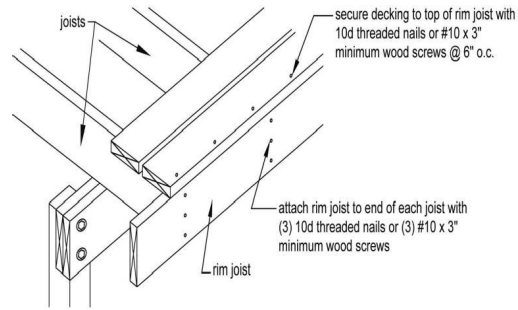
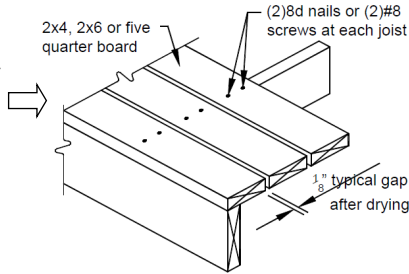
If hold-down tension devices are used they must be provided in at least 2 locations per deck.

TENSION-TIE CONNECTION, WITH LEDGER BOARD



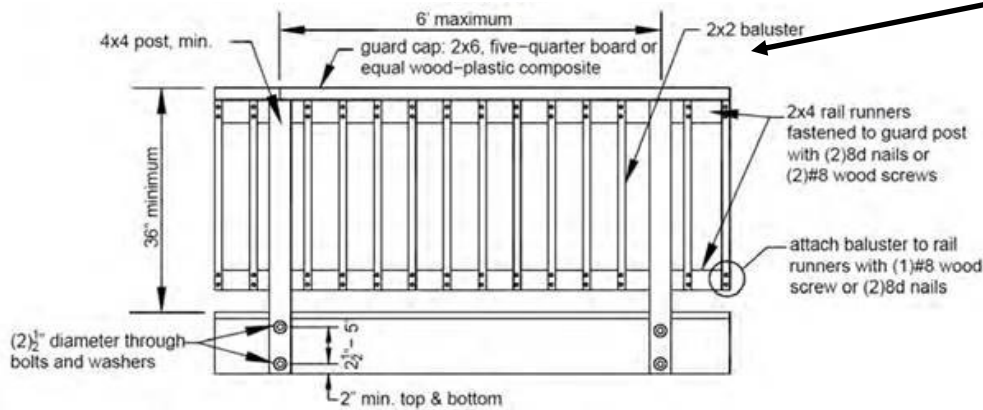
RIM JOIST CONNECTION

Composite decking may require a closer joist spacing. See manufacturer install instructions.



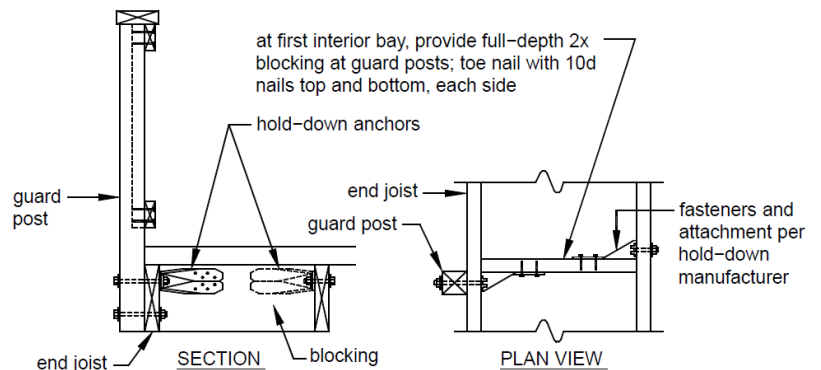
Guards:

- Guards are required on all open sides of decks that are more than 24 inches above grade.
- Openings in guards can not allow passage of a sphere 4 3/8 inches in diameter.
- The triangular opening formed at steps can not allow passage of a sphere 6 inches in diameter.
- Rope, cables, etc. can be used if it's strung with a maximum opening of 3 1/2 inches and vertical supports no more than 4 feet apart.
- Guard posts can not be notched.
- Hold-down anchors/other approved means must be used to attach the guard post to the end and rim joist.



The City of Oshkosh has adopted design standards for single and two family homes. Decks/Porches visible from the street must include posts, rails and balusters with non-visible fasteners. Contact the City of Osh-

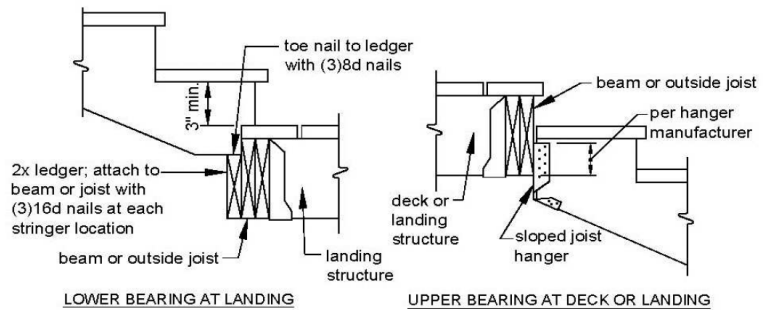
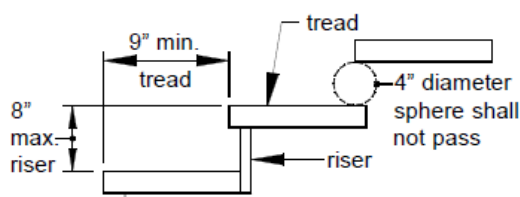
TO END JOIST



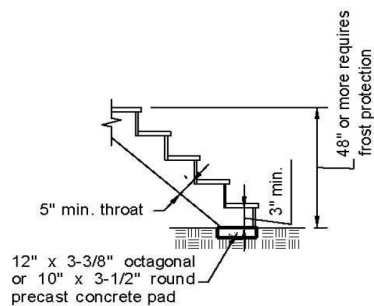
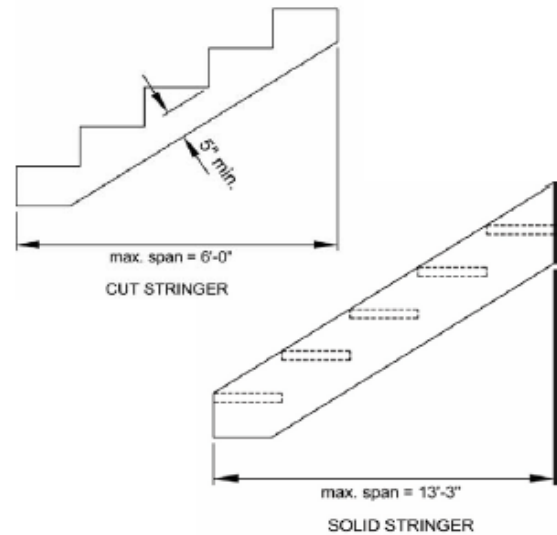
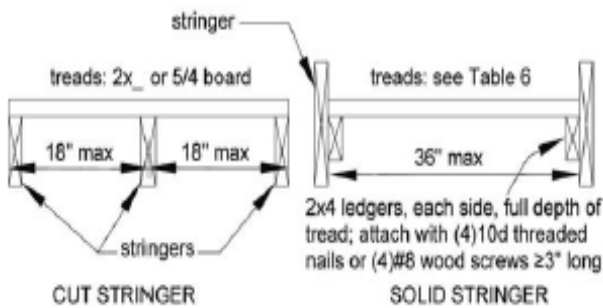
Stairs:

- Minimum width of a stairway is 36 inches. A level landing 3'x3' is required at the top and base of stair flights.
- Treads minimum 9 inches; Risers maximum 8 inches.
- Treads and risers can not vary within a stair flight by more than 3/8".
- Level landings must equal the width of the stairway.
- Stringers must be solid 2"x12"s and can not be spaced more than 18 inches on center.
- Stringers must bear on a solid surface and may require frost protection (see diagram).
- Span length of a cut stringer may not exceed 6 feet horizontally and the throat less than 5 inches.
- Span length of a solid stringer may not exceed 13 foot 3 inches.

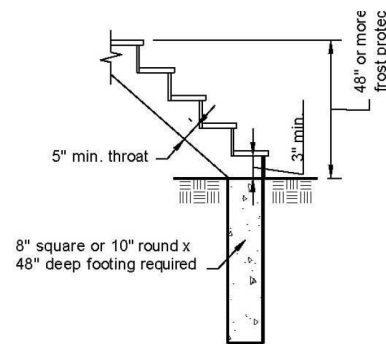
STRINGER BEARING



Attachment per tread at each stringer or ledger:
 2x_ or 5/4 treads - (2)8d threaded nails or (2)#8 screws $\geq 2\text{-}1/2"$ long
 3x_ treads - (2)16d threaded nails or (2)#8 screws $\geq 3\text{-}1/2"$ long



LOWER BEARING AT FOOTING

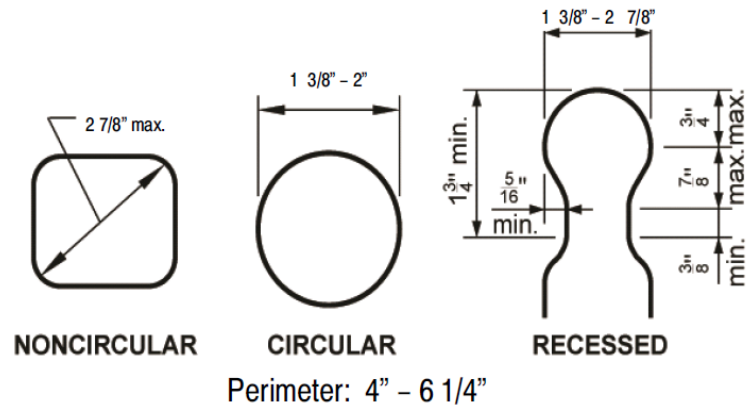


LOWER BEARING AT FOOTING - FROST PROTECTED

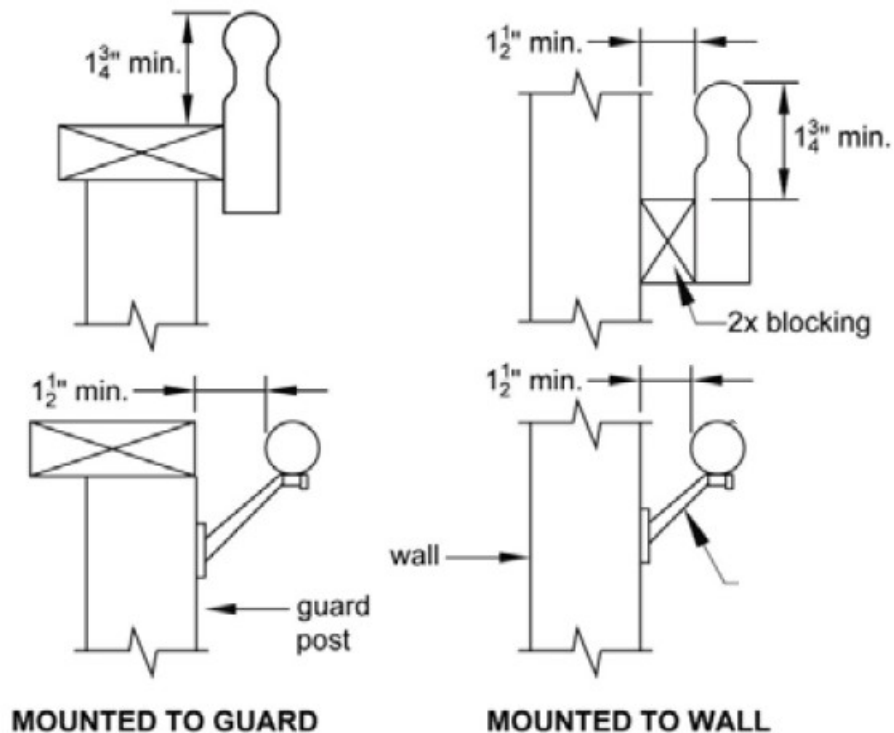
Handrails:

- A flight of stairs with more than 3 risers must be provided with at least one handrail.
- The handrail must be located at least 30 inches but no more than 38 inches above the nosing of the tread.
- The handrail must be graspable.
- Handrails must be continuous from the lowest riser to the highest riser or landing.

HANDRAIL GRASPABILITY



Fasten handrails per manufacturer recommendations



Circle and/or write in the below information for your specific project.

This information is required to be submitted with your deck plans.

<p>Decking:</p> <p>◇ 2x4 ◇ 2x6 ◇ Five-quarter boards</p> <p>◇ Plastic Composite ◇ Other _____</p>	<p>Post Size:</p> <p>◇ 4x4 ◇ 4x6 ◇ 6x6</p> <p>Post Height: _____</p>
<p>Joist Size:</p> <p>◇ 2x6 ◇ 2x8 ◇ 2x10 ◇ 2x12</p> <p>Joist Spacing:</p> <p>◇ 12 inches on center</p> <p>◇ 16 inches on center</p> <p>◇ 24 inches on center</p> <p>Joist Overhang: (max 1/4 span of joist length)</p> <p>◇ No overhang ◇ Other _____</p> <p>◇ 6 inch ◇ 12 inch ◇ 18 inch ◇ 24 inch</p>	<p>Footing Size: _____</p> <p>Footing Thickness:</p> <p>◇ 6 inches</p> <p>◇ 8 inches</p> <p>◇ Other _____</p> <p>Footing Depth:</p> <p>◇ 48 inches</p> <p>◇ Diamond Pier Size _____</p> <p>◇ HandiPier Size _____</p> <p>◇ Other _____</p>
<p>Beam Size:</p> <p>◇ 2x6 ◇ 2x8 ◇ 2x10 ◇ 2x12</p> <p>Number of Plies:</p> <p>◇ 2 ◇ 3</p> <p>Beam Overhang: (max 1/4 span of beam length)</p> <p>◇ No overhang ◇ Other _____</p> <p>◇ 6 inch ◇ 12 inch ◇ 18 inch ◇ 24 inch</p>	<p>Ledger Size:</p> <p>◇ 2x8 ◇ 2x10 ◇ 2x12 ◇ Free Standing</p> <p>Ledger Fasteners:</p> <p>◇ 1/2" Diameter Lag screws</p> <p>◇ LedgerLOK Screws</p> <p>◇ SPAX PowerLag Screws</p> <p>◇ Other _____</p>
<p>Lateral Support:</p> <p>◇ Tension-ties (not allowed for free-standing decks)</p> <p>◇ Diagonal bracing (not required if the deck is less than 24" above ground)</p>	<p>Ledger Attachment To:</p> <p>◇ Conventional Framing</p> <p>◇ TJI's (1" rim board required or free standing)</p> <p>◇ Floor Trusses</p> <p>NOTE: Ledgers can not be attached to cantilevers, brick facades and block foundations without engineering/structural analysis.</p>