

RESIDENTIAL DECK SPECIFICATIONS

DELHI CHARTER TOWNSHIP

NAME: _____

ADDRESS: _____

Deck Size: _____ ft. x _____ ft.

Deck Floor Material: _____

Floor Joist Size: _____ in. x _____ in.

Floor Joist Spacing: _____ inches on center

Floor Joist Clear Span: _____ ft. _____ in.

Floor Joist Cantilever: _____ ft. x _____ in.

Double Carrier / Beam Size: _____ in. x _____ in.

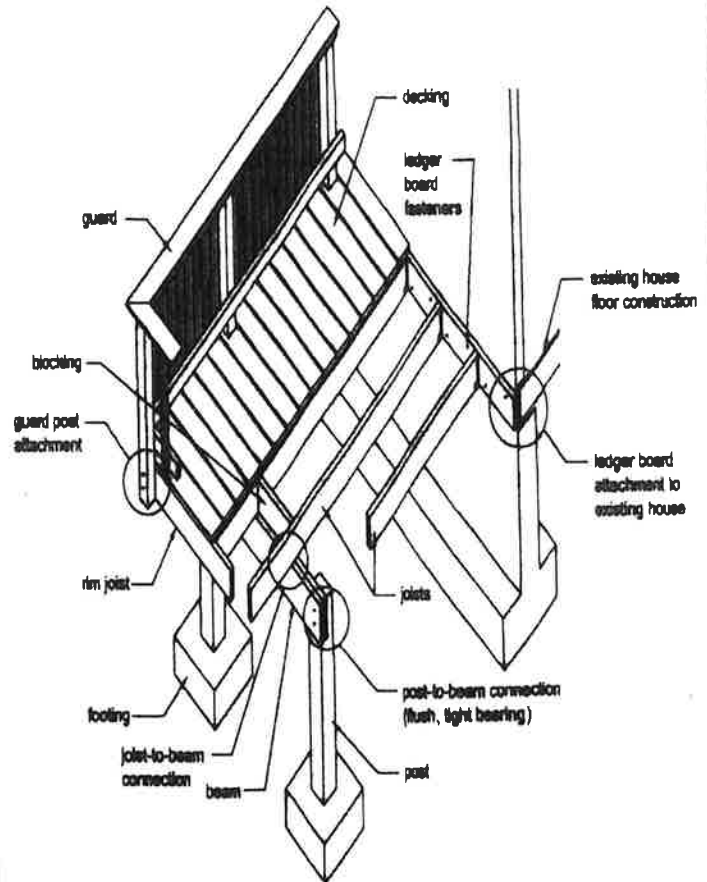
Treated Poles Size: _____ in. x _____ in.

Post Spacing: _____ ft. _____ in.

Footings Depth Below Grade: _____ in.

Footings: Width _____ in. Height _____ in.

Is the deck attached to the house? YES / NO



Some requirements of the 2015 Michigan Residential Code Chapter 5, Section R507

Guards

- Are required if the floor and stairs measures more than 30 inches above grade.
- Shall have a **minimum height** of 36 inches for floors and 34 inches for stairs off the nose of the tread.
- Shall be constructed so a 4-inch sphere cannot pass through.

Stairway

- Shall be a minimum of 36 inches in width.
- Shall have a **maximum riser height** of 8¼ inches and a minimum tread depth of 9 inches.

Handrails

- Are required on 4 or more risers.
- Shall have a **minimum height** of 34 inches and a maximum height of 38 inches measured vertically off the nose of the tread.
- Shall be continuous for the full length of the stairway and ends shall be returned to wall or post.
- Type I handrails shall be graspable measuring at least 1¼ inches and not greater than 2 inches in diameter unless the perimeter of a noncircular handrail is less than 6¼ inches, then it is allowed to be 2¼ inches in width.
- Type II handrails with a perimeter greater than 6¼ inches shall provide a graspable finger recess area on both sides of the profile that meets code requirements. The width of the handrail shall be no less than 1 ¼" and not more than 2 ¼".

Spans

- Joist spacing & spans and beam spans shall meet the requirements of Tables R507.4, R507.5 and R507.6 (*min. 1 ½" bearing*)

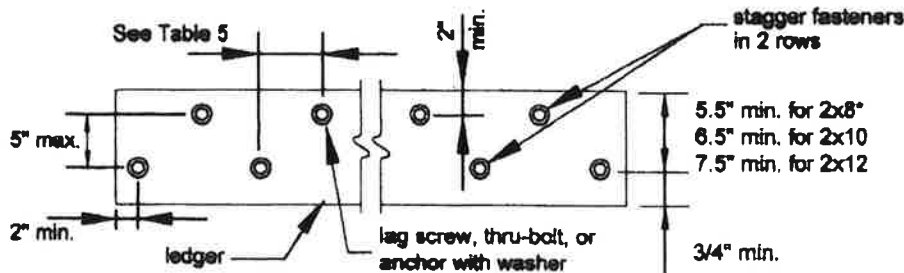
Joist Spacing (O.C.)

| Species | Size | Allowable Span | | |
|---|------|---------------------|---------|---------|
| | | 12" | 16" | 24" |
| Southern Pine | 2x6 | 9'-11" | 9'-0" | 7'-7" |
| | 2x8 | 13'-1" | 11'-10" | 9'-8" |
| | 2x10 | 16'-2" | 14'-0" | 11'-5" |
| | 2x12 | 18'-0" ⁷ | 16'-6" | 13'-6" |
| Douglas Fir-Larch, Hem-Fir, Spruce- Pine-fire | 2x6 | 9'-6" | 8'-4" | 6'-10" |
| | 2x8 | 12'-6" | 11'-1" | 9'-1" |
| | 2x10 | 15'-8" | 13'-7" | 11'-1" |
| | 2x12 | 18'-0" | 15'-9" | 12'-10" |
| Redwood, Western Cedars, Ponderosa Pine, Red Pine | 2x6 | 8'-10" | 8'-0" | 6'-10" |
| | 2x8 | 11'-8" | 10'-7" | 8'-8" |
| | 2x10 | 14'-11" | 13'-0" | 10'-7" |
| | 2x12 | 17'-5" | 15'-1" | 12'-4" |

FOOTING SIZES FOR DECKS (WITHOUT ROOF)

| TOTAL SPAN OF JOISTS BETWEEN SUPPORTS | SUPPORT POST SPACING FOR 1500 LB PER SQUARE FOOT SOIL BEARING CAPACITY | | | | | | |
|--|---|--------|--------|---------|---------|---------|---------|
| | 4 FEET | 6 FEET | 8 FEET | 10 FEET | 12 FEET | 14 FEET | 16 FEET |
| 4 FEET | 4X8 | 4X10 | 4X10 | 6X12 | 6X14 | 6X14 | 6X14 |
| 6 FEET | 4X10 | 6X12 | 6X14 | 6X14 | 8X16 | 8X16 | 8X18 |
| 8 FEET | 4X10 | 6X14 | 6X14 | 8X16 | 8X18 | 10X20 | 10X20 |
| 10 FEET | 6X12 | 6X14 | 8X16 | 8X18 | 10X20 | 10X22 | 10X22 |
| 12 FEET | 6X14 | 8X16 | 8X18 | 10X20 | 10X22 | 12X24 | 12X24 |
| 14 FEET | 6X14 | 8X16 | 10X20 | 10X22 | 12X24 | 12X26 | 12X26 |
| 16 FEET | 6X14 | 8X16 | 10X20 | 12X24 | 12X26 | 14X28 | 14X28 |

Ledger Fastener Spacing and Clearances



See Table 5.

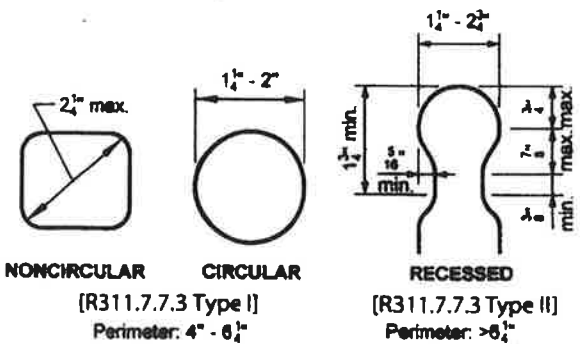
"Distance can be reduced to 4.5" if lag screws are used or bolt spacing is reduced to that of lag screws to attach 2x8 ledgers to 2x8 band joists (1/2" stacked washers not permitted)

TABLE 6

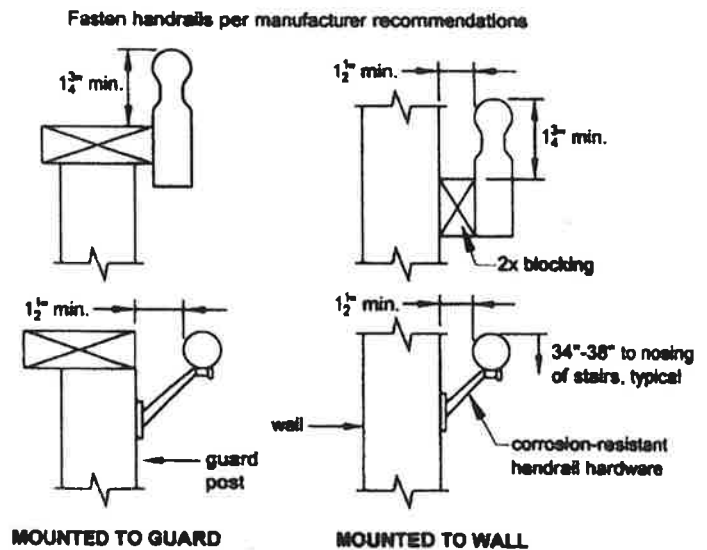
| DECK POST SIZE | MAX HEIGHT |
|----------------|------------|
| 4 x 4 | 8' |
| 4 x 6 | 8' |
| 6 x 6 | 14' |

Table 5

| Connection Details | Rim Board or Band Joist | Joist Span | | | | | | |
|---|-------------------------------|---------------------------------------|----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| | | 6'-0" and less | 6'-1" to 8'-0" | 8'-1" to 10'-0" | 10'-1" to 12'-0" | 12'-1" to 14'-0" | 14'-1" to 16'-0" | 16'-1" to 18'-0" |
| | | On-Center Spacing of Fasteners | | | | | | |
| $\frac{1}{2}$ " diameter lag screw ¹ with $\frac{15}{32}$ " maximum sheathing | 1" EWP | 24" | 18" | 14" | 12" | 10" | 9" | 8" |
| | 1- $\frac{1}{8}$ " EWP | 28" | 21" | 16" | 14" | 12" | 10" | 9" |
| | 1- $\frac{1}{2}$ " Lumber | 30" | 23" | 18" | 15" | 13" | 11" | 10" |
| $\frac{1}{2}$ " diameter bolt with $\frac{15}{32}$ " maximum sheathing | 1" EWP | 24" | 18" | 14" | 12" | 10' | 9" | 8" |
| | 1- $\frac{1}{8}$ " EWP | 28" | 21" | 16" | 14" | 12" | 10" | 9" |
| | 1- $\frac{1}{2}$ " Lumber | 36" | 36" | 34" | 29" | 24" | 21" | 19" |
| $\frac{1}{2}$ " diameter bolt with $\frac{15}{32}$ " maximum sheathing and $\frac{1}{2}$ " stacked washers ^{2,7} | 1- $\frac{1}{2}$ " Lumber | 36" | 36" | 29" | 24" | 21" | 18" | 16" |

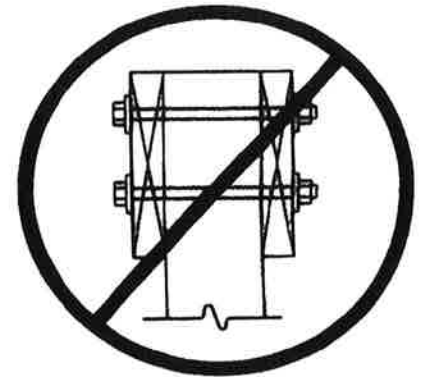
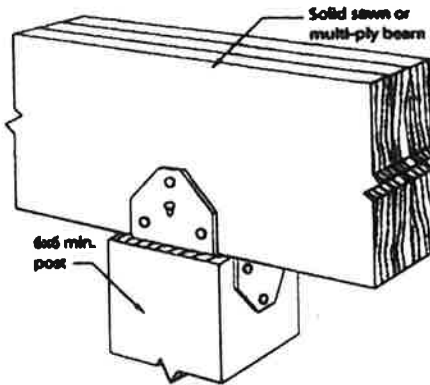
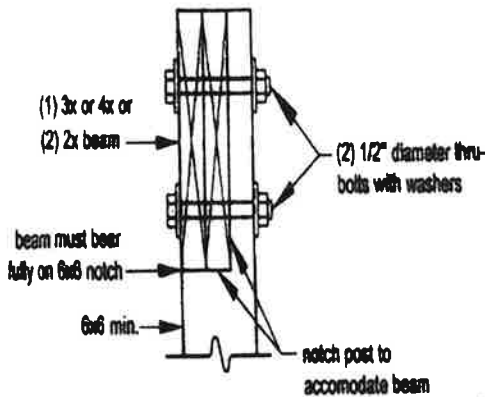


Handrail Grip Size



Handrail Mounting Examples

Deck Beam & Floor Joist Spans, Ledger Fastener Spacing and Handrail Detail



Approved Deck Post Cap

Deck Beam Span Length

| Species | Size | Deck Joist Span less than or equal to | | | | | | | |
|---|----------------|---------------------------------------|--------|---------|--------|--------|--------|--------|--|
| | | 6' | 8' | 10' | 12' | 14' | 16' | 18' | |
| Southern Pine | 2-2x6 | 6'-11" | 5'-11" | 5'-4" | 4'-10" | 4'-6" | 4'-3" | 4'-0" | |
| | 2-2x8 | 8'-9" | 7'-7" | 6'-9" | 6'-2" | 5'-9" | 5'-4" | 5'-0" | |
| | 2-2x10 | 10'-4" | 9'-0" | 8'-0" | 7'-4" | 6'-9" | 6'-4" | 6'-0" | |
| | 2-2x12 | 12'-2" | 10'-7" | 9'-5" | 8'-7" | 8'-0" | 7'-6" | 7'-0" | |
| | 3-2x6 | 8'-2" | 7'-5" | 6'-8" | 6'-1" | 5'-8" | 5'-3" | 5'-0" | |
| | 3-2x8 | 10'-10" | 9'-6" | 8'-6" | 7'-9" | 7'-2" | 6'-8" | 6'-4" | |
| | 3-2x10 | 13'-0" | 11'-3" | 10'-0" | 9'-2" | 8'-6" | 7'-11" | 7'-6" | |
| | 3-2x12 | 15'-3" | 13'-3" | 11'-10" | 10'-9" | 10'-0" | 9'-4" | 8'-10" | |
| Douglas Fir- Larch, Hem-Fir, Spruce-Pine-Fir, Redwood, Western Cedars, Ponderosa Pine, Red Pine | 3x6 or 2-2x6 | 5'-5" | 4'-8" | 4'-2" | 3'-10" | 3'-6" | 3'-1" | 2'-9" | |
| | 3x8 or 2-2x8 | 6'-10" | 5'-11" | 5'-4" | 4'-10" | 4'-6" | 4'-1" | 3'-8" | |
| | 3x10 or 2-2x10 | 8'-4" | 7'-3" | 6'-6" | 5'-11" | 5'-6" | 5'-1" | 4'-8" | |
| | 3x12 or 2-2x12 | 9'-8" | 8'-5" | 7'-6" | 6'-10" | 6'-4" | 5'-11" | 5'-7" | |
| | 4x6 | 6'-5" | 5'-6" | 4'-11" | 4'-6" | 4'-2" | 3'-11" | 3'-8" | |
| | 4x8 | 8'-5" | 7'-3" | 6'-6" | 5'-11" | 5'-6" | 5'-2" | 4'-10" | |
| | 4x10 | 9'-11" | 8'-7" | 7'-8" | 7'-0" | 6'-6" | 6'-1" | 5'-8" | |
| | 4x12 | 11'-5" | 9'-11" | 8'-10" | 8'-1" | 7'-6" | 7'-0" | 6'-7" | |
| | 3-2x6 | 7'-4" | 6'-8" | 6'-0" | 5'-6" | 5'-1" | 4'-9" | 4'-6" | |
| | 3-2x8 | 9'-8" | 8'-6" | 7'-7" | 6'-11" | 6'-5" | 6'-0" | 5'-8" | |
| 3-2x10 | 12'-0" | 10'-5" | 9'-4" | 8'-6" | 7'-10" | 7'-4" | 6'-11" | | |
| 3-2x12 | 13'-11" | 12'-1" | 10'-9" | 9'-10" | 9'-1" | 8'-6" | 8'-1" | | |