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## **HOW TO USE THIS FORM:**

**Sheet 1 - Minimum Requirements for Deck Construction Drawings.** This sheet should be used as a checklist in designing the required elements of the deck.

**Sheet 2 - Typical Site Plan.** The first step in designing a deck is to determine the desired and proper placement for it, while keeping in mind that there are places on the property where a deck cannot be built, such as within a utility easement or within the required front, rear and side yard setbacks. The purpose of the site plan is to show compliance with the zoning requirements and that the deck is not being constructed in a prohibited location.

**Sheet 3 - Site Plan.** Provided is a blank sheet of graph paper that can be used to draw the required site plan for the permit. Larger properties will need to use a larger plan sheet to show the deck location at the required scale.

**Sheet 4 - Deck Framing/Foundation Plan.** This should be used to develop the deck framing/foundation plan. A deck framing plan shows the floor framing of the deck, and the makeup of the beams, joists and other horizontal members, and their connections, using a simplified system of symbols and drafting. Use the tables on Sheets 4 and 6 to develop the framing/foundation plan.

**Sheet 5 - Typical Deck Section.** This should be used as a checklist for deck materials by filling in the boxes with the information from the hardware manufacturer and the tables on Sheet 6. Contact a local home improvement store for a copy of the design manual from the hardware manufacturer.

**Sheet 6 - Span Table Footing Schedule.** This sheet contains the design tables for determining the proper joist and beam spans, footing type and size, and framing connections.

**Sheet 7 - Ledger Connection Details.** This sheet contains details of how to connect the deck ledger to the home and how to install the lateral load device. Specific manufacturer part numbers should be noted for the permit.

**Sheet 8 - Guard Post Connection Details.** This sheet contains details of how to construct guard posts and how to connect the guard post system to the deck structure. Specific manufacturer part numbers should be noted for the permit.

**Sheet 9 - Stair, Guard and Handrail Details.** This sheet contains details of a typical stair framing cross section and shows the various guard post and handrail opening dimensions.

**Sheet 10 - Knee Brace and Post Details.** This sheet contains details of how to install knee bracing for lateral support and cantilevering details for deck joists.

**Sheet 11 - Basic Building Code Requirements.** Provided is a list of basic code requirements for decks.

*Construction documents shall be drawn upon suitable material. Electronic media documents are permitted to be submitted where approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the building official.*

Please provide:

- 3 copies of site plan.
- 2 copies of construction drawings.

### Site Plan Checklist

- Provide scale and north arrow. Use an Engineering scale, Maximum 1"= 40' (Preferred scale 1" = 20', or 1" = 40') .
- Show dimensions of property lines.
- Show the sizes, locations, and uses of existing and proposed buildings.
- Show dimensions of setbacks of structure(s) from all property lines.
- Show the location of utilities (water, sewer, gas, and electricity) for new buildings or additions.
- Identify any existing structures, or portions thereof, that are to be removed or demolished.
- Indicate the location and dimensions of driveways and describe paving materials.
- Show stairs, if applicable.
- Show all easements.

### Typical Deck Section Checklist

- Show finish grade elevations in relation to structure.
- Specify material: decay-resistant wood, cedar, pressure treated or engineered wood product.
- Where post and beam or girder construction is used, the design shall provide positive connections to ensure against uplift and lateral displacement.
- Knee braces are required if height from grade to top of post exceeds 4'. See Knee Brace Details, Sheet 10.
- If egress from the existing building passes under the proposed deck, or if there is an existing patio under the proposed deck, 6'-8" minimum clearance is required.
- Show deck guard attachment detail.

### Framing & Foundation Plan Checklist

- Provide scale (1/4" or 1/8") and north arrow.
- Specify project area (square footage).
- Provide the sizes, species, grades, spacing and spans of all framing members including posts, lateral bracing, and guards (formerly known as "guardrails"). Show sizes of concrete footings.
- Show dimensions of perimeter foundation, isolated footings and/or piers, and depth of footings.
- Show all connections.
- Wood permanently exposed to weather must be decay-resistant heart wood of redwood, black locust, cedar, black walnut, pressure treated, or manufactured wood.
- Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be installed to provide continuous ties from the deck to the foundation system.
- Show on the drawings the numbers and sizes of nails connecting wood members. Connections that resist seismic forces shall be completely and clearly detailed on the drawings. Show the locations and specify the brand names and model numbers of all framing connectors.
- Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Toenails or nails subject to withdrawal may not be used. Where positive connection to primary structure can not be verified by inspection, deck must be self-supporting.
- Show dimensions of stairs treads & risers. Maximum riser height shall be 7-3/4" and minimum tread depth shall be 10".
- Show landings for stairways.
- Stairways shall be not less than 36" wide at all points above the handrail which may project no more than 4-1/2" into the stairway.
- Decks more than 30" above grade shall have guards not less than 36" in height. The open sides of stairs with a total rise of more than 30" above grade shall have guards not less than 34" in height measured vertically from the nosing of the treads. The guards shall have intermediate rails or an ornamental pattern such that a sphere 4" in diameter cannot pass through.
- Guards and handrails must be capable of resisting a concentrated minimum live load of 200 psf at their top.

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CONTACT NAME: \_\_\_\_\_

PHONE: \_\_\_\_\_

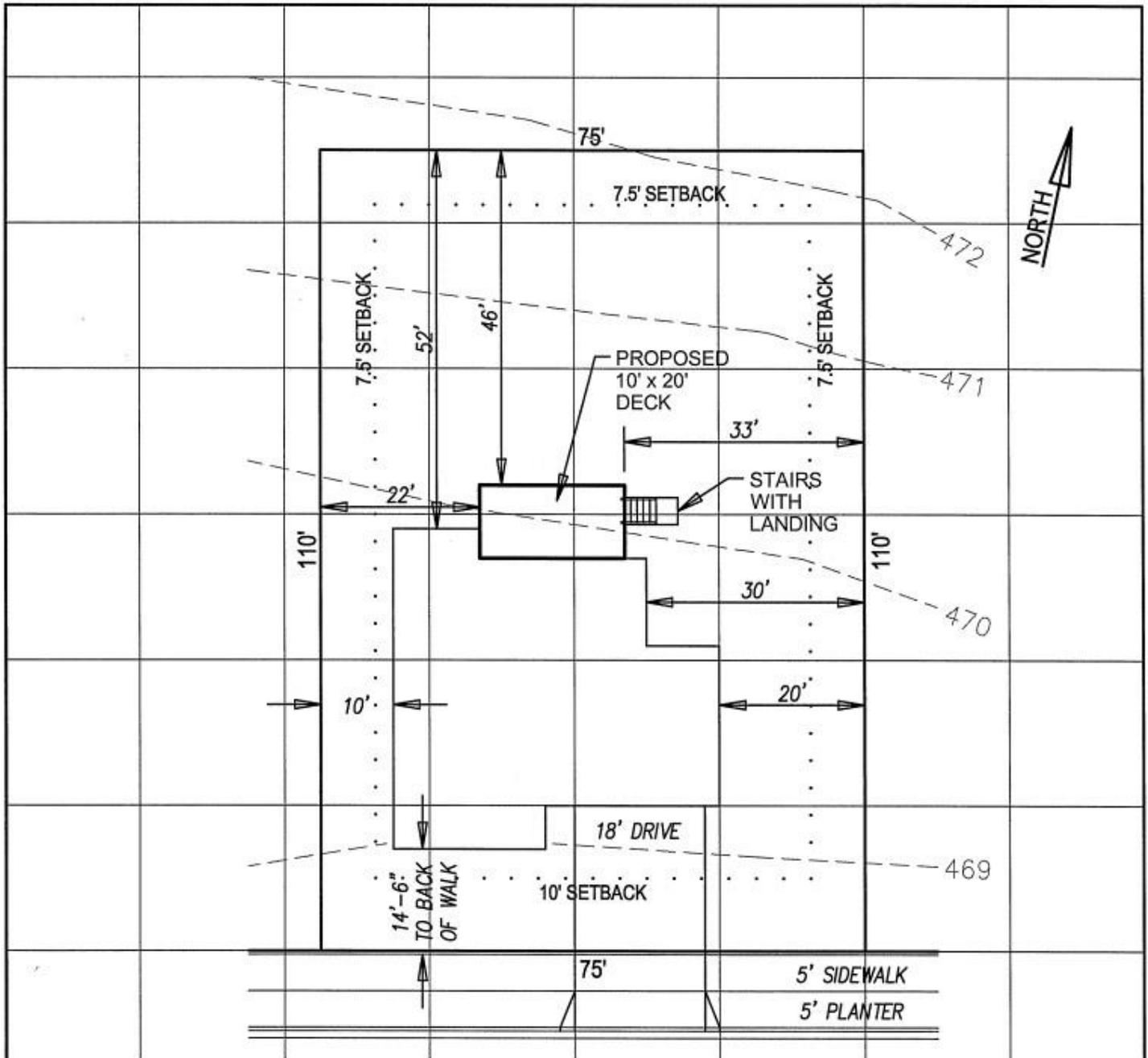
ADDRESS: \_\_\_\_\_

PARCEL No.: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

PERMIT No.: \_\_\_\_\_

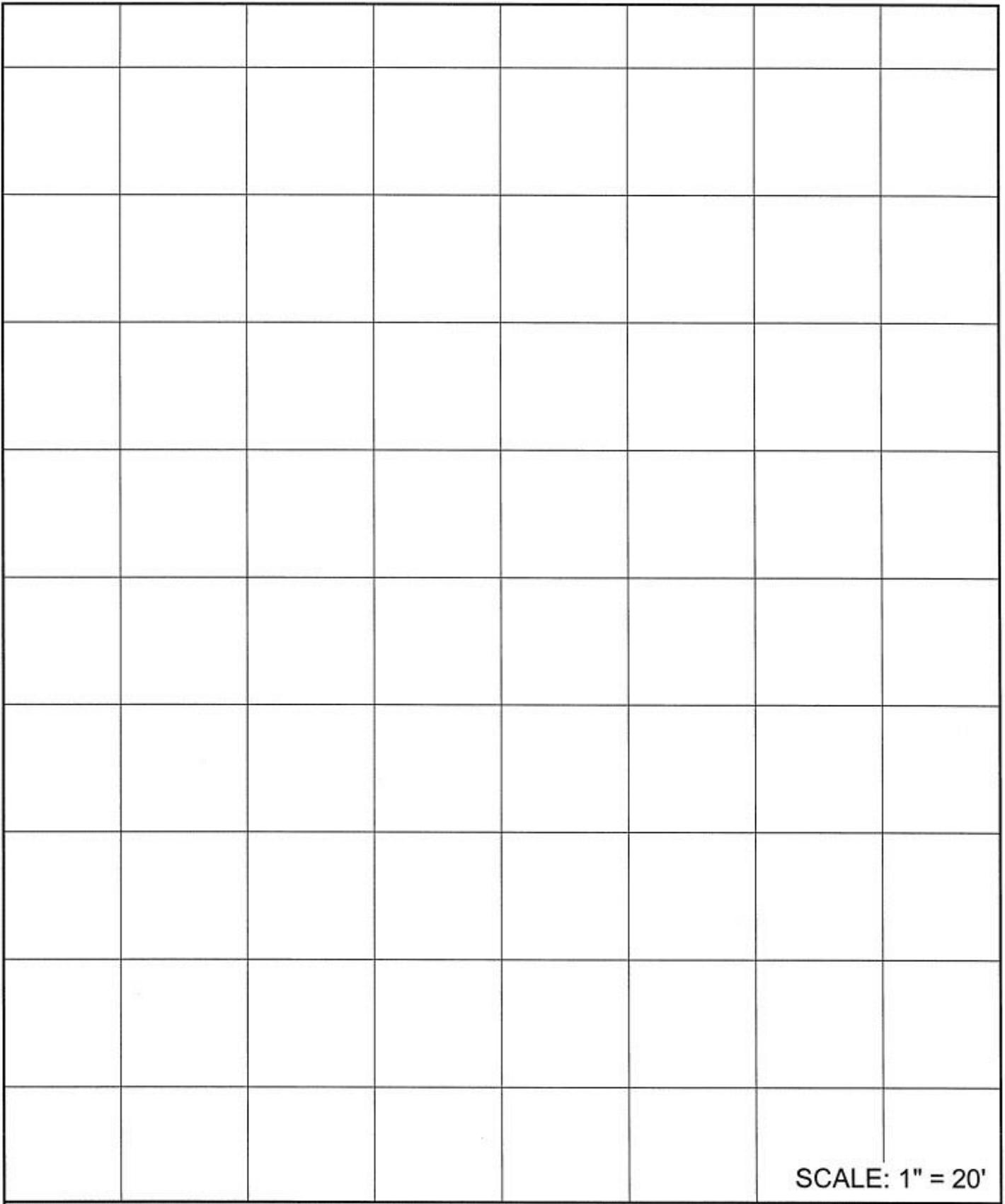


13579 SE 246TH STREET

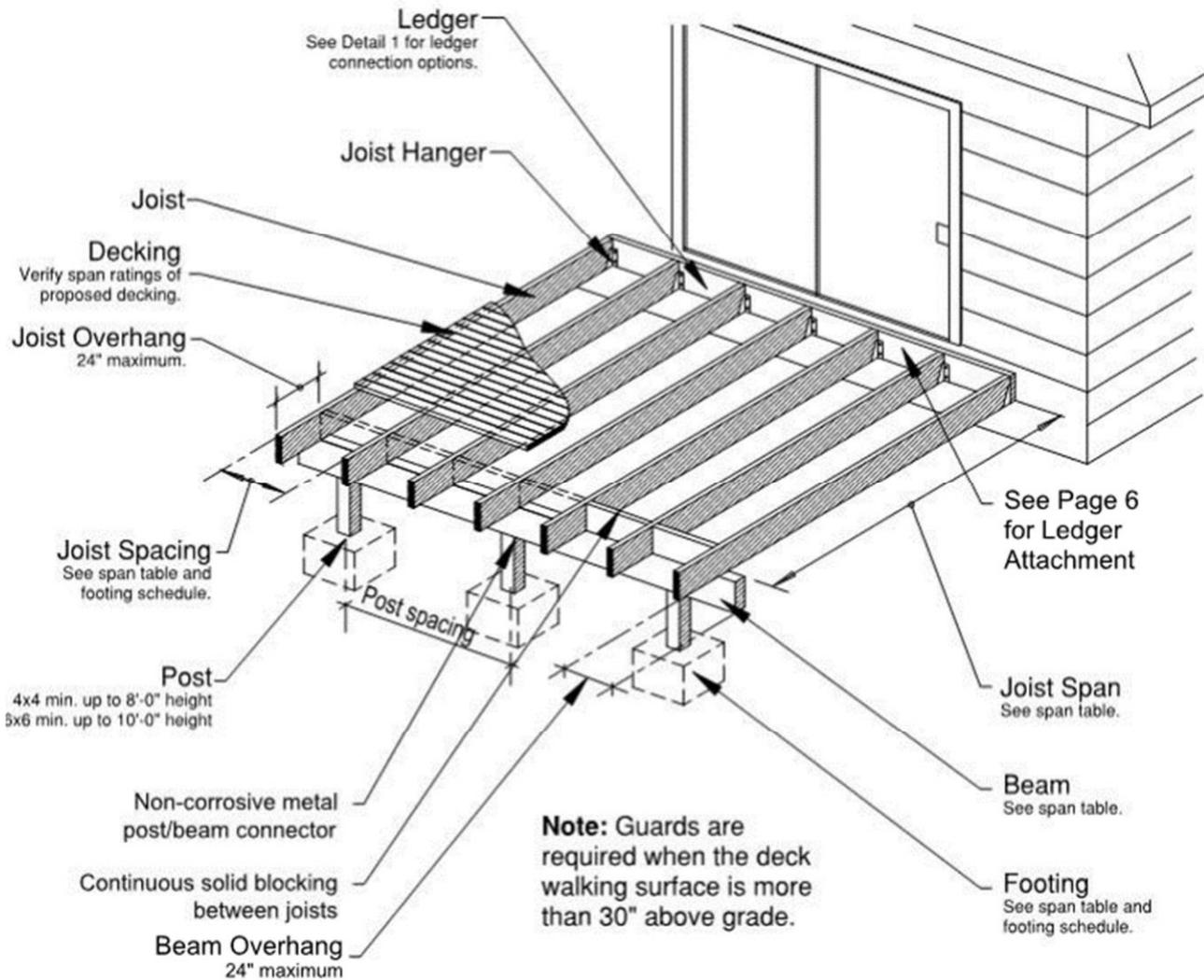
SCALE: 1" = 20'

SITE PLAN CHECKLIST:

- Provide scale and north arrow. Use an Engineering scale. Preferred scale 1" = 20' (Maximum 1"= 40').
- Show dimensions of property lines.
- Show the sizes, locations and uses of existing and proposed buildings.
- Show dimensions of setbacks of structure(s) from all property lines.
- Show the location of utilities (water, sewer, gas, and electricity) for new buildings or additions.
- Identify any existing structures, or portions thereof, that are to be removed or demolished.
- Indicate the location and dimensions of driveways and describe paving materials.
- Show contours.
- Show all easements.



# Typical Deck

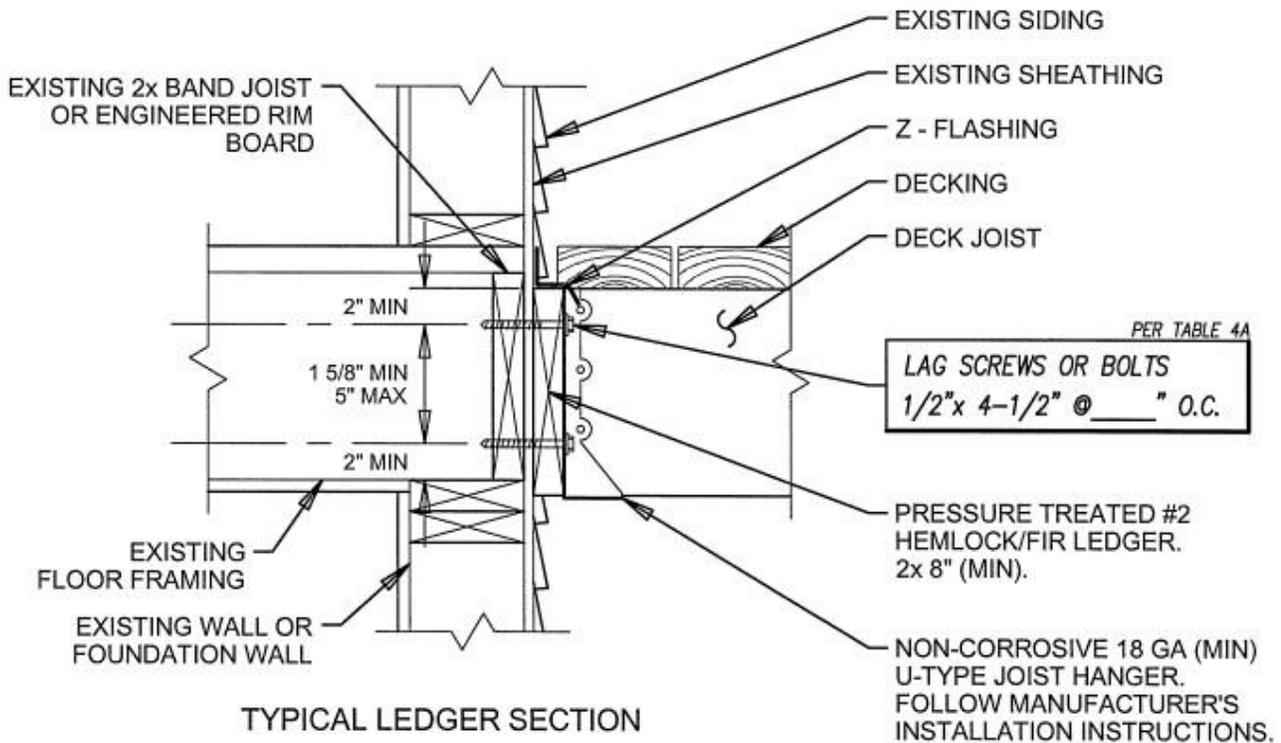


**Deck**

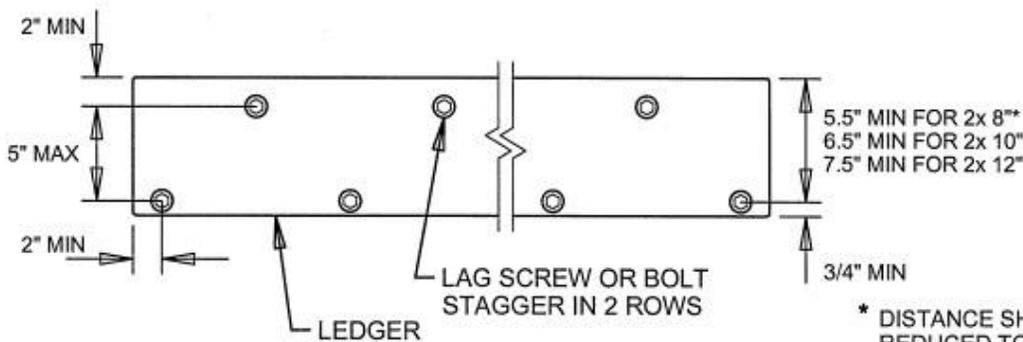
## Construction Notes

- Please note that due to the new 60 psf loading, previous lumber spans and footing sizes have changed.
- The illustrations and information in this Tip Sheet may be used for decks whether or not they require a permit. See Tip Sheet 0 for when a permit is required.
- All wood must be pressure treated or naturally resistant to decay. Treat cuts, holes and notches with end-cut solution.

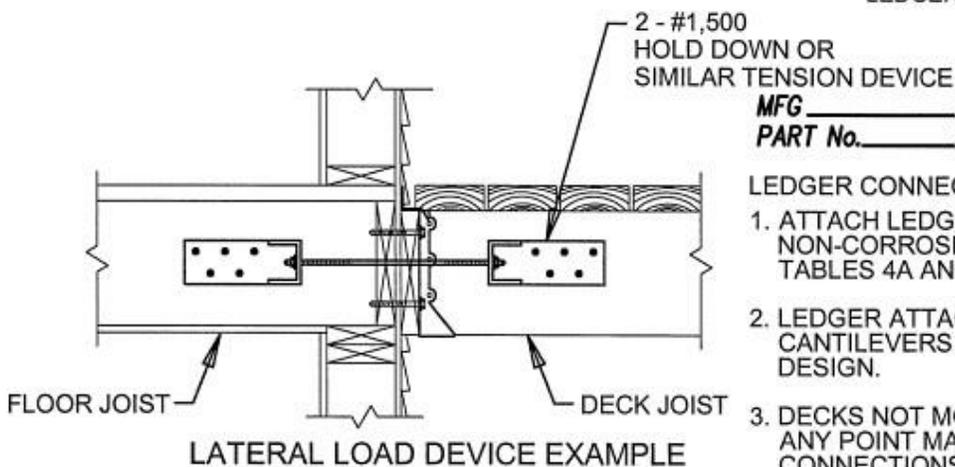
Fasteners, hangers, nails, etc., must be stainless steel, hot-dipped galvanized, or as specifically required for the specified wood preservative used. The coating weights for zinc-coated fasteners to be in accordance with ASTM A 153. Provide documentation in the field showing the required fastener protection for the wood chosen for your deck



MFG \_\_\_\_\_  
PART No. \_\_\_\_\_



\* DISTANCE SHALL BE PERMITTED TO BE REDUCED TO 4.5" IF LAG SCREWS ARE USED OR BOLT SPACING IS REDUCED TO THAT OF LAG SCREWS TO ATTACH 2x 8" LEDGERS TO 2x 8" BAND JOISTS.



MFG \_\_\_\_\_  
PART No. \_\_\_\_\_

**LEDGER CONNECTION NOTES:**

1. ATTACH LEDGER TO EXISTING BUILDING WITH NON-CORROSIVE LAG BOLTS SPACED PER TABLES 4A AND 4B.
2. LEDGER ATTACHMENT TO VENEERS AND CANTILEVERS WILL REQUIRE ENGINEERING DESIGN.
3. DECKS NOT MORE THAN 30" ABOVE GRADE AT ANY POINT MAY OMIT LATERAL LOAD CONNECTIONS.

## 6A, 6B Span Table and Footing Schedule for Decks

Spans and footings assume the maximum 24" cantilever using Hem-Fir/Doug Fir No. 2 or better framing lumber.  
Table uses 70 psf. loading (10 psf. dead load + 60 psf live load) and 2000 psf. soil bearing pressure.

Joist Size	Joist Spacing	Max. Joist Span	Girder Beam Size and Max. Span Between Support Posts / Footing Type							
			4x6	Footing	4x8	Footing	4x10	Footing	4x12	Footing
2x6	12" o.c.	7'-5"	5'-11"	14x14	7'-9"	16x16	9'-6"	18x18	11'-1"	18x18
	16" o.c.	6'-9"	5'-11"	14x14	7'-9"	16x16	9'-6"	18x18	11'-1"	18x18
	24" o.c.	5'-9"	6'-3"	14x14	8'-9"	16x16	11'-0"	18x18	12'-10"	1 8x18
2x8	12" o.c.	9'-7"	4'-11"	14x14	6'-6"	16x16	8'-3"	18x18	10'-0"	20x20
	16" o.c.	8'-8"	4'-11"	14x14	6'-6"	16x16	8'-3"	18x18	10'-0"	18x18
	24" o.c.	7'-7"	5'-11"	14x14	7'-9"	16x16	9'-6"	18x18	11'-1"	18x18
2x10	12" o.c.	13'-3"	3'-6"	14x14	4'-8"	16x16	5'-11"	18x18	7'-2"	18x18
	16" o.c.	11'-6"	4'-1"	14x14	5'-5"	16x16	6'-11"	18x18	8'-5"	20x20
	24" o.c.	9'-5"	4'-11"	14x14	6'-6"	16x16	8'-3"	18x18	10'-0"	20x20
2x12	12" o.c.	15'-5"	3'-1"	14x14	4'-1"	16x16	5'-2"	16x16	6'-3"	18x18
	16" o.c.	13'-4"	3'-6"	14x14	4'-8"	16x16	5'-11"	18x18	7'-2"	18x18
	24" o.c.	10'-11"	4'-1"	14x14	5'-5"	16x16	6'-11"	18x18	8'-5"	18x18

Footings must have a minimum reinforcement of (2) #4 bars each way with a 3" clearance to the bottom of the footing. Note: Footing sizes are based on decks designed with single span joists where there is no center bearing beam.

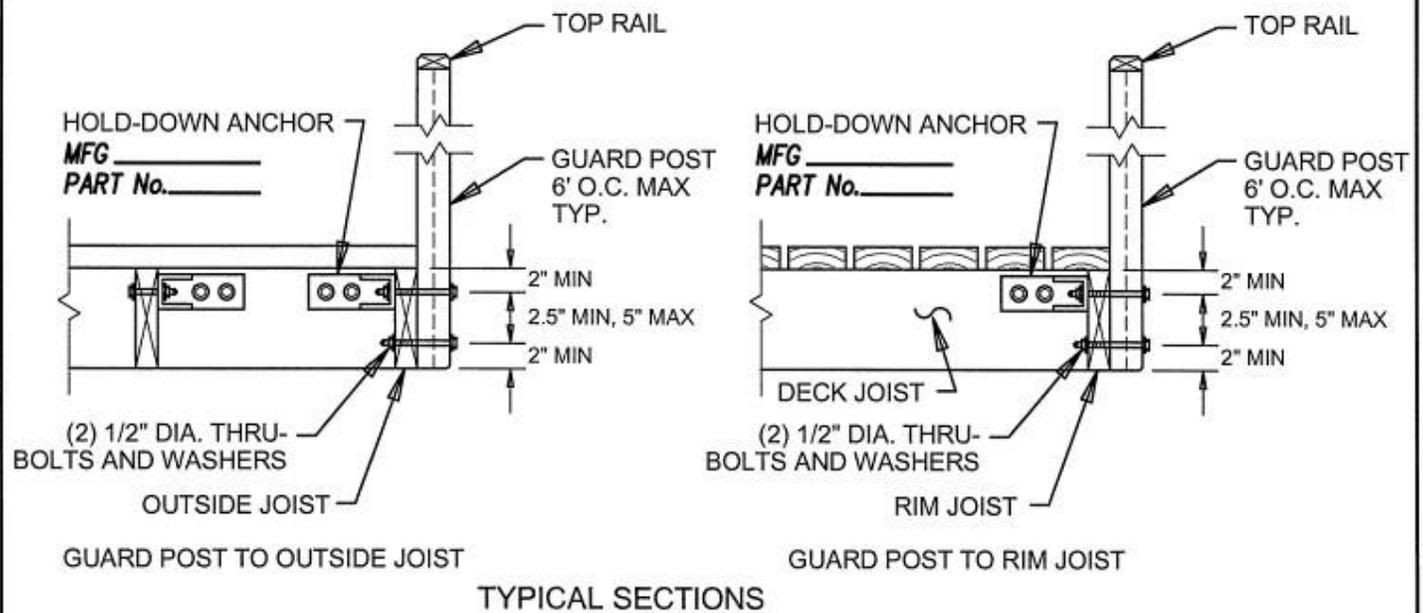
## 4A Deck Ledger Connection to Band Joist <sup>a</sup>

(Reference IRC Table R507.2 - Deck live load = 60 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

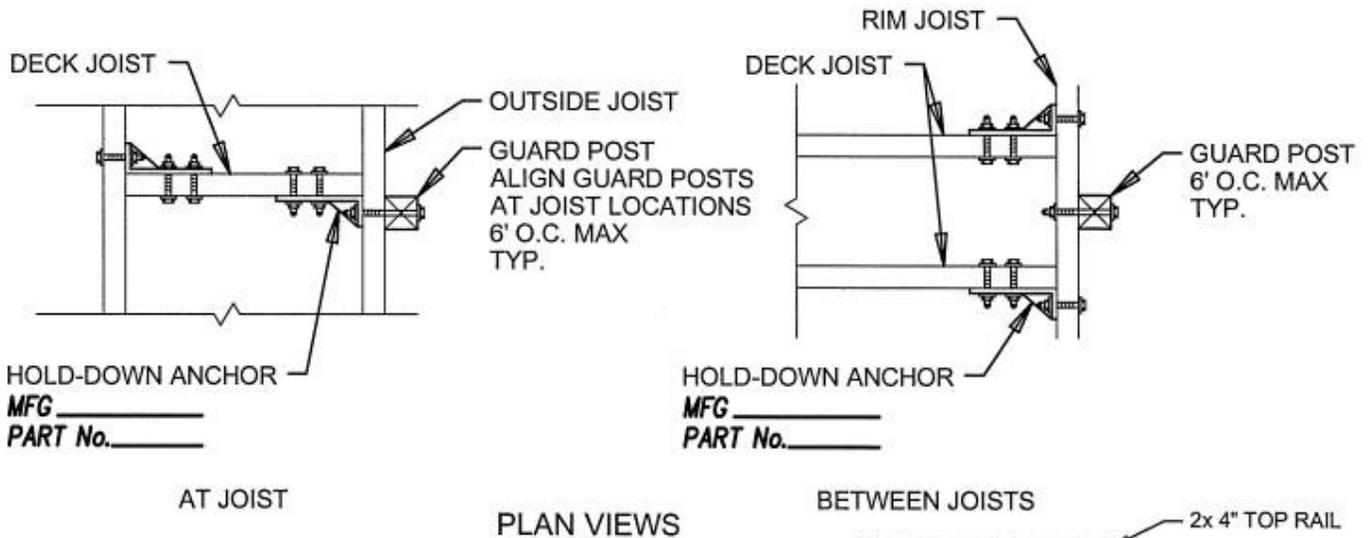
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

Connection Details	Joist Span						
	6' and less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
	On-center spacing of fasteners						
½ inch diameter lag screw with ½ inch maximum sheathing <sup>c,d</sup>	22	16	13	11	9	8	7
½ inch diameter bolt with ½ inch maximum sheathing <sup>d</sup>	30	22	18	15	13	11	10
½ inch diameter bolt with 1 inch maximum sheathing <sup>e</sup>	26	19	16	13	11	10	9

- a. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
- b. Snow load shall not be assumed to act concurrently with live load.
- c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- d. Sheathing shall be wood structural panel or solid sawn lumber



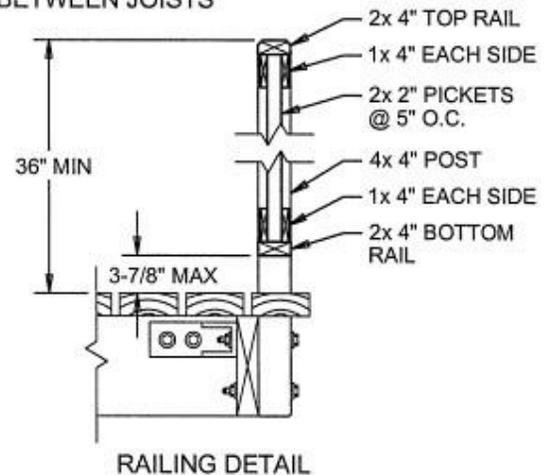
TYPICAL SECTIONS

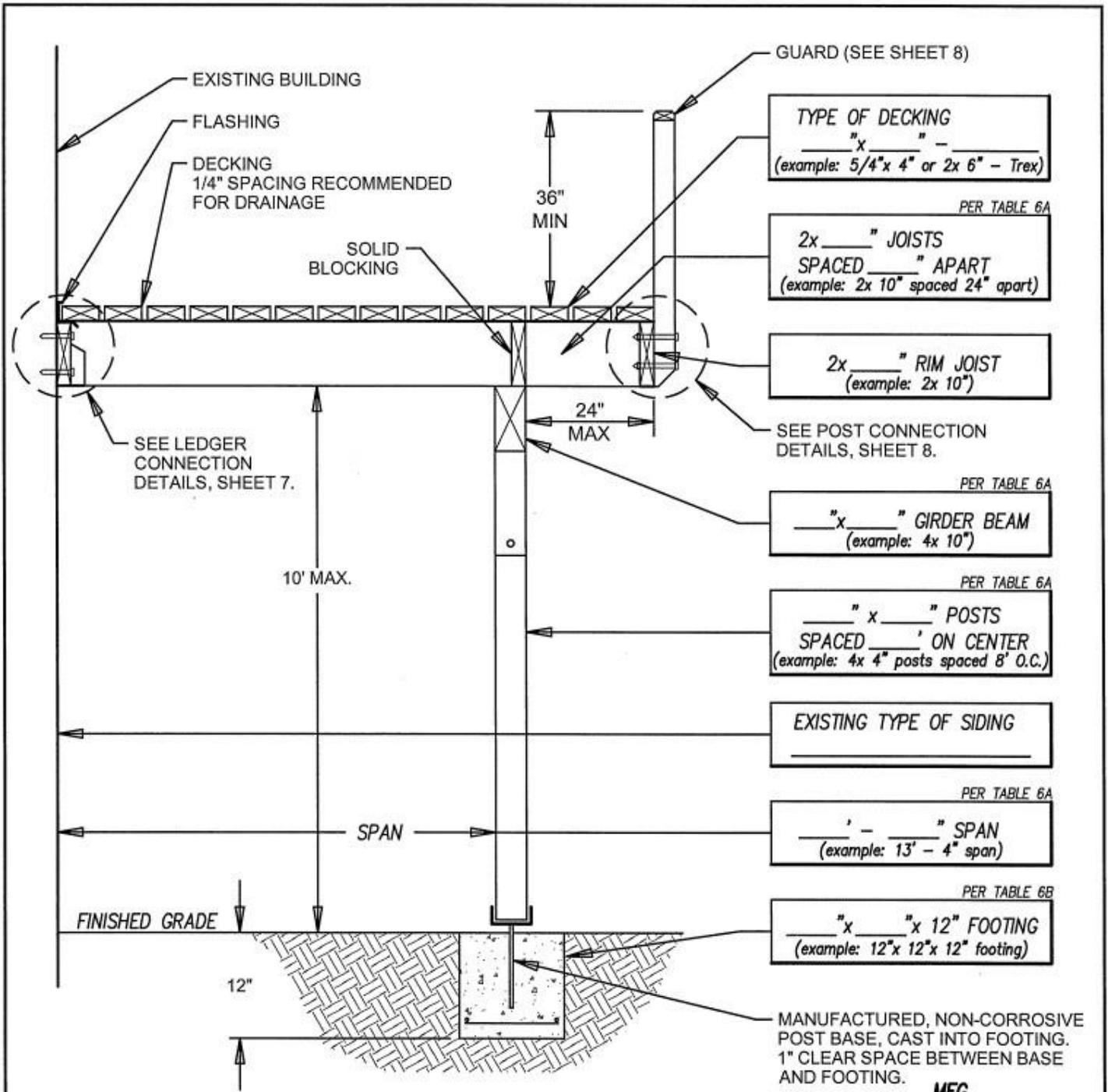


PLAN VIEWS

**GUARD POST CONNECTION AND RAILING NOTES:**

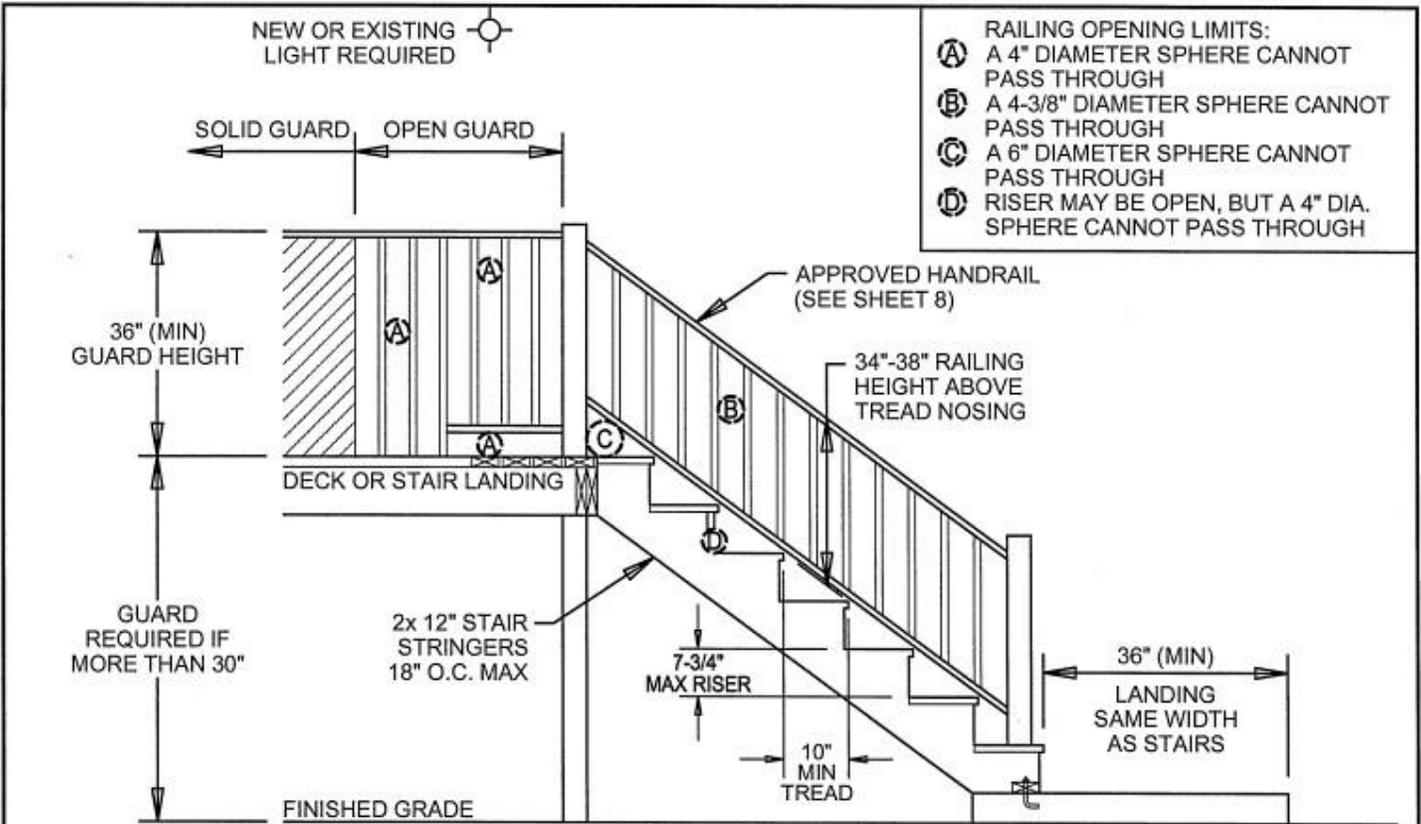
1. AT THE FIRST INTERIOR BAY, PROVIDE 2x BLOCKING AT GUARD POSTS WITH HOLD-DOWN ANCHORS; ATTACH BLOCKING WITH 10d NAILS TOP AND BOTTOM, EACH SIDE.
2. GUARD POSTS MAY BE INSTALLED BETWEEN JOISTS IF BLOCKING IS INSTALLED WITHIN 12" OF EACH SIDE OF THE POST, AS SHOWN ABOVE.
3. GUARD SHALL BE 36" MINIMUM ABOVE DECK WITH INTERMEDIATE RAILS SPACED SO THAT A 4" DIAMETER SPHERE CANNOT PASS THROUGH.
4. ALL RAILING MATERIALS SHALL BE APPROVED OUTDOOR MATERIALS.





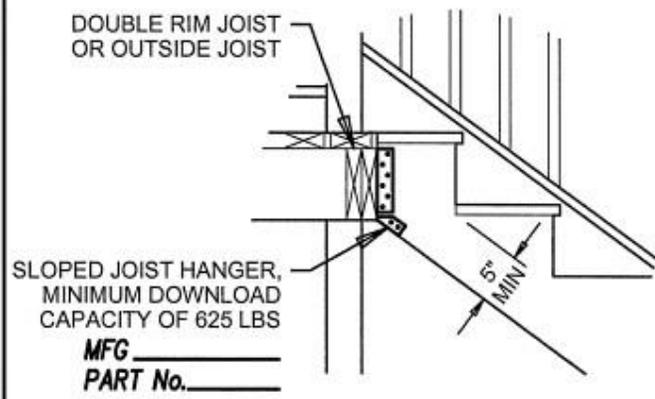
**Typical Deck Section Checklist**

- Show finish grade elevations in relation to structure.
- Specify material: decay-resistant wood, cedar, pressure treated, or engineered wood product.
- Where post and beam or girder construction is used, the design shall provide positive connections to ensure against uplift and lateral displacement.
- Knee braces are required if height from grade to top of post exceeds 4'. See Guard Post Connection Details, Sheet 8.
- If egress from the existing building passes under the proposed deck, or if there is an existing patio under the proposed deck, 6'-8" minimum clearance is required.

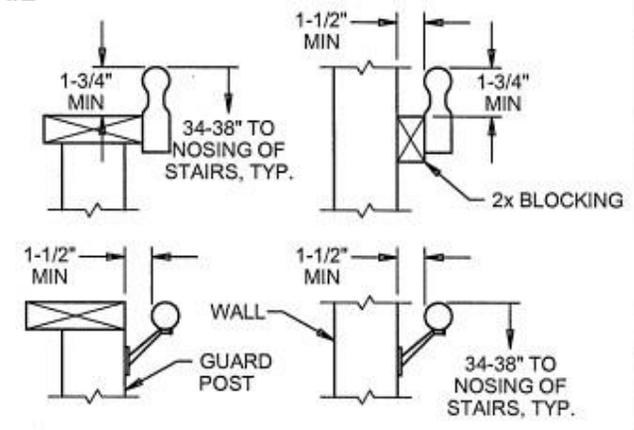


- RAILING OPENING LIMITS:**
- (A) A 4" DIAMETER SPHERE CANNOT PASS THROUGH
  - (B) A 4-3/8" DIAMETER SPHERE CANNOT PASS THROUGH
  - (C) A 6" DIAMETER SPHERE CANNOT PASS THROUGH
  - (D) RISER MAY BE OPEN, BUT A 4" DIA. SPHERE CANNOT PASS THROUGH

**STAIR DETAIL**

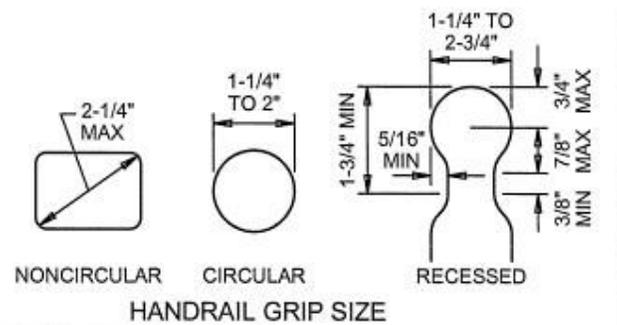


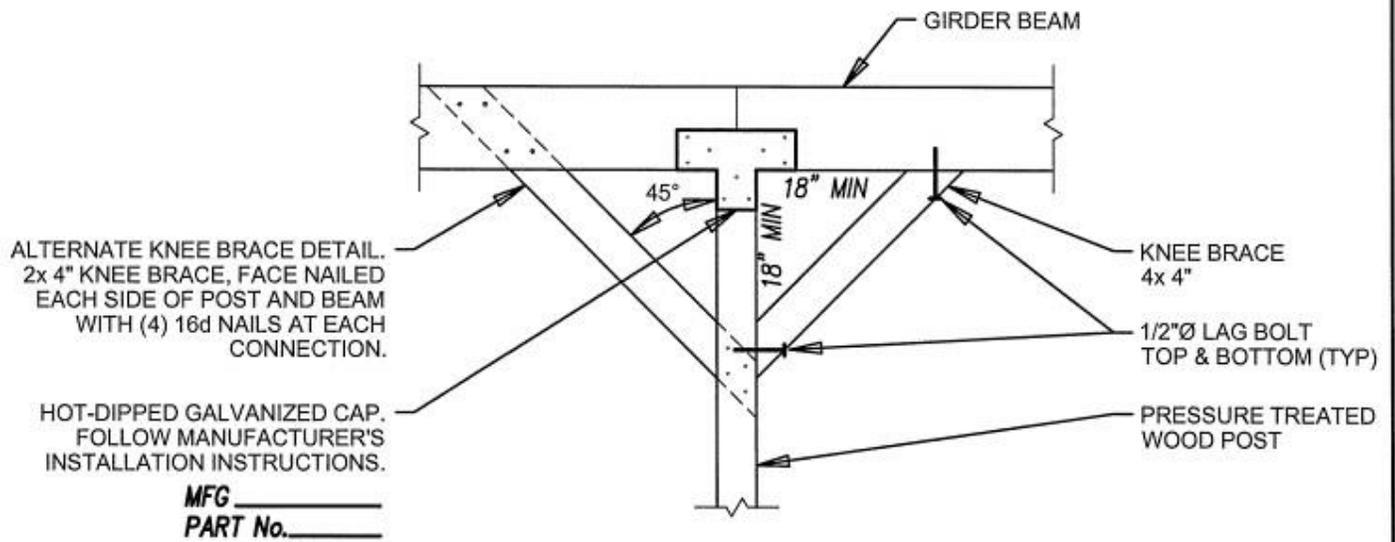
**STAIR STRINGER ATTACHMENT DETAIL**



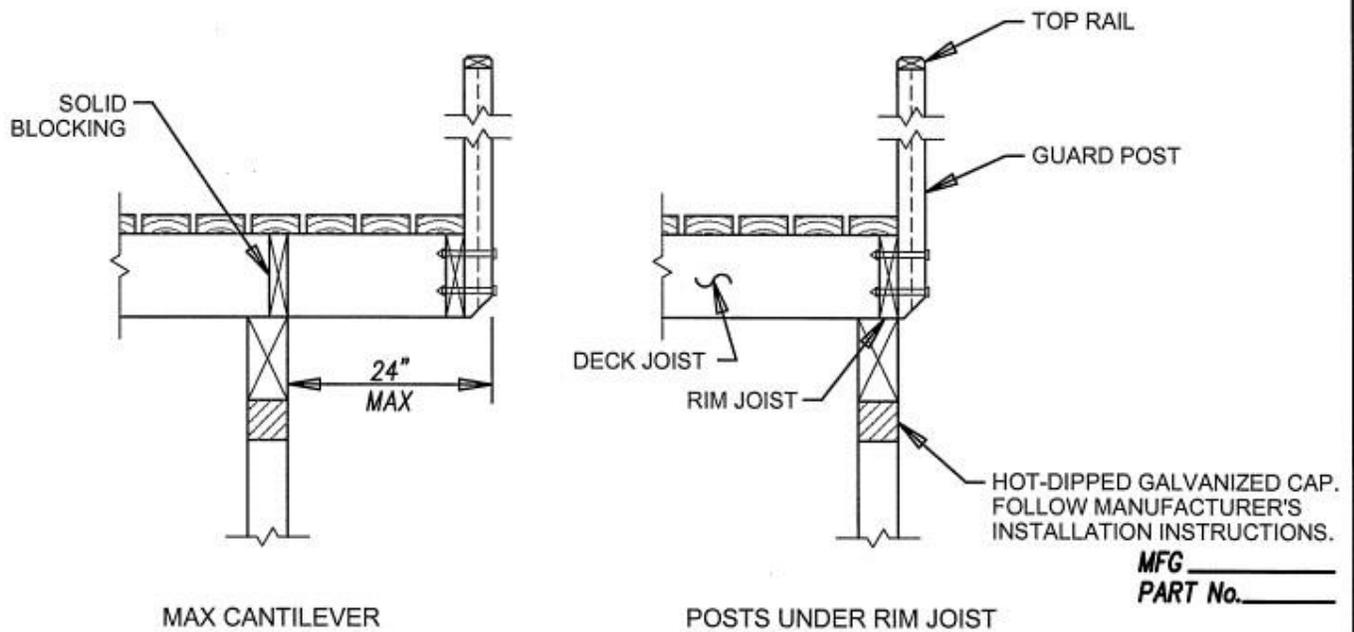
**HANDRAIL MOUNTING EXAMPLES**

- STAIR, GUARD AND HANDRAIL NOTES:**
1. RESIDENTIAL HANDRAILS MUST RETURN TO THE WALL OR TERMINATE IN A BALLUSTER OR POST AT EACH END.
  2. OPEN GUARD SHALL CONSIST OF GUARD POSTS SPACED 6' O.C. W/ INTERMEDIATE RAILS AT 3-7/8" MAX. SPACING.
  3. STAIRWAYS SHALL NOT BE LESS THAN 36" IN WIDTH.
  4. MANUFACTURED STAIR TREADS SHALL BE SUPPORTED PER MANUFACTURERS REQUIREMENTS.





KNEE BRACE DETAIL



**KNEE BRACE NOTES:**

1. KNEE BRACES ARE REQUIRED IF THE HEIGHT FROM GRADE TO TOP OF POST EXCEEDS 4'.

1. The bottom of the footing must be 12" minimum below finish grade. Footings shall have rebar reinforcement installed prior to the footing inspection.
2. Beam-ends and splices must be directly over posts, minimum of 1-1/2" bearing.
3. Deck ledger boards must be secured to the structure per Table 4A on Sheet 4 of deck worksheet.
4. Screws shall be positively anchored to the primary structure and designed for both vertical and horizontal loads. Floor system manufacturers are to provide connection details.
5. Joist hangers are required wherever joists do not have at least 1-1/2" of bearing. (Exception: cantilevered ends.)
6. Guards are required on all decks more than 30" above grade or a lower deck. Guards must be 36" minimum in height. Open guards must have intermediate rails or an ornamental pattern that a 4" diameter sphere cannot pass through. Guard posts shall be placed no more than 6' apart.
7. Stairways must be 36" clear width at all points above required handrail height and below required headroom height. The maximum rise is 7-3/4"; the minimum run is 10". Treads, risers and nosings shall be consistent within 3/8". Open risers for stairways with a total rise of more than 30" are not permitted to allow the passage of a 4" diameter sphere. A tread nosing not less than 3/4", or greater than 1-1/4", shall be provided on stairways with solid risers, a nosing is not required if tread depth is a minimum of 11".
8. Stairways with treads more than 30" above the grade or floor below require a guard not less than 34" from the nose of the treads. Open guards shall have intermediate rails or an ornamental pattern such that a sphere 4-3/8" in diameter may not pass through. The triangular openings formed by the riser, tread and bottom rail of guards shall be such that a sphere 6" in diameter may not pass through.
9. Approved handrails are required on stairways with four or more stair risers.
10. Wooden structural members of exterior decks must be cedar, redwood, treated wood, approved composite material or an approved outdoor wood.
11. All bolts, washers, nuts, hangers, strapping, nails, and other fasteners in contact with treated materials shall be hot dipped galvanized, stainless steel or listed for direct contact with treated materials.
12. Handrails must have a continuous, graspable surface and be 34" to 38" above the tread nosing and run the full length of the stairway with ends returned to wall or guard. Handrails shall have a space of not less than 1-1/2" between the handrail and the wall or guard. Handrail options are shown on Sheet 9. All edges shall be smooth.
13. If pre-manufactured pier blocks are used, they must be connected to a footing to prevent lateral displacement and uplift.
14. Deck stairways shall be provided with a source of illumination at the top landing controlled from within the dwelling or by an automatic means.