Welcome to St. Augusta
WHERE COUNTRY MEETS COMMUNITY

RESIDENTIAL DECKS

Single family dwellings

Building Permit Requirements:

- Building permits are required for all decks that are more thank 30" above adjacent grade or attached to structure having frost footings. A permit is also required if the deck is part of an accessible route.

Zoning Requirements:

- Decks must meet the City's land use and setback requirements as stated in the St. Augusta Zoning Code. Supply a drawing similar to Page 5 of this handout. "Site plan example"

Plan Review & Inspections:

- Along with a completed permit application, the applicant must supply all information required in this handout. Plans will be reviewed by the Zoning Admin for zoning compliance and the Building Inspector for building code compliance and returned in a reasonable amount of time. Construction must not begin until the code compliant plans are on site and a permit card is hung in a visible location.

Design Considerations:

- All fasteners shall be hot-dipped galvanized, stainless steel or other approved for use with preservative treated lumber.
- All lumber in direct contact with the ground must be rated as "ground contact" lumber.
- Flashing at ledger board connections shall be corrosion-resistant metal of nominal thickness not less than 0.019 inch or approved non-metallic material that is compatible with the substrate of the structure and the decking materials. Aluminum and galvanized metal will only be allowed if there is a barrier between treated lumber and the flashing material.
- Plastic composite exterior deck boards, stair treads, guards and handrails shall comply with the requirements of ASTM D7032 and Section R507 of 2020 Minnesota IRC.
- Mechanical connectors, e.g., joist hangers or post anchors, shall be stainless steel or galvanized with 2.0 ounces of zinc per square foot (total both sides) (ASTM A653 G-185 coating).

Required inspectors will include, but are not limited to:

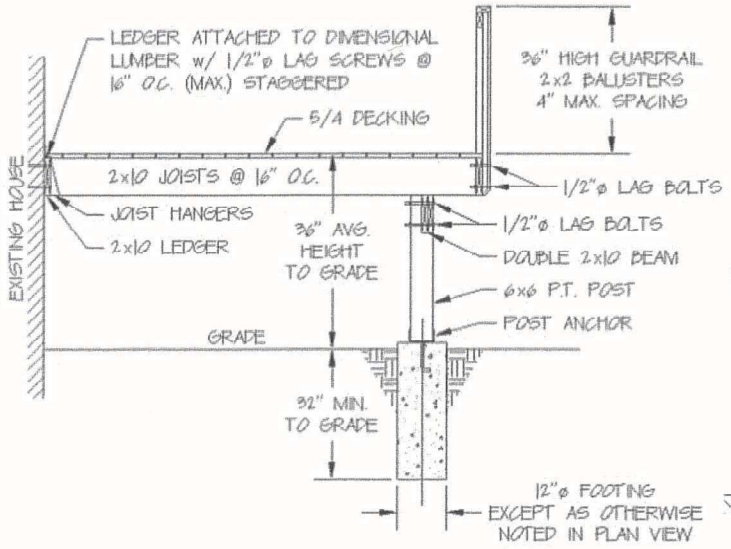
Footing: When holes are dug and forms are set but BEFORE any concrete is poured. The inspector will check the depth of the footing and its width at the base. They may also check the location of the footings for compliance with the zoning ordinance.

Framing: When all framing, blocking, bracing and flashing is in place and prior to covering the construction so it will be accessible for inspection. The inspection MAY be done at the time of a final inspection if ALL parts of the framing are visible and easily accessible.

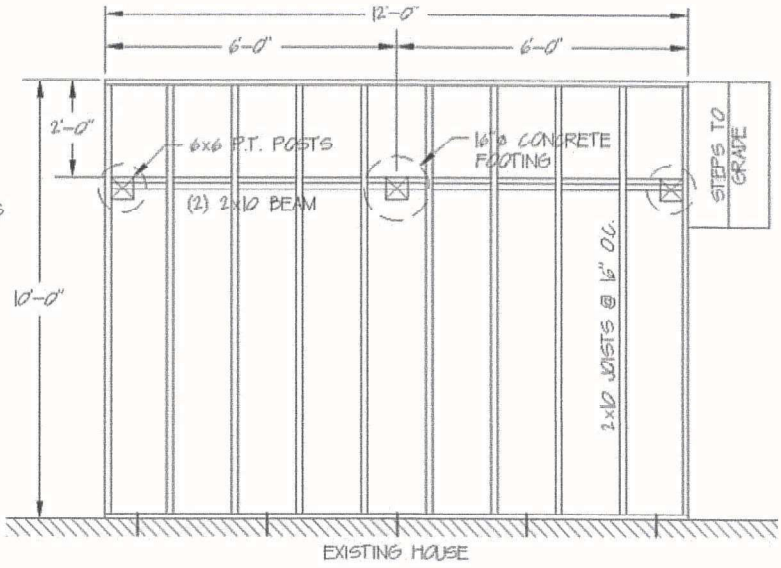
ADMINISTRATOR
Jennifer Nash

1914 250th Street - St. Augusta, MN 56301-7706 **Phone: (320) 654-0387** **www.staugustamn.gov**

SAMPLE PLAN AND SECTION VIEW



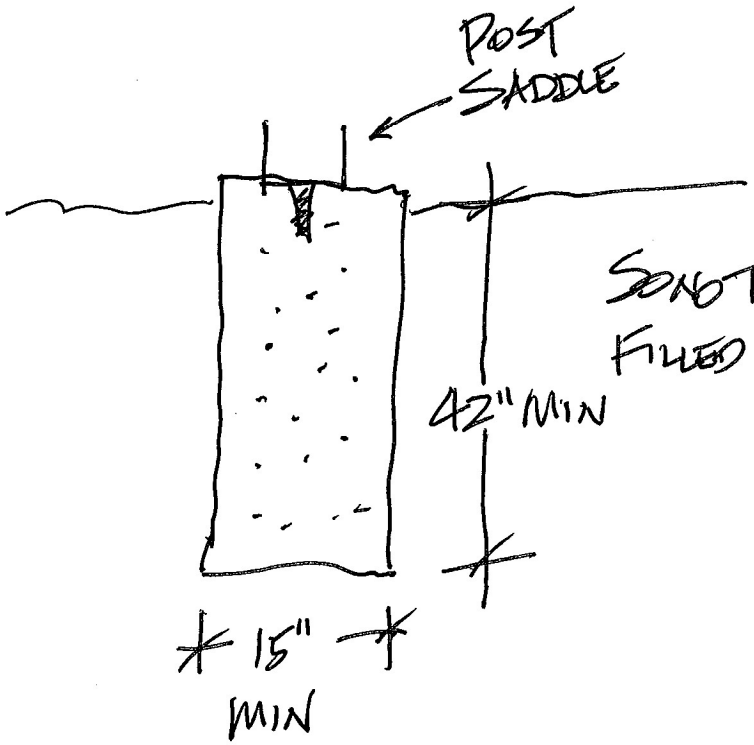
TYPICAL DECK SECTION



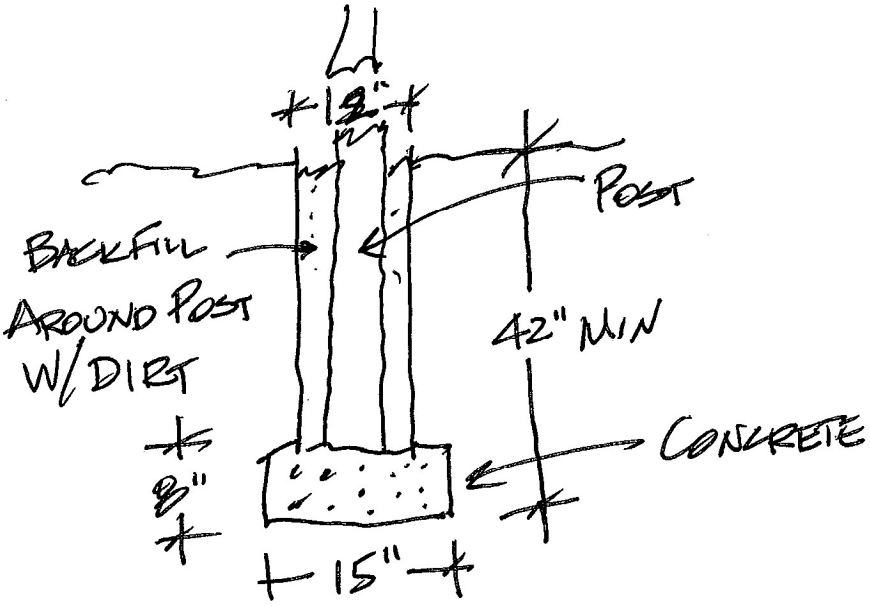
TYPICAL DECK LAYOUT

THIS IS AN EXAMPLE SKETCH ONLY. DO NOT USE THIS TO DESIGN YOUR DECK

Deck Plan and Elevation View: Drawing must include footing locations and sizes, post sizes and locations, joist sizes and lengths, beam sizes and lengths, decking direction and type, overall deck dimensions, location of stairs, height of deck surface from lowest grade level, depth of footings and all other information needed to construct the deck (see Typical Deck Layout drawing on pg. 8 for reference). *Attach additional sheets if needed.



OPTION #1



OPTION #2

* DIAMOND PIERS ARE NOT CURRENTLY ALLOWED BY INSPECTRON *

Inspectron, Inc.
15120 Chippendale Ave.
Suite #202
Rosemount, MN 55068

DECK HANDOUT

PERMITS

Permits are required for all decks that are attached to a structure or are 30 inches or more above grade. Decks and platforms not more than 30 inches above adjacent grade and not attached to a structure with frost footing do not require a building permit.

PLAN SUBMITTAL DOCUMENTS

- 2 sets of plans (one will be returned to you with your permit)
- Completed permit application
- Site plan showing location of proposed project and distances from property lines. **(See Site Plan Handout)**

LIST OF INSPECTIONS

- Footing – When forms are set but BEFORE the concrete is poured
- Framing – When all framing, blocking, and bracing are in place and prior to covering the construction so it is accessible for inspection. This inspection MAY be done at the time of final inspection if all parts of the framing are visible and accessible.
- Final – When deck is completed and grading (if any is required) is finished.

GENERAL CODE REQUIREMENTS

- Footings and posts must be sized to support all loads in the existing soil conditions. The base of the footing must be flared to prevent uplift.
- Decks must be designed for a 40 pound per sq ft live load. Decks exposed to the weather must be constructed of approved wood with natural resistance to decay.
- Posts must be of special pressure treated wood approved for ground contact.
- Framing joists and beams must be sized to support all loads imposed.
- Chemical compounds used to treat lumber may be corrosive to the fasteners and connectors. Check to make sure you have fasteners and hangers with the proper coating.
- The maximum rise of stairs is 7 3/4 inches and the minimum run of stairs is 10 inches. Open risers must be designed so that a 4 inch sphere will not pass through. Stairs must have a graspable handrail whenever there are 4 or more risers.
- Guardrails must be 36 inches in height and guardrail openings must be designed so that a 4"inch sphere cannot pass through. **(See Stairway and Handrail Handout)**
- Be careful to maintain the required distance from overhead power lines.

DESIGN/PROJECT NOTES

- Some designs may not be appropriate if a future porch, addition or hot tub is intended to be installed on the deck. Size footings, beams and joists for all future loads.
- Composite decking materials must be approved by the Building Official prior to installation. If you plan on using composite decking materials for the floor or guards provide trade name and copies of the ICC Evaluation Services Report.

If you have questions, contact Inspectron, Inc. at 651-322-6626 or 800-322-6153 Monday through Friday between 8:00 am and 4:30 pm. We are happy to answer your project questions!

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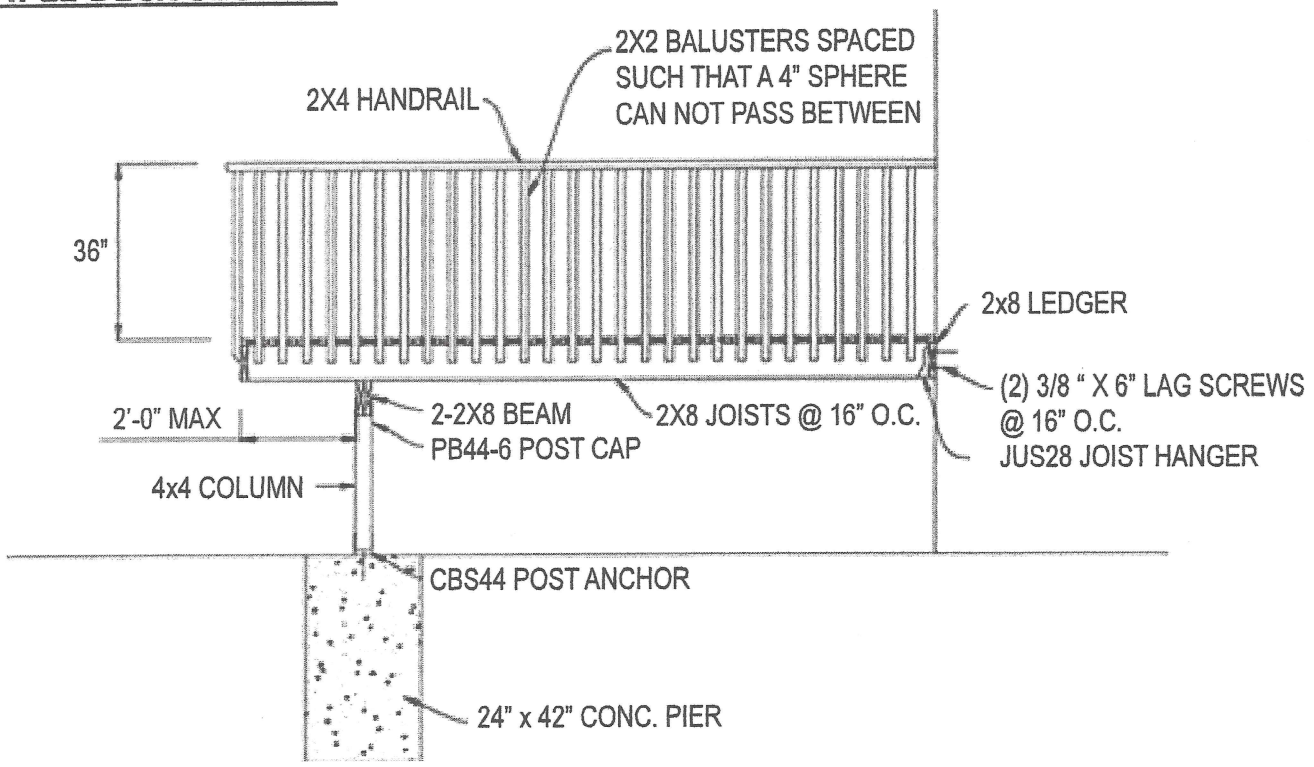
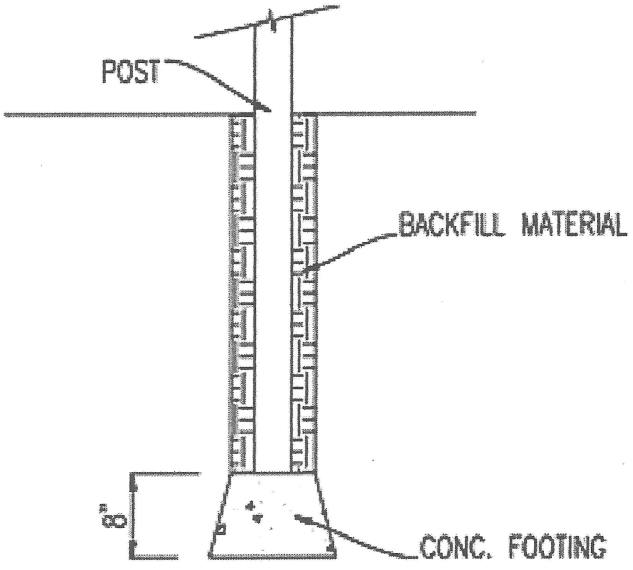
SAMPLE DECK SECTION



If house floor framing is I-joists or floor trusses contact Inspectron, Inc for requirements of ledger attachment.

ALTERNATE FOOTING DETAIL



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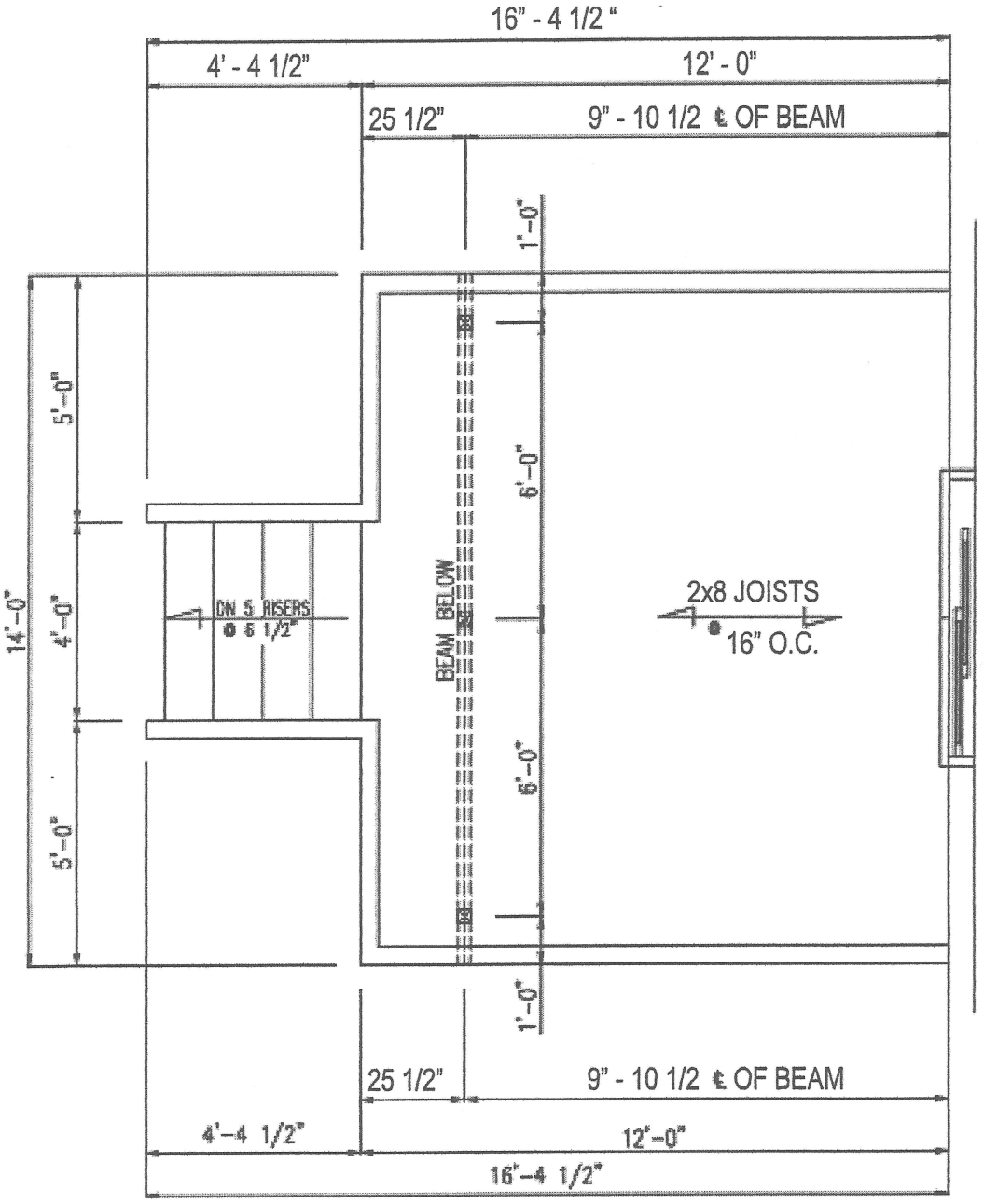
DECK PLAN LAYOUT EXAMPLE



Show locations of any doors or windows adjacent to the deck or stairs.

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DECK JOINT SIZE & SPACING GUIDE

Based on Number 2 or better wood grades
(Design Load = 40#LL + 10#DL, Deflection = L/360

	Ponderosa Pine			Southern Pine			Western Cedar		
	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24"OC
2 x 6	9-2	8-4	7-0	10-9	9-9	8-6	9-2	8-4	7-3
2 x 8	12-1	10-10	8-10	14-2	12-10	11-0	12-1	11-0	9-2
2 x 10	15-4	13-3	10-10	18-0	16-1	13-5	15-5	13-9	11-3
2 x 12	17-9	15-5	12-7	21-9	19-0	15-4	18-5	16-0	13-0

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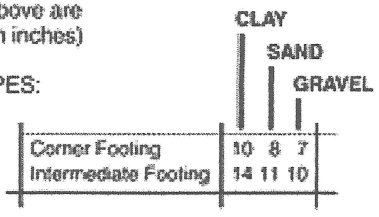
DECK BEAM & FOOTING SIZE TABLE

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

Joist Length			Post spacing 4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
	6'	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
		Corner Footing	6 5 4	7 6 5	7 6 5	8 7 6	9 7 6	9 7 6	10 8 7	10 8 7	10 9 7	11 9 8	11 9 8
		Intermediate Footing	9 8 7	10 8 7	10 9 7	11 9 8	12 10 9	13 10 9	14 11 10	14 12 10	15 12 10	15 13 11	16 13 11
	7'	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
		Corner Footing	7 5 5	7 6 5	8 7 6	9 7 6	9 8 7	10 8 7	10 8 7	11 9 8	11 9 8	12 10 9	12 10 9
		Intermediate Footing	9 8 7	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	15 13 11	16 13 11	17 14 12	17 14 12
	8'	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
		Corner Footing	7 6 5	8 6 6	9 7 6	9 8 7	10 8 7	10 8 7	11 9 8	11 9 8	12 10 9	13 10 9	13 11 9
		Intermediate Footing	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	16 13 11	16 13 12	17 14 12	18 15 13	18 15 13
	9'	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
		Corner Footing	7 6 5	8 7 6	9 7 6	10 8 7	10 9 7	11 9 8	12 10 8	12 10 9	13 10 9	13 11 9	14 11 10
		Intermediate Footing	10 9 7	12 10 8	13 10 9	14 11 10	15 12 10	16 13 11	17 14 12	17 14 12	18 15 13	19 15 13	20 16 14
	10'	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	Eng Bm
		Corner Footing	8 6 6	9 7 6	10 8 7	10 8 7	11 9 8	12 10 8	12 10 9	13 11 9	14 11 10	14 12 10	15 12 10
		Intermediate Footing	11 9 8	12 10 9	14 11 10	15 12 10	16 13 11	17 14 12	17 14 12	18 15 13	19 16 14	20 16 14	21 17 15
	11'	Southern Pine Beam	1-2x6	2-2x6	2-2x8	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	Eng Bm
		Corner Footing	8 7 6	9 7 6	10 8 7	11 9 8	12 9 8	12 10 9	13 11 9	14 11 10	14 12 10	15 12 10	15 13 11
		Intermediate Footing	12 9 8	13 11 9	14 12 10	15 12 10	16 13 11	17 14 12	17 14 12	18 15 13	19 16 14	20 16 14	21 17 15
	12'	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	Eng Bm	Eng Bm
		Corner Footing	9 7 6	10 8 7	10 9 7	11 9 8	12 10 9	13 10 9	14 11 10	14 12 10	15 12 10	15 13 11	16 13 11
		Intermediate Footing	12 10 9	14 11 10	15 12 10	16 13 11	17 14 12	18 15 13	19 16 14	20 16 14	21 17 15	22 18 15	23 18 16
	13'	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	2-2x12	2-2x12	2-2x12	3-2x12	3-2x12	Eng Bm	Eng Bm
		Corner Footing	9 7 6	10 8 7	11 9 8	12 10 8	13 10 9	13 11 9	14 12 10	15 12 10	15 13 11	16 13 11	17 14 12
		Intermediate Footing	13 10 9	14 12 10	15 13 11	17 14 12	18 15 13	19 15 13	20 16 14	21 17 15	22 18 15	23 19 16	24 19 17
	14'	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	Eng Bm	Eng Bm	Eng Bm
		Corner Footing	9 8 7	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	15 13 11	16 13 11	17 14 12	17 14 12
		Intermediate Footing	13 11 9	15 12 10	16 13 11	17 14 12	18 15 13	20 16 14	21 17 15	22 18 15	23 18 16	24 19 17	24 20 17
	15'	Southern Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	Eng Bm
		Ponderosa Pine Beam	2-2x6	2-2x8	2-2x8	2-2x10	3-2x10	3-2x10	3-2x12	3-2x12	Eng Bm	Eng Bm	Eng Bm
		Corner Footing	10 8 7	11 9 8	12 10 8	13 10 9	14 11 10	14 12 10	15 12 11	16 13 11	17 14 12	17 14 12	18 15 13
		Intermediate Footing	14 11 10	15 12 11	17 14 12	18 15 13	19 16 14	20 17 14	21 17 15	22 18 16	23 19 17	24 20 17	25 21 18
	16'	Southern Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	Eng Bm
		Ponderosa Pine Beam	2-2x6	2-2x8	2-2x10	2-2x10	3-2x10	3-2x10	3-2x12	3-2x12	Eng Bm	Eng Bm	Eng Bm
		Corner Footing	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	16 13 11	16 13 12	17 14 12	18 15 13	18 15 13
		Intermediate Footing	14 11 10	16 13 11	17 14 12	18 15 13	20 16 14	21 17 15	22 18 16	23 19 16	24 20 17	25 21 18	26 21 18

Notes:

1. Joist length is total length of joist, *including* any cantilevers.
2. When joist extends (cantilevers) beyond support beam by 18 inches *or more*, add 1 inches to footing dimensions shown.
3. Requirements for future 3-season porches or screen porches:
   a. Increase corner footing size shown by 90%.
   b. Increase center footing size shown by 55%.
   c. Locate all footings at extremities of deck (no cantilevers).
   d. Beam sizes indicated need not be altered.
4. All footing sizes above are base diameters (in inches) and are listed for THREE SOIL TYPES:



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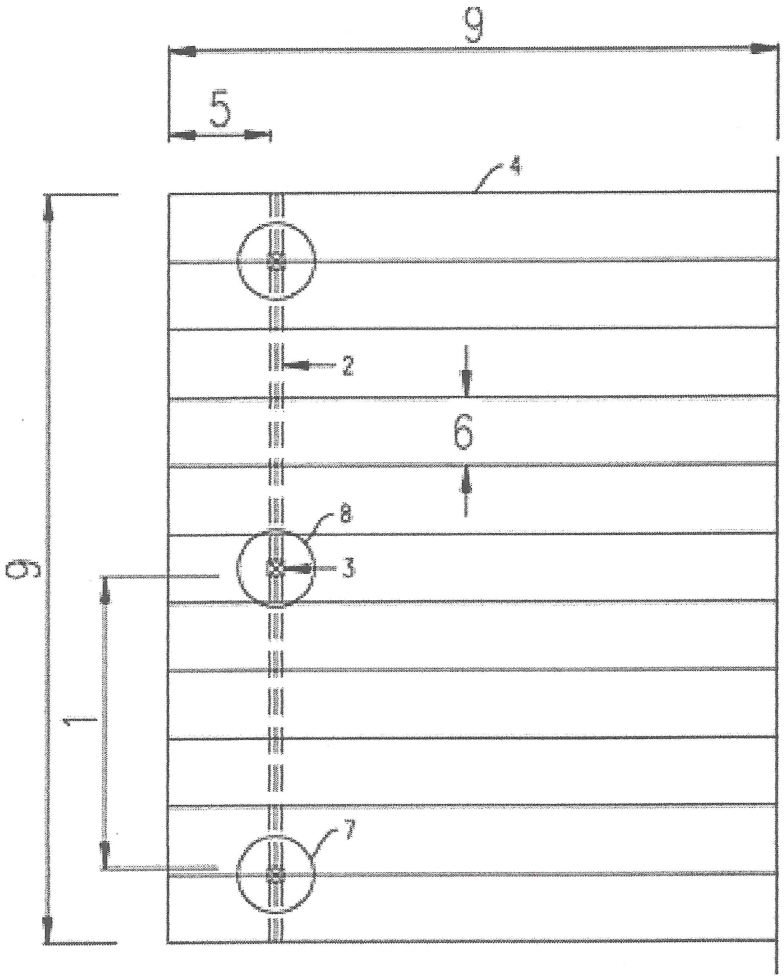
DECK WORKSHEET



PLEASE FILL IN THE BLANKS

1. **Spacing between posts** _____
2. **Beam size (2 -2x10 etc)** _____
3. **Post Size (4x4 – 6x6 etc)** _____
4. **Joist Length & Size** _____
5. **Joist Overhang (2 ft max)** _____
6. **Spacing between Joists (12", 16" O.C.)** _____
7. **Corner Footing Size** _____
8. **Intermediate Footing Size** _____
9. **Overall Deck Size** _____

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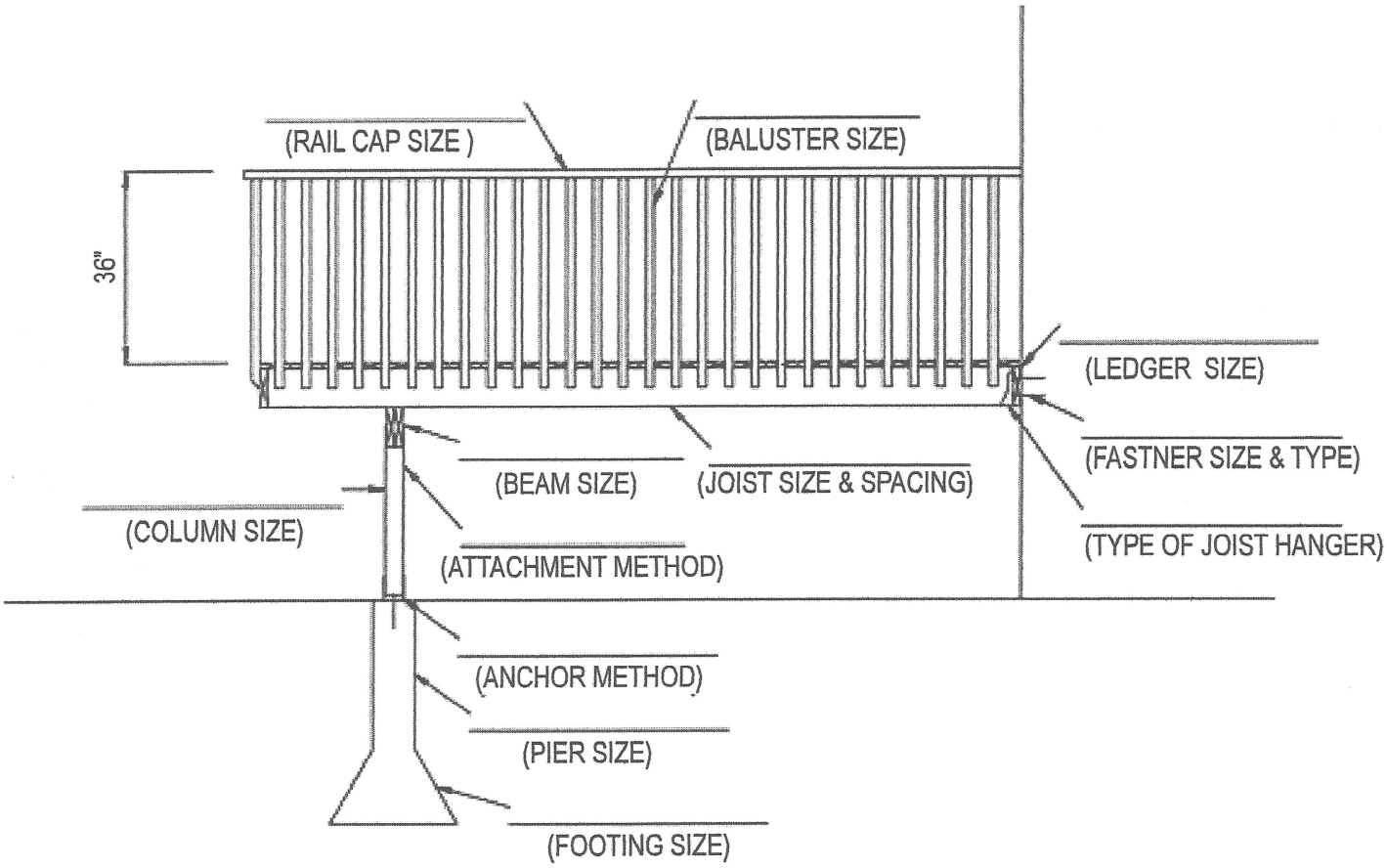
DECK SECTION WORKSHEET



1. **Rail Cap Size** _____
2. **Baluster Size** _____
3. **Ledger Size** _____
4. **Fastener Type and Size** _____
5. **Type of Joist Hanger** _____
6. **Joist Size and Spacing** _____
7. **Beam Size** _____
8. **Attachment Method** _____
9. **Anchor Method** _____
10. **Pier Size** _____
11. **Footing Size** _____

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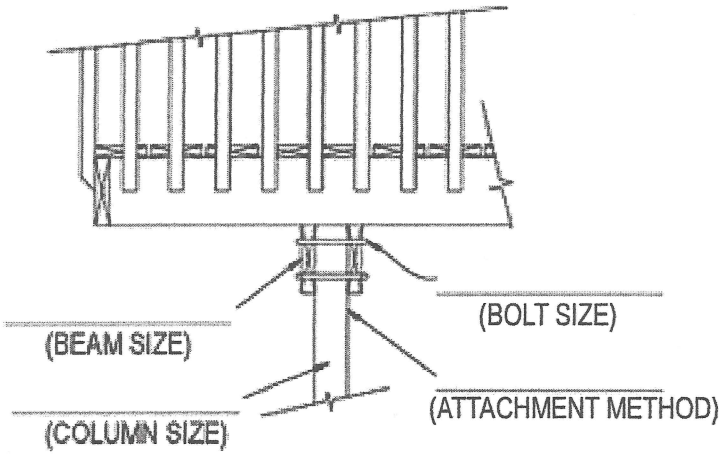
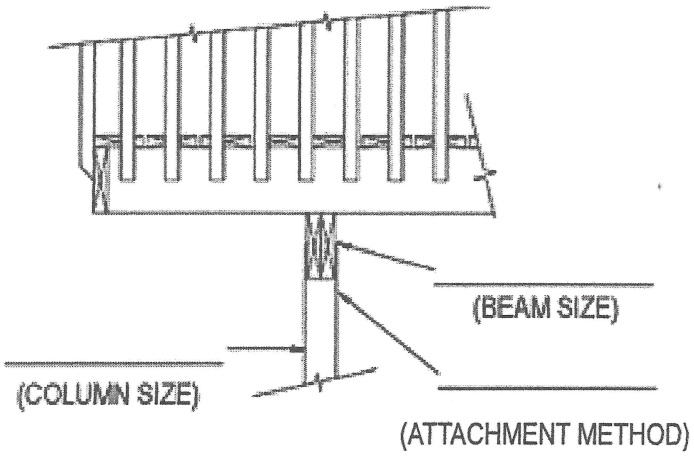
BEAM WORKSHEET

SELECT ONE DESIGN OPTION AND COMPLETE

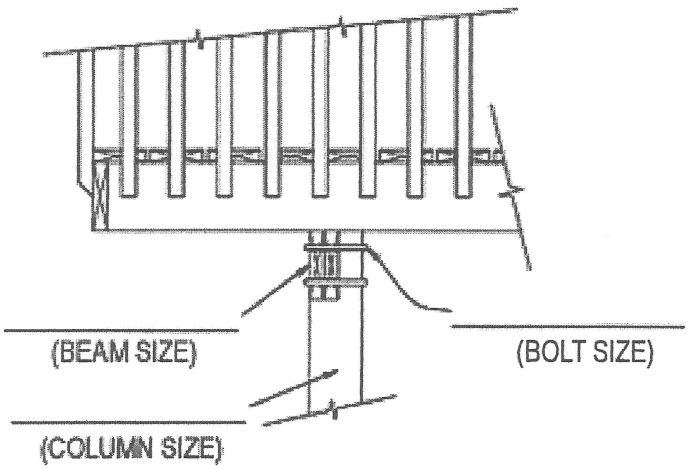
GOOD DESIGN



BETTER DESIGN



BEST DESIGN



This information is a guide to the most common questions. It is not intended, nor shall it be considered a complete set of requirements.

Post to Beam Connection Details

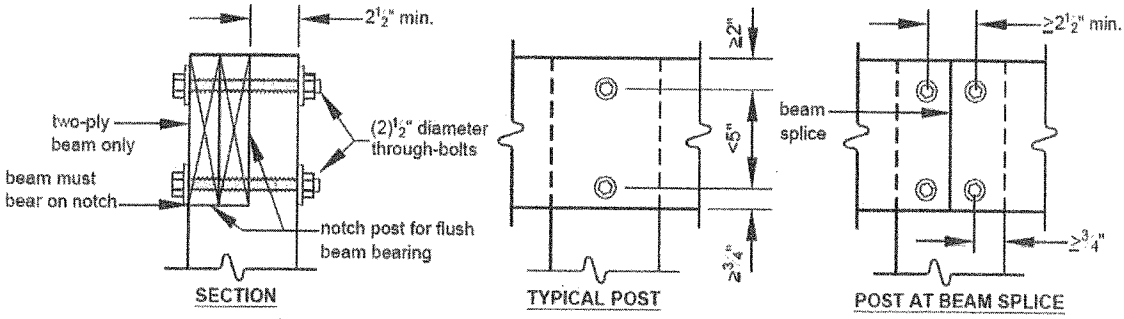


FIGURE 18: NOTCHED 6x6 POST-TO-BEAM CONNECTION

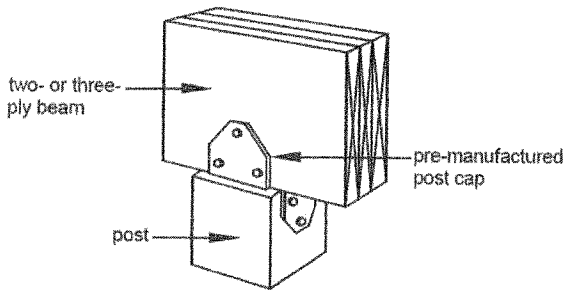


FIGURE 19: POST CAP CONNECTION

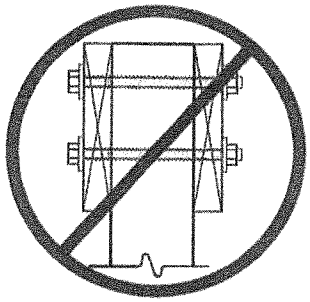


FIGURE 20: PROHIBITED CONNECTION

Ledger Board to House Connection EXAMPLE ONLY

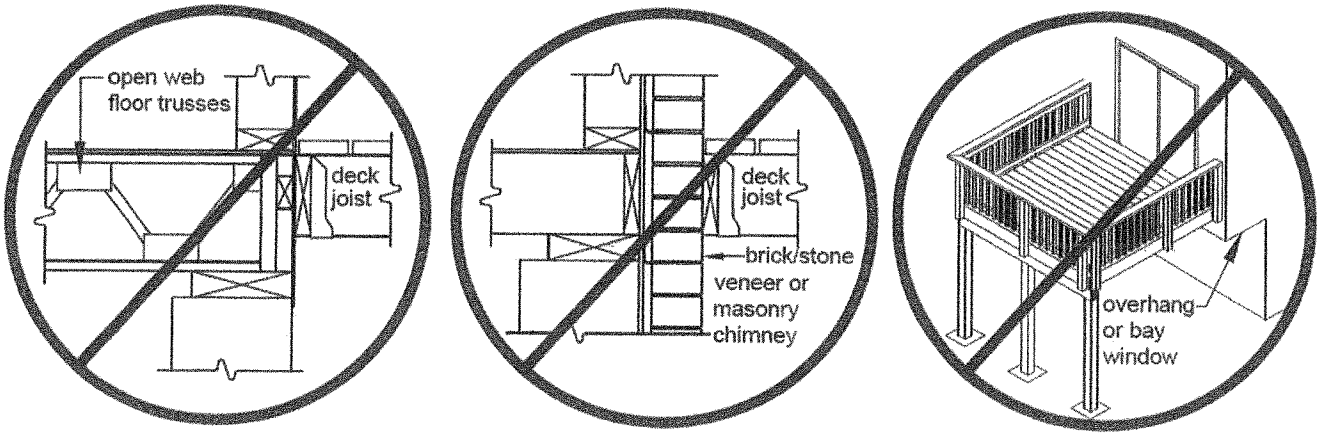


FIGURE 25: PROHIBITED LEDGER ATTACHMENTS

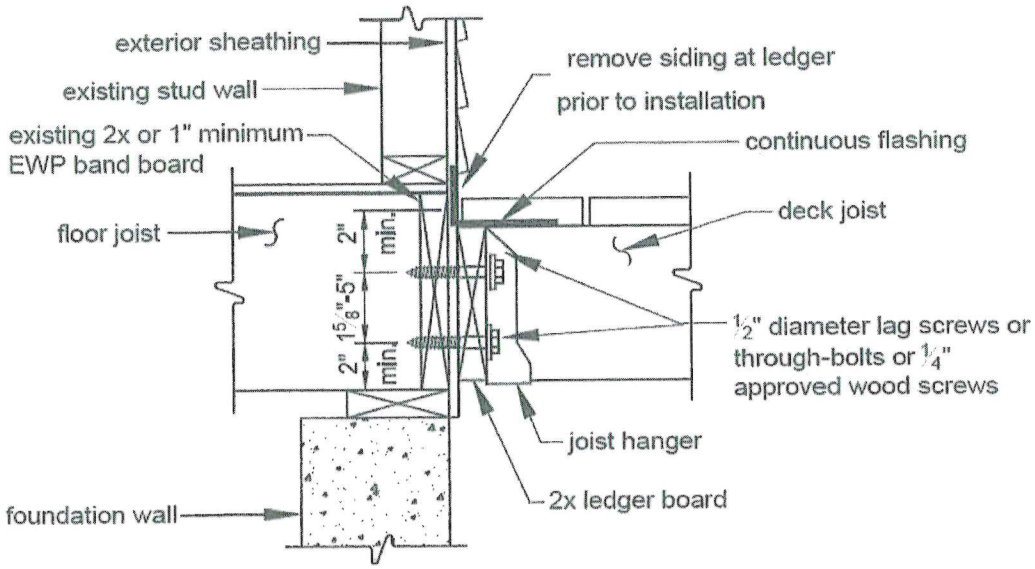


FIGURE 22: LEDGER BOARD-TO-BAND BOARD ATTACHMENT

Guardrail Detail Drawing EXAMPLE ONLY

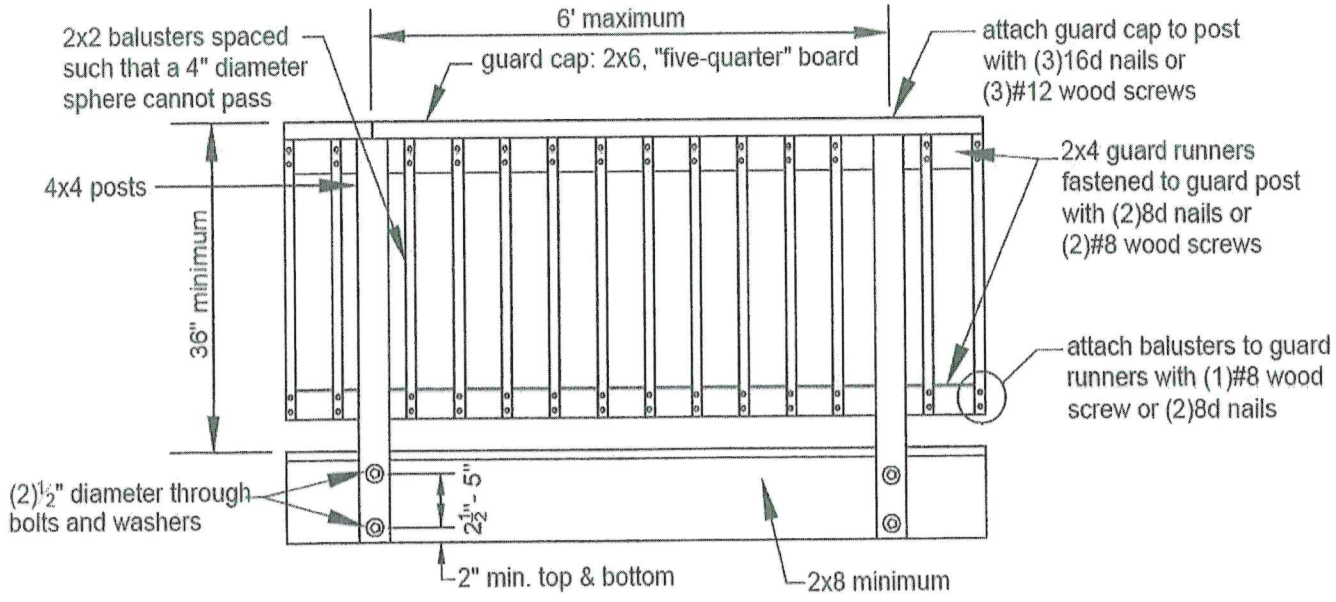
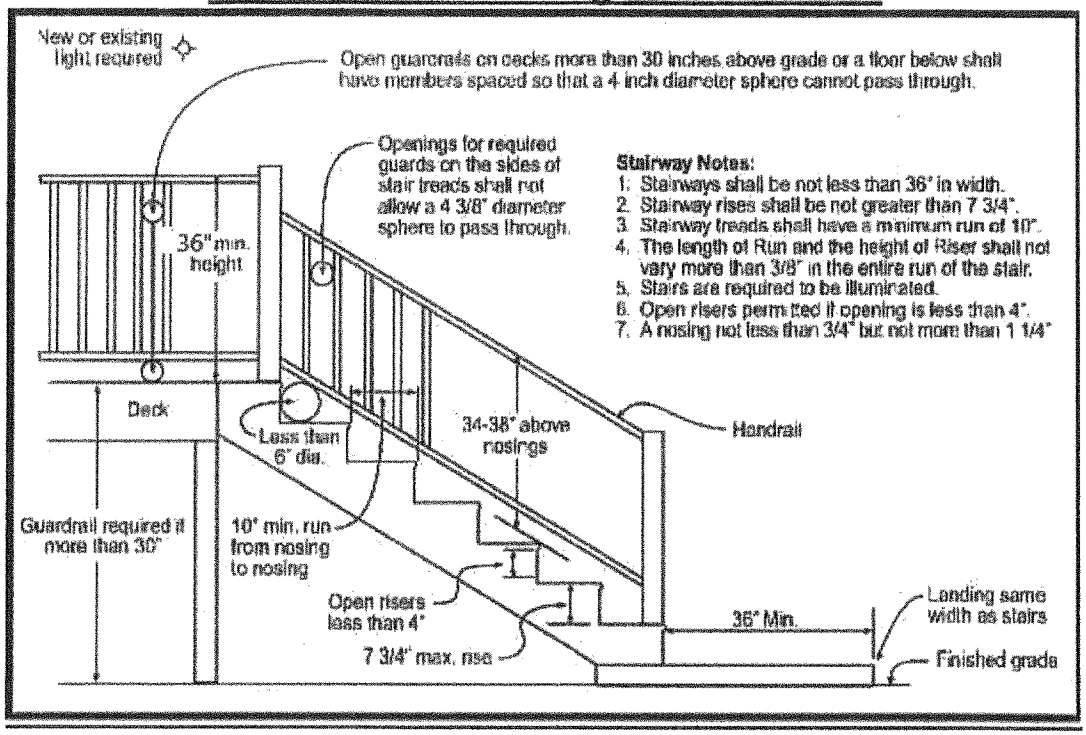


FIGURE 35: GUARD CONSTRUCTION

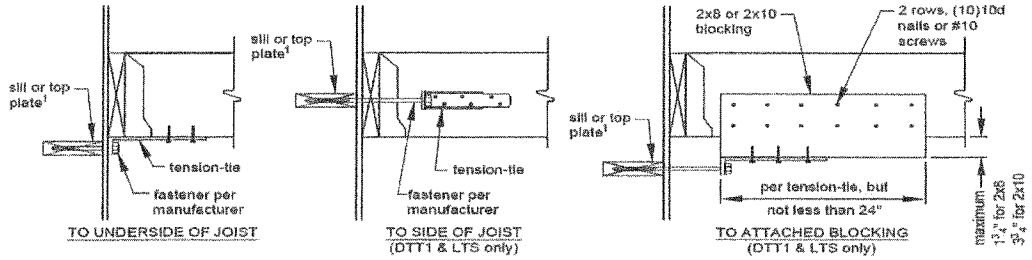
Handrail Detail Drawing EXAMPLE ONLY



Lateral Load Connection

R507.9.2 Lateral connection. Laterial Loads shall be transferred to the ground or to a structure capable of transmitting them to the ground. Where the laterial load connection is provided in accordance with Figure R507.9.2(1), hold-down tension devices shall be installed in not less than two locations per deck, within 24" of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 pounds (6672N). Where the lateral load connections are provided in accordance with Figure 507.9.2(2), the hold-down tension devices shall be installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds (3336N).

***Some examples of hold-down tension devices:**



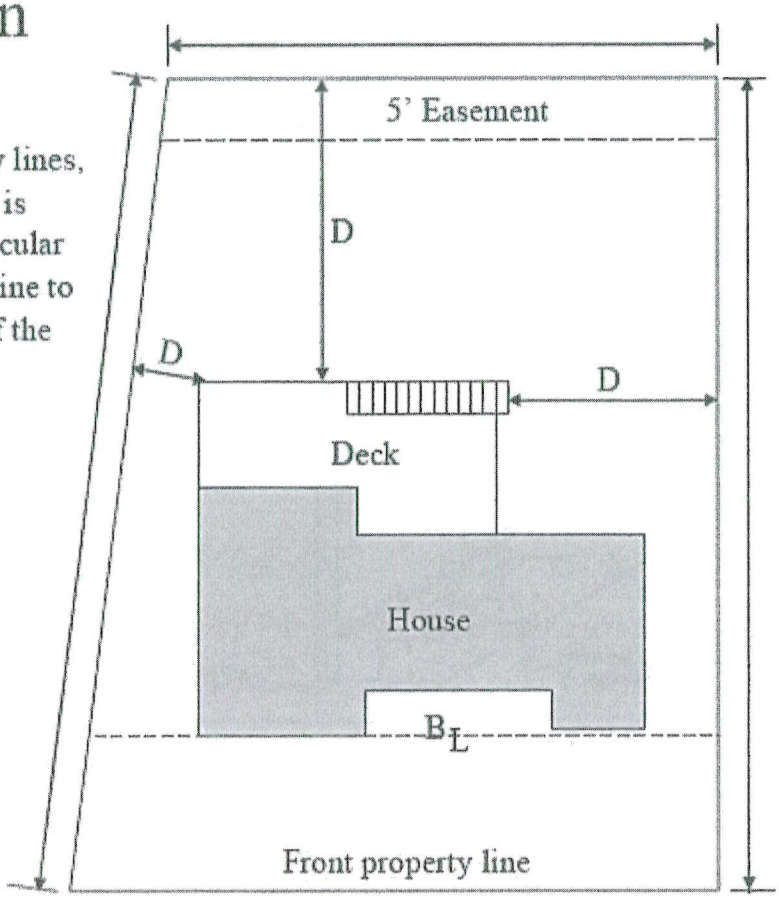
[1] Tension-ties may be anchored to concrete or solid masonry walls with expansion or adhesive anchors as permitted on Page 18.

FIGURE 29: METHOD 1 - TENSION-TIE CONNECTION

Site Plan

On angled property lines, the dimension "D" is measured perpendicular from the property line to the nearest point of the structure

Don't forget to show easements and building lines on your site plan



D = Distance to property lines

Show deck location with respect to house and lot lines

Show house on lot