



Decks

Guidelines for planning

The construction of a deck

Decks That Require Permitting

- If a deck is attached to the primary structure
- If the deck is greater than 100 square feet
- If the deck is greater than 30 inches above grade

All deck with a covered roof structure will require plans designed, signed and sealed by a registered design professional.

Required Inspections

- Pier Inspection-** All piers must be a minimum of 30 inches deep and sized according to the tributary load its specific deck section.
- Framing Inspection-** All structural members and fasteners are to be in place at the time of this inspection.
- Final Inspection-** All construction must be complete and the deck must be operating as intended.

Required Construction Documents for Plan Review

Permit Application- All documents must be accompanied with a completed Building Permit Application



Site Plan

- The site plan must show the home.
- The location of the proposed structure attached to the home.
- Setback distances must be provided for the rear and side yard locations.

Material Description

- The size and type of all materials used for construction

A Detailed Drawing of the Proposed Structure

Use the following link for code requirements

https://codes.iccsafe.org/content/IRC2015/chapter-5-floors#IRC2015_Pt03_Ch05_SecR507

Deck Platform

- Length, Width, and Height of the structure

Piers

- Depth, Width, and Location of Each Pier
- The distance between each pier must be labeled on the drawing. This will determine the beam span length.**

Posts

- Size and height of the post
- Location
- Description of post to pier connection



Beam

- Size and length of beams
- Post to beam connection details

Joists

- Size and length of joists
- Spacing
- Lateral connection device detail
- Fastening device for joist at the band board and beam

Maximum cantilever of joist over beam is 2 feet

- Blocking details

Band Board

- Size and length of band board
- Fastening connection detail

The detail must comply with section 507 of the International Residential Code.

- Flashing detail

Guard/Railing Detail

- Lengths and heights of guard/railing sections

All decks more than 30 inches from grade require a guard at least 36 inches in height from the decking.

- Guard/Railing post connection details
- Spindle spacing detail

Spacing must be so that a 4-inch sphere may not pass through the opening.



Decking

- Material composition and size
- Direction the decking is to be applied

Stairs

- Width of staircase
- Stringer and tread size, spacing, and detail

The maximum rise is 7 ¾ inches.

Minimum Tread depth is 10 inches

Every staircase with four or more risers must have a handrail.

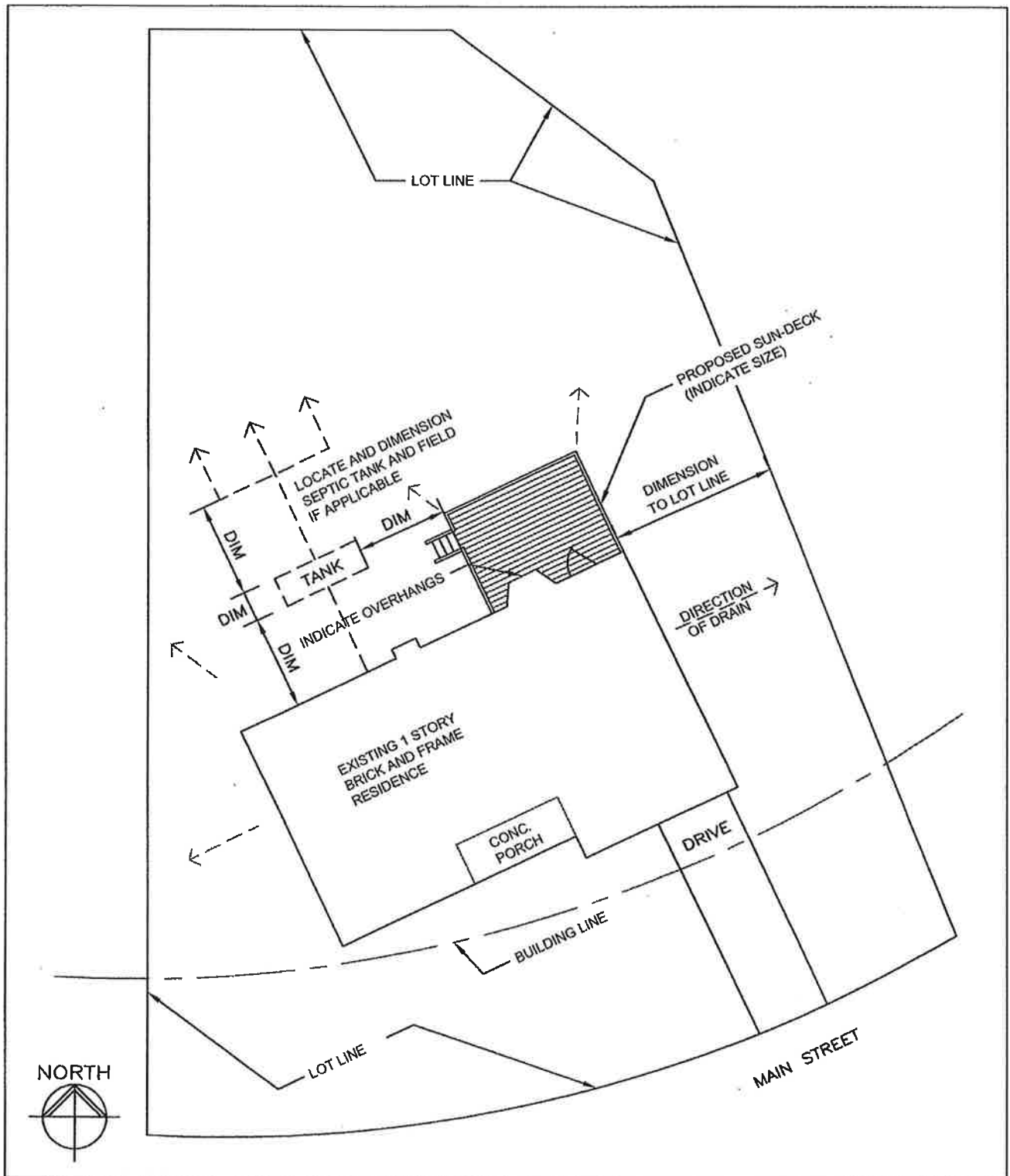
- The handrail must be between 34 and 38 inches from the stair tread. The handrail must be continuous from the top stair nosing to the bottom stair nosing

Every staircase rising above 30 inches must have fall protection.

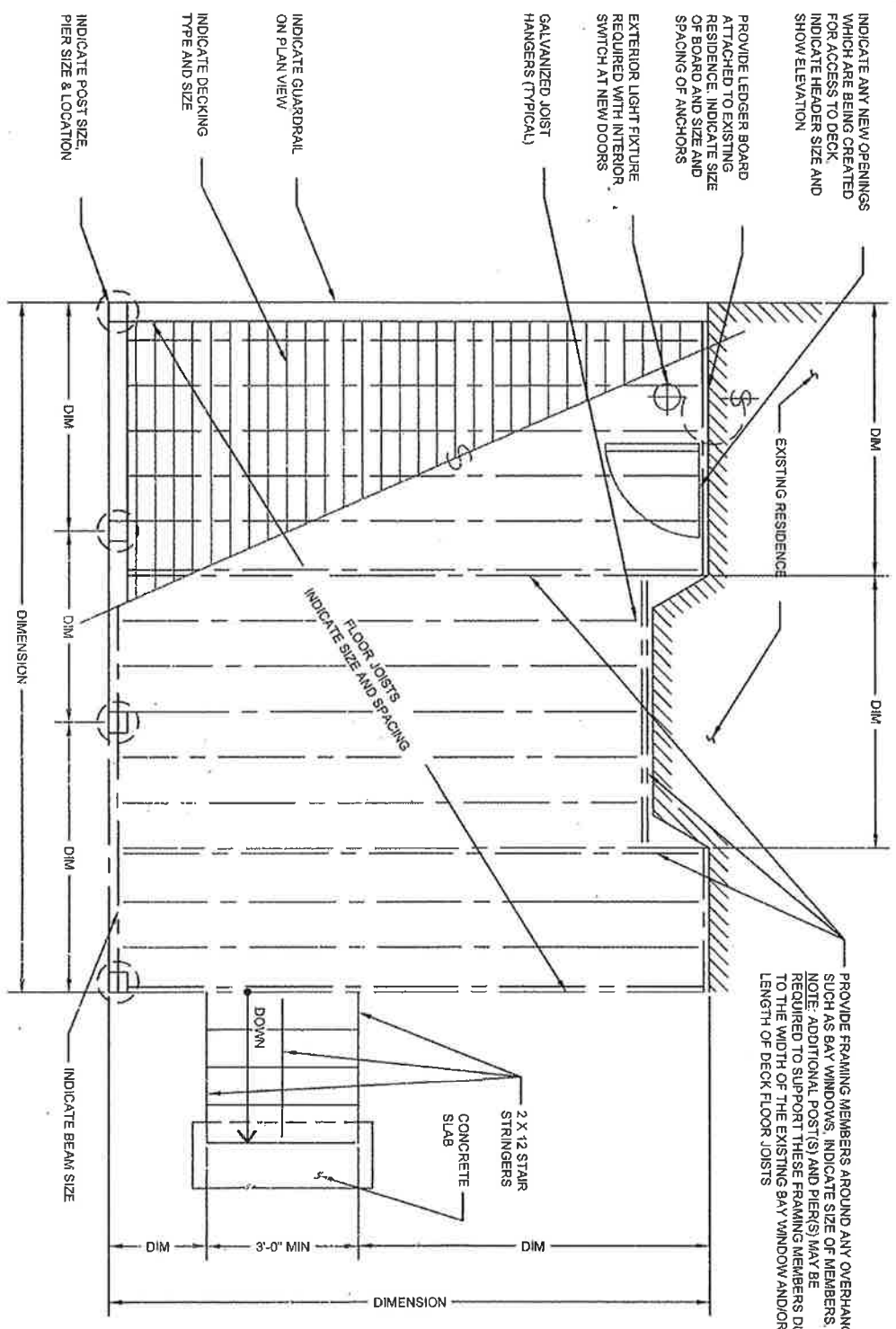
There must be a 3X3 ft. solid surface landing at the bottom of every staircase.

The city of Ellisville has adopted the 2015 International Residential code and 2015 International Building code.

All construction must comply with municipal ordinances and adopted building codes.



TYPICAL PLOT PLAN		OWNER:	
FOR: SUN-DECK		ADDRESS:	
SCALE: 1"=20'-0"		SUBDIVISION:	LOT NO.:



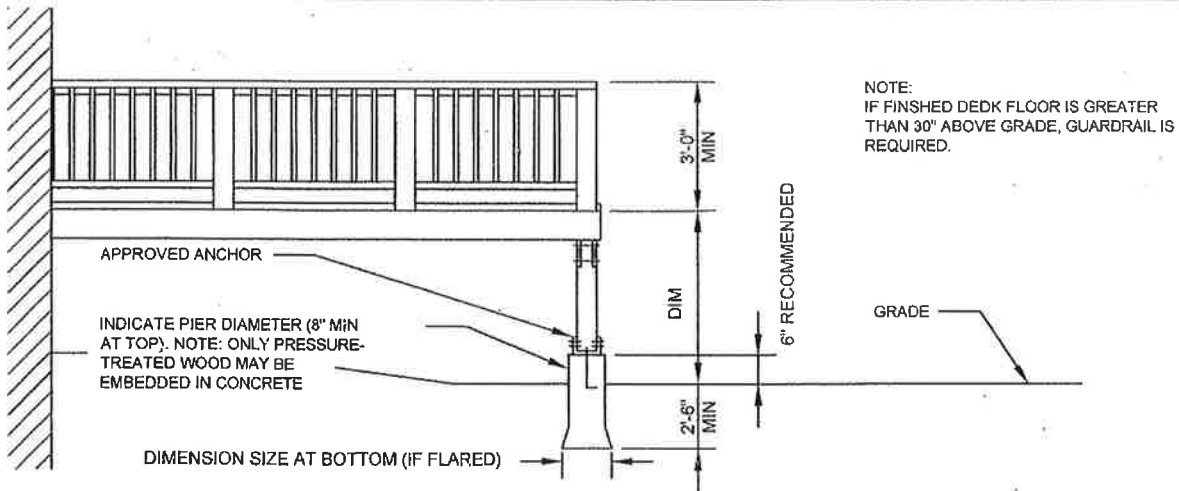
TYPICAL FOUNDATION AND FRAMING PLAN FOR SUN-DECK

SCALE: 1/4" = 1'-0"

NOTES:

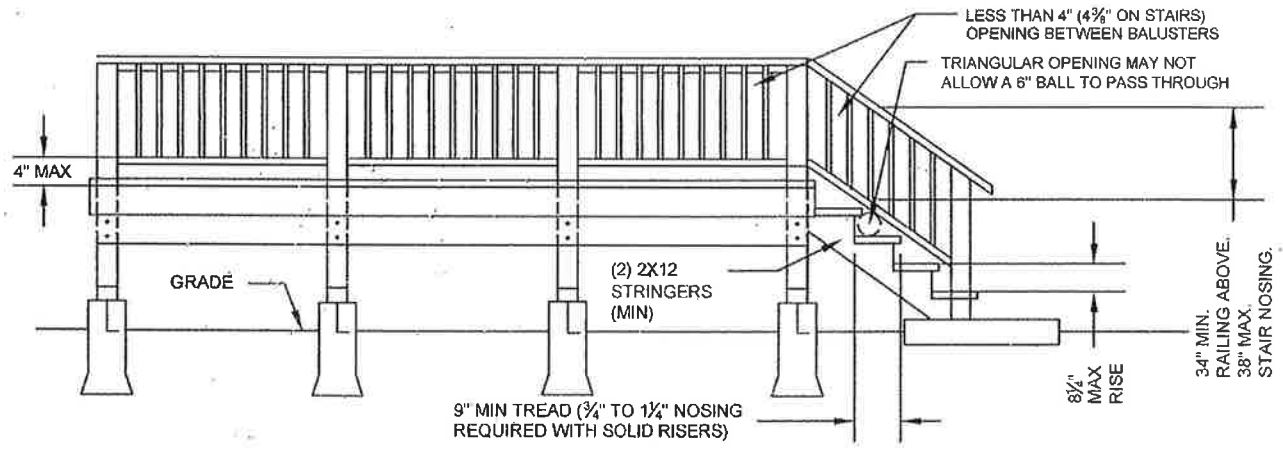
- ALL FRAMING MEMBERS MUST BE OF NATURALLY DURABLE OR PRESSURE-PRESERVATIVE TREATED WOOD. DECKING, RAILING, AND STAIR TREADS MUST BE OF NATURALLY DURABLE OR PRESSURE-PRESERVATIVE TREATED WOOD OR APPROVED STRUCTURAL PLASTIC PRODUCTS WITH A VALID ICC-EVALUATION (ICC-ES) REPORT.
- FASTENERS FOR PRESSURE-PRESERVATIVE WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER (EXCEPTION: ONE-HALF INCH DIAMETER OR GREATER STEEL BOLTS).

PROVIDE FRAMING MEMBERS AROUND ANY OVERHANGS SUCH AS BAY WINDOWS. INDICATE SIZE OF MEMBERS.
NOTE: ADDITIONAL POST(S) AND PIERS) MAY BE REQUIRED TO SUPPORT THESE FRAMING MEMBERS DUE TO THE WIDTH OF THE EXISTING BAY WINDOW AND/OR LENGTH OF DECK FLOOR JOISTS



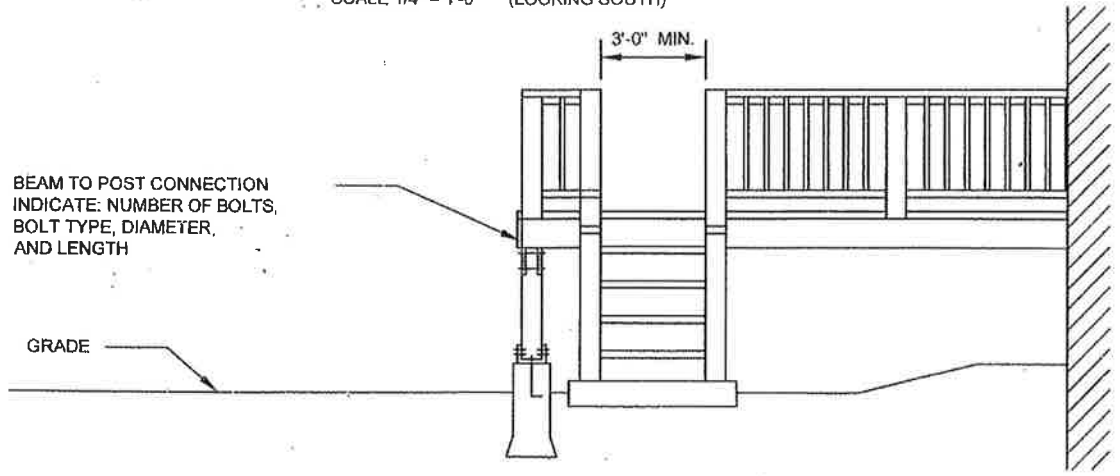
SAMPLE EAST ELEVATION

SCALE 1/4" = 1'-0" (LOOKING WEST)



SAMPLE NORTH ELEVATION

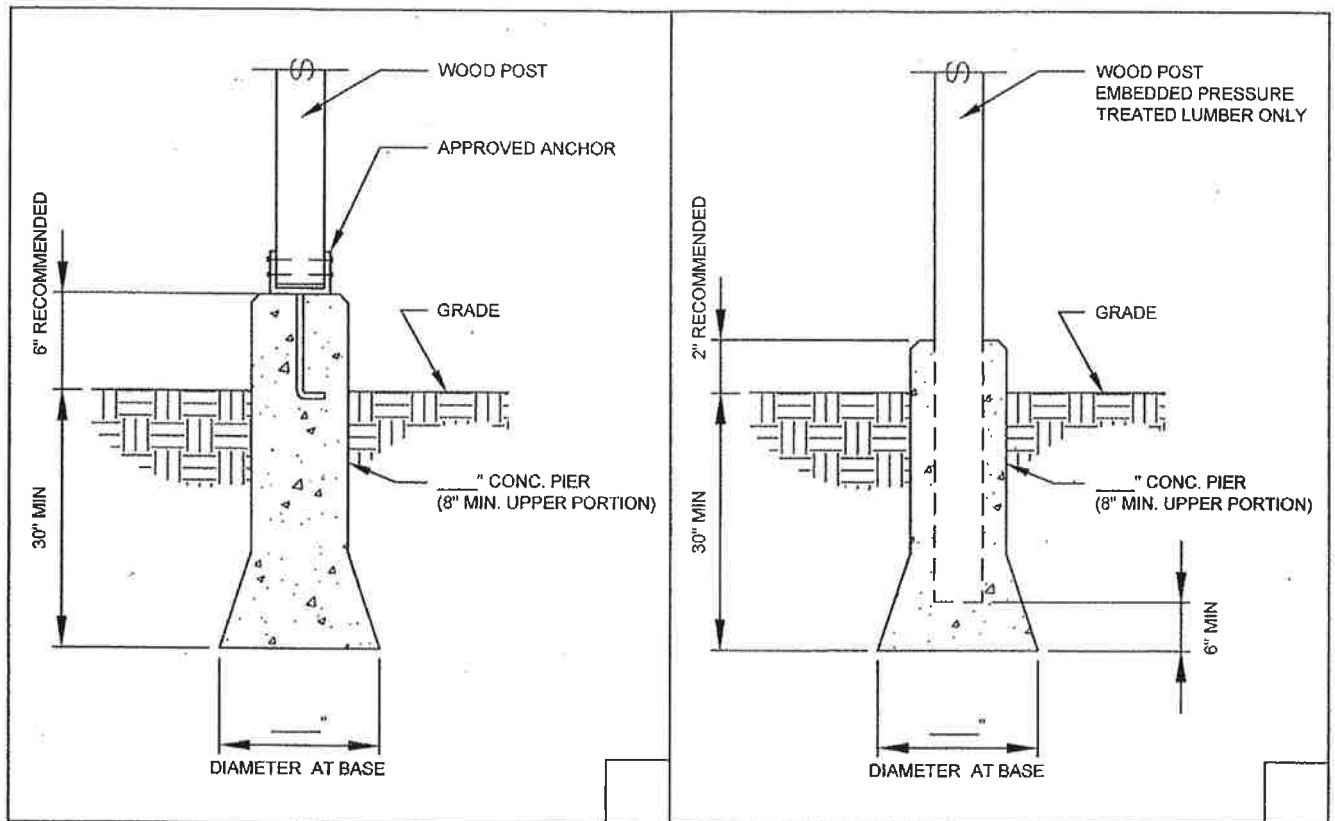
SCALE 1/4" = 1'-0" (LOOKING SOUTH)



SAMPLE WEST ELEVATION

SCALE 1/4" = 1'-0" (LOOKING SOUTH)

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SPECIFICATIONS:

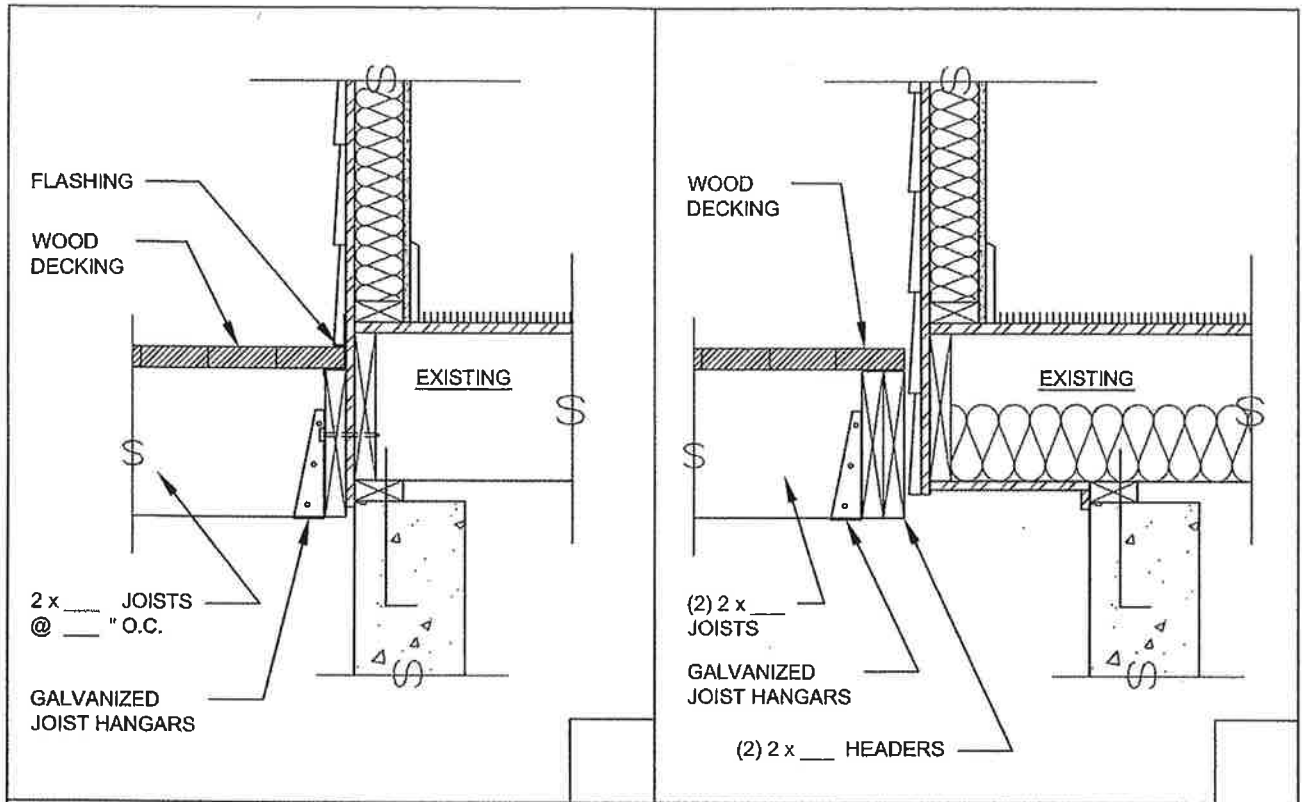
1. PIER SPACING AND SIZE MUST BE NOTED ON FOUNDATION/FRAMING PLAN.
2. POST TYPE AND SIZE MUST BE NOTED ON FOUNDATION/FRAMING PLAN.
3. PIER MUST BE 30" MIN. BELOW GRADE.
4. ONLY PRESSURE TREATED LUMBER IN EMBEDDED POST CONNECTION.

INSTRUCTIONS:

1. CHECK DRAWING TO BE USED.
2. INDICATE PERTINENT INFORMATION OF DRAWING USED.

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PIER POST DETAILS



SPECIFICATIONS:

1. MUST FRAME AROUND ANY EXISTING OVERHANGS (I.E. BAY WINDOWS). NOTE: SOME DESIGNS REQUIRE ADDITIONAL POST/PIER SUPPORTS.
2. TOP OF WOOD DECKING SHOULD BE 1" BELOW FINISH FLOOR LEVEL.
3. FLASHING IS REQUIRED.
4. INDICATE TYPE, SIZE, AND SPACING OF FLOOR JOISTS ON FOUNDATION/ FRAMING PLAN.
5. JOIST HANGARS MUST BE ATTACHED WITH 16d NAILS OR APPROVED JOIST HANGAR NAILS (SCREWS NOT ALLOWED).
6. IF LEDGER IS TO BE ATTACHED TO CONCRETE OR MASONRY, PROVIDE DETAIL OF ATTACHMENT.

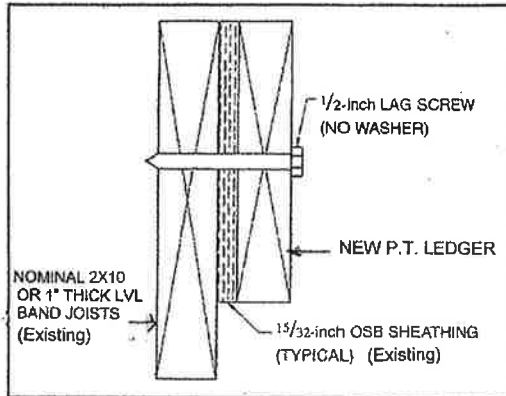
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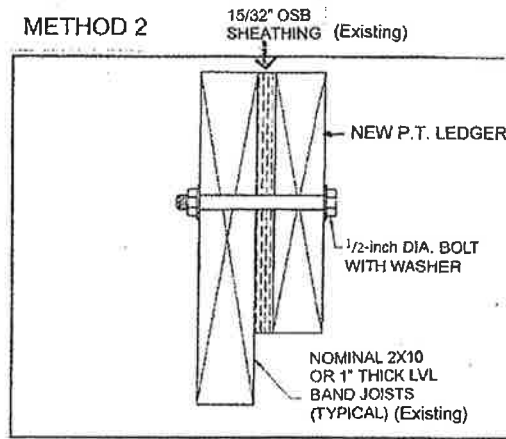
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DECK-HOUSE CONNECTIONS

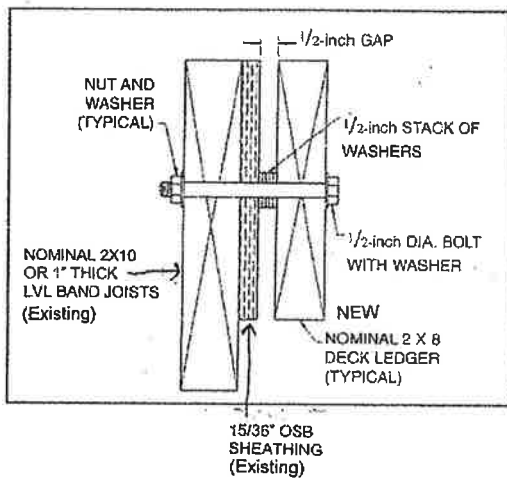
METHOD 1



METHOD 2

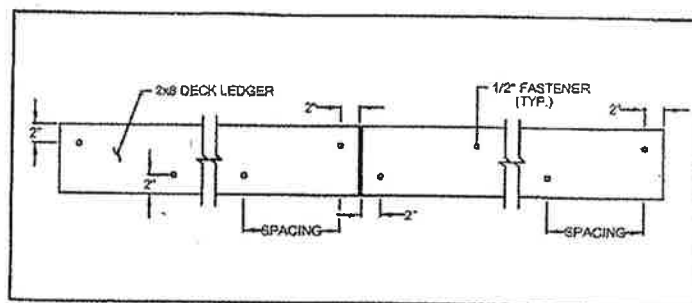


METHOD 3

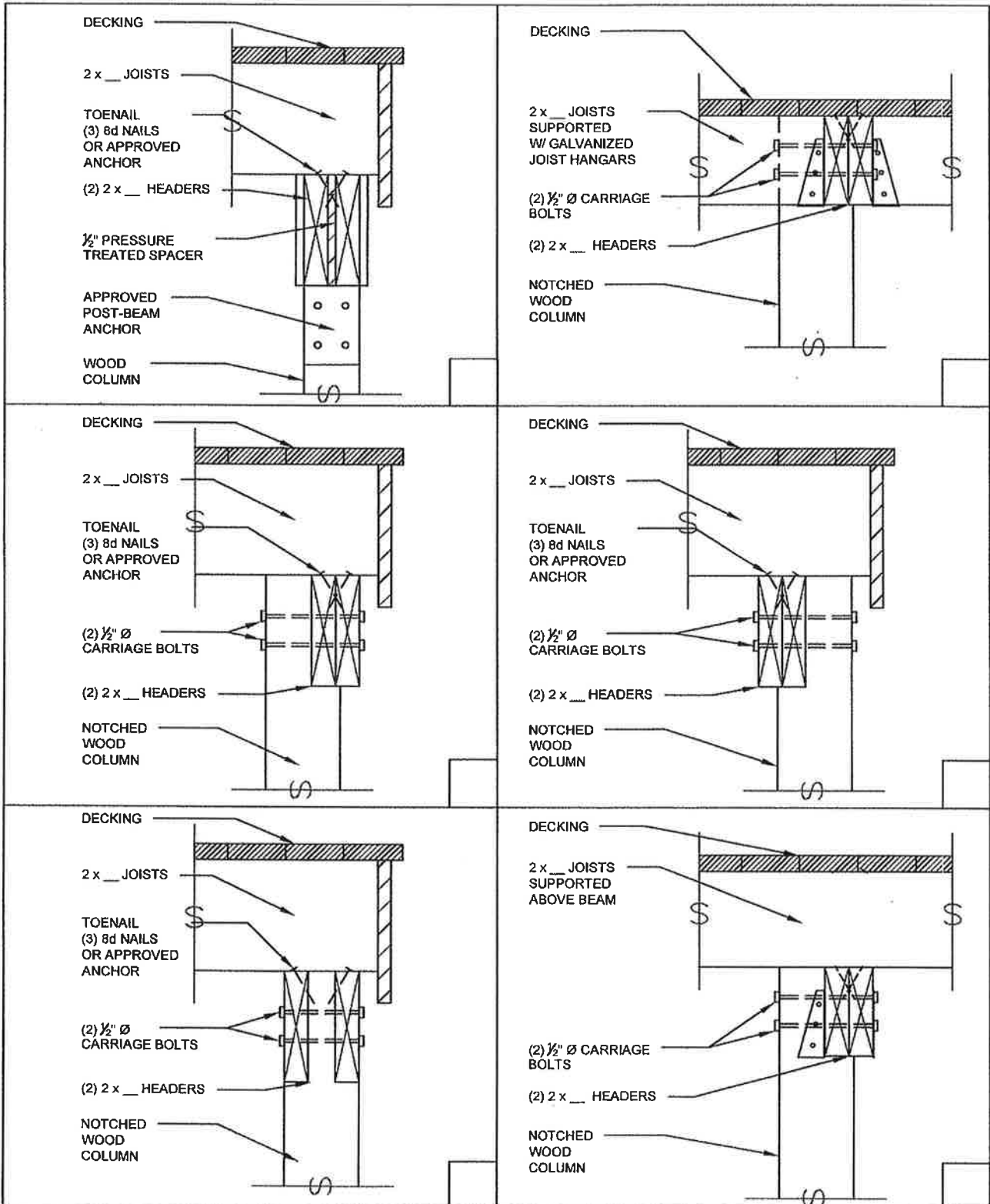


SPACING OF 1/2" ϕ " FASTENERS IN INCHES

CONNECTION DETAIL	RESIDENTIAL DECK JOIST SPAN						
	6 feet	8 feet	10 feet	12 feet	14 feet	16 feet	18 feet
METHOD 1 1/2-inch lag screws with 15/32-inch sheathing	30	23	18	15	13	11	10
METHOD 2 1/2-inch bolt screws with 15/32-inch sheathing	36	36	34	29	24	21	19
METHOD 3 1/2-inch bolts with 15/32-inch sheathing and 1/2-inch stacked washers	36	36	29	24	21	18	16

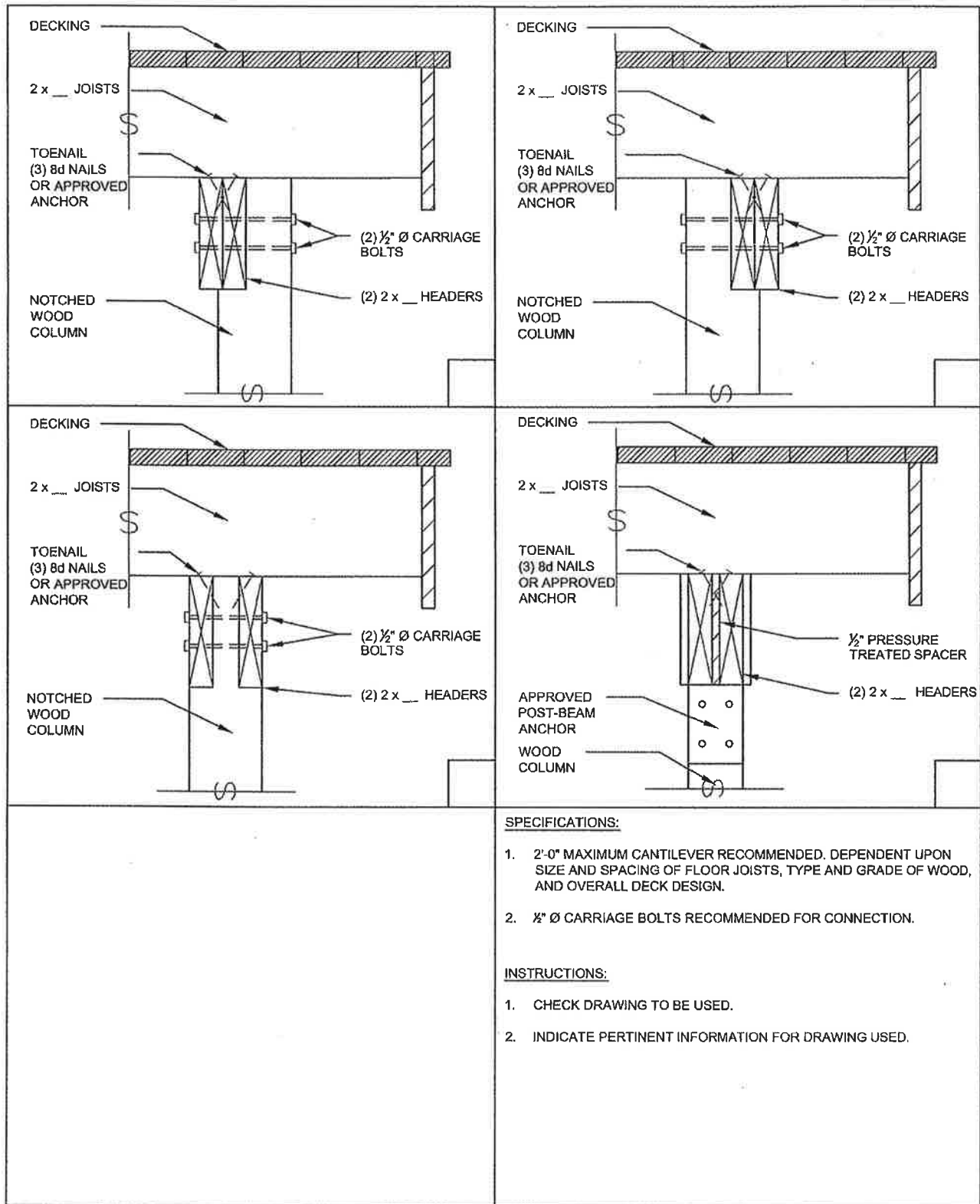


DECK HOUSE CONNECTIONS (continued)



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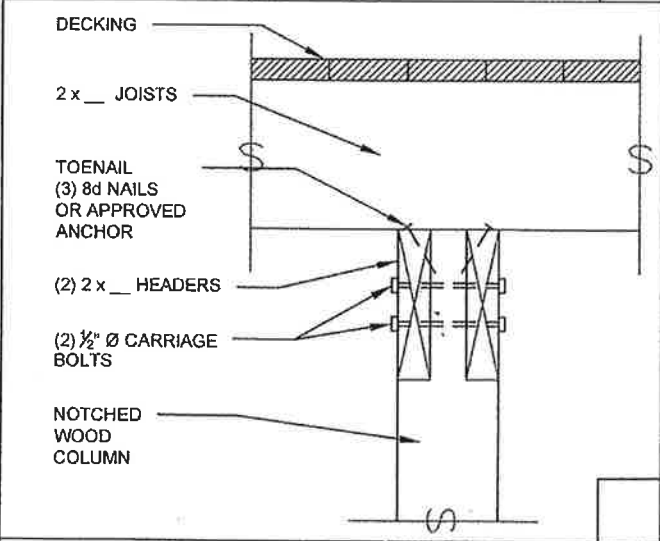
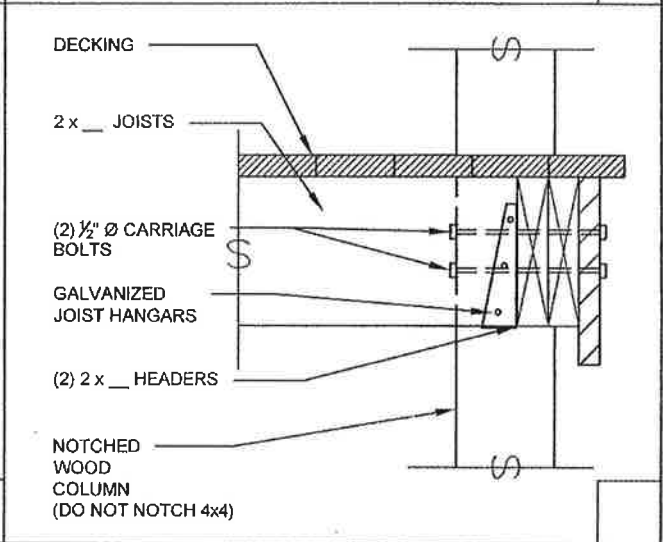
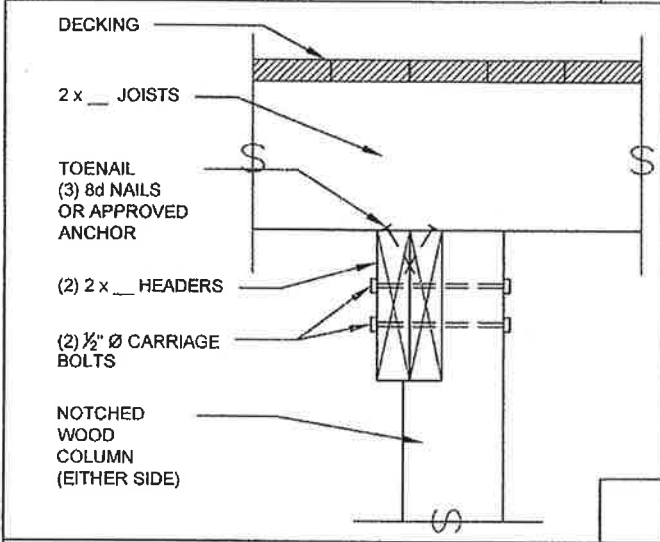
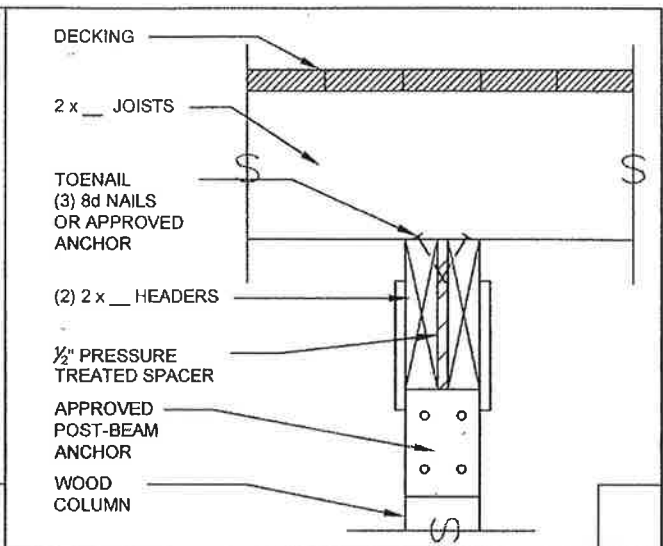
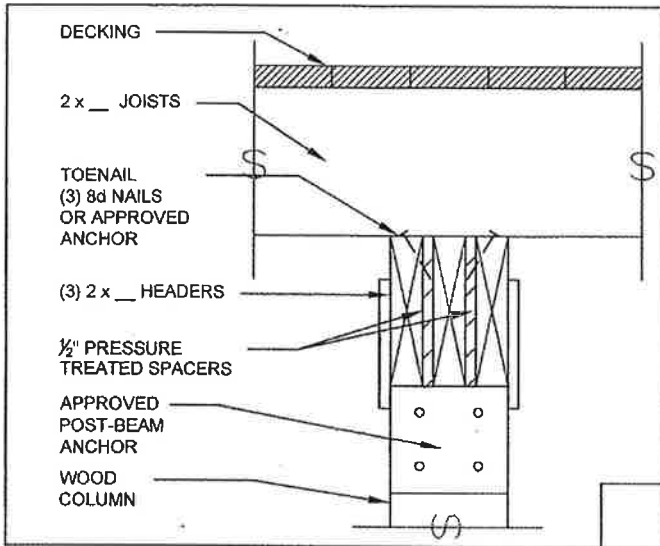
POST-BEAM CONNECTIONS



- SPECIFICATIONS:**
- 2'-0" MAXIMUM CANTILEVER RECOMMENDED. DEPENDENT UPON SIZE AND SPACING OF FLOOR JOISTS, TYPE AND GRADE OF WOOD, AND OVERALL DECK DESIGN.
 - 1/2" Ø CARRIAGE BOLTS RECOMMENDED FOR CONNECTION.
- INSTRUCTIONS:**
- CHECK DRAWING TO BE USED.
 - INDICATE PERTINENT INFORMATION FOR DRAWING USED.

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CANTILEVER POST-BEAM CONNECTIONS



SPECIFICATIONS:

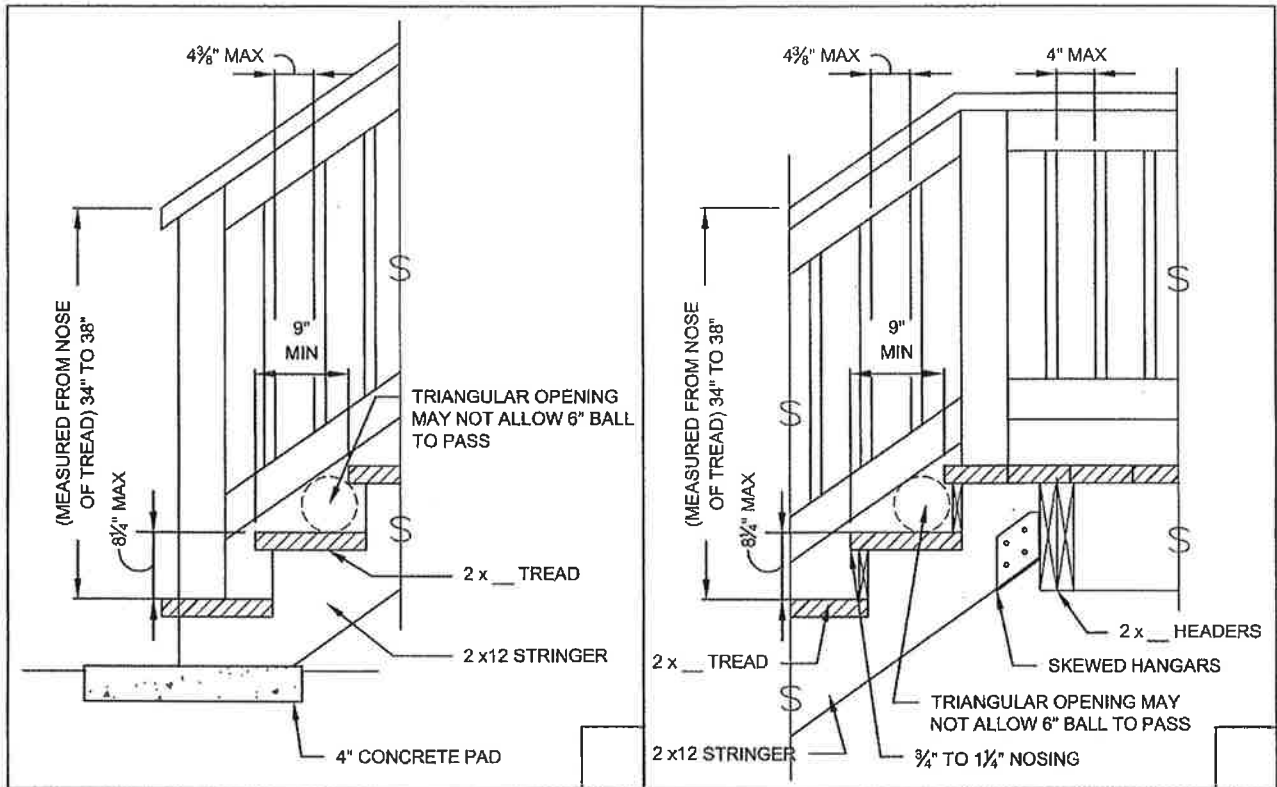
1. 1/2" Ø CARRIAGE BOLTS RECOMMENDED FOR CONNECTION.

INSTRUCTIONS:

1. CHECK DRAWING TO BE USED.
2. INDICATE PERTINENT INFORMATION FOR DRAWING USED.

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CENTER BEAM CONNECTIONS



SPECIFICATIONS:

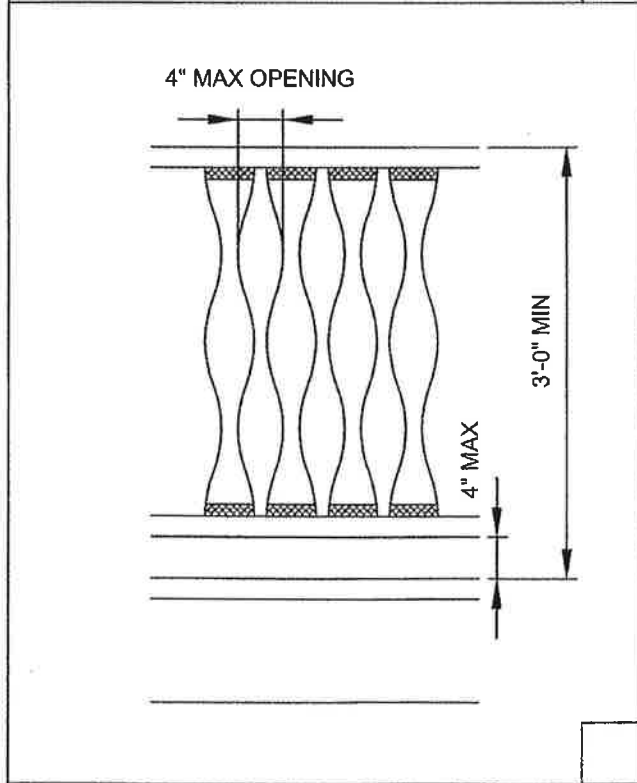
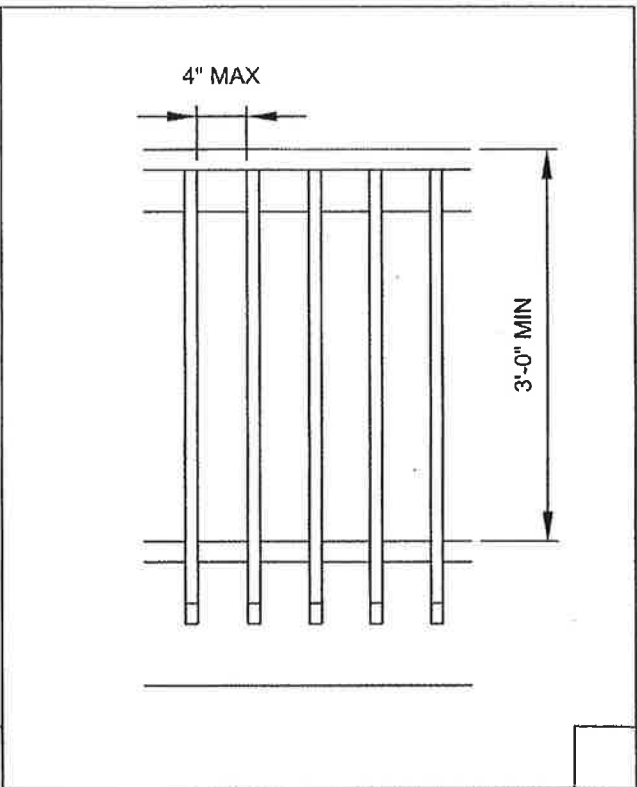
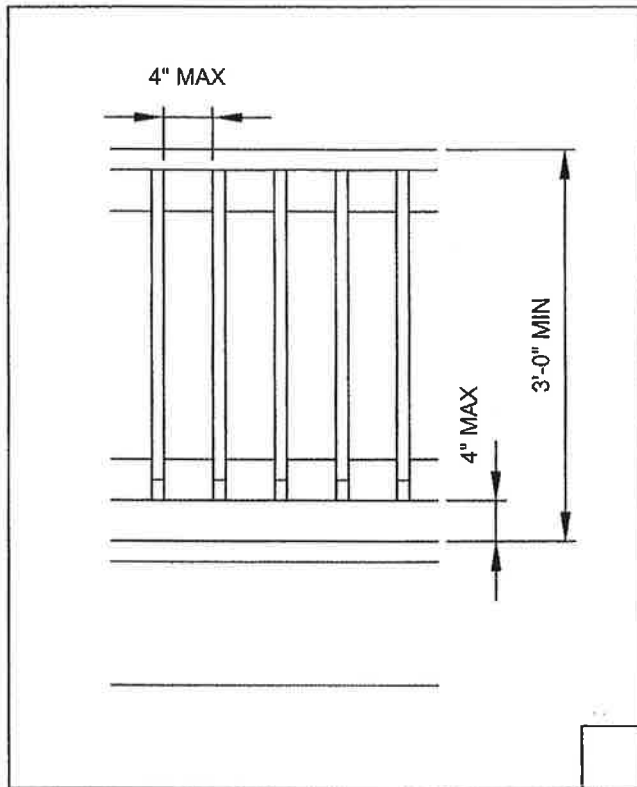
1. DECK FLOORS 30" OR LESS ABOVE GRADE HAVING STAIRS WITH 4 OR MORE RISERS NEED A CONTINUOUS HANDRAIL ON ONLY ONE SIDE OF THE STAIR 34" TO 38" IN VERTICAL HEIGHT ABOVE THE TREAD NOSING.
2. COMBINATION HAND AND GUARDRAIL (WITH VERTICAL BALUSTERS) 34" TO 38" VERTICAL FROM TREAD NOSING IS REQUIRED ON SIDES OF STAIRS WHERE THE TOTAL RISE OF THE STAIR EXCEEDS 30" ABOVE THE FLOOR OR GRADE BELOW.
3. 4 3/8" MAXIMUM HEIGHT BETWEEN VERTICAL BALUSTERS.
4. 8 1/4" MAXIMUM RISER HEIGHT.
5. 9" MINIMUM TREAD DEPTH.
6. TRIANGULAR OPENING BETWEEN STAIRS AND GUARDRAIL MAY NOT ALLOW 6" BALL TO PASS THROUGH (AS DRAWN).
7. MINIMUM OF 2-2X12 STRINGERS REQUIRED FOR STAIRS UP TO 3' WIDE. 3-2X12 STRINGERS FOR STAIRS 3' TO 4' WIDE.
8. JOIST HANGARS MUST BE ATTACHED WITH 16d NAILS OR APPROVED JOIST HANGAR NAILS (SCREWS NOT ALLOWED).
9. CLOSED RISERS ARE REQUIRED FOR STAIRS SERVING THE PRIMARY MEANS OF EGRESS (MAIN ENTRY DOOR). 3/4" TO 1 1/4" TREAD NOSING IS REQUIRED ON CLOSED RISERS.

INSTRUCTIONS:

1. CHECK DRAWING TO BE USED.
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STAIR DETAILS



SPECIFICATIONS:

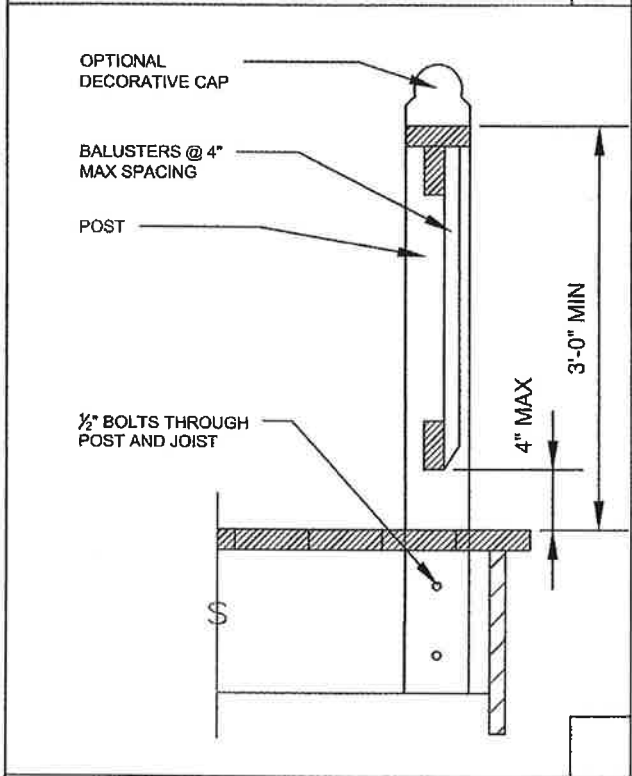
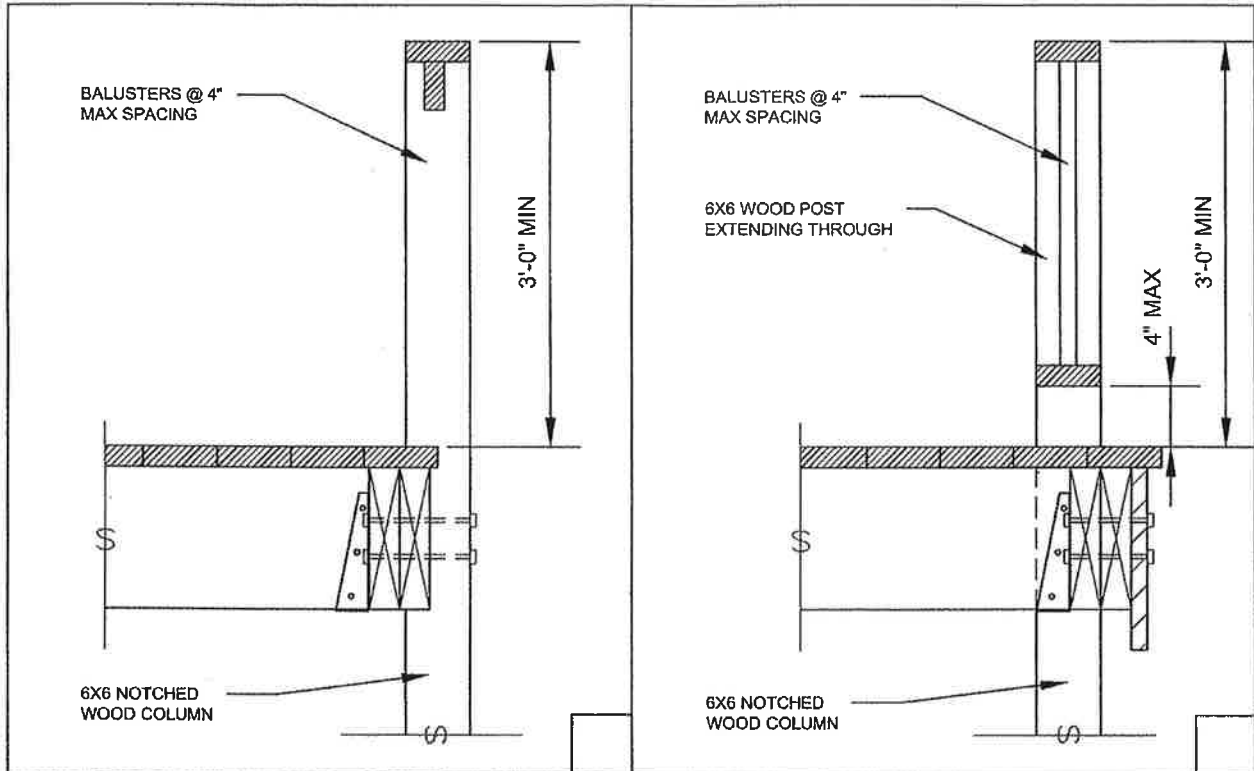
1. FOR DECK FLOORS MORE THAN 30" ABOVE GRADE OR LOWER DECK LEVELS, GUARDRAILS MUST BE PROVIDED AROUND THE PERIMETER OF THE UPPER DECK A MINIMUM OF 36" IN HEIGHT. A 42" HIGH GUARD IS REQUIRED FOR A DECK SERVING A DWELLING UNIT IN A BUILDING WITH VERTICALLY STACKED DWELLING UNITS (R-2 USE).
2. 4" MAXIMUM OPENING AT ANY POINT BETWEEN VERTICAL BALUSTERS AND ALSO BETWEEN DECKING AND BOTTOM RAIL.
3. PLASTIC RAILINGS AND GUARDS MAY ONLY BE APPROVED IF THE PRODUCT HAS A VALID ICC-EVLATUATION REPORT (ICC-ES) AND THE APPLICATION OF THE MATERIAL IS LIMITED TO CONDITIONS LISTED IN THE REPORT.

INSTRUCTIONS:

1. CHECK DRAWING TO BE USED.
2. INDICATE PERTINENT INFORMATION FOR DRAWING USED.

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GUARDRAIL ELEVATIONS



SPECIFICATIONS:

1. FOR DECK FLOORS MORE THAN 30" ABOVE GRADE OR LOWER DECK LEVELS, GUARDRAILS MUST BE PROVIDED AROUND THE PERIMETER OF THE UPPER DECK A MINIMUM OF 36" IN HEIGHT. A 42" HIGH GUARD IS REQUIRED FOR A DECK SERVING A DWELLING UNIT IN A BUILDING WITH VERTICALLY STACKED DWELLING UNITS (R-2 USE).
2. 4" MAXIMUM OPENING AT ANY POINT BETWEEN VERTICAL BALUSTERS AND ALSO BETWEEN DECKING AND BOTTOM RAIL.
3. JOIST HANGARS MUST BE ATTACHED WITH 16d NAILS OR APPROVED JOIST HANGAR NAILS (SCREWS NOT ALLOWED).

INSTRUCTIONS:

1. CHECK DRAWING TO BE USED.
2. INDICATE PERTINENT INFORMATION FOR DRAWING USED.

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GUARDRAIL SECTIONAL DETAILS