



TOWNSHIP OF
ASHFIELD-COLBORNE-WAWANOSH

Deck Construction Reference Guide



DECK CONSTRUCTION REFERENCE GUIDE

This guide is for informational purposes only. It is the responsibility of the Applicant/Designer to review the building code to ensure all information is complete, accurate, and up to date.

NOTE: All Decks, Porches, Patios, and other structures must conform to Municipal Zoning By-Law requirements and to the current amended edition of the Ontario Building Code. Properties within conservation authority regulated zones must also obtain clearance from the Maitland Valley Conservation Authority before applying for a building permit.

Roof and/or pergola structures covering porches are not addressed in this reference guide.

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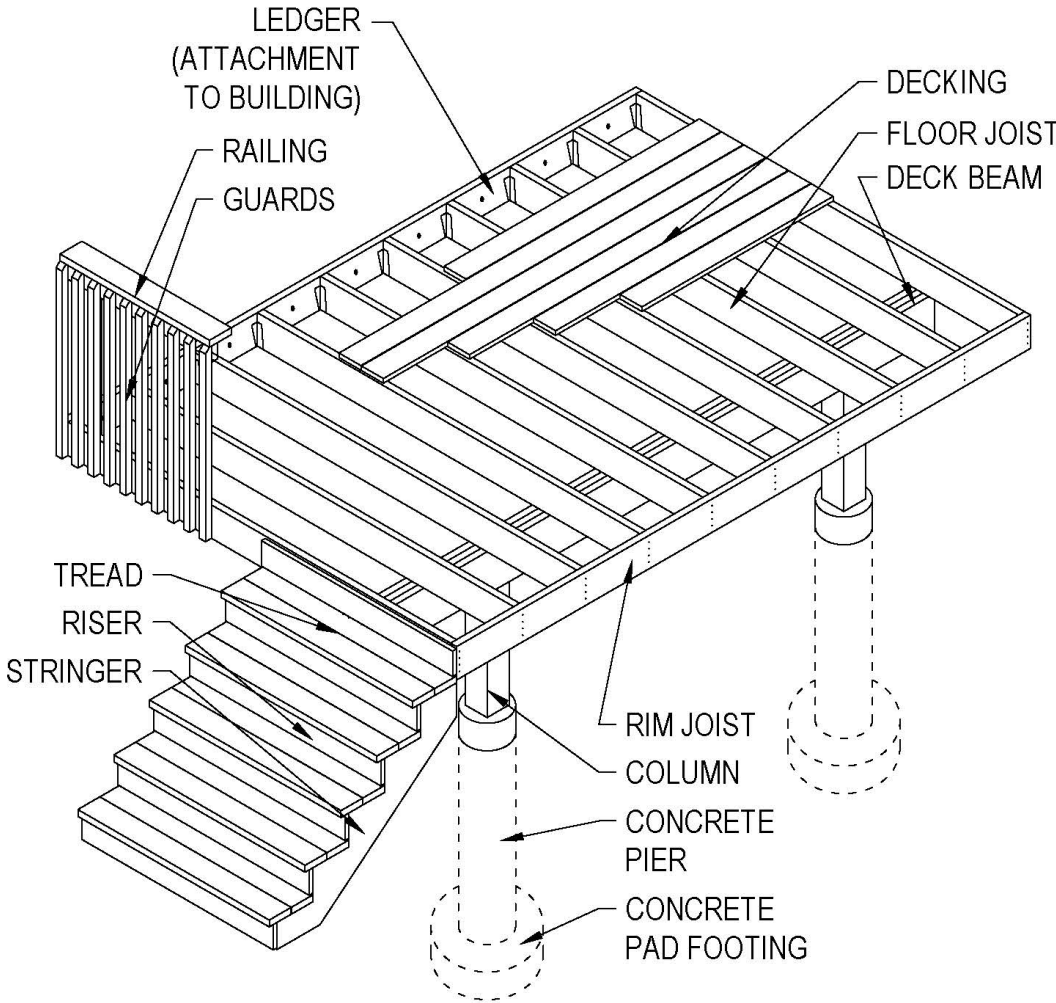
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DEFINITIONS

A 'Deck' is a raised platform that may or may not be attached to a dwelling. A deck will generally require a Building Permit and will require protective guards if it has a walking surface greater than 23 5/8" above grade. A deck is exempt from requiring a Building Permit where the deck is less than 108sf (10m²) and not connected to a building.

A 'Porch' is a covered structure that usually forms part of the entrance of a dwelling. It may be enclosed or unenclosed. Any Porch requires a Building Permit and will require protective guards if it has a walking surface greater than 23 5/8" above grade.

A 'Patio' is a platform at grade level that is usually constructed of concrete, stone or a wood frame completely supported by grade. A Patio generally does not require a Building Permit, unless it interferes with an existing structure.



APPLICATION REQUIREMENTS FOR A PERMIT TO CONSTRUCT A DECK

- Completed Building Permit Application
- Site Plan
- Foundation Plan
- Floor Plan (Framing)
- Cross Section of Structure and Detail of Guards
- Lot Grading, Drainage and Servicing Plan (Where Applicable)

DESIGNER QUALIFICATION AND REGISTRATION REQUIREMENTS

Homeowners submitting designs for their own residence are exempt from qualification and registration requirements.

However, individuals and agencies providing design services to the public have to meet the qualification and registration requirements set out by the Ministry for Municipal Affairs and Housing. Visit www.obc.mah.gov.on.ca for more information.

Any deck or porch being erected to support a hot tub or similar structure must be designed by a Professional Engineer licensed in the Province of Ontario.

CALL BEFORE YOU DIG

It is the responsibility of the owner or contractor to call the utility companies to locate any underground utility lines within the construction zone to avoid damaging the utility lines during construction.

Ontario One Call (Underground Locates)
www.ontarioonecall.ca

1-800-400-2255

STEP BY STEP INSTRUCTIONS

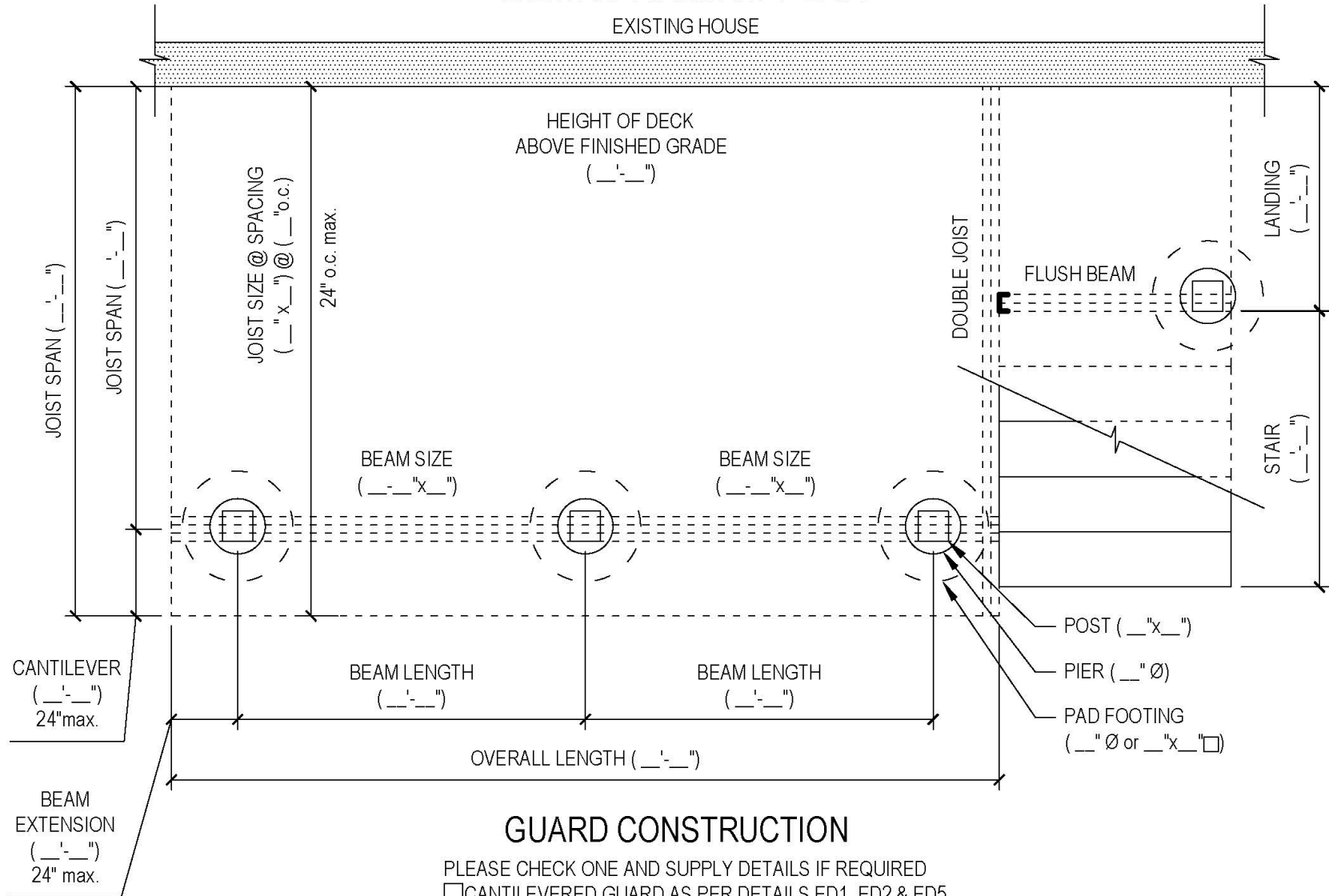
1. Start by filling in the following information on the blank area shown on "Deck Framing Plan" (Page 5). Overall length and width of deck, landing and stair, pier spacing, joist span and maximum height of the deck above grade.
2. Once you have your joist span, and pad footing spacing you can size each component of the deck using Tables 1 (Page 8) and 2 (Page 9).
3. The pad footing size is in the intersecting box of the row that corresponds with your joist span and the column that corresponds with your pad footing spacing.
4. The beam size is in the intersecting box of the row that corresponds with your joist span and the column that corresponds with your pad footing spacing.
5. Joist size is in the intersecting box of the row that corresponds with your joist span and the column labeled joist size.
6. A guard is required where there is a difference in elevation of 23 5/8" (600mm) from the walking surface of the deck to the adjacent surface. The height of the guard shall not be less than 36" (900mm) where the height above finished grade is 5'-11" (1800mm) or less. The guard shall be 42" (1070mm) in height where the height is above 5'-11" (1800mm).
7. Fill out all the above information on the "Deck Framing Plan" (Page 5) and submit with applicable Details, Section, Site Plan, Foundation Plan and Lot Grading, Drainage and Servicing Plan (if applicable).

Please provide your own deck framing plan if your deck layout is different from what is shown in this package (Use the same concept and provide the same information). You will also need to provide your own details if the proposed construction methods differ than those provided.

Any proposed prefabricated guard/railing system must have a set of sealed details provided by a Professional Engineer licensed in the Province of Ontario (a manufacturer or building supply store will be able to supply these details at your request).

DIAGRAM 1: DECK FRAMING PLAN

DECK FRAMING PLAN



GUARD CONSTRUCTION

- PLEASE CHECK ONE AND SUPPLY DETAILS IF REQUIRED
- CANTILEVERED GUARD AS PER DETAILS ED1, ED2 & ED5
 - POST AND RAIL GUARD AS PER DETAILS EB2
 - OTHER (PROVIDE DETAILS)

DIAGRAM 2: DECK FRAMING SECTION

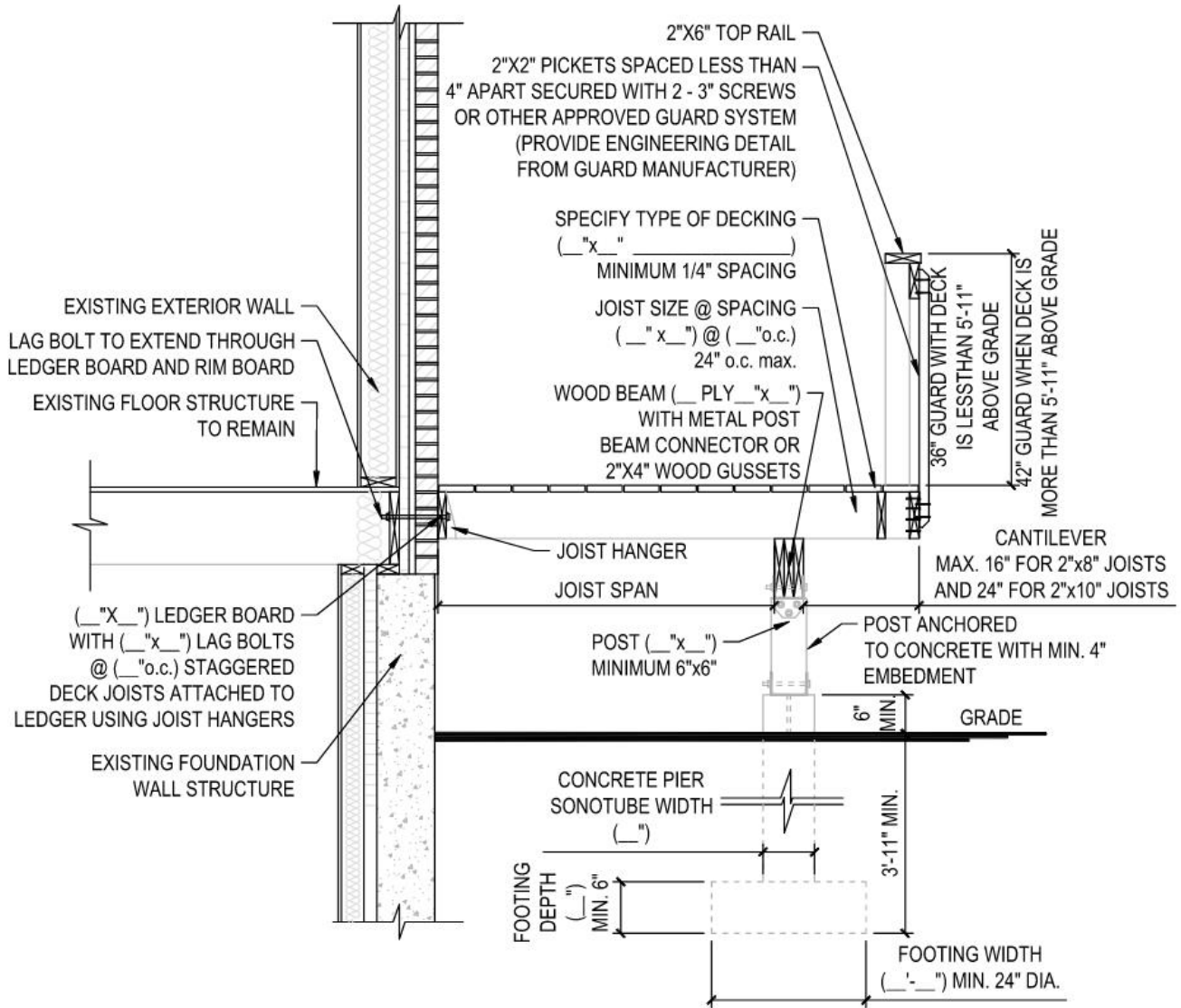
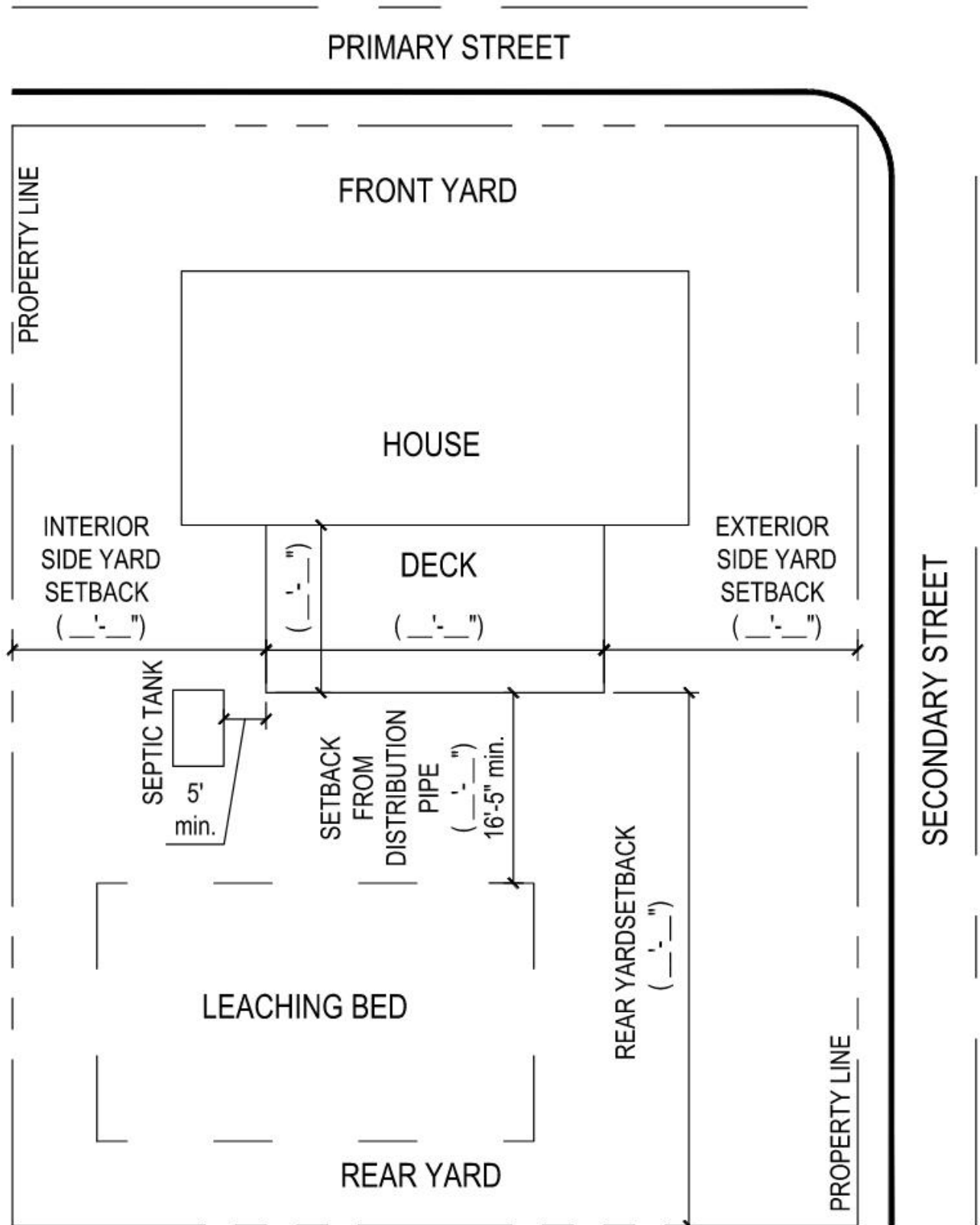


DIAGRAM 3: SITE PLAN



PIERS & FOOTINGS

Piers and footings shall consist of poured concrete with a minimum compressive strength of 2200 psi (15 MPa) after 28 days.

PIERS

- Piers that extend more than 6" above grade shall be not less than 9" in diameter.
- Piers that extend above grade shall not extend more than 3 times their width/diameter above grade
- Piers must be one nominal size larger in width or diameter than the column supported.
- Piers may be the same size or less than the supporting pad footing

TABLE 1: MINIMUM REQUIRE PAD FOOTING SIZE

Minimum Required Pad Footing Size (Typical Bearing Dimension)				
1566psf Soil Bearing Capacity		Beam Length / Pier Spacing		
		8'-0"	10'-0"	12'-0"
Supported Joist Length (ft) Refer to Illustration	10'-0"	24"Ø 21"x21"□	24"Ø 21"x21"□	22"x22"□
	12'-0"	24"Ø 21"x21"□	22"x22"□	24"x24"□
	14'-0"	24"Ø 21"x21"□	24"x24"□	26"x26"□
	16'-0"	23"x23"□	25"x25"□	28"x28"□

Ø = Diameter of Round Pad Footing

□ = Dimensions of Square Pad Footing

Minimum Required Pad Footing Size is 24" Diameter or 21"x21" Square

NOTE: The minimum required bearing area must be doubled where the soil bearing capacity is affected by a high water table.

FOOTINGS

- Pad footing thickness to be more than the width of the projection of the footing beyond the supported column or pier.
- footings must extend a minimum of 1.2m (3'-11") below grade.

WOOD COLUMNS, BEAMS, JOISTS AND STRUCTURAL MEMBERS

- All wood columns, joists and structural members shall be graded lumber, Spruce Pine Fir No. 2 or better.
- All wood shall be treated to be exposed to the weather and if in contact with soil or concrete, shall be treated for ground contact.
- Cut ends of pressure treated lumber to be field treated with a wood preservative.

COLUMNS

- Wood columns shall be not less than 184mm (7-1/4") diameter for round columns and 140mm x 140mm (5-1/2"x5-1/2") for square or rectangular columns with a maximum unsupported height of 10'-0" measured from the top of concrete piers to underside of beam
- Columns shall be directly fastened (anchored) to their supporting and supported members to resist uplift.
- Connections to concrete piers shall be provided with manufactured carport saddles embedded a minimum of 4" into the concrete pier.

JOISTS

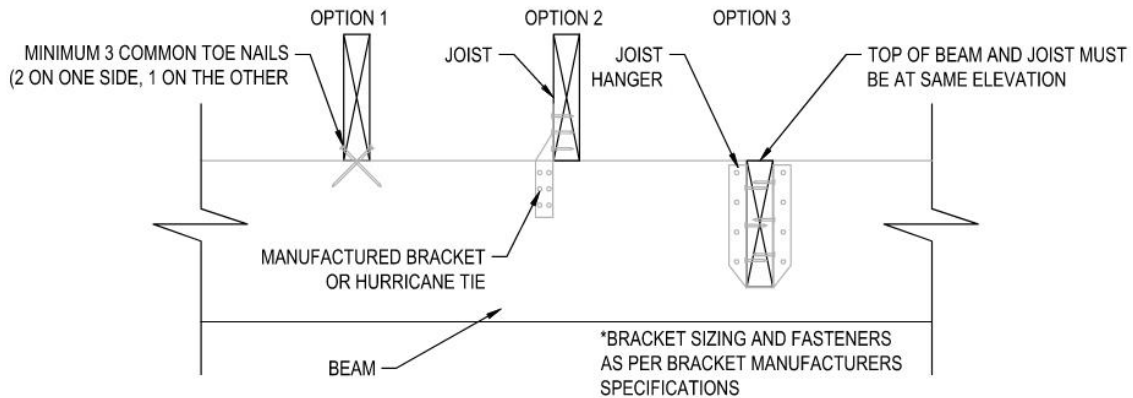
- Joist must bear at each end on a minimum bearing of 1 1/2".
- Bearing may be provided by a manufactured hanger bracket fastened with specified fasteners to a beam or ledger board.
- Joists bearing on top of a beam must be fastened by toe nailing the joist to the beam with a minimum of three 3 1/4" common nails or with manufactured bracket and specified fasteners.

TABLE 2: MINIMUM REQUIRED JOIST SIZING

Deck Joist Sizing					
Joist Spacing	Joist Span				
	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"
12"oc.	2"x6"*	2"x6"*	2"x8"	2"x10"	2"x12"
16" oc.	2"x6"*	2"x8"	2"x10"	2"x12"	-
24" oc.	2"x6"*	2"x8"	2"x10"	2"x12"	-

* Minimum 2"x8" required for guard attachment as per SB-7 of the Ontario Building Code.

DIAGRAM 4: JOIST TO BEAM CONNECTION OPTIONS



LEDGER BOARD

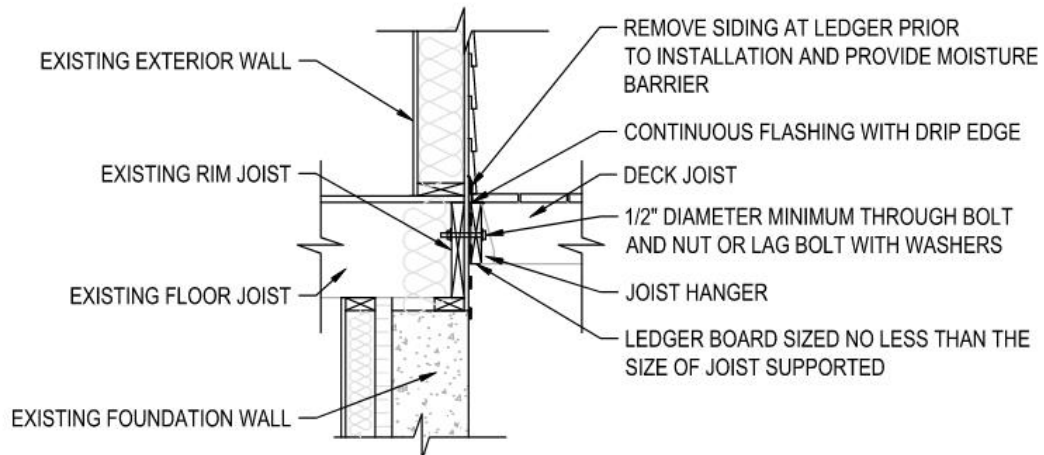
- A Ledger Board shall have the same dimensions as the floor joists it supports.
- Anchor Bolts shall be embedded at least 100mm (4") into solid concrete, concrete filled masonry, or suitable structural lumber.
- Deck ledgers shall be minimum 2x8 pressure-preservative-treated No.2 grade lumber or other approved materials as determined by good engineering practices.

NOTE: The anchor bolts shall not be attached to hollow masonry or brick veneer.

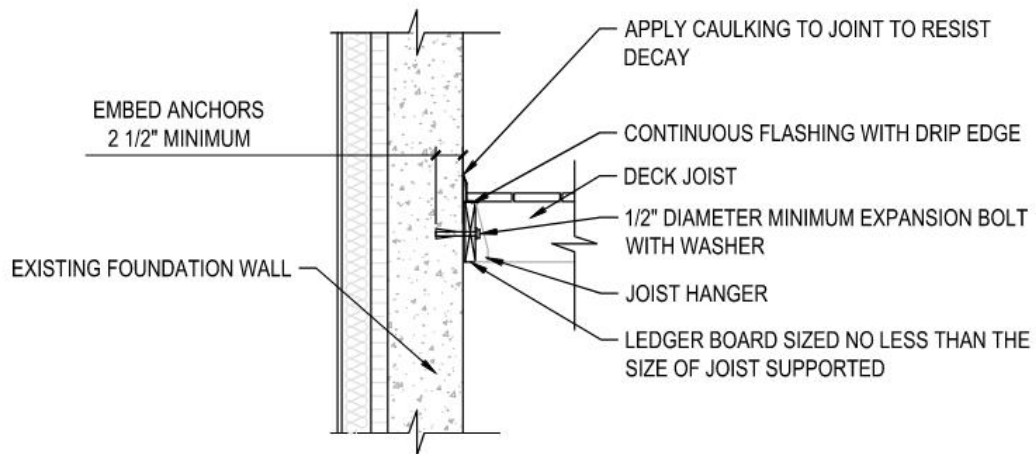
TABLE 3: MAXIMUM ANCHOR BOLT SPACING FOR THE CONNECTION OF LEDGER BOARDS

Maximum Anchor Bolt Spacing for the Connection of Ledger Boards					
Anchor Bolt Sizing	Maximum Clear Floor Span(ft)				
	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"
1/2"	17"	15"	12"	11"	10"
5/8"	19"	17"	16"	15"	12"

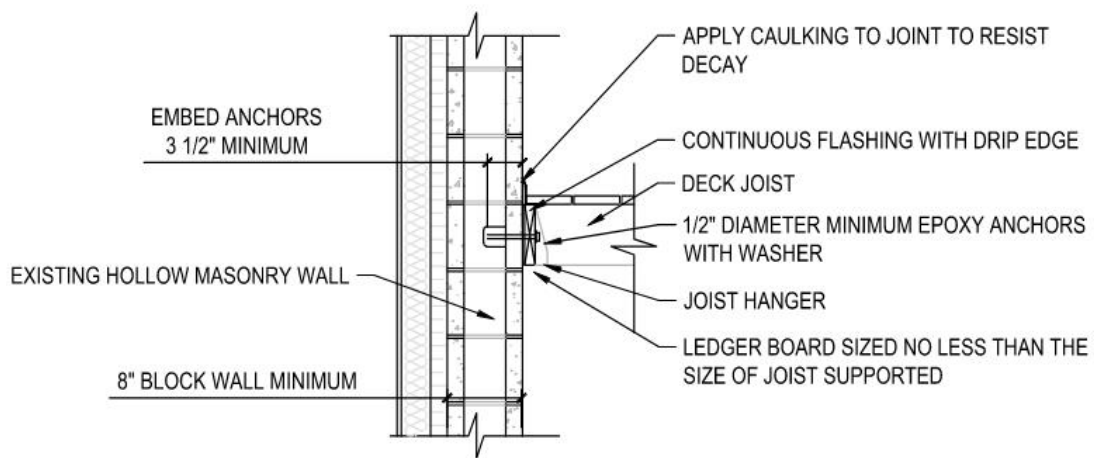
DIAGRAM 5: LEDGER BOARD CONNECTIONS



LEDGER BOARD CONNECTION TO RIM BOARD



LEDGER BOARD CONNECTION TO POURED FOUNDATION WALL



LEDGER BOARD CONNECTION TO BLOCK WALL

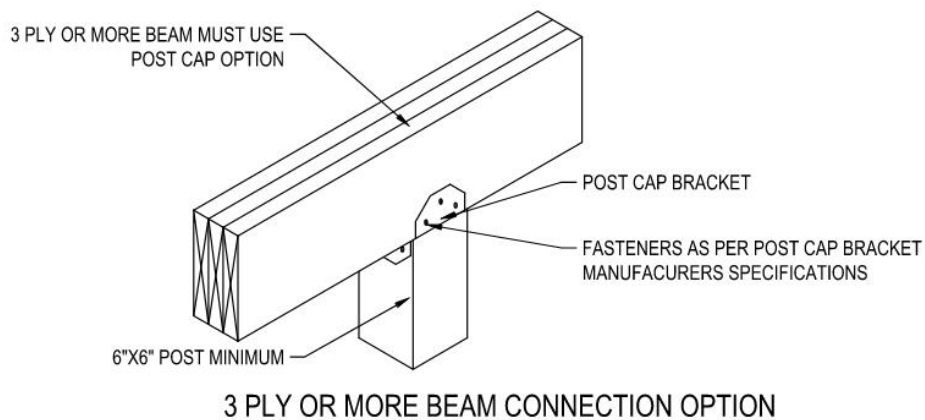
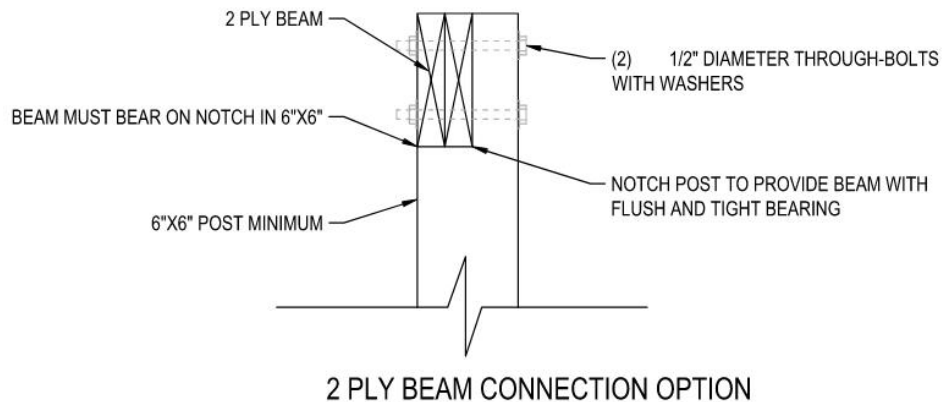
BEAMS

-Beams are to be fully supported on the underside by column or pier and be adequately anchored.

TABLE 4: MINIMUM BEAM SIZING

Built Up Beam Sizing					
Joist Span	Pier/Column Spacing				
	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
4'-0"	2-2"x8"	3-2"x8" 2-2"x10"	3-2"x8"	3-2"x10"	4-2"x10"
6'-0"	2-2"x8"	2-2"x8"	3-2"x8"	3-2"x10"	4-2"x10"
8'-0"	2-2"x8"	3-2"x8"	3-2"x10"	4-2"x10"	4-2"x12"
10'-0"	2-2"x8"	3-2"x8"	3-2"x10"	*	4-2"x12"
12'-0"	2-2"x8"	3-2"x8"	3-2"x10"	4-2"x10"	4-2"x12"
14'-0"	2-2"x8"	3-2"x8"	3-2"x10"	4-2"x10"	4-2"x12"
16'-0"	2-2"x8"	3-2"x8"	3-2"x10"	4-2"x10"	5-2"x12"

DIAGRAM 6: POST TO BEAM CONNECTIONS



LATERAL BRACING

-Lateral bracing of all deck supports shall be provided for decks that exceed 24" above grade.

DIAGRAM 7: BRACING

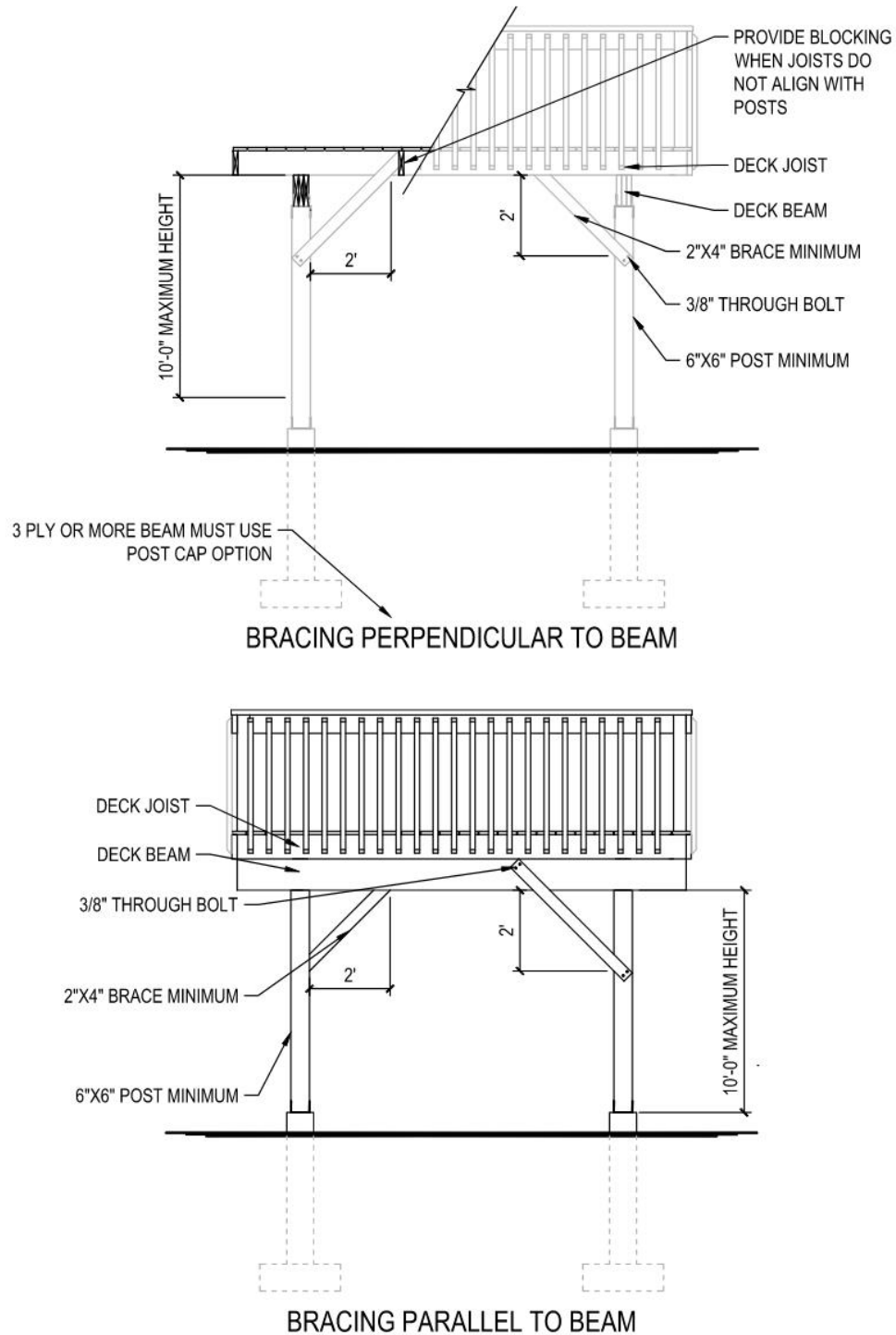
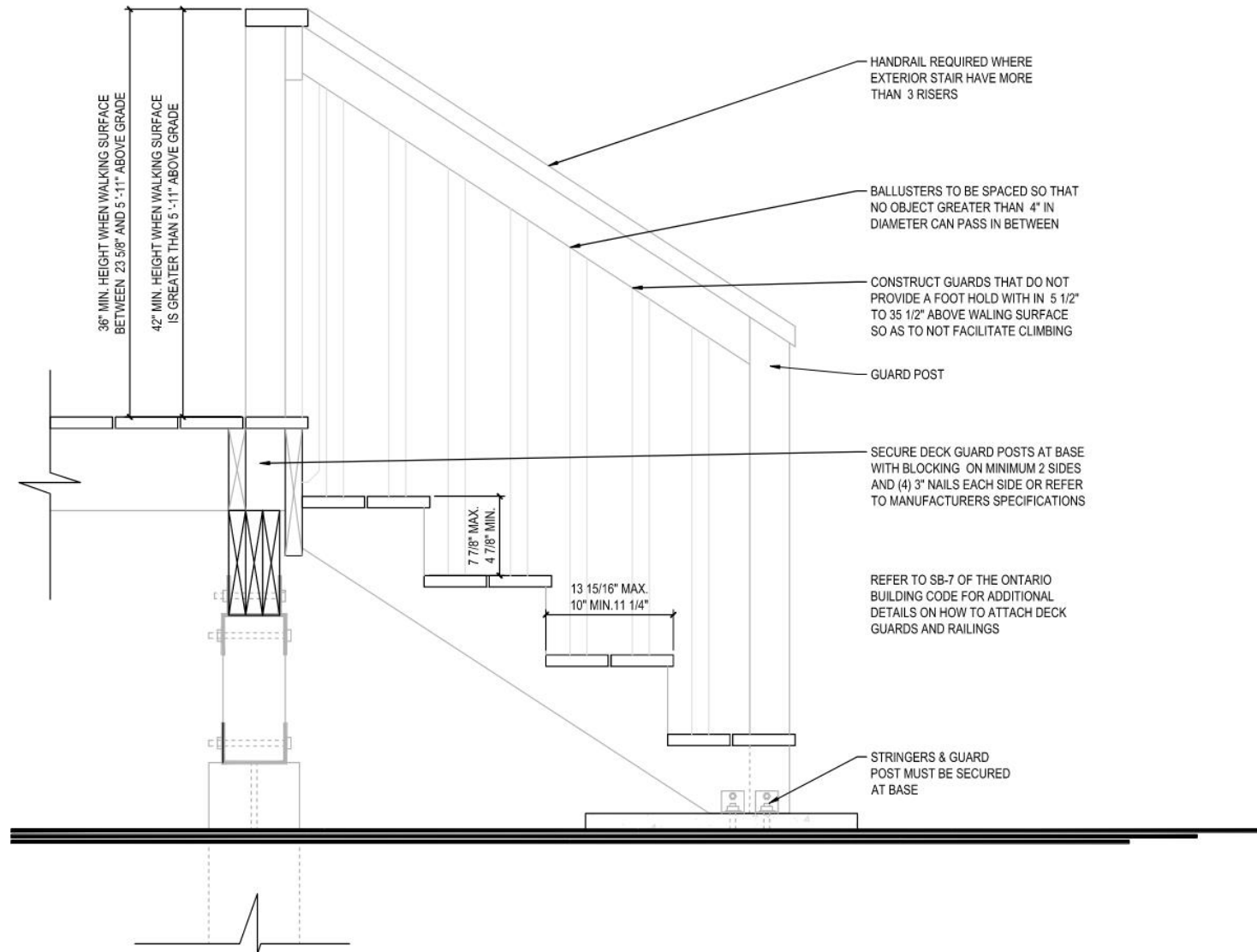


DIAGRAM 8: STAIRS AND GUARDS



FASTENERS AND MANUFACTURED BRACKETS

- All fasteners, nails, screws, bolts, nuts, washers and brackets are required to be treated to be exposed to the weather and to be treated to be in contact with wood preservatives.
- Decking screws shall not be used for the purposes of fastening structural members.
- Always use manufactured brackets and hangers as per the manufacturer's specifications and with the manufacturer's specified fasteners.

HELPFUL RESOURCES

Township of Ashfield Colborne Wawanosh <https://acwtownship.ca/develop-build>

The Ontario 2012 Building Code Compendium

The Canadian Wood Council <https://cwc.ca/en/home/>

Simpson Strongtie <https://www.strongtie.com/products/go/software/deckplanner>