

GENERAL INFORMATION

Piers: Shall be not less than 8" (203mm) in diameter. Under most circumstances it may be preferable to expand the lower portion of a smaller pier to achieve the required bearing area rather than use a larger pier. Refer to the table below for minimum footing sizes. Values in table are based on a soil bearing capacity of 10.9 psi (75 kPa). Minimum sizes must be double where the soil bearing capacity is affected by a high water table.

MINIMUM REQUIRED BEARING, (ft²)							
10.9 psi Soil Bearing Capacity		Beam Length/Pier Spacing, (ft)					
		4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	14'-0"
Supported Joist Length, * (ft)	4'-0"	0.43 ft ² (10"Ø or 8"x8")	0.65 ft ² (12"Ø or 10"x10")	0.86 ft ² (14"Ø or 12"x12")	1.08 ft ² (14"Ø or 13"x13")	1.29 ft ² (16"Ø or 14"x14")	1.51 ft ² (18"Ø or 15"x15")
	6'-0"	0.65 ft ² (12"Ø or 10"x10")	0.97 ft ² (14"Ø or 12"x12")	1.29 ft ² (16"Ø or 14"x14")	1.61 ft ² (18"Ø or 16"x16")	1.94 ft ² (20"Ø or 17"x17")	2.26 ft ² (22"Ø or 19"x19")
	8'-0"	0.86 ft ² (14"Ø or 8"x8")	1.29 ft ² (16"Ø or 14"x14")	1.72 ft ² (18"Ø or 16"x16")	2.15 ft ² (20"Ø or 18"x18")	2.58 ft ² (22"Ø or 20"x20")	3.01 ft ² (24"Ø or 21"x21")
	10'-0"	1.08 ft ² (14"Ø or 13"x13")	1.61 ft ² (18"Ø or 16"x16")	2.15 ft ² (20"Ø or 18"x18")	2.69 ft ² (24"Ø or 20"x20")	3.23 ft ² (N/A or 22"x22")	3.76 ft ² (N/A or 24"x24")
	12'-0"	1.29 ft ² (16"Ø or 14"x14")	1.94 ft ² (20"Ø or 17"x17")	2.58 ft ² (22"Ø or 20"x20")	2.82 ft ² (24"Ø or 21"x21")	3.87 ft ² (N/A or 24"x24")	4.52 ft ² (N/A or 26"x26")
	14'-0"	1.51 ft ² (18"Ø or 16"x16")	2.26 ft ² (22"Ø or 18"x18")	3.01 ft ² (24"Ø or 21"x21")	3.76 ft ² (N/A or 24"x24")	4.52 ft ² (N/A or 26"x26")	5.27 ft ² (N/A or 28"x28")
	16'-0"	1.72 ft ² (18"Ø or 16"x16")	2.58 ft ² (22"Ø or 20"x20")	3.44 ft ² (N/A or 23"x23")	4.30 ft ² (N/A or 25"x25")	5.16 ft ² (N/A or 28"x28")	6.02 ft ² (N/A or 30"x30")

* Supported Length means half the sum of the joists supported by the beam & ledger board plus any cantilever.

Concrete: Piers shall consist of poured concrete with a minimum compressive strength of 2200 psi (15 MPa) after 28 days [OBC 9.3.1.6].

Depth: Where a deck or porch is attached to a dwelling the minimum footing depth shall be 47" (1.2m). There is no minimum footing depth requirement for an uncovered deck that is not attached to another structure and is constructed where the finished grade is less than 24" (610mm) [OBC 9.12.2.2].

Height: Piers shall not extend more than 3 times their width above finished grade [OBC 9.15.2.3 (3)].

Columns: Round wood columns shall be not less than 7 ¼" Ø (184mm Ø) or 5 ½"x5 ½" (140mm x 140mm) square [OBC 9.17.4.1. (2)].

Anchorage: Columns shall be directly fastened to their supports as well as to the framing members for which they are supporting to resist uplift and lateral movement [OBC 9.23.6.2].

Ledger Board: Shall consist of the same nominal sized lumber as the deck joists and contain joist hangers to support the deck joists. These hangers shall be coated to prevent corrosion and installed as per the manufacturer's specifications.

Ledger Anchorage: Anchorage for ledger boards shall consist of expandable sleeve anchors for solid concrete or concrete filled masonry or carriage bolts with nuts & washers into suitable structural lumber. In all cases they shall be embedded minimum 4" (100mm). Refer to the table below for size and spacing. (refer to Figure D)

Supported Length* (ft)	Maximum Bolt Spacing, (ft)	
	Staggered 1/2"Ø	Staggered 5/8"Ø
3'-11"	1'-5 3/4"	1'-8"
4'-9"	1'-4"	1'-5 3/4"
6'-6"	1'-0"	1'-4"
8'-2"	11"	1'-0 3/4"

* Supported Length means half the sum of the joist span.

Beams: Built-up beams shall have not less than 3 1/2" (89mm) of bearing and be fully supported over their width [OBC 9.23.8.1.]. Where individual members are butted together to form a joist, the joint must occur over a support. Built-up beams shall be nailed together with a double row of galvanized framing nails not less than 3 1/2" (89mm) in length. Spacing shall not be more than 18" (450mm) apart and not more than 4" (100mm) from the end [OBC9.23.8.3.(7)]. Refer to the table below for maximum built-up beam sizes and length.

Supported Length,* (ft)	Maximum Beam Span, (ft)		
	3-2x8	3-2x10	3-2x12
7'-10 1/2"	10'-0"	12'-10"	14'-11"
9'-10 1/8"	9'-4"	11'-6"	13'-5"
11'-9 3/4"	8'-7"	10'-6"	12'-2"
13'-9 3/8"	8'-0"	9'-9"	11'-4"
15'-9"	7'-5"	9'-1"	10'-7"
17'-8 5/8"	7'-0"	8'-7"	10'-0"
19'-8 1/4"	6'-8"	8'-2"	9'-5"

* Supported Length means half the sum of the joists supported by the beam & ledger board plus any cantilever.

Joists: May be supported on either the top of a built-up beam or in a joist hanger coated to prevent corrosion and installed as per the manufacturer's specifications. At no time shall the minimum bearing of joists be less than 1 1/2" (38mm). Each joist bearing on a built-up beam must be mechanically fastened to the beam with two (2) galvanized framing nails 3 1/4" (82mm) in length. Refer to the table below for maximum size and spacing of joists.

Joist Size	Maximum Joist Span*, (ft)		
	12" on centre	16" on centre	24" on centre
2x6	10'-3"	9'-4"	8'-2"
2x8	12'-6"	11'-9"	10'-8"
2x10	14'-6"	13'-8"	12'-10"
2x12	16'-5"	15'-5"	14'-6"

* Spans based on Spruce-Pine-Fir (SPF) Grade No1 or No2

Cantilever: 2x8 (38mm x 184mm) joists supporting roof loads shall not cantilever more than 16" (400mm) beyond their supports. Joist sizes larger than 2x8 shall not cantilever more than 24" (600mm) beyond their supports **[OBC9.23.9.9.]**.

Blocking: Where joist spans are greater than 6'-11" (2.1m) cross bridging or solid blocking shall be provided at mid span. Cross bridging or solid blocking shall be:

- 1x3 (19mm x 64mm) cross bridging,
- 2x2 (38mm x 38mm) cross bridging or,
- solid blocking the same size as the joists.

Bridging or blocking shall be fastened with two (2) galvanized framing nails 2 ¼" (57mm) in length at each end.

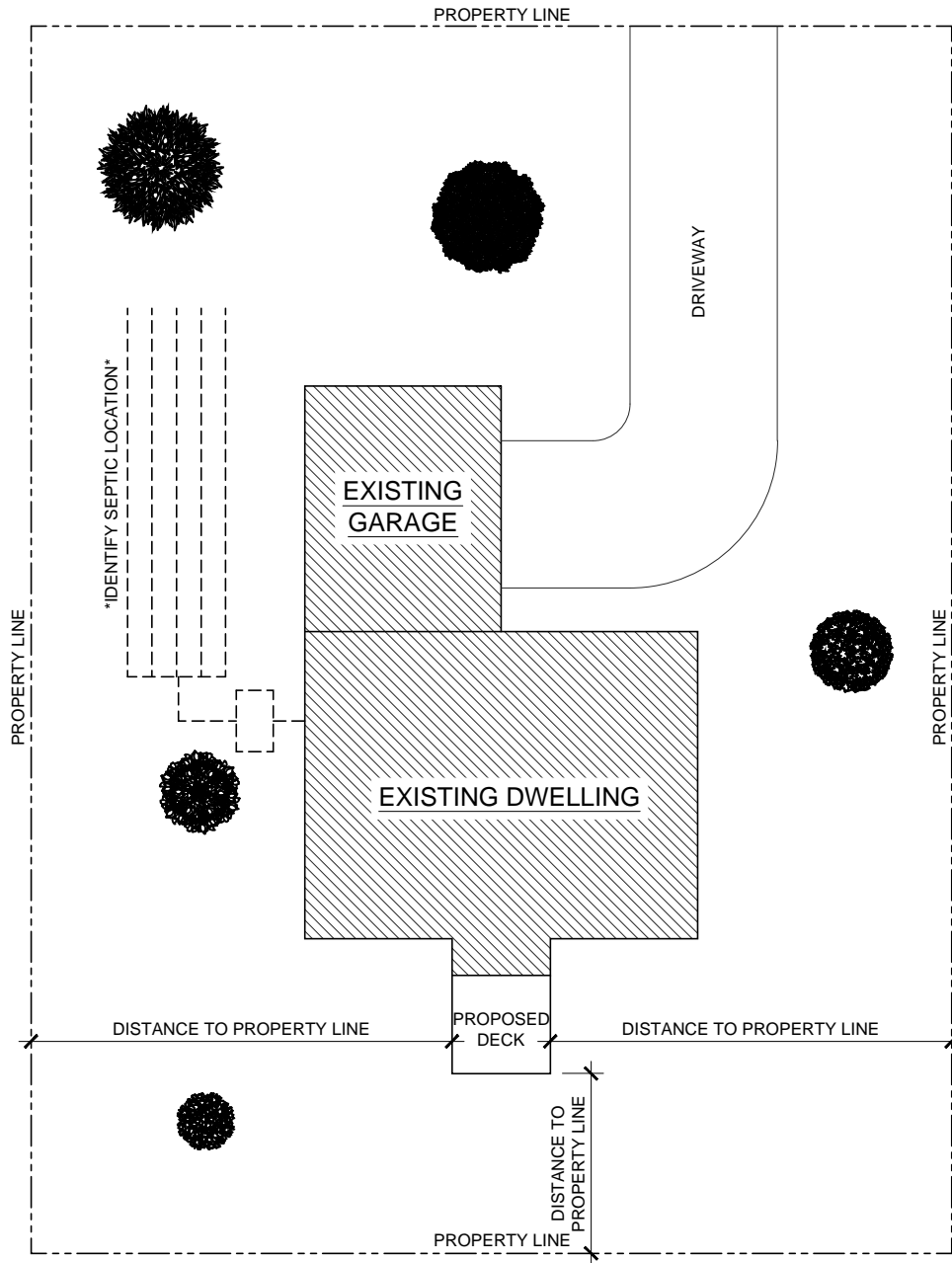
Decking: Plank type decking less than or equal to 7 ¼" (184mm) wide shall be fastened with two (2) galvanized framing nails 2" (51mm) in length or two (2) 1 ¾" (45mm) coated screws. Decking shall be at least 11/16" (17mm) thick when placed on joists spaced 16" (400mm) on centre or less and 3/4" (19mm) thick when placed on joists spaced 24" (600mm) on centre.

Fasteners: Must be treated or coated to prevent corrosion. Screws may be used in lieu of nails so long as they provide equal strength.

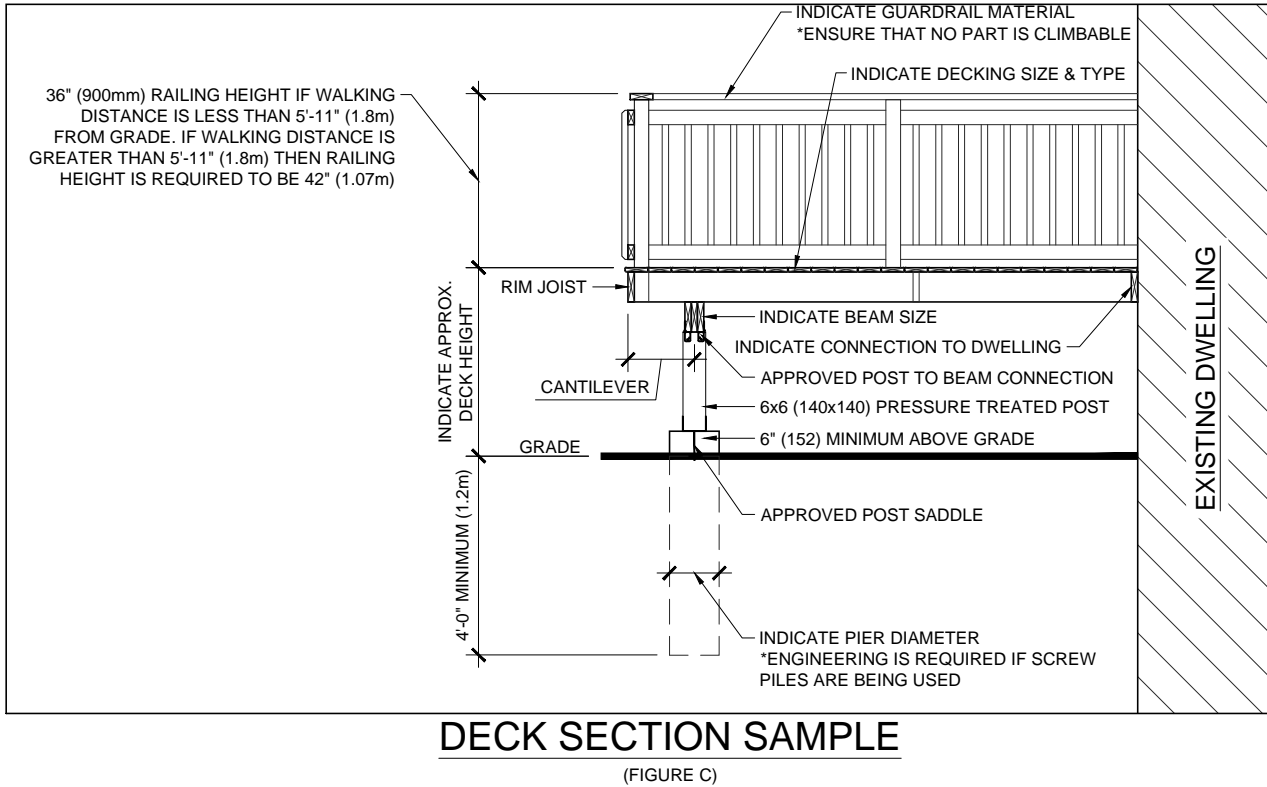
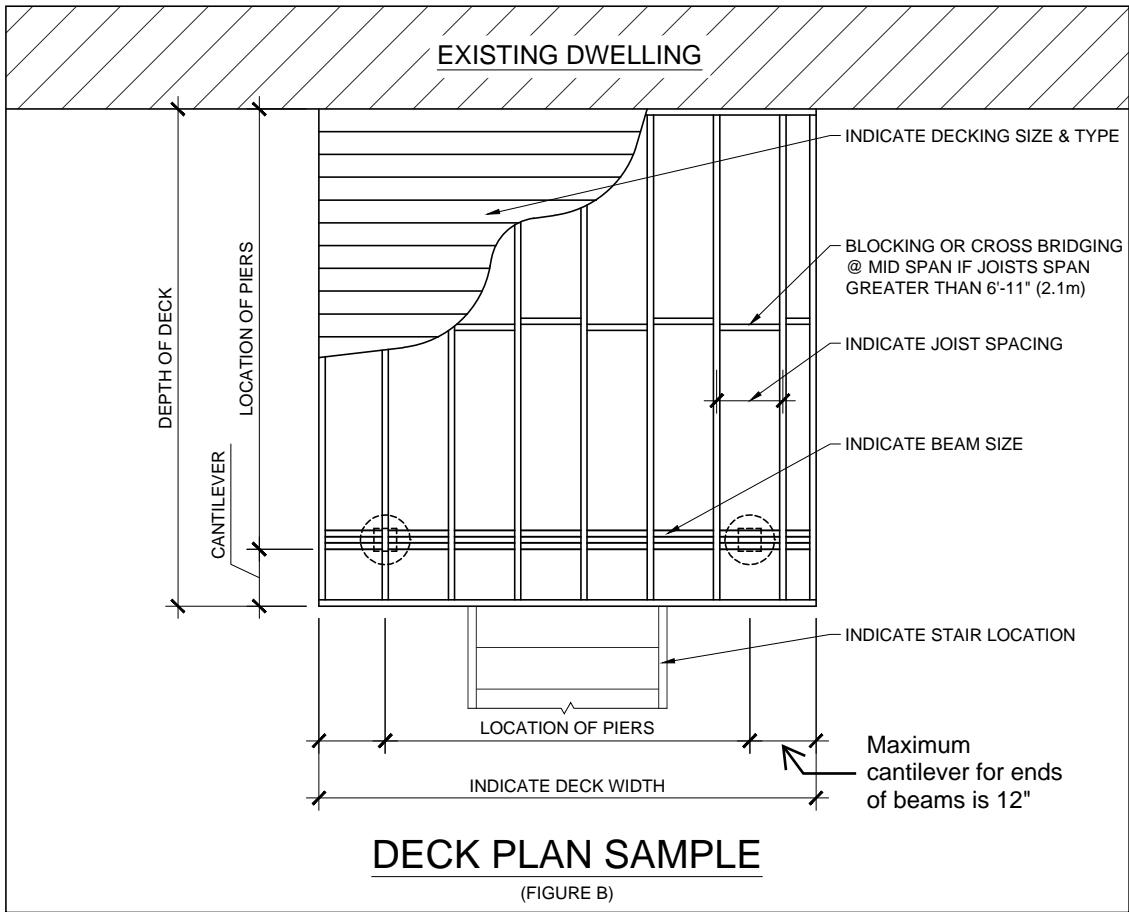
Stairs: Shall have a width not less than 36" (900mm). Risers shall be a minimum of 4 7/8" (125mm) and a maximum of 7 7/8" (200mm). Treads shall be a minimum of 9 ¼" (235mm) and a maximum of 14" (355mm). Stringers shall consist of a minimum 2x10 (38mm x 235mm) lumber.

Railings: Shall conform to Supplementary Standard SB-7 of the Ontario Building Code.

Guards: Exterior guards shall be not less than 36" (900mm) high where the walking surface served by the guard is not more than 5'-11" (1.8m) above finished grade otherwise the guard shall be not less than 42" (1070mm) high. If a bench is incorporated into the guard then the required height is measured from the bench surface **[OBC 9.8.8.3.]**. Opening in guard balusters shall be of a size that will prevent the passage of a spherical object having a diameter of 4" (100mm) **[OBC 9.8.8.5.]**. Guards shall be designed so that no member, attachment or opening will facilitate climbing **[OBC 9.8.8.6.]**. (refer to SB-7)

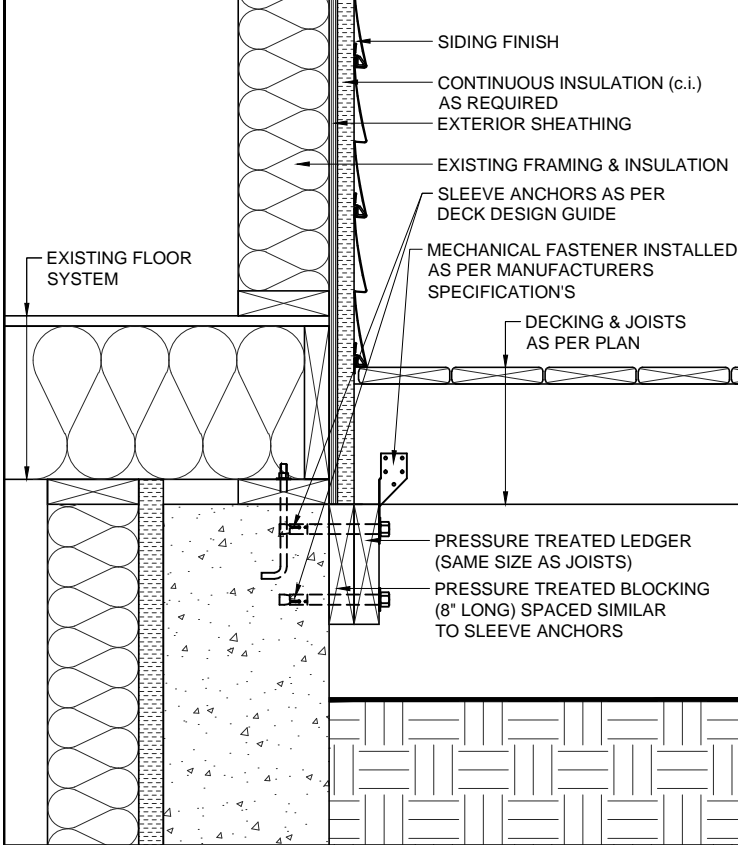


SAMPLE SITE PLAN
(FIGURE A)



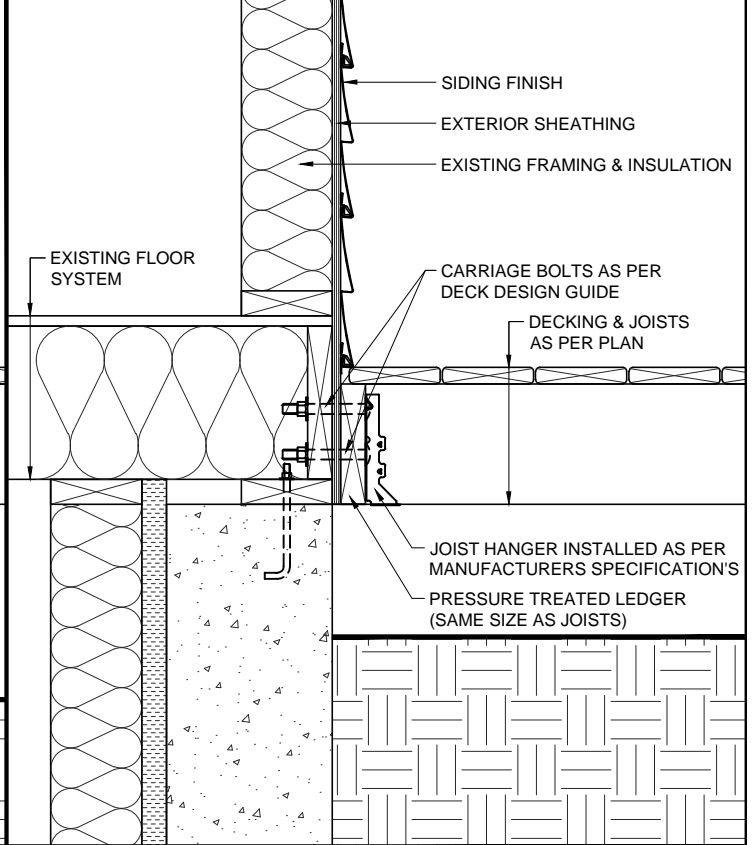
DECK CONNECTION (FIGURE D1)

(WITH SIDING & CONTINUOUS INSULATION)



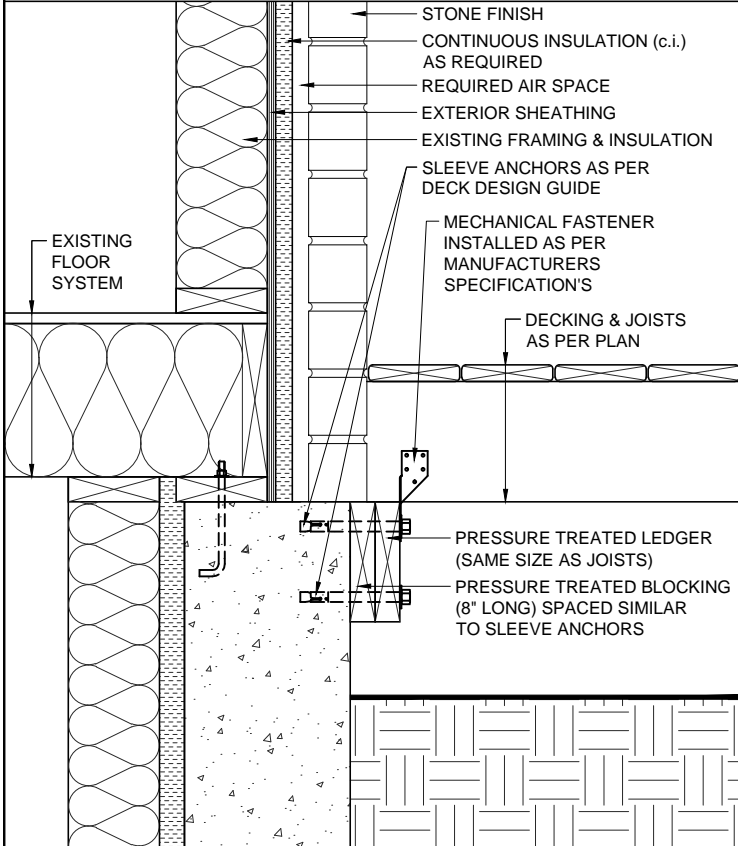
DECK CONNECTION (FIGURE D2)

(WITH SIDING & WITHOUT CONTINUOUS INSULATION)



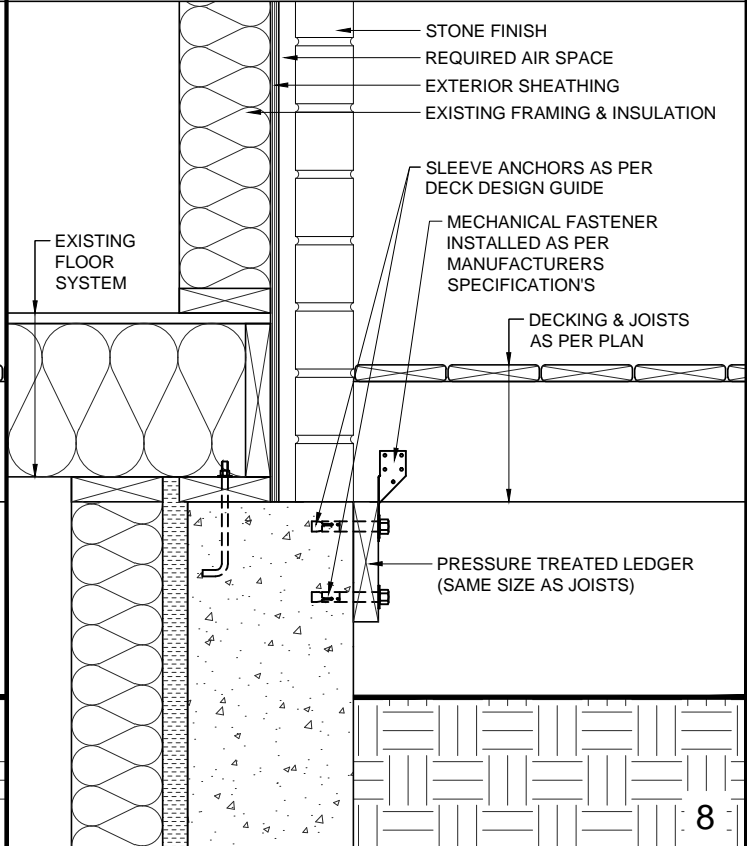
DECK CONNECTION (FIGURE D3)

(WITH STONE & CONTINUOUS INSULATION)



DECK CONNECTION (FIGURE D4)

(WITH STONE & WITHOUT CONTINUOUS INSULATION)



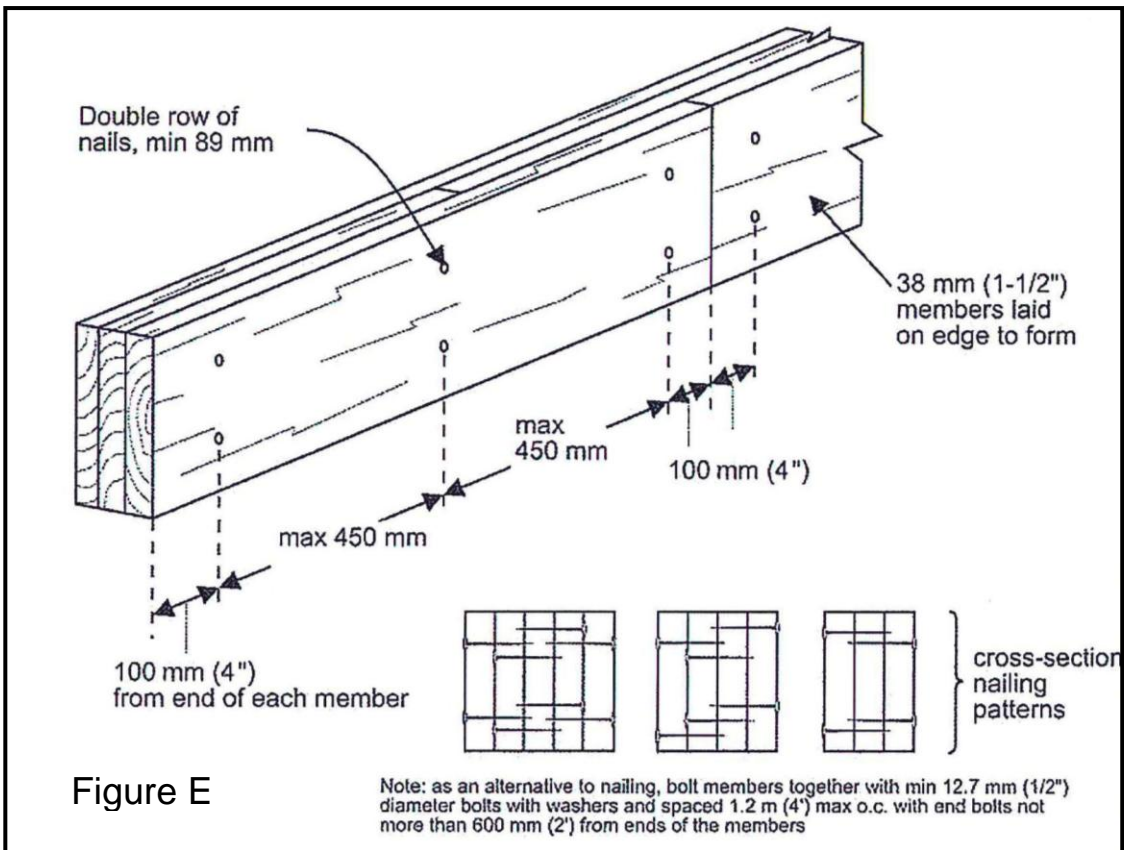
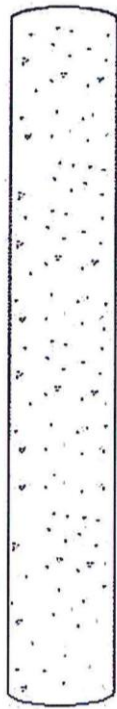


Figure E

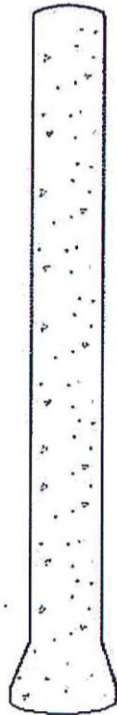
PIERS

EXAMPLE: Where Require Bearing Area = 1.29 Sq. Ft.
 NOTE: REFER TO PIER TABLE FOR REQUIRED SIZES

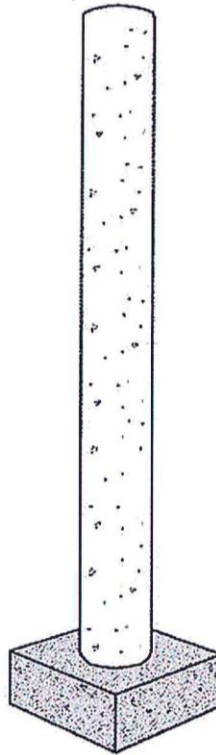
Figure F



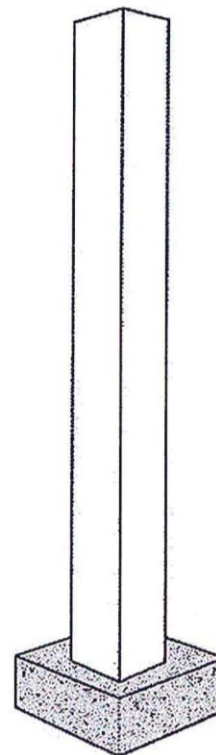
Round concrete pier without footing



Round concrete pier with expanded base



Round concrete pier on square concrete pad



P.T. wood post on square concrete pad

