



DECK PACKAGE

Updated August 2019

TOWNSHIP OF NAIRN AND HYMAN

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Deck Package

General Notes

- A site plan or survey is required showing all lot lines and dimensions, size and location of all buildings, hydro services and the proposed location and size of the deck.
- A floor plan is required showing footing locations, beam/joist orientation, clear spans of beams/joists.
- All lumber used must be pressure treated, stamped and graded No. 2 or better.
- Cut ends in pressure treated lumber shall be treated with pressure treat paint
- 5/4" decking material must be supported at minimum every 16" o.c.
- Stairs stringers shall be spaced at a maximum of 35"

Footings & Piers

- Decks greater than 600mm (23" 5/8") above grade (measured from underside of joist) or attached to a structure must use circular piers.
- Circular piers to be a minimum 10" diameter and extend a minimum 4'-6" below finished grade, extend above grade no more than 3x diameter of the pier and extend no less than 6" above grade.
- 2- 15M bent rebar is required.
- Piers shall be anchored to footing pad or on a minimum 28" "Big Foot" to provide proper bearing and to resist uplift.
- Minimum concrete strength of piers to be 20mPa
- It is recommended to wrap piers with a double layer of plastic poly to prevent frost uplift/damage.
- Deck blocks can be used under the following conditions:
 - 55m² maximum area
 - Maximum of 600mm (23 5/8") above grade, measured from underside of floor joists to grade
 - No roof is attached
 - Not attached to another structure

Guards

- Decks with a walking surface less than 23 5/8" above grade do not require a guard as long as the adjacent ground level is consistent for 4' around edge of deck.
- Decks with a walking surface between 23 5/8" and 5'-11", a minimum of 36" high guard is required.
- Decks with walking surface 5'-11" or greater above grade require a 42" guard.
- Guards shall be non-climbable between 140mm (5 1/2") and 900 mm (35 7/16") above the floor or walking surface and vertical spindles shall be spaced no more than 4" apart.
- Deck stairs with 3 or more risers require a handrail.
- Guard posts shall be 4" x 4" solid (Do not notch post).

Beams & floor Joists

- Support posts for beams must be minimum 6" x 6" and all beams must be 3-ply
- Beams to post and post to base connections shall be securely fastened to resist uplift and lateral movement.
- Beam are not permitted to be cantilevered.
- Beams and floor joists shall be sized from the span tables below.
- Minimum permitted joists size is 2" x 8" where SB-7 guards are used.

BEAMTABLE

Depth of Beam	Max Span
3 - 2" x 8"	9'-6"
3 - 2" x 10"	11'-6"
3 - 2" x 12"	13'-5"

FLOOR JOIST SPAN TABLE

Joist Size	Spacing	Max Span
2" x 8"	12" o.c.	11'-7"
	16" o.c.	11'-0"
	24" o.c.	10'-5"
2" x 10"	12" o.c.	13'-8"
	16" o.c.	13'-0"
	24" o.c.	12'-4"
2" x 12"	12" o.c.	15'-7"
	16" o.c.	14'-9"
	24" o.c.	14'-1"

Table for Attaching Deck to Existing Structure Using Lag Bolts

Column 1	Column 2	Column 3
Maximum Clear Floor Span, (ledger board to edge of beam)	Maximum Anchor Bolt Spacing,	
	Staggered 1/2" Diameter Anchor Bolts	Staggered 5/8" Diameter Anchor Bolts
8' - 0"	17 ¾"	19 5/8"
9' - 10"	15 ¾"	17 ¾"
13' - 1"	11 ¾"	15 ¾"
16' - 5"	10 7/8"	12 ¾"

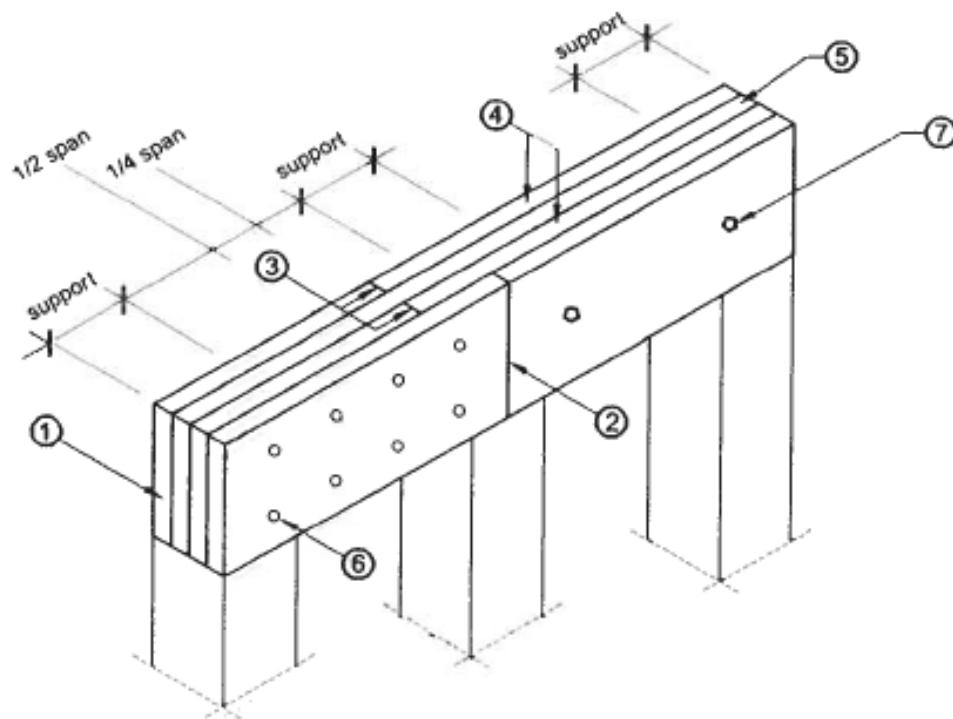
9.23.8.3. BUILT-UP WOOD BEAMS

Built-up wood beams are constructed or built-up of individual pieces of lumber. Once assembled in accordance with the prescriptive requirements of the Code, they are able to support the anticipated loads for the building assembly. Filler pieces are not to be installed between the individual members of the built-up beam. The prescriptive requirements are listed below with the purpose.

Individual members should be 38 mm (1 1/2 in.) or greater in thickness and installed on edge to provide resistance to structural gravity loads:

- Where individual members are butted together to form a joint, the joint should occur over a support to provide joint support and ensure proper bending strength at the joints.
- Where a beam is continuous over more than one span, individual members are permitted to be butted together to form a joint at or within 150 mm (5 7/8 in.) of the end quarter of the clear spans, provided the quarter points are not those closest to the ends of the beam to provide proper bending strength at the butt joints.
- Members joined at quarter points should be continuous over adjacent supports to ensure continuity over supports and adequate bending strength at the butt joints.
- Joints in individual members of a beam located at or near the end quarter points should not occur in adjacent members at the same quarter point and should not reduce the effective beam width by more than half; non-coinciding joints and adequate bending strength at the butt joints.
- Not more than one butt joint should occur in any individual member of a built-up beam within any one span to provide for adequate bending strength at the butt joints.
- Where 38 mm (1 1/2 in.) members are laid on edge to form a built-up beam, individual members should be nailed together with a double row of nails not less than 89 mm (3 1/2 in.) in length, spaced not more than 450 mm (17 3/4 in.) apart in each row with the end nails located 100 mm (4 in.) to 150 mm (5 5/7 in.) from the end of each piece; to provide for adequate fastening of individual members, distribute the load between the members and provide adequate bending and shear strength of the entire built-up beam.
- Where 38 mm (1 1/2 in.) members of built-up wood beams are not nailed together, they should be bolted together with not less than 12.7 mm (1/2 in.) diameter bolts equipped with washers and spaced not more than 1 200 mm (3 ft. 11 in.) o.c., with end bolts located not more than 600 mm (23 5/8 in.) from the ends of the members; to provide for adequate fastening of individual members, distribute the load between the members and provide adequate bending and shear strength of the entire built-up beam.

Builders may elect to bolt together the 38 mm (1 1/2 in.) members with not less than 12.7 mm (1/2 in.) diameter bolts equipped with washers and spaced not more than 1 200 mm (3 ft. 11 in.) on centre, with the end bolts located not more than 600 mm (23 5/8 in.) from the ends of the members. See Figure 5 – 66

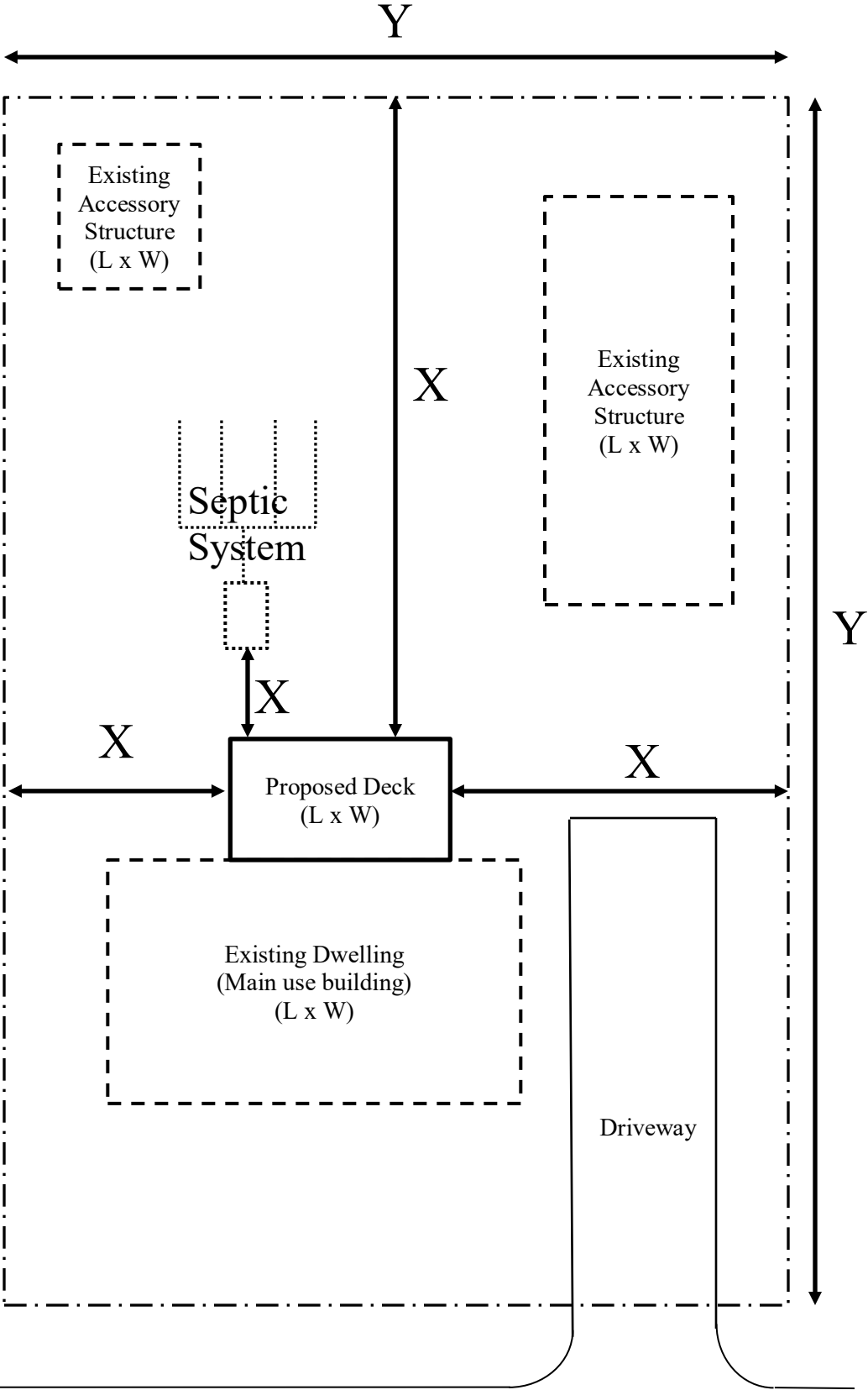


- ① Individual members minimum of 38 mm thick installed on edge.
- ② Individual members butted together to form a joint shall occur over a support.
- ③ Where the beam is continuous over more than one span, joints are permitted at or within 150 mm of the end quarter of the clear span, provided the joints are not those closest to the ends of the beam.
- ④ Members joined at quarter points to be continuous over adjacent supports.
- ⑤ Joints in individual members of a beam located at or near end quarter joints shall not occur in adjacent members at the same quarter points and not reduce the effective beam width by more than half.
- ⑥ Individual members fastened together with;
 - double row of nails
 - nails not less than 89 mm in length
 - nails spaced 450 mm apart in each row
 - nails located 100 mm to 150 mm from the end of each piece
- ⑦ Where individual members are not fastened together with nails, they shall be fastened together with;
 - bolts with not less than 12.7 mm diameter bolts
 - bolts equipped with washers
 - bolts spaced not more than 1 200 mm o.c.
 - bolts located not more than 600 mm from the ends of members

9.23.8.3. Built-up Wood Beams

Proper construction of a built-up wood beam should resist the expected gravity loads through adequate joint support, bending strength at butt joints and load distribution and shear strength between members.

SITE PLAN EXAMPLE



X = Distance to the property lines/structure from the proposed deck

Y = Property Dimensions

L x W = Length and Width of Structure

NOTES:

- All existing accessory structures must be shown, along with their dimensions.
- Hydro service must be indicated and whether if there above or below grade wires.
- Septic system location must be indicated and the distance to the tank and/or distribution lines. Contact the Public Health Sudbury and District Office for information on septic system inquiries.
- Indicate any easements and/or Right of Ways
- Adjust site plan to reflect the site-specific conditions (property dimensions, structure locations, driveway location, etc.)

Denotes Property Lines

This document may be used in lieu of submitting construction drawings provided:

- The proposed deck is for residential use only and is UNENCLOSED (No roof);
- No hot tubs, pergolas, gazebos, trellis or other roof structures are installed; and
- The deck construction conforms to these details.

MINIMUM REQUIRED GUARD HEIGHT:

(Measurements for deck height taken from finished grade to the **top of the floor joists**)

0" – 23 5/8" From Grade = Guards Not Required

23 5/8" – 5'11" From Grade = 36" Guard Required

OVER 5'11" From Grade = 42" Guard Required

GUARD CONSTRUCTION:

As per SB-7 or as per engineered design with 4" max. opening between pickets. (Attach guard details if designed by an engineer)

GUARDS NOT TO FACILITATE CLIMBING:

Guards shall be designed so that no member, attachment or opening located between 140mm (5 1/2") and 900 mm (35 7/16") above the floor or walking surface protected by the guard will facilitate climbing.

MAX. CANTILEVER OF FLOOR JOISTS:

2" x 8" Floor Joists used = 15 3/4"

2" x 10" or larger Floor Joists used = 23 5/8"

*Beams are not permitted to be cantilevered.

Maximum 600mm (23 5/8") above grade, measured from grade to the underside of the floor joists.

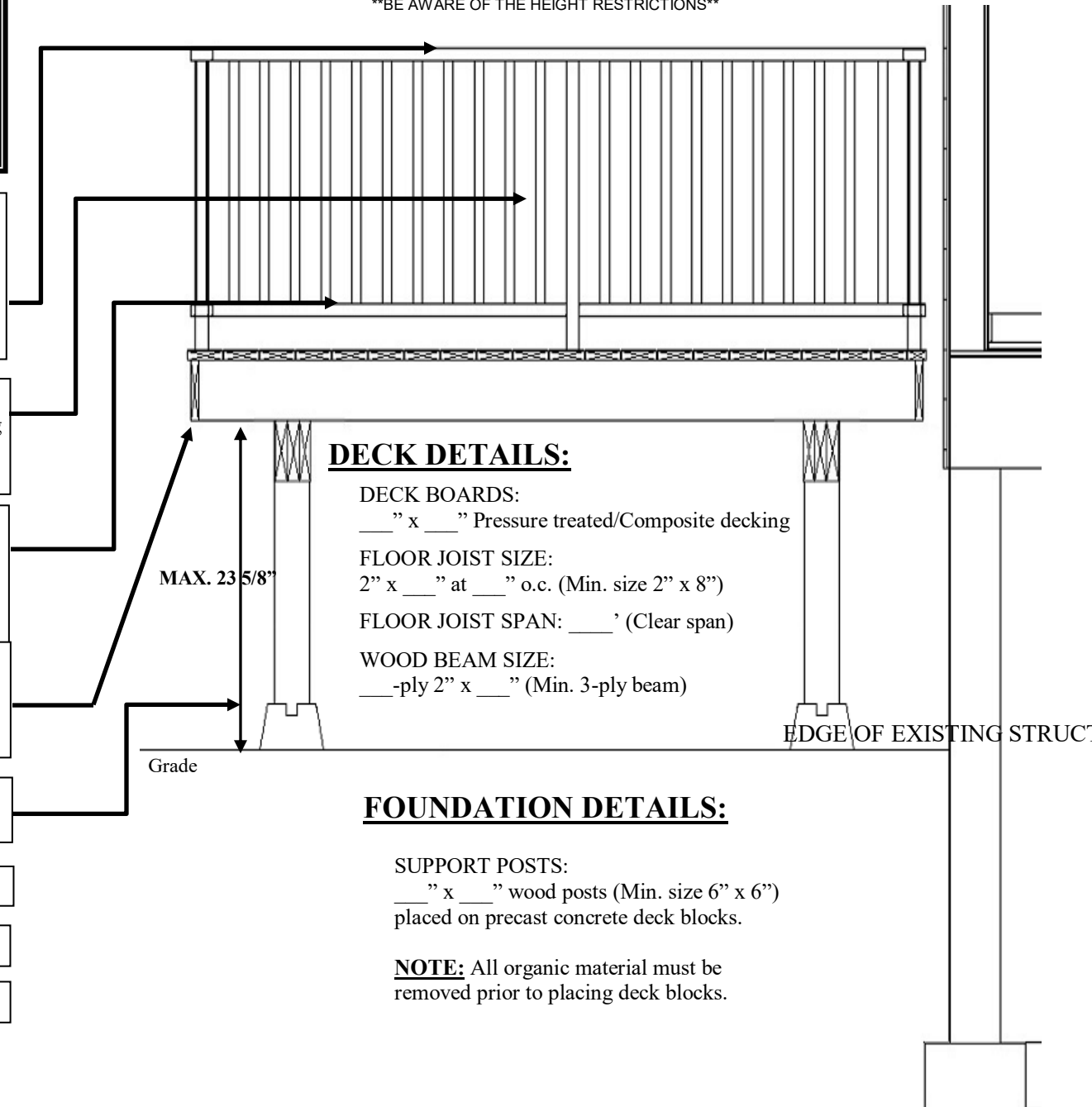
No roof is to be placed on and/or attached to the deck.

Deck shall not be attached to any other structure.

Maximum size of the deck is 55 m² or 592 ft²

DECK NOT ATTACHED TO HOUSE

****BE AWARE OF THE HEIGHT RESTRICTIONS****



DECK DETAILS:

DECK BOARDS:

___" x ___" Pressure treated/Composite decking

FLOOR JOIST SIZE:

2" x ___" at ___" o.c. (Min. size 2" x 8")

FLOOR JOIST SPAN: ___' (Clear span)

WOOD BEAM SIZE:

___-ply 2" x ___" (Min. 3-ply beam)

FOUNDATION DETAILS:

SUPPORT POSTS:

___" x ___" wood posts (Min. size 6" x 6")
placed on precast concrete deck blocks.

NOTE: All organic material must be removed prior to placing deck blocks.

This document may be used in lieu of submitting construction drawings provided:

- The proposed deck is for residential use only and is UNENCLOSED (No roof);
- No hot tubs, pergolas, gazebos, trellis or other roof structures are installed; and
- The deck construction conforms to these details.

MINIMUM REQUIRED GUARD HEIGHT:

(Measurements for deck height taken from finished grade to top of floor joists)

0" – 23 5/8" From Grade = Guards Not Required

23 5/8" – 5'11" From Grade = 36" Guard Required

OVER 5'11" From Grade = 42" Guard Required

GUARD CONSTRUCTION:

As per SB-7 or as per engineered design with 4" max. opening between pickets. (Attach guard details if designed by an engineer)

GUARDS NOT TO FACILITATE CLIMBING:

Guards shall be designed so that no member, attachment or opening located between 140mm (5 1/2") and 900 mm (35 7/16") above the floor or walking surface protected by the guard will facilitate climbing.

JOIST HANGERS:

Attached to ledger board with approved nails

MAX. CANTILEVER OF FLOOR JOISTS:

2" x 8" Floor Joists used = 15 3/4"

2" x 10" or larger Floor Joists used = 23 5/8"

*Beams are not permitted to be cantilevered.

10" Sono tube c/w 2-15 M Bent Rebar

BACKFILL:

Clean granular backfill around piers

Minimum 4'6" below grade

DECK ATTACHED TO HOUSE

DECK DETAILS:

DECK BOARDS:

___" x ___" Pressure treated/Composite decking

FLOOR JOIST SIZE:

2" x ___" at ___" o.c. (Min. size 2" x 8")

FLOOR JOIST SPAN: ___' (Clear span)

LEDGER BOARD SIZE:

2" x ___" with ___" lag bolts @ ___" o.c.

WOOD BEAM SIZE:

___-ply 2" x ___" (Min. 3-ply beam)

SUPPORT POSTS:

___" x ___" with steel saddle embedded into concrete. (Min. size 6" x 6")

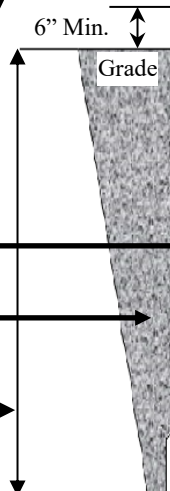
EDGE OF EXISTING STRUCTURE

FOUNDATION DETAILS:

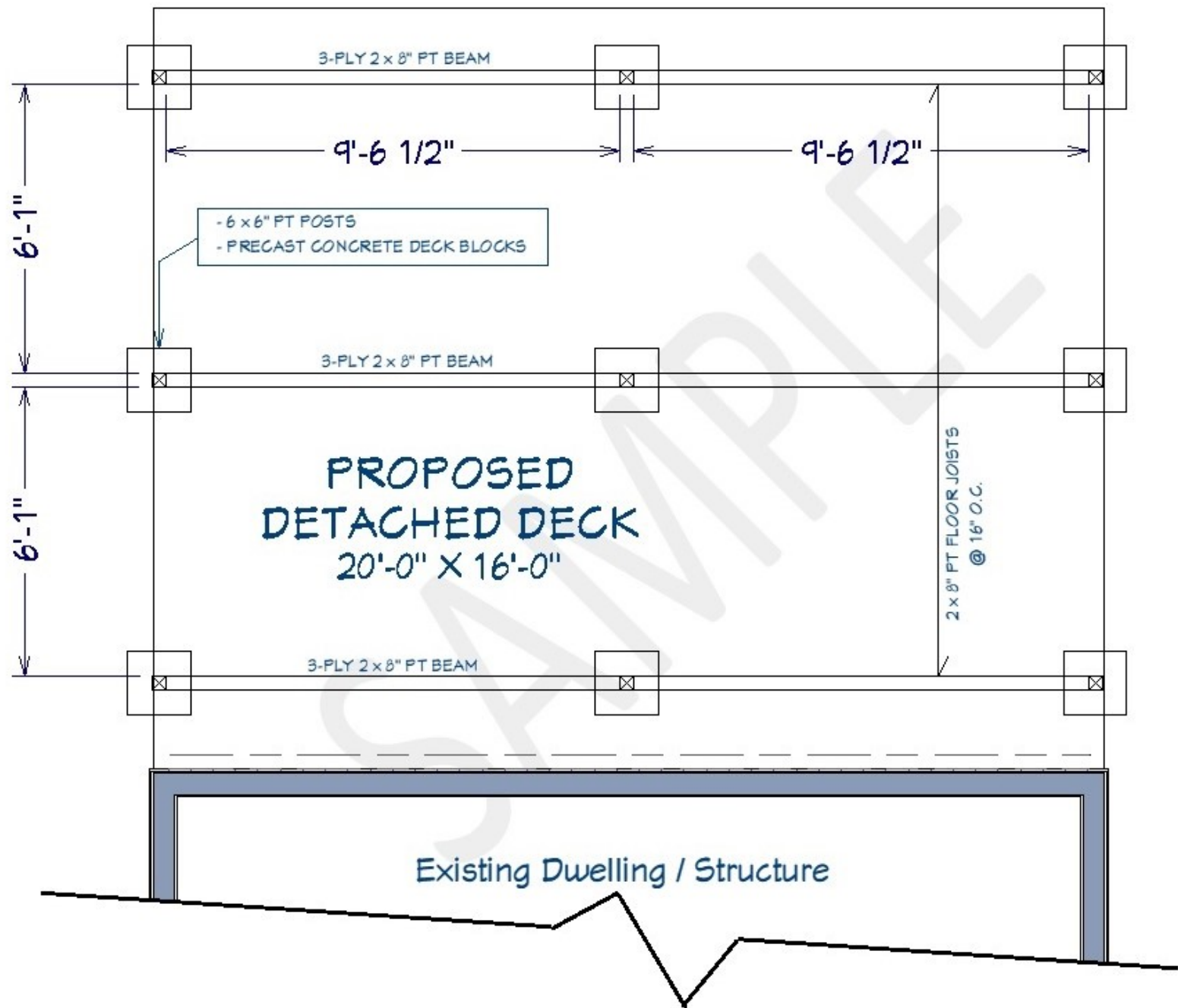
FOOTINGS:

28" 'Bigfoot' or
footing pad ___" x ___" x ___"
spaced at ___' o.c.

NOTE: Piers cannot be spaced more than 9'6" o.c. and footings must be placed on undisturbed/virgin soil.



DECK FLOOR PLAN EXAMPLE



SB-7 Guards for Housing and Small Buildings

Section 1 General

1.1. Introduction

1.1.1. Scope (See Appendix A.)

- (1) This Supplementary Standard includes details for the construction of wood guards.
- (2) Guards located on the exterior of a building, where they may be subject to deterioration, shall be constructed in accordance with Section 2 of this Supplementary Standard. (See Appendix A.)
- (3) Guards located inside a building shall be constructed in conformance with Section 2 or Section 3 of this Supplementary Standard.

1.2. Design of Guards

1.2.1. Cantilever Action (See Appendix A.)

- (1) The construction details for guards in this Supplementary Standard are based on the assumption that the guard acts as a cantilever in resisting lateral loads.

1.2.2. Classification (See Appendix A.)

- (1) The structural systems of guards described in this Supplementary Standard are grouped into the following classifications:
 - (a) Post and Rail Systems, and
 - (b) Cantilevered Picket Systems.

Section 2 Exterior Guards

2.1. Materials

2.1.1. Lumber Grades (See Appendix A)

- (1) The minimum grade of softwood dimension lumber for posts, rails and joists shall be Northern Species, No. 2.
- (2) The minimum grade of softwood dimension lumber for pickets shall be Northern Species, No. 2 Picket grade.
- (3) Wood for pickets shall be free of loose knots.

2.1.2. Lumber Dimensions

- (1) Except as permitted in Sentence (2), the minimum sizes of loadbearing elements of wood guards shall conform to Table 2.1.2.

Table 2.1.2.
Minimum Size of Loadbearing Elements

Guard Element	Minimum Size, mm (in)
Post	89 x 89 (4" x 4" nominal)
Top Rail	38 x 89 (2" x 4" nominal)
Bottom Rail	38 x 89 (2" x 4" nominal)
Picket / Baluster	32 x 32 (1 ³ / ₃₂ " x 1 ³ / ₃₂ ")
Column 1	2

- (2) Where a bottom rail is bevelled, the minimum sizes shown in Table 2.1.2. may be reduced to allow for a bevel, as detailed in Figure 2.1.2.

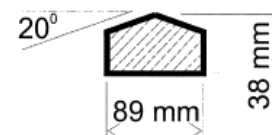


Figure 2.1.2.
Bevel Detail

2.1.3. Floor Construction (See Appendix A.)

- (1) The minimum dimensions of wood floor joists and wood decking shall conform to Table 2.1.3.
- (2) Except as provided in Details EA-1 to ED-5, wood decking shall be fastened to each floor joist with nailing conforming to Table 2.1.3.

Table 2.1.3.
Minimum Size of Floor Elements

Floor Element	Minimum size, mm (in)
Dimension Lumber Decking	25 x 140 (5/8" x 6" nominal), when each plank is fastened with 2 - 63 mm (2 1/2") nails
	38 x 89 (2" x 4" nominal), when each plank is fastened with 2 - 76 mm (3") nails
Dimension Lumber Joists	38 x 184 (2" x 8" nominal)
Column 1	2

2.1.4. Connectors (See Appendix A.)

- (1) Nails, screws, lag bolts and machine bolts shall not cause splitting of wood elements.
- (2) Fasteners shall be resistant to corrosion.
- (3) All nails shall be common spiral.

(See also A-2.1.4. in Appendix A for glued joints.)

2.1.5. Decay-Resistant Lumber (See Appendix A.)

- (1) Lumber for guard systems and floor systems shall be
 - (a) a species resistant to decay,
 - (b) preservative treated to prevent decay, or
 - (c) pressure-treated.
- (2) All cut ends of preservative treated lumber shall be treated to prevent decay.

2.2. Structural Details

2.2.1. Post and Rail System

- (1) An exterior guard constructed as a Post and Rail System shall conform to the applicable connection details listed in Table 2.2.1.

2.2.2. Cantilevered Picket System

- (1) An exterior guard constructed as a Cantilevered Picket System shall conform to the applicable connection details listed in Table 2.2.2.

Table 2.2.1.
Exterior Post and Rail System Connection Details

Connection Detail	Detail Number	Description
Top Rail to Post and / or Bottom Rail to Post	EA-1	Top rail nailed to post
	EA-2	Top/bottom rail skew nailed to post with 76 mm (3") nails
	EA-3	Top/bottom rail skew nailed to post with 63 mm (2 1/2") nails
	EA-4	Top/bottom rail face nailed or screwed to post
	EA-5	Top/bottom rail fastened to post with framing anchors
Post to Floor	EB-1	Post nailed to rim joist
	EB-2	Post screwed to rim joist
	EB-3	Post bolted to floor joist with 8 mm (5/16") machine bolts
	EB-4	Post bolted to floor joist with 9.5 mm (3/8") machine bolts
	EB-5	Post bolted to 2 floor joists
	EB-6	Post fastened to floor, where guard is parallel to floor joists
Infill Picket	EC-1	Picket nailed to endcap; endcap screwed to rail
	EC-2	Picket nailed to rail
	EC-3	Picket screwed to rail
	EC-4	Picket screwed to top rail and rim joist
Column 1	2	3

Table 2.2.2.
Exterior Cantilevered Picket System Connection Details

Connection Detail	Detail Number	Description
Cantilevered Picket (Douglas Fir-Larch, Spruce-Pine-Fir, Hem-Fir Species)	ED-1	Picket screwed to rim joist
	ED-2	Picket screwed to rim joist, where guard is parallel to floor joists
Cantilevered Picket (Northern Species)	ED-3	Picket screwed to rim joist and deck
	ED-4	Picket screwed to rim joist and deck, where guard is parallel to floor joists
Cantilevered Picket (Douglas Fir-Larch, Spruce-Pine-Fir, Hem-Fir Species, Northern Species)	ED-5	Corner
Column 1	2	3

Table 3.2.1.
Interior Post and Rail System Connection Details

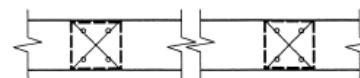
Connection Detail	Detail Number	Description
Top and/or Bottom Rail to Post	IA-1	Rail glued and screwed to post
Post to Floor	IB-1	Notched post glued and bolted to rim joist
Infill Picket	IC-1	Picket set into rails
	IC-2	Picket dowelled into rails
Stud Wall	ID-1	Wood stud and gypsum board
Column 1	2	3

Table 3.2.2.
Interior Cantilevered Picket System Connection Details

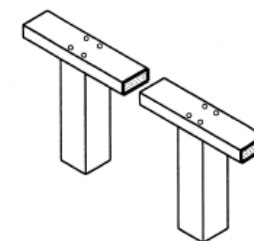
Connection Detail	Detail Number	Description
Picket to Floor	IE-1	Picket screwed to rim joist
Column 1	2	3

Table 3.2.3.
Interior Stair Guard Connection Details

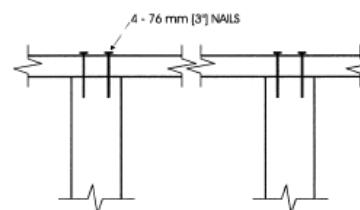
Connection Detail	Detail Number	Description
Rail to Post	IF-1	Top or bottom rail glued and screwed to post
Post to Floor and/or Picket Volute to Floor	IG-1	Notched post glued and screwed to stringer and riser
	IG-2	Post glued and screwed to stringer
	IG-3	Post glued and screwed to stringer and stud wall
	IG-4	Post and picket volute, oak or maple
	IG-5	Picket volute, 260 mm (10 1/4") wide
	IG-6	Picket volute, 240 mm (9 1/2") wide
Infill Picket	Detail IC-1 or IC-2 in Table 3.2.1., modified to suit a sloping installation, may be used.	
Cantilevered Picket	IH-1	Picket screwed to stair stringer
Column 1	2	3



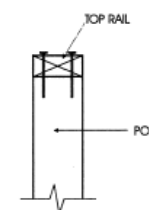
PLAN



AXONOMETRIC



FRONT ELEVATION



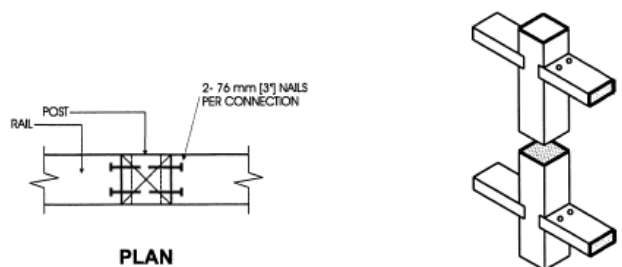
SIDE ELEVATION

Detail EA-1
Exterior Connection: Top Rail Nailed to Post

Notes:

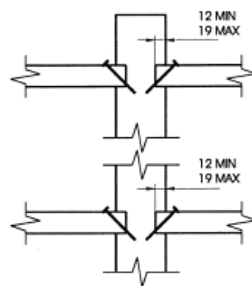
1. The top rail must be continuous. Use Detail EA-5 at the end spans, where continuity ends.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.52 (5'-0")
Northern Species	1.52 (5'-0")
Column 1	2

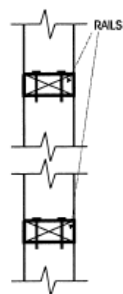


PLAN

AXONOMETRIC



FRONT ELEVATION

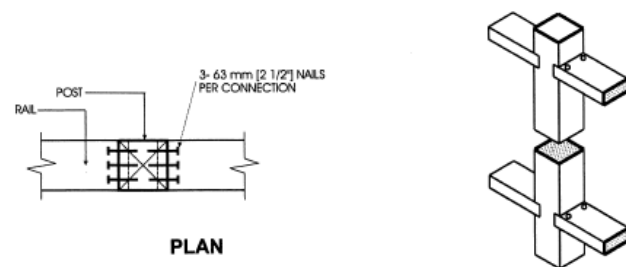


SIDE ELEVATION

Detail EA-2**Exterior Connection: Top/Bottom Rail Skew Nailed to Post - 76 mm (3\") Nails****Notes:**

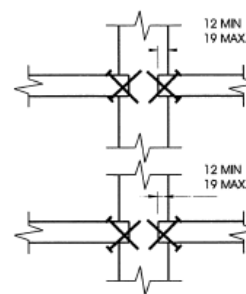
1. The maximum span is more often governed by post spacing.
2. Provide support to bottom rail at intervals not more than 2.0 m (6'-7\").
3. The bottom rail may be bevelled as detailed in Figure 2.1.2.
4. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.72 (8'-11\")
Northern Species	2.18 (7'-2\")
Column 1	2

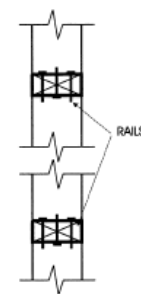


PLAN

AXONOMETRIC



FRONT ELEVATION

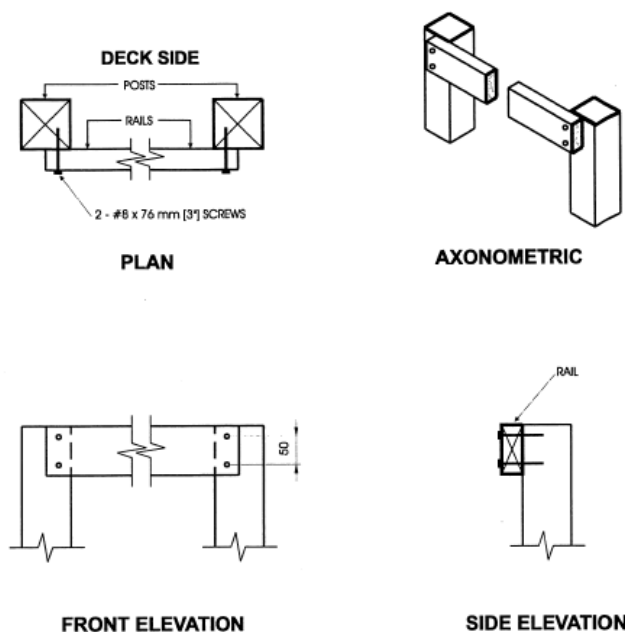


SIDE ELEVATION

Detail EA-3**Exterior Connection: Top/Bottom Rail Skew Nailed to Post - 63 mm (2 1/2\") Nails****Notes:**

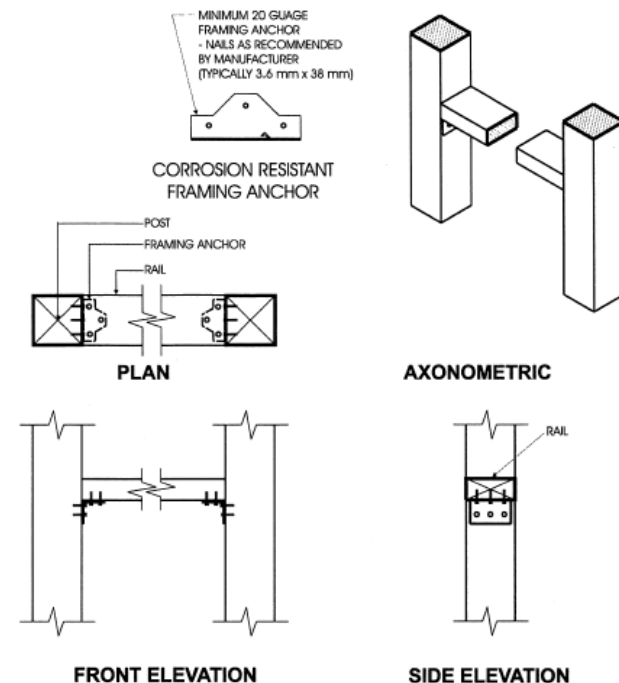
1. Provide support to bottom rail at intervals not more than 2.0 m (6'-7\").
2. The bottom rail may be bevelled as detailed in Figure 2.1.2.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.72 (8'-11\")
Northern Species	2.18 (7'-2\")
Column 1	2

**Detail EA-4****Exterior Connection: Top/Bottom Rail Face Nailed or Screwed to Post****Notes:**

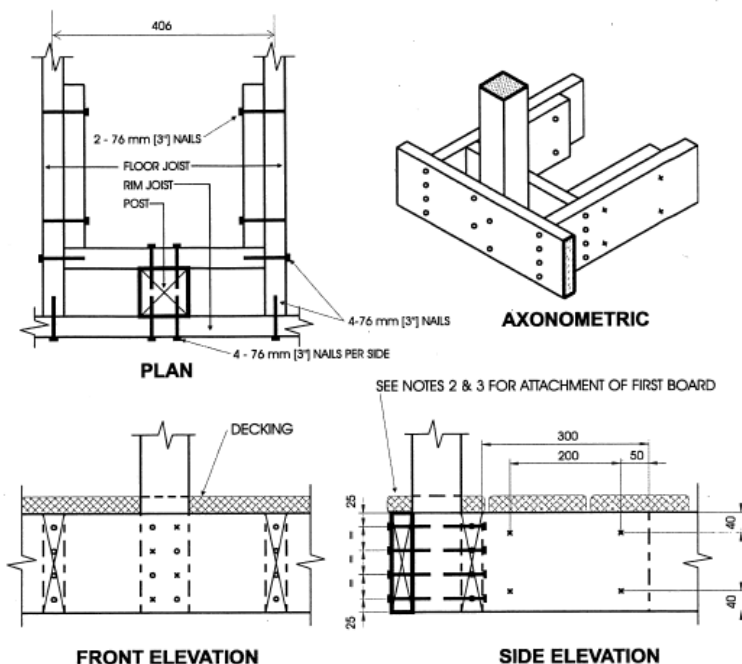
1. If the rails are located on the deck side of the posts, 76 mm (3") nails may be used in place of the screws.
2. Where the top rail is continuous, the top rail may be fastened to each post with 3 - #8 x 76 mm (3") screws.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.77 (5'-10")
Northern Species	1.41 (4'-8")
Column 1	2

**Detail EA-5****Exterior Connection: Top/Bottom Rail Fastened to Post with Framing Anchors****Notes:**

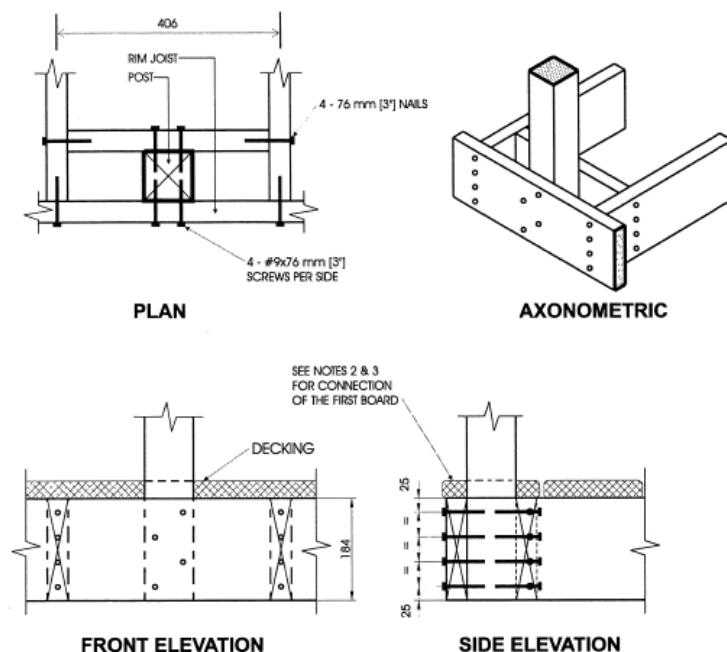
1. Provide support to bottom rail at intervals not more than 2.0 m (6'-7").
2. The bottom rail may be bevelled as detailed in Figure 2.1.2.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.72 (8'-11")
Northern Species	2.18 (7'-2")
Column 1	2

**Detail EB-1****Exterior Connection: Post Nailed to Rim Joist****Notes:**

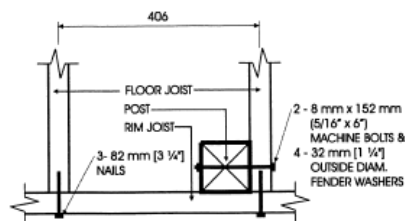
- Decking is omitted from the plan view and the axonometric view for clarity.
- Fasten 25 mm x 140 mm ($\frac{1}{4}$ " x 6" nominal) outer deck board to rim joist with 63 mm ($2\frac{1}{2}$ " nominal) nails at 300 mm (12").
- Fasten 25 mm x 140 mm ($\frac{1}{4}$ " x 6" nominal) outer deck board to floor joist with 1 - 63 mm ($2\frac{1}{2}$ " nominal) nail at each joist.
- The post may be positioned anywhere between the joists.
- Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.22 (4'-0")
Northern Species	1.20 (3'-11")
Column 1	2

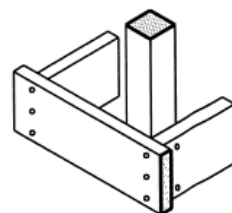
**Detail EB-2****Exterior Connection: Post Screwed to Rim Joist****Notes:**

- Decking is omitted from the plan view and the axonometric view for clarity.
- Fasten 25 mm x 140 mm ($\frac{1}{4}$ " x 6" nominal) outer deck board to rim joist with 63 mm ($2\frac{1}{2}$ " nominal) nails at 300 mm (12").
- Fasten 25 mm x 140 mm ($\frac{1}{4}$ " x 6" nominal) outer deck board to floor joist with 1 - 63 mm ($2\frac{1}{2}$ " nominal) nail at each joist.
- The post may be positioned anywhere between the joists.
- #9 screws may be replaced by #8 screws if the maximum spacing between posts is not more than 1.20 m (3'-11").
- Dimensions shown are in mm unless otherwise specified.

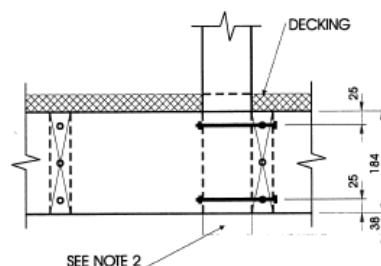
MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.56 (5'-1")
Northern Species	1.20 (3'-11")
Column 1	2



PLAN

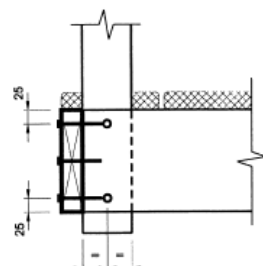


AXONOMETRIC



SEE NOTE 2

FRONT ELEVATION

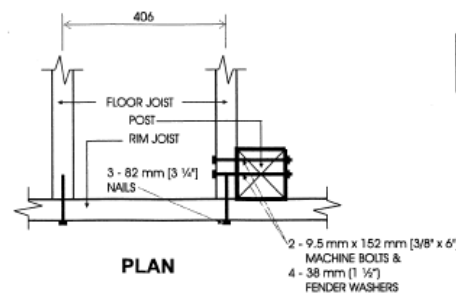


SIDE ELEVATION

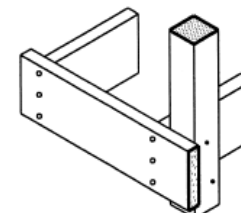
Detail EB-3**Exterior Connection: Post Bolted to Floor Joist - 8 mm (5/16") Bolts****Notes:**

1. Decking is omitted from the plan view and the axonometric view for clarity.
2. 38 mm (1 1/2") post projection is not required where the maximum spacing between posts does not exceed 1.20 m (3'-11").
3. Joists may be spaced at 610 mm (24") o.c. or 406 mm (16") o.c.
4. Where floor joists are spaced at 610 mm (24") o.c., decking shall have a minimum thickness of 38 mm (1 1/2") and shall be fastened to the floor with 2 - 76 mm (3") nails.
5. Dimensions shown are in mm unless otherwise specified.

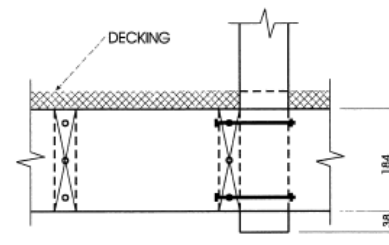
MAXIMUM SPACING BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.29 (4'-3")
Northern Species	1.20 (3'-11")
Column 1	2



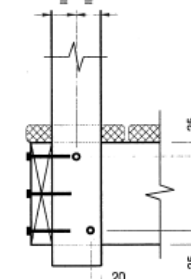
PLAN



AXONOMETRIC



FRONT ELEVATION

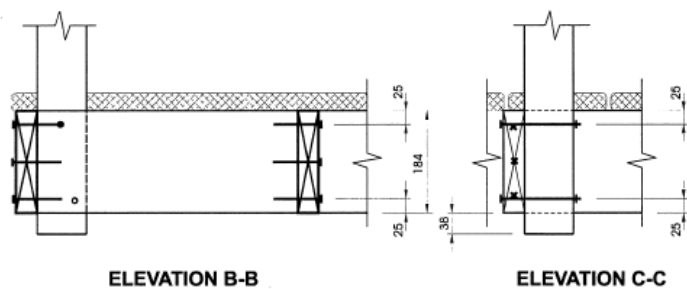
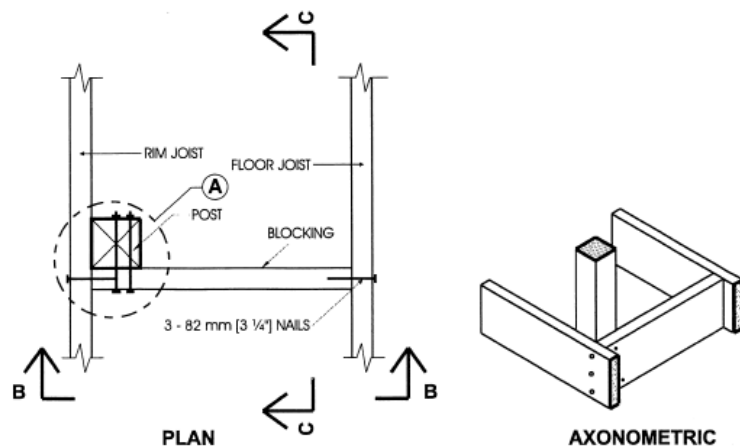


SIDE ELEVATION

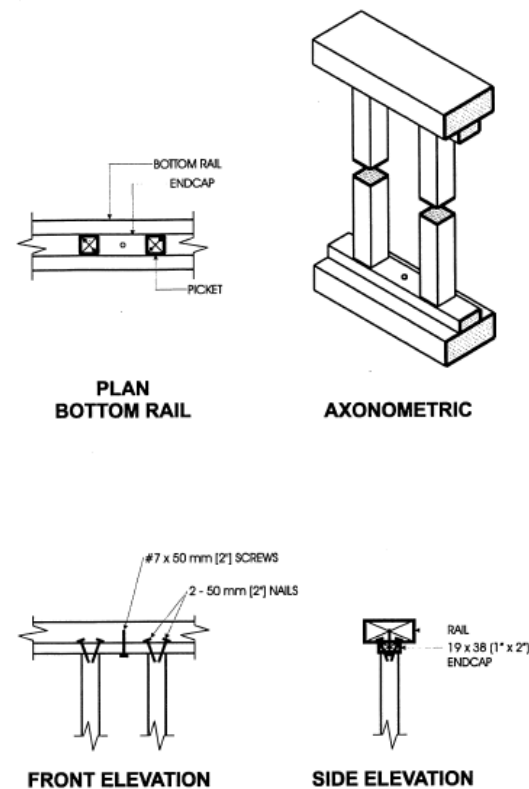
Detail EB-4**Exterior Connection: Post Bolted to Floor Joist - 9.5 mm (3/8") Bolts****Notes:**

1. Decking is omitted from the plan view and the axonometric view for clarity.
2. 38 mm (1 1/2") post projection is not required where the maximum spacing between posts does not exceed 1.20 m (3'-11").
3. Joists may be spaced at 610 mm (24") o.c. or 406 mm (16") o.c.
4. Where floor joists are spaced at 610 mm (24") o.c., decking shall have a minimum thickness of 38 mm (1 1/2") and shall be fastened to the floor with 2 - 76 mm (3") nails.
5. Dimensions shown are in mm unless otherwise specified.

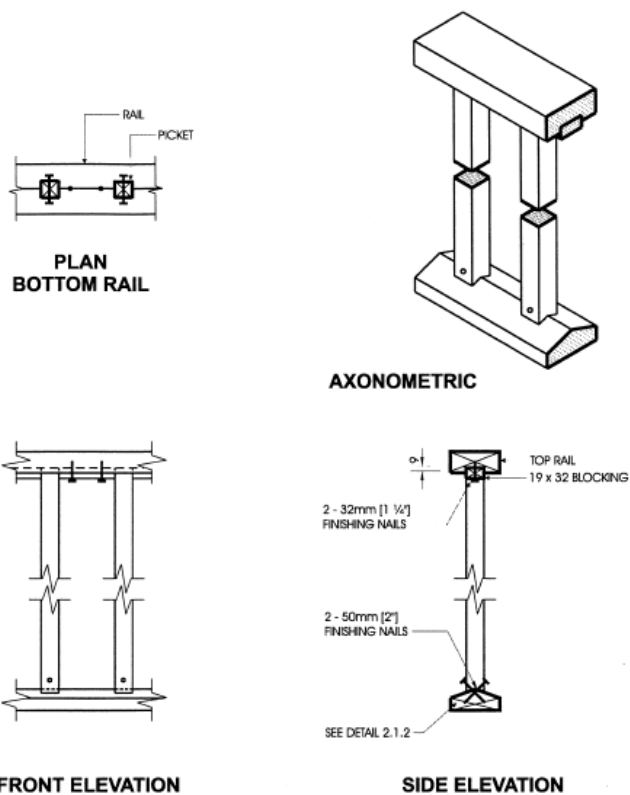
MAXIMUM SPACING BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.49 (4'-11")
Northern Species	1.20 (3'-11")
Column 1	2

**Detail EB-6****Exterior Connection: Post Fastened to Floor, Guard Parallel to Floor Joists****Notes:**

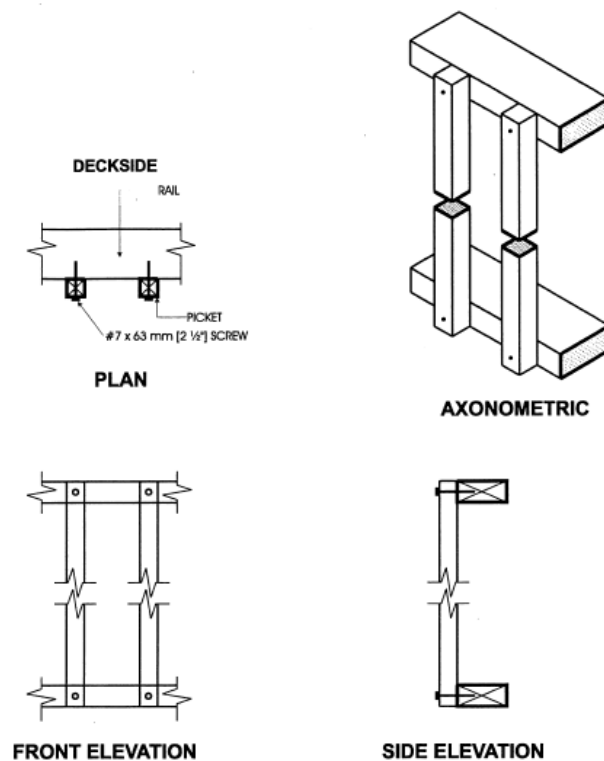
1. Use any of the connection details shown on Details EB-1 to EB-5 at location "A". Connection Detail EB-4 is shown in this detail, as an example.
2. Maximum spacing between posts is determined from connection detail used at location "A".
3. Decking is omitted from the plan view and the axonometric view for clarity.
4. Blocking shall be not less than 38 mm x 184 mm (2" x 8" nominal).
5. Dimensions shown are in mm unless otherwise specified.

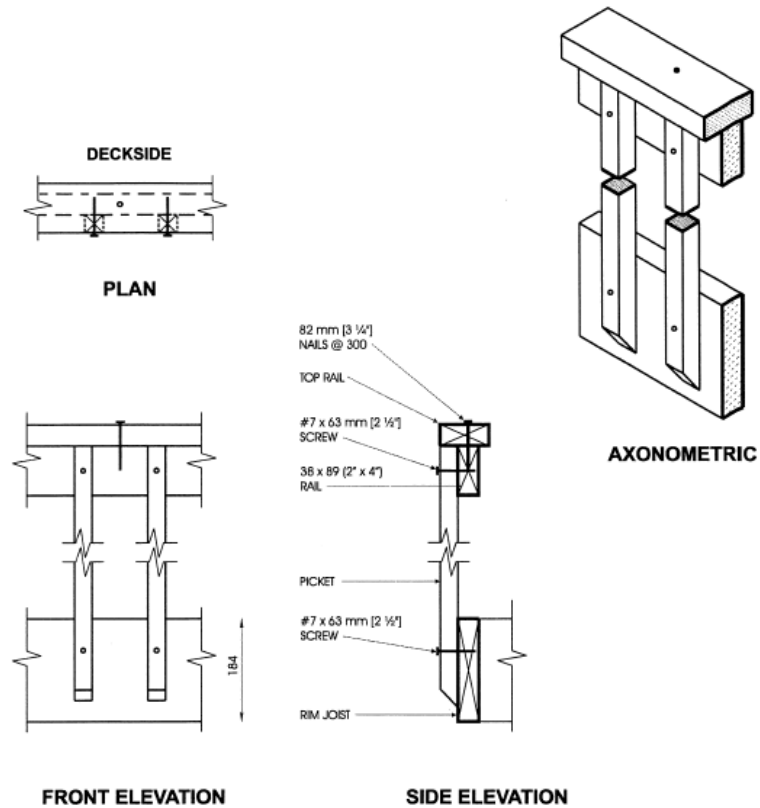
**Detail EC-1****Exterior Connection: Infill Picket Nailed to Endcap - Endcap Screwed to Rail****Notes:**

1. Fasten each end of each picket to endcaps with 2 - 50 mm (2") nails.
2. Fasten endcaps to rails with #7 x 50 mm (2") screws at 300 mm (12") o.c.
3. See Table 2.1.2. for minimum sizes of pickets.

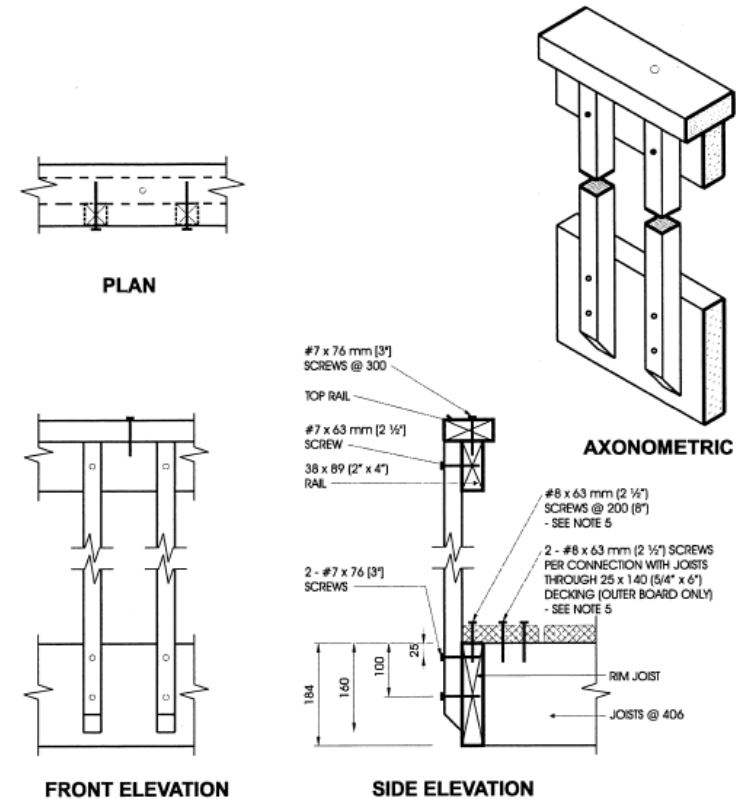
**Detail EC-2****Exterior Connection: Infill Picket Nailed to Rail****Notes:**

1. See Table 2.1.2. for minimum sizes of pickets.
2. Dimensions shown are in mm unless otherwise specified.

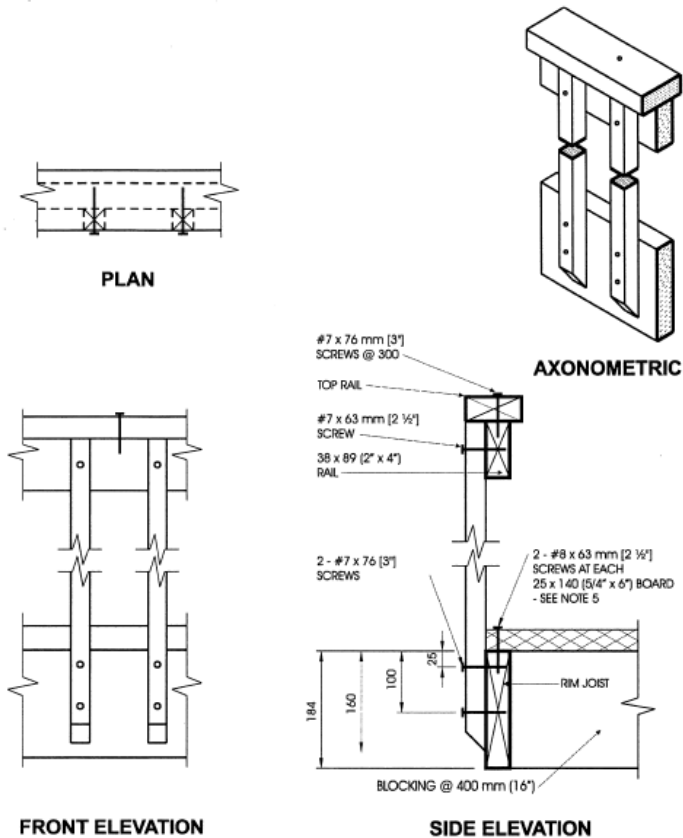
**Detail EC-3****Exterior Connection: Infill Picket Screwed to Rail**

**Detail EC-4****Exterior Connection: Infill Picket Screwed to Top Rail and Rim Joist****Note:**

1. Dimensions shown are in mm unless otherwise specified.

**Detail ED-1****Exterior Connection: Cantilevered Picket Screwed to Rim Joist****Notes:**

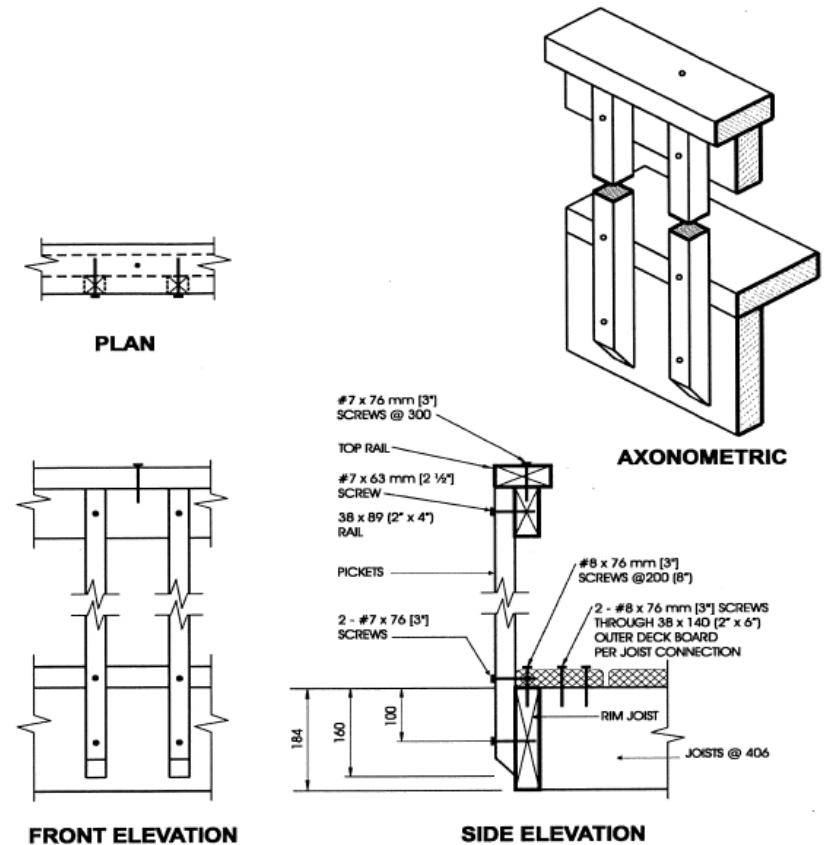
1. Provide a suitable post, return, or solid support at each end of the guard.
2. Wood for cantilevered pickets shall be Douglas Fir-Larch, Spruce-Pine-Fir, or Hem-Fir Species.
3. Fasten rim joist to each floor joist with 3 - 82 mm (3 1/4") nails.
4. Dimensions shown are in mm unless otherwise specified.
5. The outer deck board shall not be less than 140 mm (6" nominal) wide. Where 38 mm (2" nominal) thick boards are used, the length of the wood screws shall be not less than 76 mm (3").

**Detail ED-2**

Exterior Connection: Cantilevered Picket Screwed to Rim Joist, Guard Parallel to Floor Joists

Notes:

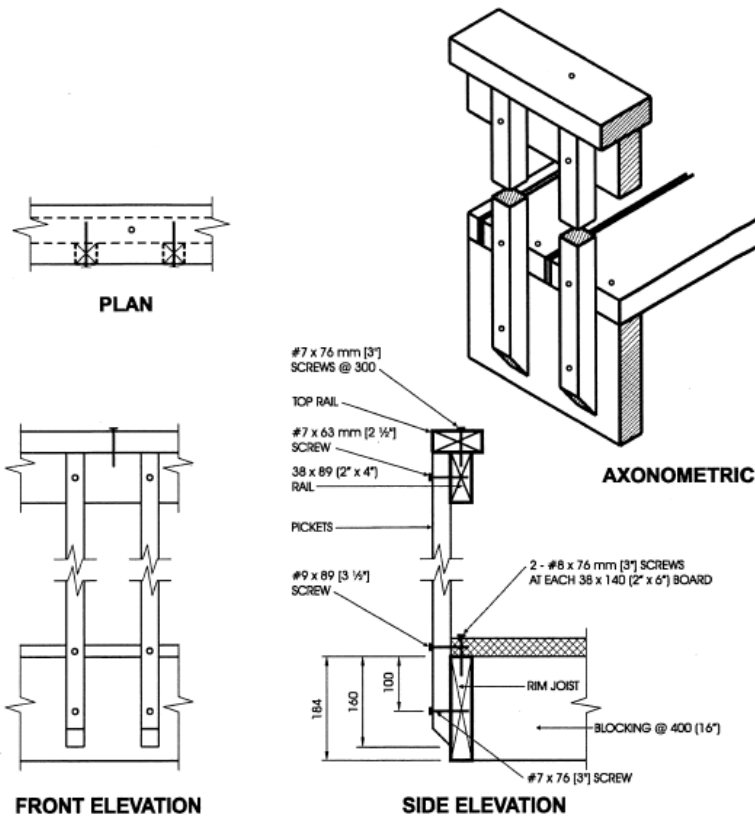
1. Provide a suitable post, return, or solid support at each end of the guard.
2. Wood for cantilevered pickets shall be Douglas Fir-Larch, Spruce-Pine-Fir, or Hem-Fir Species.
3. Fasten rim joist to blocking with 3 - 82 mm (3 1/4") nails.
4. Dimensions shown are in mm unless otherwise specified.
5. Where 38 mm (2" nominal) thick boards are used, the length of the wood screws shall be not less than 76 mm (3").

**Detail ED-3**

Exterior Connection: Cantilevered Picket Screwed to Rim Joist and Deck

Notes:

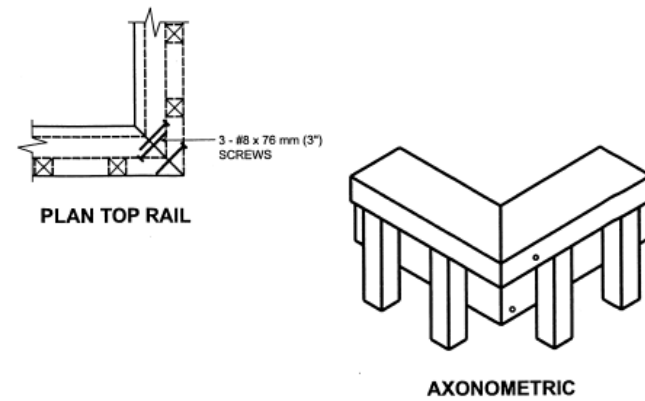
1. Provide a suitable post, return, or solid support at each end of the guard.
2. Wood for cantilevered pickets shall be Northern Species.
3. Fasten rim joist to each floor joist with 3 - 82 mm (3 1/4") nails.
4. Dimensions shown are in mm unless otherwise specified.

**Detail ED-4**

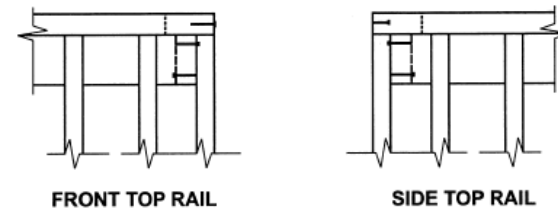
**Exterior Connection: Cantilevered Picket Screwed to Rim Joist and Deck,
Guard Parallel to Floor Joists**

Notes:

1. Provide a suitable post, return, or solid support at each end of the guard.
2. Wood for cantilevered pickets shall be Northern Species.
3. Fasten rim joist to blocking with 3 - 82 mm (3 1/4") nails.
4. Dimensions shown are in mm unless otherwise specified.



ONE FASTENER IN HORIZONTALLY ORIENTATED PORTION OF TOP RAIL
AND TWO IN VERTICALLY ORIENTATED PORTION.

**Detail ED-5**

Exterior Connection: Corner Joint

Notes:

1. Screws fastening pickets are omitted for clarity.
2. Provide a minimum of 10 pickets beyond the return if end restraint of the guard is provided by this return detail only.

Appendix A

Explanatory Material for SB-7

Appendix A to this Supplementary Standard is included for explanatory purposes only and does not form part of the requirements. The bold-faced reference numbers that introduce each item apply to the requirements in this Supplementary Standard.

A-1.1.1. Scope. A guard constructed in conformance with this Supplementary Standard is deemed to satisfy the requirements of Sentence 9.8.8.8.(2) of Division B.

Guard design in this Supplementary Standard is based on a height of 1 070 mm and a maximum clear spacing of 100 mm between pickets or balusters.

A-1.1.1.(2) Guards located on the exterior of a building are subject to deterioration as a result of hygrothermal, electrochemical or biochemical action.

A-1.2.1. Cantilever Action. Where guards incorporate wood posts that are continuous from the top of the guard to the ground, or where the tops of the posts are attached to a superstructure that is connected to the building, the cantilever assumption in the Supplementary Standards is no longer valid. An example of a continuous post is shown in Figure A-1.2.1.

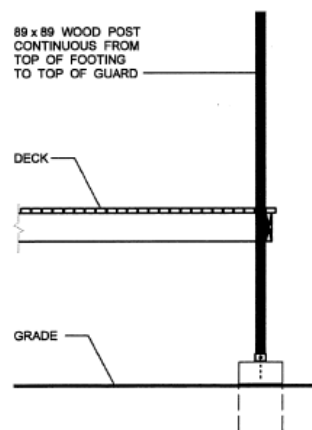


Figure A-1.2.1.
Typical Continuous Post

A-1.2.2. Classification. A Post and Rail System consists of a top rail that transfers horizontal loads to posts. The posts transfer the loads from the rail to the floor system. This system may incorporate a bottom rail that is anchored at each end to the posts. Infill panels or infill pickets are installed between the top rail and the floor or bottom rail. Examples of Post and Rail Systems are shown in Figure A-1.2.2.A.

The term "infill pickets" refers to an assembly of vertically oriented elements that span between the floor or bottom rail and the top rail. For the purpose of this Supplementary Standard, the words "picket" and "baluster" both relate to these individual elements.

The spacing of the posts in a Post and Rail System is detailed in this Supplementary Standard and is dictated by the ability of the posts to accept the design loads. The maximum spanning capacity of the rails is often not realised because it is dictated by the post spacing.

A Cantilevered Picket System consists of a top rail that transfers horizontal loads to pickets. The pickets transfer the loads from the top rail to the floor system. An example of a Cantilevered Picket System is shown in Figure A-1.2.2.B.

A guard classified as a Post and Rail System or a Cantilevered Picket System need not always terminate at a post if:

- the top rail is connected adequately to an element capable of accepting the forces applied to it, or
- the guard changes direction and the rails are adequately fastened at the return.

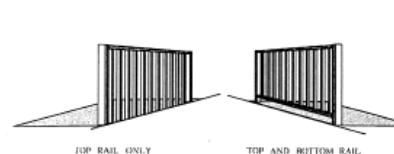


Figure A-1.2.2.A
Typical Post and Rail Systems



Figure A-1.2.2.B
Cantilevered Picket System

A-2.1.1. Lumber Grades. Whereas Northern Species is specified as the minimum lumber grade, Spruce-Pine-Fir, Douglas Fir-Larch and Hem-Fir may also be used since their structural properties exceed those of Northern Species. Cedar falls within the classification of Northern Species Group.

A-2.1.3. Floor Construction. The lateral loads acting on a guard are transferred from either the posts or the pickets to the floor system. Therefore, the floor system must be sufficiently strong to transfer these loads.

A-2.1.4. Connectors. Pre-drilling of wood elements may be required in order to avoid splitting of structural wood elements. Where a glued joint is required, an adhesive conforming to CSA Standard O112.4-M1977 (Polyvinyl Adhesives for Wood) and CSA Standard O112.8-M1977 (Polyvinyl Adhesives - Cross Linking, for Wood) is acceptable.

A-2.1.5. Decay-Resistant Lumber. Cedar is a species considered resistant to decay.