# NORDIC

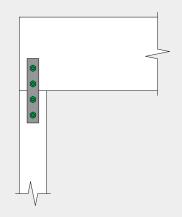


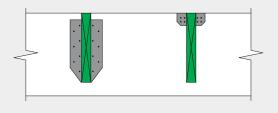
VERSION **2022-05-01** 

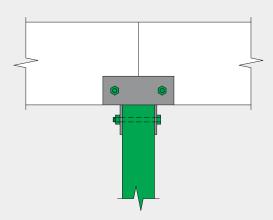
**Engineered Wood Products** 

# CONSTRUCTION DETAILS NORDIC LAM











#### **ABOUT NORDIC**

## NORDIC STRUCTURES

Nordic Structures is the leading innovator in engineered wood products. Its resource comes from responsibly managed lands within the regional boreal forest. Vertical integration, from forest to structure, bolstered by Nordic's experienced design and development team, ensures consistent quality and unparalleled level of service.

#### 514-871-8526

1 866 817-3418

#### **HEAD OFFICE**

#### **Nordic Structures**

100-1100 Canadiens-de-Montréal Avenue Montréal, Québec H3B 2S2

#### www.nordic.ca

#### **GENERAL INFORMATION**

info@nordic.ca

#### TECHNICAL SUPPORT

tech@nordic.ca

TABLE OF CONTENTS		
ii General Notes iii List of Details	FLOOR FRAMING DETAILS	ш
v Nordic Lam	HEADER, WALL AND COLUMN FRAMING DETAILS	2
	HOLES IN BEAMS AND STUDS	3
	SPRINKLER PIPE AND MECHANICAL UNIT INSTALLATION	4
	ROOF FRAMING DETAILS	5



## GENERAL NOTES

#### 1.0 General

- 1.1 This document supersedes all previous versions. For the latest version, consult nordic.ca or contact Nordic Structures.
- 1.2 While this guide emphasizes residential construction, much of the basic design information can be used for other construction applications. Review by a design professional is required for applications beyond the scope of this document.
- 1.3 Refer to the <u>Nordic Lam Technical Guide (NS-GT4)</u> for selection and sizing tables, or to the floor or roof layout provided by your distributor.
- 1.4 For more information, consult nordic.ca or contact Nordic Structures.

#### 2.0 Fire Resistance

- 2.1 Nordic Lam beams with fire-resistance ratings are special orders. Contact Nordic Structures for more information.
- 3.2 In some designs, sprinkler systems are used with Nordic Lam beams. There are a variety of sprinkler attachments that incorporate fasteners permitted by the National Fire Protection Association (NFPA), design load assumptions published by the NFPA, and published design fastener capacities. These sprinkler attachments are illustrated in details 6.





## LIST OF DETAILS

## 1 Floor Framing Details

Title	Drawing	Page
Floor Framing Details		
Beam Bearing at End Wall - Steel Post Cap	1a	1.1
Beam Bearing at End Wall - Steel Tie Plate	1 b	1.2
Beam Bearing at End Wall - King Post	1c	1.3
Beam Bearing at End Wall - Masonry Wall	1 d	1.4
Beam Bearing at End Wall with Floor Joists Over Beam	1e	1.5
Beam Bearing at End Wall with Floor Joists Flush with Beam	1f	1.6
Lumber Joists Bearing on Floor Beam	1g	1.7
Nordic I-joists Bearing on Floor Beam	1h	1.8
Joists Mounted Flush with Floor Beam	1j	1.9
Beams Butting Over Intermediate Wood Support	1 k	1.10
Continuous Floor Beam Over Intermediate Wood Support	1 m	1.11
Beam Sitting in Concrete or Masonry Wall Pocket	1n	1.12
Continuous Floor Beam Over Intermediate Steel Support	1p	1.13
Beam End Bearing on Steel Support	1q	1.14

## 2

## Header, Wall and Column Framing Details

Title	Drawing	Page
Header Framing Details		
Garage Door Header to End Wall - Steel Tie Plate	2a	2.1
Garage Door Header to End Wall - King Stud	2b	2.2
Garage Door Header to End Wall - Column and King Stud	2c	2.3
Garage Door Header Over Intermediate Support	2d	2.4
Garage Door Header Over Intermediate Steel Support	2e	2.5
Typical Wall and Column Framing Details		
Typical Wall Framing	3	2.6
Header to Column	3a	2.7
Column to Bottom Plate	3b	2.8
Column to Top Plate	3c	2.9
Bearing for Door or Window Header	3d	2.10
Bearing at Wall	3e	2.11
Beam to Frame	3f	2.12
Column Base	3g	2.13
Elevated Column Base	3h	2.14
Wind Brace	3j	2.15
Roof Outlooker	3k	2.16
Framing Anchor to a Ledger	3m-1	2.17





## LIST OF DETAILS (CONTINUED)

3

## Holes in Beams and Studs

Title	Drawing	Page
Holes in Beams and Studs		
Beam Hole Specifications		3.1
Maximum Holes in Beams	4	3.2
Maximum Holes in Studs	5	3.3

4

## Sprinkler Pipe and Mechanical Unit Installation

Title	Drawing	Page
Sprinkler Pipe Installation for Beams		
Ceiling Flange Hanger	6a	4.1
Beam Clamp Hanger	6b	4.2
Angle Bracket Hanger	6c	4.3
NFPA 13 Steel Angle Trapeze with Hanger	6d	4.4
CPVC Hanger - Double Offset	6e	4.5
CPVC Hanger - Surface Mount	6f	4.6
Mechanical Unit Installation for Beams		
Mechanical Unit	7a	4.7

5

## Roof Framing Details

Title	Drawing	Page
Roof Framing Details		
Truss Roof	8a	5.1
Conventional (Stick) Roof	8b	5.2



nordic.ca





### NORDIC LAM GLUED-LAMINATED TIMBER

Nordic Lam glued-laminated timber of industrial appearance classification consists of small wood laminations bonded together in parallel using structural adhesives.

#### **BEAMS AND HEADERS**

#### Widths

1-3/4, 3-1/2, 5-1/2 and 7 in.

#### Depths

9-1/2, 11-7/8, 14, 16, 18, 20, 22 and 24 in.

#### Lengths\*

Up to 48 ft

#### Stress grade

24F-1.9E

#### COLUMNS

#### Widths

3-1/2, 5-1/2 and 7 in.

#### Depths

3-1/2, 5-1/2 and 7 in.

#### Lengths\*

Up to 48 ft

#### Stress grade

ES12

#### STUDS

#### Widths

1-1/2 and 1-3/4 in.

#### Depths

5-1/2 and 7-1/4 in.

#### Lengths\*

Up to 48 ft

#### Stress grade

ES11



Check availability of products with your local distributor.





## NORDIC

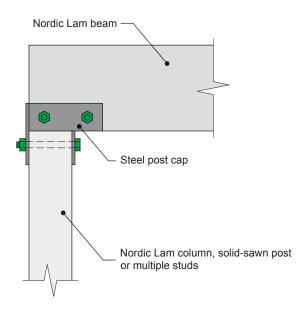


VERSION **2022-05-01** 

FLOOR FRAMING DETAILS

Г



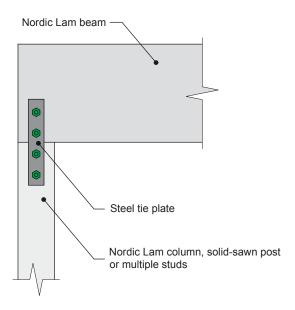


- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



Beam Bearing at End Wall - Steel Post Cap		drawing 1a		
CATEGORY	SCALE	DATE	PAGE	
Floor Framing Details	_	2021-08-01	1.1	

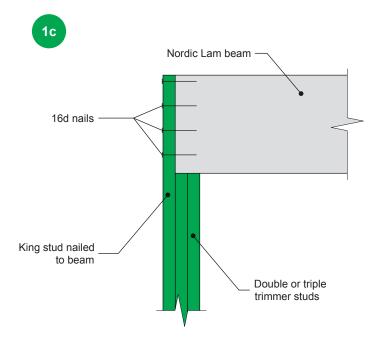


- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC
STRUCTURES



TITLE Beam Bearing at End Wall - Steel Tie Plate		DRAWING 1b		
CATEGORY	SCALE	DATE	PAGE	
Floor Framing Details	-	2021-08-01	1.2	

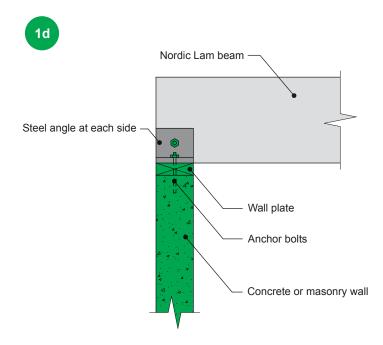


- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



Beam Bearing at End Wall - King Post		DRAWING 1c	
CATEGORY	SCALE	DATE	PAGE
Floor Framing Details	-	2021-08-01	1.3

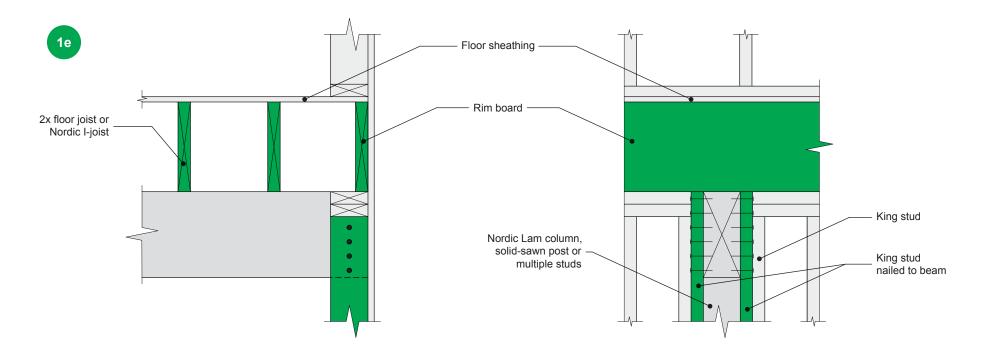


- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES	
nordic.ca	



Beam Bearing at End Wall - Masonry Wall		DRAWING 1d	
CATEGORY	SCALE	DATE	PAGE
Floor Framing Details	-	2021-08-0	1.4



#### **Section Through Floor Joists**

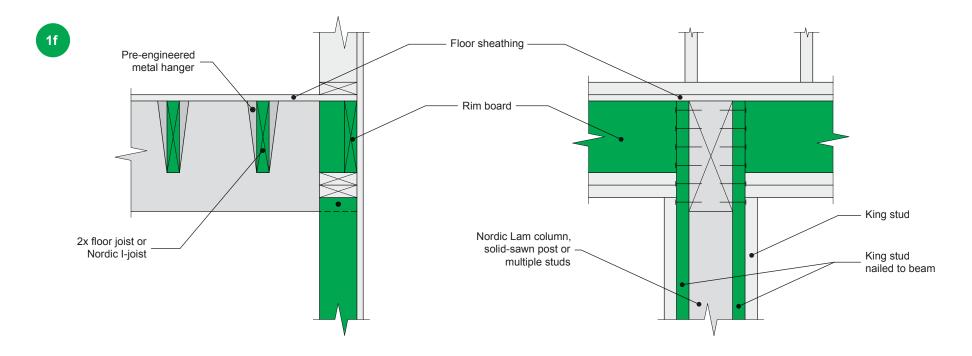
#### **Section Through Nordic Lam Beam**

- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



TITLE Beam Bearing at End Wall with Floor Joists Over Beam		DRAWING 1e	4		
CATEGORY	SCALE	DATE	PAGE	_	
Floor Framing Details	-	2021-08-01	1.5		



#### **Section Through Floor Joists**

#### **Section Through Nordic Lam Beam**

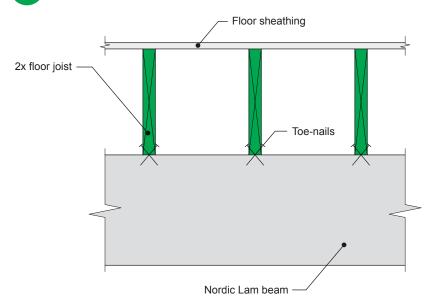
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



тітье Beam Bearing at End Wall with Floor Joists Flush with Beam		DRAWING 1f	DRAWING 1f		
CATEGORY	SCALE	DATE	PAGE		
Floor Framing Details	-	2021-08-01	1.6		





- 1. Blocking required between joists at bearing for lateral support, not shown for clarity.
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 3. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC	
STRUCTURES	



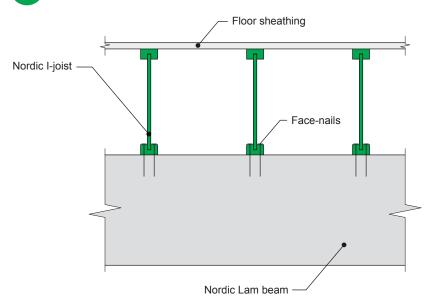
TITLE	
Lumber Joists Bearing on Floor Bear	n

	DRAWING
	1g
_	

SCALE

CATEGORY





- 1. Blocking required between joists at bearing for lateral support, not shown for clarity.
- 2. Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local building code for specific requirements.
- 3. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

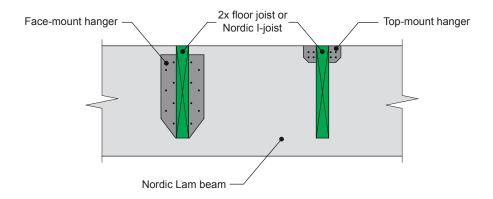
NORDIC STRUCTURES	
nordic.ca	



TITLE
Nordic I-joists Bearing on Floor Bear

Nordic I-joists Bearing on Floor Beam		1h	
CATEGORY	SCALE	DATE	PAGE
Floor Framing Details	-	2021-08-01	1.8

DRAWING



- 1. Hangers installed per manufacturer's recommendations.
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local building code for specific requirements.
- 3. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

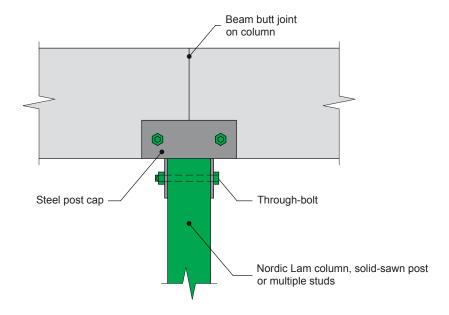
NORDIC	
STRUCTURES	



TITLE			
Joists	Mounted	Flush with	Floor Beam

DRAWING	
1j	

SCALE



- 1. See detail 1m for similar details with continuous floor beam over intermediate wood supports.
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 3. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC
STRUCTURES



IIILE
Beams Butting Over Intermediate Wood Support

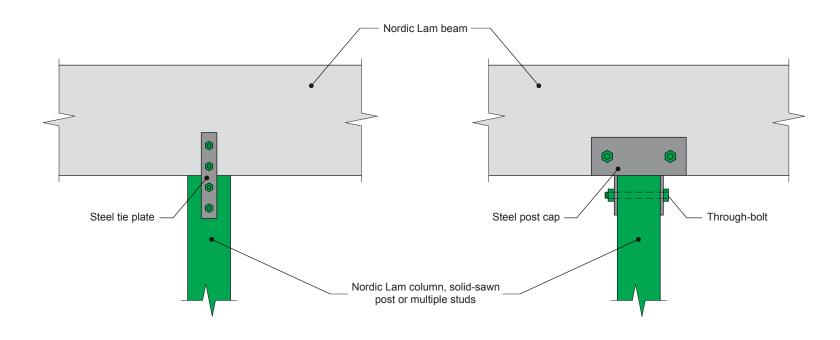
DRAWING 1k	
DATE	PAGE
2021-08-01	1.10

SCALE

Eloor	Eramina	Dotaile
FIOOI	Framing	Details

CATEGORY





- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

CATEGORY

Floor Framing Details

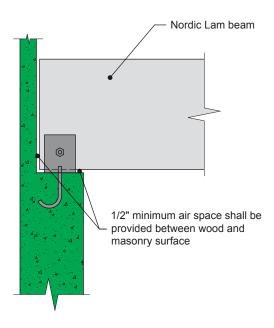
N	0	R	D		C
ST	RUC	CTU	RE:	S	



TITLE	
Continuous Floor Beam Over Intermedia	te Wood Support

Wood Support	drawing 1m		
	SCALE	DATE	PAGE
	_	2021-08-01	1.11





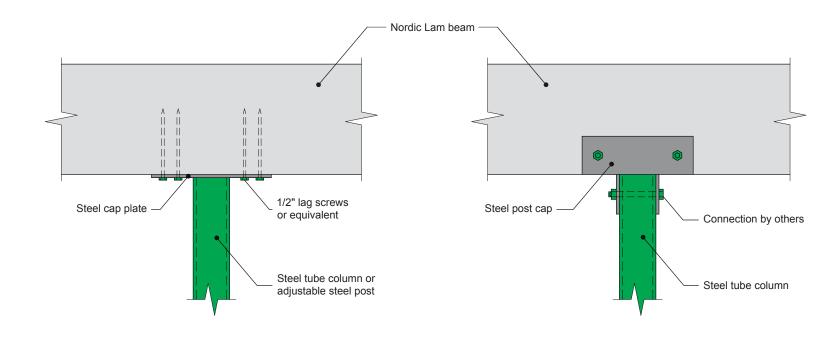
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



Beam Sitting in Concrete or Masonry Wall Pocket			DRAWING 1n	
CATEGORY	SCALE	DATE	PAGE	
Floor Framing Details	-	2021-08-01	1.12	



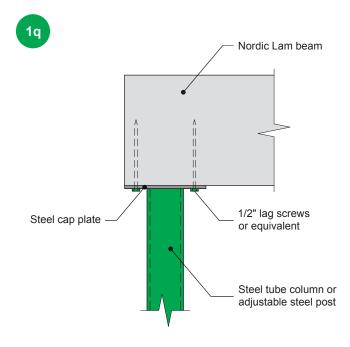


- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



TITLE Continuous Floor Beam Over Intermediate Steel Support		DRAWING 1p	
CATEGORY	SCALE	DATE	PAGE
Floor Framing Details	-	2021-08-01	1.13



- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

		TITLE		DRAWING	
NORDIC		Beam End Bearing on Steel Support		1q	
STRUCTURES	NS-DC4				·
STRUCTURES	DETAILS	CATEGORY	SCALE	DATE	PAGE
nordic.ca	NORDIC LAM	Floor Framing Details	-	2021-08-01	1.14





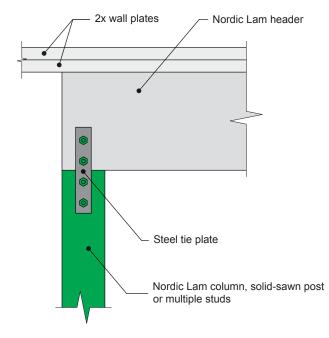
VERSION **2022-05-01** 

HEADER, WALL AND COLUMN FRAMING DETAILS

2







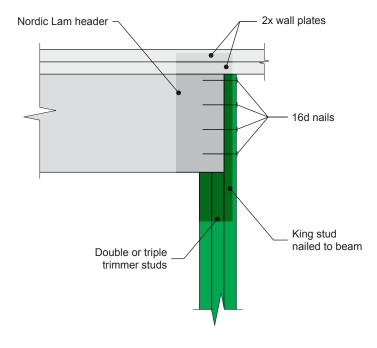
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



TITLE Garage Door Header to End Wall - Steel Tie Plate		DRAWING 2a	
CATEGORY	SCALE	DATE	PAGE
Header Framing Details	_	2021-08-01	2 1





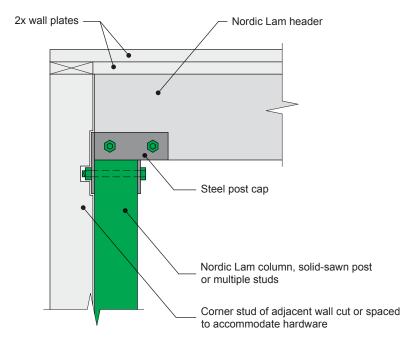
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



Garage Door Header to End Wall - King Stud	DRAWING 2b			
CATEGORY	SCALE	DATE	PAGE	
Header Framing Details	-	2021-08-01	2.2	





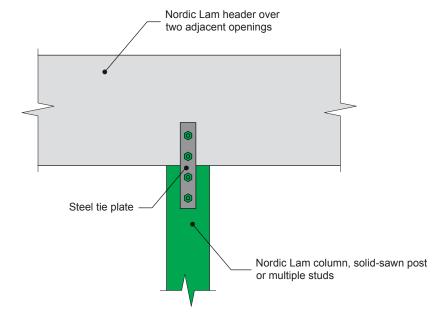
- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES	
nordic.ca	



тітье Garage Door Header to End Wall - Column and King Stud		DRAWING 2C			
CATEGORY	SCALE	DATE	PAGE		
Header Framing Details	-	2021-08-01	2.3		





- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES	



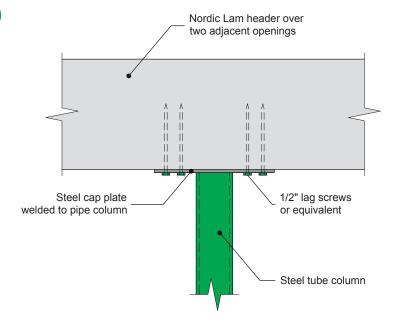
TITLE
Garage Door Header Over Intermediate Suppor

20	
DATE	PAGE
2021-08-01	2.4

DRAWING

SCALE



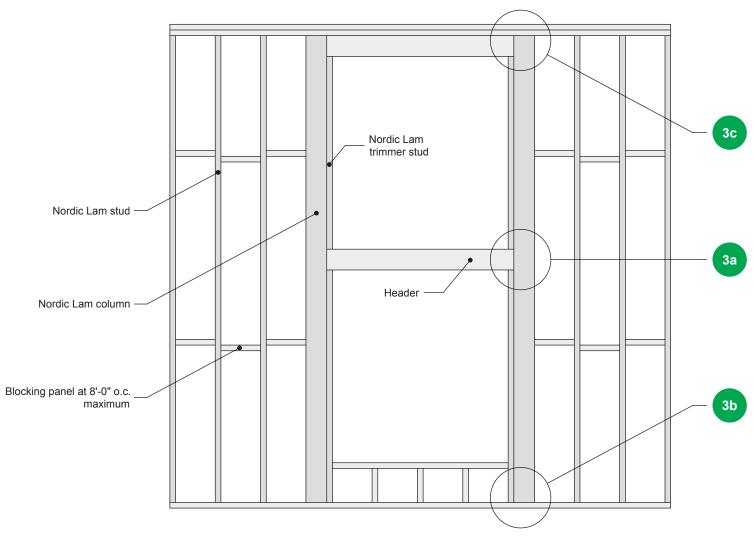


- Provide adequate bearing length and bearing across the full width to support Nordic Lam beam. Refer
  to the Nordic Lam Technical Guide (NS-GT4) for bearing length requirements, and consult local
  building code for specific requirements.
- 2. Heavy concentrated loads such as heating/cooling units, crane rails or main framing members suspended from the bottom of beams induce tension perpendicular to grain and may cause splitting. Except for light loads such as hung ceilings (including 2x-framing), sprinkler systems, lighting appliances, etc., always suspend concentrated loads from the beam top, unless designed otherwise by a qualified engineer.

NORDIC STRUCTURES
nordic.ca



Garage Door Header Over Intermediate Steel Support		DRAWING 2e	
CATEGORY	SCALE	DATE	PAGE
Header Framing Details	-	2021-08-01	2.5





All additional blocking, trimmers, plates, etc. not specified should be the same as the typical stud material.





тіті Typical Wall Framing		DRAWING 3		
CATEGORY	SCALE	DATE	PAGE	
Typical Wall and Column Framing Details	_	2021-08-01	2.6	

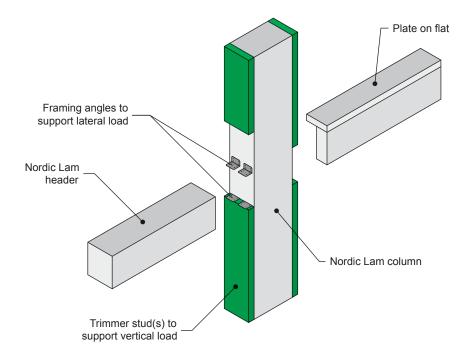


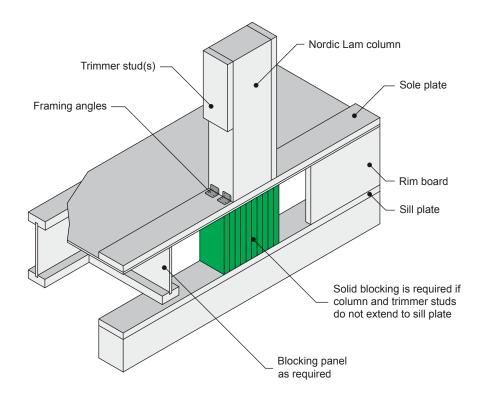
 Plate width must equal wall thickness to provide lateral bracing. (Plate not required if header width equals the wall thickness.)

NORDIC STRUCTURES
nordic.ca



TITLE
Header to Column
CATEGORY
Typical Wall and Column Framing Details

SCALE



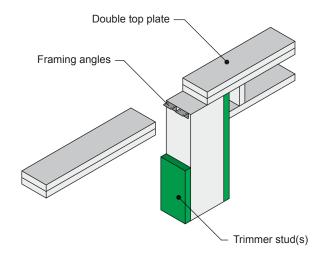
NORDIC STRUCTURES
nordic.ca



TITLE	
Column to Bottom Plate	
	_

SCALE	DATE	PAGE
_	2021-08-01	28

DRAWING 3b



NORDIC STRUCTURES
nordic ca

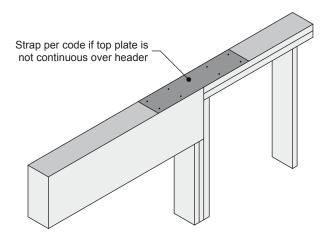


TITLE			
Column	to	Top	Plate

2.9

2021-08-01

SCALE



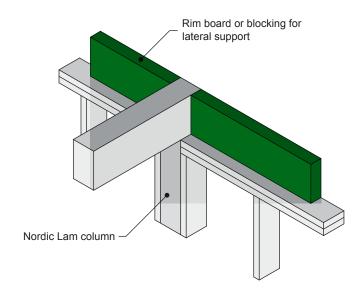
NORDIC STRUCTURES	
nordic.ca	



Bearing for Door or Window Header	DRAWING 3d	
CATEGORY	SCALE	DATE
Typical Wall and Column Framing Details	-	2021-08-01

PAGE

2.10



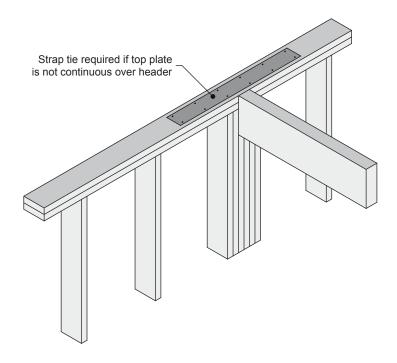
NORDIC STRUCTURES
nordic.ca



Bearing at Wall		DRAWING 3e
CATEGORY	SCALE	DATE
Typical Wall and Column Framing Details	-	2021-08-01

PAGE

2.11

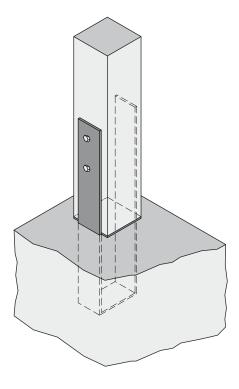






Beam to Frame	
CATEGORY	
Typical Wall and Column Framing De	tails

SCALE



NORDIC STRUCTURES
nordic.ca



TITLE	
Column Base	
CATEGORY	SCALE
Typical Wall and Column Framing Details	-

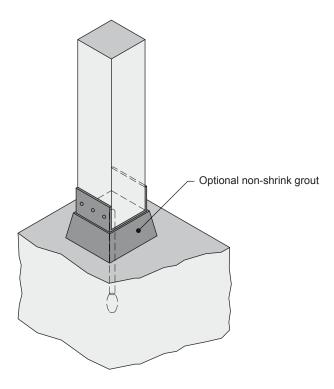
DRAWING 3g

2021-08-01

PAGE

2.13

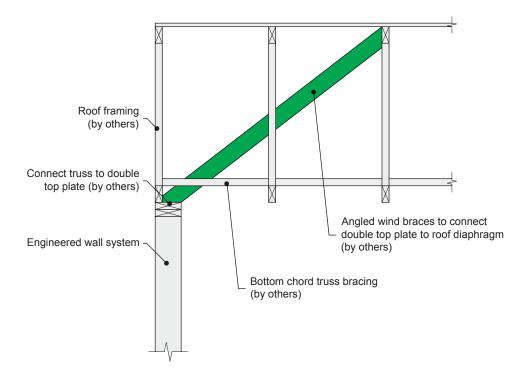
DATE



NORDIC STRUCTURES	
nordic.ca	



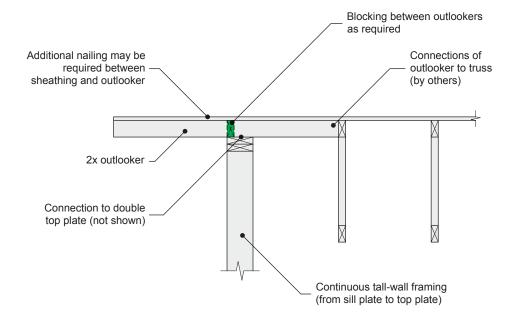
Elevated Column Base
CATEGORY
Typical Wall and Column Framing Details



#### Note:

1. Wall bracing is necessary if double top plate is not attached directly to the roof/floor diaphragm.

NORDIC	NS-DC4	Wind Brace		drawing 3j	
STRUCTURES	DETAILS	CATEGORY	SCALE	DATE	PAGE
nordic.ca	NORDIC LAM	Typical Wall and Column Framing Details	-	2021-08-01	2.15



#### Note:

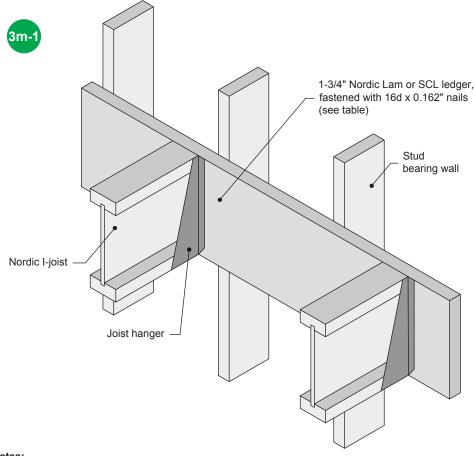
1. Connection of double top plate to outlooker must be designed to transfer lateral load to roof.

NORDIC STRUCTURES
nordic.ca



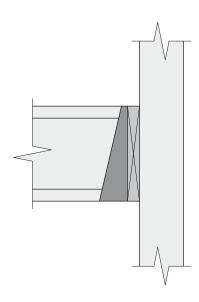
Roof Outlooker
CATEGORY Typical Wall and Column Framing Details

drawing 3k	
DATE	PAGE
2021-08-01	2.16





- 1. Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.
- 2. Ledger depth shall match the height of the joists.



#### **Ledger Capacity**

•			
Depth (in.)	Number of 16d nails per stud	Stud spacing (in.)	Capacity (plf)
	3	12	360
9-1/2	3	16	480
	3	24	720
	4	12	480
11-7/8	4	16	640
	4	24	960
	5	12	600
14	5	16	800
	5	24	1,200
	6	12	720
16	6	16	960
	6	24	1,440

#### Notes:

- The ledger capacity represents the ledger-to-stud connection capacity in pounds per linear foot (plf). To convert the joist reaction to a uniform load (in plf), divide the joist reaction (in lbf) by the joist spacing (in ft).
- 2. Studs shall be grade S-P-F No. 3/Stud or better.
- 3. Minimum distances for nails: spacing of 3/4 inch; and edge distance of 3/4 inch.





TITLE			
Framing Anchor to a Ledger			
CATEGORY			
Typical Wall and Column Framing Details			

DRAWING	
3m-1	
DATE	PAGE
2022-05-01	2.17

# NORDIC



VERSION **2022-05-01** 

HOLES IN BEAMS AND STUDS

3



### **Beam Hole Specifications**

#### **Horizontal Holes**

Horizontal holes in glued laminated timbers are limited in size and location to maintain the structural integrity of the beam. Detail 4 shows the zones of a uniformly loaded, simply supported beam where the field drilling of holes may be considered. These non-critical zones are located in portions of the beam stressed to less than 50 percent of specified bending strength and less than 50 percent of specified shear strength. For beams, of more complex loading or other than simple spans, similar diagrams may be developed.

Field-drilled horizontal holes should be used for access only and should not be used as attachment points for brackets or other load bearing hardware unless specifically designed as such by the engineer or designer of record.

These field drilled horizontal holes should meet the following guidelines:

- 1. **Hole size:** The hole diameter should not exceed 1-1/2 inch or 1/10 the beam depth, whichever is smaller.
- Hole location: The hole should have a minimum clear distance, as measured from the edge of the hole to the nearest edge of the beam, of four hole diameters to the top or bottom face of the beam and eight hole diameters from the end of the beam. Note that the horizontal hole should not be drilled in the moment-critical zone, as defined in detail 4. unless approved by an engineer or architect qualified in engineered timber design.
- Hole spacing: The minimum clear spacing between adjacent holes, as measured between the nearest edge of the holes, should be eight hole diameters based on the largest diameter of any adjacent hole in the beam.
- Number of holes: The maximum number of holes should not exceed one hole per five feet of beam length. The hole spacing limitation, as given above, should be satisfied separately.

For glulam members that have been oversized or for glulam joists, the guidelines given above may be relaxed based on an engineering analysis. Regardless of the hole location, holes drilled horizontally through a member should be positioned and sized with the understanding that the beam will deflect over a period of time under in-service loading conditions. This deflection could cause distress to supported equipment or piping unless properly considered.





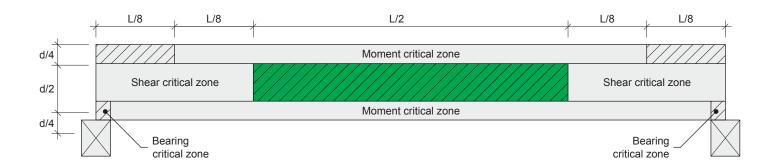
IILE
Beam Hole Specifications

CATEGORY

DRAWING

DATE PAGE SCALE 2021-08-01 3.1

T.T. C





Zones where horizontal holes are permitted for passage of wires, conduit, etc.

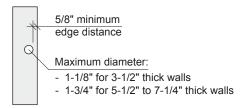
#### Note:

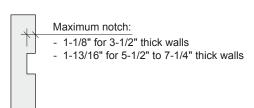
 This detail represents the zones where small horizontal holes are permitted holes in a uniformly loaded, simply supported beam.

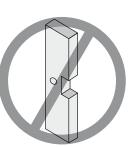
NORDIC STRUCTURES
nordic.ca

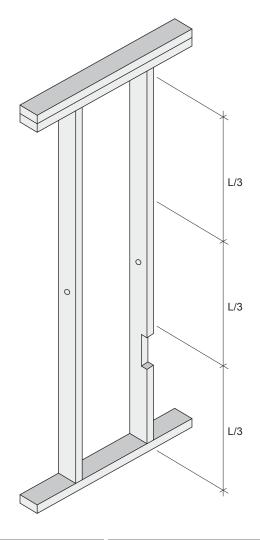


Maximum Holes in Beams		DRAWING 4	
CATEGORY Holes in Beams and Studs	SCALE -	DATE 2021-08-01	PAGE 3.2



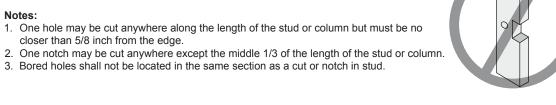






#### Notes:

- 1. One hole may be cut anywhere along the length of the stud or column but must be no closer than 5/8 inch from the edge.







TITLE			
Maximum	Holes	in	Studs

CATEGORY Holes in Beams and Studs

	5	
SCALE	DATE	PAGE
_	2021-08-01	3.3

DRAWING



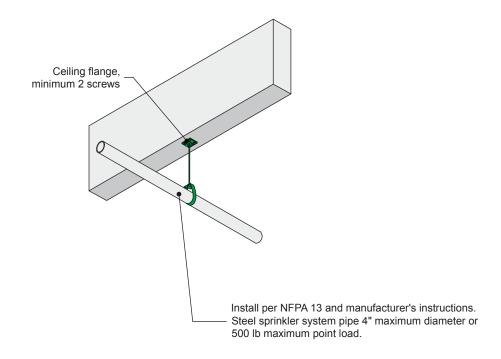


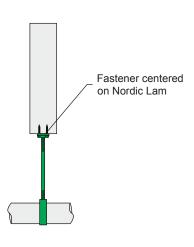
VERSION **2022-05-01** 

SPRINKLER PIPE AND MECHANICAL UNIT INSTALLATION

4







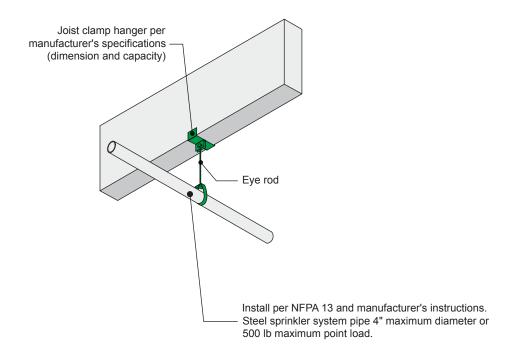
NORDIC STRUCTURES
nordic.ca

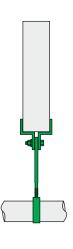


Ceiling Flange Hanger
CATEGORY
Sprinkler Pipe Installation for Beams

DRAWING <b>6a</b>	
DATE	PAGE
DATE	TAGE

2021-08-01 4.1







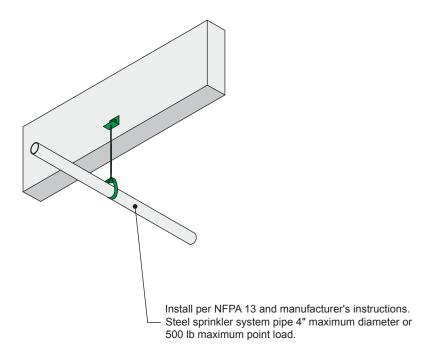


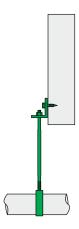
TITLE
Beam Clamp Hange

CATEGORY
Sprinkler Pipe Installation for Beams

DRAWING 6b

SCALE	DATE	PAGE
	2021_08_01	12





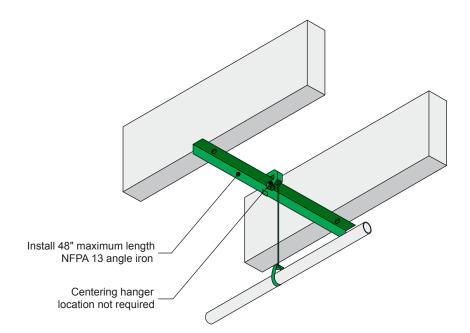
Two sheet metal screws #10 x 1-1/2"

Option: Two clinched 8d nails (0.113" x 2-1/2")



Angle Bracket Hanger	
CATEGORY	
Sprinkler Pipe Installation for Beams	

## 6d

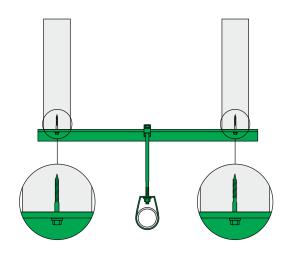


#### Option 1

Install per NFPA 13. CPVC sprinkler system pipe 2-1/2" maximum diameter = 290 lb maximum point load (145 lb per beam)

#### Option 2

Install per NFPA 13. Steel sprinkler system pipe 4", maximum diameter = 500 lb maximum point load (250 lb per beam)



One 1/4" x 3" lag screw

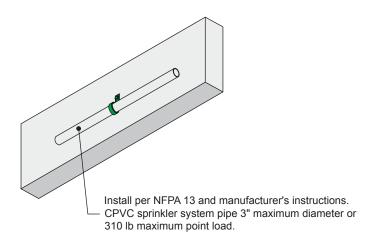
One #14 x 3" sheet metal screw

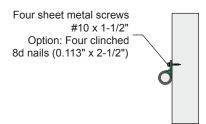




тіті. NFPA 13 Steel Angle Trapeze with Hanger		DRAWING 6d	
CATEGORY	SCALE	DATE	PAGE
Sprinkler Pipe Installation for Beams	-	2021-08-01	4.4







SCALE



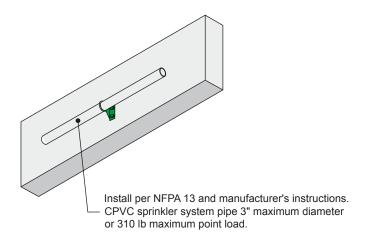


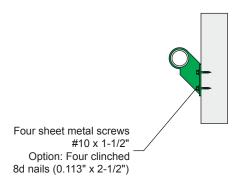
CPVC Hanger - Double Offset
CATEGORY
Sprinkler Pipe Installation for Beams

DRAWING	
6e	
DATE	PAGE

4.5

2021-08-01









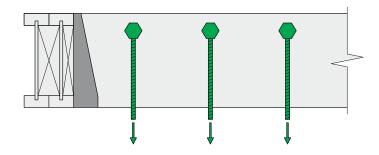
CPVC Hanger - Surface Mount
CATECORY

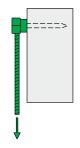
DRAWING 6f PAGE

4.6

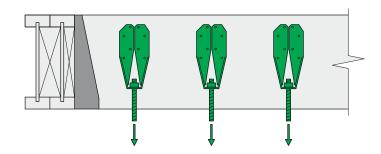
CATEGORY	
Sprinkler Pipe	Installation for Beams

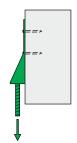
Option 1 - Connector type DTT2Z





Option 2 - Connector type RWH









TITLE	
Mechanical	Un

SCALE

DRAWING



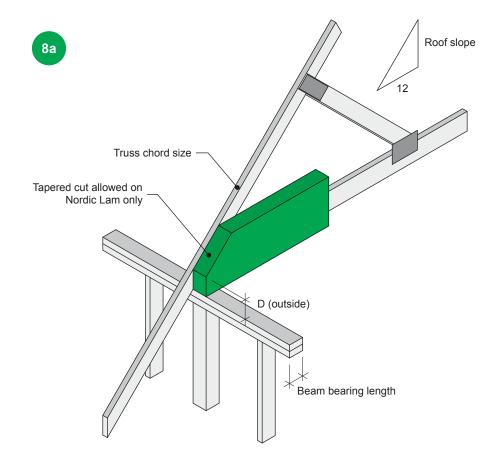


VERSION **2022-05-01** 

**ROOF FRAMING DETAILS** 



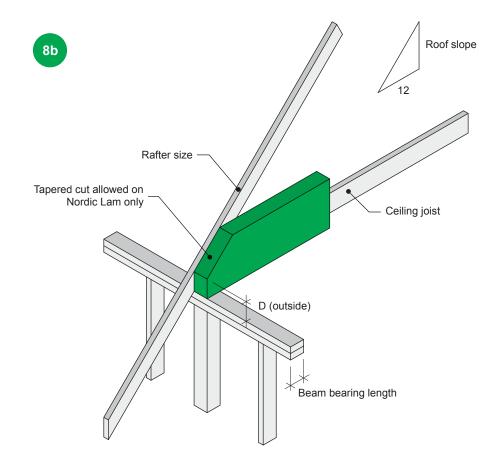






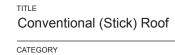


Truss Roof		DRAWING 8a	
CATEGORY	SCALE	DATE	PAGE
Roof Framing Details	-	2021-08-01	5.1









8b DATE PAGE SCALE 2021-08-01 5.2

DRAWING

Roof	Framing	Details
		2000