

FROM PLAN DATED: JULY 25 2019

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 2

LOT: 45

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

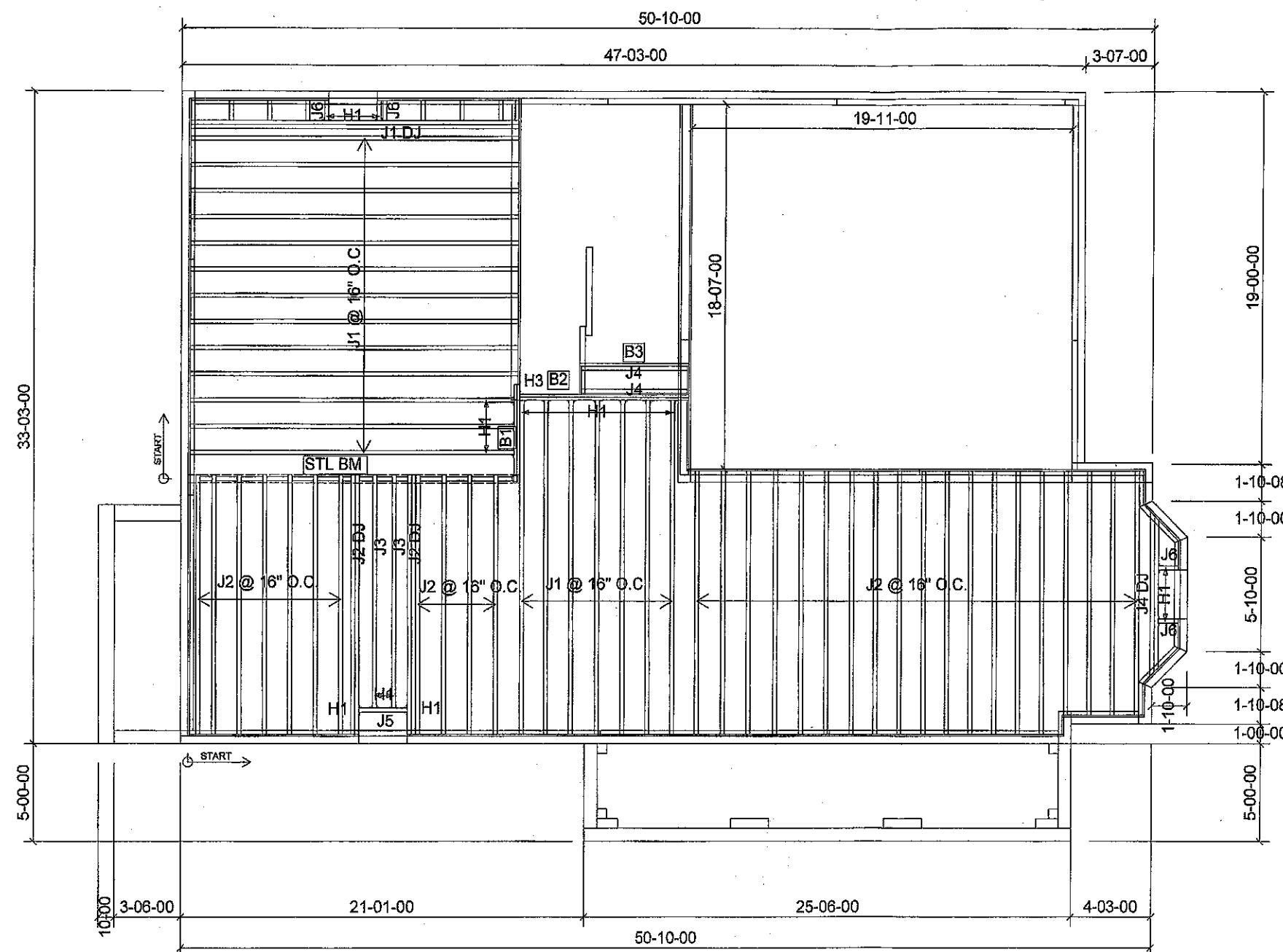
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-08-01

1st FLOOR

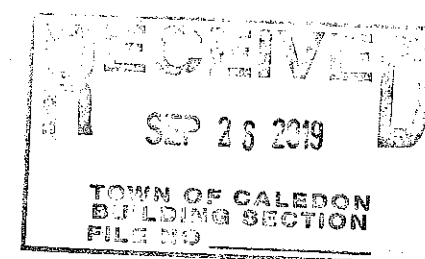
OPTIONAL W.O.D. CONDITION

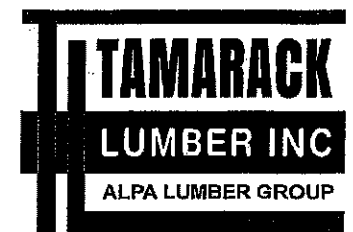


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	20
J1 DJ	18-00-00	11 7/8" NI-40x	2	2
J2	14-00-00	11 7/8" NI-40x	1	30
J2 DJ	14-00-00	11 7/8" NI-40x	2	4
J3	12-00-00	11 7/8" NI-40x	1	2
J4 DJ	10-00-00	11 7/8" NI-40x	2	2
J4	6-00-00	11 7/8" NI-40x	1	2
J5	4-00-00	11 7/8" NI-40x	1	1
J6	2-00-00	11 7/8" NI-40x	1	4
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
1	H3	HGUS410

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE





FROM PLAN DATED: SEPT 28 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 1

LOT: 45

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

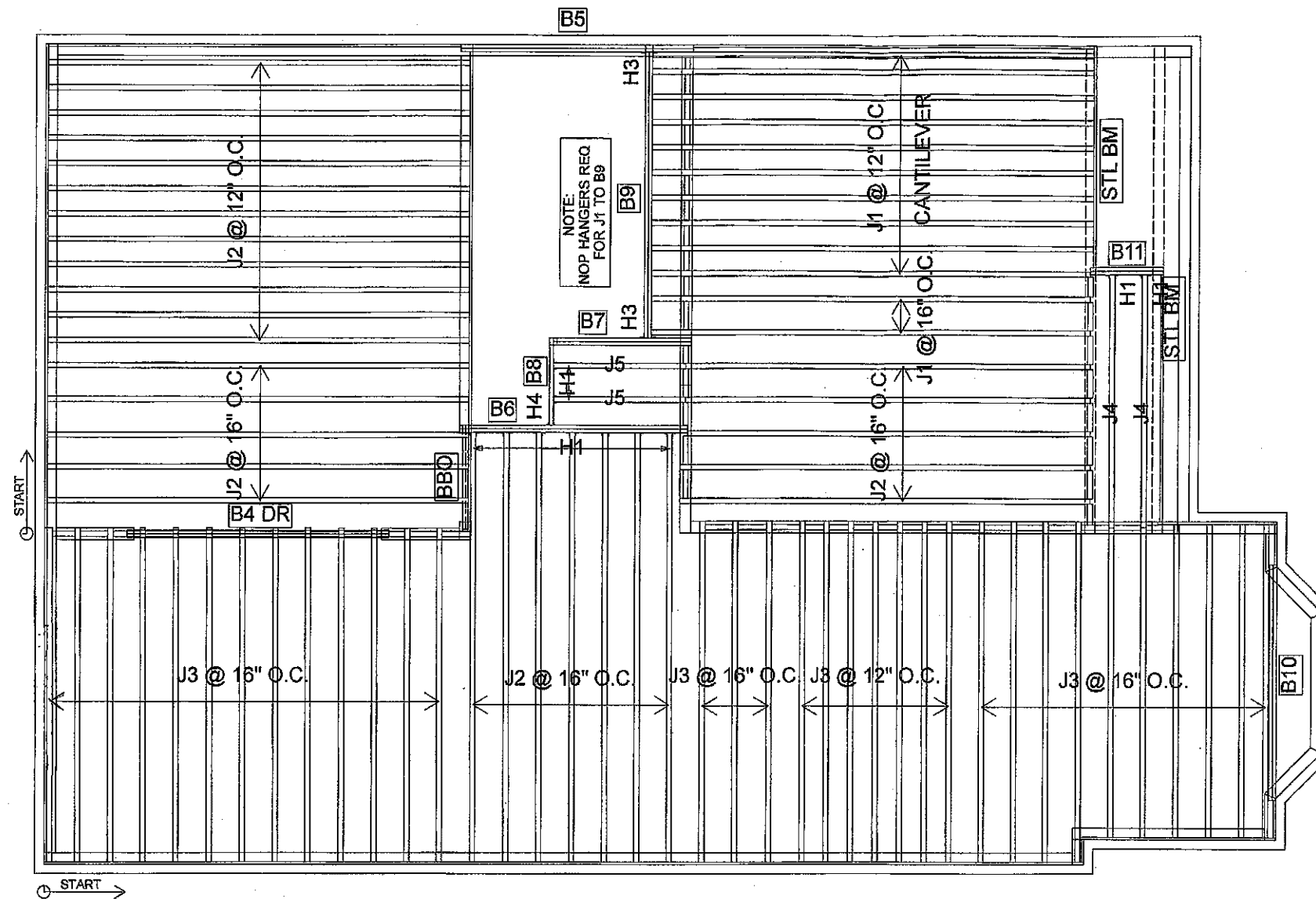
NOTES:
REFER TO THE NORDIC **INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

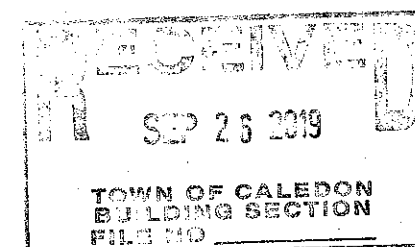
DATE: 2019-08-08

2nd FLOOR



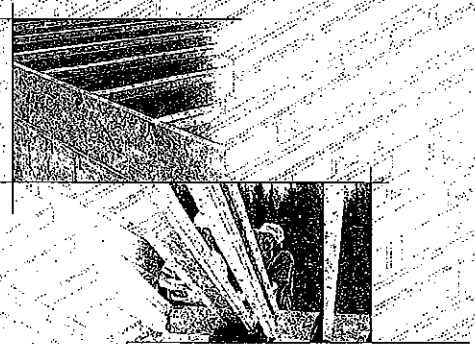
Products				
PlotID	Length	Product	Plies	Net Qty
J1	20-00-00	11 7/8" NI-40x	1	12
J2	18-00-00	11 7/8" NI-40x	1	29
J3	14-00-00	11 7/8" NI-40x	1	33
J4	12-00-00	11 7/8" NI-40x	1	2
J5	6-00-00	11 7/8" NI-40x	1	2
B4 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
2	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
2	H3	HGUS410
1	H4	HUS1.81/10





INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



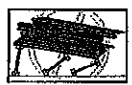
Distributed by:



SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.

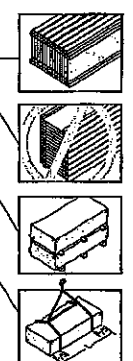


Never stack building materials over unfastened I-joists. Once sheathed, do not overstack I-joists with concentrated loads from building materials.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole size and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

STORAGE AND HANDLING GUIDELINES

1. Bundles wrapped in plastic can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flowage.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew:
 - Pick I-joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the I-joists are vertical.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.



MAXIMUM FLOOR SPANS

1. Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit state are based on the factored loads of 1.50L + 1.25D. The serviceability limit state include the consideration for floor vibration and a live load deflection limit of 1/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGOS-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum and/or a row of blocking at mid-span.
3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
6. Tables are based on Limit States Design per CAN/CSA C085-09 Standard, and NBC 2010.
7. SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

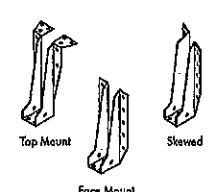
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

SIMPLE AND MULTIPLE SPANS

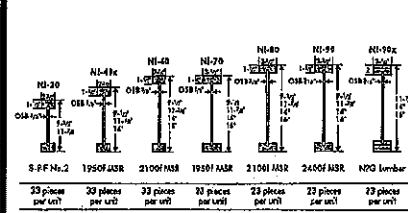
Joist Depth	Joist Series	On center spacing				Multiple spans			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NL-20	15'-1"	14'-2"	13'-5"	12'-8"	16'-3"	15'-4"	14'-7"	14'-2"
	NL-40	16'-3"	15'-4"	14'-7"	14'-0"	17'-2"	16'-3"	15'-6"	15'-1"
	NL-70	17'-1"	16-1"	15-4"	14-7"	18'-2"	17-4"	16-7"	16-1"
	NL-80	17'-2"	16-3"	15-5"	14-8"	18'-3"	17-5"	16-8"	16-2"
	NL-90	17'-3"	16-4"	15-6"	14-9"	18'-4"	17-6"	16-9"	16-3"
11-7/8"	NL-40	18'-1"	17-0"	16-5"	15-8"	19'-0"	18-5"	17-9"	17-2"
	NL-60	18'-4"	17-3"	16-8"	16-1"	19'-3"	18-8"	18-2"	17-5"
	NL-70	19'-0"	18-0"	17-4"	17-2"	20'-0"	19-1"	18-4"	17-7"
	NL-80	19'-1"	18-1"	17-5"	17-3"	20'-1"	19-2"	18-5"	17-8"
	NL-90	19'-2"	18-2"	17-6"	17-4"	20'-2"	19-3"	18-6"	17-9"
14"	NL-20	20'-0"	18-7"	17-1"	15-8"	22'-0"	20-7"	19-1"	17-8"
	NL-40	20'-1"	18-7"	17-1"	15-8"	22'-1"	20-8"	19-2"	17-9"
	NL-60	20'-2"	18-8"	17-2"	15-9"	22'-2"	20-9"	19-3"	17-10"
	NL-70	20'-3"	18-9"	17-3"	16-0"	22'-3"	21-0"	19-4"	18-1"
	NL-80	20'-4"	19-0"	17-4"	16-1"	22'-4"	21-1"	19-5"	18-2"
16"	NL-20	22'-0"	20-4"	18-5"	16-5"	24'-0"	22-4"	20-5"	18-8"
	NL-40	22'-1"	20-5"	18-6"	16-6"	24'-1"	22-5"	20-6"	18-9"
	NL-60	22'-2"	20-6"	18-7"	16-7"	24'-2"	22-6"	20-7"	19-0"
	NL-70	22'-3"	20-7"	18-8"	16-8"	24'-3"	22-7"	20-8"	19-1"
	NL-80	22'-4"	20-8"	18-9"	16-9"	24'-4"	22-8"	20-9"	19-2"

I-JOIST HANGERS

1. Hangers shown illustrate the three most commonly used metal hangers to support I-joists.
2. All walling must meet the hanger manufacturer's recommendations.
3. Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.
4. Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.



NORDIC I-JOIST SERIES



Chardier Chibougeau Ltd. harvests its own trees, which enables Nordic products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from the raw timber to the finished product, reflects our commitment to quality.

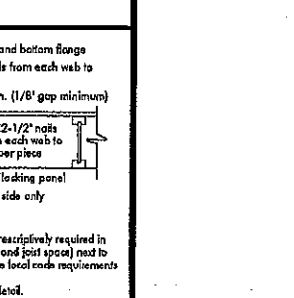
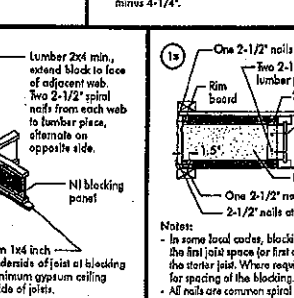
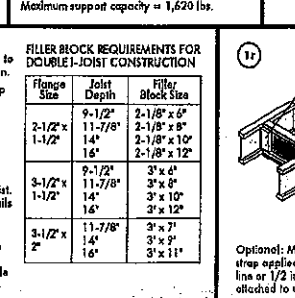
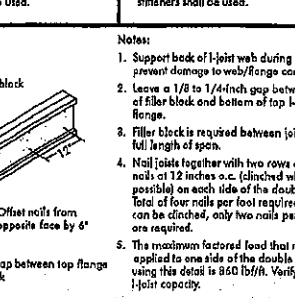
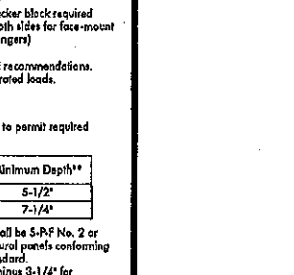
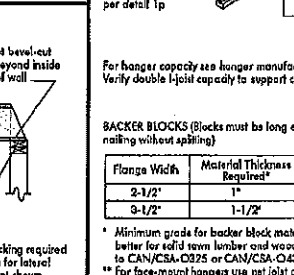
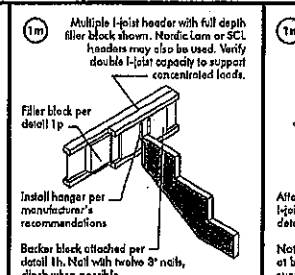
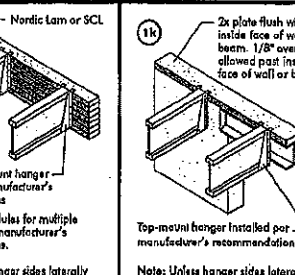
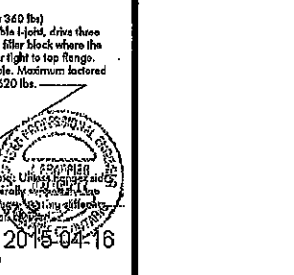
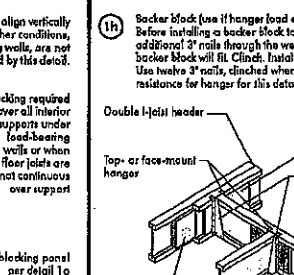
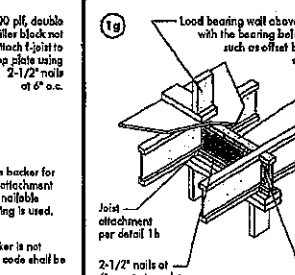
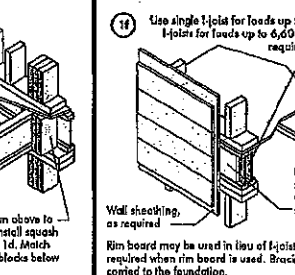
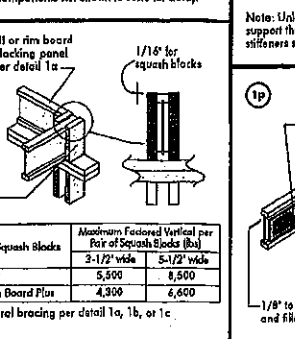
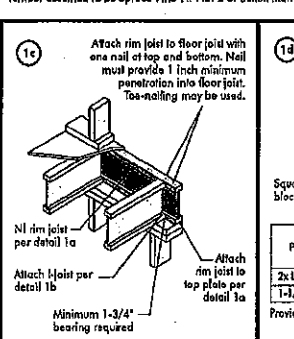
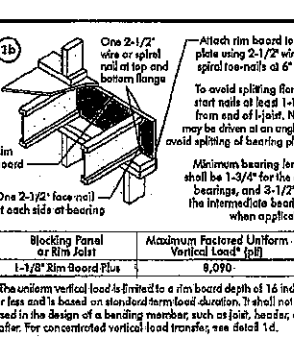
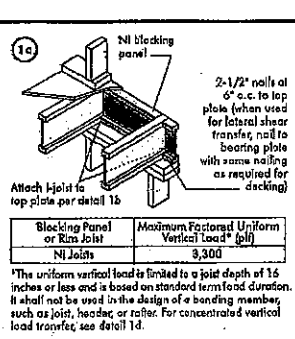
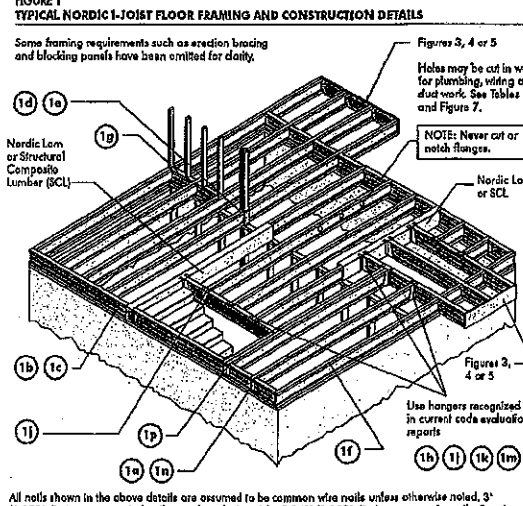
Nordic Engineered Wood I-joists use only finger-jointed lumber conforming to CAN/CSA C085 or CAN/CSA C087 Standard.

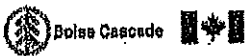
I-joists in their flanges, ensuring consistent quality, support spans longer than carrying capacity.

INSTALLING NORDIC I-JOISTS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, notify supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (ripole members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products - such as rim board - must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

FIGURE 1 TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING (Flush Beams) B2 (I3105)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

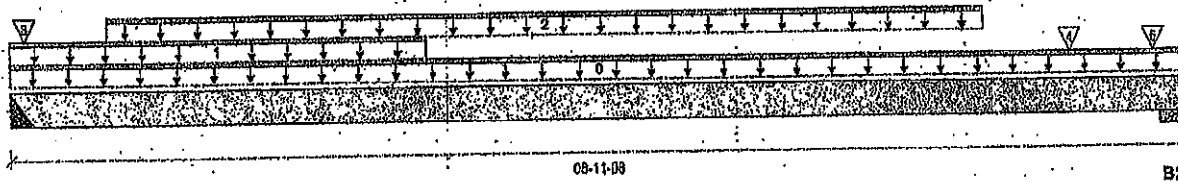
File name: KINMOUNT 11B.mmdl

Description: 1ST FLOOR FRAMING (Flush Beams) B2 (I3105)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	2,303 / 0	1,204 / 0		
B2, 5-1/2"	3,838 / 0	1,988 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-11-08	Top	12	120			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-02-00	Top	240	172			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-09-00	07-05-00	Top	346	191			n/a
3	J1(I2919)	Conc. Pt. (lbs)	L	00-01-05	00-01-05	Top	429	214			n/a
4	J1(I3109)	Conc. Pt. (lbs)	L	08-01-00	08-01-00	Top	2,027	1,131			n/a
5	5(I882)	Conc. Pt. (lbs)	L	08-08-12	08-08-12	Top					n/a

Controls Summary

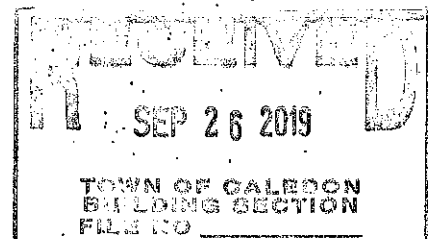
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7,730 ft-lbs	35,382 ft-lbs	21.8%	1	04-01-00
End Shear	3,454 lbs	14,464 lbs	23.9%	1	01-03-14
Total Load Deflection	L/999 (0.089")	n/a	n/a	4	04-04-00
Live Load Deflection	L/999 (0.045")	n/a	n/a	5	04-04-00
Max Defl.	0.089"	n/a	n/a	4	04-04-00
Span / Depth	8.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 4" x 3-1/2"	4,980 lbs	n/a	29.0%	HGUS410
B2	Wall/Plate 5-1/2" x 3-1/2"	7,939 lbs	98.5%	33.8%	Unspecified

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7.2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



DRG NO: FAM3424-18H
STRUCTURAL
COMPONENT ONLY

T-1903178



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING (Flush Beams) B2 (13105)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT-11B.mmdl

Description: 1ST FLOOR FRAMING (Flush Beams) B2 (13105)

Specifier:

Designer: PL

Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

CONFORMS TO UBC 2012

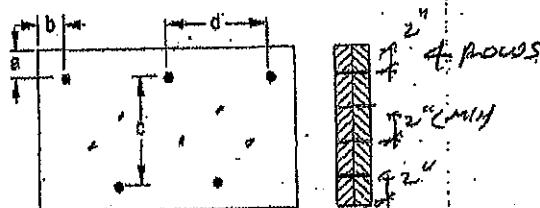
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

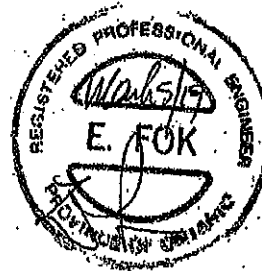
b minimum = 3"

d = 8"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails

3 1/2" ARDOX SPIRAL



Disclosure

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Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to ensure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWG NO. YAM 3424-18H
STRUCTURAL
COMPONENT ONLY

T-19017860



Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING\Flush Beams\B3(I3150)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

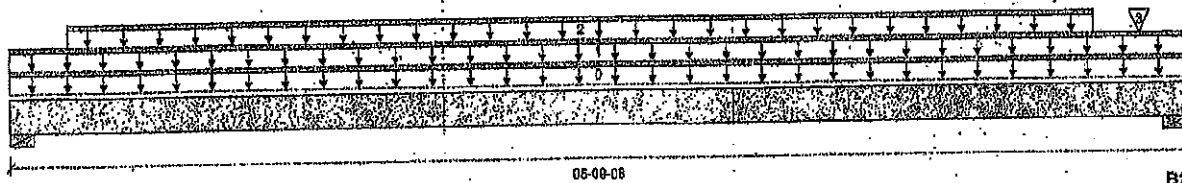
File name: KINMOUNT 11B.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B3(I3150)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 00-08-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	820 / 0	327 / 0		
B2, 5-1/2"	875 / 0	369 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.88	Snow 1.00	Wind 1.18	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-09-08	Top		6			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-09-08	Top	6	3			n/a
2	STAIRS	Unf. Lin. (lb/ft)	L	00-03-08	05-04-00	Top	240	120			n/a
3	5(I382)	Conc. Pt. (lbs)	L	05-08-12	05-08-12	Top	54	41			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,792 ft-lbs	17,896 ft-lbs	10.0%	1	02-09-12
End Shear	808 lbs	7,232 lbs	11.2%	1	01-03-06
Total Load Deflection	L/999 (0.012")	n/a	n/a	4	02-09-12
Live Load Deflection	L/999 (0.008")	n/a	n/a	5	02-09-12
Max Defl.	0.012"	n/a	n/a	4	02-09-12
Span / Depth	5.2				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 1-3/4"	1,338 lbs	61.1%	17.9%	Unspecified
B2	Wall/Plate 5-1/2" x 1-3/4"	1,474 lbs	35.8%	12.8%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®.

DWG NO. TAM3425-18H

STRUCTURAL
COMPONENT ONLY

T-192179



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING (Flush Beams) B1 (I2939)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALCO® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

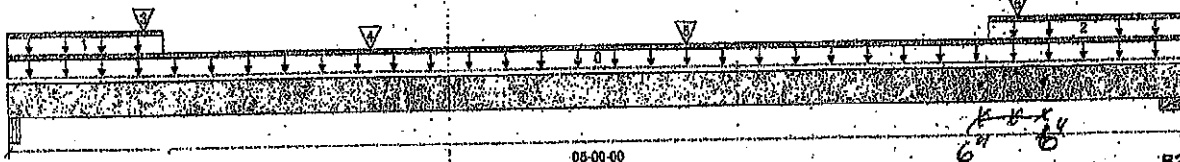
File name: KINMOUNT 11B.mmdl

Description: 1ST FLOOR FRAMING (Flush Beams) B1 (I2939)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 05-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5"	1,021 / 0	620 / 0		
B2, 9-1/2"	5,766 / 0	3,145 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Top	12	86			00-00-00
1	8(I385)	Unf. Lin. (lb/ft)	L	00-00-00	00-08-00	Top		86			n/a
2	11(I388)	Unf. Lin. (lb/ft)	L	04-02-00	05-00-00	Top		81			n/a
3	8(I385)	Conc. Pt. (lbs)	L	00-07-00	00-07-00	Top	500	283			n/a
4	J1(I2923)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	420	210			n/a
5	J1(I3226)	Conc. Pt. (lbs)	L	02-10-08	02-10-08	Top	454	210			n/a
6		Conc. Pt. (lbs)	L	04-03-08	04-03-08	Top	5,258	2,789			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,525 ft-lbs	35,382 ft-lbs	4.3%	1	02-10-08
End Shear	1,194 lbs	14,464 lbs	8.3%	1	01-04-14
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	02-03-08
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	02-03-08
Max Defl.	0.003"	n/a	n/a	4	02-03-08
Span / Depth	4.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Support	Demand/Member	Material
B1	Beam 5" x 3-1/2"	2,306 lbs	30.8%	10.8%	Unspecified
B2	Wall/Plate 9-1/2" x 3-1/2"	12,880 lbs	88.6%	31.0%	Unspecified

Notes

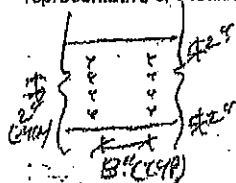
- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Calculations assume member is fully braced.
- Resistance Factor phi has been applied to all presented results per CSA O86.
- BC CALCO® analysis is based on Canadian Limit States Design, as per NBC 2015 and CSA O86.
- Design based on Dry Service Condition.
- Importance Factor: Normal Part code: Part 9
- Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection.

CONFORMS TO CBC 2012

Disclosure

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BC CALCO®, BC FRAMER®, AJST™, ALLJOIST®, BC RIM BOARD™, BCIO®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®.



PROVIDE 4 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 8" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS

STRUCTURAL COMPONENT ONLY

T-191377



Dalse Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

1ST FLOOR FRAMING\Flush Beams\B12\13356

PASSED

BC CALC® Member Report

Bulld 8476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 12, 2018 13:30:22

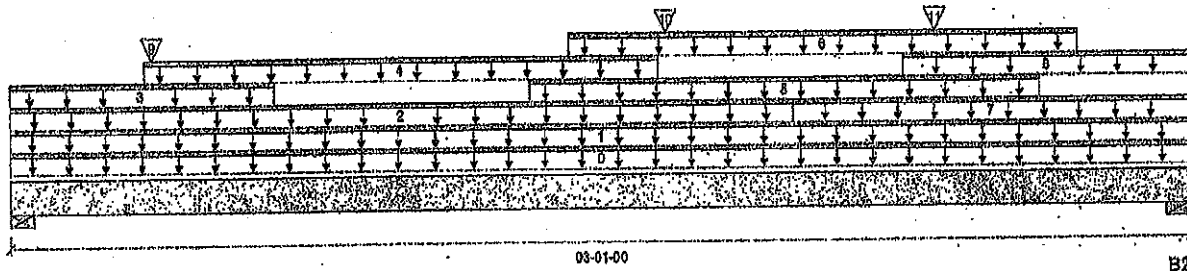
File name: KINMOUNT 11B OPT W.O.D..mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B12\13356

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 03-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,266 / 0	883 / 0	110 / 0	
B2, 3-1/2"	1,139 / 0	932 / 0	369 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	1.00	0.66	1.00	1.15	00-00-00
1	E41(13108)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		81			n/a
2	E41(13108)	Unf. Lin. (lb/ft)	L	00-00-00	02-00-08	Top		41			n/a
3	E41(13108)	Unf. Lin. (lb/ft)	L	00-00-00	00-08-04	Top	352	177			n/a
4	E41(13108)	Unf. Lin. (lb/ft)	L	00-04-04	01-08-04	Top	259	130			n/a
5	E41(13108)	Unf. Lin. (lb/ft)	L	01-04-04	02-08-04	Top	259	130			n/a
6	E41(13108)	Unf. Lin. (lb/ft)	L	01-06-08	02-09-08	Top	68	131			n/a
7	E41(13108)	Unf. Lin. (lb/ft)	L	02-00-08	03-01-00	Top		81			n/a
8	E41(13108)	Unf. Lin. (lb/ft)	L	02-04-00	03-01-00	Top	248	160			n/a
9	J1(13306)	Conc. Pt. (lbs)	L	00-04-08	00-04-08	Top	458	229			n/a
10	J1(13330)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	350	176			n/a
11	J1 DJ(13304)	Conc. Pt. (lbs)	L	02-05-00	02-05-00	Top	378	189			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,823 ft-lbs	35,392 ft-lbs	6.2%	1	01-08-08
End Shear	1,805 lbs	14,464 lbs	12.5%	1	01-09-10
Total Load Deflection	L/999 (0.002")	n/a	n/a	35	01-08-14
Live Load Deflection	L/999 (0.001")	n/a	n/a	51	01-08-14
Max Defl.	0.002"	n/a	n/a	35	01-08-14
Span / Depth	2.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3,112 lbs	59.5%	20.8%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,242 lbs	61.9%	21.7%	Unspecified

DWG NO. TAN 3435-18H
STRUCTURAL
COMPONENT ONLY

T-1903189



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING\Flush Beams\B12\13356

Dry | 1 span | No cant.

November 12, 2018 13:30:22

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON.

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B OPT W.O.D..mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B12\13356

Specifier:

Designer: PL

Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**

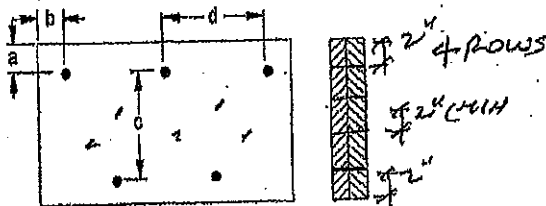
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connection Diagram: Full Length of Membera minimum = 2"
b minimum = 3"c = 7-7/8"
d = 4"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails
3/4" ARDOX SPIRAL**Disclosure**

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BC CALC®, BC FRAMER®, AJST®, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

OWNED, TAM 435 - 18H
STRUCTURAL
COMPONENT ONLY

19031896



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING\Flush Beams\B13\13480

Dry | 1 span | No cant.

November 12, 2016 13:30:22

BO CALCO® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: OCMC 12472-R

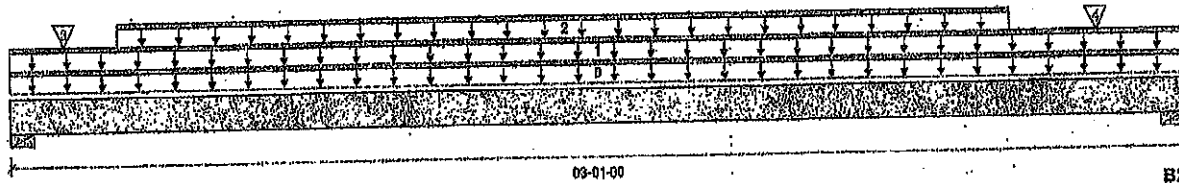
File name: KINMOUNT 11B OPT W.O.D..mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B13\13480

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 03-01-00.

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	124 / 0	309 / 0	188 / 0	
B2, 3-1/2"	136 / 0	361 / 0	180 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.85	Snow 1.00	Wind 1.15	Tributary 00-00-00
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10	5			n/a
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		41			n/a
2	E48(13255)	Unf. Lin. (lb/ft)	L	00-03-08	02-07-08	Top	108	232	188		n/a
3	E12(1309)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	119	280	180		n/a
4	E47(13254)	Conc. Pt. (lbs)	L	02-10-04	02-10-04	Top					

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	69 ft-lbs	23,005 ft-lbs	0.3%	0	01-08-08
End Shear	69 lbs	9,401 lbs	0.7%	0	01-09-10
Total Load Deflection	L/999 (0")	n/a	n/a	35	01-08-08
Max Defl.	0"	n/a	n/a	35	01-08-08
Span / Depth	2.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	762 lbs	14.6%	6.1%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	843 lbs	16.2%	5.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

Resistance Factor phi has been applied to all presented results per CSA O86.

BO CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.



CONFORMS TO CBC 2012

OWEN, TAM 7436-184
STRUCTURAL
COMPONENT ONLY

T. 1903190



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING(Flush Beams)B13(13480)

Dry, 1 span | No cant.

November 12, 2018 13:30:22

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

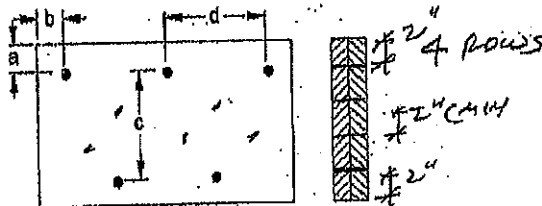
File name: KINMOUNT 11B OPT W.O.D..mmdl

Description: 1ST FLOOR FRAMING(Flush Beams)B13(13480)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member

a minimum = 2"
 b minimum = 3"
 c = 7-7/8"
 d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
 Member has no side loads.

Connectors are: 4x4 Nails

3/4" ARDOX SPIRAL

Disclosure

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 Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0760 before installation.

DWG NO. TAM 3436-18H
 STRUCTURAL
 COMPONENT ONLY

BC CALC®, BC FRAMER®, AJS™,
 ALLJOIST®, BC RIM BOARD™, BCI®,
 BOISE GLULAM™, BC FloorValue®,
 VERSA-LAM®, VERSA-RIM PLUS®

T-190190(1)



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING\Flush Beams\B20\I6367

Dry | 1 span | No cent.

November 12, 2018 15:03:15

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

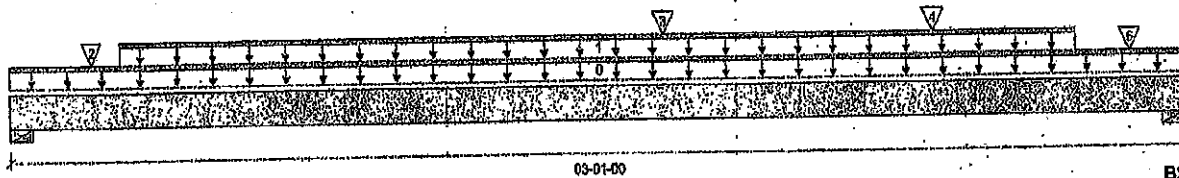
File name: KINMOUNT 11B ELEV 2 WOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B20\I6367

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 03-01-00

Reaction Summary (Down / Uplift) (lbs)

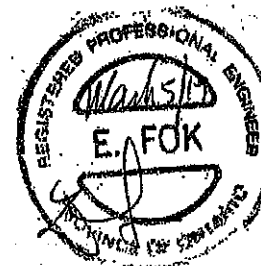
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,392 / 0	924 / 0	126 / 0	
B2, 3-1/2"	1,232 / 0	946 / 0	353 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		12			00-00-00
1	E48(I6081)	Unf. Lin. (lb/ft)	L	00-03-08	02-09-08	Top		41			n/a
2		Conc. Pt. (lbs)	L	00-02-10	00-02-10	Top	1,201	759	126		n/a
3	J1(I6273)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	350	176			n/a
4	J1 DJ(I6290)	Conc. Pt. (lbs)	L	02-05-00	02-05-00	Top	378	189			n/a
5	E49(I6107)	Conc. Pt. (lbs)	L	02-11-04	02-11-04	Top	689	606	353		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	798 ft-lbs	35,392 ft-lbs	2.2%	1	01-08-08
End Shear	667 lbs	14,464 lbs	4.6%	1	01-09-10
Total Load Deflection	L/999 (0.001")	n/a	n/a	35	01-07-03
Live Load Deflection	L/999 (0")	n/a	n/a	51	01-07-03
Max Defl.	0.001"	n/a	n/a	35	01-07-03
Span / Depth	2.7				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3,368 lbs	51.6%	22.6%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,383 lbs	51.7%	22.6%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

CONFORMS TO CBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected products verification.

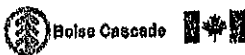
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

OWNED BY 3433.18H
STRUCTURAL
COMPONENT ONLY

T. 1903187



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING\Flush Beams\B20(16367)

Dry | 1 span | No cant.

November 12, 2018 16:03:15

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B-ELEV 2 WOD.mmdl

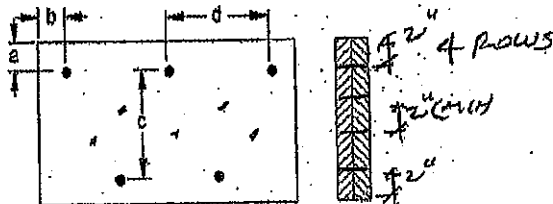
Description: 1ST FLOOR FRAMING\Flush Beams\B20(16367)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 7-7/8"
d = 4"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Connectors are: 1 Nails

3/4" ARDOR SPIRAL



Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWG NO. YAH 3433-18H
STRUCTURAL
COMPONENT ONLY

T-190318761



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING (Flush Beams) B21 (I6277)

Dry | 1 span | No cant.

November 12, 2018 16:03:16

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

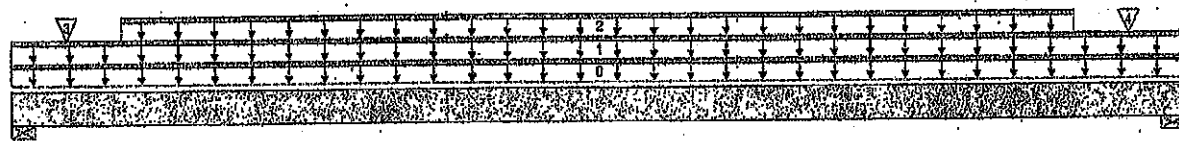
File name: KINMOUNT 11B ELEV 2 WOD.mmdl

Description: 1ST FLOOR FRAMING (Flush Beams) B21 (I6277)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 03-01-00

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	126 / 0	342 / 0	165 / 0	
B2, 3-1/2"	141 / 0	343 / 0	211 / 0	

Load Summary

Tap	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		12			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10	5			n/a
2	E60(I6108)	Unf. Lin. (lb/ft)	L	00-03-08	02-09-08	Top		41			n/a
3	E12(I308)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	110	264	165		n/a
4	E81(I6109)	Conc. Pt. (lbs)	L	02-11-04	02-11-04	Top	126	285	211		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	70 ft-lbs	23,005 ft-lbs	0.3%	0	01-06-08
End Shear	21 lbs	9,401 lbs	0.2%	0	01-03-08
Total Load Deflection	L/999 (0")	n/a	n/a	35	01-06-08
Max Defl.	0"	n/a	n/a	35	01-06-08
Span / Depth	2.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	800 lbs	12.2%	5.4%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	885 lbs	13.5%	5.9%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO CBC 2012**

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.



OWNED, VAM3434-18H
STRUCTURAL
COMPONENT ONLY

T-190188



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

1ST FLOOR FRAMING\Flush Beams\B21(16277)

Dry | 1 span | No cant.

November 12, 2018 15:03:15

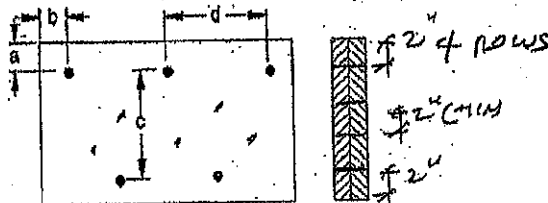
File name: KINMOUNT 11B ELEV 2 WOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B21(16277)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member

a minimum = 2"

b minimum = 3"

c = 7-7/8"

d = 4"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Member has no side loads.

Connectors are: 1 Nails
3/4" ARDOX SPIRAL

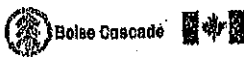
Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DRG NO. TAM 3434-18H
STRUCTURAL
COMPONENT ONLY

T-19031886



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Dropped Beams\B4 DR\13197

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

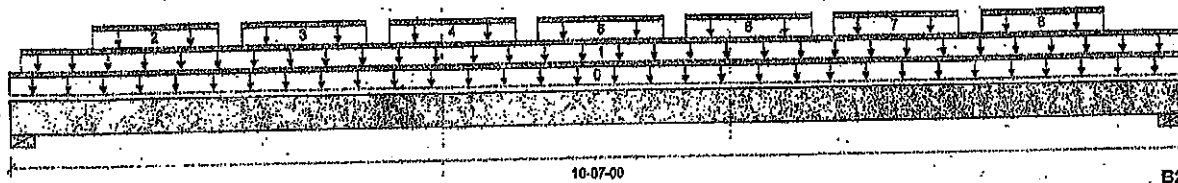
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Dro...ed Beams\B4 DR\13197

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

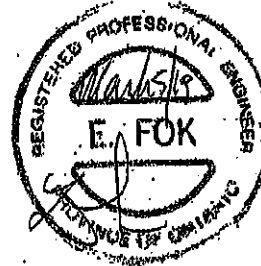
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,488 / 0	805 / 0		
B2, 3-1/2"	1,510 / 0	817 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-07-00	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-01-04	10-09-12	Top	264	132			n/a
2	Bk1(13262)	Unf. Lin. (lb/ft)	L	00-08-04	01-10-12	Top	27				n/a
3	Bk1(13261)	Unf. Lin. (lb/ft)	L	02-01-04	03-02-12	Top	27				n/a
4	Bk1(13139)	Unf. Lin. (lb/ft)	L	03-05-04	04-06-12	Top	27				n/a
5	Bk1(13018)	Unf. Lin. (lb/ft)	L	04-08-04	05-10-12	Top	27				n/a
6	Bk1(13117)	Unf. Lin. (lb/ft)	L	06-01-04	07-02-12	Top	27				n/a
7	Bk1(13160)	Unf. Lin. (lb/ft)	L	07-05-04	08-06-12	Top	27				n/a
8	Bk1(13271)	Unf. Lin. (lb/ft)	L	08-09-04	09-10-12	Top	27				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7,830 ft-lbs	35,392 ft-lbs	22.1%	1	05-00-10
End Shear	2,748 lbs	14,484 lbs	19.0%	1	01-03-06
Total Load Deflection	L/999 (0.105")	n/a	n/a	4	05-04-00
Live Load Deflection	L/999 (0.088")	n/a	n/a	5	05-04-00
Max Defl.	0.105"	n/a	n/a	4	05-04-00
Span / Depth	10.2				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3,239 lbs	40.7%	21.7%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,286 lbs	41.3%	22.0%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-01-15, Bottom: 00-01-15.
 Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO CBC 2012**
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor: Normal Part code: Part 0
 Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
 Member has no side loads.

DWG NO. TAN3426-18H
 STRUCTURAL
 COMPONENT ONLY
 P616

T. 193180



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Dropped Beams\B4 DR\13197

Dry | 1 span | No cant.

November 12, 2018 14:26:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B.mmd

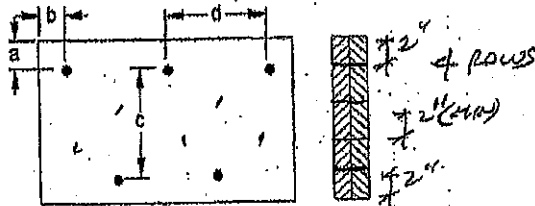
Description: 2ND FLOOR FRAMING\Dro...ed Beams\B4 DR\13197

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 12"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Member has no side loads.

Connectors are: Nails

3/4" ARDOX SPIRAL



Disclosure

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BC CALC®, BC FRAMER®, AJ8™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWG NO. TAM 3426-18H
STRUCTURAL
COMPONENT ONLY

POW

T-1903180 (V)



Boles Cascade

**Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP****2ND FLOOR FRAMING (Flush Beams) B9 (I2890)****PASSED**

BC CALC® Member Report

Buld 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 12, 2018 14:25:00

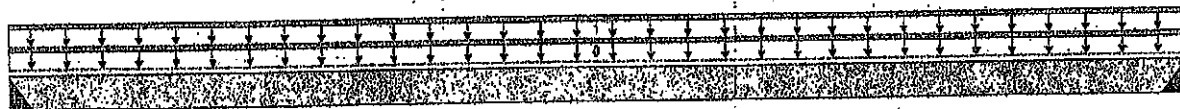
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING (Flush Beams) B9 (I2890)

Specifier:

Designer: PL

Company:



B1 11-04-00 B2
 Total Horizontal Product Length = 11-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"		408 / 0		
B2, 4"		408 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.85	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-04-00	Top		12			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	11-04-00	Top		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,468 ft-lbs	23,005 ft-lbs	6.4%	0	05-08-00
End Shear	438 lbs	8,401 lbs	4.7%	0	01-08-14
Total Load Deflection	L/999 (0.023")	n/a	n/a	1	05-08-00
Max Defl.	0.023"	n/a	n/a	1	05-08-00
Span / Depth	10:9				

Bearing Supports

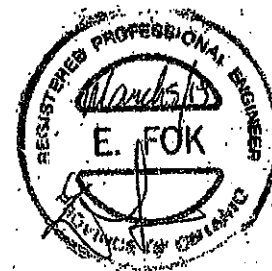
	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	4" x 3-1/2"	571 lbs	n/a	5.1%	HGUS410
B2 Hanger	4" x 3-1/2"	571 lbs	n/a	5.1%	HGUS410

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.
 Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.
 Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Calculations assume member is fully braced.
 Hanger Manufacturer: Unassigned
 Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO NBC 2012
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor: Normal Part code: Part 9
 Member has no side loads.



DWG NO. TAM 3432-18H
 STRUCTURAL
 COMPONENT ONLY

T-1903186



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING\Flush Beams\B9(12890)

PASSED

BC CALCO® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: QCMC 12472-R

Dry | 1 span | No cant.

November 12, 2018 14:25:00

File name: KINMOUNT 11B.mmdl

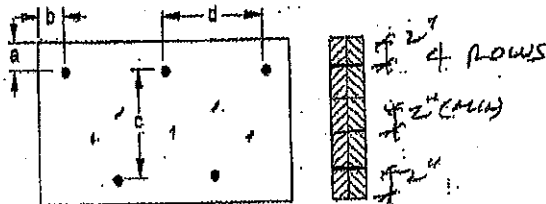
Description: 2ND FLOOR FRAMING\Flush Beams\B9(12890)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

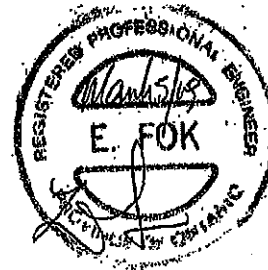
c = 7-7/8"

d = 12"

Member has no side loads.

Connectors are: 1 Nails

3/4" ARBOX SPIRAL



Disclosure

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BC CALCO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

DWG NO. TRM 3432-18H
STRUCTURAL
COMPONENT ONLY

T-1902186(m)



Bolton Casade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B10(12755)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALCO Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

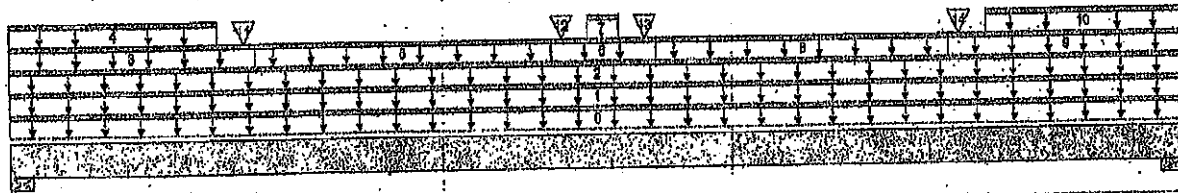
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B10(12755)

Specifier:

Designer: PL

Company:



00-04-00

B2

B1

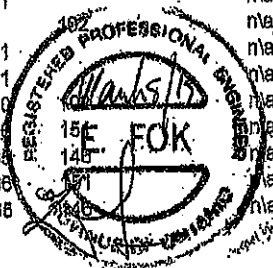
Total Horizontal Product Length = 09-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6-7/8"	349 / 0	885 / 0	953 / 0	
B2, 6-7/8"	348 / 0	884 / 0	950 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top		12			00-00-00
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top	33	30	102		n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top	9	4			n/a
3	E36(11505)	Unf. Lin. (lb/ft)	L	00-00-00	01-11-08	Top		81			n/a
4	E36(11505)	Unf. Lin. (lb/ft)	L	00-00-00	01-08-00	Top	33	30	102		n/a
5	E36(11504)	Unf. Lin. (lb/ft)	L	01-11-08	04-03-08	Top		41			n/a
6	E34(11503)	Unf. Lin. (lb/ft)	L	04-03-08	05-01-08	Top		81			n/a
7	E34(11503)	Unf. Lin. (lb/ft)	L	04-07-00	04-10-00	Top	33				n/a
8	E33(11502)	Unf. Lin. (lb/ft)	L	05-01-08	07-05-08	Top		41			n/a
9	E28(11476)	Unf. Lin. (lb/ft)	L	07-05-08	09-04-00	Top		81			n/a
10	E28(11476)	Unf. Lin. (lb/ft)	L	07-09-00	09-04-00	Top	33	30			n/a
11	E36(11506)	Conc. Pt. (lbs)	L	01-10-08	01-10-08	Top	49	65	15		n/a
12	E34(11503)	Conc. Pt. (lbs)	L	04-04-08	04-04-08	Top	47	65	145		n/a
13	E34(11503)	Conc. Pt. (lbs)	L	05-00-08	05-00-08	Top	49	65			n/a
14	E28(11476)	Conc. Pt. (lbs)	L	07-06-08	07-06-08	Top	47	65			n/a



Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,624 ft-lbs	36,392 ft-lbs	13.6%	13	04-08-08
End Shear	1,747 lbs	14,464 lbs	12.1%	13	01-06-12
Total Load Deflection	1/999 (0.046")	n/a	n/a	35	04-08-08
Live Load Deflection	1/999 (0.03")	n/a	n/a	51	04-08-08
Max Defl.	0.046"	n/a	n/a	35	04-08-08
Span / Depth	8.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6-7/8" x 3-1/2"	2,636 lbs	25.6%	9.0%	Unspecified
B2	Wall/Plate 6-7/8" x 3-1/2"	2,628 lbs	25.5%	8.9%	Unspecified

NO. 7473427-1811
STRUCTURAL
COMPONENT ONLY

T-190318 |



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING (Flush Beams) B10 (I2765)

Dry | 1 span | No cant.

November 12, 2018 14:26:00

BC CALC® Member Report

Build 8476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING (Flush Beams) B10 (I2765)

Specifier:

Designer: PL

Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

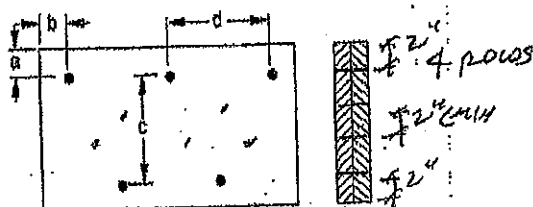
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 0

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 7-7/8"
d = 12"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Connectors are: Nails

3/4" ARDOX SPIRAL



Disclosure

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WUWU.TAM3427.98H
STRUCTURAL
COMPONENT ONLY

PLW

T-1903181(V)



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B6(13099)

Dry | 2 spans | L cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON.

Customer:

Code reports:

CCMC 12472-R

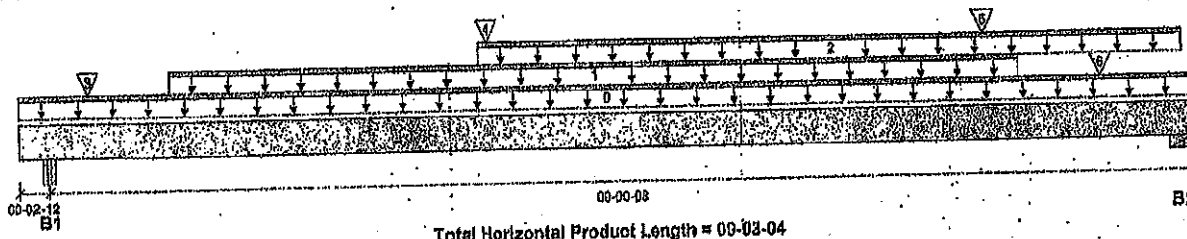
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B6(13099)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

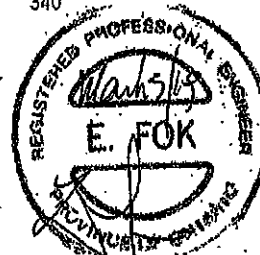
Bearing	Live	Dead	Snow	Wind
B1, 3"	1,897 / 0	928 / 0		
B2, 3-3/4"	1,924 / 0	1,052 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.85	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-03-04	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-08	07-10-08	Top	342	171			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-07-08	08-02-04	Top	23	12			n/a
3	J2(13127)	Conc. Pt. (lbs)	L	00-08-08	00-08-08	Top	381	191			n/a
4	B8(13141)	Conc. Pt. (lbs)	L	03-08-08	03-08-08	Top	133	98			n/a
5	WALL	Conc. Pt. (lbs)	L	07-07-04	07-07-04	Top		27			n/a
6	J2(12970)	Conc. Pt. (lbs)	L	08-08-08	08-08-08	Top	680	340			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8,309 ft-lbs	35,382 ft-lbs	23.5%	3	04-08-08
End Shear	3,328 lbs	14,464 lbs	23.0%	1	07-11-10
Cont. Shear	3,017 lbs	14,464 lbs	20.9%	1	01-04-02
Total Load Deflection	1/999 (0.083")	n/a	n/a	10	04-08-08
Live Load Deflection	1/999 (0.053")	n/a	n/a	13	04-08-08
Total Neg. Defl.	2xL/1,998 (-0.007")	n/a	n/a	10	00-00-00
Max Defl.	0.083"	n/a	n/a	10	04-08-08
Span / Depth	8.9				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 3" x 3-1/2"	3,703 lbs	82.5%	28.9%	Unspecified
B2	Wall/Plate 3-3/4" x 3-1/2"	4,201 lbs	74.9%	26.2%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO NBC 2012**
 BC CALC® analysis is based on Canadian Limit States Design, as per NBC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor: Normal. Part code: Part 9
 Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.
 Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

OWNED BY 3429-18H
 STRUCTURAL
 COMPONENT ONLY

T-1903183



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

2ND FLOOR FRAMING\Flush Beams\B6(13099)

Dry | 2 spans | L cant.

PASSED

November 12, 2018 14:25:00

BC CALC® Member Report

Bulld 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B.mxd

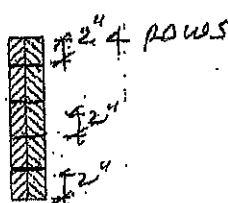
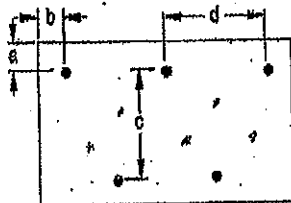
Description: 2ND FLOOR FRAMING\Flush Beams\B6(13099)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

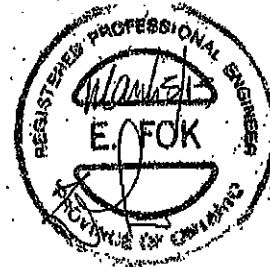
c = 7-7/8"

d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails

3/8" ARDOX SPIRAL



Disclosure

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BC CALC®, BC FRAMER®, AJ8™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

NO. 7.111 3429 #184
STRUCTURAL
COMPONENT ONLY

T-18031836



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(12881)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report
Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

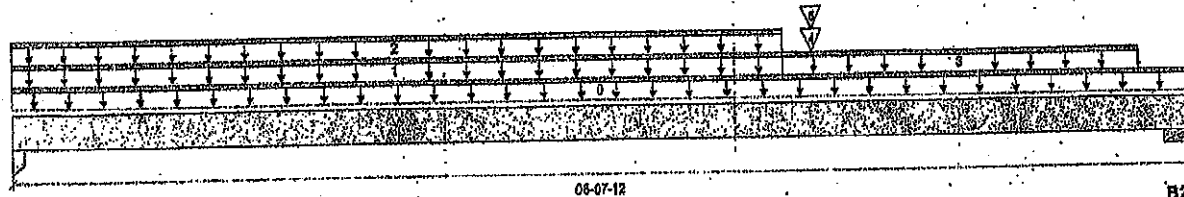
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B7(12881)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 05-07-12

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	643 / 0	471 / 0		
B2, 5-1/2"	370 / 0	532 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-07-12	Top		12			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	240	120			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	22	11			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-08-04	05-05-00	Top	27	13			n/a
4	B9(12890)	Conc. Pt. (lbs)	L	03-10-00	03-10-00	Top		408			n/a
6	WALL	Conc. Pt. (lbs)	L	03-10-00	03-10-00	Top		21			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,984 ft-lbs	35,392 ft-lbs	5.6%	1	02-08-12
End Shear	1,128 lbs	14,464 lbs	7.8%	1	04-02-08
Total Load Deflection	1/999 (0.007")	n/a	n/a	4	02-08-05
Live Load Deflection	1/999 (0.004")	n/a	n/a	6	02-08-14
Max Defl.	0.007"	n/a	n/a	4	02-08-05
Span / Depth	6.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 3-1/2"	1,654 lbs	39.1%	20.8%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	1,219 lbs	14.8%	5.2%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086. CONFORMS TO OBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

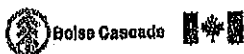
Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.



WFB NO. 74W3430-18H
STRUCTURAL
COMPONENT ONLY

T. 1903184



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(I2881)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B.mndi

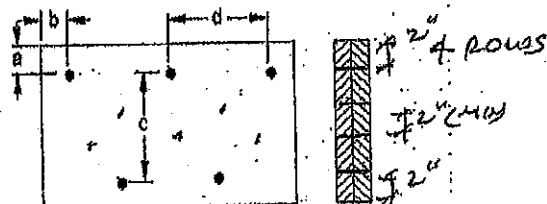
Description: 2ND FLOOR FRAMING\Flush Beams\B7(I2881)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = 2" B 4

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are:

3/4" ARDOX SPIRAL



Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorVault®, VERSA-LAM®, VERSA-RIM PLUS®,

000000.TAN 3430.18H
STRUCTURAL
COMPONENT ONLY

T-19031846



Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B8(13141)

Dry | 1 span | No cant.

November 12, 2018 14:26:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

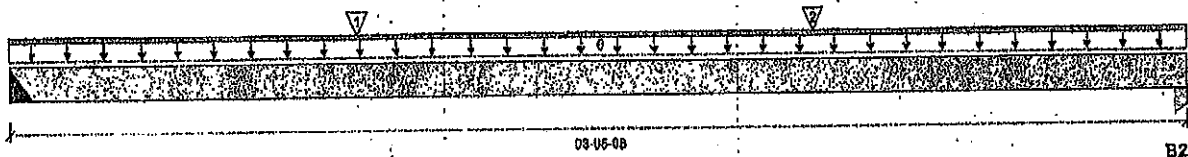
File name: KINMOUNT 11B.mmd

Description: 2ND FLOOR FRAMING\Flush Beams\B8(13141)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	140 / 0	101 / 0		
B2, 3-1/2"	134 / 0	98 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.66	Snow 1.00	Wind 1.16	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-06-08	Top		6			00-00-00
1	J5(12997)	Conc. Pt. (lbs)	L	01-00-04	01-00-04	Top	139	90			n/a
2	J5(13132)	Conc. Pt. (lbs)	L	02-04-04	02-04-04	Top	135	88			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	280 ft-lbs	17,696 ft-lbs	1.6%	1	01-11-11
End Shear	259 lbs	7,232 lbs	3.6%	1	02-02-02
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	01-08-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-08-08
Max Defl.	0.001"	n/a	n/a	4	01-08-08
Span / Depth	3.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	336 lbs	n/a	5.2%	HUS1.81/10
B2	Column 3-1/2" x 1-3/4"	324 lbs	8.1%	4.3%	Unspecified

Cautions

Header for the hanger HUS1.81/10 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO CBC 2012

Disclosure

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DUPLICATE 3431-18H
STRUCTURAL
COMPONENT ONLY

T-190185



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING Flush Beams B11 (I3145)

Dry | 1 span | No cent.

November 12, 2018 14:25:00

BC CALCO® Member Report

Build 9475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports:

CCMC 12472-R

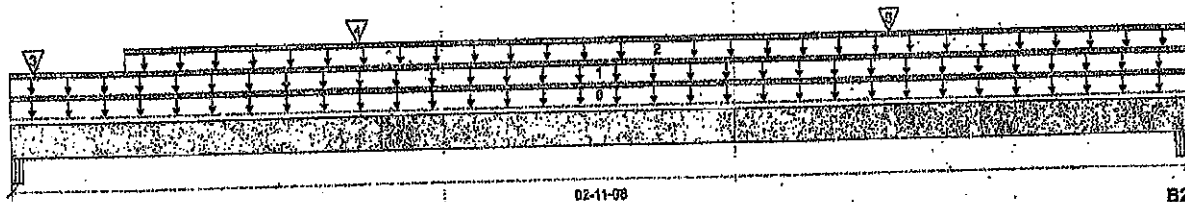
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING Flush Beams B11 (I3145)

Specifier:

Designer: PL

Company:



B1

02-11-08

B2

Total Horizontal Product Length = 02-11-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	481 / 0	526 / 0	710 / 0	
B2, 5"	505 / 0	572 / 0	743 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.16	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-11-08	Top	12				00-00-00
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-11-08	Top	33	30	102		n/a
2	E23(I1471)	Unf. Lin. (lb/ft)	L	00-03-08	02-11-08	Top	119	298	368		n/a
3	E22(I1476)	Conc. Pt. (lbs)	L	00-00-12	00-00-12	Top	55	95	169		n/a
4	J4(I3203)	Conc. Pt. (lbs)	L	00-10-08	00-10-08	Top	279	140			n/a
5	J4(I3219)	Conc. Pt. (lbs)	L	02-02-08	02-02-08	Top	217	109			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,140 ft-lbs	36,392 ft-lbs	3.2%	13	01-03-11
End Shear	1,321 lbs	14,464 lbs	9.1%	13	01-02-08
Total Load Deflection	L/999 (0.001")	n/a	n/a	35	01-04-08
Live Load Deflection	L/999 (0.001")	n/a	n/a	51	01-04-08
Max Defl.	0.001"	n/a	n/a	35	01-04-08
Span / Depth	2.5				



Bearing Supports

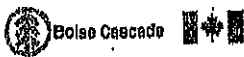
	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-1/2" x 3-1/2"	2,182 lbs	58.2%	20.4%	Unspecified
B2 Beam	5" x 3-1/2"	2,335 lbs	31.1%	10.9%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
 Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**
 BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor: Normal Part code: Part 9
 Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

DUONG TAM 3428-18H
 STRUCTURAL
 COMPONENT ONLY

T-1903182



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B11(13145)

Dry | 1' span | No cant.

November 12, 2018 14:26:00

BC CALCO Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B.mxd

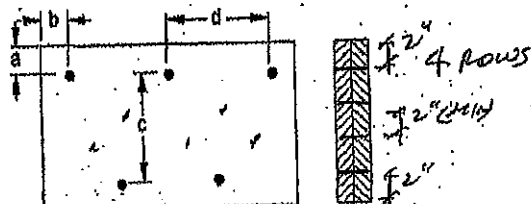
Description: 2ND FLOOR FRAMING\Flush Beams\B11(13145)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = 4"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails

3/4" ARDOX SPIRAL



Disclosure

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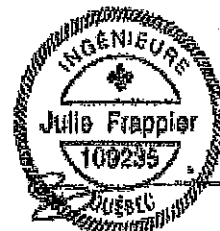
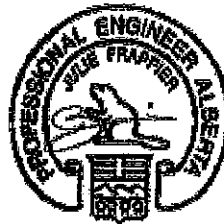
BC CALCO, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®.

11/12/18 14:26:00

STRUCTURAL
COMPONENT ONLY

PL

T-190318261



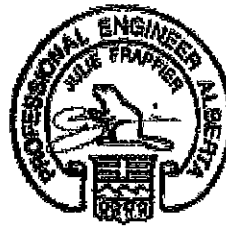
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15'-5"	14'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	15'-10"
11-7/8"	NI-20	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"
	NI-40x	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
14"	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-5"	22'-1"	20'-6"	19'-6"	17'-5"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
16"	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

Depth	Series	Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
11-7/8"	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
14"	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
16"	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of $1.50L + 1.25D$. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of $L/480$ and a total load deflection limit of $L/240$.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



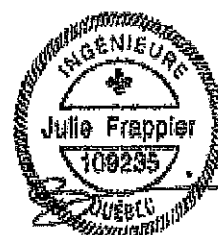
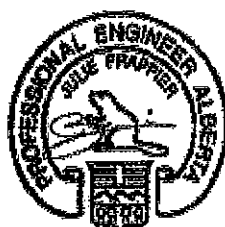
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
5/8" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
11-7/8"	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
14"	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
16"	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A

Depth	Series	Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
11-7/8"	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
	NI-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
14"	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	22'-7"	21'-7"	N/A
	NI-60	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
16"	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



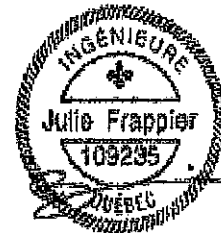
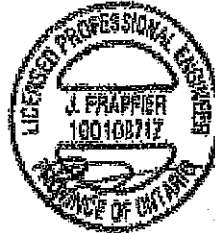
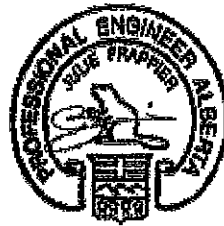
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
14"	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
16"	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

Depth	Series	Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
11-7/8"	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
	NI-60	22'-1"	20'-7"	19'-7"	18'-4"	22'-8"	20'-10"	19'-4"	18'-4"
	NI-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"	21'-5"	20'-0"
14"	NI-90x	24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"
	NI-40x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"
	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
16"	NI-90x	27'-3"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"
	NI-80	29'-1"	27'-0"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90x	29'-11"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans

Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 Deflection Limit
5/8" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
11-7/8"	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
14"	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
16"	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-5"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A
Depth	Series	Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
11-7/8"	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A
14"	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
16"	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

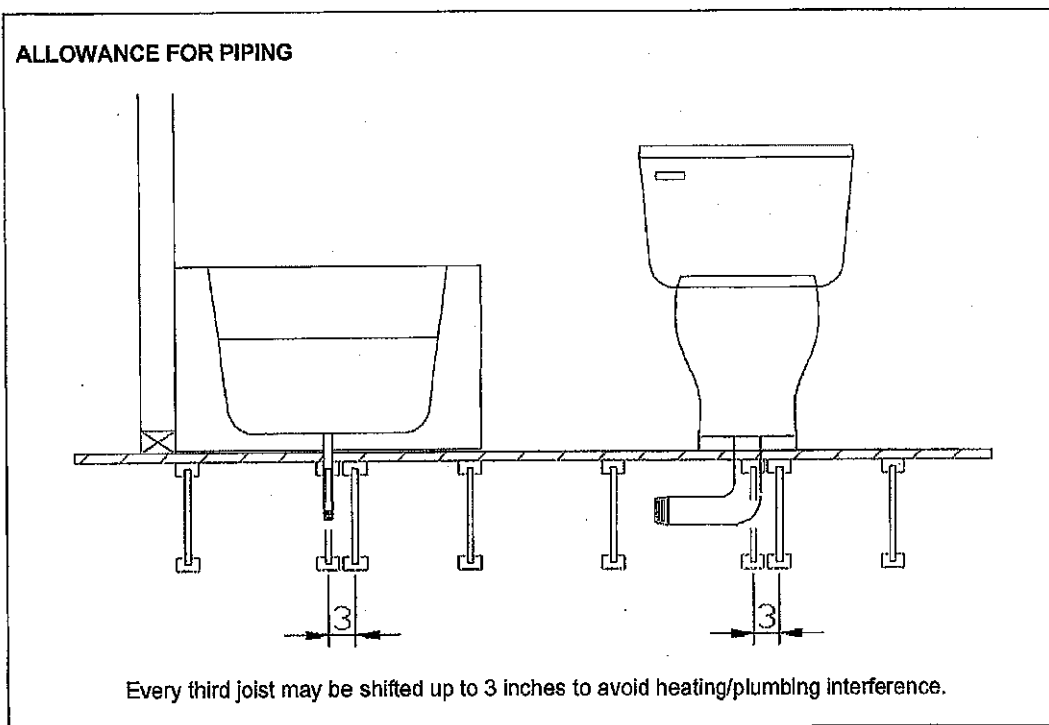
1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
3. Minimum bearing length shall be 1-3/4 inches for the end bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.

Allowance for Piping (Installation Notes)

The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.

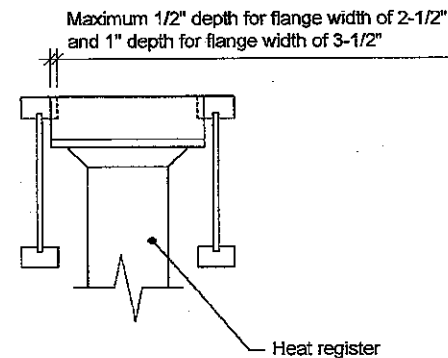
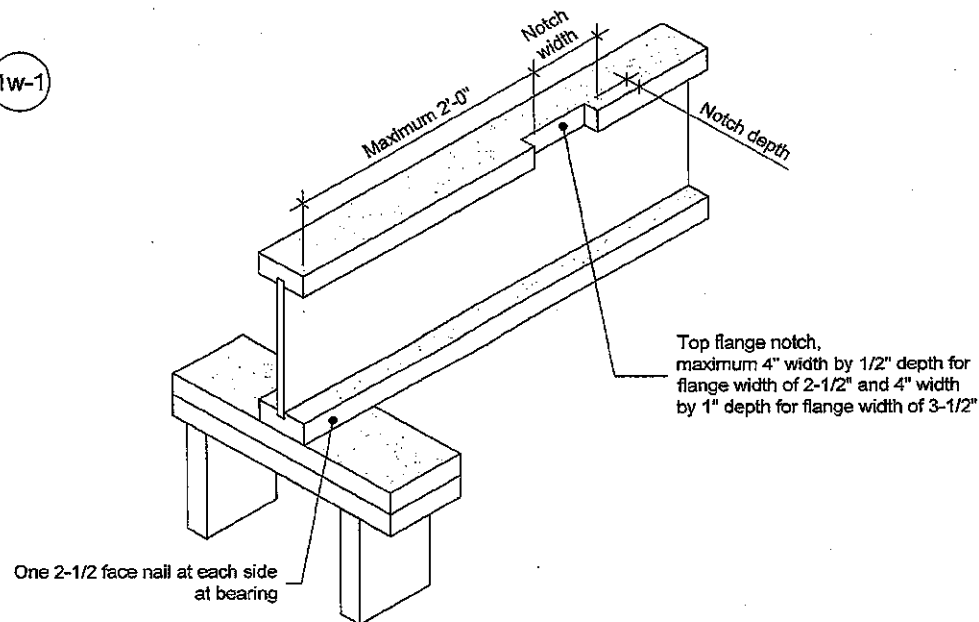
Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced for shorter spans; contact your distributor for additional information.

The detail below shows the 3-inch allowance for piping. Every third joist may be shifted up to 3 inches to avoid heating/plumbing interference. For other applications, please contact your distributor.



Revised April 12, 2012

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Notes:

1. Blocking required at bearing for lateral support, not shown for clarity.
2. The maximum dimensions for a notch on the side of the top flange are 4-inch width by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch width by 1-inch depth for flange width of 3-1/2 inches.
3. This detail applies to simple-span joists and multiple-span joists where the notch is located at the end half-span.
4. For other applications, contact Nordic Structures.

This document supersedes all previous versions. If the document has been in effect for more than one year, consult nordic.ca or contact Nordic Structures.

All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.

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TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

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