



FROM PLAN DATED:

BUILDER: GREEN PARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 6

ELEVATION: 3

LOT: 12, 13

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

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

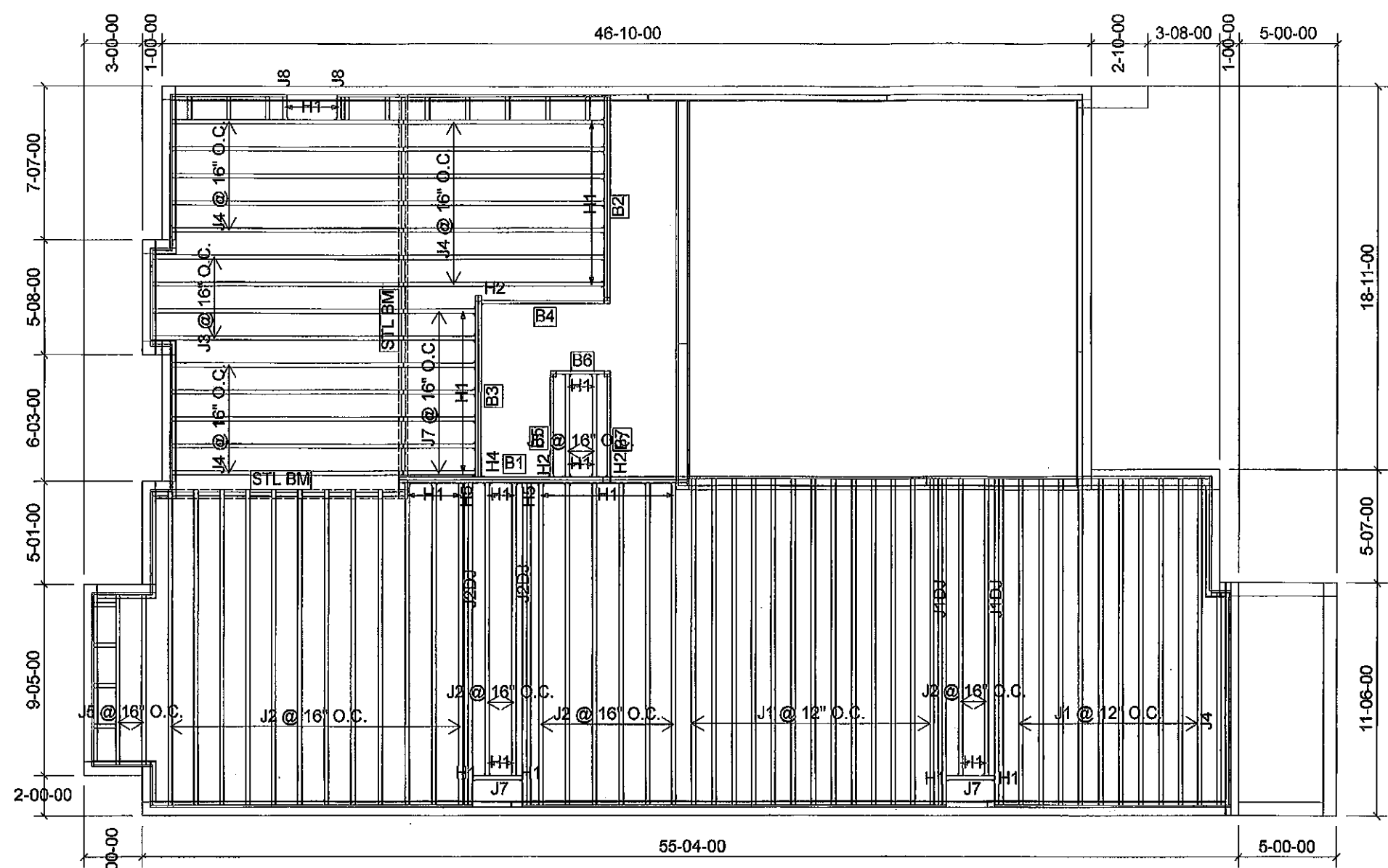
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-12-01

1st FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	23
J1DJ	18-00-00	9 1/2" NI-40x	2	4
J2	16-00-00	9 1/2" NI-40x	1	22
J2DJ	16-00-00	9 1/2" NI-40x	2	4
J3	14-00-00	9 1/2" NI-40x	1	4
J4	12-00-00	9 1/2" NI-40x	1	18
J5	10-00-00	9 1/2" NI-40x	1	2
J6	6-00-00	9 1/2" NI-40x	1	2
J7	4-00-00	9 1/2" NI-40x	1	9
J8	2-00-00	9 1/2" NI-40x	1	2
B1	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
2	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
3	H2	HUS1.81/10
1	H4	HGUS410
2	H5	HU312-2

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

FEB 05 2021

REC'D BY _____ DATE _____

REF'D TO _____ DATE _____

CITY OF HAMILTON
Building Division

Permit No. 21-102430

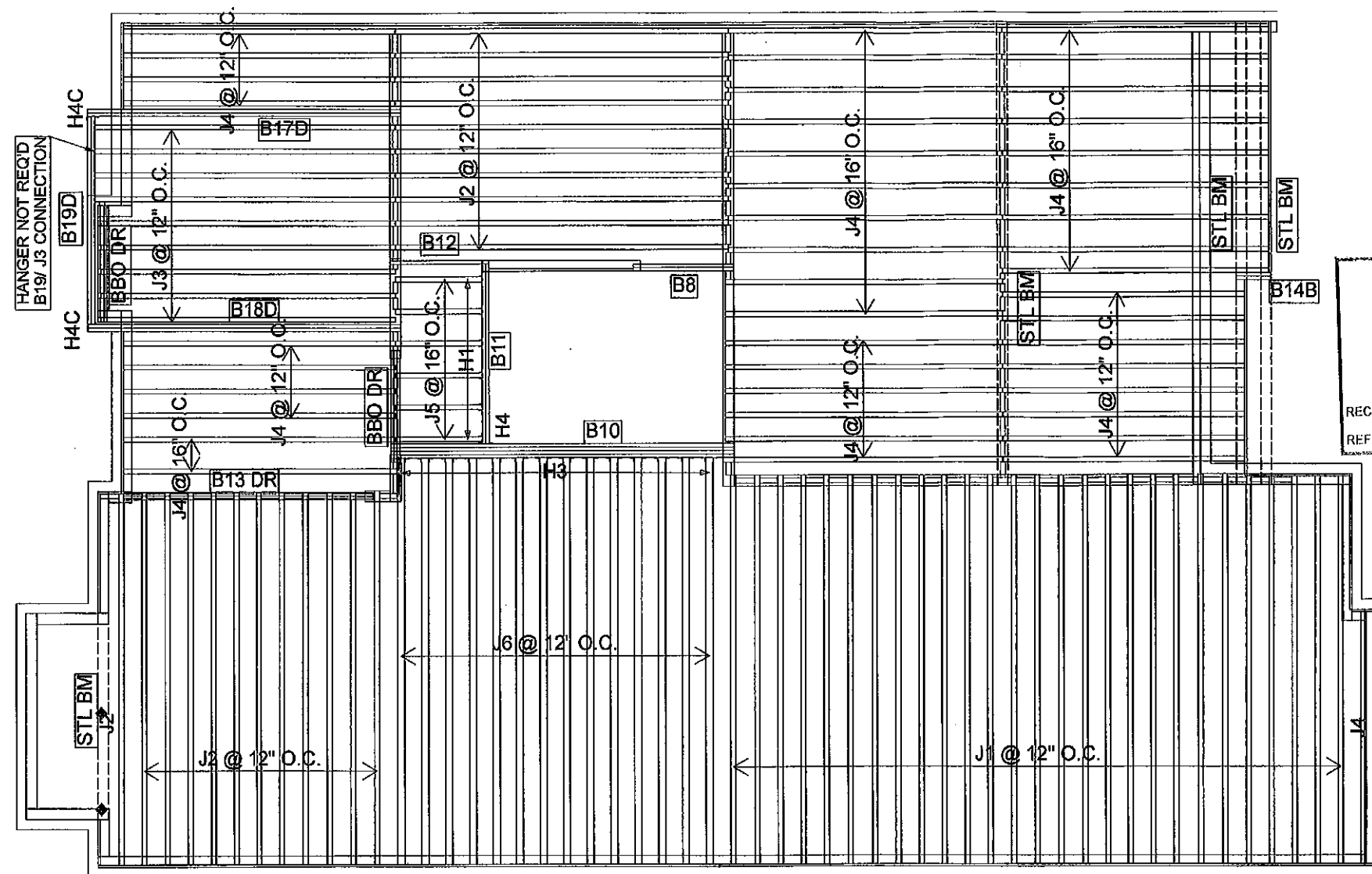
THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

Ken Smith Feb 24, 2021

FOR CHIEF BUILDING OFFICIAL DATE



CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department
FEB 05 2021
REC'D BY _____ DATE _____
REF'D TO _____ DATE _____

Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	27
J2	16-00-00	9 1/2" NI-40x	1	22
J3	14-00-00	9 1/2" NI-40x	1	9
J4	12-00-00	9 1/2" NI-40x	1	44
J5	4-00-00	9 1/2" NI-40x	1	6
J6	18-00-00	9 1/2" NI-80	1	14
B10	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	4	4
B17D	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B18D	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B19D	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14B	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
6	H1	IUS2.56/9.5
14	H3	IUS3.56/9.5
2	H4C	HUC410
1	H4	HGUS410

CITY OF HAMILTON
Building Division
Permit No. 21-102430
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These drawings and/or specifications have been reviewed by
[Signature] Feb 24, 2021
FOR CHIEF BUILDING OFFICIAL DATE



FROM PLAN DATED:
BUILDER: GREEN PARK HOMES
SITE: RUSSELL GARDENS PH 3
MODEL: MOUNTAINASH 6
ELEVATION: 3
LOT: 12
CITY: WATERDOWN
SALESMAN: MARIO DICIANO
DESIGNER: AJ
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: 20.0 lb/ft²
SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2020-12-01
2nd FLOOR

NORDIC STRUCTURES

COMPANY
Apr. 9, 2020 10:01

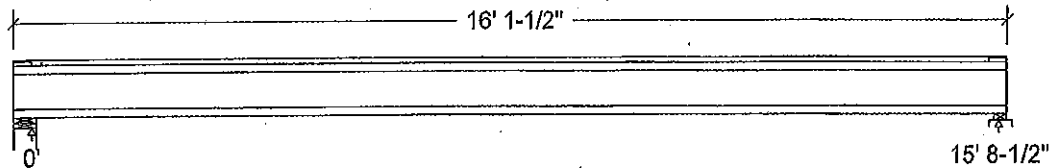
PROJECT
J1 1ST FLOOR.wwb

Design Check Calculation Sheet Nordic Sizer – Canada 7.2

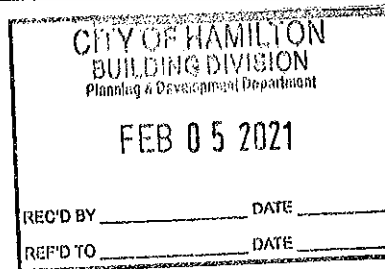
Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area			20.00	psf
Load2	Live	Full Area			40.00	psf

Maximum Reactions (lbs) and Support Bearing (in):



Unfactored:			
Dead	157		157
Live	314		314
Factored:			
Total	668		668
Bearing:			
Capacity			
Joist	1893		1865
Support	7744		3971
Des ratio			
Joist	0.35		0.36
Support	0.09		0.17
Load case	#2		#2
Length	4-3/8		2-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		1.00
fcp sup	769		769
Kzcp sup	-		1.09



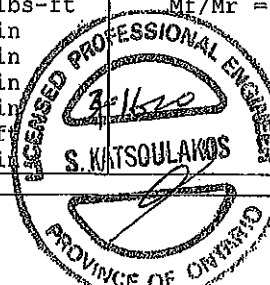
Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 9-1/2" NI-40x Floor Joist @ 12" o.c.

Supports: 1 - Lumber Wall, No.1/No.2; 2 - Lumber Sill plate, No.1/No.2;
Total length: 16' 1-1/2"; Clear span: 15' 6-3/4"; 3/4" nailed and glued OSB sheathing
This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 668	Vr = 1895	lbs	Vf/Vr = 0.35
Moment (+)	Mf = 2622	Mr = 4824	lbs-ft	Mf/Mr = 0.54
Perm. Defl'n	0.12 = L/999	0.52 = L/360	in	0.22
Live Defl'n	0.23 = L/817	0.39 = L/480	in	0.59
Total Defl'n	0.35 = L/545	0.79 = L/240	in	0.44
Bare Defl'n	0.28 = L/684	0.52 = L/360	in	0.53
Vibration	Lmax = 15'-8.5	Lv = 17'-1.8	f	0.92
Defl'n	= 0.031	= 0.041	in	0.76



DWG NO. TAW 6078 -20
STRUCTURAL
CONCRETE ONLY

J1 1ST FLOOR.wwb

Nordic Sizer – Canada 7.2

Page 2

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L
 Moment(+) : LC #2 = 1.25D + 1.5L
 Deflection: LC #1 = 1.0D (permanent)
 LC #2 = 1.0D + 1.0L (live)
 LC #2 = 1.0D + 1.0L (total)
 LC #2 = 1.0D + 1.0L (bare joist)
 Bearing : Support 1 - LC #2 = 1.25D + 1.5L
 Support 2 - LC #2 = 1.25D + 1.5L
 Load Types: D=dead W=wind S=snow H=earth, groundwater E=earthquake
 L=live(use, occupancy) Ls=live(storage, equipment) f=fire
 Load Patterns: s=S/2 L=L+Ls =no pattern load in this span
 All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

EI_{eff} = 265.29 lb-in² K= 4.94e06 lbs
 "Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

CITY OF HAMILTON
 BUILDING DIVISION
 Planning & Development Department

FEB 05 2021

REC'D BY _____ DATE _____
 REF'D TO _____ DATE _____



OWN NO. YAM6076-20
 STRUCTURAL
 COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
Apr. 9, 2020 09:59

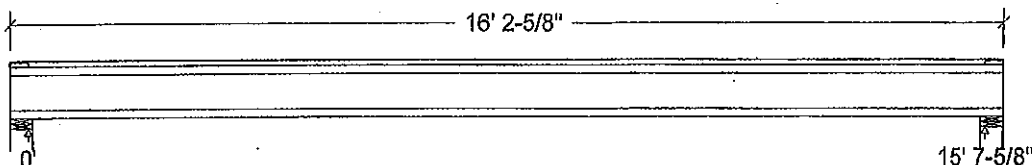
PROJECT
J1 2ND FLOOR.wwb

Design Check Calculation Sheet Nordic Sizer -- Canada 7.2

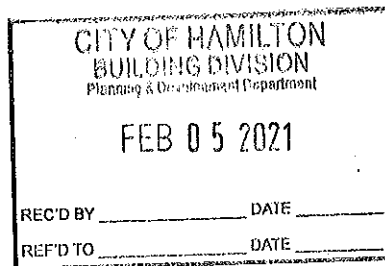
Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area			20.00	psf
Load2	Live	Full Area			40.00	psf

Maximum Reactions (lbs) and Support Bearing (in):



Unfactored:			
Dead	156		156
Live	313		313
Factored:			
Total	.664		.664
Bearing:			
Capacity			
Joist	1893		1893
Support	7744		7744
Des ratio			
Joist	0.35		0.35
Support	0.09		0.09
Load case	#2		#2
Length	4-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		769
Kzcp sup	-		-



Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 9-1/2" NI-40x Floor joist @ 12" o.c.

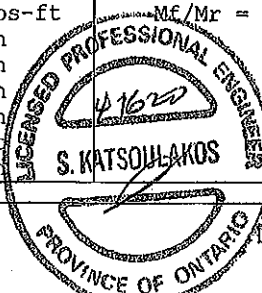
Supports: All - Lumber Wall, No.1/No.2

Total length: 16' 2-5/8"; Clear span: 15' 5-7/8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 664	Vr = 1895	lbs	Vf/Vr = 0.35
Moment (+)	Mf = 2597	Mr = 4824	lbs-ft	Mf/Mr = 0.54
Perm. Defl'n	0.12 = < L/999	0.52 = L/360	in	0.22
Live Defl'n	0.23 = L/808	0.39 = L/480	in	0.59
Total Defl'n	0.35 = L/539	0.78 = L/240	in	0.45
Bare Defl'n	0.27 = L/694	0.52 = L/360	in	0.52
Vibration	Lmax = 15'-7.6	Lv = 16'-8.5	ft	0.94
Defl'n	= 0.034	= 0.041	in	0.81



DWG NO. TAM6079-20
STRUCTURAL
REVISION ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:E_{ieff} = 258.29 lb-in² K= 4.94e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO NBC 2012

AMENDED 2020

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

FEB 05 2021

REC'D BY _____ DATE _____
REF'D TO _____ DATE _____



DATE NO. YAW 6079-20
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
Apr. 9, 2020 10:02

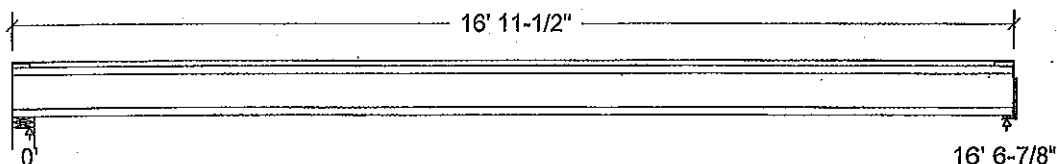
PROJECT
J6 2ND FLOOR.wwb

Design Check Calculation Sheet Nordic Sizer - Canada 7.2

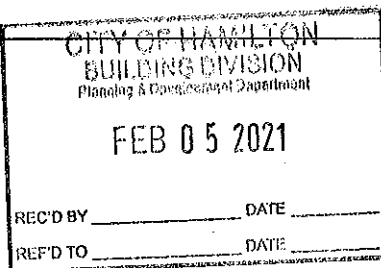
Loads:

Load	Type	Distribution	Pat- tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area			20.00	psf
Load2	Live	Full Area			40.00	psf

Maximum Reactions (lbs) and Support Bearing (in):



Unfactored:			
Dead	166		166
Live	331		331
Factored:			
Total	704		704
Bearing:			
Capacity			
Joist	1893		1893
Support	10841		-
Des ratio			
Joist	0.37		0.37
Support	0.06		-
Load case	#2		#2
Length	4-3/8		2
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		-
Kzcp sup	-		-



Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 9-1/2" NI-80 Floor joist @ 12" o.c.

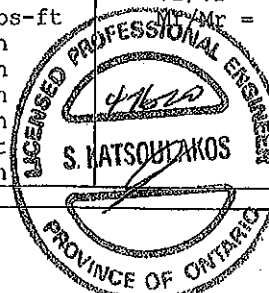
Supports: 1 - Lumber Wall, No.1/No.2; 2 - Hanger;

Total length: 16' 11-1/2"; Clear span: 16' 5-1/8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section **PASSES** the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 704	Vr = 1895	lbs	Vf/Vr = 0.37
Moment (+)	Mf = 2918	Mr = 8958	lbs-ft	Mf/Mr = 0.33
Perm. Defl'n	0.11 = L/999	0.55 = L/360	in	0.19
Live Defl'n	0.21 = L/940	0.41 = L/480	in	0.51
Total Defl'n	0.32 = L/626	0.83 = L/240	in	0.38
Bare Defl'n	0.24 = L/841	0.55 = L/360	in	0.43
Vibration	Lmax = 16'-6.9	Lv = 17'-9.5	ft	0.93
Defl'n	= 0.031	= 0.038	in	0.80



OWN NO. YAM 6060-20
STRUCTURAL
COMPONENT ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	8958	1.00	1.00	-	1.000	-	-	-	#2
EI	324.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:E_{ieff} = 367.27 lb-in² K= 4.94e06 lbs

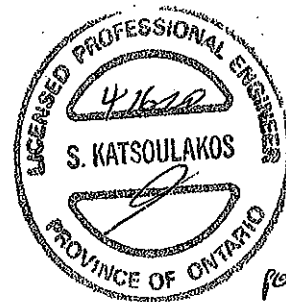
"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
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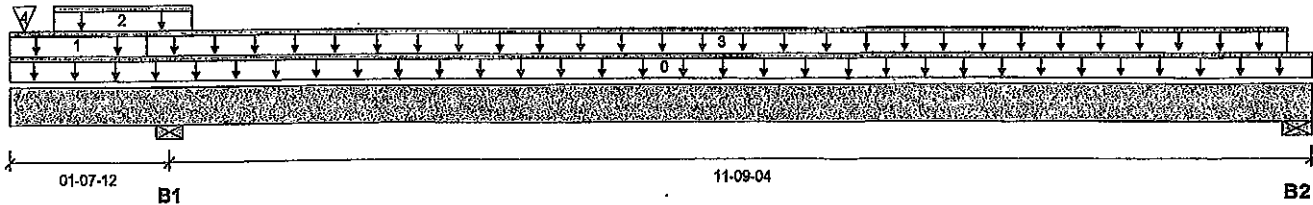
DWG NO. YAW 6080-20
STRUCTURAL
COMPONENT ONLY

Build 7493
Job name:
File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Address:
Description: 2ND FLR FRAMING\Flush Beams\B17D(I3135)

City, Province, Postal Code: WATERDOWN

Specifier:
Customer:
Designer: AJ

Code reports:
CCMC 12472-R
Company:

Total Horizontal Product Length = 13-05-00
Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	179 / 0	884 / 0	367 / 0	
B2, 5-1/2"	117 / 6	38 / 0	0 / 43	

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	13-05-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	15	7			n/a
2	E30(I3261)	Unf. Lin. (lb/ft)	L	00-05-08	01-10-08	Top		81			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-05-00	13-02-04	Top	20	10			n/a
4	-	Conc. Pt. (lbs)	L	00-01-13	00-01-13	Top	33	550	324		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	419 ft-lbs	23220 ft-lbs	1.8%	36	08-10-13
Neg. Moment	-1265 ft-lbs	-15093 ft-lbs	8.4%	0	01-07-12
End Shear	165 lbs	11571 lbs	1.4%	33	12-02-00
Cont. Shear	1246 lbs	11571 lbs	10.8%	37	00-07-08
Total Load Deflection	2xL/1998 (0.028")	n/a	n/a	82	00-00-00
Live Load Deflection	L/999 (-0.016")	n/a	n/a	120	06-06-05
Total Neg. Defl.	L/999 (-0.028")	n/a	n/a	82	05-11-03
Max Defl.	-0.028"	n/a	n/a	82	05-11-03
Span / Depth	14.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1238 lbs	16.1%	8.1%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	223 lbs	1.9%	0.9%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 2 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.



8WG NO. TAM16095-20
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B17D(i3135) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B17D(i3135)

Specifier:

Designer: AJ

Company:

Notes

Design meets User specified (2xL/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.

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

Design based on Dry Service Condition.

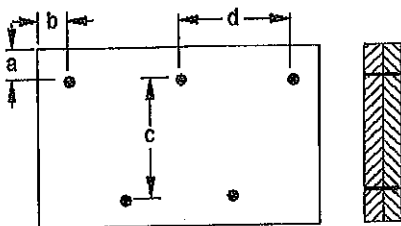
Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO 083 7112

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 5-1/2"
d = 8"

Calculated Side Load = 227.3 lb/ft

Connectors are: 1 3-1/2" ARDOX SPIRAL

3-1/2" ARDOX SPIRAL

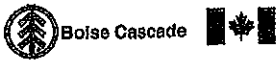


ENG NO. TAM 16095-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B18D(I3150) (Flush Beam)**

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

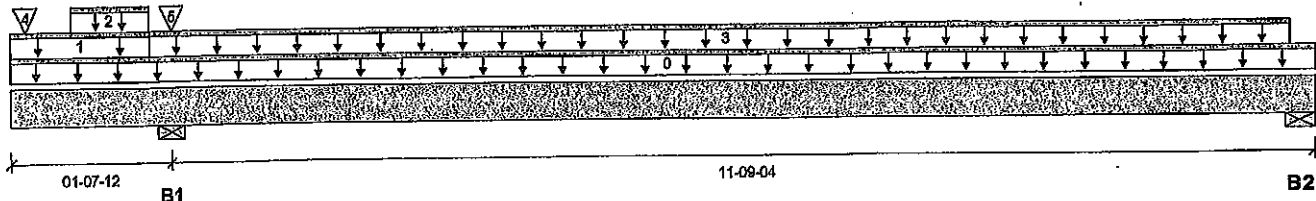
File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B18D(I3150)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 13-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	222 / 0	906 / 0	387 / 0	
B2, 5-1/2"	117 / 12	34 / 0	0 / 45	

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	13-05-00	Top		10			00-00-00
1	E28(I3262)	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top		81			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-07-04	01-05-00	Top	10				n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-05-00	13-02-04	Top	20	10			n/a
4	-	Conc. Pt. (lbs)	L	00-01-13	00-01-13	Top	84	550	342		n/a
5	E23(I3255)	Conc. Pt. (lbs)	L	01-07-12	01-07-12	Top		24			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	403 ft-lbs	23220 ft-lbs	1.7%	36	08-10-13
Neg. Moment	-2083 ft-lbs	-23220 ft-lbs	9.0%	37	01-07-12
End Shear	159 lbs	11571 lbs	1.4%	33	12-02-00
Cont. Shear	1356 lbs	11571 lbs	11.7%	37	00-07-08
Total Load Deflection	2xL/1998 (0.032")	n/a	n/a	82	00-00-00
Live Load Deflection	L/999 (-0.018")	n/a	n/a	120	06-06-05
Total Neg. Defl.	L/999 (-0.031")	n/a	n/a	82	06-01-00
Max Defl.	-0.031"	n/a	n/a	82	06-01-00
Span / Depth	14.4				

Bearing Supports

	Dlm. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1268 lbs	16.5%	8.3%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	218 lbs	1.8%	0.9%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 2 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.



OWN NO. YAM16086-20
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B18D(I3150) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B18D(I3150)

Specifier:

Designer: AJ

Company:

Notes

Design meets User specified (2xL/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.

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

Design based on Dry Service Condition.

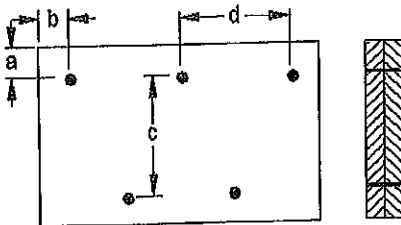
Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 5-1/2"
d = 3"

Calculated Side Load = 231.8 lb/ft

Connectors are: *A* Nails

3-1/2" ARDOX SPIRAL

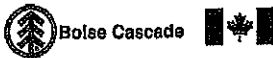


ENG. NO. 112520-20
STRUCTURAL
COMPONENT ONLY

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Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B19D(I3184) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

November 25, 2020 08:03:28

Build 7493

Job name:

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B19D(I3184)

City, Province, Postal Code: WATERDOWN

Specifier:

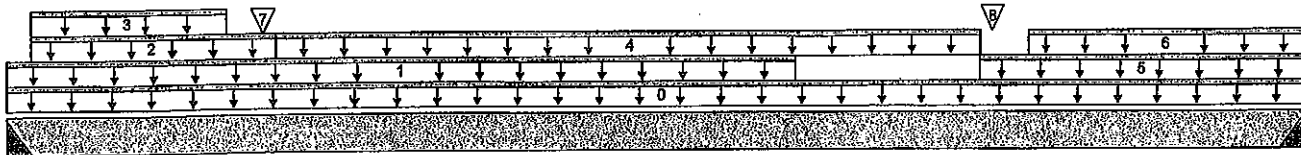
Customer:

Designer: AJ

Code reports:

CCMC 12472-R

Company:



08-08-00

B1

B2

Total Horizontal Product Length = 08-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	78 / 0	528 / 0	301 / 0	
B2, 2"	33 / 0	523 / 0	311 / 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	08-08-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-02-08	Top	22	11			n/a
2	E29(I3263)	Unf. Lin. (lb/ft)	L	00-02-00	01-09-08	Top		81			n/a
3	E29(I3263)	Unf. Lin. (lb/ft)	L	00-02-00	01-05-08	Top		28	72		n/a
4	E31(I3264)	Unf. Lin. (lb/ft)	L	01-09-08	06-05-08	Top		61			n/a
5	E32(I3265)	Unf. Lin. (lb/ft)	L	06-05-08	08-08-00	Top		81			n/a
6	E32(I3265)	Unf. Lin. (lb/ft)	L	06-09-08	08-08-00	Top		28	72		n/a
7	E29(I3263)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top		115	193		n/a
8	E32(I3265)	Conc. Pt. (lbs)	L	06-06-08	06-06-08	Top		114	191		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1364 ft-lbs	15093 ft-lbs	9.0%	0	04-04-04
End Shear	978 lbs	11571 lbs	8.5%	13	00-11-08
Total Load Deflection	L/999 (0.042")	n/a	n/a	35	04-04-04
Live Load Deflection	L/999 (0.016")	n/a	n/a	51	04-04-04
Max Defl.	0.042"	n/a	n/a	35	04-04-04
Span / Depth	10.7				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2" x 3-1/2"	1189 lbs	n/a	13.9%	Hanger
B2 Hanger	2" x 3-1/2"	1154 lbs	n/a	13.5%	Hanger

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.



000 NO. TAM 16097 = 20
STRUCTURAL
COM. ONENT ONLY



Boise Cascade



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

2ND FLR FRAMING\Flush Beams\B19D(i3184) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 25, 2020 08:03:28

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B19D(i3184)

Specifier:

Designer: AJ

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.

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.

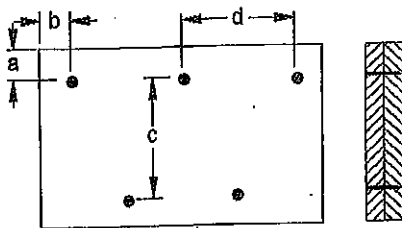
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member

a minimum = 2"
b minimum = 3"c = 5-1/2"
d = 2-1/2"

Connectors are: Nails

3-1/2" ARDOX SPIRAL

WWW NO. 444 16097-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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BC CALC® Member Report

Dry | 1 span | No cant.

February 10, 2020 11:38:52

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Dropped Beams\B13 DR\1726

City, Province, Postal Code:

Specifier:

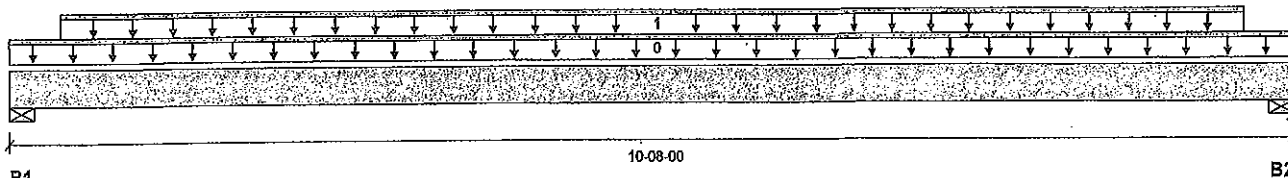
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 10-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	1619 / 0	861 / 0		
B2, 4"	1618 / 0	861 / 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	10-08-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-05-04	10-02-12	Top	313	156			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8926 ft-lbs	23220 ft-lbs	38.4%	1	05-08-12
End Shear	3236 lbs	11571 lbs	28.0%	1	01-01-08
Total Load Deflection	L/523 (0.232")	n/a	45.9%	4	04-11-04
Live Load Deflection	L/800 (0.152")	n/a	45.0%	5	04-11-04
Max Defl.	0.232"	n/a	n/a	4	04-11-04
Span / Depth	12.8				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4" x 3-1/2"	3504 lbs	18.8%	20.5%	Spruce-Pine-Fir
B2	Wall/Plate 4" x 3-1/2"	3503 lbs	18.8%	20.5%	Spruce-Pine-Fir

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: 00-02-08, Bottom: 00-02-08.

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

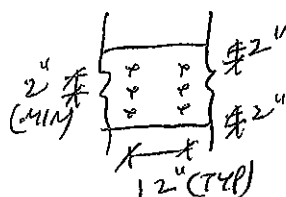
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. TAM 6081-20
STRUCTURAL
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BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

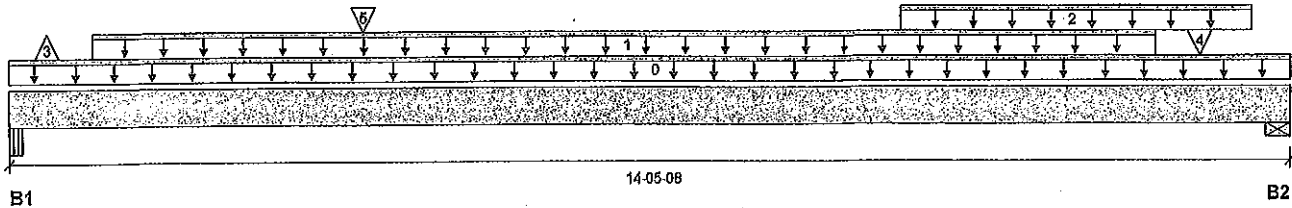
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B10(i2111)

Specifier:

Designer:

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/2"	2574 / 597	1313 / 0		
B2, 5-1/2"	2883 / 0	1649 / 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	14-05-08	Top		19			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-11-00	12-11-00	Top	353	176			n/a
2	STAIR	Unf. Lin. (lb/ft)	L	10-00-00	14-00-00	Top	120	60			n/a
3	J6(i1586)	Conc. Pt. (lbs)	L	00-05-00	00-05-00	Top	-597	-282			n/a
4	J6(i2121)	Conc. Pt. (lbs)	L	13-05-00	13-05-00	Top	338	169			n/a
5	B11(i2153)	Conc. Pt. (lbs)	L	03-11-10	03-11-10	Top	305	406			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	21228 ft-lbs	48297 ft-lbs	44.0%	1	07-05-00
End Shear	5935 lbs	23142 lbs	25.6%	1	13-02-08
Total Load Deflection	L/317 (0.52")	n/a	75.6%	6	07-02-00
Live Load Deflection	L/508 (0.325")	n/a	70.9%	8	07-02-00
Max Defl.	0.52"	n/a	n/a	6	07-02-00
Span / Depth	17.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4-1/2" x 7"	5502 lbs	28.4%	14.3%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 7"	6387 lbs	27.0%	13.6%	Spruce-Pine-Fir

Notes

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

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

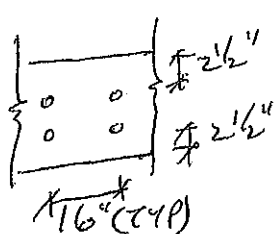
Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**

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

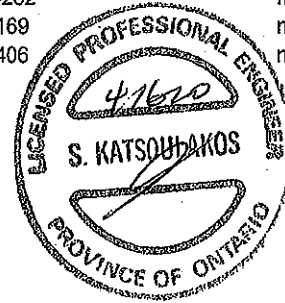
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



BOLT MULTI-PLY MEMBERS USING
2 ROWS 1/2" Ø A307 BOLTS
C/W WASHERS / NUTS @ 16" O/C

CONFORMS TO OBC 2012



UWG NO. TAM 6082-20

STRUCTURAL COMPONENT ONLY Disclosure

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

BC CALC® Member Report

Dry | 1 span | No cant.

February 10, 2020 11:38:52

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B11(i2153)

City, Province, Postal Code:

Specifier:

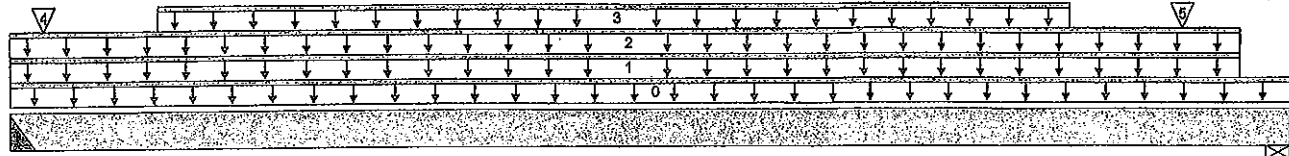
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



B1

07-06-02

B2

Total Horizontal Product Length = 07-06-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	307 / 0	409 / 0		
B2, 3-3/4"	290 / 0	393 / 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	07-06-02	Top		10			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-02-06	Top		60			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-02-06	Top	6	3			n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-06	06-02-06	Top	76	38			n/a
4	J5(i1619)	Conc. Pt. (lbs)	L	00-02-06	00-02-06	Top	70	35			n/a
5	J5(i1506)	Conc. Pt. (lbs)	L	06-10-06	06-10-06	Top	77	39			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1645 ft-lbs	23220 ft-lbs	7.1%	1	03-11-06
End Shear	744 lbs	11571 lbs	6.4%	1	06-04-14
Total Load Deflection	L/999 (0.022")	n/a	n/a	4	03-08-06
Live Load Deflection	L/999 (0.009")	n/a	n/a	5	03-08-06
Max Defl.	0.022"	n/a	n/a	4	03-08-06
Span / Depth	9.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 3-1/2"	972 lbs	n/a	11.4%	Hanger
B2	Wall/Plate 3-3/4" x 3-1/2"	926 lbs	11.5%	5.8%	Spruce-Pine-Fir

Cautions

Hanger model Hanger was not found. 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.

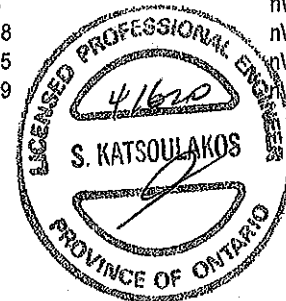
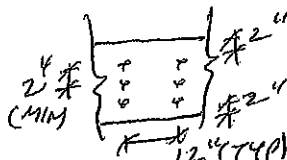
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020

PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



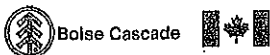
OWN NO. YAM 0083-20

STRUCTURAL COMPONENT ONLY

Disclosure

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Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLR FRAMING\Flush Beams\B12(1651) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B12(1651)

City, Province, Postal Code:

Specifier:

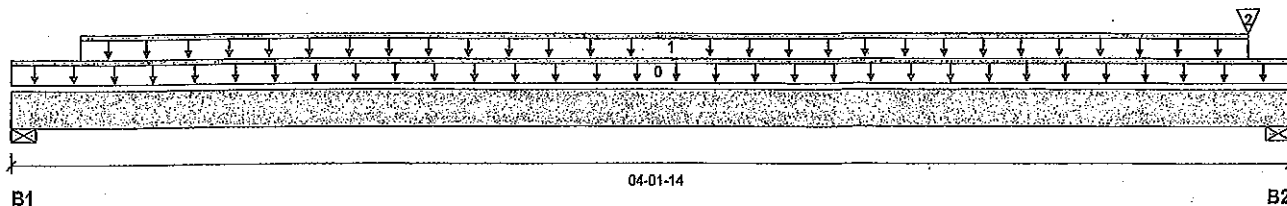
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 04-01-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	52 / 0	36 / 0		
B2, 3-1/2"	51 / 0	35 / 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	04-01-14	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-12	04-00-02	Top	27	13			n/a
2	FC2 Floor Material	Conc. Pt. (lbs)	L	04-00-02	04-00-02	Top	2	1			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	98 ft-lbs	11610 ft-lbs	0.8%	1	02-01-15
End Shear	57 lbs	5785 lbs	1.0%	1	01-03-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-01-15
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-01-15
Max Defl.	0.001"	n/a	n/a	4	02-01-15
Span / Depth	4.5				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	123 lbs	2.1%	1.0%	Spruce-Pine-Fir
B2	Wall/Plate 3-1/2" x 1-3/4"	121 lbs	3.2%	1.6%	Spruce-Pine-Fir

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.

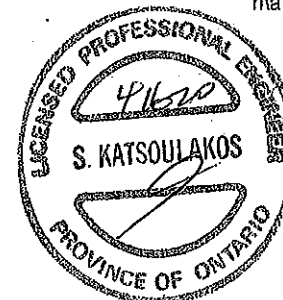
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020

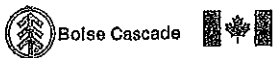


DWG NO. TAM 6084-20
STRUCTURAL
COMPONENT ONLY

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Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLR FRAMING\Flush Beams\B14(i2151) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B14(i2151)

City, Province, Postal Code:

Specifier:

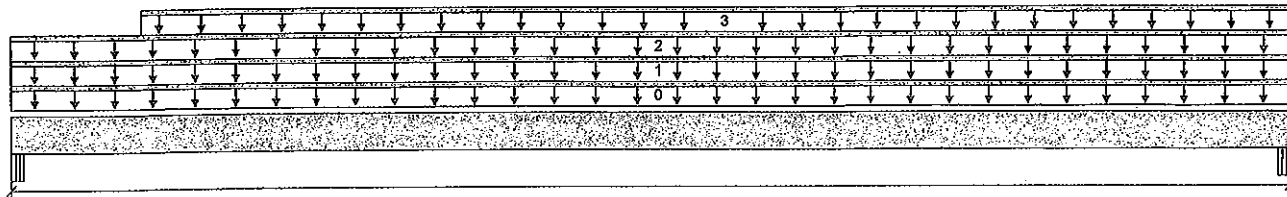
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



B1

02-01-08

B2

Total Horizontal Product Length = 02-01-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	43 / 0	120 / 0	42 / 0	
B2, 4-1/8"	55 / 0	138 / 0	47 / 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	02-01-08	Top	1.00	10			00-00-00
1	SNOW	Unf. Lin. (lb/ft)	L	00-00-00	02-01-08	Top	22	20	42		n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	02-01-08	Top		80			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	02-01-08	Top	27	13			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	96 ft-lbs	23220 ft-lbs	0.4%	1	01-00-02
End Shear	2 lbs	7521 lbs	n/a	0	01-00-02
Total Load Deflection	L/999 (0")	n/a	n/a	35	01-00-02
Max Defl.	0"	n/a	n/a	35	01-00-02
Span / Depth	2.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-5/8" x 3-1/2"	168 lbs	5.3%	2.3%	Unspecified
B2 Beam	4-1/8" x 3-1/2"	302 lbs	3.9%	1.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total 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.

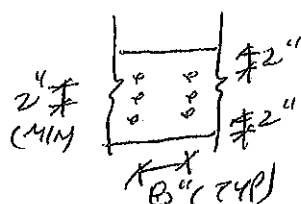
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020



PROVIDE 3 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



DWG NO. YAN 6085-20

STRUCTURAL COMPONENT ONLY

Disclosure

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BC CALC® Member Report
Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B16(i2154)

City, Province, Postal Code:

Specifier:

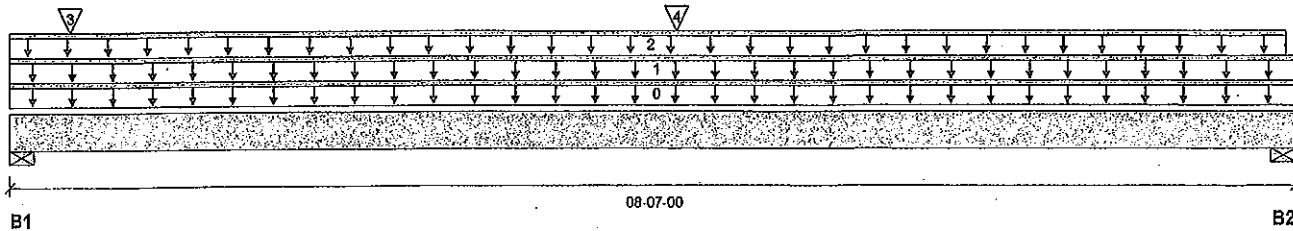
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 08-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	184 / 0	517 / 0	187 / 0	
B2, 5-1/2"	120 / 0	452 / 0	65 / 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	08-07-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-07-00	Top	20	10			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	08-06-01	Top		80			n/a
3	WINDOW	Conc. Pt. (lbs)	L	00-05-00	00-05-00	Top	66	60	126		n/a
4	WINDOW	Conc. Pt. (lbs)	L	04-05-00	04-05-00	Top	66	60	126		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1221 ft-lbs	15093 ft-lbs	8.1%	0	04-05-00
End Shear	468 lbs	7521 lbs	6.2%	0	07-04-00
Total Load Deflection	L/999 (0.028")	n/a	n/a	35	04-03-13
Live Load Deflection	L/999 (0.01")	n/a	n/a	51	04-03-13
Max Defl.	0.028"	n/a	n/a	35	04-03-13
Span / Depth	9.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	723 lbs	9.4%	4.7%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	633 lbs	8.2%	4.1%	Spruce-Pine-Fir

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.

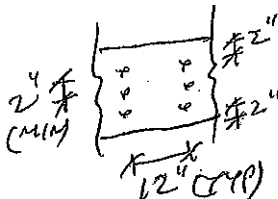
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

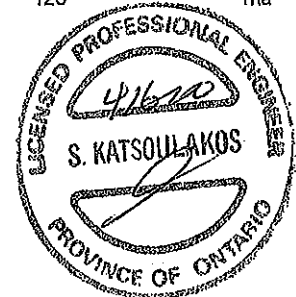
Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



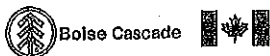
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DWG NO. TAN 6086-20

STRUCTURAL

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B8(i2152) (Flush Beam)**

BC CALC® Member Report

Dry | 1 span | No cant.

February 10, 2020 11:38:52

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B8(i2152)

City, Province, Postal Code:

Specifier:

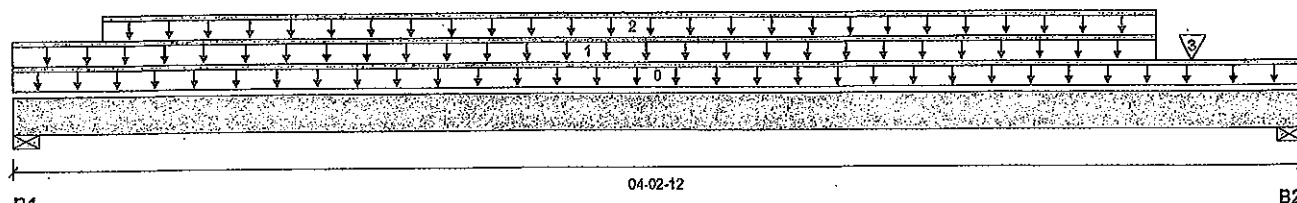
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 04-02-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	41 / 0	144 / 0		
B2, 5-1/2"	36 / 0	143 / 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	04-02-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-09-04	Top	20	10			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-03-08	03-09-04	Top		60			n/a
3	FC2 Floor Material	Conc. Pt. (lbs)	L	03-10-10	03-10-10	Top	1				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	181 ft-lbs	15093 ft-lbs	1.2%	0	02-00-06
End Shear	106 lbs	7521 lbs	1.4%	0	01-01-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-00-06
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-00-06
Max Defl.	0.001"	n/a	n/a	4	02-00-06
Span / Depth	4.6				

Bearing Supports

	Dlm. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	202 lbs	4.1%	2.1%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	201 lbs	2.6%	1.3%	Spruce-Pine-Fir

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.

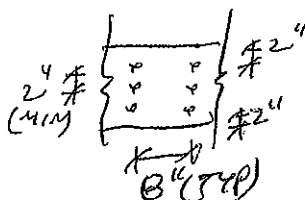
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

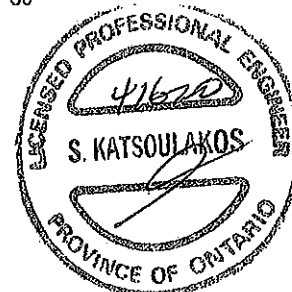
Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



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



ENG NO. YAM 6087-20
STRUCTURAL
COMPONENT ONLY

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BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B1(1955)

City, Province, Postal Code:

Specifier:

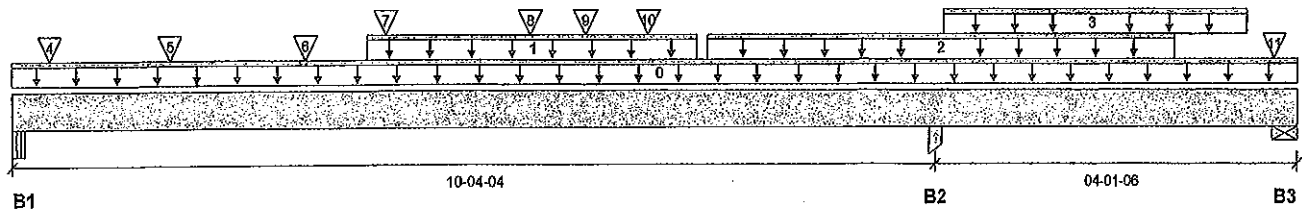
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/4"	3149 / 27	1723 / 0		
B2, 4-1/2"	5407 / 0	2876 / 0		
B3, 5-1/2"	4368 / 1288	3245 / 0		

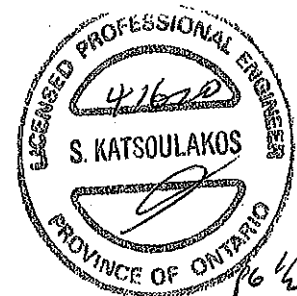
Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-05-10	Top	1.00	0.65	1.00	1.15	00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	03-11-10	07-07-10	Top	240	120			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	07-09-02	13-01-02	Top	323	161			n/a
3	STAIR	Unf. Lin. (lb/ft)	L	10-05-06	13-10-10	Top	240	120			n/a
4	J2(i2040)	Conc. Pt. (lbs)	L	00-05-02	00-05-02	Top	1454	789			n/a
5	J2(i2099)	Conc. Pt. (lbs)	L	01-09-02	01-09-02	Top	431	215			n/a
6	-	Conc. Pt. (lbs)	L	03-03-04	03-03-04	Top	522	261			n/a
7	-	Conc. Pt. (lbs)	L	04-02-02	04-02-02	Top	710	417			n/a
8	J2(i2016)	Conc. Pt. (lbs)	L	05-09-02	05-09-02	Top	295	147			n/a
9	J2DJ(i2081)	Conc. Pt. (lbs)	L	06-04-10	06-04-10	Top	255	127			n/a
10	J2(i1959)	Conc. Pt. (lbs)	L	07-01-02	07-01-02	Top	332	166			n/a
11	-	Conc. Pt. (lbs)	L	14-02-06	14-02-06	Top	3733	3598			n/a

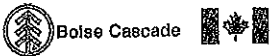
Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	9867 ft-lbs	23220 ft-lbs	42.5%	2	04-05-02
Neg. Moment	-10975 ft-lbs	-23220 ft-lbs	47.3%	1	10-04-04
End Shear	3496 lbs	11571 lbs	30.2%	2	01-02-12
Cont. Shear	5922 lbs	11571 lbs	51.2%	1	09-04-08
Total Load Deflection	L/584 (0.205")	n/a	41.1%	9	04-11-02
Live Load Deflection	L/886 (0.135")	n/a	40.7%	12	04-11-02
Total Neg. Defl.	L/999 (-0.021")	n/a	n/a	9	11-10-09
Max Defl.	0.205"	n/a	n/a	9	04-11-02
Span / Depth	12.6				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/4" x 3-1/2"	6878 lbs	70.1%	30.7%	Unspecified
B2 Column	4-1/2" x 3-1/2"	11705 lbs	91.5%	60.9%	Unspecified
B3 Wall/Plate	5-1/2" x 3-1/2"	10607 lbs	89.6%	45.2%	Spruce-Pine-Fir



SWG NO. FAM 6088-20
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLR FRAMING\Flush Beams\B1(I1955) (Flush Beam)

Dry | 2 spans | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1(I1955)

Specifier:

Designer:

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.

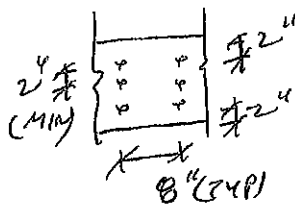
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDE 2 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



DWG NO. TAM 6088-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

BC CALC® Member Report
Build 7239

Dry | 1 span | No cant.

February 10, 2020 11:38:52

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B2(1994)

City, Province, Postal Code:

Specifier:

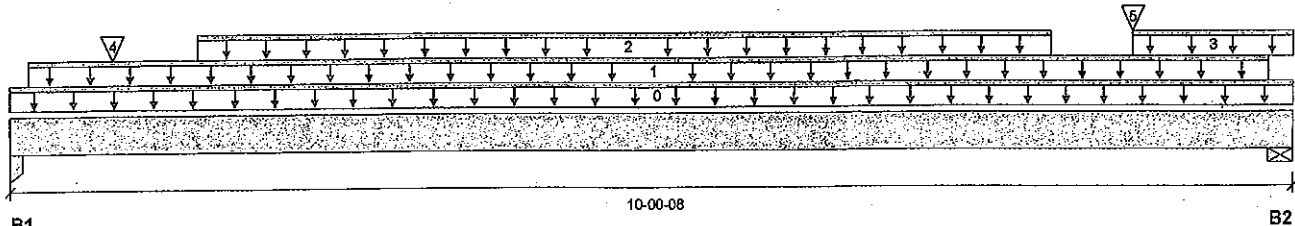
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 10-00-08

Reaction Summary (Down / Uplift) (lbs)

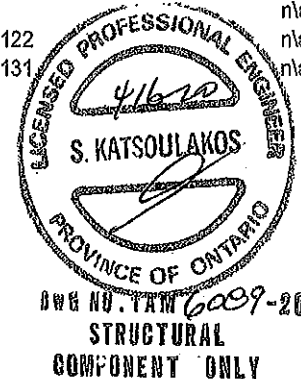
Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	985 / 0	834 / 0		
B2, 1-7/8"	942 / 0	810 / 0		

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	10-00-08	Top	10				00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-01-12	09-10-02	Top		60			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-05-10	08-01-10	Top	210	104			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	08-09-10	10-00-08	Top	22				n/a
4	J4(1985)	Conc. Pt. (lbs)	L	00-09-10	00-09-10	Top	244	122			n/a
5	J4(1973)	Conc. Pt. (lbs)	L	08-09-10	08-09-10	Top	262	131			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6498 ft-lbs	23220 ft-lbs	28.0%	1	04-09-10
End Shear	2370 lbs	11571 lbs	20.5%	1	09-01-02
Total Load Deflection	L/728 (0.163")	n/a	33.0%	4	05-00-10
Live Load Deflection	L/999 (0.089")	n/a		5	05-00-10
Max Defl.	0.163"	n/a		4	05-00-10
Span / Depth	12.5				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 3-1/2"	2520 lbs	50.7%	33.7%	Unspecified
B2	Wall/Plate 1-7/8" x 3-1/2"	2426 lbs	60.1%	30.3%	Spruce-Pine-Fir

Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC1®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

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. AMENDED 2020

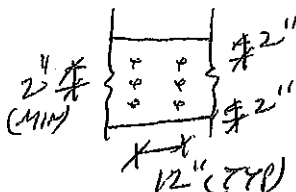
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

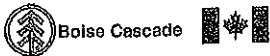
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLR FRAMING\Flush Beams\B3(i1931) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B3(i1931)

City, Province, Postal Code:

Specifier:

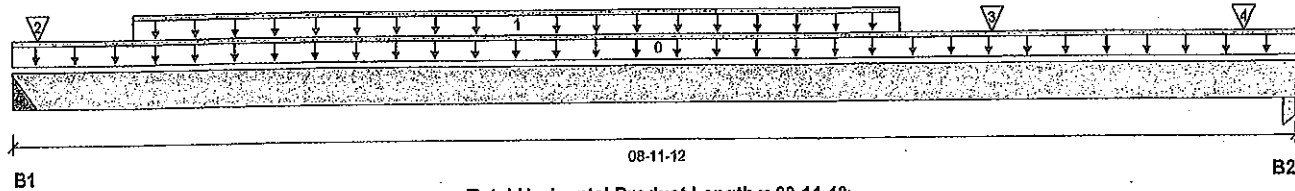
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	358 / 0	222 / 0		
B2, 3-1/2"	810 / 0	999 / 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	08-11-12	Top	10				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-04	06-02-04	Top	80	40			n/a
2	J7(i2069)	Conc. Pt. (lbs)	L	00-02-04	00-02-04	Top	67	34			n/a
3	J7(i2079)	Conc. Pt. (lbs)	L	06-10-04	06-10-04	Top	108	54			n/a
4		Conc. Pt. (lbs)	L	08-07-07	08-07-07	Top	559	830			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1714 ft-lbs	23220 ft-lbs	7.4%	1	04-02-04
End Shear	706 lbs	11571 lbs	6.1%	1	07-10-12
Total Load Deflection	L/999 (0.032")	n/a	n/a	4	04-04-04
Live Load Deflection	L/999 (0.02")	n/a	n/a	5	04-04-04
Max Defl.	0.032"	n/a	n/a	4	04-04-04
Span / Depth	10.9				

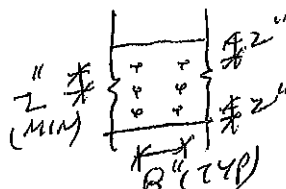
Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 3-1/2"	813 lbs	n/a	9.5%	Hanger
B2	Column 3-1/2" x 3-1/2"	2463 lbs	24.8%	16.5%	Unspecified

Cautions

Hanger model Hanger was not found. 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 unbraced length of Top: 00-00-00, Bottom: 00-00-00. **CONFORMS TO OBC 2012**
 Hanger Manufacturer: Unassigned
 Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**
 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



PROVIDE 3 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



OWB NO. YAW 6090-20
STRUCTURAL COMPONENT ONLY

Disclosure

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

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

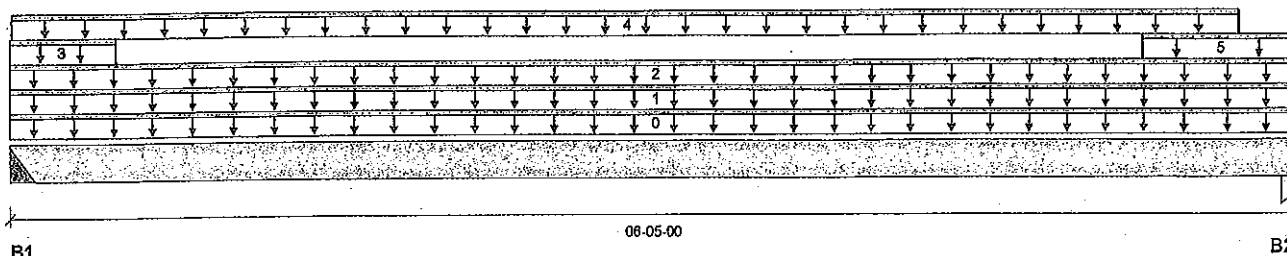
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B4(I2084)

Specifier:

Designer:

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	344 / 0	618 / 0		
B2, 3-1/2"	167 / 0	496 / 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	06-05-00	Top		5			00-00-00
1	3(I760)	Unf. Lin. (lb/ft)	L	00-00-00	06-05-00	Top		81			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-05-00	Top	19	9			n/a
3	3(I760)	Unf. Lin. (lb/ft)	L	00-00-00	00-06-06	Top	427	536			n/a
4	3(I760)	Unf. Lin. (lb/ft)	L	00-00-02	06-01-08	Top	20	12			n/a
5	3(I760)	Unf. Lin. (lb/ft)	L	05-08-00	06-05-00	Top	53	192			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	748 ft-lbs	7546 ft-lbs	9.9%	0	03-01-12
End Shear	594 lbs	3761 lbs	15.8%	0	00-11-08
Total Load Deflection	L/999 (0.02")	n/a	n/a	4	03-01-12
Live Load Deflection	L/999 (0.006")	n/a	n/a	5	03-00-15
Max Defl.	0.02"	n/a	n/a	4	03-01-12
Span / Depth	7.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 1-3/4"	865 lbs	n/a	31.2%	Hanger
B2	Column 3-1/2" x 1-3/4"	694 lbs	21.5%	14.3%	Unspecified

Cautions

Hanger model Hanger was not found. 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.

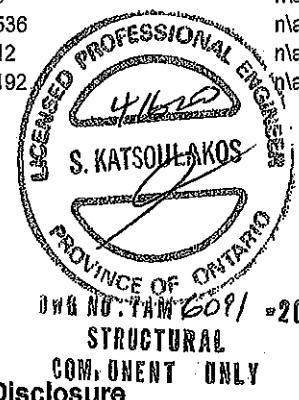
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



Disclosure

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

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

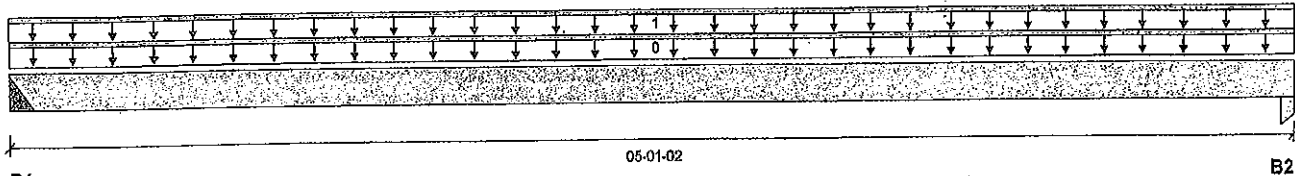
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B5(i2038)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 05-01-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	44 / 0	34 / 0		
B2, 1-3/4"	44 / 0	34 / 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	05-01-02	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Top	17	9			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	129 ft-lbs	11610 ft-lbs	1.1%	1	02-06-11
End Shear	68 lbs	5785 lbs	1.2%	1	00-11-08
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	02-06-11
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	02-06-11
Max Defl.	0.002"	n/a	n/a	4	02-06-11
Span / Depth	6.2				

			Demand/Resistance Support	Demand/Resistance Member	
Bearing Supports	Dim. (LxW)	Demand			Material
B1	Hanger	2" x 1-3/4"	109 lbs	n/a	2.6% Hanger
B2	Column	1-3/4" x 1-3/4"	108 lbs	4.4%	2.9% Unspecified



OWN NO. YAM 6092-20
STRUCTURAL
COMPONENT ONLY

Cautions

Hanger model Hanger was not found. 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 NBC 2012

AMENDED 2020

Disclosure

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

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B6(i2036)

City, Province, Postal Code:

Specifier:

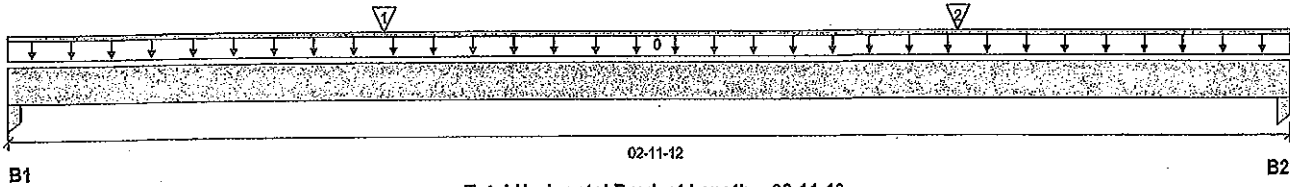
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:


Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	113 / 0	64 / 0		
B2, 3-1/2"	119 / 0	67 / 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	02-11-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	J6(i1935)	Conc. Pt. (lbs)	L	00-10-06	00-10-06	Top	118	59			n/a
2	J6(i2002)	Conc. Pt. (lbs)	L	02-02-06	02-02-06	Top	114	57			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	157 ft-lbs	11610 ft-lbs	1.3%	1	00-10-11
End Shear	174 lbs	5785 lbs	3.0%	1	01-01-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	01-05-14
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-05-14
Max Defl.	0.001"	n/a	n/a	4	01-05-14
Span / Depth	3.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	249 lbs	5.0%	3.3%	Unspecified
B2	Column 3-1/2" x 1-3/4"	261 lbs	5.3%	3.5%	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 CBC 2012

AMENDED 2020


 DWG NO. TAW 6093-20
STRUCTURAL
COMPONENT ONLY
Disclosure

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

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B7(i2063)

City, Province, Postal Code:

Specifier:

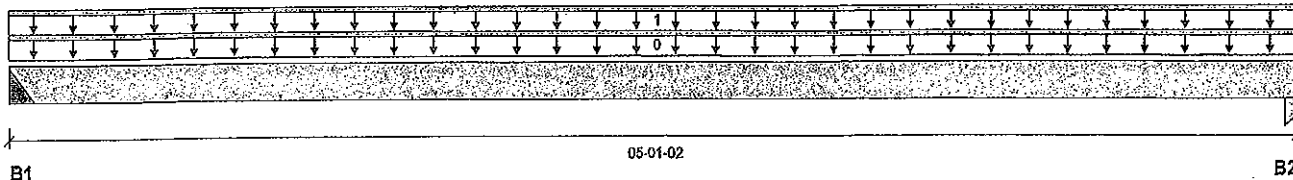
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 05-01-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	40 / 0	32 / 0		
B2, 1-3/4"	40 / 0	32 / 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	05-01-02	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Top	16	8			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	118 ft-lbs	11610 ft-lbs	1.0%	1	02-06-11
End Shear	63 lbs	5785 lbs	1.1%	1	00-11-08
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-06-11
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	02-06-11
Max Defl.	0.001"	n/a	n/a	4	02-06-11
Span / Depth	6.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 1-3/4"	100 lbs	n/a	2.3%	Hanger
B2 Column	1-3/4" x 1-3/4"	99 lbs	4.0%	2.7%	Unspecified

Cautions

Hanger model Hanger was not found. 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

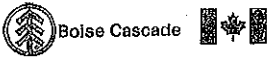
CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM 6094 -20
STRUCTURAL COMPONENT ONLY
Disclosure

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Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

2ND FLR FRAMING\Flush Beams\B14B(i2247) (Flush Beam)

PASSED

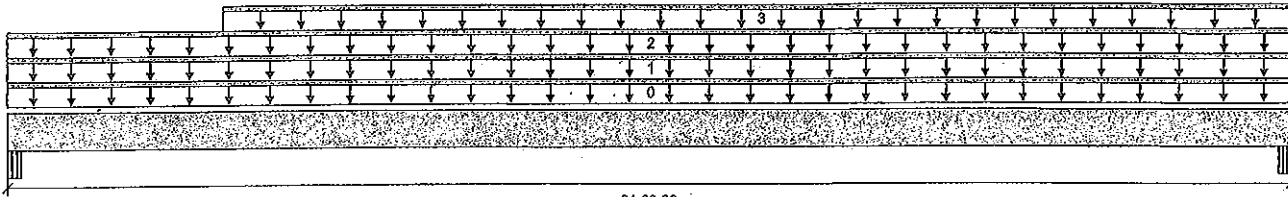
BC CALC® Member Report
Build 7239

Dry | 1 span | No cant.

February 10, 2020 12:41:53

Job name:
Address:
City, Province, Postal Code: WATERDOWN
Customer:
Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 2.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B14B(i2247)
Specifier:
Designer: AJ
Company:



B1

01-03-08

B2

Total Horizontal Product Length = 01-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	12 / 0	59 / 0	23 / 0	
B2, 5-1/4"	17 / 0	83 / 0	32 / 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	01-03-08	Top	1.00	0.65	1.00	1.15	00-00-00
1	SNOW	Unf. Lin. (lb/ft)	L	00-00-00	01-03-08	Top	22	20	42		n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	01-03-08	Top		80			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	01-03-08	Top	1				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	11 ft-lbs	15093 ft-lbs	n/a	0	00-06-07
End Shear	49 lbs	7521 lbs	0.6%	0	00-02-10
Span / Depth	1.0				

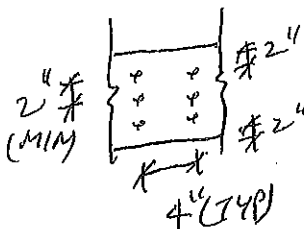
Bearing Supports	Dlm. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-5/8" x 3-1/2"	82 lbs	2.6%	1.1%	Unspecified
B2 Beam	5-1/4" x 3-1/2"	116 lbs	1.8%	0.8%	Unspecified

Notes

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.
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

CONFORMS TO OBC 2012

AMENDED 2020



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



ENG. NO. TAM 6095-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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



Boise Cascade

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****1ST FLR FRAMING\Flush Beams\B1A(i2350) (Flush Beam)****PASSED**

BC CALC® Member Report

Dry | 1 span | No cant.

April 16, 2020 08:43:03

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1 DECK CONDITION.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B1A(i2350)

City, Province, Postal Code: WATERDOWN

Specifier:

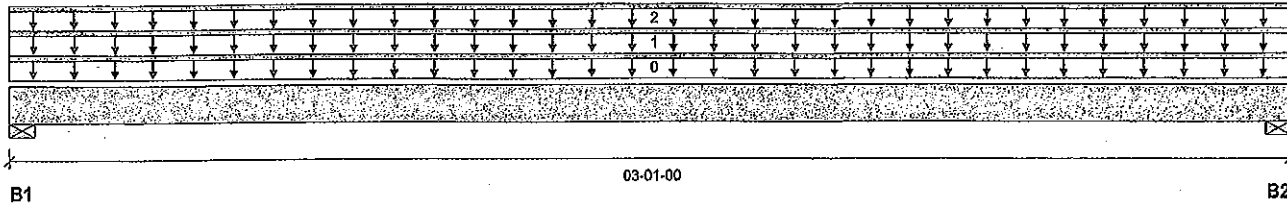
Customer:

Designer: AJ

Code reports:

CCMC 12472-R

Company:

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 3"	41 / 0	160 / 0		
B2, 3"	41 / 0	160 / 0		

Load Summary

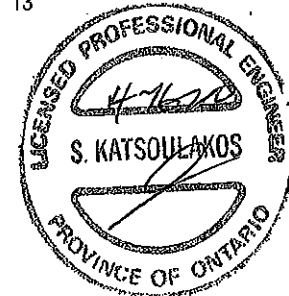
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10				00-00-00
1	E3(i585)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	81				n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	27	13			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	133 ft-lbs	15093 ft-lbs	0.9%	0	01-06-08
End Shear	73 lbs	7521 lbs	1.0%	0	01-00-08
Total Load Deflection	L/999 (0")	n/a	n/a	4	01-06-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-06-08
Max Defl.	0"	n/a	n/a	4	01-06-08
Span / Depth	3.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 3-1/2"	224 lbs	5.3%	2.7%	Spruce-Pine-Fir
B2	Wall/Plate 3" x 3-1/2"	224 lbs	5.3%	2.7%	Spruce-Pine-Fir



DWG NO. TAM6096-20
STRUCTURAL
COMPONENT ONLY

Notes

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

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

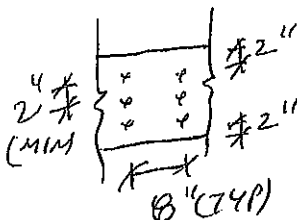
Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**

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

PROVIDE 3 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

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Boise Cascade

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLR FRAMING\Flush Beams\B1B(i2351) (Flush Beam)**

BC CALC® Member Report

Dry | 1 span | No cant.

April 16, 2020 08:43:03

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1 DECK CONDITION.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B1B(i2351)

City, Province, Postal Code: WATERDOWN

Specifier:

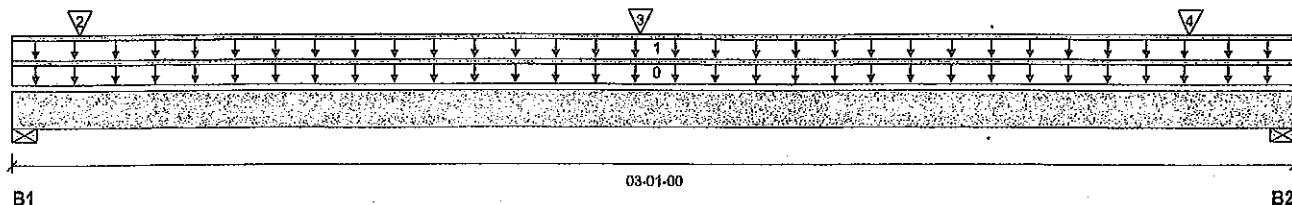
Customer:

Designer: AJ

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 03-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	938 / 0	610 / 0		
B2, 3"	928 / 0	604 / 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	0.65	1.00	1.15	00-00-00
1	E9(i588)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	270	216			n/a
2	J3(i2302)	Conc. Pt. (lbs)	L	00-02-00	00-02-00	Top	345	173			n/a
3	J3(i2284)	Conc. Pt. (lbs)	L	01-06-00	01-06-00	Top	345	173			n/a
4	J3(i2227)	Conc. Pt. (lbs)	L	02-10-00	02-10-00	Top	345	173			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1125 ft-lbs	23220 ft-lbs	4.8%	1	01-06-00
End Shear	721 lbs	11571 lbs	6.2%	1	01-00-08
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	01-06-07
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	01-06-07
Max Defl.	0.002"	n/a	n/a	4	01-06-07
Span / Depth	3.4				



DWG NO. TAM6097-20
STRUCTURAL
COMPONENT ONLY

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 3-1/2"	2170 lbs	33.6%	16.9%	Spruce-Pine-Fir
B2	Wall/Plate 3" x 3-1/2"	2147 lbs	33.2%	16.8%	Spruce-Pine-Fir

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.

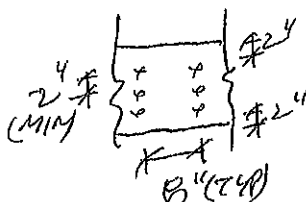
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020

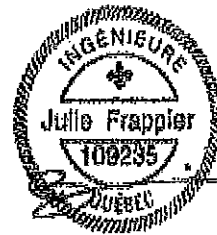
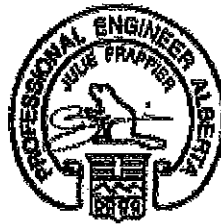


PROVIDE 3 ROWS OF 3/4" ARDOX
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Maximum Floor Spans

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

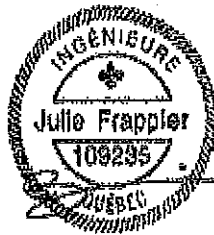
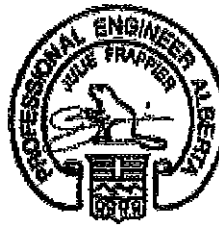
Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	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"	21'-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

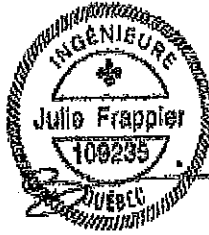
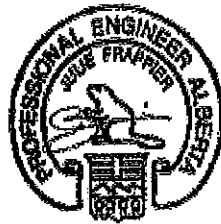
Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
5/8" OSB G&N Sheathing



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'-3"	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

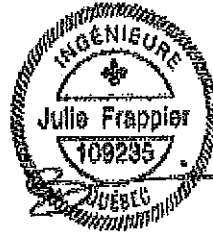
Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	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'-8"	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

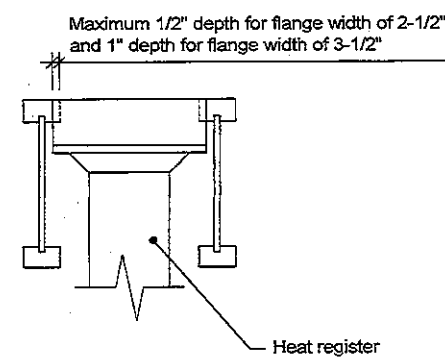
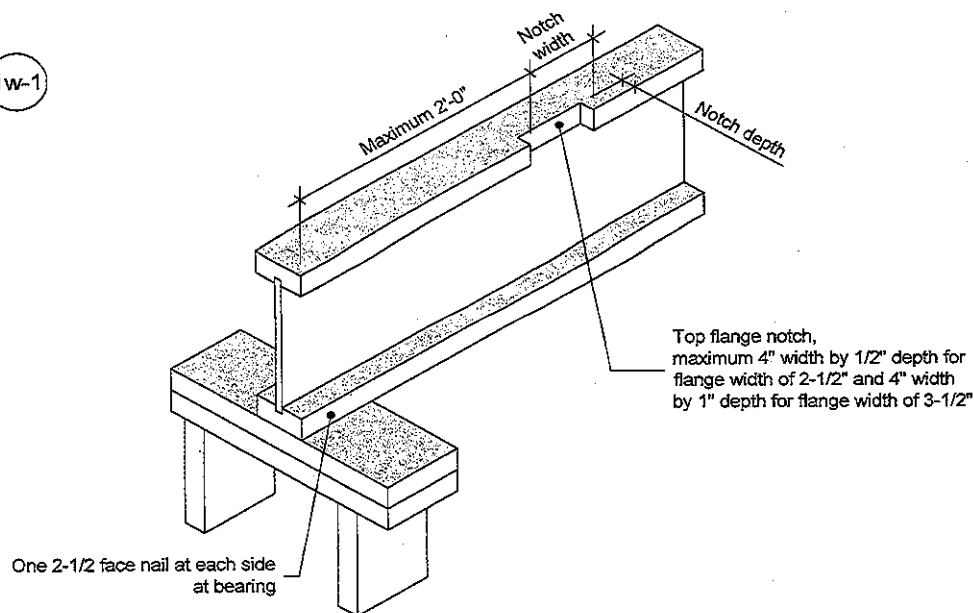


Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	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'-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	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

- 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 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 attached 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.

1W-1



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.

**NORDIC
STRUCTURES**

T 514-871-8526
1 866 817-3418
nordic.ca

TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

-

DATE

2018-04-10

NUMBER

1W-1



Construction Detail

Limit States Design

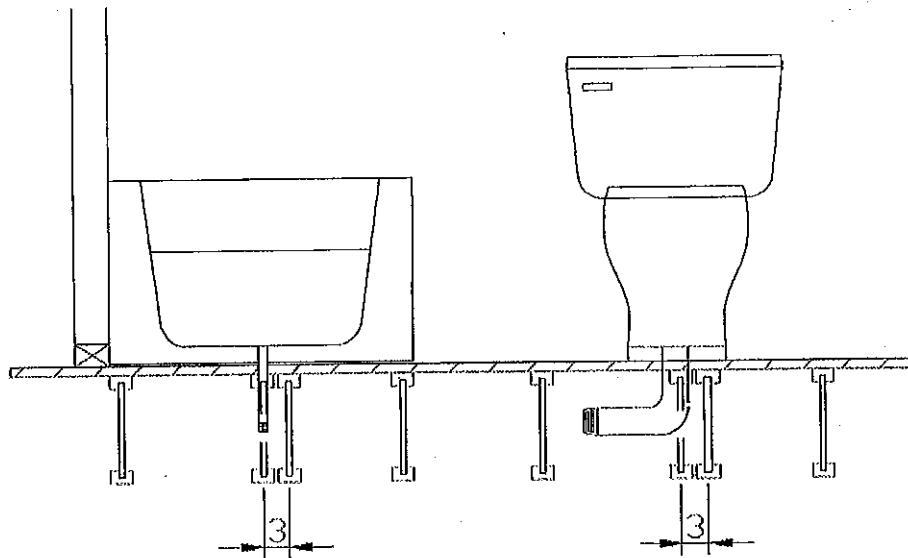
Allowance for Piping (Installation Notes)

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.

ALLOWANCE FOR PIPING



Every third joist may be shifted up to 3 inches to avoid heating/plumbing interference.

Revised April 12, 2012