



**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS

MODEL: ROSEWOOD 7

**ELEVATION: 1,3** 

LOT:

**CITY: WATERDOWN** 

SALESMAN: M D DESIGNER: CZ 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/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft

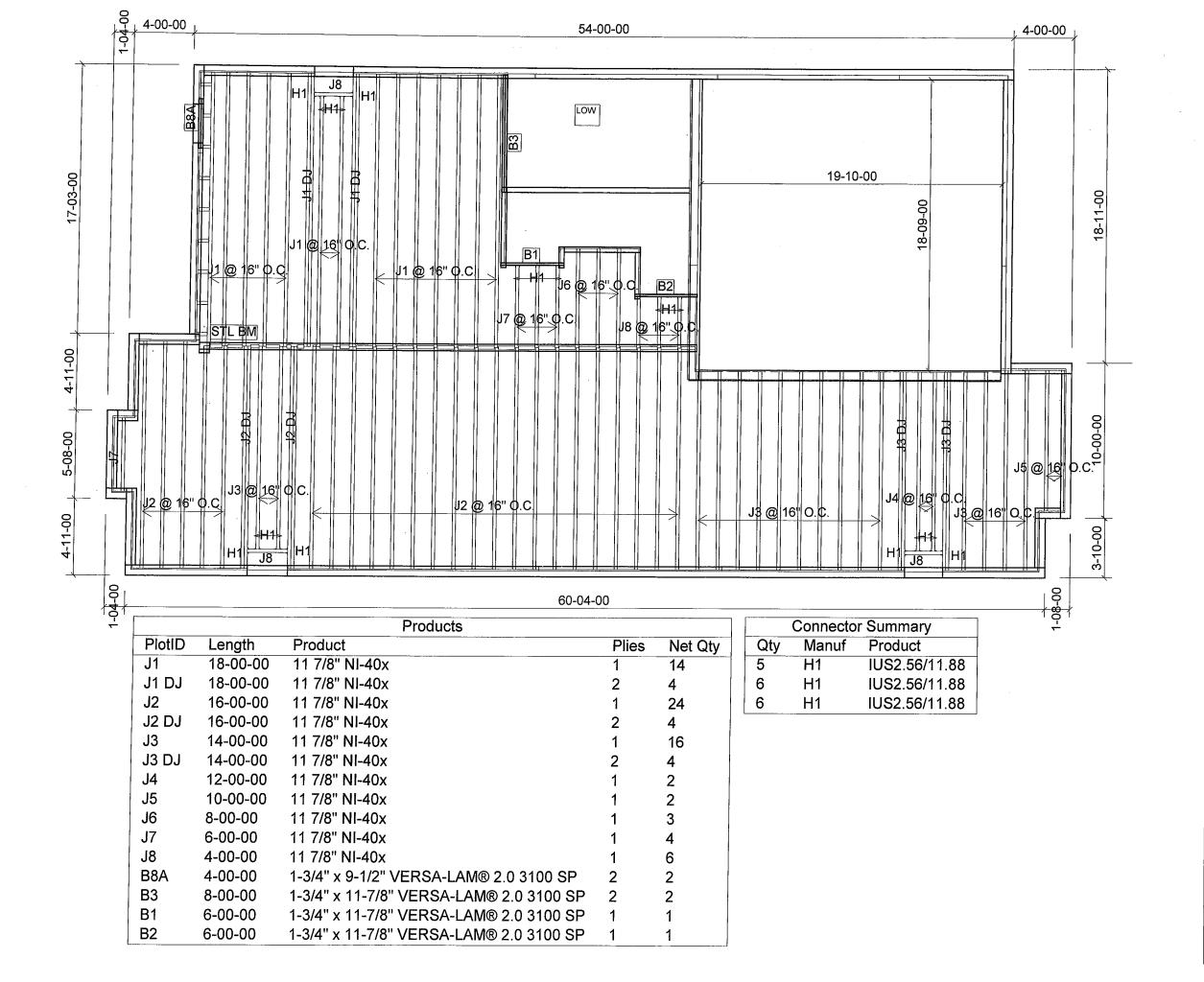
TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 21/08/2017

### 1st FLOOR

STANDARD AND WALK UP





**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS

MODEL: ROSEWOOD 7

**ELEVATION: 1,3** 

LOT:

CITY: WATERDOWN

SALESMAN: M D DESIGNER: CZ 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:

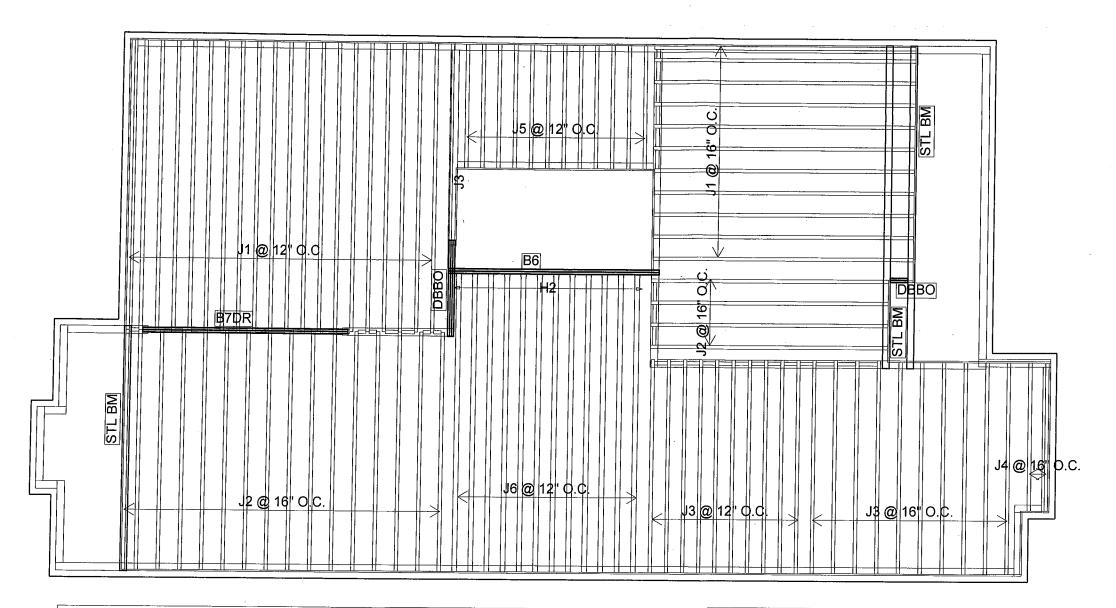
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 21/08/2017

### 1st FLOOR

**DECK** 



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	31
J2	16-00-00	11 7/8" NI-40x	1	20
J3	14-00-00	11 7/8" NI-40x	1	21
J4	10-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	12
J6	18-00-00	11 7/8" NI-80	1	12
B6	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary							
Qty	Manuf	Product					
12	H2	IUS3.56/11.88					



**BUILDER: GREENPARK HOMES** 

SITE: RUSSEL GARDENS

MODEL: ROSEWOOD 7

**ELEVATION**: 1, 3

LOT:

**CITY: WATERDOWN** 

SALESMAN: M D DESIGNER: CZ REVISION:

NOTES:

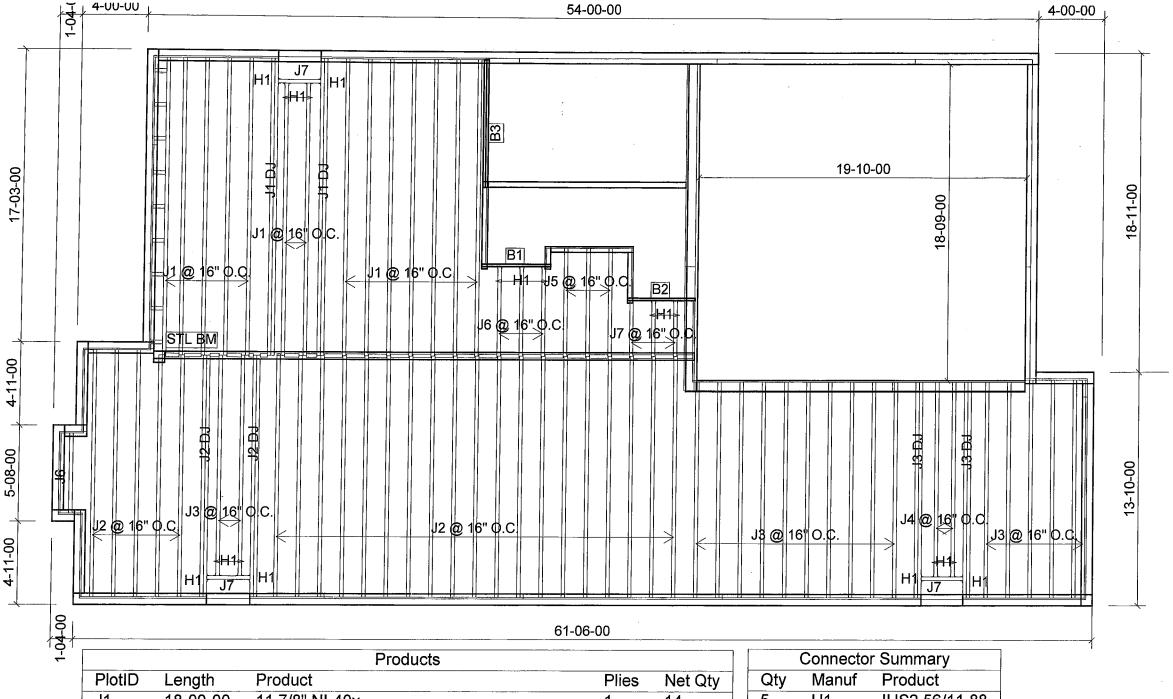
REFER TO THE NORDIC **INSTALLATION GUIDE FOR PROPER** STORAGE AND INSTALLATION. SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING 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/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 15/05/2017

### 2nd FLOOR



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	14
J1 DJ	18-00-00	11 7/8" NI-40x	2	4
J2	16-00-00	11 7/8" NI-40x	1	24
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	14-00-00	11 7/8" NI-40x	1	18
J3 DJ	14-00-00	11 7/8" NI-40x	2	4
J4	12-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	3
J6	6-00-00	11 7/8" NI-40x	1	4
J7	4-00-00	11 7/8" NI-40x	1	6
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

uf Product							
Qty Manuf Product							
IUS2.56/11.88							
IUS2.56/11.88							
IUS2.56/11.88							



**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS

MODEL: ROSEWOOD 7

**ELEVATION: 2** 

LOT:

CITY: WATERDOWN

SALESMAN: M D DESIGNER: CZ 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:

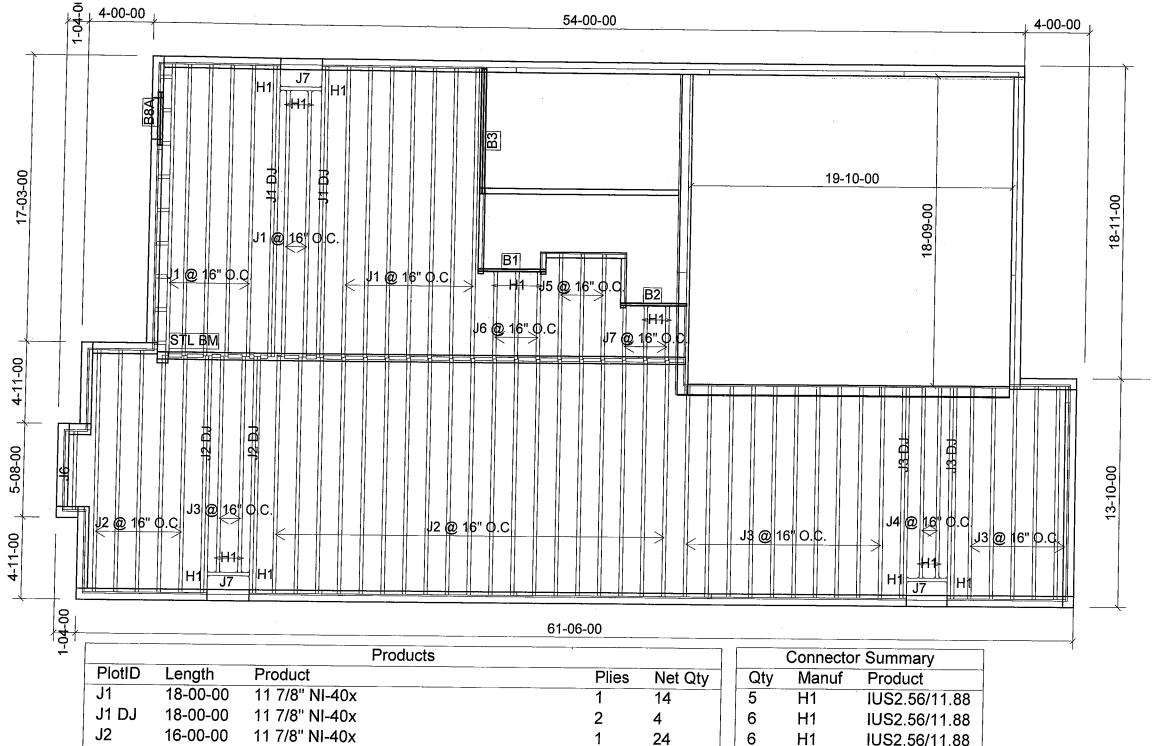
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 21/08/2017

### 1st FLOOR

STANDARD AND WALK UP



4

18

J2 DJ

J3 DJ

J3

J4

J5

**J6** 

**J**7

B3

**B1** 

B2

B8A

16-00-00

14-00-00

14-00-00

12-00-00

8-00-00

6-00-00

4-00-00

4-00-00

8-00-00

6-00-00

6-00-00

11 7/8" NI-40x

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

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

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

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

Connector Summary								
Qty Manuf Product								
H1	IUS2.56/11.88							
H1	IUS2.56/11.88							
H1	IUS2.56/11.88							
	Manuf H1 H1							



FROM PLAN DATED: NOV 2016

**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS

MODEL: ROSEWOOD 7

**ELEVATION: 2** 

LOT:

**CITY: WATERDOWN** 

SALESMAN: M D DESIGNER: CZ **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:

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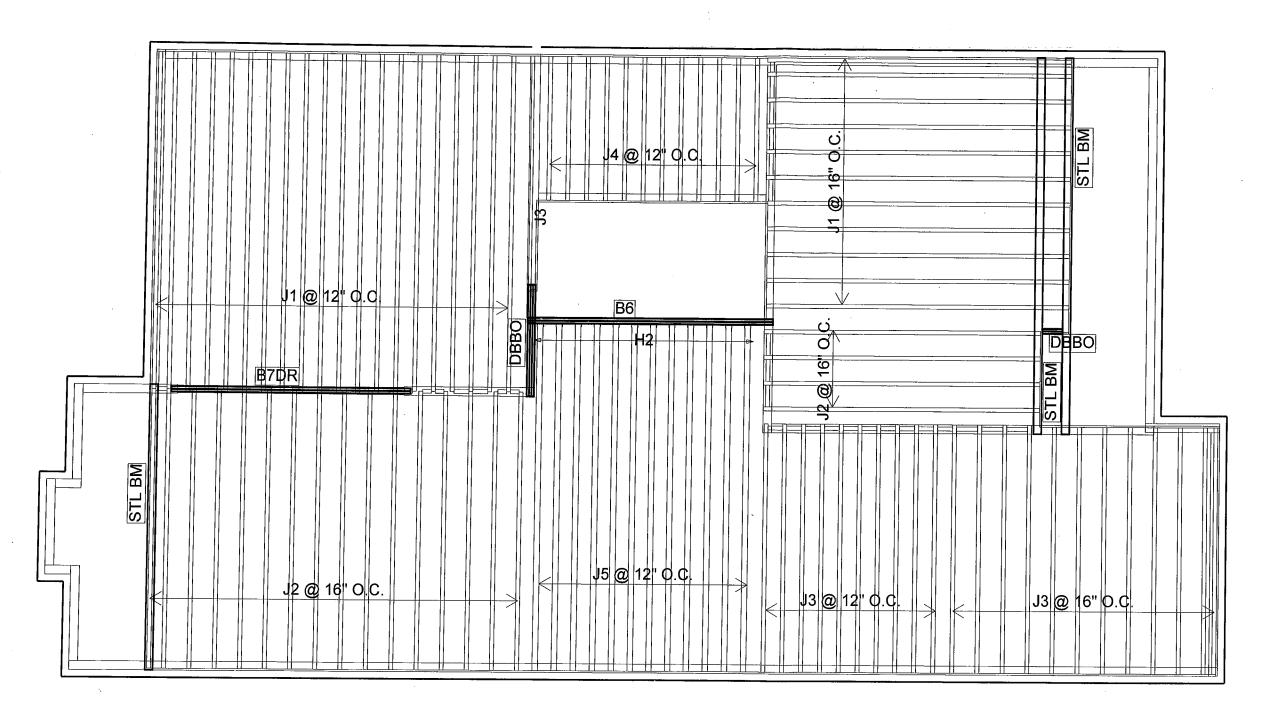
DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 21/08/2017

### 1st FLOOR

**DECK** 



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	31
J2	16-00-00	11 7/8" NI-40x	1	20
J3	14-00-00	11 7/8" NI-40x	1	23
J4	8-00-00	11 7/8" NI-40x	1	12
J5	18-00-00	11 7/8" NI-80	1	12
B6	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary							
Qty	Manuf	Product					
12	H2	IUS3.56/11.88					



**BUILDER: GREENPARK HOMES** 

SITE: RUSSEL GARDENS

MODEL: ROSEWOOD 7

**ELEVATION: 2** 

LOT:

**CITY: WATERDOWN** 

SALESMAN: M D DESIGNER: CZ 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/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 15/05/2017

### 2nd FLOOR

### NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
3269 NORTH SERVICE ROAD
BURLINGTON, ON
by CZ
May 15, 2017 08:49

PROJECT GREENPARK ROSEWOOD 7 WATERDOWN J1-1ST FL.wwb

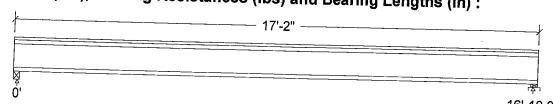
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

### Loads:

Load	Туре	Distribution				Magnitude	Unit
Load1 Load2	Dead Live	Full Area Full Area	tern	Start	End	Start End 20.00 40.00	psf psf

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



16'-10.8"

Unfactored:			10-10.6
Dead Live Factored:	225 451		225 451
Total	958		+
Bearing:			958
Resistance	1 !		<del> </del>
Joist	2117		
Support	_		2117
Des ratio			3844
Joist	0.45		
Support	-		0.45
Load case	#2		0.25
Length	2-1/2		#2
Min req'd	1-3/4		2-1/2
Stiffener	No		1-3/4
Kd	1.00		No
KB support	-		1.00
fcp sup	-		1.00
Kzcp sup		-	769
			1.00

### Nordic Joist 11-7/8" NI-40x Floor joist @ 16" o.c.

Supports: 1 - Steel Beam, W; 2 - Lumber Sill plate, No.1/No.2; Total length: 17'-2.0"; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

### Limit States Design using CSA-O86-09 and Vibration Criterion:

Shear   Vf = 958   Vr = 2336   lbs   Ibs   Ibs		o and vibration officerion.										
Vibration $L_{\text{max}} = 16'-11$ $L_{\text{v}} = 18'-1$	Moment(+) Perm. Defl'n Live Defl'n Total Defl'n	Vf = 958 Mf = 4045 0.12 = <l 999<br="">0.24 = L/836 0.36 = L/557</l>	Design Value Vr = 2336 Mr = 6255 0.56 = L/360 0.42 = L/480 0.84 = L/240	Unit lbs lbs-ft	$\begin{array}{lll} \text{ESSMF/Vr} &=& 0.41 \\ \text{MF/Mr} &=& 0.65 \\ 0.22 \\ 0.57 \end{array}$							
$\frac{-0.030}{1000} = 0.037$ in $\frac{0.80}{1000}$	-011	0.29 = L/691	0.56 = L/360	in S.K ft S.K	ATSOULAKOS 0.52							

DWO NO.TAM 4275417 STRUCTURAL

COMPONENT ONLY

OF OF ONLY

### WoodWorks® Sizer

### for NORDIC STRUCTURES

### J1-1ST FL.wwb

### Nordic Sizer - Canada 6.4

Page 2

ĺ	Additional										
1	FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#	
ľ	٧r	2336	1.00	1.00	_	_	_	_		#2	
[	ML+	6255	1.00	1.00	-	1.000		_	_	#2	
- [	Ե⊥	3/1.1  m	illion	_	_	-	_	_		#2	
1	CRITICAL LOA	AD COMBI	NATIONS	<b>3</b> :						11 4	
- [	Shear	: LC #2	= 1.25	5D + 1.51	_						
1	Moment(+)	: LC #2	= 1.25	5D + 1.51	_						
1	Deflection	: LC #1	= 1.00	) (perma	anent)						
1		LC #2	= 1.0D	+ 1.0L	(live)	)					
1		LC #2	= 1.0D	+ 1.0L	(tota)	L)					
ł		LC #2	= 1.0D	+ 1.0L	(bare	ioist)					
	Bearing	: Suppor	rt 1 - L	C #2 = 1	.25D +	1.5L					
		Suppor	t 2 - L	C #2 = 1	.25D +	1 ST.					
1	Load Types	: D=dead	l W=win	d S=snc	w H=ea	irth.arou	ndwater	E=eart	houake		
1		r⊸τı∧e	(use,oc	cupancy)	Ls=li	ve(storac	irma ar	nman+1	f=fire		
1	Load Patte:	LIIS: S=S	// <b>□=</b> □	+Ls =n	o patte	rn load ·	in thic	enan	T 1110		
	AII LOAG Co	ombinati	ons (LC	s) are l	isted i	n the Ana	alvsis	output			
10	JALCULA HUN	18:						oucpuc			
	Deflection	: Eleff	= 4	60e06 lb	-in2 K	= 6.18e0	)6 lbs				
1	"Live" defl	Lection	= Defle	ction fr	om all	non-dead	loads	(live w	ind en	1014	
$\vdash$								(1110) W		. O w j	
1 .	51- NI 4										 -

### **Design Notes:**

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1. CONFORMS TO OBC 2012
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to 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.



COMPONENT ONLY

### NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
3269 NORTH SERVICE ROAD
BURLINGTON, ON
by CZ
May 15, 2017 10:04

PROJECT GREENPARK ROSEWOOD 7 WATERDOWN J1-2ND FL.wwb

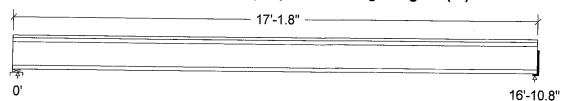
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

### Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitu	.de	Unit
			tern	Start	End	Start	End	ĺĺ
Load1	Dead	Full Area		***		20.00		psf
Load2	Live	Full Area				40.00		psf

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



Unfactored: Dead Live	169	169
Factored:		338
Total	718	718
Bearing:		
Resistance		1 .
Joist	2189	2009
Support	4612	
Des ratio		1
Joist	0.33	0.36
Support	0.16	0.50
Load case	#2	#2
Length	3	1-3/4
Min req'd	1-3/4	1-3/4
Stiffener	No	No No
Kd	1.00	1.00
KB support	1.00	1.00
fcp sup	769	] [ ]
Kzcp sup	1.00	_

### Nordic Joist 11-7/8" NI-40x Floor joist @ 12" o.c.

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Hanger; Total length: 17'-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-O86-09 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 718	Vr = 2336	lbs	Vote/Vr = 0.31
Moment(+)	Mf = 3034	Mr = 6255	lbs-ft	DESSMEVMr = 0.49
Perm. Defl'n	$0.10 = \langle L/999 \rangle$	0.56 = L/360	in low	0.17
Live Defl'n	$0.19 = \langle L/999$	0.42 = L/480	in &	57 el 1) 6 0.45
Total Defl'n	0.29 = L/705	0.84 = L/240	in/S Com	0.34
Bare Defl'n	0.22 = L/922	0.56 = L/360	in 9 c.	ATSOULAKOS \$ 0.39
Vibration	Lmax = 16'-11	Lv = 18'-11	ft 🖁 😘	
Defl'n	= 0.027	= 0.037	in \ (****	0.73
		···	H TO H	# 0 #

DWO ND. TAM 42265-17 STRUCTURAL COMPONENT ONLY

OF OF ON

### WoodWorks® Sizer

### for NORDIC STRUCTURES

### J1-2ND FL.wwb

### Nordic Sizer - Canada 6.4

Page 2

1										
Additional	l Data:									
FACTORS:	f/E	KD	KH	KZ	KL	KТ	KS	ENI	T C #	
) VI	233b	1.00	7 00					KN	LC# #2	
Mr+	6255	1.00	1.00	_	1 000	_		_	#2 #2	
1	3/1.1 m.	lllon	_	_	_	_	_	_	#2 #2	
CRITICAL LO	Dad Combi	INATIONS	<b>:</b>						# 4	
Shear	: LC #2	= 1.25	D + 1.51	_						
Moment(+)	: LC #2	= 1.25	D + 1.51							
Deflectio	n: LC #1	= 1.0D	(perma	anent)						
	LC #2	= 1.0D	+ 1.0L	(live)	•					
	LC #2	= 1.0D	+ 1.0L	(tota]	L)					
Dooming	LC #2	= 1.0D	+ 1.0L	(bare	joist)					
Bearing	: Suppor	t 1 – L	C #2 = 1	.25D +	1.5L					
Load Time	Suppor	t 2 - L	C #2 = 1	.25D +	1.5L					
Load Type:	s: D=dead	w=win	d S=sno	w H=ea	rth,grour	ndwater	E=eart	hguake		
1	~	iluse.oc	CHDADCUL	1.0-11	TTO / Ot 0 200		I 1	f=fire		
Load Patte	2T110. 2-0	·/ ~	+us ≕n	o patte	rn load i	in thic	anan			
All Load (	JOHNTHACT	ons (LC:	s) are 1	isted i	n the Ana	alysis (	output			
		_ ^	22 06 11							
Deflection	Flootion	= 4,	33e06 Ib	-in2 K	= 6.18e0	6 lbs				
"Live" def		_ _ nerred	ction fr	om all	non-dead	loads	(live, w	ind, sn	ow)	
Docian Not								·		 _

### **Design Notes:**

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1. CONFORMS TO OBC 2012
- 2. Please verify that the default deflection limits are appropriate for your application.
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- 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.



### NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
3269 NORTH SERVICE ROAD
BURLINGTON, ON
by CZ
May 15, 2017 09:51

PROJECT GREENPARK ROSEWOOD 7 WATERDOWN J6-2ND FL.wwb

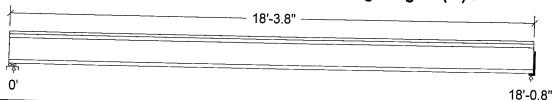
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

### Loads:

Load	Туре	Distribution	Pat- tern			Magnitude	Unit
Load1	Dead	E. 1 7	CETII	Start	End	Start End	
7 10		Full Area	ł			20.00	psf
	Live	Full Area				40.00	psf

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



Unfactored:     Dead
Live 361 Factored: 368 Bearing: 768 Bearing: 76 Resistance Joist 2243 Support 6457 Support 212
Total 768  Bearing: Resistance Joist 2243 Support 6457  768  276  276  276  276  276  276  27
Bearing: Resistance Joist 2243 Support 6457  76
Resistance Joist 2243 Support 6457
Joist 2243 Support 6457 212
Support   6457   212
1
Des ratio -
Joist   0.34
Support 0.12 0.3
Load case #2 - Length #4
1 2/
1 101
1 1 00
1 0 2 2 2 0 1 1 1 0 0 1
fcp sup 769
Kzcp sup 1.00

### Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

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

Total length: 18'-3.8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

### Limit States Design using CSA-086-09 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit Analysis/Design
Shear	Vf = 768	Vr = 2336	lb c ricks
Moment(+)	Mf = 3467	Mr = 11609	$\frac{1}{1} \frac{Vf}{Vr} = 0.33$
Perm. Defl'n	$0.09 = \langle L/999 \rangle$	0.60 = L/360	$\begin{array}{cccc} \text{lbs-ft} & \text{Vi/Vr} = 0.33 \\ \text{lbs-ft} & \text{SSiOMF/Mr} = 0.30 \\ \text{in} & 0.15 \end{array}$
Live Defl'n	$0.18 = \langle L/999 \rangle$	0.45 = L/480	[ ±11 # \$7
Total Defl'n	0.27 = L/795		in/ 9 0.40 0.40 0.30
Bare Defl'n	$0.20 = \langle L/999 \rangle$	17210	
Vibration	Lmax = 18'-1	, 000	S KATSOULAKOS 9 0.33
Defl'n	1	Lv = 20'-6	S. KATSOULAKOS \$\ 0.33
L	= 0.025	= 0.034	in 0.74

DWO NO.TAM 4276617 STRUCTURAL COMPONENT ONLY

### WoodWorks® Sizer

### for NORDIC STRUCTURES

### J6-2ND FL.wwb

### Nordic Sizer - Canada 6.4

Page 2

- 1											
-	Additiona										-
-	FACTORS:	f/E	KD	KH	KZ	KT.	KT	KS	KN	T C #	
1	٧r	2336	1.00	1.00	_	_				LC# #2	
1	LIT I	11009	1.00	1.00	_	1,000	_	_	_	#2 #2	
1	ET	54/.1 m	ıllion	-	_	_		_	_	#2 #2	
1	CRITICAL LO	DAD COMBI	INATIONS	<b>:</b> :						# 4	
1	Shear	: LC #2	= 1.25	5D + 1.5	L						
l	Moment(+)	: LC #2	= 1.25	D + 1.5	т.						
	Deflectio	on: LC #1	= 1.00	(perma	anent)						
l	LC #2 = 1.0D + 1.0L (live)										
	LC #2 = 1.0D + 1.0L (total)										
L	_	LC #2	= 1.0D	+ 1.01	(bare	inistl					
	Bearing	: Suppor	st 1 – L	C #2 = 1	l.25D +	1.51					
		Suppor	rt 2 - L	C #2 = 1	1.25D +	1 ST.					
l	Load Type	s: D=dead	d W=win	d S=sno	ow H=ea	rth.arou	ndwater	E=eart	houake		
ľ		m_	: luse, oc	CHDancvi	1.9=11	TTO / Otoro	~~ ~~~		f=fire		
	Load Patt	CT112 * 2-2	)/4 L=L	+LS =r	no patte	rn load i	in thia	2222	+ 111C		
Ι.	TILL DOAG	COMPINALI	ons (LC	s) are l	isted i	n the Ana	alvsis	output			
	SALCOLATIO	NO.						oucpuc			
	Deflection	n: EIeff	= 63	13e06 lb	-in2 K	= 6.18e0	)6 lhs				
	"Live" de:	flection	= Defle	ction fr	om all i	non-dead	loads	live w	ind en	Ot.: 1	
_	"Live" deflection = Deflection from all non-dead loads (live, wind, snow)										
Г	Joolan Nat										

### **Design Notes:**

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1. CONFORMS TO OBC 2012
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to 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.

THEE OF ORTH

DWO NO. TAM 42766. 17 STRUCTURAL COMPONENT ONLY



### Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B1(i3569)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:33:34

**Build 5033** 

Job Name: Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B1(i3569)

Specifier:

Designer: CZ

Company:

Misc:

V	
	77 77 77 77 77
B0 04-02-00	<b>X</b>

Total Horizontal Product Length = 04-02-00

Reaction Summary (Dow	vn / Uplift) (lbs)	-		**************************************	
Be aring	Live	De ad	Snow	Wind	
B0, 4"	1,759/0	943/0			 
B1, 4"	760/0	392/0			

	ad Summary					Live	Dead	Snow	Wind	Trib.
Ta	g Description	Load Type	Re	f. Start	En d	1.00	0.65	1.00	1.15	
0	Us er Load	Unf. Lin. (lb/ft)	L	00-02-00	04-02-00	240	120			n/a
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-05-04	04-02-00	116	58			n/a
2	7(i2074)	Conc. Pt. (lbs)	L	00-02-00	00-02-00	1,120	611			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,229 ft-lbs	19,364 ft-lbs	6.3%	1	02-02-05
End Shear	702 lbs	7,232 lbs	9.7%	-1	01-03-14
Total Load Defl.	L/999 (0.004")	n/a	n/a	4	02-01-01
Live Load Defl.	L/999 (0.003")	n/a	n/a	· 5	02-01-01
Max Defl.	0.004"	n/a	n/a	4	02-01-01
Span / Depth	3.7	n/a	n/a		00-00-00

Beari	ng Supports	Dim . (L x W)	Demand	De mand/ Resistance Support	De mand/ Resistance Member	Material
B0	Wall/Plate	4" x 1-3/4"	3,817 lbs	38.5%	44.7%	Unspecified
B1	Wall/Plate	4" x 1-3/4"	1,630 lbs	16.5%	19.1%	Unspecified

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86. CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO. TAM 42767-17 STRUCTURAL COMPONENT ONLY



### Boise Cascade Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B2(i3578)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:33:34

Build 5033

Job Name: Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B2(i3578)

Specifier:

Designer: CZ Company:

Misc:

	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	3/
×		<u> </u>
B0 04-01-04		<b>⊠</b> R1

Total Horizontal Product Length = 04-01-04

Reaction Summary (Dov	wn / Uplift) ( lbs )				
Bearing	Live	De ad	Snow	Wind	
B0, 4"	396/0	210/0			
B1,6"	682/0	366/0			

Load Summary Tag Description	Load Type	Ref. Start	En d	Live	Dead	Snow Wind	Trib.
0 User Load 1 J8 (i3583) 2 J8 (i3581) 3 3(i1489)	Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-08-00 L 01-07-04	04-01-04 01-07-04	90 87	0.65 120 45 43 48	1.00 1.15	n/a n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	924 ft-lbs	19,364 ft-lbs	4.8%	1	01-11-01
End Shear	836 lbs	7,232 lbs	11.6%	1	01-03-14
Total Load Defl.	L/999 (0.003")	n/a	n/a	4	01-11-13
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-11-13
Max Defl.	0.003"	n/a	n/a	4	01-11-13
Span / Depth	3.4	n/a	n/a		00-00-00

Beari	ng Supports	Dim . (L x W)	De man d	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	4" x 1-3/4"	856 lbs	8.6%	10%	Unspecified
B1	Wall/Plate	6" x 1-3/4"	1,481 lbs	26.4%	11.6%	Unspecified

### Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86. CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

### Disclosure

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DWG NO. TAM 4276817 STRUCTURAL COMPONENT ONLY





### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B3(i3406)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:09:57

Build 5033

Job Name:

Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(i3406)

Specifier:

Designer: CZ

Company:

Misc:

B0	07-06-06
	В

### Total Horizontal Product Length = 07-06-06

Reaction Summary (Down	/ Uplift) (lbs)				
Bearing	Live	De ad	Snow	Wind	
B0, 4"	279/0	506/0	· · · · · · · · · · · · · · · · · · ·		
B1, 2-3/8"	256/0	452/0			

Load Summary			Live	Dead	Snow Wind	Trib.
Tag Description	Load Type	Ref. Start	End 1.00	0.65	1.00 1.15	
0 FC1 Floor Material	Unf. Lin. (lb/ft)	L 00-00-00	07-06-06 34	17		n/a
1 7(i2074)	Unf. Lin. (lb/ft)	L 00-00-00	07-02-00 39	103		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,173 ft-lbs	25,173 ft-lbs	4.7%	0	03-10-00
End Shear	584 lbs	9,401 lbs	6.2%	0	06-04-02
Total Load Defl.	L/999 (0.012")	n/a	n/a	4	03-10-00
Live Load Defl.	L/999 (0.004")	n/a	n/a	5	03-10-00
Max Defl.	0.012"	n/a	n/a	4	03-10-00
Span / Depth	7.2	n/a	n/a		00-00-00

	ng Supports	Dim. (L x W)	Demand	Resistance Support	Resistance Member	Material
B0	Wall/Plate	4" x 3-1/2"	709 lbs	5.5%	6.4%	Unspecified
B1	Wall/Plate	2-3/8" x 3-1/2"	632 lbs	21.9%	9.6%	Unspecified

### Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBG 2012



DWG NO.TAM 42069-17 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B3(i3406)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:09:57

Build 5033

Job Name: Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

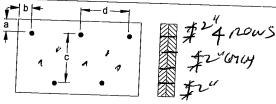
Description: Designs\Flush Beams\Basment\Flush Beams\B3(i340)

Specifier:

Designer: CZ Company

Misc:

### **Connection Diagram**



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

Member has no side loads. Connectors are: 16d Are Nails

3½" ARDOX SPIRAL

### Disclosure

Completeness and accuracy of input must be verified by anyone w ho w ould rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance w ith current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWO NO. TARKY 2369-17
STRUCTURAL
COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B6(i3440)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:09:57

Build 5033

Job Name: Address:

City, Province, Postal Code:WATERDOWN,

Customer: Code reports:

CCMC 12472-R

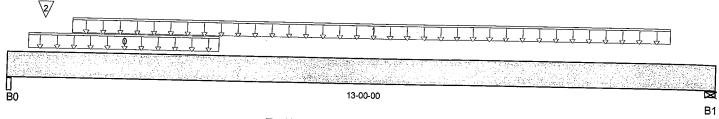
File Name: ROSEWOOD 7.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\86(i3440)

Specifier:

Designer: CZ Company:

Misc:



Total Horizontal Product Length = 13-00-00

Reaction Summary (D	own / Uplift) (the )				
Bearing	Live	De ad	Snow	Wind	
B0, 4-1/2"	3,054 / 0	1,605/0			
B1, 5-1/2"	2,230/0	1,194/0			

Load Summary Tag Description	Load Type	Ref. Start	Live End 1.00	Dead 0.65	Snow Wind	Trib.
O Us er Load 1 Smoothed Load 2 J6(i3385)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs)	L 00-04-08	03-10-08 240 12-02-00 367 00-08-00 400	120 184 200	1.00 1.15	n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	16,636 ft-lbs	38,727 ft-lbs	43%	1	05.00.00
End Shear	5,457 lbs				05-08-00
	•	14,464 lbs	37.7%	1	01-04-06
Total Load Defl.	L/445 (0.331")	0.615"	53.9%	4	06-05-00
Live Load Defl. Max Defl.	L/681 (0.217")	0.41"	52.9%	5	06-05-00
	0.331"	n/a	n/a	4	06-05-00
Span / Depth	12.4	n/a	n/a		00-00-00

	ng Supports	Dim. (L x W)	Demand	Resistance Support	Demand/ Resistance Member	Material
B0	Beam	4-1/2" x 3-1/2"	6,587 lbs	78.3%	34.3%	Unspecified
B1	Wall/Plate	5-1/2" x 3-1/2"	4,838 lbs	47.1%	20.6%	Unspecified

### Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBE 2012



DWG NO. YAM 427217 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B6(i3440)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:09:57

BC CALC® Design Report

Build 5033 Job Name: Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

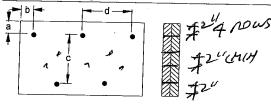
File Name: ROSEWOOD 7.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B6(i344(

Specifier: Designer:

Company: Misc:

Connection Diagram



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

Calculated Side Load = 725.0 lb/ft

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

Connectors are: 16d State: Nails

312" ARDOX SPIRAL

reflected to the reflection of the contract of

### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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OWNER OF ONTER

DWG NO. TAN 4227017 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B7DR(i3402)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:09:57

Build 5033

Job Name: Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

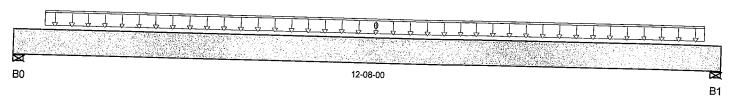
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B7D

Specifier:

Designer: CZ

Company:

Misc:



Total Horizontal Product Length = 12-08-00

Reaction Summary (Do	own / Uplift) / Iba	The state of the s	oduct Length = 12	-00-00	
Bearing	Live	Dead	Snow	Wind	
B0, 4" B1, 4"	3,691/0	1,922 / 0			
, -	3,836 / 0	1,995 / 0			

Load Summary Tag Description  O Smoothed Load	Load Type	Ref. Start	En d	Live 1.00	Dead 0.65	Snow	Wind	Trib.
- Omeomod Load	Unf. Lin. (lb/ft)	L 00-06-08	12-04-08	636	318			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment End Shear Total Load Defl. Live Load Defl. Max Defl. Span / Depth	24,873 ft-lbs 7,496 lbs L/306 (0.476") L/465 (0.313") 0.476" 12.3	38,727 ft-lbs 14,464 lbs 0.606" 0.404" n/a n/a	64.2% 51.8% 78.5% 77.5% n/a n/a	1 1 4 5 4	06-06-08 01-03-14 06-04-08 06-04-08 06-04-08 00-00-00

Bearing Supports         Dim. (L x W)         Demand Resistance         Support         Member Member           B0         Wall/Plate         4" x 3-1/2"         7,939 lbs         69.8%         46.5%           B1         Wall/Plate         4" x 3-1/2"         8,248 lbs         72.6%         48.3%	Material Unspecified
---	----------------------

### Notes

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

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

Calculations assume unbraced length of Top: 00-03-04, Bottom: 00-03-04.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



DWG NO.TAM +277/-17
STRUCTURAL
COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B7DR(i3402)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 10:09:57

Build 5033

Job Name:

Address:

City, Province, Postal Code:WATERDOWN,

Customer:

Code reports:

CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B7

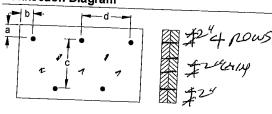
Specifier:

Misc:

Designer:

Company.

Connection Diagram



a minimum = 2"

c = 7-7/8"

b minimum = 3"

6

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

Connectors are: 16d Stope Nails

ARDOX SPIKAL

### Disclosure

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OVER OF CHITPE

DWG NO. TAM427 STRUCTURAL COMPONENT ONLY



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







			В.	are			1/2" Gyp	sum Ceiling	
Depth	Series		On Cent	re Spacing			On Cent	tre Spacing	
•		12"	16"	19.2"	24"	12"	16"	/ 19.2"	24"
	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"
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
	N!-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"
	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"
44.7/01	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18' <b>-</b> 9"	17'-11"	17'-2"
11-7/8"	NI-70	20'-9"	19' <b>-</b> 2"	18'-3"	17' <b>-</b> 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"
	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' <del>-</del> 2"	19'-3"	18' <b>-</b> 2"	22'-5"	20'-10"	19'-11"	18'-10"
14"	NI-70	23' <b>-</b> 0"	21'-3"	20'-3"	19' <b>-</b> 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"
	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"
4.611	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25' <b>-</b> 9"	23'-10"	22'-9"	21'-6"
16"	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"

			Mid-Spa	n Blocking		Mid-9	pan Blocking ar	nd 1/2" Gypsum	Ceiling	
Depth	Series		On Cent	re Spacing		On Centre Spacing				
•		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	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"	
9-1/2"	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"	
<del></del>	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"	
(0.11	NI-60	22'-1"	20'-7"	19'-7"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"	
11-7/8"	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"	
	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"	
14"	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"	
	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"	
4.511	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"	
16"	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"	

<sup>1.</sup> 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.

<sup>2.</sup> 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.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> 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.

<sup>6.</sup> 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.



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







			B	are			1/2" Gyp	sum Ceiling		
Depth	Series		On Cent	re Spacing			On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	N!-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	
9-1/2"	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	
	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	
11-7/8"	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A	
11-//0	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	
	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	
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19' <b>-</b> 8"	N/A	
	NI-80	21'-11"	20'-3"	19' <b>-</b> 4"	N/A	22'-7"	20'-11"	20'-0"	N/A	
	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	
16"	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A	
10	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	

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

<sup>1.</sup> 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.

<sup>2.</sup> 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.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> 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.

<sup>6.</sup> 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.



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







		Bare				1/2" Gypsum Ceiling					
Depth	Series		On Cent	re Spacing			On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"		
	NJ-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		
9-1/2"	NI-60	16'-3"	15' <del>-</del> 4"	14'-10"	N/A	16'-8"	15' <b>-</b> 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		
	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		
11 7/00	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A		
11-7/8"	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		
	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' <b>-</b> 5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A		
14"	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		
	N1-90x	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		
16"	NI-70	23'-6"	21'-9"	20 <b>'-</b> 9"	N/A	24'-3"	22'-5"	21'-5"	N/A		
10	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A		
	NI-90x	24 <b>'-</b> 8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A		

		Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling					
Depth	Series		On Cent	re Spacing			On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"		
	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' <b>-</b> 1"	N/A		
9-1/2"	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		
	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		
11 7/08	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A		
11-7/8"	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		
	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		
14"	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		
	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		
16"	N!-70	27'-9"	25 <b>'-8"</b>	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A		
10	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		

<sup>1.</sup> 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.

<sup>2.</sup> 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.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> 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.

<sup>6.</sup> 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.



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







			В	are			1/2" Gyp	sum Ceiling	
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	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"
9-1/2"	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"
	NI-20	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"
11-7/8"	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"	1 <b>7'-</b> 7"	21'-7"	20'-0"	19'-0"	18'-0"
	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"
14"	NI-70	23'-0"	21' <del>-</del> 3"	20'-3"	19' <del>-</del> 2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23' <del>-</del> 5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	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"
16"	NI-70	25 <b>'-1"</b>	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22 <b>'-</b> 9"	21'-6"
10	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 <b>'-11</b> "	24'-11"	23'-8"	22'-5"

			Mid-Spa	n Blocking		Mid-9	pan Blocking ar	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	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"
9-1/2"	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"
	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 <b>'-</b> 9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
11-7/8"	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/6	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"
	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 <b>'-</b> 5"	21'-0"	19'-6"
14"	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22 <b>'-</b> 9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
	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' <b>-</b> 5"	21'-7"
16"	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25' <del>-</del> 3"	23'-4"
10	NI-80	29' <b>-1</b> "	27'-0"	25'-9"	23' <b>-</b> 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"

<sup>1.</sup> 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.

<sup>2.</sup> 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.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

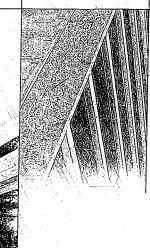
<sup>5.</sup> This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.

<sup>6.</sup> 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.

## ENGINEERED WOOD

## 

FOR RESIDENTIAL FLOORS









Distributed by:

N-C301 / November 2014

## SAFETY AND CONSTRUCTION PRECAUTIONS

WARNING



braced and sheathed

Lipoists are not stable until completely installed, and will not carry any load until fully

Avoid Accidents by Following these Important Guidelines:

Brace and nail each Lioist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When Lioists are applied continuous

over interior supports and a load-bearing wall is planned at that location,

blocking will be required at the interior support.

braced, or serious injuuntil fully fastened and Do not walk on 1-joists ries can result.



concentrated loads from Once sheathed, do not over-stress 1-joist with Never stack building building materials. unsheathed I-joists. materials over







- Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long

to prevent l-joist rollover or buckling.

When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied

- and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each Lipist. Nail bracing over at least two 1-joists. the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining
- Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
- 3. For cantilevered l-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
- Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. Never install a damaged I-joist.

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

## STORAGE AND HANDLING GUIDELINES

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







### MAXIMUM FLOOR SPANS

- . Maximum clear spans applicable to simple-span or or more of the adjacent span. 1.25D. The serviceability limit states include the consideration for floor vibration and a live load deflection limit of L/480. multiple-span residential floor construction with a design For multiple-span applications, the end spans shall be 40% live load of 40 psf and dead load of 15 psf. The ultimate imit states are based on the factored loads of 1.50L +
- 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the used of gypsum and/or a row of blocking at mid-span. shall meet the requirements given in CGBS-71.26 thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive
- 3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used required for hangers. with the spans and spacings given in this table, except as
- This span chart is based on uniform loads. For applications be required based on the use of the design properties with other than uniform loads, an engineering analysis may
- 6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
- 7. SI units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

### SIMPLE AND MULTIPLE SPANS MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

### CCMC EVALUATION REPORT 13032-R

### I-JOIST HANGERS

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





### WEB STIFFENERS

RECOMMENDATIONS:

### ■ A bearing stiffener is required in all engineered applications with factored Construction Guide (C101). The gap between the stiffener and the flange is at the top. reactions greater than shown in the -joist properties table found of the I-joist

- A bearing stiffener is required when stittener and tlange is at the top. support, the top flange. The gap between the sides of the hanger do not extend up to, and the I-joist is supported in a hanger and the
- and the flange is at the bottom. cantilever, anywhere between the cantilever A load stiffener is required at locations by the code. The gap between the stiffener adjusted for other load durations as permitted standard term load duration, and may be tip and the support. These values are for between supports, or in the case of a than 2,370 lbs is applied to the top flange where a tactored concentrated load greater
- SI units conversion: 1 inch = 25.4 mm

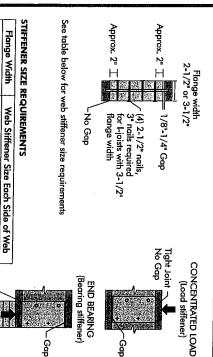
2-1/2

1-1/2" x 2-5/16" minimum width 1" x 2-5/16" minimum width

Tight Joint

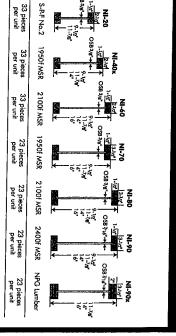
### FIGURE 2

### WEB STIFFENER INSTALLATION DETAILS



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### NORDIC I-JOIST SERIES



finished product, reflects our commitment to quality. manufacturing process. Every phase of the operation, from torest to the products to adhere to strict quality control procedures through the second Chantiers Chibougamau Ltd. harvests its own trees, which enables. Northic

longer span carrying capacity lumber in their flanges, ensuring consistent quality, superior strength time. Nordic Engineered Wood I-joists use only finger-jointed back spruce

2015-04-16

### INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, கூர்வர்
- 2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched
- 3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- 4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple

tsum ensormust

 $\frac{1}{2}$ 

- 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings 5 15-54-7
- 6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
- 7. Leave a 1/16-inch gap between the 1-joist end and a header.
- 8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the Ljoist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the Lioist. Or, attach the load to blocking that has been securely fastened to the
- 9. Never install L-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
- 10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels
- 11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below
- 12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and an l-joist-compatible depth selected.
- 13. Provide permanent lateral support of the bottom flange of all L-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered Lioists at the end support next to the cantilever extension. In the completed bracing or struts must be used structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary
- 14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to underlayment layer is installed. minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate

 $\subseteq$ 

15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans

**a** 

panel NI blocking

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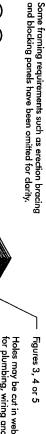
wire or spiral One 2-1/2"

Attach rim board to top plate using 2-1/2" wire or

### Lumber (SCL) Composite or Structural Nordic Lam (1d) (1e) (j

TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

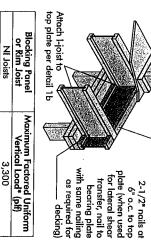
FIGURE 1

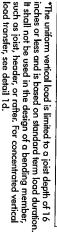


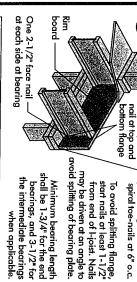


(<del>-</del>) (3) (3)  $\overline{\mathfrak{E}}$ in current code evaluation reports Use hangers recognized Figures 3, 4 or 5 Nordic Lam

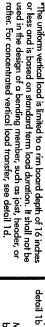
All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

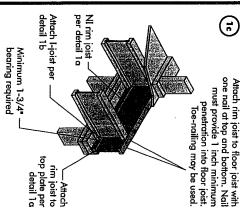






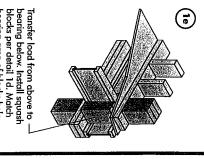
8,090	1-1/8" Rim Board Plus
Maximum Factored Uniform Vertical Load* (pH)	Blocking Panel or Rim Joist



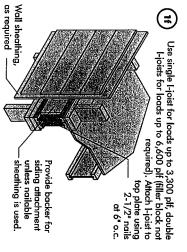


etail 1a	ate per	- Anden		e used.	m. Nail nimum
1-1/8" Rim Board Plus	2x Lumber		Pair of Squash Blocks	Squash block	NI or rim board blocking panel per detail 1a—
4,300	5,500	3-1/2" wide	Maximum Factored Vertical per Pair of Squash Blocks (lbs)		`
6,600	005′8	5-1/2" wide	red Vertical per h Blocks (lbs)		1/16" for squash blocks

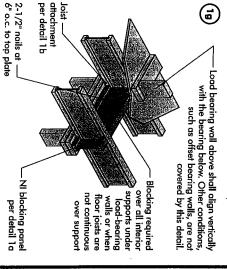
Provide I
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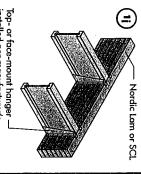


bearing area of blocks below



carried to the foundation. Rim board may be used in lieu of I-joists. Backer is not required when rim board is used. Bracing per code shall be



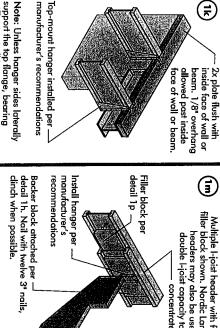


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recommendations installed per manufacturer's

recommendations. beams, see the manufacturer's For nailing schedules for multiple

support the top flange, bearing stiffeners shall be used. Note: Unless hanger sides laterally



filler block shown. Nordic Lam or SCI Multiple I-joist header with full depth double I-joist capacity to support headers may also be used. Verify concentrated loads.

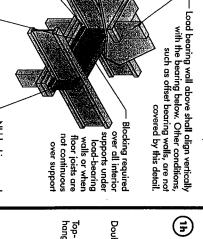
> Do not bevel-cut joist beyond inside race of wall -

Maximum support capacity = 1,620 lbs

at bearing for lateral support, not shown Note: Blocking required for clarity.

l-joist per detail 1 b

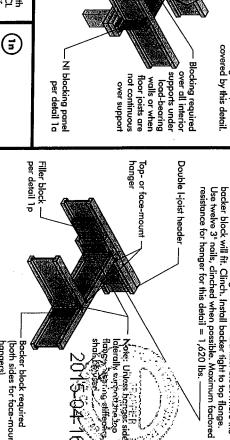
Attach-



Before installing a backer block to a double I-joist, drive three

Backer block (use if hanger load exceeds 360 lbs)

additional 3" nails through the webs and filler block where the



flangs resting stiffed laterally surport the top Note: Unless hanger sides

201894

Verify double I-joist capacity to support concentrated loads. For hanger capacity see hanger manufacturer's recommendations.

hangers)

Backer block required (both sides for face-mount

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

7-1/4"	1-1/2"	3-1/2"
5-1/2"	7*	2-1/2"
Minimum Depth**	Material Thickness Required*	Flange Width

- better for solid sawn lumber and wood structural panels conforming to CAN/CSA-0325 or CAN/CSA-0437 Standard.

  \*\* For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth Minimum grade for backer block material shall be S-P-F No. 2 or
- minus 4-1/4"

### 1. Support back of I-joist web during nailing to

Notes:

stiffeners shall be used

**(** 

Filler block

- 2. Leave a 1/8 to 1/4-inch gap between top prevent damage to web/flange connection. of filler block and bottom of top I-joist
- Filler block is required between joists for full length of span.
- Nail joists together with two rows of 3" are required can be clinched, only two nails per foot Total of four nails per foot required. If nai possible) on each side of the double I-jois nails at 12 inches o.c. (clinched when

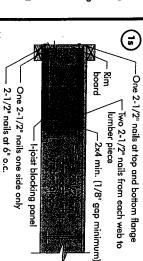
 Offset nails from opposite face by 6"

—1/8" to 1/4" gap between top flange and filler block 5. The maximum factored load that may be using this detail is 860 lbf/ft. Verify double applied to one side of the double joist

### DOUBLE 1-JOIST CONSTRUCTION FILLER BLOCK REQUIREMENTS FOR

	Flange Size	Joist Depth	Filler Block Size
	2-1/2"×	9-1/2" 11-7/8"	2-1/8" x 6" 2-1/8" x 8"
	1-1/2"	4	2-1/8" x 10"
		16"	2-1/8" x 12"
		9-1/2"	3" × 6"
4	3-1/2"×	11-7/8"	ယူ X ထူ
<del>, .</del> :	1-1/2"	14"	3" × 10"
ē		16"	3" x 12"
	2-1/2"	11-7/8"	3" x 7"
	ې <u>د</u> د	14"	3º × 9º
	ŀ	16"	3" × 1 1"

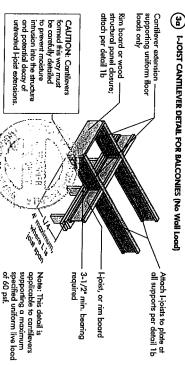
Optional strap app line or 1, attached			₹
Optional: Winimum 1x4 inch ————————————————————————————————————		00537	10.0 5
Optional: Minimum 1x4 inch —— strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.	NI blocking panel	Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side.	Lumber 2x4 min., extend block to face of adjacent web.



Notes: In some local codes, blocking is prescriptively required in the starter joist. Where required, see local code requirements the first joist space (or first and second joist space) next to for spacing of the blocking

All nails are common spiral in this detail

## CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)





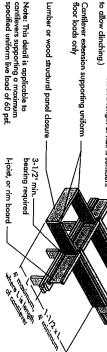
Full depth backer block with 1/8" gap between block and top flange of I-joist. See detail 1h. Nail with 2 rows of 3" nails at 6" o.c. and clinch.

to allow clinching.) used to attach backer block if length of nail is sufficient 3" nails at 6" o.c. and clinch. (Cantilever nails may be 2x8 min. Nail to backer block and joist with 2 rows of

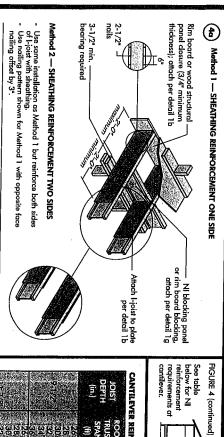
> plate at all supports per detail 1b Attach I-joists to

floor loads only Cantilever extension supporting uniform

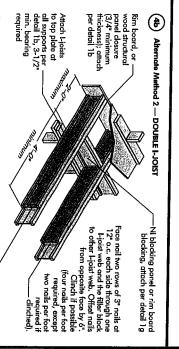
Note: This detail is applicable to



# CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)



Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.



Block I-joists tagether with filler blocks for the full length of the reinforcement.

For I-joist flange widths greater than 3 inches place an additional row of 3\* nails along the centreline of the reinforcing panel from each side. Clinch when possible.

### CANTILEVER REINFORCEMENT METHODS ALLOWED

reinforcement requirements at

below for NI See table

Roof truss \_ span

-maximum cantilever <u>ک</u> ا

> SSOLL Girder Roof trusses

Roof trussspan

لم 13<sup>4</sup>0° maximum Jack trusses 72-0

For hip roofs with the jack trusses running parallel to the canfilevered floor joists, the I-joist reinforcement

be used.

requirements for a span of 26 ft. shall be permitted to

7.7.2.7.7.2.7.7.7.2.7.7.2.2.7.2.2.2.2.2		Z	36	Z .	Z	Z	42
ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ	4.	22 22	72	2 <b>2</b> 2	ZZ2	227	88
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	××			27 000	2 3	22	9
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	L = 15	LL = 50 psf, D JOIST SPACI	L = 15 psf NG (in.)	LL = 40 psf, D JOIST SPACI	SPACI	Slor L= 3	SPAN
- σ			JNFACTORED)	KOOF LOADING (			SI CO

- N = No reinforcement required.
   N I = NN reinforced with 3/4 wood structural parties or one side only.
   Parties on one side only.
   N reinforced with 3/4 wood structural parties on both sides, or double 1-joist.
   Parties on both sides, or double 1-joist.
   N = Try a deeper joist or closer spacing.
   Mosainum design load shall be: 15 psf iron of deed load, 35 psf floor shall load, and 80 pff wall load, Well load is based on 3.0°.
- For larger openings, or multiple 3".0" width openings spaced less than 6".0" o.c., additional joists beneath the opening's cripple studs may be required.

  3. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a five load deflection limit of L/480, Use 12" o.c. requirements for lesser spacing.
  - 4. For conventional roof construction using a ridge beam, the Roof Truss Span column the supporting wall and the ridge beam.
    When the roof is framed using a ridge board,
    the Roof Truss Span is equivalent to the above is equivalent to the distance between distance between the supporting walls as if a
- truss is used.

  5. Confilewered joists supporting girder trusses
  or roof beams may require additional

## RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centreline of any lable 1 or 2, respectively. hole or duct chase opening shall be in compliance with the requirements of
- I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified
- Whenever possible, field-cut holes should be centred on the middle of the web.
- 4 The maximum size hole or the maximum depth of a duct chase opening that can between the top or bottom of the hole or opening and the adjacent Ljoist flange. the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained be cut into an I-joist web shall equal the clear distance between the flanges of
- 'n The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- ٥. Where more than one hole is necessary, the distance between adjacent hole opening shall be sized and located in compliance with the requirements of langest rectangular hole or duct chase opening) and each hole and duct chase size of the largest square hole (or twice the length of the longest side of the edges shall exceed twice the diameter of the largest round hole or twice the fables 1 and 2, respectively
- 7. A knockout is **not** considered a hole, may be utilized anywhere it occurs, and and/or duct chase openings. may be ignored for purposes of calculating minimum distances between holes
- œ Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to
- % A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- 10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- 11. Limit three maximum size holes per span, of which one may be a duct chase
- 12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

### LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf Joist Minimum distance from inside face of any support to centre of hole (ft-in.)

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und hole diameter (in.)  1	on centre					6
le diameter (in.)  8 8-5/8 9 10 10-3/4 11 12 12-3/4  8 8-5/8 9 10 10-3/4 11 12 12-3/4  10 10-3/4 11 12 12-3/4  11 12 12-3/4  12 12-3/4  13 12 12-3/4  14 12 12-3/4  15 12 12 12 12 12 12 12 12 12 12 12 12 12	or less.					Rour 6-1/4
meter (in.)  8-5/8 9 10 10-3/4 11 12 12-3/4  1-1-2-3-4		<b>1.79</b>				id hole 7
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8	CONTRACTOR SERVICES					
Justine in Factor						ad 2-3/4
	NAME OF TAXABLE PARTY.		ar deprive			ustmen

- Hole location distance is measured from inside face of supports to centre of hole
   Distances in this chart are based on uniformly loaded joists.

### OPTIONAL:

The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span (see Maximum Proving Spains to the minimum distance from the centreline of the toole to the face of any support (D) as given above may be reduced as follows:

Dreduced = Lactual x D

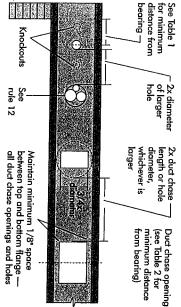
- Where: Dreduced
- ractual Lactual
- II
- ¥ The actual measured span distance between the inside faces of supports (ft)
- Span Adjustment Factor given in this table.
- The minimum distance from the inside face of any support to centre of hole from this table

Lactual is greater than 1, use 1 in the above calculation for Lactual
SAF

Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applications shall not be less than 6 inches from the face of the support to edge of the hole. ᇬ

nv ns (fit. The red)

### FIELD-CUT HOLE LOCATOR FIGURE 7



sharp saw. should be cut with a Holes in webs over-cut the web. notch the flange, or Never drill, cut or

spaced 15 inches on centre along the length of the I-joist. Where possible, it is

preferable to use knockouts instead of

rield-cut holes

are I-I

electrical or small plumbing lines. They for the contractor's convenience to install Knockouts are prescored holes provided

1/2 inches in diameter, and are

the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the comers is recommended. Starting the rectangular hole by drilling a 1-inch the holes is another good method to and then making the cuts between diameter hole in each of the four corners For rectangular holes, avoid over-cutting minimize damage to the I-joist

and may be ignored for purposes of calculating minimum distances A knockout is NOT considered a hole, may be utilized wherever it occurs

between hotes.

## DUCT CHASE OPENING SIZES AND LOCATIONS -- Simple Span Only

		Minimu	n distanc	e from ir	side face	e of any sur		cantra o		
Depth	Series				Duct ch	ase leng	th (in.)			
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				6.2			5		DI.	000
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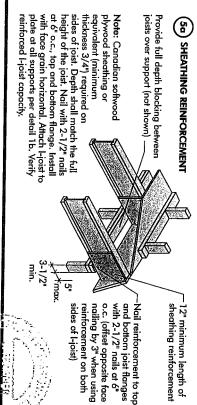
- . Above table may be used for I-joist spacing of 24 inches an centre or less.

  Dud chase opening location distance is measured from inside date of supports to centre of opening.

  The above table is based on simple-span joists only. For other applications, contact your local distributor,

  Distances are based on uniformly located floor joists that meet the span requirements for a design live load of 40 psf and clear load of 15 psf, and a live load deflection limit of I/480. For other applications, contact your local distributor.

# BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)



### (SB) SET-BACK DETAIL

Bearing walls

structural panel closure (3/4" minimum thickness), attach per detail 1b. Rim board or wood

### Notes:

- between joists over support (not shown for clarity) Provide full depth blocking
- supports per detail 1b. 3-1/2" minimum I-joist Attach I-joist to plate at all

œx.

208

girder joist per detail 5c. Attach joists to

bearing required

### (5c) Set-Back connection

using 2-1/2" nails. through joist web and web of girder (2x6 S-P-F No. 2 or better) nailed Vertical solid sawn blocks -

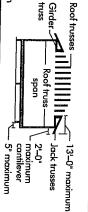
> bottom flanges. Nail joist end using 3" nails, toe-nail at top and



## Verify girder joist capacity if the back span exceeds the joist spacing.

Attach double I-joist per detail 1p, if required

FIGURE 5 (continued) See table cantilever. requirements at reinforcement below for NI Roof truss span 7 2 -0" ∟ maximum cantilever



trusses running parallel to the cantilevered floor joists, the I-joist reinforcement For hip roofs with the jack be used. requirements for a span of 26 ft. shall be permitted to

## BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

–5" maximum

		161		14.			1127/85		9 1/2/2		JOIST DEPTH (in.)	
42	38	333 420	226 226 228	8 6 K	228 228 20	34 36 38	888	37 36	(S)(S)	(H)	TRUSS SPAN	3
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used

in lieu of

solid sawn blocks Hanger may be

- N = No reinforcement required.
   1 = NI reinforced with 3/4" wood structural
- panel on one side only.

  2 = NI reinforced with 3/4" wood structural

ω

- panel on both sides, or double I-joist.

  X = Try a deeper joist or closer spacing.

  2. Maximum design load shall be: 15 psf roof dead load, 55 psf floor total load, and 80 pif wall load. Wall load is based on 3-0" maximum width window or door openings.
  - additional joists beneath the opening's cripple For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" o.c., studs may be required.
- the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. Use Table applies to joists 12" to 24" o.c. that meet 12" o.c. requirements for lesser spacing.
  - 4. For conventional roof construction using a ridge beam, the Roof Truss Span column When the roof is tramed using a ridge board, the Roof Truss Span is equivalent to the the supporting wall and the ridge beam. above is equivalent to the distance between truss is used. distance between the supporting walls as if a
- Cantilevered joists supporting girder trusses or oof beams may require additional reinforcing.

## INSTALLING THE GLUED FLOOR SYSTEM

- 1. Wipe any mud, dirt, water, or ice from Ljoist flanges before gluing.
- 2. Snap a chalk line across the 1-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
- 3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from
- 4. Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when tapped into place with a block and sledgehammer.
- 5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern on wide areas, such as with double I-joists.
- 6. Apply two lines of glue on L-joists where panel ends butt to assure proper gluing of each end
- 7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on I-joist flanges.
- 8. Tap the second row of panels into place, using a block to protect groove edges
- 9. Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and nail to assure accurate and consistent spacing.) 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool or an 2-1/2" common
- 10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the 3/4-inch thick or less, and 2-1/2" ring- or screw-shank nails for thicker panels. Space nails per the for cure time. (Warm weather accelerates glue setting.) Use 2" ring- or screw-shank nails for panels

## FASTENERS FOR SHEATHING AND SUBFLOORING(1)

24 3/4	20 5/8	16 5/8	Maximum Minimum Joist Panel Spacing Thickness (in.) (in.)
2"	2	22	Common Wire or Spiral Nails
1-3/4"	1-3/4"	1-3/4"	ail Size and Ty Ring Thread Nails or Screws
2	2"	2"	pe Staples
6"	6,	6"	Maximur of Fas Edges
12"	12"	12"	n Spacing deners Interm. Supports

- 1. Fasteners of sheathing and subflooring shall conform to the above table.
- 2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
- ω . Flooring screws shall not be less than 1/8-inch in diameter.
- 4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
- 5. Use only adhesives conforming to CAN/CGSB-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with
- Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5

### IMPORTANT NOTE:

Floor sheathing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor

## RIM BOARD INSTALLATION DETAILS

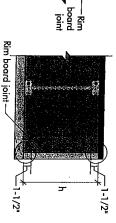
80 ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

Rim board Joint Between Floor Joists

2-1/2" nails at 6" o.c. (typical)

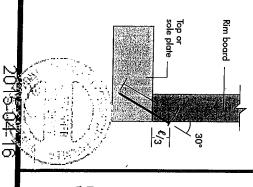
Rim board Joint at Corner



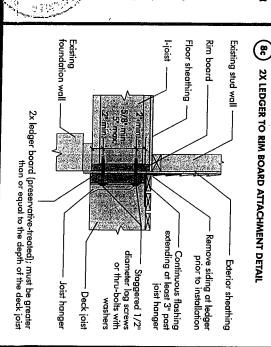


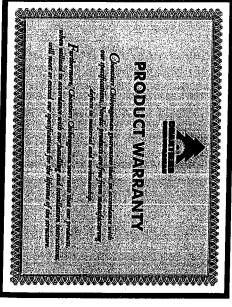
(# TOE-NAIL CONNECTION AT RIM BOARD

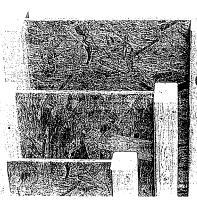
2-1/2" toe-nails at 6" o.c. (typical) —



## 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL







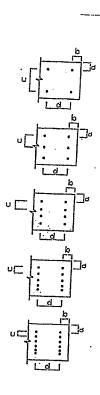
### · MICRO CITY

### engineering services inc.

TEL: (519) 287 - 2242

R.R. #1, P.O. BOX 61, GLENCOE, ONTARIO, NOL 1M0

	TVI HEADED AND CONVENED TO							
	LVL HEADER AND CONVENTIONAL LUMBER NAILING DETAILS							
	DETAIL NUMBER	NUMBER OF ROWS	SPACING (INCHES o/c)					
	. A	2.	1 12					
	В	2	. 8					
	С	2	6					
1	D	2	4					
	1A	3	12					
	1B	3	8					
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	4A	6	12					
Ŀ	4B	6	8					
Ŀ	4C	6	6					
L	4D	6	4					



### NOTES:

- (1) MINIMUM LUMBER EDGE DISTANCE "a" = 1"
- (2) MINIMUM LUMBER END DISTANCE "b" = 2"
- (3) MINIMUM NAIL ROW SPACING "c" = 2"
- (4) STAGGER NAILS "d/2" BETWEEN PLIES FOR MULTI-PLY MEMBERS (3 PLY OR MORE)
- (5) ALL NAILS ARE 3-1/2" ARDOX SPIRAL NAILS
- (6) DO NOT USE AIR-DRIVEN NAILS



DUG NO TAMPICO1. 14
STRUCTURAL
COMPONENT ONLY
TO BE USED ONLY
WITH BEAM CALCS
BEADING THE
STAMP BELOWS

PROVICE NATLING
DETAIL № X SEE
DWG #TAMN1001-14