

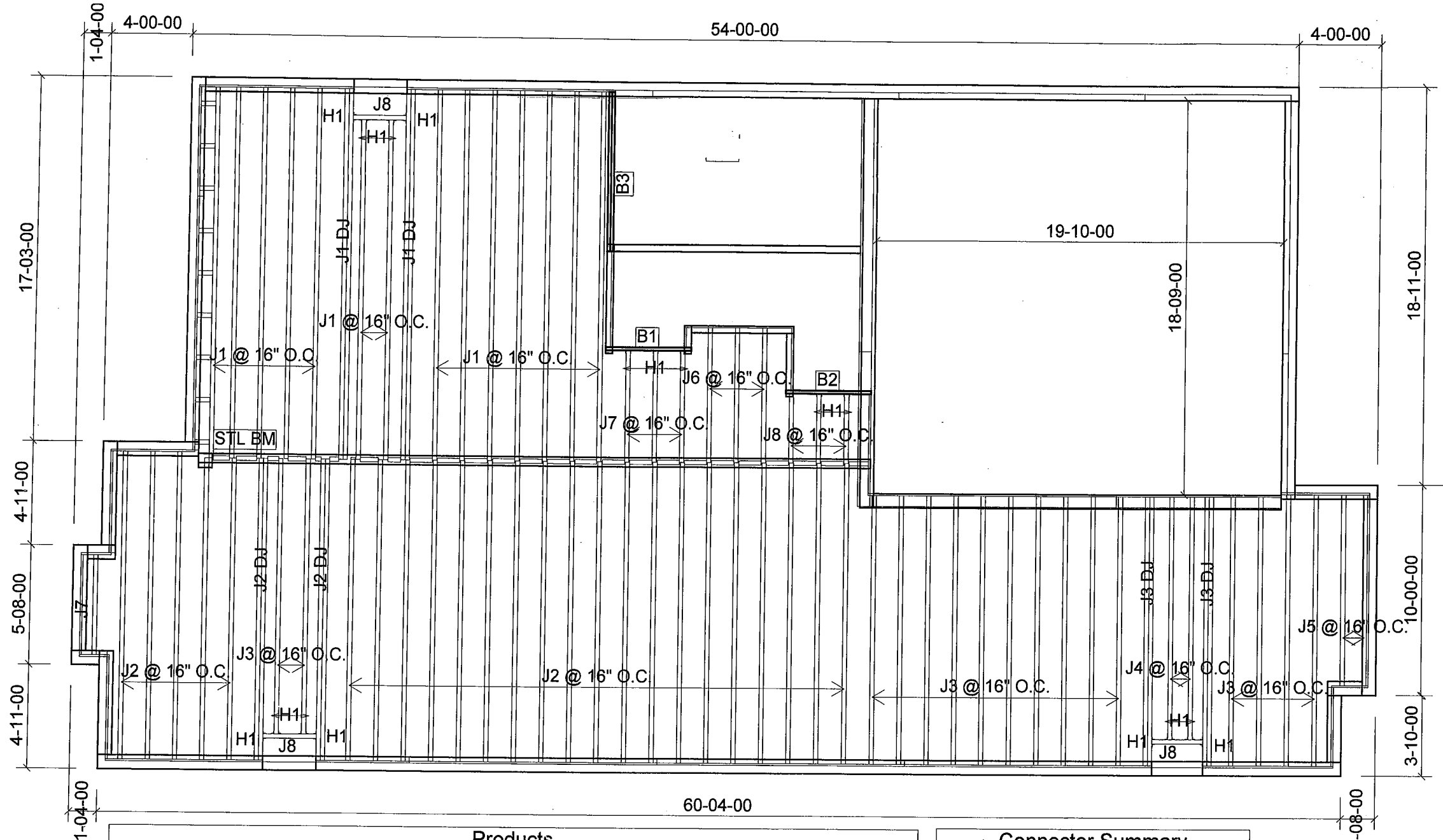
FROM PLAN DATED: NOV 2016  
BUILDER: GREENPARK HOMES  
SITE: RUSSELL GARDENS  
MODEL: ROSEWOOD 7  
ELEVATION: 1,3  
LOT:  
CITY: WATERDOWN  
SALESMAN: M D  
DESIGNER: CZ  
REVISION:

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

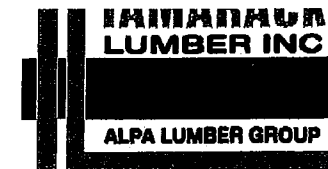
## 1st FLOOR

STANDARD AND WALK UP



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	16
J3 DJ	14-00-00	11 7/8" NI-40x	2	4
J4	12-00-00	11 7/8" NI-40x	1	2
J5	10-00-00	11 7/8" NI-40x	1	2
J6	8-00-00	11 7/8" NI-40x	1	3
J7	6-00-00	11 7/8" NI-40x	1	4
J8	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

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



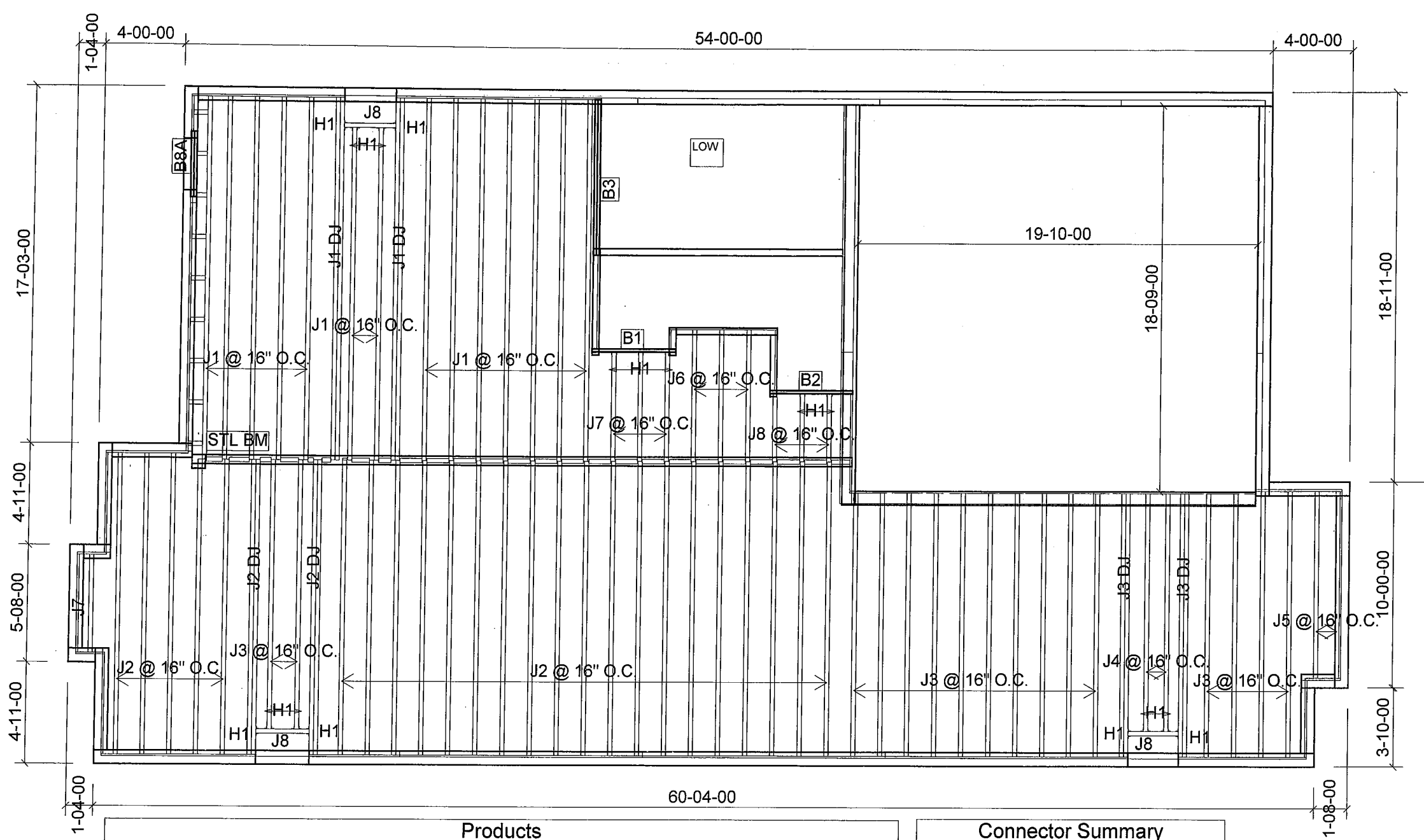
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BUILDER: GREENPARK HOMES  
SITE: RUSSELL GARDENS  
MODEL: ROSEWOOD 7  
ELEVATION: 1,3  
LOT:  
CITY: WATERDOWN  
SALESMAN: M D  
DESIGNER: CZ  
REVISION:

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SEE FIGURE 7, TABLES 1 & 2.  
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O.B.C 9.30.6.  
LOADING:  
DESIGN LOADS: L/480.000  
LIVE LOAD: 40.0 lb/ft²  
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	14
J1 DJ	18-00-00	11 7/8" NI-40x	2	4
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J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	14-00-00	11 7/8" NI-40x	1	16
J3 DJ	14-00-00	11 7/8" NI-40x	2	4
J4	12-00-00	11 7/8" NI-40x	1	2
J5	10-00-00	11 7/8" NI-40x	1	2
J6	8-00-00	11 7/8" NI-40x	1	3
J7	6-00-00	11 7/8" NI-40x	1	4
J8	4-00-00	11 7/8" NI-40x	1	6
B8A	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
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

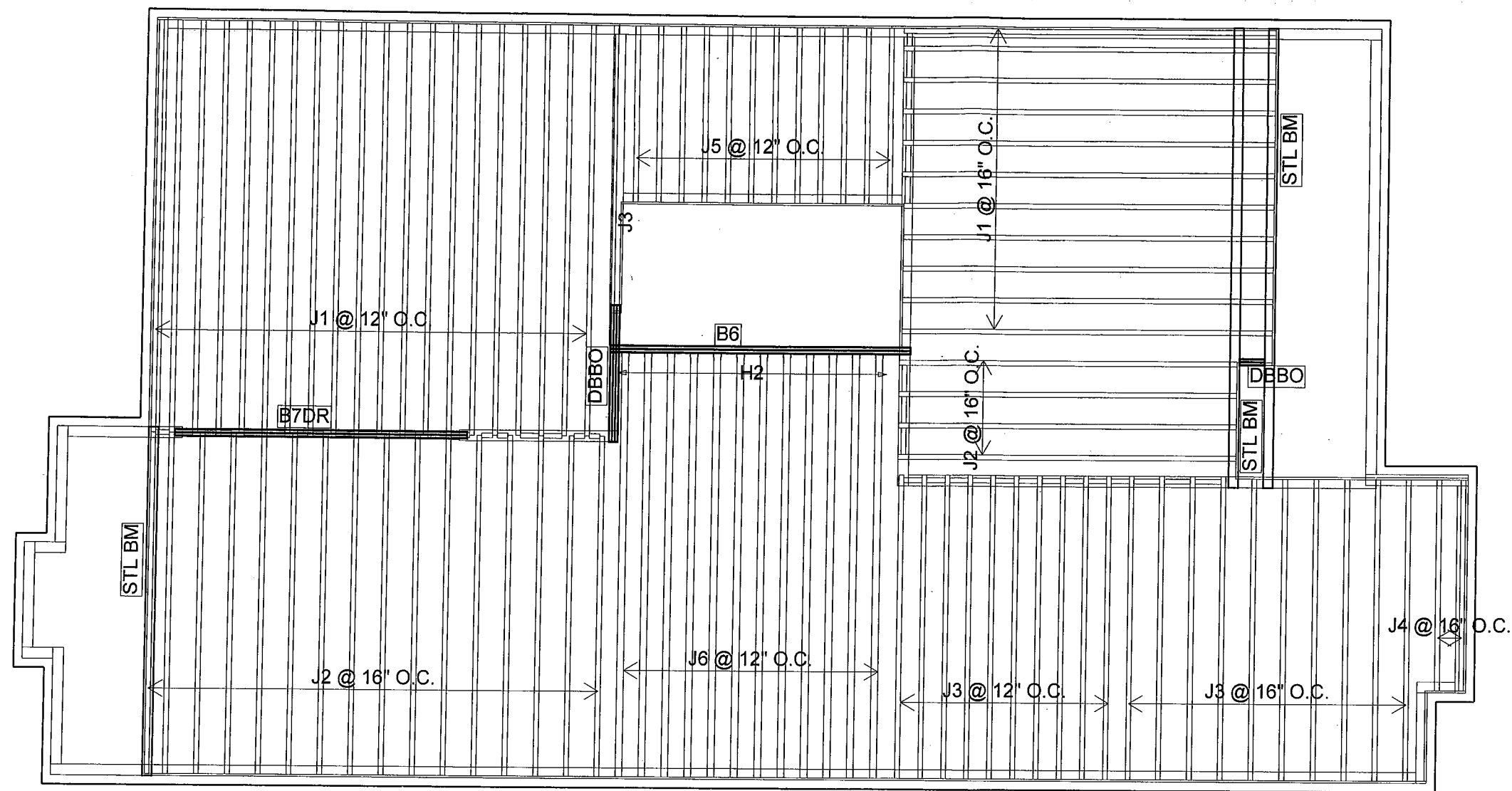
Connector Summary		
Qty	Manuf	Product
5	H1	IUS2.56/11.88
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6	H1	IUS2.56/11.88

FROM PLAN DATED: NOV 2016  
BUILDER: GREENPARK HOMES  
SITE: RUSSEL GARDENS  
MODEL: ROSEWOOD 7  
ELEVATION: 1, 3  
LOT:  
CITY: WATERDOWN  
SALESMAN: M D  
DESIGNER: CZ  
REVISION:

NOTES:  
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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

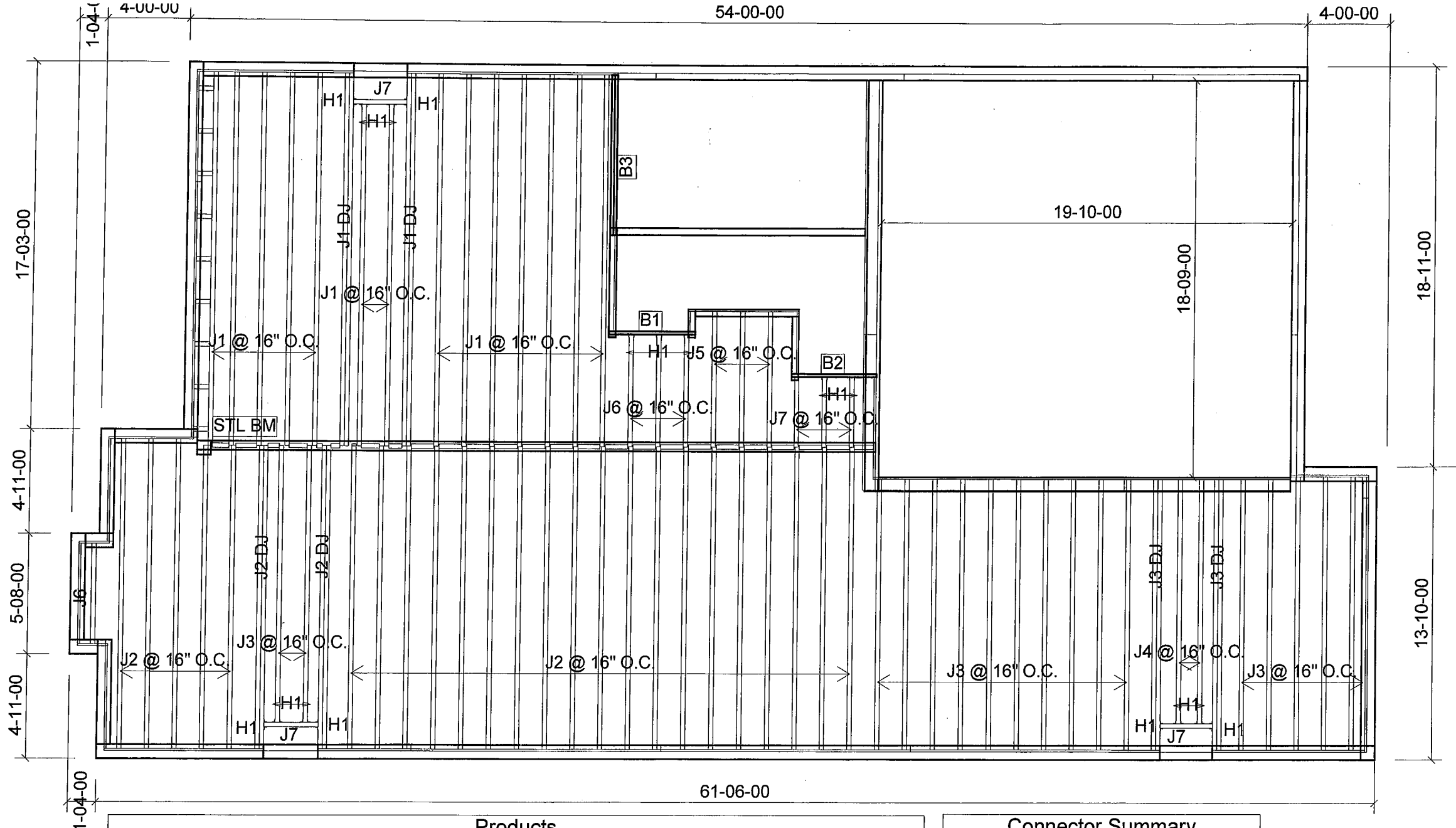
DATE: 15/05/2017

2nd FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	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



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  
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DESIGN LOADS: L/480.000  
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TILED AREAS: 20 lb/ft  
SUBFLOOR: 3/4" GLUED AND NAILED

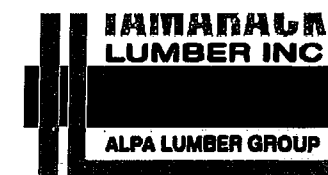
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# 1st FLOOR

STANDARD AND WALK UP

Products				
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J1	18-00-00	11 7/8" NI-40x	1	14
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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
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J7	4-00-00	11 7/8" NI-40x	1	6
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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

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



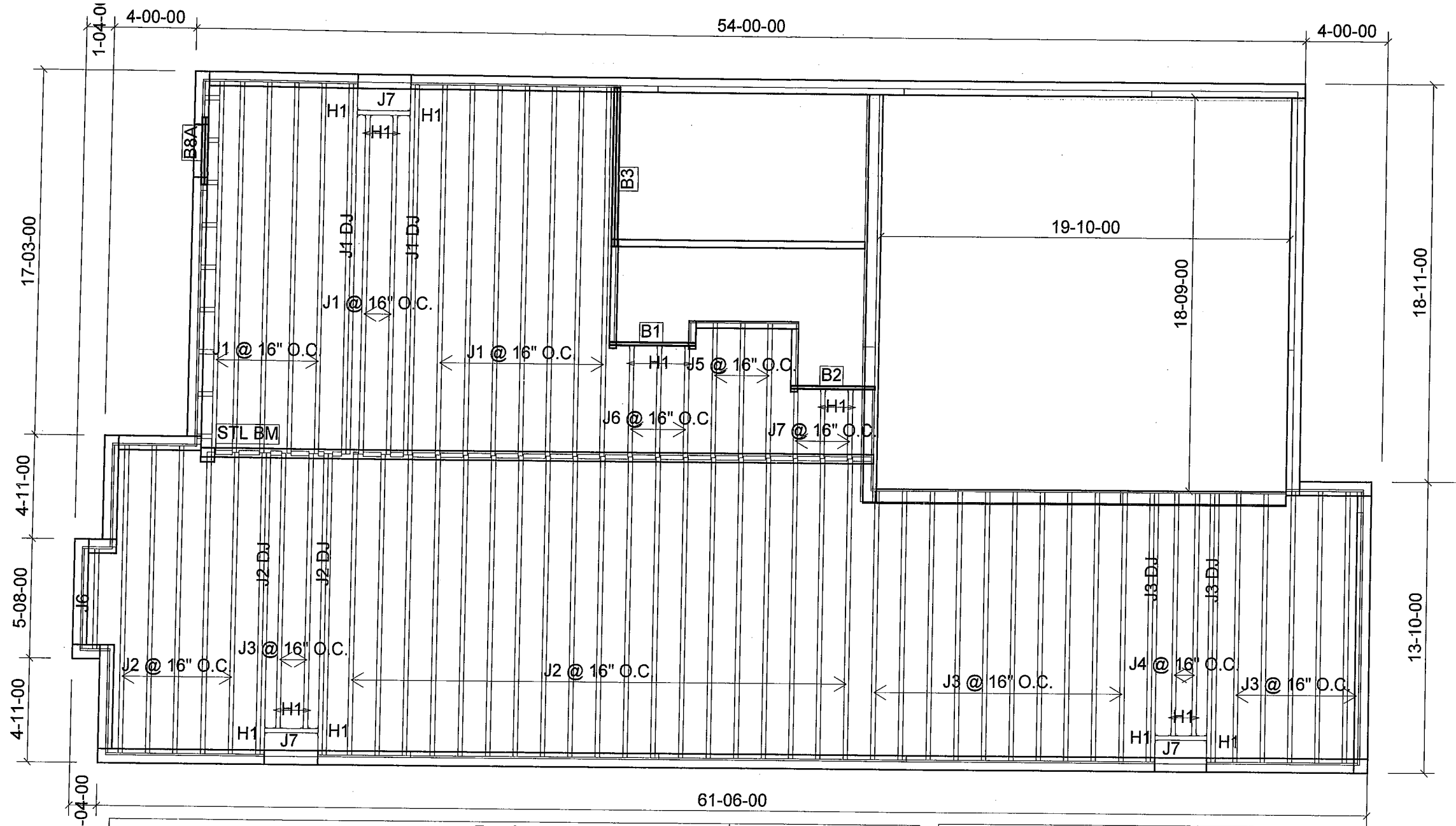
FROM PLAN DATED: NOV 2016  
BUILDER: GREENPARK HOMES  
SITE: RUSSELL GARDENS  
MODEL: ROSEWOOD 7  
ELEVATION: 2  
LOT:  
CITY: WATERDOWN  
SALESMAN: M D  
DESIGNER: CZ  
REVISION:

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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



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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
B8A	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
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

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

FROM PLAN DATED: NOV 2016

BUILDER: GREENPARK HOMES

SITE: RUSSEL GARDENS

MODEL: ROSEWOOD 7

ELEVATION: 2

LOT:

CITY: WATERDOWN

SALESMAN: M D

DESIGNER: CZ

REVISION:

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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>

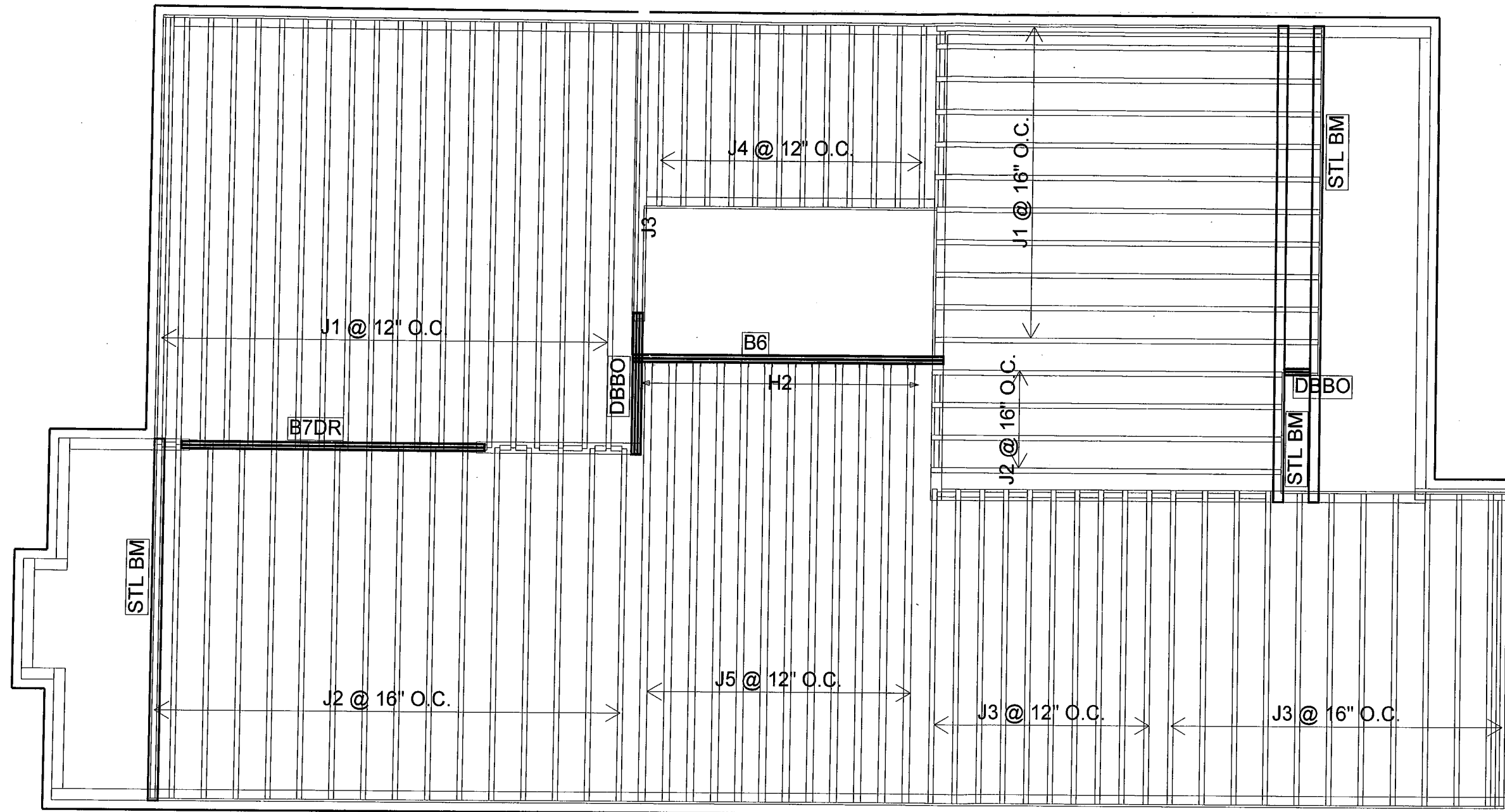
DEAD LOAD: 15.0 lb/ft

TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 15/05/2017

2nd FLOOR



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

# 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

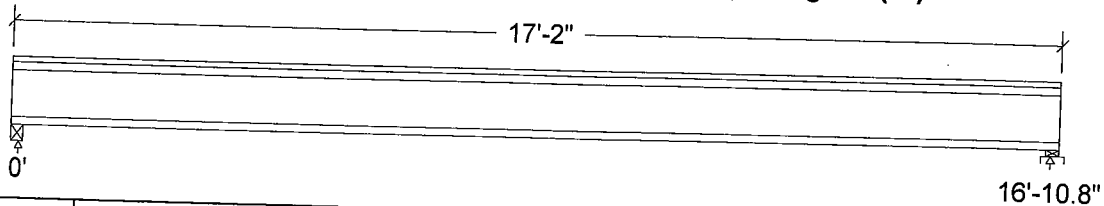
## Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

### Loads:

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

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

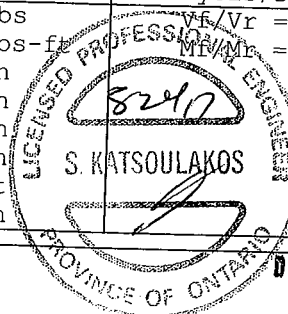


Unfactored:			
Dead	225		225
Live	451		451
Factored:			
Total	958		958
Bearing:			
Resistance			
Joist	2117		2117
Support	-		3844
Des ratio			
Joist	0.45		0.45
Support	-		0.25
Load case	#2		#2
Length	2-1/2		2-1/2
Min req'd	1-3/4		1-3/4
Stiffener	No		No
Kd	1.00		1.00
KB support	-		1.00
fcp sup	-		769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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 958	Vr = 2336	lbs	Vf/Vr = 0.41
Moment (+)	Mf = 4045	Mr = 6255	lbs-ft	Mf/Mr = 0.65
Perm. Defl'n	0.12 = <L/999	0.56 = L/360	in	0.22
Live Defl'n	0.24 = L/836	0.42 = L/480	in	0.57
Total Defl'n	0.36 = L/557	0.84 = L/240	in	0.43
Bare Defl'n	0.29 = L/691	0.56 = L/360	in	0.52
Vibration	Lmax = 16'-11	Lv = 18'-1	ft	
Defl'n	= 0.030	= 0.037	in	0.80



OWONO.YAM 4276717  
STRUCTURAL  
COMPONENT ONLY

**Additional Data:**

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2
EI	371.1 million	-	-	-	-	-	-	-	#2

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

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

Deflection: LC #1 = 1.0D (permanent)

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

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

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

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

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

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

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

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

**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 460e06 lb-in<sup>2</sup> K= 6.18e06 lbs

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**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.
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.



DWG NO. TAM 42064-17  
STRUCTURAL  
COMPONENT ONLY



# NORDIC STRUCTURES

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

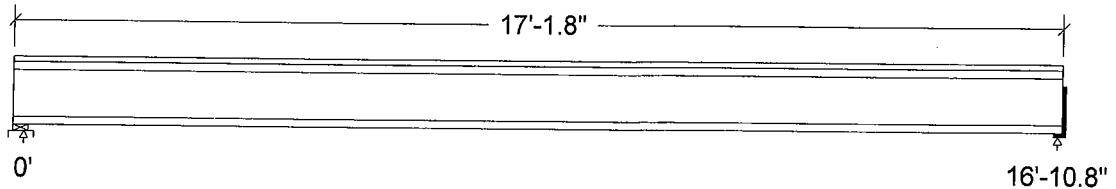
**PROJECT**  
GREENPARK  
ROSEWOOD 7  
WATERDOWN  
J1-2ND FL.wwb

## Design Check Calculation Sheet Nordic Sizer – Canada 6.4

### Loads:

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

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



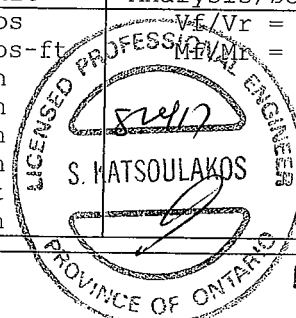
Unfactored:			
Dead	169		169
Live	338		338
Factored:			
Total	718		718
Bearing:			
Resistance			
Joist	2189		2009
Support	4612		-
Des ratio			
Joist	0.33		0.36
Support	0.16		-
Load case	#2		#2
Length	3		1-3/4
Min req'd	1-3/4		1-3/4
Stiffener	No		No
Kd	1.00		1.00
KB support	1.00		-
fcp sup	769		-
Kzcp 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	VE/Vr = 0.31
Moment(+)	Mf = 3034	Mr = 6255	lbs-ft	ME/Mr = 0.49
Perm. Defl'n	0.10 = <L/999	0.56 = L/360	in	0.17
Live Defl'n	0.19 = <L/999	0.42 = L/480	in	0.45
Total Defl'n	0.29 = L/705	0.84 = L/240	in	0.34
Bare Defl'n	0.22 = L/922	0.56 = L/360	in	0.39
Vibration	Lmax = 16'-11	Lv = 18'-11	ft	
Defl'n	= 0.027	= 0.037	in	0.73



DWG NO. TAM 42265-17  
STRUCTURAL  
COMPONENT ONLY

**Additional Data:**

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2
EI	371.1 million	-	-	-	-	-	-	-	#2

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

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

Deflection: LC #1 = 1.0D (permanent)

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

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

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

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

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

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

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

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

**CALCULATIONS:**Deflection:  $EI_{eff} = 433e06 \text{ lb-in}^2$   $K = 6.18e06 \text{ lbs}$ 

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**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.



DWG NO. TAM 4276517  
STRUCTURAL  
COMPONENT ONLY

# 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

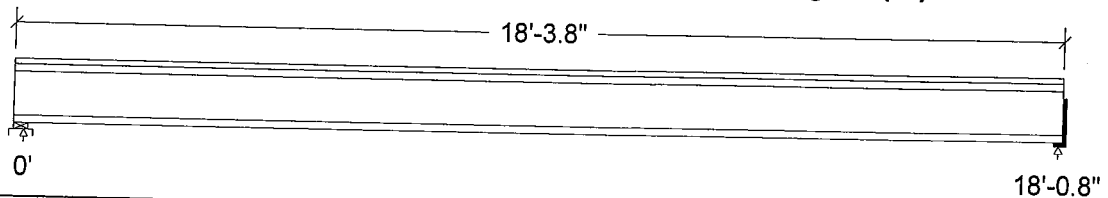
## Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

### Loads:

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

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



Unfactored:			
Dead	181		181
Live	361		361
Factored:			
Total	768		768
Bearing:			
Resistance			
Joist	2243		2129
Support	6457		-
Des ratio			-
Joist	0.34		0.36
Support	0.12		-
Load case	#2		#2
Length	3		1-3/4
Min req'd	1-3/4		1-3/4
Stiffener	No		No
Kd	1.00		1.00
KB support	1.00		-
fcp sup	769		-
Kzcp sup	1.00		-

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

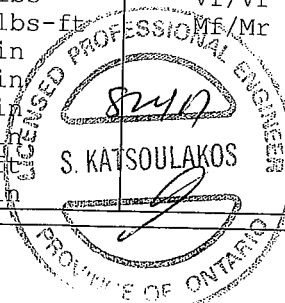
Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Hanger;

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-O86-09 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 768	Vr = 2336	lbs	Vf/Vr = 0.33
Moment (+)	Mf = 3467	Mr = 11609	lbs-ft	Mf/Mr = 0.30
Perm. Defl'n	0.09 = <L/999	0.60 = L/360	in	0.15
Live Defl'n	0.18 = <L/999	0.45 = L/480	in	0.40
Total Defl'n	0.27 = L/795	0.90 = L/240	in	0.30
Bare Defl'n	0.20 = <L/999	0.60 = L/360	in	0.33
Vibration	Lmax = 18'-1	Lv = 20'-6	ft	
Defl'n	= 0.025	= 0.034	in	0.74



DWG NO. TAM 42766 17  
STRUCTURAL  
COMPONENT ONLY

**Additional Data:**

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	11609	1.00	1.00	-	1.000	-	-	-	#2
EI	547.1 million	-	-	-	-	-	-	-	#2

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

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

Deflection: LC #1 = 1.0D (permanent)

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

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

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

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

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

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

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

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

**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 613e06 lb-in<sup>2</sup> K= 6.18e06 lbs

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**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.



DWG NO. TAM42766.17  
STRUCTURAL  
COMPONENT ONLY



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

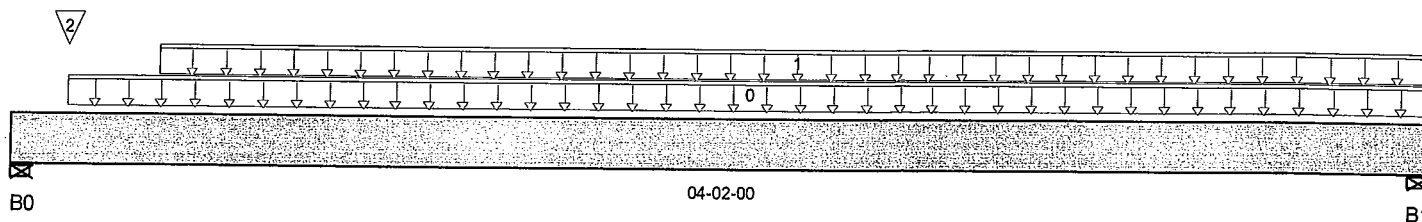
Description: Designs\Flush Beams\Basement\Flush Beams\B1(i3569)

Specifier:

Designer: CZ

Company:

Misc:



Total Horizontal Product Length = 04-02-00

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

Bearing	Live	Dead	Snow	Wind
B0, 4"	1,759 / 0	943 / 0		
B1, 4"	760 / 0	392 / 0		

## Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	User 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

## 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 wood 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.

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / 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

## Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



DWG NO. TAM 42267-17  
STRUCTURAL  
COMPONENT ONLY



Boise Cascade

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

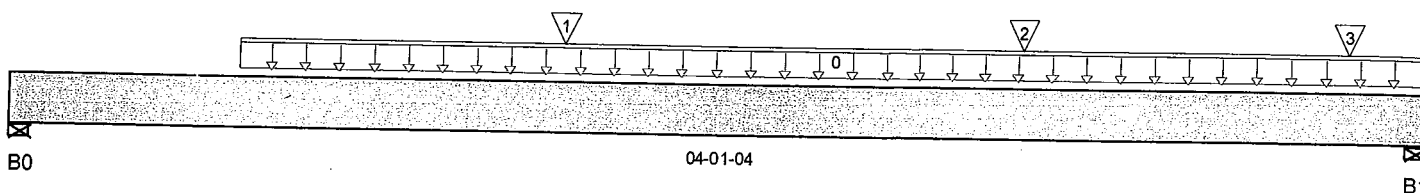
Description: Designs\Flush Beams\Basement\Flush Beams\B2(i3578)

Specifier:

Designer: CZ

Company:

Misc:



Total Horizontal Product Length = 04-01-04

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

Bearing	Live	Dead	Snow	Wind
B0, 4"	396 / 0	210 / 0		
B1, 6"	682 / 0	366 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	User Load	Unf. Lin. (lb/ft)	L	00-08-00	04-01-04	240	120			n/a
1	J8(i3583)	Conc. Pt. (lbs)	L	01-07-04	01-07-04	90	45			n/a
2	J8(i3581)	Conc. Pt. (lbs)	L	02-11-04	02-11-04	87	43			n/a
3	3(i1489)	Conc. Pt. (lbs)	L	03-10-08	03-10-08	71	48			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

**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 wood 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.

**Bearing Supports**

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

**Notes**

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

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

Calculations assume member is fully braced.

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

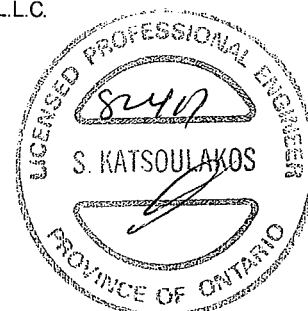
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

**CONFORMS TO OBC 2012**

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



DWG NO. TAM 4216817  
STRUCTURAL  
COMPONENT ONLY



Build 5033

Job Name:

Address:

City, Province, Postal Code: WATERDOWN,

Customer:

Code reports: CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

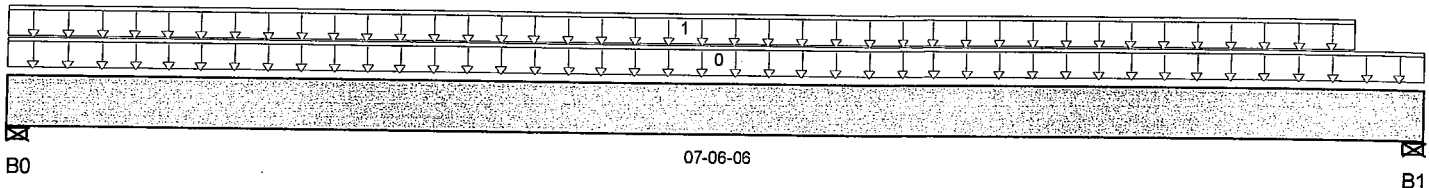
Description: Designs\Flush Beams\Basement\Flush Beams\B3(i3406)

Specifier:

Designer: CZ

Company:

Misc:



Total Horizontal Product Length = 07-06-06

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

Bearing	Live	Dead	Snow	Wind
B0, 4"	279 / 0	506 / 0		
B1, 2-3/8"	256 / 0	452 / 0		

## Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
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

## Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / 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 O86.

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 OBC 2012**


DWG NO. TAM 4269-17  
STRUCTURAL  
COMPONENT ONLY

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\Basement\Flush Beams\B3(i3406)

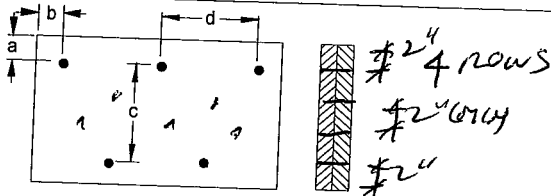
Specifier:

Designer: CZ

Company:

Misc:

### Connection Diagram



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

Member has no side loads.

Connectors are: 16d 16d Nails

3 1/2" ARDOX SPIRAL

### 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 wood 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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DWONG YAM 4269-17  
STRUCTURAL  
COMPONENT ONLY



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

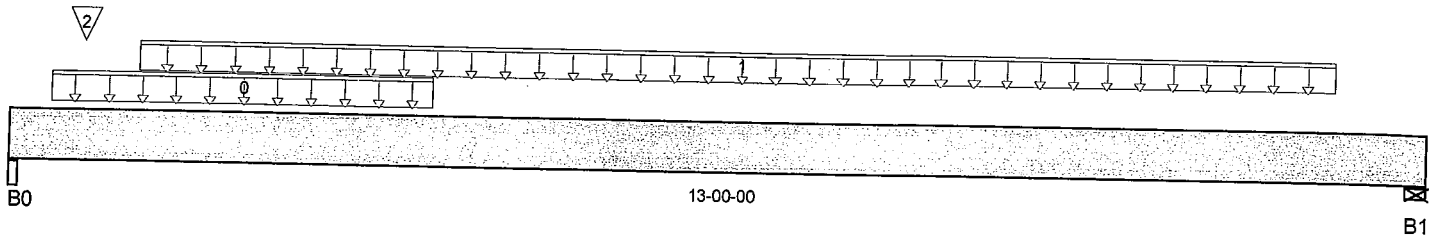
Description: Designs\Flush Beams\1st Floor\Flush Beams\B6(i3440)

Specifier:

Designer: CZ

Company:

Misc:



Total Horizontal Product Length = 13-00-00

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

Bearing	Live	Dead	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	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	User Load	Unf. Lin. (lb/ft)	L	00-04-08	03-10-08	240	120			n/a
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-00	12-02-00	367	184			n/a
2	J6(i3385)	Conc. Pt. (lbs)	L	00-08-00	00-08-00	400	200			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	05-08-00
End Shear	5,457 lbs	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.	L/681 (0.217")	0.41"	52.9%	5	06-05-00
Max Defl.	0.331"	n/a	n/a	4	06-05-00
Span / Depth	12.4	n/a	n/a		00-00-00

## Bearing Supports

	Dim. (L x W)	Demand	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 O86.

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 CBC 2012



P612

DWG NO. YAM 427217

STRUCTURAL  
COMPONENT ONLY



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(i3440)

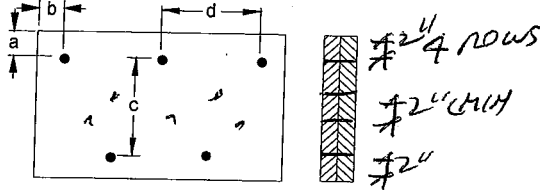
Specifier:

Designer: CZ

Company:

Misc:

### Connection Diagram



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

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 Spike Nails

3/4" ARDOX SPIRAL

### 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 wood 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. YAM 4277017  
STRUCTURAL  
COMPONENT ONLY



Build 5033

Job Name:

Address:

City, Province, Postal Code: WATERDOWN,

Customer:

Code reports: CCMC 12472-R

File Name: ROSEWOOD 7.mmdl

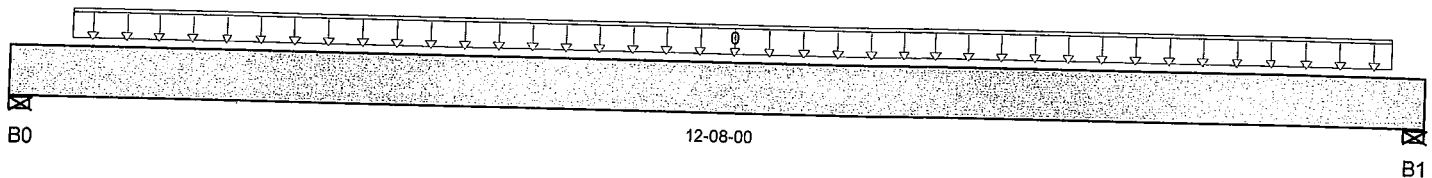
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B7D

Specifier:

Designer: CZ

Company:

Misc:



Total Horizontal Product Length = 12-08-00

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

Bearing	Live	Dead	Snow	Wind
B0, 4"	3,691 / 0	1,922 / 0		
B1, 4"	3,836 / 0	1,995 / 0		

## Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0 Smoothed Load	Unf. Lin. (lb/ft)	L	00-06-08	12-04-08	636	318	1.00	1.15	n/a

## Controls Summary

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

## Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	4" x 3-1/2"	7,939 lbs	69.8%	46.5%	Unspecified
B1 Wall/Plate	4" x 3-1/2"	8,248 lbs	72.6%	48.3%	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 O86.  
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 OBC 2012**


DWG NO. TAM 42771-17  
**STRUCTURAL**  
**COMPONENT ONLY**



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

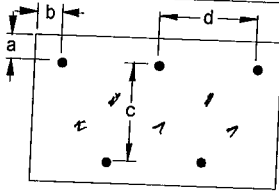
Specifier:

Designer: CZ

Company:

Misc:

### Connection Diagram



#2 4 ROWS  
#2 6 ROWS  
#2 4

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

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

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

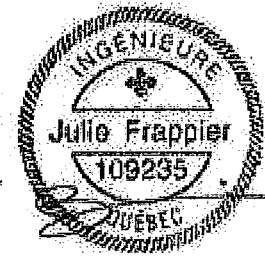
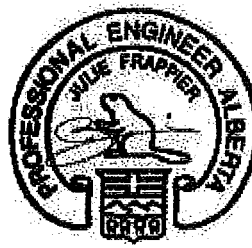
### Disclosure

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 wood 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.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



DWG NO. TAM42271-17  
STRUCTURAL  
COMPONENT ONLY



## Maximum Floor Spans

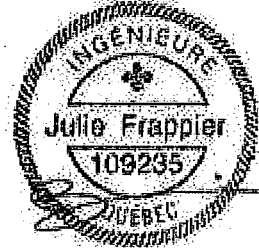
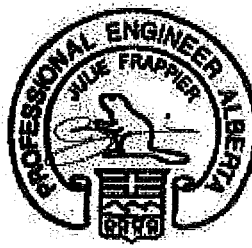
Live Load = 40 psf, Dead Load = 15 psf  
Simple Spans, L/480 Deflection Limit  
3/4" OSB G&N Sheathing

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

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

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



## Maximum Floor Spans

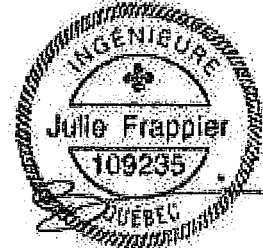
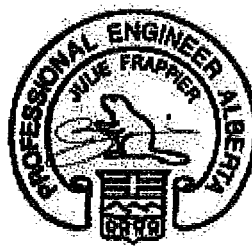
Live Load = 40 psf, Dead Load = 15 psf  
Simple Spans, L/480 Deflection Limit  
5/8" OSB G&N Sheathing

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

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

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



## Maximum Floor Spans

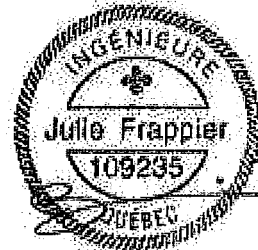
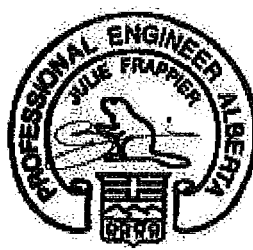
Live Load = 40 psf, Dead Load = 30 psf  
Simple Spans, L/480 Deflection Limit  
5/8" OSB G&N Sheathing

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

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

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



## Maximum Floor Spans

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

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

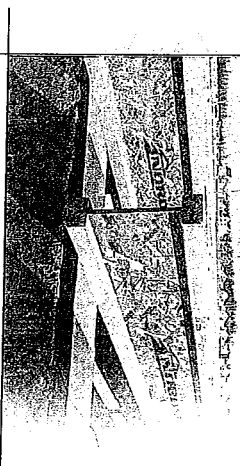
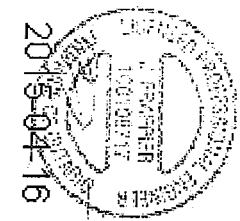
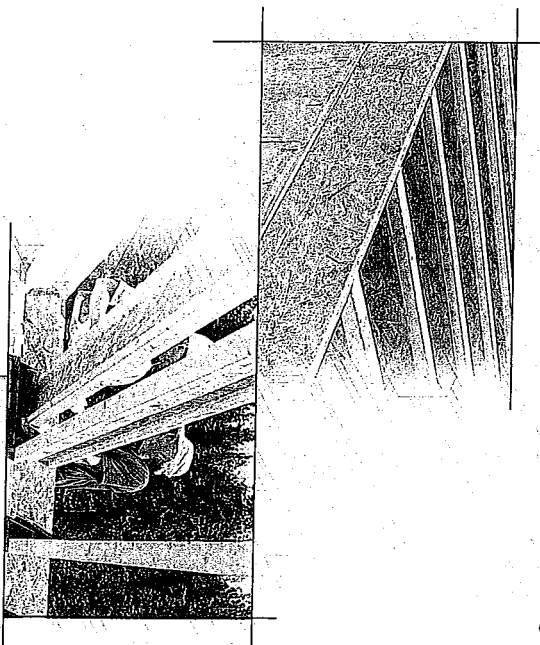
Depth	Series	Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
	NI-60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

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





# INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



Distributed by:



N-C301 / November 2014

## SAFETY AND CONSTRUCTION PRECAUTIONS

### WARNING

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

### Avoid Accidents by Following these Important Guidelines:

1. Do not walk on I-joists until fully fastened and braced, or serious injuries can result.
2. 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 to prevent I-joist rollover or buckling.
3. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long 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 I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
4. 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.
5. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
6. 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.
7. Never install a damaged I-joist.

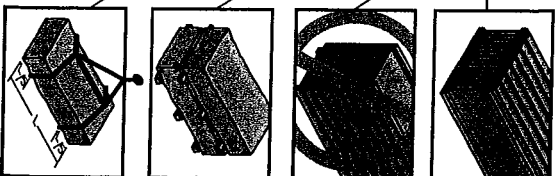


Never stack building materials over unsheathed I-joists. Once sheathed, do not over-stress I-joist with concentrated loads from building materials.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole 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 bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stock and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flatwise.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.



# 101471140

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


1. Hangers shown illustrate the three most commonly used metal hangers.

## NORDIC I-JOIST SERIES

**FIGURE 2**  
**WEB STIFFENER INSTALLATION DETAILS**

Flange width  
2-1/2" or 3-1/2"

Flange width  
2-1/2" or 3-1/2"

Approx. 2"  Approx. 2"

1/8"-1/4" Gap


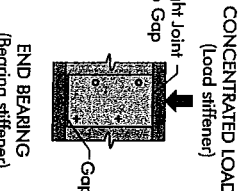
(4) 2-1/2" nails,  
3" nails required  
for H-loists with 3-1/2"  
Flange width

See table below for web stiffener size requirements

✓ No Gap

STIFFENER SIZE REQUIREMENTS	
Flange Width	Web Stiffener Size Etc.
2-1/2"	1" x 2.5-1/8" minimum

3-1/2"	1-1/2" x 2-5/16" mi
--------	---------------------



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

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

...enables Nordic  
...roughout the  
...port for to the

2

23 pieces per unit	2400f MSR	NPG Lumber	23 pieces per unit
	NI-90	NI-90x	

2015-04-16

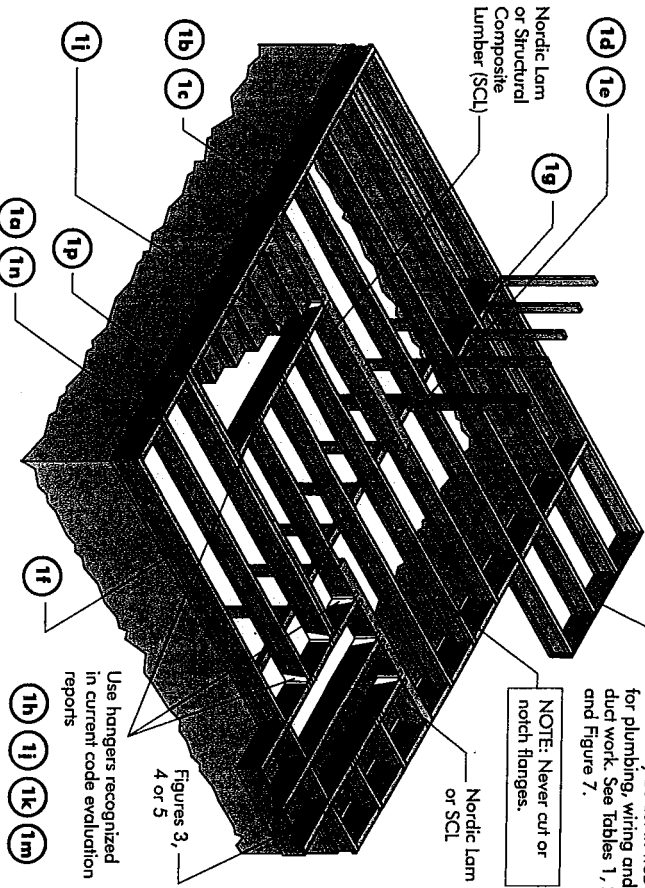
# INSTALLING NORDIC I-JOISTS

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

2015-04-16

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

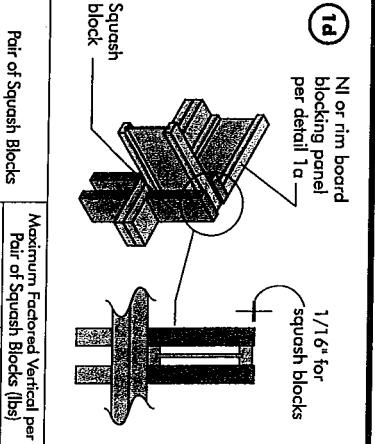
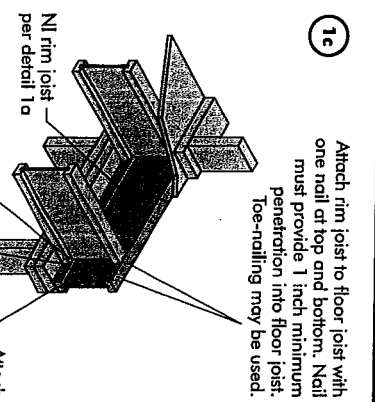
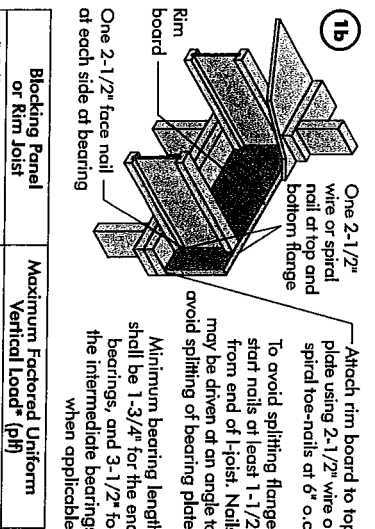
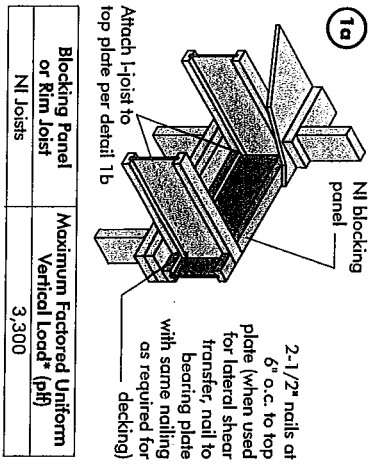
Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.



Figures 3, 4 or 5  
Holes may be cut in web for plumbing, wiring and duct work. See Tables 1, 2 and Figure 7.  
NOTE: Never cut or notch flanges.

Use hangers recognized in current code evaluation reports

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.



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
N I Joists	3,300

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

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

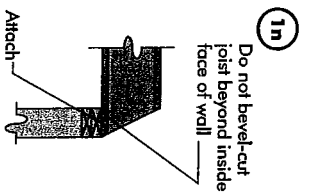
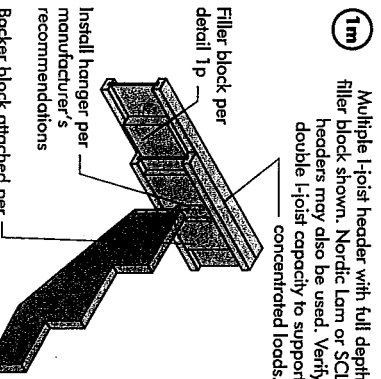
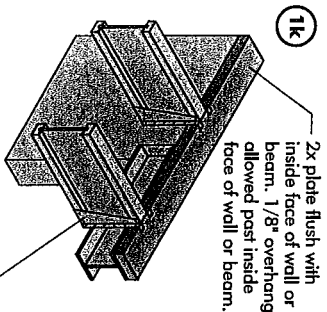
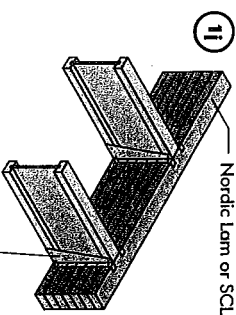
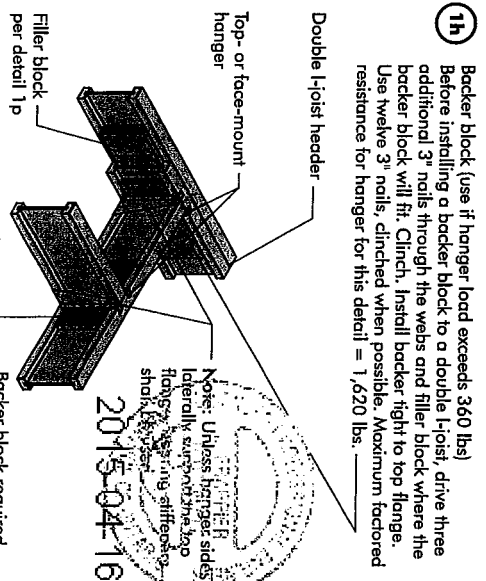
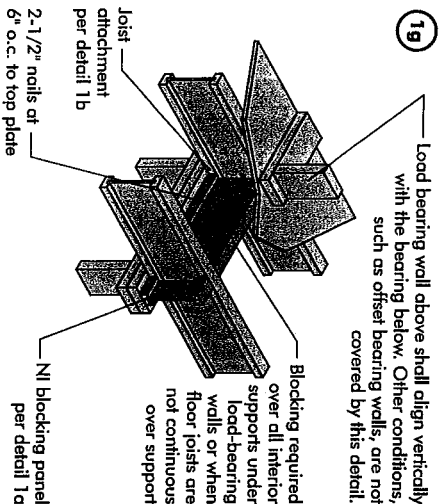
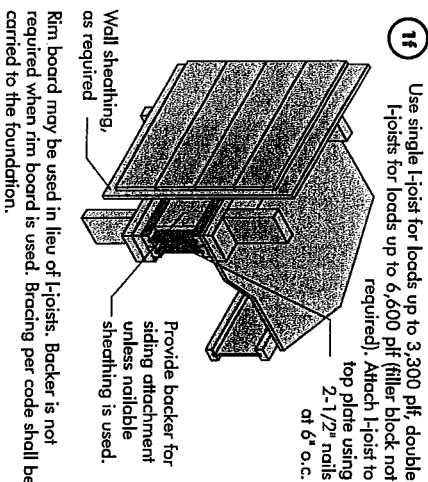
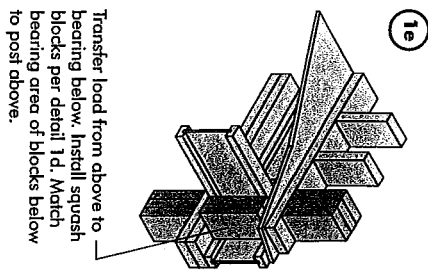
Pair of Squash Blocks	Maximum Factored Vertical per Pair of Squash Blocks (lbs)
2x Lumber	5,500
1-1/8" Rim Board Plus	4,300
	6,600

\*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

\*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

\*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

\*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



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

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

Backer block attached per detail 1h. Nail with twelve 3" nails, clinch when possible. Maximum support capacity = 1,620 lbs.

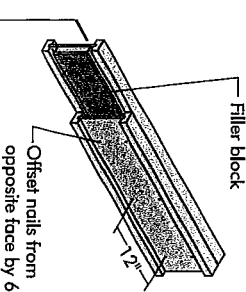
Note: Blocking required at bearing for lateral support, not shown for clarity.

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

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

\* Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C0325 or CAN/CSA-Q437 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 minus 4-1/4".

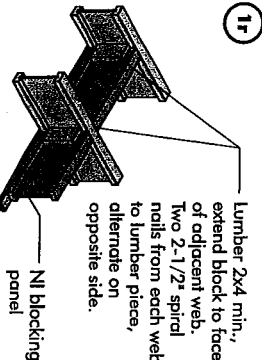
1p



- Notes:**
- Support back of I-joist web during nailing to prevent damage to web/flange connection.
  - Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top I-joist flange.
  - Filler block is required between joists for full length of span.
  - Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
  - The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

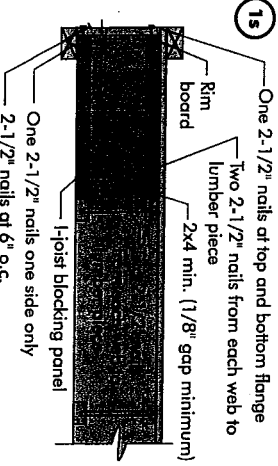
**FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION**

Flange Size	Joist Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2" x 14" x 16"	2-1/8" x 6" x 8"
2-1/2" x 1-1/2"	11-7/8" x 14" x 16"	2-1/8" x 8" x 10"
3-1/2" x 1-1/2"	11-7/8" x 14" x 16"	3" x 8" x 10"
3-1/2" x 1-1/2"	11-7/8" x 14" x 16"	3" x 12" x 12"
3-1/2" x 2"	11-7/8" x 14" x 16"	3" x 7" x 9"
3-1/2" x 2"	11-7/8" x 14" x 16"	3" x 11" x 11"



Optional: Minimum 1/4 inch strip applied to underside of joist of blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

1s

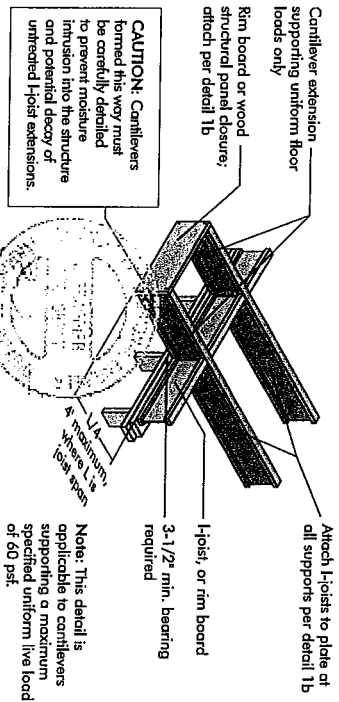


**Notes:**

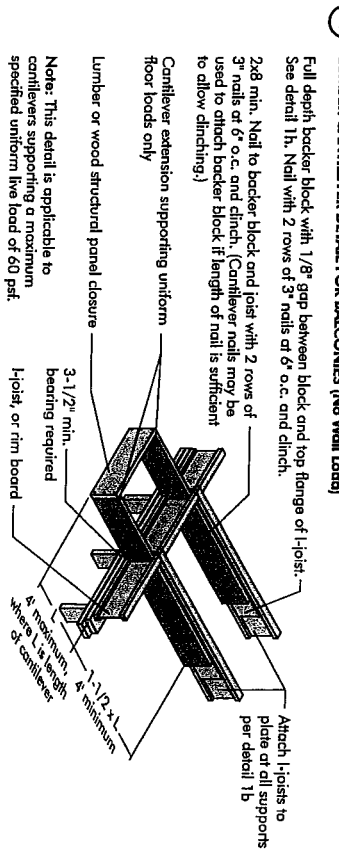
- In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
- All nails are common spiral in this detail.

## CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

### 3a I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

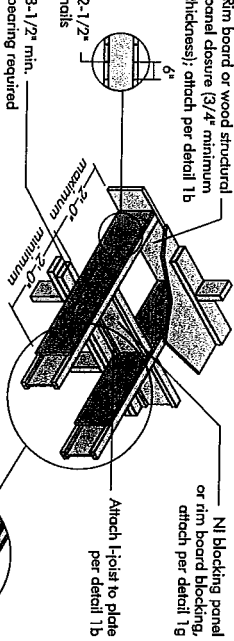


### 3b LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



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

### 4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE



### Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.
- Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

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.

### 4b Alternate Method 2 — DOUBLE I-JOIST

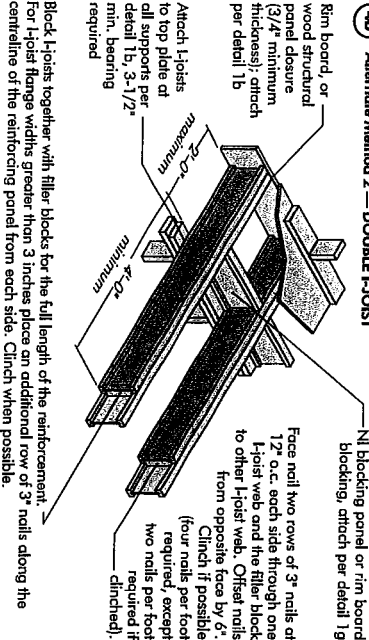
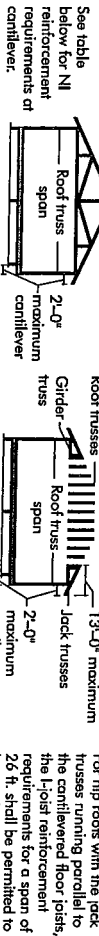


FIGURE 4 (continued)



### CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)				ROOF LOADING (UNFACTORED)				ROOF LOADING (UNFACTORED)				
	LL = 30 psf, DL = 15 psf JOIST SPACING (in.)				LL = 40 psf, DL = 15 psf JOIST SPACING (in.)				LL = 30 psf, DL = 15 psf JOIST SPACING (in.)				
12	X	X	X	X	X	X	X	X	X	X	X	X	X
14	X	X	X	X	X	X	X	X	X	X	X	X	X
16	X	X	X	X	X	X	X	X	X	X	X	X	X
18	X	X	X	X	X	X	X	X	X	X	X	X	X
20	X	X	X	X	X	X	X	X	X	X	X	X	X
22	X	X	X	X	X	X	X	X	X	X	X	X	X
24	X	X	X	X	X	X	X	X	X	X	X	X	X
26	X	X	X	X	X	X	X	X	X	X	X	X	X
28	X	X	X	X	X	X	X	X	X	X	X	X	X
30	X	X	X	X	X	X	X	X	X	X	X	X	X
32	X	X	X	X	X	X	X	X	X	X	X	X	X
34	X	X	X	X	X	X	X	X	X	X	X	X	X
36	X	X	X	X	X	X	X	X	X	X	X	X	X
38	X	X	X	X	X	X	X	X	X	X	X	X	X
40	X	X	X	X	X	X	X	X	X	X	X	X	X
42	X	X	X	X	X	X	X	X	X	X	X	X	X
44	X	X	X	X	X	X	X	X	X	X	X	X	X
46	X	X	X	X	X	X	X	X	X	X	X	X	X
48	X	X	X	X	X	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X	X	X	X	X	X
52	X	X	X	X	X	X	X	X	X	X	X	X	X
54	X	X	X	X	X	X	X	X	X	X	X	X	X
56	X	X	X	X	X	X	X	X	X	X	X	X	X
58	X	X	X	X	X	X	X	X	X	X	X	X	X
60	X	X	X	X	X	X	X	X	X	X	X	X	X

1. N = No reinforcement required.
2. X = Reinforced with 3/4" wood structural panel on one side only.
3. X = Reinforced with 3/4" wood structural panel on both sides, or double I-joist.
4. For larger openings, or multiple 3-0" wide openings spaced less than 6-0" o.c., additional joists beneath the opening's cripple studs may be required.
5. X = Try a deeper joist or closer spacing.
6. Maximum design load shall be 15 psf roof dead load, 55 psf floor total load, and 80 psf wall load. Wall load is based on 3-0" maximum width window or door opening.
7. 12" o.c. requirements for lesser spacing.
8. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam.
9. When the roof is finished using a ridge board, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
10. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

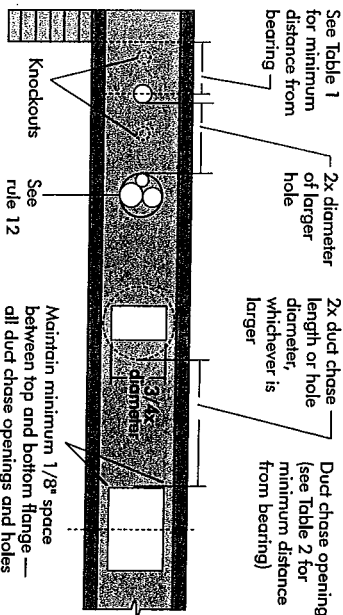


# WEB HOLES

## RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
2. Joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. 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 be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.
5. 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.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
7. A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
8. 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 verification.
9. 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 opening.
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.

FIGURE 7  
FIELD-CUT HOLE LOCATOR



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



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

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

Knockouts are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on center along the length of the I-joist. Where possible, it is preferable to use knockouts instead of field-cut holes.

TABLE 1  
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

Minimum distance from inside face of any support to centre of hole (ft-in.)															Span adjustment Factor		
Joist Depth	Joist Series	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11		12	12-3/4
6-1/2	2	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	2	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	3	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	5	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	6	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	6-1/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	7	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	8-5/8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	9	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	10	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	10-3/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	11	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	12	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
7	12-3/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	2	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	3	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	5	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	6	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	6-1/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	7	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	8-5/8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	9	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	10	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	10-3/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	11	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	12	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8	12-3/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	2	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	3	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	5	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	6	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	6-1/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	7	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	8-5/8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	9	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	10	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	10-3/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	11	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	12	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9	12-3/4	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40

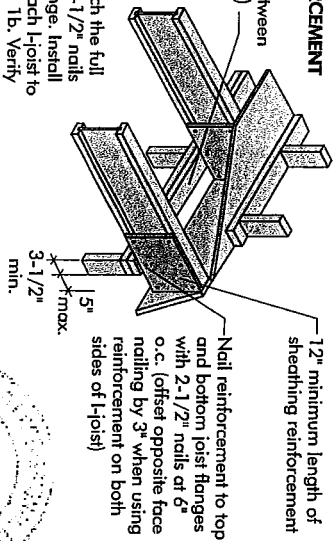
Above table may be used for Joist spacing of 24 inches on center.

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

## 5a SHEATHING REINFORCEMENT

Provide full depth blocking between joists over support (not shown)

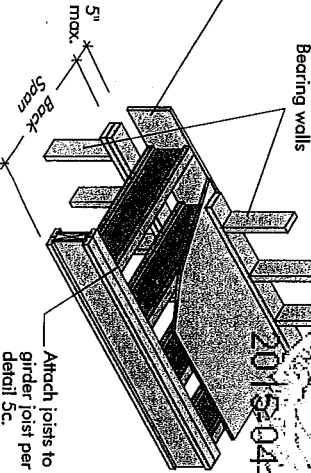
**Note:** Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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



## 5b SET-BACK DETAIL

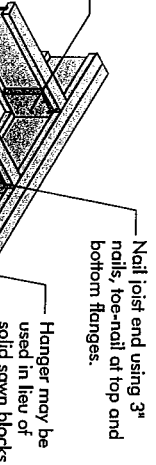
Rim board or wood structural panel closure (3/4" minimum thickness), attach per detail 1b.

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



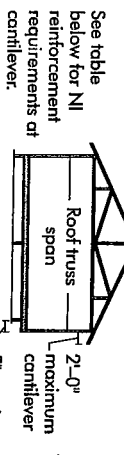
## 5c SET-BACK CONNECTION

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



**Notes:**  
- Verify girder joist capacity if the back span exceeds the joist spacing.  
- Attach double I-joist per detail 1p, if required.

FIGURE 5 (continued)



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

## BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)	ROOF LOADING (UNFACTORED)							
		LL = 30 psf, DL = 15 psf JOIST SPACING (in.)		LL = 40 psf, DL = 15 psf JOIST SPACING (in.)		LL = 50 psf, DL = 15 psf JOIST SPACING (in.)			
9-1/2	24	12	16	19.2	24	12	16	19.2	24
11-7/8	24	12	16	19.2	24	12	16	19.2	24
14	24	12	16	19.2	24	12	16	19.2	24
16	24	12	16	19.2	24	12	16	19.2	24

## RIM BOARD INSTALLATION DETAILS

- ## FASTENERS FOR SHEATHING AND SUBFLOORING(1)

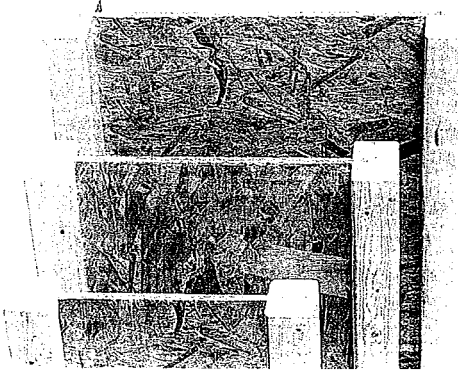
4400 N. 1st St., Suite 100, Phoenix, AZ 85018

- Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

**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.**

- 2x ledger board (preservative-treated); must be greater than or equal to the depth of the deck joist**

Furthermore, *Chubbenger* warrants that our products, when utilized in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.





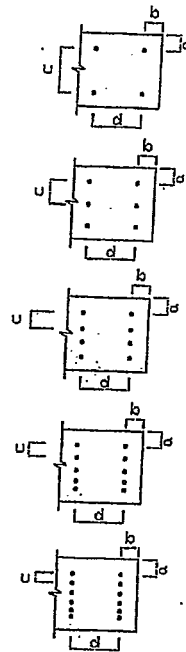
# MICRO CITY

## ENGINEERING SERVICES INC.

TEL: (519) 287 - 2242

R.R. #1, P.O. BOX 61, GLENCOE, ONTARIO, N0L 1M0

LVL HEADER AND CONVENTIONAL LUMBER NAILING DETAILS		
DETAIL NUMBER	NUMBER OF ROWS	SPACING (INCHES o/c) "d"
A	2	12
B	2	8
C	2	6
D	2	4
1A	3	12
1B	3	8
1C	3	6
1D	3	4
2A	4	12
2B	4	8
2C	4	6
2D	4	4
3A	5	12
3B	5	8
3C	5	6
3D	5	4
4A	6	12
4B	6	8
4C	6	6
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 PLYS 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



DWG NO TAMN1001.14

STRUCTURAL

COMPONENT ONLY

TO BE USED ONLY  
WITH BEAM CAGES  
BEARING THE  
STAMP BELOW

PROVIDE NAILING

DETAIL # X SEE

DWG #TAMN1001-14