

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	7 🗸
J2	18-00-00	11 7/8" NI-40x	1	15
J2 DJ	18-00-00	11 7/8" NI-40x	2	2
J3	14-00-00	11 7/8" NI-40x	1	26
J3 DJ	14-00-00	11 7/8" NI-40x	2	6
J4	12-00-00	11 7/8" NI-40x	1	10
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	1
J7	4-00-00	11 7/8" NI-40x	1	5
Ĵ8∕^,	2-00-00	11 7/8" NI-40x	1	7
JĢĒĪ	22-00-00	11 7/8" NI-80	1	2
J10	20-00-00	11 7/8" NI-80	1	45
J10 DJ	20-00-00	11 7/8" NI-80	2	2
B3 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1/
B6.	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

	Connector Summary					
Qty	Manuf	Próduct				
4	H1	IUS2.56/11.88				
14	H1	IUS2.56/11.88				
6	H1	IUS2.56/11.88				
2	H1	IUS2.56/11.88				
2	H1	IUS2.56/11.88				
7	H2	IUS2.565/9.5				
4	H2	IUS3.56/11.88				
2	H3C	HUC410				
1	НЗ	HGUS410				
1	H4	HUS1.81/10				

CITY OF HAMILTON
BUILDING DIVISION

Pernit No.

16 1913

THESE STAMPED DRAFFICS SHALL BE ANAILABLE ON SITE

THE OWNER ANDIOR COMTRACTOR SHALL COMPLY WITH

THE OWNER ANDIOR COMTRACTOR SHALL COMPLY WITH

THE OWNER AND CODE AND ALL OTHER APPLICABLE LAW

THESE dr wings sudior specifications have been reviewed by

DATE



FROM PLAN DATED: MARCH 2021

**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 1** 

LOT:

**CITY: HAMILTON** 

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

#### NOTES:

REFER TO THE **NORDIC INSTALLATION**GUIDE FOR PROPER STORAGE AND
INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.

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 RE
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 TI
APPLICATION AS PER O.B.C 9,30.6.

#### LOADING:

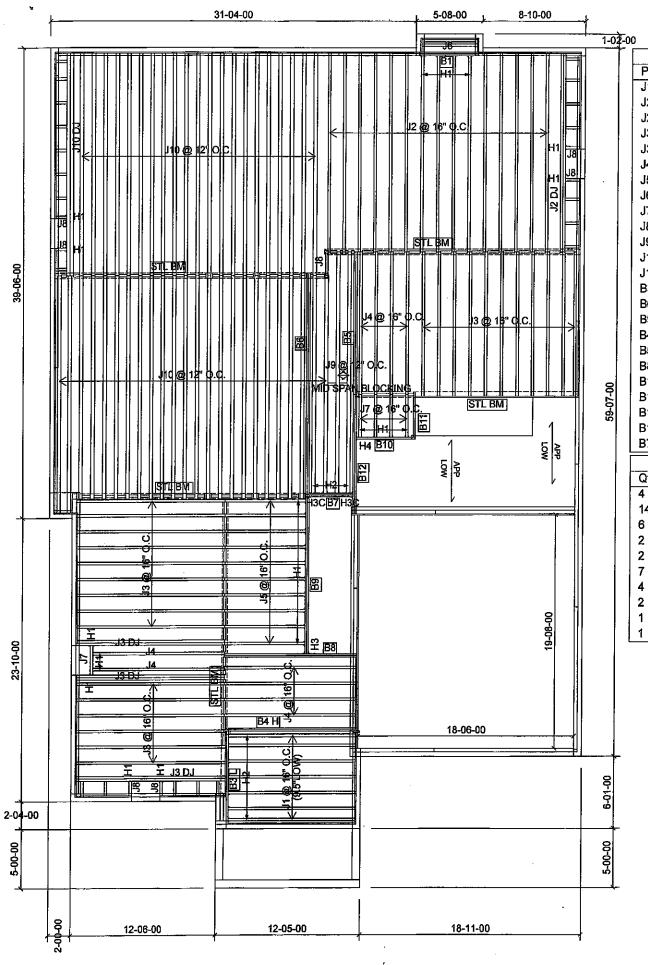
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

**DATE: 2021-05-27** 

1st FLOOR

STANDARD



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	7
J2	18-00-00	11 7/8" NI-40x	1	15
J2 DJ	18-00-00	11 7/8" NI-40x	2	2
J3	14-00-00	11 7/8" NI-40x	1	26
J3 DJ	14-00-00	11 7/8" NI-40x	2	6
J4	12-00-00	11 7/8" NI-40x	1 .	10
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	1
J7	4-00-00	11 7/8" NI-40x	1	5
J8	2-00-00	11 7/8" Ni-40x	1	7
J9	22-00-00	11 7/8" NJ-80	1	2
J10	20-00-00	11 7/8" NI-80	1	45
J10 DJ	20-00-00	11 7/8" NI-80	2	2
B3 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2 .
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary						
Qty	Manuf	Product				
4	H1	IUS2.56/11.88				
14	H1	IUS2.56/11.88				
6	H1	IUS2.56/11.88				
2	H1	IUS2.56/11.88				
2	H1	IUS2.56/11.88				
7	H2	IUS2.565/9.5				
4	H2	IUS3.56/11.88				
2	H3C	HUC410				
1	НЗ	HGUS410				
1	H4	HUS1.81/10				



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 1** 

LOT:

**CITY:** HAMILTON

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION: Ibv

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. IJOIST 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

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

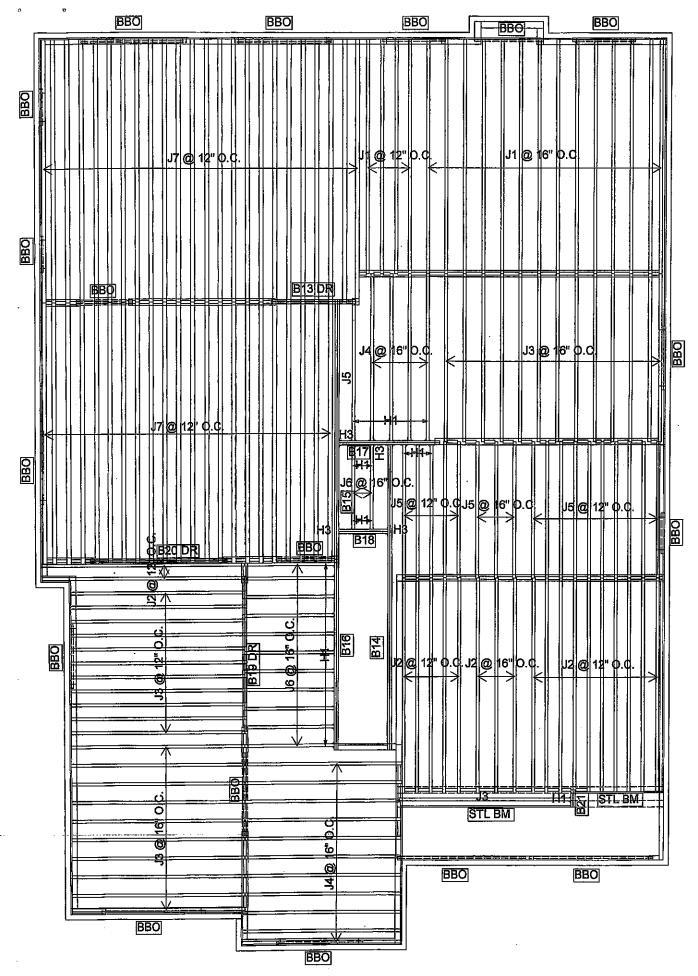
SUBFLOOR: 3/4" GLUED AND NAILED

APPLICATION AS PER O.B.C 9,30.6.

**DATE: 2021-08-06** 

1st FLOOR

WALK OUT CONDITION



· · · · ·		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	18
J2	16-00-00	11 7/8" NI-40x	1	20
J3	14-00-00	11 7/8" NI-40x	1	35
J4	12-00-00	11 7/8" NI-40x	1	15
J5	10-00-00	11 7/8" NI-40x	1	19
J6	8-00-00	11 7/8" NI-40x	1	13
J7	20-00-00	11 7/8" NI-80	1	46
B14	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B15	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B16	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	21
B20 DR	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	<b>2</b> ·	2/
B13 DR	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2/
B17	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B18	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B21	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary					
Qty	Manuf	Product			
24	H1	IUS2.56/11.88			
4	H3	HGUS410			



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 1** 

LOT:

**CITY: HAMILTON** 

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

NOTES:

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

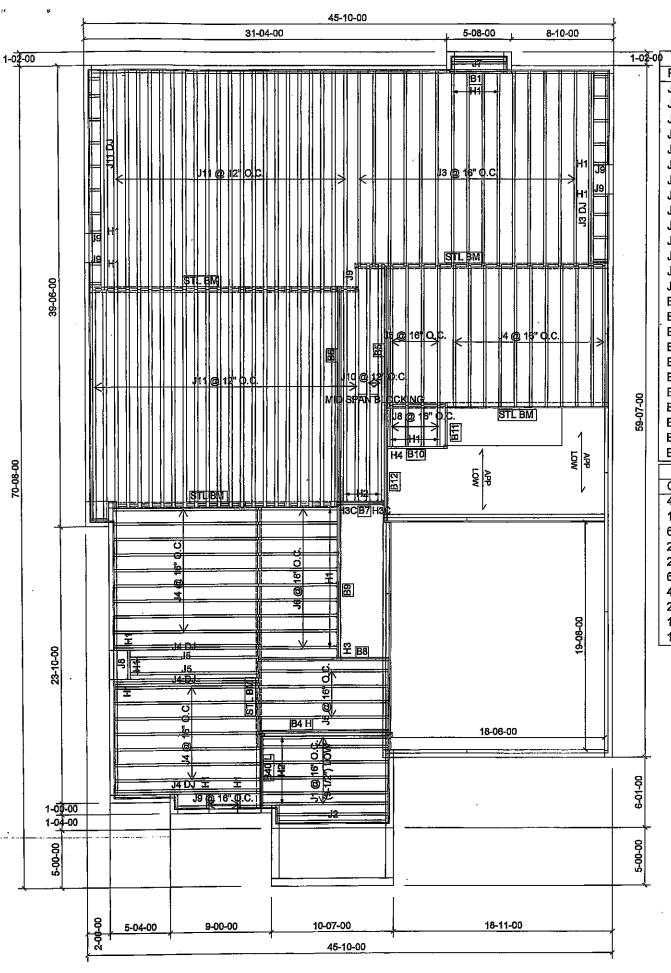
LOADING:

DESIGN LOADS: L/480,000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

**SUBFLOOR:** 5/8" GLUED AND NAILED

**DATE:** 2021-05-27

2nd FLOOR



0ф		Products		
PiotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	6
J2	10-00-00	9 1/2" NI-40x	1	1
J3	18-00-00	11 7/8" NI-40x	1	15
J3 DJ	18-00-00	11 7/8" NI-40x	2	2
J4	14-00-00	11 7/8" NI-40x	1	27
J4 DJ	14-00-00	11 7/8" NI-40x	2	6
J5	12-00-00	11 7/8" NI-40x	1	10
J6	8-00-00	11 7/8" NI-40x	1	10
J7	6-00-00	11 7/8" NI-40x	1	1
J8	4-00-00	11 7/8" NI-40x	1	5
J9	2-00-00	11 7/8" NI-40x	1	7
J10	22-00-00	11 7/8" NI-80	1	2
J11	20-00-00	11 7/8" NI-80	1	45
J11 DJ	20-00-00	11 7/8" NI-80	2	2
B40 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1 -	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary				
Qty	Manuf	Product		
4	H1	IUS2.56/11.88		
14	H1	IUS2.56/11.88		
6	H1	IUS2.56/11.88		
2	H1	IUS2.56/11.88		
2	H1	IUS2.56/11.88		
6	H2	IUS2.56/9.5		
4	H2	IUS3.56/11.88		
2	НЗС	HUC410		
1	Н3	HGUS410		
1	H4	HUS1.81/10		



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 2** 

LOT:

**CITY: HAMILTON** 

**SALESMAN:** Rick DiCiano

DESIGNER: PL REVISION:

NOTES:

REFER TO THE NORDIC INSTALLATION
GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.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 R 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 1 APPLICATION AS PER O.B.C 9.30.6.

LOADING:

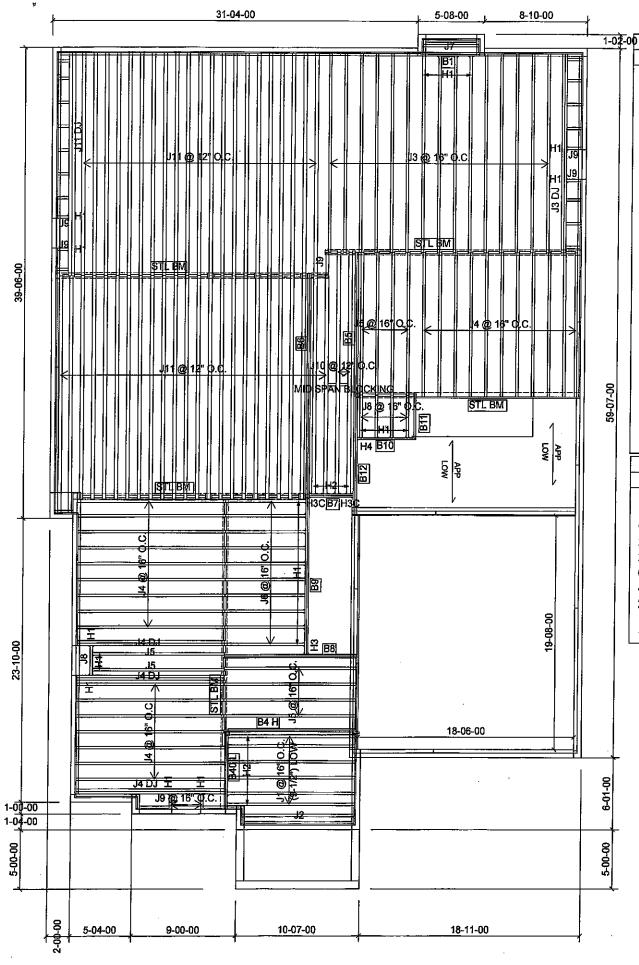
DESIGN LOADS: L/480,000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 3/4" GLUED AND NAILED

**DATE: 2021-05-27** 

1st FLOOR

**STANDARD** 



-0	þ		Products		
_	PlotID	Length	Product	Plies	Net Qty
	J1	12-00-00	9 1/2" NI-40x	1	6
	J2	10-00-00	9 1/2" NI-40x	1	1
	J3	18-00-00	11 7/8" NI-40x	1	15
	J3 DJ	18-00-00	11 7/8" NI-40x	2	2
	J4	14-00-00	11 7/8" NI-40x	1	27
	J4 DJ	14-00-00	11 7/8" NI-40x	2	6
	J5	12-00-00	11 7/8" NI-40x	1	10
	J6	8-00-00	11 7/8" NI-40x	1	10
	J7	6-00-00	11 7/8" NI-40x	1	,1
	J8	4-00-00	11 7/8" NI-40x	1	5
	J9	2-00-00	11 7/8" NI-40x	1	7
	J10	22-00-00	11 7/8" NI-80	1	2
i	J11	20-00-00	11 7/8" NI-80	1	45
	J11 DJ	20-00-00	11 7/8" NI-80	2	2
	B40 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
	B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
- [	B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
	B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
	B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
	B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
	B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
ı	B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
1	B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
ŀ	B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
	B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary					
Qty	Manuf	Product			
4	H1	IUS2.56/11.88			
14	H1	IUS2.56/11.88			
6	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
6	H2	IUS2.56/9.5			
4	H2	IUS3.56/11.88			
2	H3C	HUC410			
1	H3	HGUS410			
1	H4	HUS1.81/10			



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS** 

**MODEL:** GRANDVILLE 9

**ELEVATION:** 2

LOT:

**CITY:** HAMILTON

**SALESMAN:** Rick DiCiano

DESIGNER: PL REVISION: Ibv

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

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

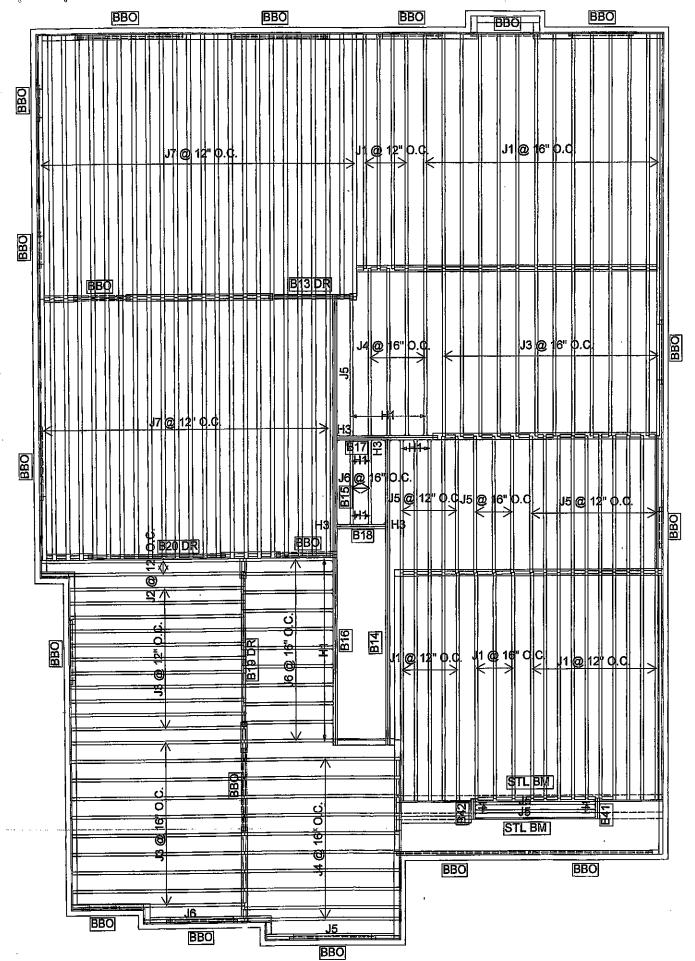
SUBFLOOR: 3/4" GLUED AND NAILED

APPLICATION AS PER O.B.C 9.30.6.

**DATE:** 2021-08-06

1st FLOOR

WALK OUT CONDITION



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	36
J2	16-00-00	11 7/8" NI-40x	1	2
J3	14-00-00	11 7/8" NI-40x	1	34
J4	12-00-00	11 7/8" NI-40x	1	14
J5	10-00-00	11 7/8" NI-40x	1	22
J6	8-00-00	11 7/8" Ni-40x	1	14
J7	20-00-00	11 7/8" NI-80	1	46
B14	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B15	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B16	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B20 DR	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13 DR	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B17	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B18	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B41	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B42	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary					
Qty	Manuf	Product			
27	H1	IUS2.56/11.88			
4	H3	HGUS410			



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 2** 

LOT:

**CITY: HAMILTON** 

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

NOTES:

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

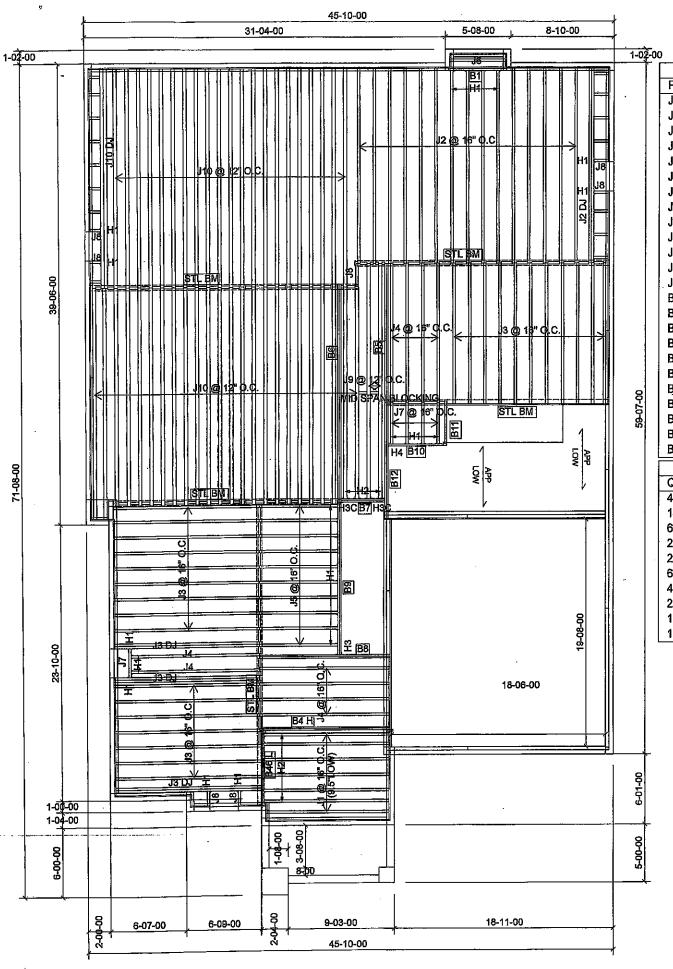
LOADING:

DESIGN LOADS: L/480,000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2021-05-27

2nd FLOOR



		Products		
PlotiD	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	7
J2	18-00-00	11 7/8" NI-40x	1	15
J2 DJ	18-00-00	11 7/8" NI-40x	2	2
J3	14-00-00	11 7/8" NI-40x	1	27
J3 DJ	14-00-00	11 7/8" NI-40x	2	6
J4	12-00-00	11 7/8" NI-40x	1	10
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	1
J7	4-00-00	11 7/8" NI-40x	1	5
J8	2-00-00	11 7/8" NI-40x	1	7
J <del>9</del>	22-00-00	11 7/8" NI-80	1	2
J10	20-00-00	11 7/8" NI-80	1	45
J10 DJ	20-00-00	11 7/8" NI-80	2	2
B46 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

	Connector Summary					
Qty	Manuf	Product				
4	H1	IUS2.56/11.88				
14	H1	IUS2.56/11.88				
6	H1	IUS2.56/11.88				
2	<b>H</b> 1	IUS2.56/11.88				
2	H1	IUS2.56/11.88				
6	H2	IUS2.56/9.5				
4	H2	IUS3.56/11.88				
2	H3C	HUC410				
1	H3	HGUS410				
1	H4	HUS1.81/10				



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 3** 

LOT:

**CITY: HAMILTON** 

**SALESMAN:** Rick DiCiano

DESIGNER: PL REVISION:

NOTES:

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

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P 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 R 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 T APPLICATION AS PER O.B.C 9.30.6.

LOADING:

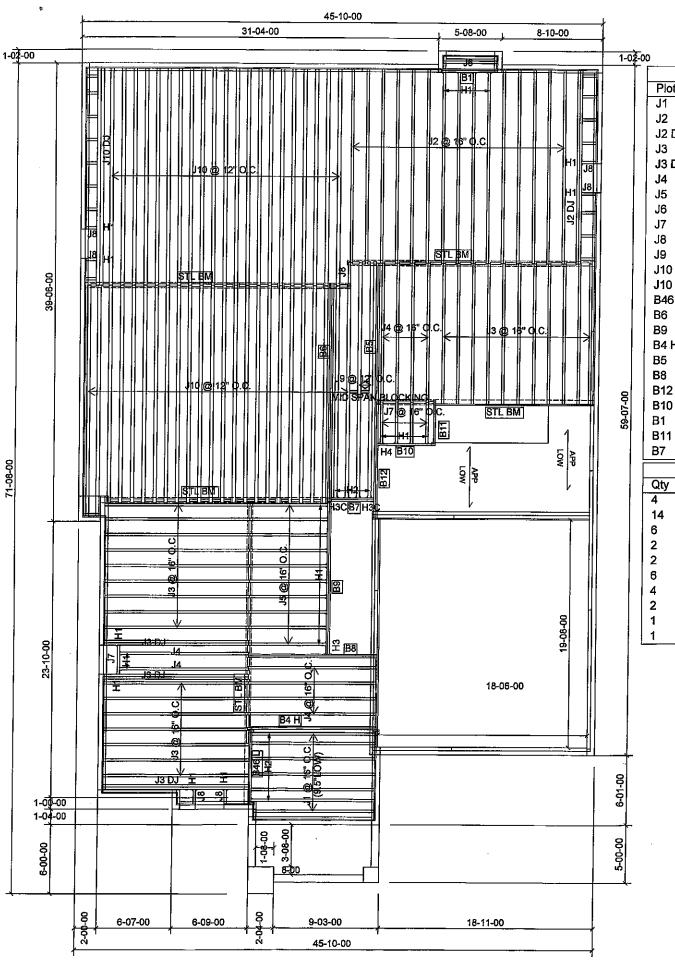
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 3/4" GLUED AND NAILED

**DATE:** 2021-05-28

1st FLOOR

**STANDARD** 



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	7
J2	18-00-00	11 7/8" NI-40x	1	15
J2 DJ	18-00-00	11 7/8" NI-40x	2	2
J3	14-00-00	11 7/8" NI-40x	1	27
J3 DJ	14-00-00	11 7/8" NI-40x	2	6
J4	12-00-00	11 7/8" NI-40x	1	10
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	1
J7	4-00-00	11 7/8" NI-40x	1	5
J8	2-00-00	11 7/8" NI-40x	1	7
J <del>9</del>	22-00-00	11 7/8" NI-80	1	2
J10	20-00-00	11 7/8" NI-80	1	45
J10 DJ	20-00-00	11 7/8" NI-80	2	2
B46 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Droducte

Connector Summary					
Qty	Manuf	Product			
4	H1	IUS2.56/11.88			
14	H1	IUS2.56/11.88			
6	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
6	H2	IUS2.56/9.5			
4	H2	IUS3.56/11.88			
2	H3C	HUC410			
1	НЗ	HGUS410			
1	H4	HUS1.81/10			



FROM PLAN DATED: MARCH 2021

**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 3** 

LOT:

**CITY: HAMILTON** 

SALESMAN: Rick DiCiano

**DESIGNER:** PL **REVISION:** Ibv

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:

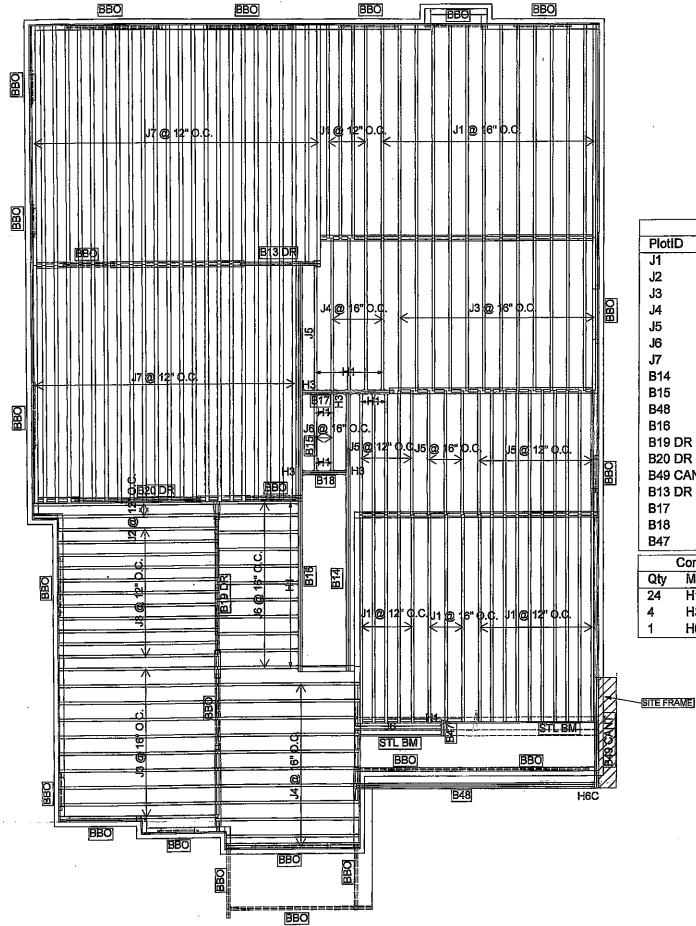
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

**SUBFLOOR: 3/4" GLUED AND NAILED** 

DATE: 2021-08-06

1st FLOOR

WALK OUT CONDITION



		Products		_
PlotiD	Length	Product .	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	36
J2	16-00-00	11 7/8" NI-40x	1	2
J3	14-00-00	11 7/8" NI-40x	1	34
J4	12-00-00	11 7/8" NI-40x	1	15
J5	10-00-00	11 7/8" NI-40x	1	19
J6	8-00-00	11 7/8" NI-40x	1	. 14
J7	20-00-00	11 7/8" NI-80	1	46
B14	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B15	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B48	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B16	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B20 DR	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B49 CANT	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13 DR	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B17	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B18	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B47	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary					
Qty	Manuf	Product			
24	H1	IUS2.56/11.88			
4	H3	HGUS410			
1	H6C	HUC610			

TAMARACK
LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: MARCH 2021

**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION:** 3

LOT:

**CITY:** HAMILTON

SALESMAN: Rick DiCiano

**DESIGNER:** PL **REVISION:** 

NOTES:

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

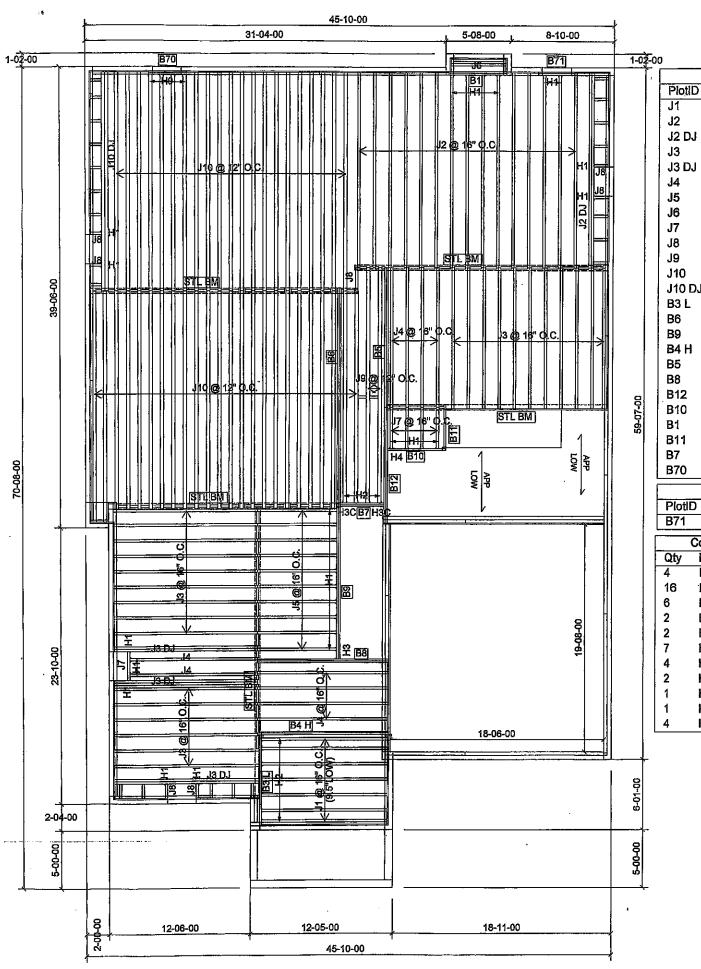
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

**DATE:** 2021-05-28

2nd FLOOR



			Products		
İ	PlotiD	Length	Product	Plies	Net Qty
	J1	12-00-00	9 1/2" NI-40x	1	7
	J2	18-00-00	11 7/8" NI-40x	1	15
	J2 DJ	18-00-00	11 7/8" NI-40x	2	2
1	J3	14-00-00	11 7/8 <sup>i</sup> ' NI-40x	1	26
ļ	J3 DJ	14-00-00	11 7/8" NI-40x	2	6
ı	J4	12-00-00	11 7/8" NI-40x	1	10
	J5	8-00-00	11 7/8" NI-40x	1	10
İ	J6	6-00-00	11 7/8" NI-40x	1	1
	J7	4-00-00	11 7/8" NI-40x	1	5
	J8	2-00-00	11 7/8" NI-40x	1	7
ı	J9	22-00-00	11 7/8" NI-80	1	2
	J10	20-00-00	11 7/8" NI-80	1	45
1	J10 DJ	20-00-00	11 7/8" NI-80	2	2
-	B3 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
	B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
	B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
ı	B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
	B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
	B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
i	B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
١	B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
	B1	6-0000	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
1	B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1 .	1
1	B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
L	B70	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

		Products		
PiotID	Length	Product	Plies	Net Qty
B71	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary					
Qty	Manuf	Product			
4	H1	IUS2.56/11.88			
16	H1	IUS2.56/11.88			
6	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
7	H2	IUS2.565/9.5			
4	H2	IUS3.56/11.88			
2	H3C	HUC410			
1	H3	HGUS410			
1	H4	HUS1.81/10			
4	H2	IUS3.56/11.88			



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 1** 

LOT:

**CITY: HAMILTON** 

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

#### NOTES:

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

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P 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 R
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 T

#### **LOADING:**

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 20.0 lb/ft²

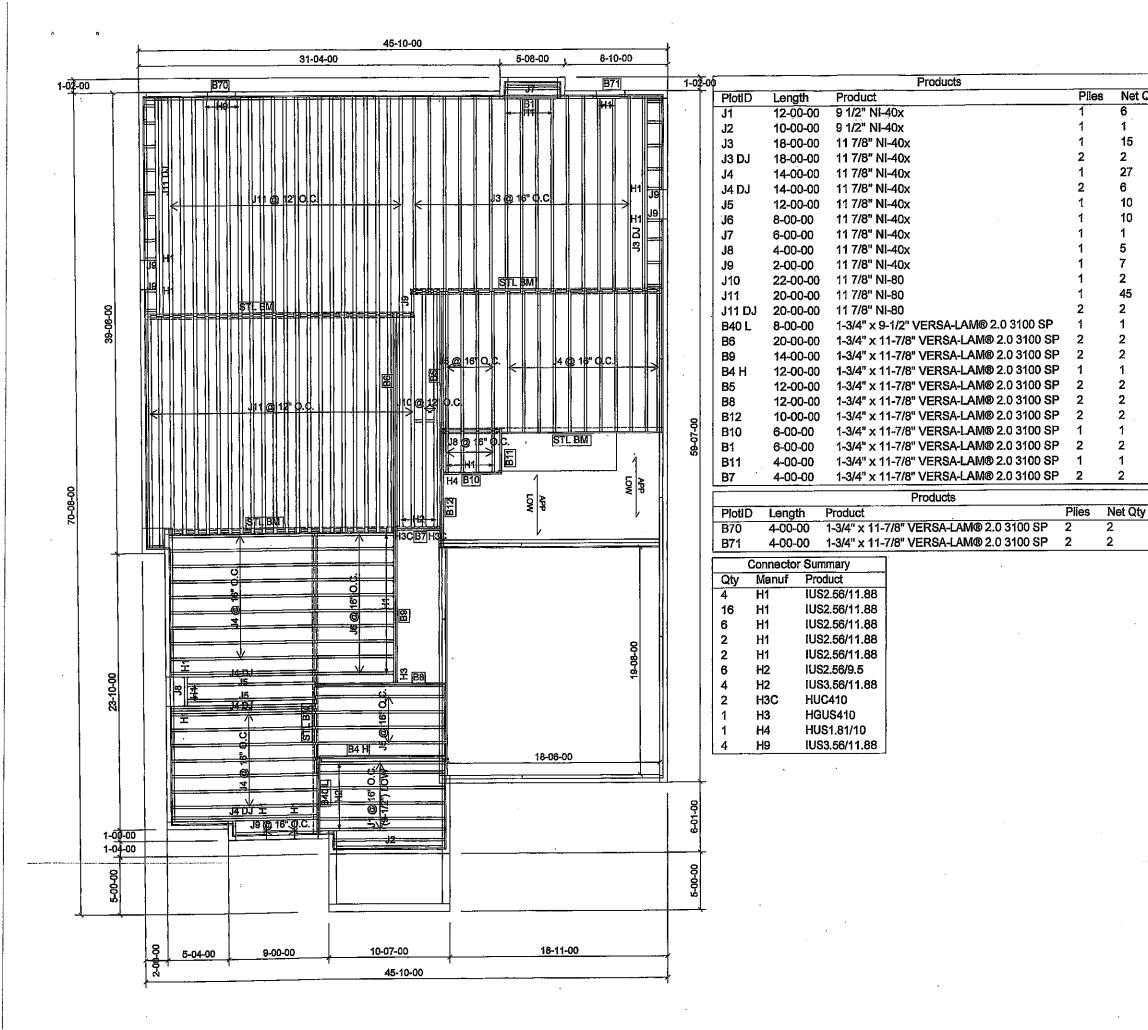
**SUBFLOOR: 3/4" GLUED AND NAILED** 

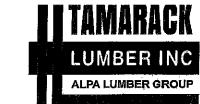
APPLICATION AS PER O.B.C 9.30.6.

**DATE: 2021-05-28** 

1st FLOOR

**OPTIONAL DECK CONDITION** 





**BUILDER: GREENPARK HOMES** 

**SITE:** RUSSELL GARDENS PHASE 4

**MODEL:** GRANDVILLE 9

**ELEVATION: 2** 

LOT:

Net Qty

15

2

27

10

10

2

45

**CITY: HAMILTON** 

SALESMAN: Rick DiCiano

**DESIGNER: PL REVISION:** 

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND

INSTALLATION.

**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.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 R 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 1 APPLICATION AS PER O.B.C 9.30.6.

LOADING:

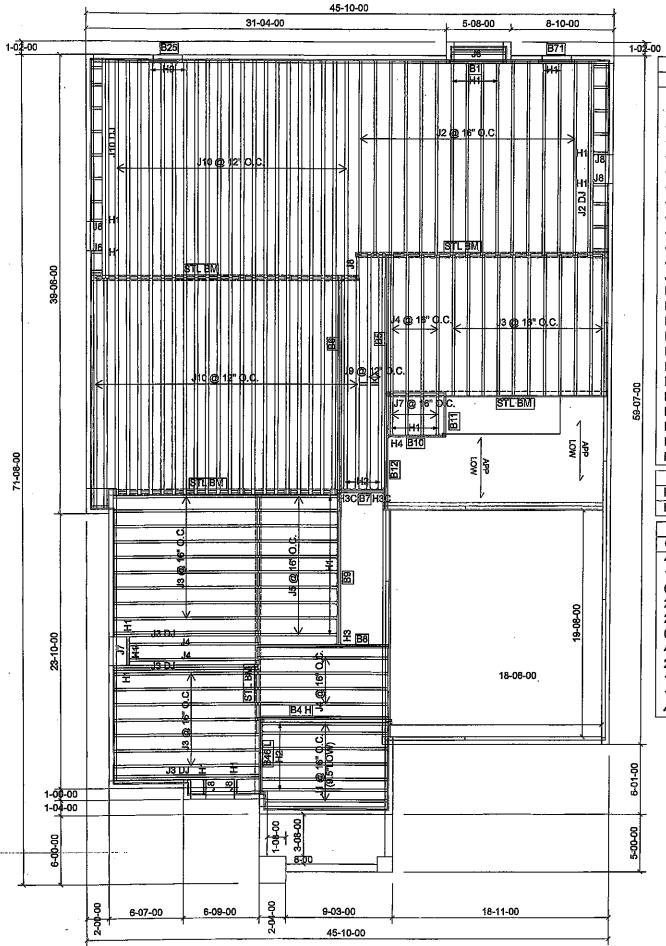
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft2 DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 3/4" GLUED AND NAILED

**DATE: 2021-05-28** 

1st FLOOR

OPTIONAL DECK CONDITION



		Products		-
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	7
· J2	18-00-00	11 7/8" NI-40x	1	15
J2 DJ	18-00-00	11 7/8" NI-40x	2	2
J3	14-00-00	11 7/8" NI-40x	1	27
J3 DJ	14-00 <b>-</b> 00	11 7/8" NI-40x	2	6
J4	12-00-00	11 7/8" NI-40x	1	10
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	1
J7	4-00-00	11 7/8" NI-40x	1	5
J8	2-00-00	11 7/8" NI-40x	1	7
J9	22-00-00	11 7/8" NI-80	1	2
J10	20-00-00	11 7/8" NI-80	1	45
J10 DJ	20-00-00	11 7/8" NJ-80	2	2
B46 L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 H	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B25	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

		Products		
PlotID	Length	Product	Plies	Net Qty
B71	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

	Connecto	r Summary
Qty	Manuf	Product
4	H1	IUS2.56/11.88
16	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
6	H2	IUS2.56/9.5
4	H2	IUS3.56/11.88
2	H3C	HUC410
1	H3	HGUS410
1	H4	HUS1.81/10
4	H9	IUS3.56/11.88



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PHASE 4** 

**MODEL:** GRANDVILLE 9

**ELEVATION: 3** 

LOT:

**CITY:** HAMILTON

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

NOTES:

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

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P 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 R 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 T 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: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 3/4" GLUED AND NAILED

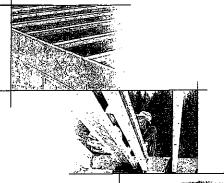
**DATE:** 2021-05-28

1st FLOOR

OPTIONAL DECK CONDITION



# INSTALLATION GUIDE FOR RESIDENTIAL FLOORS







FSC

T PRAFFIER

100109717

2015-04-16

#### SAFETY AND CONSTRUCTION PRECAUTIONS





Never stock building Never stack building materials over unshealhed Hoists. Once sheathed, do not over-stress I-joist with concentrated loads from I-joists are not stable until completely installed, and will not carry any food until fully braced and sheethed.

Avoid Accidents by Following these important Guidelines: Brace and noil each t-joist as it is installed, using hangers, blacking panels, rim board, and/or cross-bridging of joist ends. When I-joist are applied continuous ever instair supports and a load-bearing well is planned at that location, blacking will be required at the interior support.

When he building is completed, the floor sheathing will provide lateral support for the top flanges of the Lipids. Until this sheathing is applied, temporary bracking, often colled struts, or temporary sheathing must be applied to preview Lipids reliever or buckling.

Tamporary bracing or strute 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" nalls fastened to the top surface of each i-joist. Nail the bracing to a lateral error to the each of each boy. Lapends of adjoining bracing over at least two I-joists.

Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of 1-joints at the end of the boy.

For contilevered 1-joints, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.

 Install and fully nail permanent sheafting to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. 5. Never install a damaged I-joist.

Improper storage or Installation, failure to follow applicable building codes, failure to follow spon rollings for Nordic Lipists, failure to follow allowable hate sizes and focations, or failure to use web stiffeness when required no result in serious accidents. Follow these installation guidelines conflictly.

#### MAXIMUM FLOOR SPANS

- . Maximum dear spons applicable to simple-span or multiple-span residential floor construction with a design live load of 40 part and each load of 15 part. The eliminate limit stoles are based on the factored loads of 1.50t. + 1.25t. The enriceability limit stoles increased in the consideration for floor vibration and a live load deflection limit of 1/480. For many admittale-span applications, the end spans shall be 40% or many of the adjacent span.
- 2. Spams ore based on a compatite floor with glued-noised originated strond board (DSB) sheetlang with a minimum thickness of 5/8 Inch for a joint specing of 19.2 inches or less, or 3/4 inch for joint spacing of 24 Inches. Adhesive shall meet the requirement given in CSB-7-13.6 Standard. No concrete topping or bridging element was assumed. Increased spams may be achieved with the used of gypsum and/or a row of blacking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the Intermediate bearings.
- Bearing silfieners 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 application with other than uniform loads, on engineering analysis ma be required based on the use of the design properties.
- Tables are based on Limit States Design per CAN/CSA Q86-09 Standard, and N8C 2010.
- 7. SI units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

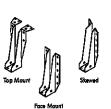
WEB STIFFENERS

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

	3.34		Ship)L	92.46	1.75		everted till my					
elija Dopla	්මයි මාධ්ය		<b>Oncode</b>	enichi:			මාකාර	अक्रायीत <u>ा</u>				
rejupito.	DOM:O.	17	039	1022	20	152P.	1132	102	5X.L			
	NI-20	15.1"	14'-2'	13'-9"	13:5"	16'-3'	15'-4"	14'-10'	14'-7'			
	NI-40x	16-1	15'-2"	14'-8'	14:5"	17-5"	16'-5"	15'-10'	15'-5'			
9-1/2	NI-60	16:3"	15'-4'	14-10	14:11"	17-7	16'-7"	T6'-0"	16'-1"			
	NF40	17-1	16-r	15:-6"	15.7	18-7	17-4	16-9	16-10			
	_NLBD	17'-3'	16-3	15'-8'	15.9	18-10	17-6	16'-11'	17:0			
	NI-20	16:11'	16-0	15'-5'	15-6	1B'-4"	17-3"	16'-8'	16:7			
	Nt-40x	18:1"	17:-01	16'-5"	16'-6"	20-0	18-6	17-9	17:7			
11-7/2*	NI-60	184*	17-31	16'-7"	16-9*	20-3	18-9	18'-0'	18'-1"			
	NI-70	19.6"	18-0,	17-4	1745*	21-61	19-11	19-0	19-1			
,-	NI-80	19-91	18-3*	17-6	17:7*	21191	20'-2"	19-3"	1944			
	NI-90	20.2	18\7'	17-10	17-11*	22'-3'	20-7*	19-8	19:-91			
	NI-90x	20-4	18-7	17-11	18'-0"	22'-5'	20-9*	19-10	19-11			
	NI-40a	20-1	18:7	17:10"	17:11:	22.2	20-6*	19'-8'	19'-4'			
	NI-60	20-5	10-11	18:1:	18-2	221.7"	20-11	20:0	20			
1	NI-70	211.71	20-0	19-1-	19-2	23-10	22-1	21'-1"	21-2			
14*	NI-80	21'-11'	20-31	19-4	19-5	24'-3"	22.5	21'-5"	21'-6"			
	NI-90	22'-5"	20-8	19-91	19-10	24-7	22-10	21-10	21-10			
	NI-90x	22-7	20-11	19-11	20:0	25'-0'	23-1-	2250	22-2			
	NI-60	22-3	20-8'	19-9	19:10	24.7	22.5	21'-9"	211-10			
	NI-70	23-6	211-91	20-9"	20-10	26.0	24.0	224111	23101			
16"	NI-80	23-11*	22'-1"	21-1"	21.2	26'-5"	24.5	23131	23'-4"			
	NI-90	24-5	22-6	21'-5'	21'-6"	26-11	24 - 10	23-9	23-9			
	NL90x	24'-8"	22.9	21:-9"	21-10-	27'-3'	25-2	24-0"	24'-1"			

# I-JOIST HANGERS

- L. Hangers shown illustrate the three
- 2, All nothing most meet the honger
- Hongers should be selected based on the joist depth, flonge width and load expectly based on the maximum spans.
- 4. Web stiffeners are required when the sides of the hongers do not laterally brace the top flange of the I-joist.



#### STORAGE AND HANDLING GUIDELINES

- 1. Bundle wrop can be slippery when wet. Avoid walking on wropped
- 2. Store, stock, and handle i-joists vertically and level only. 3. Always stack and handle 1-joists in the upright position only.
- 4. Do not store I-loists in direct contact with the ground and/or flatwise.
- 5. Protect I-joists from weather, and use spacers to separate bundles.
- A. Rundled units should be least intect until time of installation.
- 7. When handling Ljoists with a crone on the job site, take a few simple precoutions to your work crew. utions to prevent domage to the i-joists and injury
- Pick I-joists in bundles as shipped by the supplier.
- = Orient the bundles so that the webs of the I-joints are vertical.

Some froming requirements such as erection bracing and blocking panels have been amitted for clarity.

**@** 

(b) (c)

10-

■ Pick the bundles at the 5th points, using a spreader but if necessary.

TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

8. Do not handle t-joists in a horizontal extentation. 9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

**(10)** 

1

Transfer load from above to bearing below. Install squast blocks per detail 1d. Match bearing area of blocks below to post above.

Figures 3, 4 or 5

Holes may be out in web for plumbing, wiring and duct work. See Tables 1, 2 and Figure 7.

Figures 3, -4 or 5

Use hangers recognized in current code evolution

(h)(1)(k)(m)

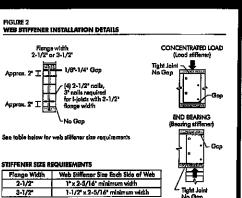
NOTE: Never out or neich flanges.

= A laad stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flangs than 2,370 lbs is applied to the top image between supports, or in the case of a cartillarers, anywhere between the cartillever tip and the support. These volues are for standard term local durations, and may be adjusted for other load durations as permitt by the cade. The gap between the siffener and the flonge is at the bottom.

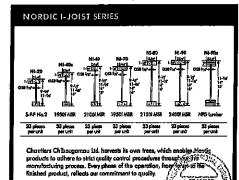
» A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the light in properties trails found of the light Construction Guide (C101). The gap between the stiffener and the flange is at the top.

A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top finge. The gap between the stiffener and flange is at the top.

SI units conversion: 1 inch = 25.4 mm



⑭



finished product, reflects our commitment to quality.

Nordic Engineered Wood Heats use only finger-jointed adds spring FFER kumber in their flonges, easying consistent quality, supplier spring to longer span carrying capacity.

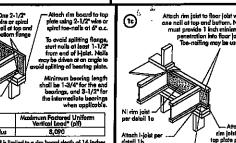
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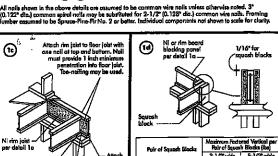
Backer black (use if hanger load exceeds 360 lbs)

Before installing a backer black to a double I joist, drive three
additions of 3 mail from long the webs and filler black where the
backer black will fit. Clinch. Install backer sight to top Bange.
Use twelve 3 mails, clinched when possible. Machinum factored
resistance for hanger for his defail = 1, 2620 lbs.

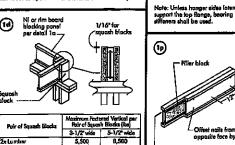
#### INSTALLING NORDIC I-JOISTS

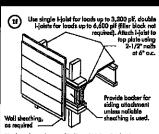
- 1. Before laying out floor system components, verify that I-joist flongs widths match hanger widths. If not, contributions
- 2. Except for cutting to length, I-joist floriges should never be cut, drilled, or notched. 3. Install i-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- Flaists must be anchored securely to supports before floor sheathing is attached, and support be level.
- 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for interest. 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 flarge. Normal concentrated loads include inched lighting flatures, outle equipment and security construe. Never suspend unusual or beavy loads from the I-joid's bottom flange. Whenever possible, suspend of concentrated loads from the top of the I-joid. Og official the load to blocking that has been sezurely fastened to the
- 9. Never install I-loists where they will be permanently exposed to weather, or where they will remain in direct contact with
- 10. Restroin ends of floor joists to prevent rollover. Use rim bound, rim joists or Lipist blocking ponels.
- 11. For I-joint installed over and beneath bearing walts, use full depth blacking panels, rim board, or squash blacks (cripple mambers) to transfer gravity loads shrough the floor system to the wall or foundation below.
- 12. Due to shrinkage, common froming lumber set on edge may never be used as blocking or rim boards. I joint blocking parels or other engineered wood products such as rim board must be cut to fit between the I joints, and on Hjoil-tongardish algohi selected. 13. Provide permanent lateral support of the bottom flange of all 1-joists of interior supports of available-span joists. Similarly, support the bottom flange of all cartillavered 1-joists at the end support nest to the cartillaver extension. In the completed structure, the gypeum veillocant calling provides this lateral support. Until the final finished ceiling is applied, temporary become or structure must be used.
- 14. If expore-edge points are used, edges must be supported between I-tolds with 2x4 blocking. Glue ponets to blocking to minimize squeeks. Blocking is not required under structural flarish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
- 15. Noti specing: Space notis installed to the flange's top face in accordance with the applicable building code requirements approved building plans.



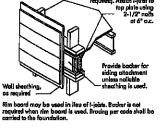


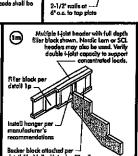
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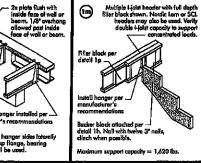




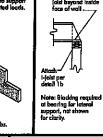
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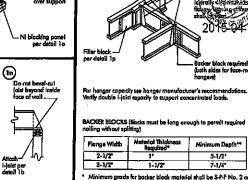








Blocking required over all interior supports under tout-bearing walls or when floor joists are



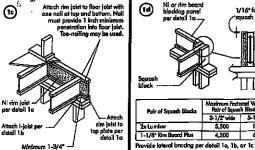
Minimum grads for backer block material shall be S-PF No. 2 or better for solid sown lumber and wood structural panels conforming to CAN/CSA-0235 or CAN/CSA-0237 Standard.

\*For face-mount hangers use nat joist degth matus 3-1/4" for joist with 1-1/2" filck florings. For 2" thick florings use net depth matus 4.



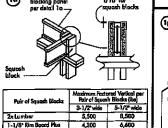


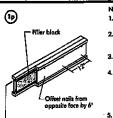
-	wien obbicon
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (pif)
1-1/8" Rim Board Plus	8,090
or less and is based on standa used in the design of a bendin	ified to a rim board depth of 16 inches and term load duration. It shall not be agmember, such as joint, header, or



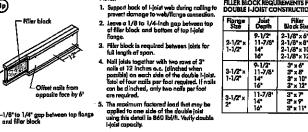
(P)-

19 (b) -



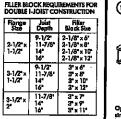


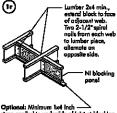
for noting schedules for multipl beams, see the manufacturer's



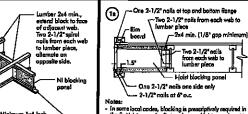
Top-mount hanger installed per-monufacturer's recommendation

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





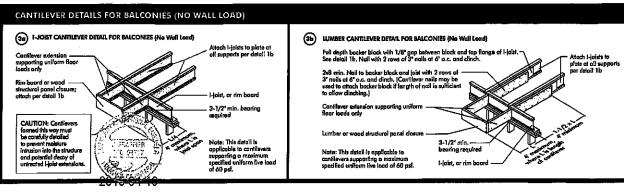
Optional: Minimum 1x4 Inch — strap applied to underside of joist at blacking line or 1/2 Inch minimum gypsum ceiling attached to underside of joists.

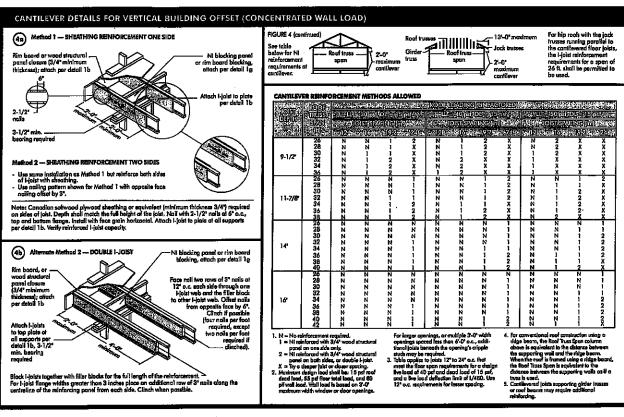


Notes:

In some local codes, blocking is prescriptively cequired in the first joint space for first and second joint space) next to the statur joint. Where required, see local code requirement for spacing of the blocking.

All nuts are common spiral in this detail.





#### BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD) For hip roofs with the jack trusses running parallel to the conflevered floor joists, the i-joist teinforcement requirements for a span of 26 ft. shall be permitted to be used. Roof trusses | Roof trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack trusses | Jack t 50 SHEATHING REINFORCEMENT - Roof truss -Provide full depth blocking between - madmum cantilever - 5° madmu -Neil reinforcement to to and bottom joint florige with 2-1/2" nails at 6" Note: Canadien solivood phywood sheething or expivatent frinkman shidoness 3/4/1 required on sides of join. Depth shall moth the full height of the join. Neath with 2-1/2 noils of 5 no., to gard bottom florage, install with tree grain horizontal. Attach I-joint to plete of all supports per detail? 1b. Verify neithforced i-joint capacity. o.c. (offset opposite fact nating by 3" when using reinforcement on both sides of I-joist) BRICK CANTILEVER BEINFORCEMENT METHODS ALLOWED 4 JOIST SPACING (in) JOIST/SPACING (in.) 516: 4 19:24: 24:5 24:5 2 12:5 216:32:19:2 20 5 04 1 9-1/2\* (Bb) SET-BACK DETAIL Rim board or wood ——, structural panel closure (3/4° minimum thickness), 11-7/6 Provide full depth blocking between (cists over support (not shown for clottly) Altach I-joist to plate at all supports per detail 15. 3-1/2\* minimum I-joist bearing required. 14' (5c) SET-BACK CONNECTION Noil joist end using 3° noils, toe-noil at top and bottom flenges. Venical solid sawn blacks (2x6 S-P.F.No. 2 or berter) noiled through tolst web and web of girder using 2-1/2\* noils. Abstracts for annuals. A. For convenienced roof construction using a ridge beam, the Roof Thus Span column charge beam, the Roof Thus Span column charves a support will be the distincts between the supporting will used the ridge beam. When the roof is formed using a ridge board, the Roof Thus Span is equivalent to the additions between the supporting wells as if it cause is used. 5. Combinered Joint supporting pieter trusses or roof beams may require additional trainforcing. 1. N = No relationament required. 1. = N relationament required. 1. = N relational with 34\* wood structural panel on non-side only. 2. = N relational with 34\* wood structural panel on hoth sides, or double light. X = Typ a desper job for down spacing. A whorever defined in out had been 15 get modified level. 56 of Floor total lead, and 50 pif well leads. Well floor to based on 2 via maximum width window or door openings. For larges openings, or multiple 3-0" with openings spaced less than 6-0" o.c., additional juids be sented the openings' alipple stude may be required. It has been that more than the student of the stu Notes: - Verify girder joist copacity if the back span exceeds the joist spacing. - Attach double I joist per detail 1p, if required.

#### WEB HOLES

#### RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- 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. I joist top and bottom flanges must NEVER be out, notched, or atherwise modified. 3. Whenever possible, field-out holes should be centred on the middle of the web.
- 4. The maximum size hole or the maximum depth of a dust chase opening that can be out into an I-joint web shall equal the clear distance between the fanges of the I-joint minus 1/4 inch. A minimum of 1/6 inch should always be maintained between the top or bottom of the hole or opening and the ordizarant I-joint lange.
- The sides of square holes or longest sides of rectangular holes should not excess 3/4 of the diameter of the maximum round hale permitted at that location.
- 6. Where more than one hole is necessary, the distance between adjacant hole edges shall exceed hitse the diameter of the largest round hole or twice the size of the largest state hole; or his diameter of the largest round hole or twice the largest state hole (or twice the largest of the langest state of the largest can be largest state of the largest state in size of the largest of the largest state hole; or twice the largest of the langest state of the largest s
- A knockout is not considered a hale, may be utilized anywhere it occurs, and may be ignored for purposes of coloulating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a confidenced section of a joint. 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 i
- All holes and duct chase openings shall be cut in a workman-like manner is accordance with the restrictions listed above and as illustrated in Figure 7.

nable the requirements of rule number 6 above.

FELD-CUT HOLE LOCATOR

- 1). Limit three maximum size hales per span, of which one may be a duct chose
- 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.

2x duct chase -length or hole diameter, whichever is

3/4x ciometer

irelic : LOCATION OF CIRCULAR HOLES IN JOIST WEBS Simple or Meltiple Span for Dead Loads up to 15 ppf and Live Loads up to 40 psf

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	- 830000 ·				1.00	jor .	্ নি	malla	री स्वीत	जार्थकर्व	leil		3.00				Ji Gir.
Tigih)	- 823003	2	×	- 3	75	- 73	7:W	. 77	(3)	(95.773)	-0	ากา	TEE	กก	103	1039	(COLOR
	NI-20	0.7	1.6	2-10	4.3	5.6	6.0			***	***			110	***	-	17.6
	NI-40±	0.7	1.6	3.0,	41.4 5.4	5.0 7.0	4-4	•	***	***		***			***		14/9*
9-1/2"	NI-60 NI-70	2.0	3.4"	4.9	J	- 0	7-5					114			***	=	15.3
	NJ-90	23	3.6	8.0	43	8.0	8.6			==	=			=			15-7° 15-9°
	N/-20	0.7	0.B	1.0	2.4	3.8*	4:0	5.0	6.6,	7.7				-	***		5.6
	NI-40z	0.7	0-B*	1:3	2.0	4.0	44	5'5'	7-0	B-4*		***		***			16.6.
11-7/81	NI-50 NI-70	1.3	1\B'	3.0	4.3	5.9	6:0	7:3	8-10*	10.0	_		-:				17-5
11-770	Ni-80	16	2.10	4.2	5.4°	7.0	7.2	8.6	10.3	ii ii	=		***	=			17.7
	NI-90	0.7	0.8	1'5'	3.2	4110	5-4	6.9	8-9	10.2		***		_	***	***	17-11
	NI-90x		0.8	0.2	2.5	44	4',0'	6.3			===			***	***	***	18-0
	N140-	0.7	0.8	0.6	3.0	24	2.0	3.0 5.8	5:2	\$ C.	88	8:3 10:4	10.2				16.2
	Ni.73	0.6	1:10	3.0	4.5	5.10	6.2	7.3	7.2° 8.9° 9.0°	8.0 9.9	10.4	12.0	13.5		=		19.21
14"	Ni-90	D-10*	2:-0"	3-4	4.9	6.2	6-5	7.6	9.0	10.0	10.8	12-4	1319	-	***		19.5"
	NI-90	0.7	0.8	0-10	4.9° 2.5° 2.0°	410°	4.5	7.3 7.5 5.9 5.8	7.5	8-5	9.4	11141	12-H	***	***		19.9
	N-90x	0.7	0.8	0.8	7-0	2.10	4.2°	-5-5	71.3°	8.5	**	8.5	937	10:2	12:21	13-9	20.0°
	N-70	0.7		2.3	324	4110	5.3	6.3	7.8	8-0	7.7	10:8	12-0'	124	440		20.10
16*	NI-BD	ילום	1:3:	2.5	3:10 3:10	4-10 5-3	5.6	6.6	8.0	9-O'	7.5	11:0	12:3*	12-9	14.5	16:0	20.10
	NI-80	0.7	0.8	0.9	119	3.3	3.8	4.2	6.5	7.5	8:0,	9-10"	11.3	ire	13.9	15:4"	21.6
	NI-90x 1	0.7	D. P.	0-9	2.0	3.6	4.0	5.0	8.9	7-9	24.	10.2	11:6"	12.0	***	***	21,10

Above table may be used for Lipist spacing of 24 inches on a
 Hole location distance is measured from inside face of suppor
 Distances in this chart are based on uniformly located joints.

The above table is based on the f-joists used of their maximum span. If the f-joists are placed at less than heir bill maximum span (if the minimum distance from the centraline of the hote to the face of one support (D) as after obeyed as follows: O<sub>reduced</sub> = <u>Section</u> ± D SAF Where: O<sub>reduced</sub> = on (ft). The process

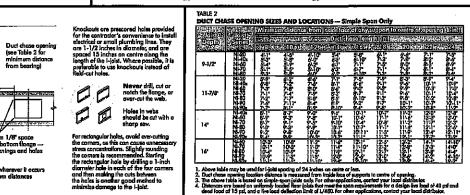
Distance from the inside foce of any support to centre of hale, reduced for less-them-model distance shall not be less than 6 inches from the face of the support to edge of the hole. The orban forestand spon distance to between the include faces of support of 19.

Span Adjustment Footor given in this boble.

The minimum distance from the inside face of oney support to centre of hole from this table.

If suctual is greater than 1, use 1 in the obove cofculsion for fortness.

SAF 2015-04-16



#### INSTALLING THE GLUED FLOOR SYSTEM

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.

- 1. Wipe any mud, dirt, water, or ice from i-joist flanges before gluing.
- Snop a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- Lay the first panel with tangue side to the wall, and nail in place. This protects the tangue of the next panel from damage when tapped into place with a block and stedgehammer.
- Apply a continuous line of glue (about 1/4-inch diameter) to the top florge of a single I-joist. Apply
  glue in a winding pottern on wide areas, such as with double I-joists.
- 6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each and.
- 7. After the first row of ponels is in place, spread glue in the groove of one or two ponels at a time before laying the sent row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a timener line (1/2 Incl) time used on I-joint filmages.
- 8. Top the second row of panels into place, using a black to protect groove edges.
- Stagger and joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at lid edges, including T&G edges, is recommended. (Use a spacer tool or on 2-1/2" common nail to assure occurate and consistent spacing.)
- 10. Complete all notiling of each panel before give sets. Check the manufacturer's recommendation for one time. Warm weather accelerates give setting. Use 2" ring- or serew-stank rails for ponels 3/4-inch thick or less, and 2-1/2" ring- or serew-stank rails for ponels 4-1/2" ring- or serew-stank rails for thicker ponels. Space notice by the total before Chest rail spacing may be required by some codes, or for disphragm construction. The finished deck can be walked on right away and will comy construction loads without domage to the give bond.

#### fasteners for sheathing and subflooring(1)

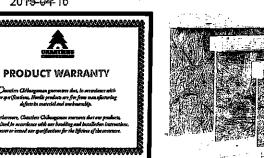
	Panel	Common s Wire or	King Hiread	Sala	(W) (O) (C	les labores
	(0)	Sprolivals	or Scrows			Support
16	5/8	2'	1-3/4"	2'	6"	12'
20	5/8	2*	1-3/4"	2'	6*	12"
24	3/4	2"	1-8/4"	2'	6'	12*

- Fosteners of sheathing and subflooring shall conform to the above table.
- Stoples 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 froming.
- 3. Flooring screws shall not be less than 1/8-inch in diameter.
- Special conditions may impose heavy traffic and concentrated loads that require construction in excess
  of the minimums shown.
- Use only achesives conforming to CAN/CGSE-71.26 Standard, Adhesives for field-Glving Plywood to Lumber Francing for Floor System, applied in accordance with the manufacturer's recommendations. If CSB panels with seeled surfaces and edges are to be used, use only solvant-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-joint flooges in order to unlieve the maximum sports shown in this document. If sheathing is noticed only, I-joint sports must be verified with your local distributor.

## RIM BOARD INSTALLATION DETAILS (8a) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT Rim board Joint Between Floor Joiets 2-1/2" noils of 6" c.c. (typical) (8c) 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL (B) TOE-NAIL CONNECTION AT HIM BOARD Existing stud well -Exterior sheathing regbel to gnibia evor roltolleteri ot rong (1) <u>1/3</u> Singgared 1/2\* liameter lag screws or thru-balls with 2 100 1-5/8° mln. 5° max. 2° mln. 4 (A) (C) (C) (A) FRAFPIER 1/0100717 2x ledger board (preservative-treated); must be greater than ar equal to the depth of the deck joist 2015-04-16



# NORDIC

INSTALLATION GUIDE

NS-GI33 **■+**■

Engineered Wood Products

**BASIC** INSTALLATION **GUIDE FOR** RESIDENTIAL **FLOORS** 

JOIST

NORDIC

nordic.ca

- Except for culting to length, I-joist flanges should never be cut, drilled or r
- Instabli-joists so that top and bottom flanges are within 1/2 Inch of Irus vertical alignment.
- Concentrated loads should only be applied to the top surface of the top flangs. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures

- Ends of floor joists shall be restrained to prevent rollover. Use rim board or I-joist blocking panels.
- using a single I-joist is 3,300 ptf, and 6,600 ptf if double I-joists are used.
- support of the top flange is normally supplied by the floor sheathing. In multiple-span or certiliever applications, bracing of the I-joist's bottom flange is also required at inlarior supports of multiple-span joists, and at the end support next to the cartilever extension. The entis of all cantilever extensions must be laterally braced as shown to details 3, 4, or 5,
- 2. Nails installed in (lange face or edge shall be spaced in accordance

- 14. For emper temporary bracing of wood I-loists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors.

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





NI-20 222 S-P-F No. 2 3/8 In. web 280 1950i MSR 3/8 in, web Depths 9-1/2, 11-7/8 and 14 in.

N1-80 2100f MSR 3/8 In. web



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

. Brace and nall each I-joist as it is installed, using hangers, blocking panels, rim board, ar

or cross-bridging at joist ends. When I-joists are applied continuous over interior supports and a load-bearing well is planned at that location, blocking will be required at the interior

When the building is completed, the floor sheathing will provide lateral support for the top flanges of the 1-joists. Until this sheathing is applied, temporary bracing, often called struis,

 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-inch naite 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. Or, shealthing (temporary or permanent) can be naited to the top flange of the first 4 feet

mproper storage or installation, failure to follow applicable building codes, failure to follow pen ratings for Nordic I-joists, failure to follow silowable hole sizes and locations, or failure

system. Then, stack building materials over beams or walls only.

NI-90 2x0 2400/ MSR 7/16 in. web

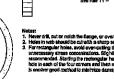
Width Lengt 1-1/8 in. 16 ft APA Rim Board Plu

RIM BOARDS

#### WEB HOLES IN 1-JOISTS

Do not walk on 1-joists until fully fastaned and braced, or serious injuries can resuit.

TABLE 6.1 - LOCATION OF WEB HOLES



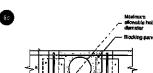
DUCT CHASE OPENINGS

All openings shall be out to eccordance with the c and so illustrated in detail 6b.

(-joist depth (in.)	Maximum depth of the opening (in.)
9-1/2	6-14
11-7/8	8-58
14	10-34
16	12-34

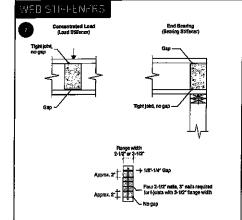
HOLES IN BLOCKING PANELS

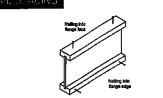
The distance between the inside edge of the support and the centreline of duct chase opening shall be in compliance with the requirements of Table.



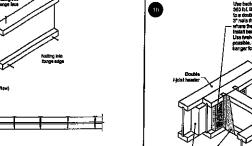
f-joint or rim board blocking depth (in.)	fidedmum allowable hote diameter (in.) <sup>(a)</sup>
B-1/2	6-1/4
11-7/8	7-3/4
14	9-114
18	10-1/2

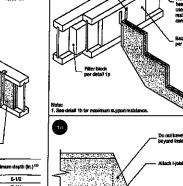
TABLE 8.2 - LOCATION OF DUCT CHASE OPENINGS

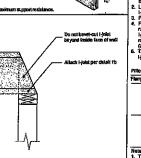


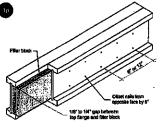


\$12 offset specing <sup>(b)</sup>									
emended Cleases Hall Spacing for Festiming Sketching to I joint Planges to Minimize Spitting Plange stor militing <sup>50</sup> Plange stor militing <sup>50</sup> Plange stor militing <sup>50</sup>									
	T)Mga im			Nall spacing (In.)					
Fesioner stre (Gameia: x length)	End distance (in.)	Nali spezing (In)	End distance (m.)	Nailed to only one flange edge	elaited to both Garge edges				
28" or swaller in diameter, and 3-184" or shorter in langth	5	2	2	2	4				

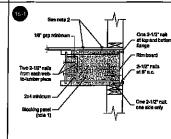








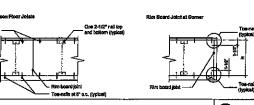
Filter block size (in.) Exemple
2-1/8 to 2-1/4 a 8 2x6 + 5/8" or 3/4" shar 2-19 to 2-1/4 x 8 2x8 + 5/8" tx 3/4" six 2-16 to 2-1/4 x 12 2x12 + 5/6" or 3/4" sheathing 3 x 6 2 x 2x6

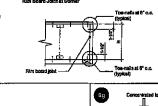


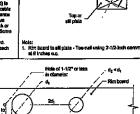
2 FOR ALL

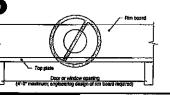
construction details

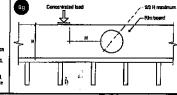
Up to 24 Inches

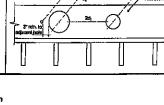


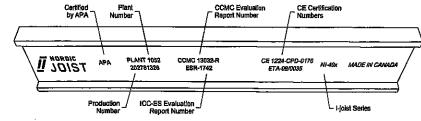


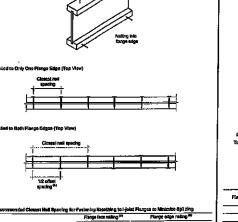


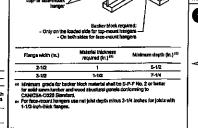


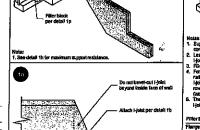












COMPANY TAMARACK LUMBER INC. 3269 NORTH SERVICE ROAD **BURLINGTON ONTARIO** May 27, 2021 13:16

**PROJECT** J2 1ST FLOOR

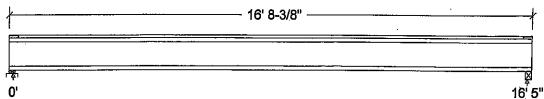
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

	Load	Туре	Distribution	Pat-	Location	[ft]	Magnitude	Unit
ı				tern	Start	End	Start E	nd
l	Loadl	Dead	Full Area				20.00	psf
	Load2	Live	Full Area				40.00	psf

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



	•	10, 0
Unfactored: Dead Live	219 438	219 438
Factored:	130	450
Total Bearing:	930	930
Capacity Joist Support Des ratio	2101 3971	2119
Joist Support Load case	0.44 0.23 #2	0.44
Length Min req'd	2-3/8 1-1/2	#2 2-1/2 1-1/2
Stiffener KD	No 1.00	No 1.00
KB support fcp sup	1.00 769	-
Kzcp sup	1.09	

\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W; Total length: 16' 8-3/8"; Clear span: 16' 3-1/2"; 3/4" nailed and glued OSB sheathing This section PASSES the design code check.

#### Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Amalysis/Design
Shear	Vf = 930	Vr = 2336	lbs	O'VI/VI 0.40
Moment(+)	Mf = 3818	Mr = 6255	lbs-ft	M£7M:=\$40.61
Perm. Defl'n	0.11 = < L/999	0.55 ≈ L/360	in //	641 0.20
Live Defl'n	0.22 = L/905	0.41 = L/480	in /	53
Total Defl'n	0.33 = L/603	0.82 = L/240	in in in	S. KATSOULAKOS
Bare Defl'n	0.27 = L/731	0.55 = L/360	in [3]	9. NII - 7 / A
Vibration	Lmax ≈ 16'-5	Lv = 18'-1.3	ft 🐧	0.49
Defl'n	= 0.029	= 0.039	in 🔪	73

THE OF CLAND NO. TANIL 803

#### J2 1ST FLOOR

#### Nordic Sizer - Canada 7.3.1

Page 2

Additiona	l Data:										
FACTORS:	f/E	KD	KH	ΚZ	KL	KT	KS	KN	LC#		
٧r	2336	1.00	1.00	_	_	_	_				
Mr+	6255	1.00	1.00	-	1.000	_	_	_	#2		
EI	371.1 m	illion	_	-	-	_	-	_	#2		
CRITICAL L	OAD COMB	INATIONS	<b>:</b> :								
	: LC #2			L							
Moment (+	) : LC #2	= 1.25	5D + 1.5	<b>L</b>							
	on: LC #1										
			+1.0L		)						
	LC #2	= 1.00	+ 1.0L	(tota	1)						
	LC #2	= 1.00	+ 1.0L	(bare	joist)						
Bearing	: Suppo:	rt 1 - I	C #2 = 3	1.25D +	1.5L						
			C #2 = 1								
Load Typ	es: D=de	ad L=li	.ve(use,	occupano	cy)						
	terns: s=					in this	span				
	Combinat:										
CALCULATI						_	_				
	459.76 lb	-in^2 K	= 6.18	Be06 lbs	GA = 0	.77e06	lb				
	eflection							ow) aa	имария У	ie ada a	119
					· · · · · · · · · · · · · · · · · · ·		<u>'</u>	, GU	nporms t	U UDU Z1	114

#### Design Notes:

AMENDED 2020

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- 7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 8. 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.



COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
May 27, 2021 13:18

PROJECT
J3 1ST FLOOR

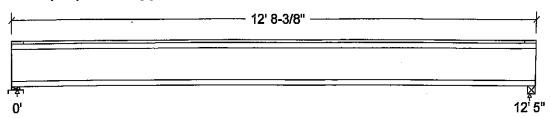
### **Design Check Calculation Sheet**

Nordic Sizer – Canada 7.3.1

#### Loads:

Load	Type	Distribution	Pat-	Location [ft]		Magnitude		Unit
			tern	Star <u>t</u>	End	Start	End	
Load1	Dead	Full Area		•		20.00		psf
Load2	Live	Full Area				40.00		psf

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



Unfactored: Dead Live	166 331		166 331
Factored: Total	704		704
Bearing:			
Capacity Joist	2101		2119
Support	3971		-
Des ratio			0 22
Joist	0.33		0.33
Support	0.18	,	
Load case	#2		#2
Length	2-3/8		2-1/2
Min req'd	1-1/2		1-1/2
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		-
fcp sup	769	,	-
Kzcp sup	1.09		·

\*Minimum bearing length for joists is 1-1/2" for exterior supports

Nordic Joist 11-7/8" NI-40x Floor joist @ 16" o.c. Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W;

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W; Total length: 12' 8-3/8"; Clear span: 12' 3-1/2"; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

S. KATSOULAKOS

S. KATSOULAKOS

OUNCE OF ONLY

PG 1/2

UNG NO. TAN 1/804-21

996 HO. TAN 1/BOY-2 STRUCTURAL COMPONENT ONLY J3 1ST FLOOR

#### Nordic Sizer - Canada 7.3.1

Page 2

#### Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 704	Vr = 2336	lbs	Vf/Vr = 0.30
Moment(+)	Mf = 2184	Mr = 6255	lbs-ft	Mf/Mr = 0.35
Perm. Defl'n	0.04 = < L/999	0.41 = L/360	in	0.09
Live Defl'n	0.08 = < L/999	0.31 = L/480	in	0.25
	$0.12 = \langle L/999 \rangle$	0.62 = L/240	in	0.19
				0.23
		<b>4</b>	·	0.69
Total Defl'n Bare Defl'n Vibration Defl'n	$0.12 - \langle L/999 \rangle$ $0.10 = \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$ $10.12 - \langle L/999 \rangle$	0.41 = L/360 Lv = 18'-1.3 = 0.056	in ft in	0.23

#### Additional Data:

FACTORS:	f/E	KD	KH	ΚŻ	$_{ m KL}$	KT	KS	KN	LC#
Vr	2336	1.00	1.00	_	_		-	_	#2
v-   Mr+			1.00	_	1.000	_	-	-	#2
E.T.	-	nillion	_	-	_	_	-	-	#2

#### CRITICAL LOAD COMBINATIONS:

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

Deflection: LC #1 = 1.0D (permanent) LC #2 = 1.0D + 1.0L (live)= 1.0D + 1.0L (total) LC #2

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

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

Load Types: D=dead L=live(use,occupancy)

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:

Eleff = 459.76 lb-in^2 K = 6.18e06 lbs GA = 0.77e06 lb

"Live" deflection is due to all non-dead loads (live, wind, snow...) CUNFORMS TO OBC 2012

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC). Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- 7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 8. 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.

POLYNCE OF OF 046 NO , TAM [] 80 STRUCTURAL PROPORTION ONLY

KATSOULAKOS

AMENDED 2020

COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
May 27, 2021 13:18

PROJECT
J9 1ST FLOOR

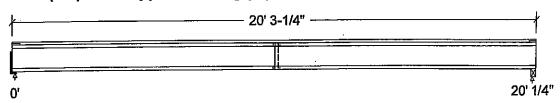
## **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

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

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



Unfactored: Dead Live	200 400	200 400
Factored: Total	851	851
Bearing: Capacity Joist Support	2154	2199 -
Des ratio Joist Support	0.40	0.39
Load case Length Min req'd	#2 2 1-1/2	#2 2-1/2 1-1/2
Stiffener KD	No 1.00	No 1.00
KB support	- 1	_

\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

Supports: 1 - Hanger; 2 - Steel Beam, W;

Total length: 20' 3-1/4"; Clear span: 19' 10-3/4"; 3/4" nailed and glued OSB sheathing with 1 row of blocking

This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit Analysis/Design
Shear	Vf = 851	Vr = 2336	lbs 0.36
Moment(+)	Mf = 4259	Mr ≔ 11609	lbs-ft Mr = 0.37
Perm. Defl'n	0.13 = < L/999	0.67 = L/360	in (8) 0.20
Live Defl'n	0.26 = L/915	0.50 = L/480	in 0.20 0.52
Total Defl'n	0.39 = L/610	1.00 = L/240	1 . #1.3% T*** # # #6L
Bare Defl'n	0.30 = L/801	0.67 = L/360	in S KATSOULAKOS 0.39
Vibration	Lmax = 20'-0.2	Lv = 22'-6.2	ft 0.89
Defl'n	= 0.024	= 0.032	in   00.76
17/4-1 11	L		

ive no. tami*loos =2* i structural

AARBAUPUP ARIE

#### WoodWorks® Sizer

#### for NORDIC STRUCTURES

#### IN 40T EL OOD

#### Nordic Sizer - Canada 7 3 1

Page 2

9 1ST FLOC	Ж	•	Nordic Sizer - Canada 7.3.1							rayę	
Additiona	l Data:	,									
FACTORS:		KD	KH	KZ	KL	KT	KS	KN	LC#		
۷r	2336				_	-	-	-	#2		
Mr+	11609	1.00	1.00	-	1.000	-	-	-	#2		
	547.1 m			-	-	-	-	-	#2		
CRITICAL L	OAD COMB	INATIONS	<b>3</b> :								
Shear	: LC #2	= 1.25	5D + 1.5	<u></u>							
Moment (+	) : LC #2	= 1.29	5D + 1.51	L							
Deflecti	on: LC #1										
			0 + 1.0L								
			0 + 1.0L								
	LC #2	= 1.01	) + 1.0L	(bare	joist)						
Bearing	: Suppo	rt 1 - ]	∟C #2 = 1	1.25D +	1.5L						
	Suppo	rt 2 - 1	LC #2 = 1	1.25D +	1.5L						
Load Typ	es: D=de	ad L=13	lve(use,	occupan	cy)						
Load Pat	terns: s=	S/2 L=1	L+Ls _=r	no patte	ern load	in this	s span				
		ions (LO	Cs) are 1	Listed :	in the An	alysis	output		-		
CALCULATI	ONS:										
Eleff =	625.37 lb	-in^2 H	$\zeta = 6.18$	Be06 lb	GA = 0	.//e06	Tp		തെക്കുട്ടുക ജിക്	<b>8 8 8 8 8 8 8</b>	
"Live" d	eflection	is due	to all r	ion-dead	d loads (	live, w	vind, sno	ow) (100	ifbams to	UDG 2012	

**Design Notes:** 

AMENDED 2020

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC). Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

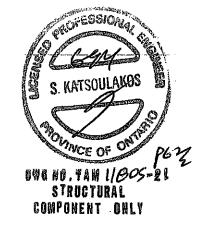
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.

7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.

8. 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.



COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
May 27, 2021 13:17

PROJECT
J10 1ST FLOOR

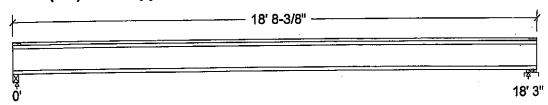
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

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

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



Unfactored: Dead Live	182 365		182 365
Factored: Total	776		776
Bearing:			
Capacity Joist Support	2199 -		2336 10841
Des ratio Joist	0.35	i	0.33
Support	-	_	0.07
Load case	#2		#2
Length	2-1/2		4-3/8
Min req'd	1-1/2		1-1/2
Stiffener	No		No 1 00
KD	1.00		1.00
KB support	-		1.00
fcp sup	-		769
Kzcp sup	_		1.15

\*Minimum bearing length for joists is 1-1/2" for exterior supports

Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c. Supports: 1 - Steel Beam, W; 2 - Lumber Sill plate, No.1/No.2;

Supports: 1 - Steel Beam, W; 2 - Lumber Sill plate, No.1/No.2; Total length: 18' 8-3/8"; Clear span: 18' 1-1/2"; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

S. KATSOULANOS S. S. KATSOULANOS S. S. KATSOULANOS S. S. TAN I.I.E. S. TRUCTURA

HT NO. TAN (1806-21 STRUCTURAL COMPONENT ONLY

#### Nordic Sizer - Canada 7.3.1

Page 2

#### Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 776	Vr = 2336	lbs	Vf/Vr = 0.33
Moment(+)	Mf = 3539	Mr = 11609	lbs-ft	Mf/Mr = 0.30
Perm. Defl'n	0.09 = < L/999	0.61 = L/360	in	0.15
Live Defl'n	0.19 = < L/999	0.46 = L/480	in	0.41
Total Defl'n	0.28 = L/787	0.91 = L/240	in	0.30
Bare Defl'n	0.21 = < L/999	0.61 = L/360	in	0.35
Vibration	Lmax = 18'-3	Lv = 21'-2.7	ft	0.86
Defl'n	= 0.024	= 0.034	in	0.69

#### Additional Data:

FACTORS:	f/E	KD	KH	KZ	$\mathtt{KL}$	KT	. KS	KN ·	LC#
Vr	2336	1.00	1.00	-	_	_	_	٠ ـــ	#2
Mr+	11609	1.00	1.00	-	1.000	-	-	<del>-</del> .	#2
EI	547.1 m	illion		-	_	-		-	#2

#### CRITICAL LOAD COMBINATIONS:

```
Shear : LC #2 = 1.25D + 1.5L

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

Deflection: LC #1 = 1.0D (permanent)
```

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 L=live(use,occupancy)

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:

Eleff = 625.37 lb-in^2 K = 6.18e06 lbs GA = 0.77e06 lb "Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

#### Design Notes:

AMENDED 2020

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- 7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 8. 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.

S. KATSOULAKOS BOOME POZ DWS NO. TAN 11806-21 STRUCTURAL

COMPANY TAMARACK LUMBER INC. 3269 NORTH SERVICE ROAD **BURLINGTON ONTARIO** May 27, 2021 08:59

PROJECT J1 2ND FLOOR

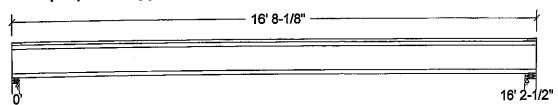
## **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

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

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



Unfactored: Dead Live	216 432	216 432
Factored: Total	918	918
Bearing: Capacity Joist Support	2155 4756	2336 7744
Des ratio Joist Support Load case	0.43 0.19 #2	0.39 0.12 #2
Length Min req'd Stiffener KD	2-3/4 1-1/2 No 1.00	4-3/8 1-1/2 No 1.00
KB support	769	- 769 -

\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

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

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

Total length: 16' 8-1/8"; Clear span: 16' 1"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling This section PASSES the design code check.

> ON THE OF ON DWE NO. TAN 11807-28

#### Nordic Sizer - Canada 7.3.1

Page 2

### Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 918	Vr = 2336	lbs	Vf/Vr = 0.39
Moment (+)	Mf = 3721	Mr = 6255	lbs-ft	Mf/Mr = 0.59
Perm. Defl'n	0.11 = < L/999	0.54 = L/360	in	0.20
Live Defl'n	0.21 = L/916	0.41 = L/480	in	0.52
Total Defl'n	0.32 = L/611	0.81 = L/240	in	0.39
Bare Defl'n	0.26 = L/759	0.54 = L/360	in	0.47
Vibration	Lmax = 16'-2.5	Lv = 17'-8.1	ft	0.92
Defl'n	= 0.030	= 0.040	in	0.76

#### Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	ΚŤ	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+		1.00	1.00	••	1.000	-	-	-	#2
ET		nillion		-	_	-	-		#2

#### **CRITICAL LOAD COMBINATIONS:**

: LC #2 = 1.25D + 1.5LShear Moment(+): LC #2 = 1.25D + 1.5L Deflection: LC #1 = 1.0D (permanent)

Deflection: LC #1 = 1.0D + 1.0L (live) LC #2 LC #2 = 1.0D + 1.0L (total)

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

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

Load Types: D=dead L=live(use,occupancy)

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:

Eleff = 447.63 lb-in^2 K = 6.18e06 lbs GA = 0.77e06 lb CONFORMS TO OBC 2012 "Live" deflection is due to all non-dead loads (live, wind, snow...)

AMENDED 2020

#### Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.

7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.

8. 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.

> STRUCTURAL COMPONENT ANLY

**COMPANY** TAMARACK LUMBER INC. 3269 NORTH SERVICE ROAD **BURLINGTON ONTARIO** May 27, 2021 08:50

PROJECT J7 2ND FLOOR

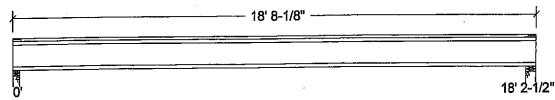
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

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

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



	U	
Unfactored: Dead Live	182 364	182 364
Factored: Total Bearing:	774	774
Capacity Joist Support	2221 6659	2336 10841
Des ratio Joist Support Load case	0.35 0.12 #2	0.33 0.07 #2
Length Min req'd Stiffener	2-3/4 1-1/2 No 1.00	4-3/8 1-1/2 No 1.00
KD KB support fcp sup	769	769 -

\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

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

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

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

This section PASSES the design code check.

POWNINCE OF ON

#### Nordic Sizer -- Canada 7.3.1

Page 2

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

Analysis Value	Design Value	Unit	Analysis/Design
Vf = 774	Vr = 2336	lbs	Vf/Vr = 0.33
Mf = 3522	Mr = 11609	lbs−ft	Mf/Mr = 0.30
0.09 = < L/999	0.61 = L/360	in	0.15
$0.19 = \langle L/999 \rangle$	0.46 = L/480	in	0.41
0.28 = L/778	0.91 = L/240	in	0.31
		in	0.35
		ft	0.89
		ł	0.75
	Vf = 774 Mf = 3522 0.09 = < L/999	Vf = 774 Mf = 3522 0.09 = < L/999 0.19 = < L/999 0.28 = L/778 0.21 = < L/999 0.61 = L/360 0.91 = L/240 0.21 = < L/999 0.61 = L/360 Lmax = 18'-2.5 Lv = 20'-5.8	Vf = 774

#### Additional Data:

FACTORS:	${f f}/{f E}$	KD	KH	ΚŹ	$\mathtt{KL}$	KT	KS	KN	LC#
Vr		1.00	1.00	-	_	_	•	•	#2
Mr+	11609		1.00	_	1.000			_	#2
E.L.	547.1 m		_		-	-	_	-	#2

#### **CRITICAL LOAD COMBINATIONS:**

```
: LC \#2 = 1.25D + 1.5L
Shear
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)

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

Load Types: D=dead L=live(use,occupancy)

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:

Eleff =  $613.27 \text{ lb-in^2}$  K = 6.18e06 lbs GA = 0.77e06 lb"Live" deflection is due to all non-dead loads (live, wind, snow...) CONFORMS TO UBC 2012

#### **Design Notes:**

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- 7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 8. 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.

PACE OF O

AMENDED 2020

COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
May 27, 2021 09:05

PROJECT
J2 2ND FLOOR ABOVE
GARAGE

### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

	Load	Туре	Distribution	Pat-	Location	[ft]	Magnitude	Unit
	1000	-21-		tern	Start	End	Start End	
İ	Load1	Dead	Full Area					psf
l	Load2	Live	Full Area		<u></u>		40.00	psf

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

<del> </del>	15' 5-1/2"	+
Ó'	·	14' 10-3/4"

	ď'	14	4' 10-3/4"
Unfactored: Dead Live	199 397	·	199 397
Factored: Total	844		844
Bearing: Capacity Joist Support	2336		2155 4756
Des ratio Joist Support Load case	0.36 - #2		0.39 0.18 #2
Length Min req'd Stiffener	5-1/2 1-1/2 No	<del>-</del>	2-3/4 1-1/2 No
KD KB support fcp sup	1,00 -   -		1.00 - 769
Kzcp sup	_		

\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

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

Supports: 1 - Steel Beam, W; 2 - Lumber Wall, No.1/No.2;

Total length: 15' 5-1/2"; Clear span: 14' 9-1/4"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

S. KATSOULAKOS S. WATSOULAKOS S. WAT

J2 2ND FLOOR ABOVE GARAGE

Nordic Sizer - Canada 7.3.1

Page 2

### Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 844	Vr = 2336	lbs	Vf/Vr = 0.36
Moment(+)	Mf = 3143	Mr = 6255	lbs-ft	Mf/Mr = 0.50
Perm. Defl'n	0.08 = < L/999	0.50 = L/360	in	0.16
Live Defl'n	0.15 = < L/999	0.37 = L/480	in	0.42
Total Defl'n	0.23 = L/769	0.74 = L/240	in	0.31
Bare Defl'n	0.19 = L/956	0.50 = L/360	in	0.38
Vibration	Lmax = 14'-10.7	$L_{\nabla} = 17' - 2.4$	ft	0.87
Defl'n	= 0.028	= 0.044	in	0.63

#### **Additional Data:**

FACTORS:	f/E	KD	KH	KZ	$_{ m KL}$	KT	KS	KN	LC#
Vr	2336	1.00	1.00	_	_	-	_	_	#2
Mr+		1.00	1.00	_	1.000	-	_	-	#2
ET	371.1 m		-	-		· -	_	-	· #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) : Support 1 - LC #2 = 1.25D + 1.5L

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

Load Types: D=dead L=live(use,occupancy)

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:**

Bearing

Eleff = 447.63 lb-in<sup>2</sup> K = 6.18e06 lbs GA = 0.77e06 lb

"Live" deflection is due to all non-dead loads (live, wind, snow...) CONFORMS TO OBC 2012

#### **Design Notes:**

AMENDED 2820

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA 086-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- 7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 8. 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.

S. KATSOULAKOS S

POLICE OF ONE TAN 1/80%-21

STRUCTURAL

COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
May 27, 2021 15:17

PROJECT
J1 2ND FLOOR ABOVE
GARAGE ELEV 2

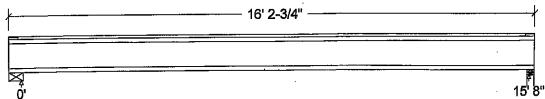
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.3.1

#### Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitud	de '	Unit
12000		]	tern	Start_	End	Start	End	Unit nd psf psf
Load1	Dead	Full Area				20.00		-
Load2	Live	Full Area				40.00		psf

# Maximum Reactions (Ibs) and Support Bearing (in):



	O,	<u> </u>	19 0
Unfactored: Dead Live	209 418		209 418
Factored: Total	888		888
Bearing: Capacity Joist Support	2336	,	2155 4756
Des ratio Joist Support	0.38		0.41
Load case Length Min req'd	#2 5-1/2 1-1/2		#2 2-3/4 1-1/2
Stiffener KD	No 1.00		No 1.00
KB support			7 <b>6</b> 9

\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

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

Supports: 1 - Steel Beam, W; 2 - Lumber Wall, No.1/No.2;

Total length: 16' 2-3/4"; Clear span: 15' 6-1/2"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

S. KATSOULAKES

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BWG HO. TAM | | BIO=21
STRUCTURAL

#### J1 2ND FLOOR ABOVE GARAGE ELEV 2 Nordic Sizer - Canada 7.3.1

### Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 888	Vr = 2336	lbs	Vf/Vr = 0.38
Moment(+)	Mf = 3477	Mr = 6255	lbs-ft	Mf/Mr = 0.56
Perm. Defl'n	0.09 = < L/999	0.52 = L/360	in	0.18
Live Defl'n	0.19 = < L/999	0.39 = L/480	in	0.48
Total Defl'n	0.28 = L/670	0.78 = L/240	in	0.36
Bare Defl'n	0.23 = 1/833	0.52 = L/360	in	0.43
Vibration	Imax = 15'-8	Lv = 17'-2.4	£t	0.91
Defl'n	= 0.031	= 0.041	in	0.74

#### Additional Data:

2 626 431 41 41 41 41 41									- ~ N
FACTORS:	f/E	KD	KH	KZ	$\mathtt{KL}$	KT	KS	KN	LC#
Vr	2336	1.00	1.00		_	_	_	_	#2
			1.00	_	1.000	_	_		#2
Mr+	<b>u</b>						_	_	#2
l r:t	371.1 m	illion	-		-	_	_	-	#4

#### CRITICAL LOAD COMBINATIONS:

Shear	:	LC	#2	=	1.25D + 1.5L	
Moment(+)	:	LC	#2	=	1.25D + 1.5L	
Deflection	:	LC	#1	=	1.0D (permar	nent)
		ЬC	#2	=	1.0D + 1.0L	(live)
		LC	#2	=	1.0D + 1.0L	(total)
		LC	#2	_	1.0D + 1.0L	(bare joist

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

Load Types: D=dead L=live(use,occupancy)

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:**

Eleff =  $447.63 \text{ lb-in^2}$  K = 6.18e06 lbs GA = 0.77e06 lb"Live" deflection is due to all non-dead loads (live, wind, snow ...)

converms to obc 2012

#### Design Notes:

AMENDED 2020 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.

7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood

8. 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.

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

PASSED

# 1ST FLOOR \Flush Beams\B1(I6308) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address: City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9.mmdl** 

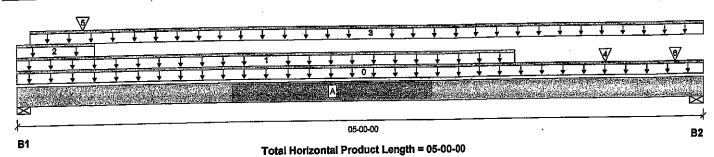
Description: 1ST FLOOR \Flush Beams\B1(i6308)

Specifier:

Designer: PL

**Customer:** CCMC 12472-R Code reports:

Company:



Reaction Summary (Down / Uplift) (lbs)

Reaction our	111017 (201111)	Bood	Snow	Wir
Bearing	Live	Dead		3040
B1, 4-3/4"	1918 / 0	1549 / 0	574 / 0	
,	1653 / 0	1254 / 0	290 / 0	
B2. 3-1/4"	100010	1.44	•	

	1.0						Live	Dead	Snow	Wind	Tributary
	ad Summary  Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Lag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Top		12			00-00-00
0	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	03-07-04	Top	369	184			n\a
1	=	Unf. Lin. (lb/ft)	Ĺ	00-00-00	00-06-12	Top		81			n\a
2 3	E27(i1693) FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	Ĺ	00-01-04	05-00-00	Тор	15	7			n\a
4	View Fill) J2(16314)	Conc. Pt. (lbs)	L	04-03-04	04-03-04	•	443	221			n\a
5	E27(i1693)	Conc. Pt. (lbs)	Ĺ	00-05-12	00-05-12	Top	851	936	574		n\a
6	E10(i1650)	Conc. Pt. (lbs)	L	04-09-08	04-09-08	Top	841	819	290		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1914 ft-lbs	35392 ft-lbs	5.4%	1	02-11-04
	1244 lbs	14464 lbs	8.6%	1	01-04-10
End Shear	L/999 (0.005")	n\a	n\a	35	02-06-12
Total Load Deflection	L/999 (0.003")	n\a	n\a	51	02-06-12
Live Load Deflection Max Defl.	0.005"	n\a	n\a	35	02-06-12
Span / Depth	4.5				

Bearing Support	ts Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Membe <u>r</u>	Material
B1 Wall/Plate		5387 lbs	52.7%	26.6%	Spruce-Pine-Fir
R2 Wall/Plate	3-1/4" x 3-1/2"	4336 lbs	62.0%	31.2%	Spruce-Pine-Fir

#### Notes

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

CONFORMS TO OBC 2012

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

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

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

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

Design based on Dry Service Condition.

importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.



846 HO, TAN 11811 =21 STRUCTURAL COMPONENT ONLY



**BC CALC® Member Report** 



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

PASSED

#### 1ST FLOOR \Flush Beams\B1(i6308) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9.mmdl** 

Description: 1ST FLOOR \Flush Beams\B1(i6308)

Specifier:

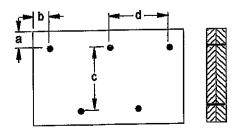
Designer: PL

Customer: Code reports:

CCMC 12472-R

Company:

## Connection Diagram: Full Length of Member



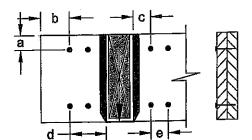
a minimum = 2" b minimum = 3" c = 7-7/8" ଷ

Calculated Side Load = 470.4 lb/ft

Connectors are: Nails ARDOX SPIRAL

# Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to lead tag(s): 10+11



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are:

Nails

ARDOX SPIRAL



146 NO. TAM 2/80 -21 STRUCTURAL COMPONENT ONLY

#### **Disclosure**

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

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





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

Passed

### 1ST FLOOR \Flush Beams\B10(i6319) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Customer:

Code reports:

Address: City, Province, Postal Code:

**BC CALC® Member Report** 

HAMILTON

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

Wind

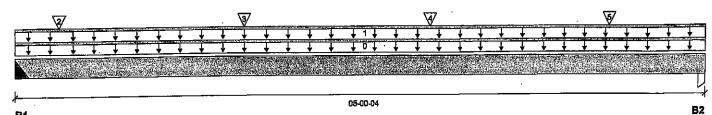
Description:

1ST FLOOR \Flush Beams\B10(i6319)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 05-00-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 3"	181 / 0	255 / 0
B2, 3-1/2"	159 / 0	247 / 0

وم ا	ad Summary						Live
Tag		Load Type	Ref.	Start	End	Loc.	1.00
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-00-04	Тор	
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	05-00-04	Top	
2	J7(i6279)	Conc. Pt. (lbs)	L	00-03-12	00-03-12	Тор	67
3	J7(i6361)	Conc. Pt. (lbs)	L.	01-07-12	01-07-12	Тор	99
4	J7(i6286)	Conc. Pt. (lbs)	L	02-11-12	02-11-12	Top	99
5	J7(16254)	Conc. Pt. (lbs)	L			•	75

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	609 ft-lbs	17696 ft-lbs	3.4%	1	02-10-12
End Shear	349 lbs	7232 lbs	4.8%	1	03-08-14
Total Load Deflection	L/999 (0.004")	n\a	n\a	4	02-06-04
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	02-06-04
Max Defl.	0.004"	n\a	n\a	. 4	02-06-04
Span / Depth	4.7				

Bearii	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	3" x 1-3/4"	591 lbs	n\a	9.2%	HUS1.81/10
B2	Column	3-1/2" x 1-3/4"	547 lbs	13.7%	7.3%	Unspecified

**Cautions** 

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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

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

CONFORMS YO OBC 2012

Hanger Manufacturer: Unassigned

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

AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

ONINCE OF ONLY DWG NO. YAN 1/8/2-21 STRUCTURAL COMPONENT ONLY

Disclosure

Dead

0.65

8 60

33

50

50

38

Snow

1.00

Wind

1.15

Tributary

00-00-00

n\a

n\a

n\a

n\a

n\a

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

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





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

PASSED

#### 1ST FLOOR \Flush Beams\B11(i6283) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Customer:

Code reports:

Job name:

Address:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdi** 

Wind

Description:

1ST FLOOR \Flush Beams\B11(i6283)

Specifier:

Designer: PL

Company:

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							3-09-1	2													

**B**1

Total Horizontal Product Length = 03-09-12

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Live Bearing 128/0 B1, 1-3/4" 25/0 193/0 147 / 0 B2, 5-1/2"

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-09-12	Тор		6			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	03-04-04	Top		60			n\a
2	FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	00-00-00	03-04-04	Тор	14	7			n\a
	View Fill)										Ser and the series
3	9(i1671)	Conc. Pt. (lbs)	L	03-07-00	03-07-00	Тор	124	73	4 Q	OLEGE	norty, hla

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	142 ft-lbs	11502 ft-lbs	1.2%	0	01-09-00
End Shear	63 lbs	4701 lbs	1.3%	0	01-01-10
Total Load Deflection	<b></b>	n\a	n\a	4	01-09-00
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-09-00
Max Defl.	0"	n\a	n\a	4	01-09-00
Snan / Depth	3.4				

Bearing	a Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	1-3/4" x 1-3/4"	179 lbs	13.8%	7.4%	Unspecified
B2	Beam	5-1/2" x 1-3/4"	461 lbs	11.2%	3.9%	Unspecified

#### Notes

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

CONFORMS TO UDG 2012

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

846 NO , TAM 1/813 =21 STRUCTURAL COMPONENT ONLY

**Disclosure** 

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





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

PASSED

May 27, 2021 13:59:42

## 1ST FLOOR \Flush Beams\B12(i6125) (Flush Beam)

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address: City, Province, Postal Code: HAMILTON

Dry | 1 span | No cant.

**GRANDVILLE 9.mmdi** 

File name: Description:

Wind

1ST FLOOR \Flush Beams\B12(i6125)

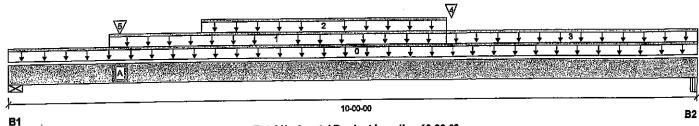
Specifier:

Designer: PL.

Customer: Code reports:

CCMC 12472-R

Company:



#### Total Horizontal Product Length = 10-90-90

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing Live 1359 / 0 817/0 B1, 3-1/2" 439 / 0 550 / 0 B2, 2-3/4"

1	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	Тор		12			00-00-00
1	FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	01-05-04	06-03-04	Тор	14	7			n\a
2	View Fill) STAIRS	Unf. Lin. (lb/ft)	L	02-09-04	06-03-04	Тор	120	60			n\a
3	FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	06-03-04	10-00-00	Тор	20	10			n\a
4	View Fill) B10(i6319)	Conc. Pt. (lbs)	L	06-04-02	06-04-02	Тор	173	245			n\a
5	B7(i6311)	Conc. Pt. (lbs)	L	01-07-00	01-07-00	Тор	1175	610			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5042 ft-lbs	35392 ft-lbs	14.2%	1	04-03-10
End Shear	3040 lbs	14464 <b>l</b> bs	21.0%	1	01-03-06
Total Load Deflection	L/999 (0.062")	n\a	n\a	4	04-10-03
Live Load Deflection	Ľ/999 (0.037")	n\a	n\a	5	04-08-14
Max Defl.	0.062"	n\a	n\a	4	04-10-03
Span / Depth	9.7				

Rea	ring Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1		3-1/2" x 3-1/2"	3060 lbs	40.6%	20.5%	Spruce-Pine-Fir
B2	Beam	2-3/4" x 3-1/2"	1374 lbs	33.4%	11.7%	Unspecified

#### **Notes**

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

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

00NFBRMS 70 0BC 2012

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 01-00-02, Bottom: 04-06-08.



COMPONENT ONLY





PASSED

#### 1ST FLOOR \Flush Beams\B12(i6125) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

**CCMC 12472-R** 

File name:

**GRANDVILLE 9.mmdl** 

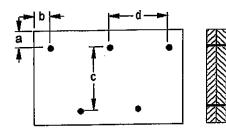
Description:

1ST FLOOR \Flush Beams\B12(i6125)

Specifier: Company:

Designer:

Connection Diagram: Full Length of Member



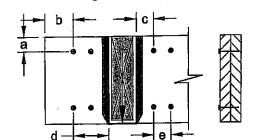
a minimum = 2" b minimum = 3"

c = 7-7/8" d=**#8**"

Calculated Side Load = 282.9 lb/ft Connectors are: 16d A Nails
3½ ARDOX SPIRAL

**Connection Diagrams: Concentrated Side Loads** 

----Applies to load tag(s): 2 Connection Tag: A----



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are: 16d A Nails

ARDOX SPIRAL



DWG NO. TAM 1/8/24-21 STRUCTURAL COMPONENT ONLY

Disclosure

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

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





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

PASSED

## 1ST FLOOR \Flush Beams\B3 L(i6053) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: HAMILTON

**CCMC 12472-R** 

File name:

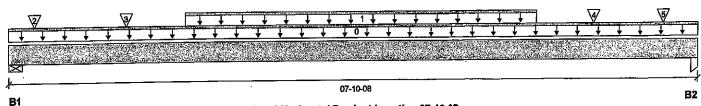
GRANDVILLE 9.mmdl

1ST FLOOR \Flush Beams\B3 L(i6053) Description:

Specifier:

Designer: PL

Company:



#### Total Horizontal Product Length = 07-10-08

Reaction Sui	mmary (Down / U	put) (ids)			
Bearing	"Live	Dead	Snow	Wind	 
B1, 3-1/2"	862 / 0	610 / 0	96 / 0		
B2, 3-1/2"	873 / 0	455 / 0			

1 0	ad Summary						Live	Dead
Tag	· · · · · · · · · · · · · · · · · · ·	Load Type	Ref.	Start	End	Loc	1.00	0.65
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-10-08	Top		5
4	Smoothed Load	Unf. Lin. (lb/ft)	L	02-00-00	06-00-00	Top	222	111
2		Conc. Pt. (lbs)	L	00-03-10	00-03-10	Top	179	250
_	14(160EU) ,	Conc. Pt. (lbs)	Ē	01-04-00	01-04-00	Top	252	126
3	J1(i6050)	Conc. Pt. (ibs)	ī	06-08-00	06-08-00	Top	238	119
4	J1(i6054)	• • •	ī	07-05-12		Top	178	89
5	J1(i6056)	Conc. Pt. (lbs)	L	01-00-12	01-00-1Z	. op	110	-

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3301 ft-lbs	11610 ft-lbs	28.4%	1	04-00-00
End Shear	1544 lbs	5785 lbs	26.7%	1	06-09-08
Total Load Deflection	L/999 (0.09")	n\a	n\a	35	04-00-00
Live Load Deflection	L/999 (0.059")	n\a	n\a	51	04-00-00
Max Defl.	0.09"	n\a	n\a	35	04-00-00
Span / Depth	9.4				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	3-1/2" x 1-3/4"	2152 lbs	57.1%	28.8%	Spruce-Pine-Fir
B2	Column	3-1/2" x 1-3/4"	1879 lbs	47.2%	25.1%	Unspecified

#### **Notes**

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

CONFORMS TO DBL 2012

Resistance Factor phi has been applied to all presented results per CSA 086. AMENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86. Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

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

questions, please call (800)232-0788

before installation.



Wind

1.15

Snow 1.00

96

Disclosure

**Tributary** 

00-00-00 n\a

> n\a n\a

STRUCTURAL COMPONENT ONLY



**BC CALC® Member Report** 



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

PASSED

## 1ST FLOOR \Flush Beams\B4 H(i6377) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Specifier:

File name:

Description:

Designer: PL

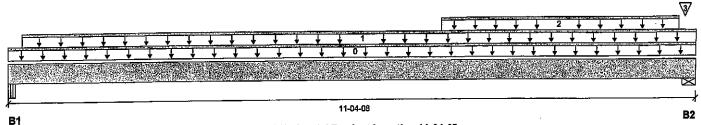
**GRANDVILLE 9.mmdl** 

1ST FLOOR \Flush Beams\B4 H(i6377)

Customer: Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 11-04-08

Reaction Summary (Down / Uplift) (lbs)

Snow Wind Live Bearing 145 / 0 152 / 0 B1, 2-3/4" 186 / 0 153 / 0 424 / 0 B2, 3-1/2"

Los	ad Summary						Live	Dead	Snow	Wind
	· · · · · · · · · · · · · · · · · · ·	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-04-08	Top		6		
1	FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	00-02-12	11-04-08	Тор	27	13		
2	View Fill) WALL	Unf. Lin. (lb/ft)	L	07-01-00	11-01-00	Тор		60	Sec. Sec.	NOFES:
3	3(i1664)	Conc. Pt. (lbs)	L	11-02-04	11-02-04	Тор		118	1863	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1301 ft-ibs	17696 ft-lbs	7.4%	1	06-06-06
End Shear	310 lbs	4701 lbs	6.6%	0	10-01-02
Total Load Deflection	L/999 (0.043")	n\a	n\a	35	05-09-10
Live Load Deflection	L/999 (0.018")	n\a	n\a	51	05-07-06
Max Defl.	0.043"	n\a	n\a	35	05-09-10
Span / Depth	11.1				

Bearing Suppor	ts Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Beam	2-3/4" x 1-3/4"	406 lbs	19.8%	6.9%	Unspecified
B2 Wall/Plate	3-1/2" x 1-3/4"	962 lbs	25.5%	12.9%	Spruce-Pine-Fir

#### Notes

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

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

Resistance Factor phi has been applied to all presented results per CSA O86. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA OSO

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 10-10-04.

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Tributary

STRUCTURAL COMPONENT ONLY

DWG NO. TAM 1/810

Disclosure





PASSED

#### 1ST FLOOR \Flush Beams\B5(i6338) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address: City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9.mmdl** 

Description: 1ST FLOOR \Flush Beams\B5(i6338)

Wind

Specifier:

PL

Customer: Code reports:

**CCMC 12472-R** 

Designer:

Company:

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12-00-00		i akupsa			( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )							1:	2-00-	00									*() **)					346

Total Horizontal Product Length = 12-00-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Live 132 / 0 B1, 2-3/4" 120 / 0 227/0264/0 B2, 2-3/4"

ا م	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	<u>L</u>	00-00-00	12-00-00	Тор		12			00-00-00
1	FC1 Floor Decking (Plan	•	L	00-00-00	12-00-00	Тор	20	10			n\a
2	View Fill) 7(i1668)	Conc. Pt. (lbs)	L	11-11-12	11-11-12	Тор	144	95			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	979 ft-lbs	35392 ft-lbs	2.8%	1	06-00-00
End Shear	275 lbs	14464 lbs	1.9%	1	01-02-10
Total Load Deflection	L/999 (0.018")	n\a	n\a	4	06-00-00
Live Load Deflection	L/999 (0.009")	n\a	n\a	5	06-00-00
Max Defl.	0.018"	n\a	n\a	4	06-00-00
Span / Depth	11.8				

Rearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	2-3/4" × 3-1/2"	345 libs	8.4%	2.9%	Unspecified
B2	Beam	2-3/4" x 3-1/2"	680 lbs	16.5%	5.8%	Unspecified

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

CONFORMS TO OBC 2012

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 11-06-08.

ON OF OF

COMPONENT ONLY





PASSED

May 27, 2021 13:59:42

#### 1ST FLOOR \Flush Beams\B5(i6338) (Flush Beam) Dry | 1 span | No cant.

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Code reports:

File name:

**GRANDVILLE 9.mmdl** 

Description:

1ST FLOOR \Flush Beams\B5(i6338)

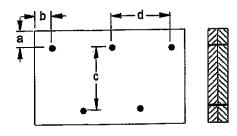
Specifier:

Company:

CCMC 12472-R

Designer: PL

#### Connection Diagram: Full Length of Member



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

Connectors are:

. Nails ARDOX SPIRAL

OWE NO . TAM I / BAC STRUCTURAL COMPONENT ONLY

#### **Disclosure**

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PASSED

## 1ST FLOOR \Flush Beams\B6(i6370) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name: Description:

Specifier:

Designer: ΡĹ

**GRANDVILLE 9.mmdl** 

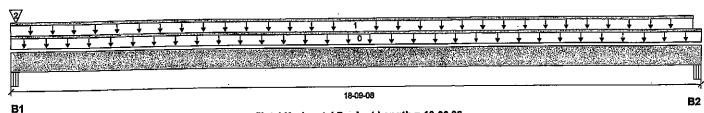
Wind

1ST FLOOR \Flush Beams\B6(i6370)

Customer: Code reports:

**CCMC 12472-R** 

Company:



Total Horizontal Product Length = 18-09-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 3-1/2"	1322 / 0	795 / 0
B2. 5-1/2"	185 / 0	207 / 0

امد	d Summary						Live	Dead	Snow	Wind	Tributary
	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
_ <u>1ay</u>	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-09-08	Тор		12			00-00-00
1	FC1 Floor Decking (Plan		L	00-00-00	18-06-12	Тор	20	10			n\a
2	View Fill) B7(i6311)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Тор	1136	590			n\a

Snow

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2374 ft-lbs	35392 ft-lbs	6.7%	1	09-03-12
End Shear	462 lbs	14464 lbs	3.2%	1	01-03-06
Total Load Deflection	L/999 (0.105")	n\a	n\a	4	09-03-12
	L/999 (0.05")	n\a	n\a	5	09-03-12
Live Load Deflection  Max Defl.	0.105"	n\a	n\a	4	09-03-12
Span / Depth	18.4				

Reari	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	3-1/2" x 3-1/2"	2977 lbs	56.9%	19.9%	Unspecified
B2	Ream	5-1/2" x 3-1/2"	536 lbs	6.5%	2.3%	Unspecified

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

**Notes** 

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

COMPARMS TO 080 2012

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

Resistance Factor phi has been applied to all presented results per CSA 086. AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 18-00-08.



9WE NO. TAM 1/818-21 STRUCTURAL COMPONENT ONLY





Passed

May 27, 2021 13:59:42

### 1ST FLOOR \Flush Beams\B6(i6370) (Flush Beam)

Dry | 1 span | No cant.

**BC CALC® Member Report Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: CCMC 12472-R Code reports:

File name:

**GRANDVILLE 9.mmdl** 

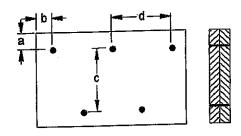
1ST FLOOR \F!ush Beams\B6(i6370) Description:

Specifier:

PL Designer:

Company:

## Connection Diagram: Full Length of Member



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

.\_\_ Nails . .

Connectors are: . ARDOX SPIRAL

> GFESSION COMPONENT ONLY

#### Disclosure

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





PASSED

## 1ST FLOOR \Flush Beams\B7(i6311) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9.mmdl** 

Description:

Wind

1ST FLOOR \Flush Beams\B7(i6311)

Specifier:

Designer: PL

Code reports:

CCMC 12472-R

Company:

03-09-04	☑/	₩	₩	\$
03-09-04				
		03-	09-04	7.74.1111

Total Horizontal Product Length = 03-09-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2-1/2"	1134 / 0	589 / 0
B2, 2-1/2"	1177 / 0	611 / 0

	-1 0						Live	Dead	Snow	Wind	Tributary
	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag	Self-Weight	Unf. Lin. (lb/ft)	Ľ	00-00-00	03-09-04	Тор		12			00-00-00
Ü	_	Unf. Lin. (lb/ft)	L.	00-00-00	03-09-04	Top	240	120			n\a
7	STAIRS	Conc. Pt. (lbs)	ī	00-04-08	00-04-08	Top	285	142			n\a
2	J10(i6322)		ı	01-04-08	01-04-08		375	187			n\a
3	J10(i6260)	Conc. Pt. (lbs)	-			Top	414	207			n\a
4	J9(i6277)	Conc. Pt. (lbs)	L	02-04-08	02-04-08						n\a
5	J9(i6362)	Conc. Pt. (lbs)	Ĺ	03-04-08	03-04-08	Тор	332	166			11/G

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1995 ft-lbs	35392 ft-lbs	5.6%	1	01-11-10
	1329 lbs	14464 lbs	9.2%	1	02-06-14
End Shear	L/999 (0.003")	n\a	n\a	4	01-10-14
Total Load Deflection	L/999 (0.002")	n\a	n\a	5	01-10-14
Live Load Deflection Max Defl.	0.003"	n\a	n\a	4	01-10-14
Span / Depth	3.5				

Rearing	g Supports	Dim. (ExW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2-1/2" x 3-1/2"	2437 lbs	n\a	22.8%	HUC410
B2	Hanger	2-1/2" x 3-1/2"	2529 lbs	n\a	23.7%	HUC410

**Cautions** 

Header for the hanger HUC410 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

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

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

Hanger Manufacturer: Unassigned Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS YO USC 2012 AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-08-08.



146 NO . TAN 1/819-21 STRUCTURAL COMPONENT ONLY





PASSED

## 1ST FLOOR \Flush Beams\B7(i6311) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report** 

Build 7773

Job name:

Address:

City, Province, Postal Code: HAMILTON

City, Pluvince, I'c

Customer: Code reports:

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

Description: 1ST FLOOR \Flush Beams\B7(i6311)

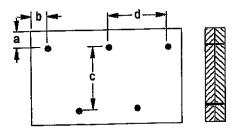
PL

Specifier:

Designer:

Company:

## Connection Diagram: Full Length of Member



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

Calculated Side Load = 510.0 lb/ft

Connectors are: .

ARDOX SPIRAL



#### **Disclosure**

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

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PASSED

## 1ST FLOOR \Flush Beams\B8(i6107) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Customer:

Code reports:

Address: City, Province, Postal Code: HAMILTON

CCMC 12472-R

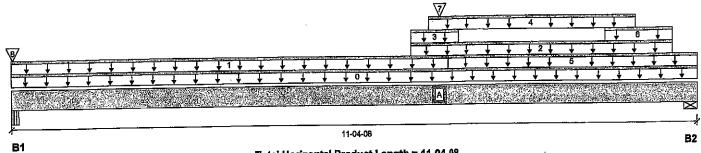
**GRANDVILLE 9.mmdl** 

File name: Description: 1ST FLOOR \Flush Beams\B8(i6107)

Specifier:

Designer: PL

Company:



#### Total Horizontal Product Length = 11-04-08

Snow

Reaction Summary (Down / Uplift) (ibs)

Live Dead Bearing 972 / 0 1372 / 0 B1, 2-3/4" 2311 / 0 2176/0 B2, 3-1/2"

	al Campungue				•		Live	Dead	Snow	Wind	Tributary
	ad Summary  Description	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-04-08	Тор		12			00-00-00
1	FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	00-00-00	07-02-00	Тор	40	20			n\a
	View Fill)	1. 6.12 (1). (6)	,	06-06-08	10-11-08	Top		81			n\a
2	12(i1683)	Unf. Lin. (lb/ft)	L			_ •	1262	732			n\a
3	12(i1683)	Unf. Lin. (lb/ft)	L	06-06-08	07-04-04	Тор					
4	12(11683)	Unf. Lin. (lb/ft)	L	06-10-00	10-04-00	Тор	29	14			n∖a
5	FC1 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	07-02-00	11-04-08	Тор	23	12			n\a
	View Fill)					-	0.40	200			n\a
6	12(i1683)	Unf. Lin. (lb/ft)	L	09-09-12	10-11-08	Тор	249	830			
7	B9(i6076)	Conc. Pt. (lbs)	L	07-00-04	07-00-04	Тор	1639	897			n\a
8		Conc. Pt. (lbs)	L	00-00-04	00-00-04	Top	103	75			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17913 ft-lbs	35392 ft-lbs	50.6%	1	07-00-04
End Shear	6039 lbs	14464 lbs	41.8%	1	10-01-02
Total Load Deflection	L/557 (0.237")	n\a	43.1%	4	06-00-08
Live Load Deflection	L/955 (0.138")	n\a	37.7%	5	06-00-08
Max Defl.	0.237"	n\a	n\a	4	06-00-08
Span / Depth	11.1				

Resrine	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	2-3/4" x 3-1/2"	3274 lbs	79.6%	27.9%	Unspecified
B2		3-1/2" x 3-1/2"	6152 lbs	81.6%	41.2%	Spruce-Pine-Fir



BWS NO. FAM 1/820-21 STRUCTURAL COMPONENT ONLY





PASSED

#### 1ST FLOOR \Flush Beams\B8(i6107) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports:

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

PL

Description:

1ST FLOOR \Flush Beams\B8(i6107)

Specifier:

Designer:

Company:

Notes

CONFORMS TO OBC 2012

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

AMENDED 2020

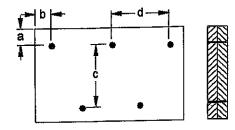
Resistance Factor phi has been applied to all presented results per CSA O86.

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

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 06-07-12.

## Connection Diagram: Full Length of Member



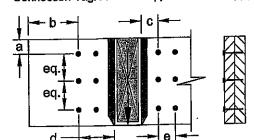
a minimum = 2" b minimum = 3" c = 7-7/8"

Connectors are:

. Nails

## Connection Diagrams: Concentrated Side Loads

--- Applies to load tag(s): 7 Connection Tag: A



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are: 16d A Nails

ARDOX SPIRAL



#### DWG NO. TAM // 620-21 STRUCTURAL COMPONENT ONLY

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Passed

#### 1ST FLOOR \Flush Beams\B9(i6076) (Flush Beam)

. Dry i 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Job name:

Code reports:

Address:

City, Province, Postal Code: HAMILTON Customer:

**CCMC 12472-R** 

**GRANDVILLE 9.mmdl** 

File name: Description:

Wind

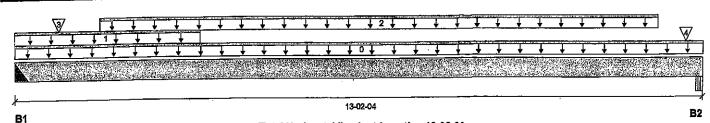
CONFORMS TO OBE 2012

1ST FLOOR \Flush Beams\B9(i6076)

Specifier:

Designer: PL

Company:



#### Total Horizontal Product Length = 13-02-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 4"	1666 / 0	911 / 0
B2, 2"	1033 / 0	593 / 0

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag Description		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-02-04	Тор		12			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-06-00	Тор	240	120			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-07-08	12-03-08	Тор	146	73			n\a
2	J5(i6106)	Conc. Pt. (lbs)	L	00-10-04	00-10-04	Тор	178	89			n\a
4	J5(i6096)	Conc. Pt. (lbs)	L	12-10-04	12-10-04	Тор	119	59			n\a

Controls Summary_	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	8085 ft-lbs	35392 ft-lbs	22.8%	1	06-03-08
End Shear	2764 lbs	14464 lbs	19.1%	1	01-03-14
Total Load Deflection	L/876 (0.176")	n\a	27.4%	4	06-05-08
Live Load Deflection	L/999 (0.112")	n\a	n\a	5	06-05-08
Max Defl.	0.176"	n\a	n\a	4	06-05-08
Snan / Denth	12.9				

Rearir	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	4" x 3-1/2"	3638 lbs	n\a	21.3%	HGUS410
B2	Beam	2" x 3-1/2"	2291 lbs	76.6%	26.8%	Unspecified

**Cautions** 

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

**Notes** 

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

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

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. AMENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-02-12.

DIVINCE OF O 046 40. TAN 11821-21

STRUCTURAL COMPONENT ONLY





PASSED

May 27, 2021 13:59:42

#### 1ST FLOOR \Flush Beams\B9(i6076) (Flush Beam) Dry | 1 span | No cant.

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

**CCMC 12472-R** 

File name:

GRANDVILLE 9.mmdl

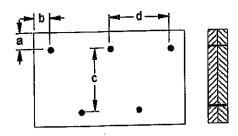
Description:

1ST FLOOR \Flush Beams\B9(i6076)

Specifier:

Designer: Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" #

Calculated Side Load = 422.3 lb/ft Connectors are: 16d

1 .. Nails ARDOX SPIRAL

> OMINCE OF ONLY DWG NO. TAN 11824-21

STRUCTURAL COMPONENT ONLY

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PASSED

## 2ND FLOOR \Dropped Beams\B13 DR(i6013) (Dropped Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

Description:

2ND FLOOR \Dropped Beams\B13 DR(i6013)

Specifier:

PL Designer:

Company:

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<del>*</del>	<del>                                      </del>		Salari Sociali de Salari Salari Narawi
And the second s			
		- <u>-</u> -	
R1	06-00-12		B2

#### Total Horizontal Product Length = 06-00-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 3-1/2"	2583 / 0	1387 / 0
B2, 3-1/4"	2618 / 0	1585 / 0

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
n	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-00-12	Тор		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	03-09-00	Top	790	395			n\a
2	-	Conc. Pt. (lbs)	L	04-06-12	04-06-12	Top	1628	1114			n\a
2	J7(i5295)	Conc. Pt. (lbs)	L	05-03-00	05-03-00	Тор	351	176			n\a
4	J5(i5299)	Conc. Pt. (lbs)	. <b>L</b>	05-11-00	05-11-00	Тор	253	126			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	7385 ft-lbs	35392 ft-lbs	20.9%	1	03-03-00
End Shear	5011 lbs	14464 lbs	34.6%	1	04-09-10
Total Load Deflection	L/999 (0.03")	n\a	n\a	4	03-01-08
Live Load Deflection	L/999 (0.019")	n\a	n\a	5	03-01-08
Max Defl.	0.03"	n\a	n\a	4	03-01-08
Span / Depth	5.7				

	Bearing	ı Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
•	B1	Wall/Plate	3-1/2" x 3-1/2"	5608 lbs	34.3%	37.5%	Spruce-Pine-Fir
	B2	Wall/Plate	3-1/4" x 3-1/2"	5909 lbs	38.9%	42.6%	Spruce-Pine-Fir

**Notes** 

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

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

CONFORMS TO DEC 2012

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

AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-10-04, Bottom: 06-00-12.



846 40. TAM //823-21 STRUCTURAL COMPONENT ONLY





Passed

May 27, 2021 13:59:42

2ND FLOOR \Dropped Beams\B13 DR(i6013) (Dropped Beam) Dry | 1 span | No cant.

**BC CALC® Member Report** 

Build 7773 '

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports:

**CCMC 12472-R** 

File name:

PL

**GRANDVILLE 9.mmdl** 

Description:

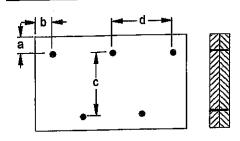
2ND FLOOR \Dropped Beams\B13 DR(i6013)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c=7-7/8" 4 d=**8# 8** 

Connectors are: . ..

... 🔏 . . . . . . Nails

3½" ARDOX SPIRAL

POVINCE OF ONLY

UNE NO. TAM 1/823-2 DISCIOSUPONENT ONLY

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Passed

## 2ND FLOOR \Dropped Beams\B19 DR(i6201) (Dropped Beam)

Specifier:

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name:

GRANDVILLE 9.mmdl

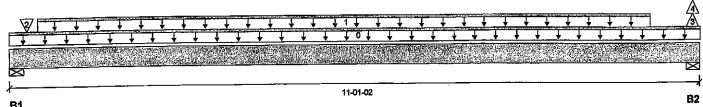
PL

Description:

2ND FLOOR \Dropped Beams\B19 DR(i6201)

Designer:

**Customer:** Company: CCMC 12472-R Code reports:



#### Total Horizontal Product Length = 11-01-02

Reaction Sun	Illitaly (Domin's of	onity (IDO)		
Bearing	LÌve	Dead	Snow	Wind
B1, 3-1/2"	2038 / 0	1082 / 0		
B2 5-5/8"	2242 / 0	1187 / 0	0/1	

Load Summary							Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-01-02	Тор		12			00-00-00
1	Smoothed Load	Unf, Lin. (lb/ft)	L	00-05-04	10-03-04	Top	381	190			n\a
2	J6(i6190)	Conc. Pt. (lbs)	L	00-03-04	00-03-04	Тор	177	88			n\a
2	• •	Conc. Pt. (lbs)	L	10-11-10	10-11-10	Top	352	175	-1		n\a
ى 4	-	Conc. Pt. (lbs)	Ĺ	10-11-10	10-11-10	Тор	0				n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	11370 ft-lbs	35392 ft-lbs	32.1%	1	05-07-04
End Shear	3913 lbs	14464 lbs	27.1%	1	09-07-10
Total Load Deflection	L/776 (0.162")	n\a	30.9%	56	05-05-04
Live Load Deflection	L/999 (0.106")	n\a	n\a	83	05-05-04
Max Defl.	0.162"	n\a	n\a	56	05-05-04
Snan / Deoth	10.6				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	3-1/2" x 3-1/2"	4409 lbs	27.0%	29.5%	Spruce-Pine-Fir
B2	Wall/Plate	5-5/8" x 3-1/2"	4847 lbs	18.5%	20.2%	Spruce-Pine-Fir

#### **Notes**

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

DONYORMS TO OBC 2012

Design meets Code minimum (L/360) Live load deflection criteria. Resistance Factor phi has been applied to all presented results per CSA 086.

AMENDED 2020

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-10-12, Bottom: 11-01-02.



COMPONENT ONLY





passed

2ND FLOOR \Dropped Beams\B19 DR(i6201) (Dropped Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Code reports:

Address:

City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

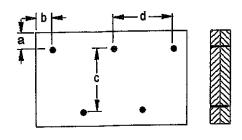
2ND FLOOR \Dropped Beams\B19 DR(i6201) Description:

Specifier:

Designer: PL

Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = 7-7/8" 4 d = 8 8

Connectors are:

ARDOX SPIRAL

. Nails

OUNCE OF ON

848 HO, TAHI 1824 STRUCTURAL COMPONENT ONLY

#### Disclosure

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PASSED

2ND FLOOR \Dropped Beams\B20 DR(I4596) (Dropped Beam)

Dry | 1 span | No cant. BC CALC® Member Report

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Customer:

Address:

Code reports:

City, Province, Postal Code: HAMILTON

**CCMC 12472-R** 

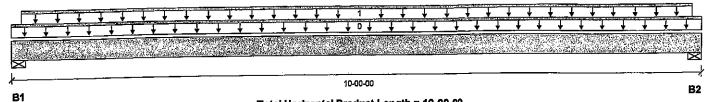
**GRANDVILLE 9.mmdl** File name:

2ND FLOOR \Dropped Beams\B20 DR(i4596) Description:

Specifier:

Designer:

Company:



#### Total Horizontal Product Length = 10-00-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead					
B1, 3-1/2"	1866 / 0	994 / 0					
B2, 3-1/2"	1864 / 0	992 / 0					

	ad Summary	Load Type	Ref.	Start	End	Loc.	<b>Live</b> 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
<u>Tag</u> 0	Description Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	Тор		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-01-12	09-10-04	Тор	379	190			n\a

Controls Summary	Factored Demand	Factored Resistance	Resistance	Case	Location
Pos. Moment	9168 ft-lbs	35392 ft-lbs	25.9%	1	04-07-12
End Shear	3399 lbs	14464 lbs	23.5%	1	01-03-06
Total Load Deflection	L/999 (0.109")	n\a	n\a	4	04-07-12
	L/999 (0.071")	n\a ·	n\a	5	04-07-12
Live Load Deflection  Max Defl.	0.109"	n\a	n\a	4	04-07-12
Span / Depth	9.6	•			

Rearin	ig Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Resistance Member	Material
B1	Wall/Plate	3-1/2" x 3-1/2"	4042 lbs	24.7%	27.0%	Spruce-Pine-Fir
B2	Wall/Plate	3-1/2" x 3-1/2"	4037 lbs	24.7%	27.0%	Spruce-Pine-Fir

#### **Notes**

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

COMPORUS TO OBC 2012

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

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

AMENDED 2020

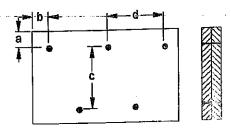
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-08-08, Bottom: 10-00-00.

# Connection Diagram: Full Length of Member





046 NO. TAM 1182 COMPONENT ONLY





2ND FLOOR \Dropped Beams\B20 DR(i4596) (Dropped Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

BC CALC® Member Report

**Build 7773** Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

File name:

Description:

Specifier:

PL Designer:

**GRANDVILLE 9.mmdi** 

2ND FLOOR \Dropped Beams\B20 DR(i4596)

Company:

Passed

Connection Diagram: Full Length of Member

a minimum = 2" b minimum = 3"

c = 7-7/8"

Connectors are:

Nalls

ARDOX SPIRAL



COMPONENT ONLY

### **Disclosure**

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

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PASSED

## 2ND FLOOR \Flush Beams\B14(i6015) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

**Customer:** 

Code reports:

Address: City, Province, Postal Code: HAMILTON

BC CALC® Member Report

CCMC 12472-R

File name:

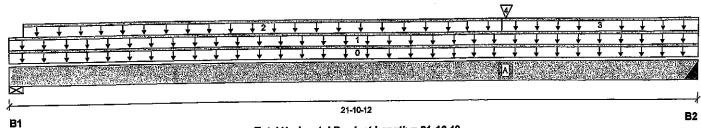
GRANDVILLE 9.mmdl

2ND FLOOR \Flush Beams\B14(i6015) Description:

Specifier:

PL Designer:

Company:



#### Total Horizontal Product Length = 21-10-12

n Summary (Down / Uplift) (lbs)

Reaction our	intary (Donner of	Doed	Snow	Wind	
Bearing	Live	Dead	SHOW	1411100	_
B1, 5-1/2"	273 / 0	935 / 0			
B2, 4"	705 / 0	1152 / 0			

1.0	d Cummary						Live	Dead	Snow	Wind	Tributary
Tag	ad Summary  Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
n n	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	21-10-12	Тор		12			00-00-00
4	WALL	Unf. Lin. (lb/ft)	L	00-00-00	21-10-12	Тор		60			n\a
2	FC3 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	00-05-08	15-06-08	Тор	6	3			n\a
3	View Fill) FC3 Floor Decking (Plan	Unf. Lin. (lb/ft)	Ļ	15-06-08	21-10-12	Тор	46	23			n\a
4	View Fill) B18(i6037)	Conc. Pt. (lbs)	L	15-08-04	15-08-04	Тор	587	315			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	7583 ft-lbs	23005 ft-lbs	33.0%	0	12-05-08
End Shear	2250 lbs	14464 lbs	15.6%	1	20-06-14
Total Load Deflection	L/380 (0.671")	n\a	63.2%	4	11-06-15
	L/1157 (0.22")	n\a	31,1%	5	12-00-03
Live Load Deflection  Max Defl.	0.671"	n\a	n/a	4	11-06-15
Span / Depth	21.5				

Rearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material_
B1	Wall/Plate	5-1/2" x 3-1/2"	1310 lbs	17.0%	8.6%	Spruce-Pine-Fir
B2	Hanger	4" x 3-1/2"	2498 lbs	n\a	14.6%	HGUS410

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



COMPONENT DNLY





Passed

May 27, 2021 13:59:42

#### 2ND FLOOR \Flush Beams\B14(i6015) (Flush Beam)

Dry | 1 span | No cant. **BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9.mmdi** 

Description:

2ND FLOOR \Flush Beams\B14(i6015)

Specifier:

Customer: Code reports:

CCMC 12472-R

Designer: PL Company:

Notes

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

Hanger Manufacturer: Unassigned

CONVERMS TO OBC 2012

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

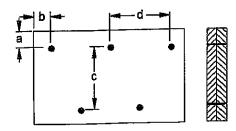
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 15-01-00.

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

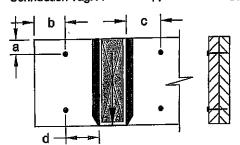
c = 7-7/8" ,,

Connectors are:

ARDOX SPIRAL

## **Connection Diagrams: Concentrated Side Loads**

Applies to load tag(s): 6 Connection Tag: A .....



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are: 16d A Nails

ARDOX SPIRAL

ON VIVCE OF O

044 NO . TAM 1/826 STRUCTURAL COMPONENT ONLY

#### Disclosure

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Passed

May 27, 2021 13:59:42

#### 2ND FLOOR \Flush Beams\B15(i6000) (Flush Beam)

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

**GRANDVILLE 9.mmdl** 

Wind

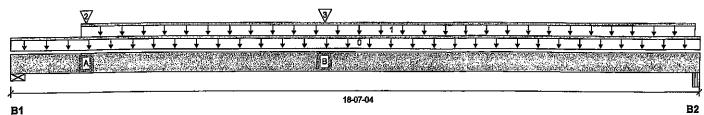
File name: Description:

2ND FLOOR \Flush Beams\B15(i6000)

Specifier:

Designer: PL

Company:



#### Total Horizontal Product Length = 18-07-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing Live 1135 / 0 1554/0 B1, 2-3/4" 797 / 0 993/0 B2, 3-1/2"

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	· · · · · · · · · · · · · · · · · · ·	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-07-04	Тор		12	-		00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	01-10-04	18-05-08	Тор	33	17			n\a
2	B18(i6037)	Conc. Pt. (ibs)	L	02-00-00	02-00-00	Тор	594	318			n\a
3	B17(i6025)	Conc. Pt. (lbs)	L	08-04-04	08-04-04	Тор	1399	1113			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	20494 ft-lbs	35392 ft-lbs	57. <del>9</del> %	1	08-04-04
End Shear	3731 lbs	14464 <b>l</b> bs	25.8%	1	01-02-10
Total Load Deflection	L/285 (0.767")	n\a	84.2%	4	08-11-00
Live Load Deflection	L/509 (0.429")	n\ <del>a</del>	70.8%	5	08-11-00
Max Defl.	0.767"	n\a	n\a	4	08-11-00
Span / Depth	18.4				

			_	Demand/ Resistance	Demand/ Resistance	
Beari	ing Supports	Dim. (LxW)	Demand	Support	Member	<u>Material</u>
B1	Wall/Plate	2-3/4" x 3-1/2"	3749 <b>l</b> bs	63.3%	31.9%	Spruce-Pine-Fir
R2	Beam	3-1/2" x 3-1/2"	2485 lbs	16.6%	16.6%	VL 2.0 3100 SP

#### **Notes**

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

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

CONFORMS TO DEC 2012

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

AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 09-09-12.

ON VOE OF ON

040 HB . TAN 1/825 STRUCTURAL COMPONENT ONLY





PASSED

#### 2ND FLOOR \Flush Beams\B15(i6000) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report** 

**Build 7773** Job name:

Address:

City, Province, Postal Code: HAMILTON

Code reports:

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

Description:

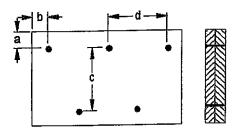
2ND FLOOR \Flush Beams\B15(i6000)

Specifier:

Designer: PL

Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 📂 😌 "

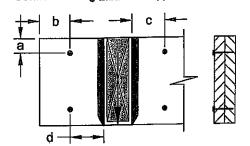
Connectors are:

. Nails

312" ARDOX SPIRAL

## Connection Diagrams: Concentrated Side Loads

Applies to load tag(s): 3 Connection Tag: A



a minimum = 2"

b minimum = 4"

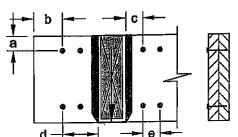
c minimum = 4"

d maximum = 12"

Connectors are: 16d

Connection Tag: B

Applies to load tag(s): 4



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are: 16d 🐫 🦯 🧀 Nails

ARDOX SPIRAL



846 NO. TAM (1825=21 STRUCTURAL COMPONENT ONLY

#### Disclosure

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PASSED

## 2ND FLOOR \Flush Beams\B16(i6199) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

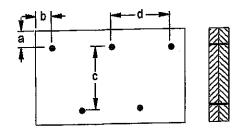
2ND FLOOR \Flush Beams\B16(i6199) Description:

Specifier:

PL Designer:

Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d= 🕶 8 4

Calculated Side Load = 401.0 lb/ft

. 1 .. Nails Connectors are: 16d ARDOX SPIKAL

POLYNOE OF ON

DWG NO. TAM (/827-21 STRUCTURAL COMPONENT ONLY

#### **Disclosure**

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PASSED

## 2ND FLOOR \Flush Beams\B16(i6199) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name:

GRANDVILLE 9.mmdl

Description:

2ND FLOOR \Flush Beams\B16(i6199)

Specifier:

PL Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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<del>                                      </del>	<u> </u>	▼ / sm/shits/dec	Marker's Voltobolish	- 0824386	V 02-109939006	**************************************	Water Services	7 7855 Si	SHEERE PA	51/6000 E	¥	350 Co	v es	Shirt C	205.000	- X	C/ZICS	35383.5	12.55	\$20.54.73		275
Manager Application of the Control o							型器						(1) (1) (2) (4)			A			(THE S			
<u> </u>	and the second second	and the second	The Section of the Control	er to treat the Control	R. S. L. Sales I. S.	and the same of	NO. CO. NO.		43.40° (5.45°)											, , , , , ,		
								13-08-0	24													
11						_		_					_									

Total Horizontal Product Length = 13-08-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1. 5-1/2"	1026 / 0	595 / 0
B2, 2-3/4"	908 / 0	534 / 0

	ad Cummaru						Live	Dead	Snow	Wind	Tributary
Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
n	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-08-04	Top		12			00-00-00
4	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	11-08-04	Top	144	72			n\a
,	J6(i6181)	Conc. Pt. (lbs)	L	12-04-04	12-04-04	Тор	165	83			n\a
3	J6(i6191)	Conc. Pt. (lbs)	L	13-04-04	13-04-04	Top	72	36		•	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6801 ft-lbs	35392 ft-lbs	19.2%	1	07-00-04
End Shear	1874 lbs	14464 lbs	13.0%	1	12-05-10
Total Load Deflection	L/1035 (0.152")	n\a	23.2%	4	07-00-04
Live Load Deflection	L/999 (0.096")	л\а	n\a	5	07-00-04
Max Defl.	0.152"	n\a	n\a	4	07-00-04
Span / Depth	13.3				

Rearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wail/Plate	5-1/2" x 3-1/2"	2283 lbs	19.3%	9.7%	Spruce-Pine-Fir
B2	Wall/Plate	2-3/4" x 3-1/2"	2029 lbs	34.3%	17.3%	Spruce-Pine-Fir

**Notes** 

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

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

CONFORMS TO OBC 2012

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 2015 and CSA O86. Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

ON OF ON

COMPONENT ONLY





PASSED

#### 2ND FLOOR \Flush Beams\B17(i6025) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

2ND FLOOR \Flush Beams\B17(i6025) Description:

Specifier:

PL Designer:

Company:

**Notes** 

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

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

CONFORMS TO OBC 2012

Hanger Manufacturer: Unassigned

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

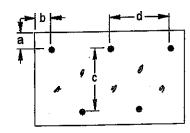
AMENDED 2020

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

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

## Connection Diagram: Full Length of Member



a minimum = 2"

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

Calculated Side Load = 1454.3 lb/ft Connectors are: 16d / Nails 3½ ARDOX SPIRAL POLINCE OF ON

UWB HO. TAM *1/8*22 STRUCTURAL COMPONENT ONLY

#### <u>Disclosure</u>

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**BC CALC® Member Report** 



#### Double 1-3/4" x 11-7/8" VERSA-LAM® 2,0 3100 SP

PASSED

#### 2ND FLOOR \Flush Beams\B17(i6025) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: HAMILTON

**CCMC 12472-R** 

File name:

GRANDVILLE 9.mmdl

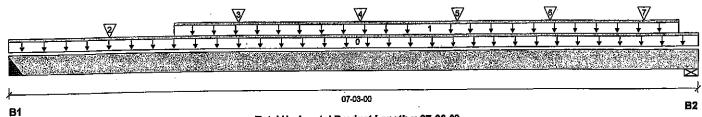
2ND FLOOR \Flush Beams\B17(i6025) Description:

Wind

Specifier:

PL Designer:

Company:



#### Total Horizontal Product Length = 07-03-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Live Bearing 1160 / 0 1449 / 0 B1, 4" 1300 / 0 1719/0 B2, 4"

1.0	ad Summary				•		Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-03-00	Тор		12			00-00-00
4	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-08	07-00-08	Top	242	121			n\a
2	Olloonica Fora	Conc. Pt. (lbs)	L	01-00-08	01-00-08	Тор	417	208			n\a
3	_ J6(i5340)	Conc. Pt. (lbs)	L	02-04-08	02-04-08	Тор	165	83			n\a
- 7	B14(i6015)	Conc. Pt. (lbs)	L	03-07-12	03-07-12	Тор	699	1139			n\a
4	J5(i4803)	Conc. Pt. (lbs)	Ī.	04-07-15	04-07-15	Top	205	103			n\a
5		Conc. Pt. (lbs)	ī	05-07-15	05-07-15	Top	194	97			n\a
6	J5(i4808)	Conc. Pt. (lbs)	ī	06-07-15	06-07-15	Top	194	97			n\a
7	J5(i4808)	Colto, Lr. (ma)		00-01-10	00.01-10	٧٠.	10-1	٠.			1110

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	8504 ft-lbs	35392 ft-lbs	24.0%	1	03-07-12
End Shear	3565 lbs	14464 lbs	24.6%	1	05-11-02
Total Load Deflection	L/999 (0.046")	n\a	n\a	4	03-07-12
Live Load Deflection	L/999 (0.025")	n\a	n\a	5	03-07-12
Max Defl.	0.046"	n\a	n\a	4	03-07-12
Span / Depth	6.8				

Rearis	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	4" x 3-1/2"	3622 lbs	n\a	21.2%	HGUS410
B2	Wall/Plate	4" x 3-1/2"	4203 lbs	48.8%	24.6%	Spruce-Pine-Fir

**Cautions** 

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

POWNCE OF

DWG NO. FAMI/828 STRUCTURAL COMPONENT ONLY





Passed

#### 2ND FLOOR \Flush Beams\B18(i6037) (Flush Beam)

Dry | 1 span | No cant.

Wind

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: HAMILIAN

**BC CALC® Member Report** 

CCMC#472-R

File name:

**GRANDVILLE 9.mmdl** 

2ND FLOOR \Flush Beams\B18(i6037) Description:

Specifier:

Designer: PL

Company:

		7	<b>2</b> /									3							
<del>                                     </del>	_ † †		<b>.</b> .	↓	↓ .	<b>↓</b> ↓	1	<b>+</b>	1 1		ų.	<b>↓</b> ↓	- +	+	¥	. ↓	<b>↓</b> ↓	. ↓	1
	24.540×350				No.			# 13 d		N. J.W		(S.3)a		(944(9))	() All		26 E		
A CONTRACTOR OF THE PARTY OF TH	ikanji in takinga		1:350, VA.				Kaladan.	1. A. V.					Niste in		ir elitairi	<u>adadida</u>	www.tares		yay kiryo mi
· · · · · · · · · · · · · · · · · · ·							03-06	÷00											

Total Horizontal Product Length = 03-06-00

Snow

Reaction Summary (Down Bolift) (lbs)

Bearing	Live	nesa
B1, 4"	594 / 0	318 / 0
B2, 4"	587 / 0	315 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		`.ciestype	Ref.	S <u>tart</u>	End	Loc.	1.00	0.65	1.00	1.15	
Ö	Self-Weight	் Vrien. (lb/ft)	L	00-00-00	03-06-00	Тор		12			00-00-00
1	STAIRS	t:: <b>湖南越n. (lb/ft)</b>	L	00-00-00	03-06-00	Тор	240	120			n\a
2	J6(i5320)	. ConcPt. (lbs)	L	01-00-08	01-00-08	Top	168	84			n\a
3	J6(i5340)	∴ Cons Pt. (lbs)	Ĺ	02-04-08	02-04-08	Тор	173	87			n\a

Controls Summary	Factoreitemand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	870 進報	35392 ft-lbs	2.5%	1	01-09-05
End Shear	505 ibs	14464 lbs	3.5%	1	02-02-02
Total Load Deflection	L/9995 (NEC 1")	n <b>\</b> a	n\a	4	01-09-00
Live Load Deflection	L/9994091")	n\a	n\a	5	01-09-00
Max Defl.	0.00#	n\a	n\a	4	01-09-00
Span / Depth	3.0				

Bearin	g Supports	Dim. (止葉質)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	4" x 3-1/2"	1289 lbs	n\a	7.5%	HGUS410
B2	Hanger	4" x 3-1/2"	1274 lbs	n\a	7.5%	HGUS410

#### Cautions

Header for the hanger HGUS410部 数ouble 1-3/4" x 11-7/8" LVL Beam.

Hanger model HGUS410 and sealingth were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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

Design meets Code minimum (L/35/@ive load deflection criteria.

CONFORMS TO OBC 2012

Hanger Manufacturer: Unassigned

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

AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part ond Part 9

Calculations assume unbraced length Top: 00-00-00, Bottom: 01-01-08.

DWS NO. TAN (1820 STRUCTURAL COMPONENT ONLY





Passed

#### 2ND FLOOR \Flush Beams\B18(I6037) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

Code reports:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

Description:

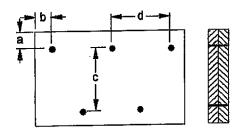
2ND FLOOR \Flush Beams\B18(i6037)

Specifier:

Designer: PL

Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 188 63"

Calculated Side Load = 510.0 lb/ft

Connectors are:

. Nails

3% ARDOX SPIKAL



848 NO. TAMUI 819 STRUCTURAL COMPONENT ONLY

#### Disclosure

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**BC CALC® Member Report** 



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

PASSED

#### 2ND FLOOR \Flush Beams\B21(i6131) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**Build 7773** 

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

File name:

**GRANDVILLE 9.mmdl** 

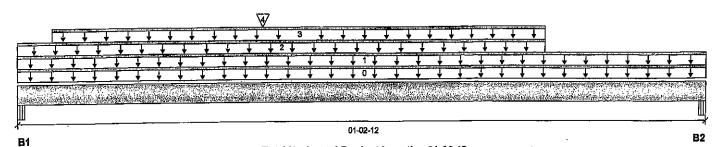
Wind

Description: 2ND FLOOR \Flush Beams\B21(i6131)

Specifier:

PL Designer:

Company:



Total Horizontal Product Length = 01-02-12

Peaction Summary (Down / Uplift) (lbs)

Reaction Summary (Down ) Charty (190)						
Bearing	Live	Dead	Snow			
B1, 5-1/2"	233 / 0	226 / 0	161 / 0	· · · ·		
B2, 2-3/4"	24 / 0	45 / 0	55 / 0			

l os	ad Summary						Lîve	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
. 0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-02-12	Тор		12			00-00-00
. 1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	01-02-12	Top	33	30	76		n\a
,	E56(i5610)	Unf. Lin. (lb/ft)	L	00-00-00	00-11-04	Top		81			n\a
2	E56(i5610)	Unf. Lin. (lb/ft)	L	00-00-12	00-11-04	Тор	33	30	76		n\a
4	-	Conc. Pt. (lbs)	L	00-05-03	00-05-03	Тор	187	118	56		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	26 ft-lbs	35392 ft-lbs	n\a	13	00-08-10
End Shear	128 lbs	14464 lbs	0.9%	13	00-05-08
Span / Depth	0.7				

Beari	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand <i>i</i> Resistance Member	Material
B1	Beam	5-1/2" x 3-1/2"	793 lbs	9.6%	3.4%	Unspecified
B2	Beam	2-3/4" x 3-1/2"	163 lbs	4.0%	1.4%	Unspecified

#### **Notes**

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86. Unbalanced snow loads determined from building geometry were used in selected products

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

PANYORMS TO OBC 2012

AMENDED 2020



446 NO. TAN 1/830-21 STRUCTURAL COMPONENT ONLY





PASSED

#### 2ND FLOOR \Flush Beams\B21(i6131) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 13:59:42

**BC CALC® Member Report Build 7773** 

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: HAMILTON

**CCMC 12472-R** 

**GRANDVILLE 9.mmdl** 

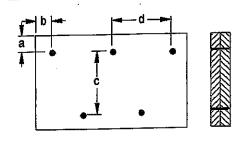
File name: Description:

Specifier:

2ND FLOOR \Flush Beams\B21(i6131)

Designer: PL Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" Calculated Side Load = 198.4 lb/ft

Connectors are:

، Nails

36" ARDOX SPIRAL



148 NO. TAM 1/830. STRUCTURAL COMPONENT ONLY

Disclosure

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





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

PASSED

## 1ST FLOOR \Flush Beams\B40 L(i6617) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 15:20:02

**BC CALC® Member Report Build 7773** 

Job name:

Address: City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9 ELEV 2.mmdl** 

Description:

1ST FLOOR \Flush Beams\B40 L(i6617)

Specifier:

PL Designer:

Wind

Customer: Code reports:

CCMC 12472-R

Company:

<b>V47</b>	₩	3	₩	- 5∕	<b>V</b>
<u> </u>	<del>                                     </del>	<del>                                      </del>	+ + + + +	<u> </u>	
×	V Company				
<del> </del>		06-08-08			B2
B1		m			

Total Horizontal Product Length = 06-06-08

Summary (Down / Uplift) (lbs)

Reaction Jun	Ittidiy (Bonni - Of	• • • • • • • • • • • • • • • • • • •	_		
Bearing	Live	Dead	Snow		
	968 / 0	681 / 0	218/0		
B1, 3-1/2"		387 / 0	6/0		
B2. 3-1/2"	734 / 0	33170	0.0		

	al Company						Live	Dead
	ad Summary  Description	Load Type	Ref.	Start	End	Loc	1.00	0.65
Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-0	06-06-08	Тор		5
0	Sell-Meight	Conc. Pt. (lbs)	L	00-04-14	00-04-14	Top	444	408
1		Conc. Pt. (lbs)	L	01-04-00	01-04-00	Тор	249	125
2	J1(i6620)	Conc. Pt. (lbs)	Ē	02-08-00	02-08-00	Top	296	148
3	J1(i6621)	Conc. Pt. (ibs)	ī	04-00-00	04-00-00	Top	296	148
4	J1(i6624)	= -: , ,	1	•		Top	238	119
5 6	J1(i6623) J1(i6622)	Conc. Pt. (lbs)	Ĺ	06-01-12	06-01-12	Тор	178	89
5	J1(i6623)	Conc. Pt. (lbs) Conc. Pt. (lbs)	L L	05-04-00 06-01-12	05-04-00 06-01-12	Тор Тор	238 178	119 89

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2253 ft-lbs	11610 ft-lbs	19.4%	1	02-08-00
	1325 lbs	5785 lbs	22.9%	1	01-01-00
End Shear	L/999 (0.043")	n\a	n\a	35	03-03-00
Total Load Deflection	L/999 (0.028")	n\a	n\a	51	03-03-00
Live Load Deflection Max Defl.	0.043"	n\a	n\a	35	03-03-00
Span / Denth	7.7	•			

Boaring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
	Wall/Plate	3-1/2" x 1-3/4" 3-1/2" x 1-3/4"	2521 lbs 1591 lbs	66.9% 32.0%	33.7% 21.3%	Spruce-Pine-Fir Unspecified

#### **Notes**

verification.

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

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

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

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

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

Design based on Dry Service Condition.

AMENDED 2020

Importance Factor: Normal Part code: Part 9 Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBE 2012

OVINCE OF ON NO. TAM 17/931-21 STRUCTURAL COMPONENT ONLY

Wind

1.15

Snow 1.00

224

**Tributary** 

00-00-00

n\a n\a n\a n\a

#### Disclosure

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

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PASSED

**B2** 

#### 2ND FLOOR \Flush Beams\B41(i7150) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 15:20:02

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

Customer: Code reports:

CCMC 12472-R

File name:

**GRANDVILLE 9 ELEV 2.mmdl** 

Description:

2ND FLOOR \Flush Beams\B41(i7150)

Specifier:

Company:

Designer: PL

	₹		₹ ₩
ALEXANDER OF PROPERTY OF THE P			<u></u>
<del></del>		01-05-12	na .

В1

Total Horizontal Product Length = 01-05-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	142 / 0	185 / 0	126 / 0	
B2. 2-3/4"	81 / 0	129 / 0	89 / 0	

ما	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
	Self-Weight	Unf. Lin. (lb/ft)	L.	00-00-00	01-05-12	Тор		12			00-00-00
1	48(i7458)	Unf. Lin. (lb/ft)	L	00-00-00	01-03-00	Тор		105	72		n\a
י ז		Conc. Pt. (lbs)	L	00-06-05	00-06-05	Тор	125	76	60		n\a
2	ROOF	Conc. Pt. (lbs)	L	01-02-06	01-02-06	Тор	3	3	8		n\a
3		Conc. Pt. (lbs)	L	01-02-14	01-02-14	Top	92	85	58		n\a
4	-	00110: 1 1: (100)	-	• • • • • • • • • • • • • • • • • • • •							

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	46 ft-lbs	35392 ft-lbs	0.1%	1 1	01-00-09
End Shear	286 lbs	14464 lbs	2.0%		01-03-00
Span / Depth	0.9				

Roar	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/2" x 3-1/2"	571 lbs	5.6%	2.4%	Unspecified
B2	Beam	2-3/4" x 3-1/2"	376 lbs	7.3%	3.2%	Unspecified

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

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

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

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-04-08.

BENERRY TO OBC 2012

AMENDED 2020



STRUCTURAL COMPONENT ONLY





Passed

#### 2ND FLOOR \Flush Beams\B41(i7150) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 15:20:02

**BC CALC® Member Report Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports:

**CCMC 12472-R** 

File name:

**GRANDVILLE 9 ELEV 2.mmdl** 

Description:

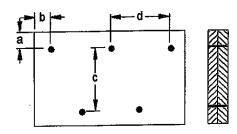
2ND FLOOR \Flush Beams\B41(i7150)

Specifier:

PL. Designer:

Company:

## **Connection Diagram: Full Length of Member**



a minimum = 2"

c = 7-7/8"

b minimum = 3"

Calculated Side Load = 159.5 lb/ft

Connectors are:

.. Nails

ARDOX SPIRAL



#### Disclosure

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PASSED

#### 2ND FLOOR \Flush Beams\B42(i7424) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 15:20:02

**Build 7773** 

Job name:

Customer:

Code reports:

Address: City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

CCMC 12472-R

File name:

**GRANDVILLE 9 ELEV 2.mmdl** 

Description:

2ND FLOOR \Flush Beams\B42(i7424)

Specifier:

Designer: PL

Company:

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<u>Ш</u>																							
D4						ľ	11-05-	12			•												B2

**B1** 

Total Horizontal Product Length = 01-05-12

Summary (Down / Unlift) (lbs)

Reaction Sun	Live	Dead	Snow	Wind
B1, 5-1/2"	146 / 0	178 / 0	148 / 0	
B2, 2-3/4"	89/0	125 / 0	92 / 0	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag Description		Load Type	Ref.	Start	Start End		1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-05-12	Тор		12			00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	01-05-12	Тор	33	30	76		n\a
2	50(i7461)	Unf. Lin. (lb/ft)	L	00-05-08	01-05-12	Тор		105	72		n\a
2		Conc. Pt. (lbs)	L	00-05-03	00-05-03	Top	103	93	54		n\a
4	- J5(i7431)	Conc. Pt. (lbs)	L	01-01-12	01-01-12	Тор	83	41			n\a

Controls Summary	Factored Demand	Factored Resistance	Demano <i>i</i> Resistance	Case	Location
Pos. Moment	58 ft-lbs	35392 ft-lbs	0.2%	13	00-10-15
End Shear	294 lbs	14464 lbs	2.0%	1	01-03-00
Span / Denth	0.9				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/2" x 3-1/2"	590 lbs	5.7%	2.5%	Unspecified
B2	Beam	2-3/4" x 3-1/2"	384 lbs	7.5%	3.3%	Unspecified

#### **Notes**

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-04-08.

CONFORMS TO OBC 2012

AMENDED 2020



COMPONENT ONLY





PASSED

#### 2ND FLOOR \Flush Beams\B42(i7424) (Flush Beam)

Dry | 1 span | No cant.

May 27, 2021 15:20:02

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Customer:

Address:

City, Province, Postal Code: HAMILTON

File name: Description:

Specifier:

Company:

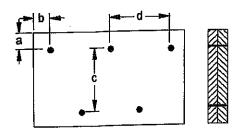
CCMC 12472-R Code reports:

Designer: PL

**GRANDVILLE 9 ELEV 2.mmdl** 

2ND FLOOR \Flush Beams\B42(i7424)

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 🗪 🕻

Calculated Side Load = 109.1 lb/ft

Connectors are:

Nails

ARDOX SPIRAL

SONVEE OF COMPONENT ONLY

#### Disclosure

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





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

PASSED

## 1ST FLOOR \Flush Beams\B46 L(i8443) (Flush Beam)

Dry | 1 span | No cant.

May 28, 2021 08:09:53

**BC CALC® Member Report Build 7773** 

Job name:

Address: City, Province, Postal Code: HAMILTON

File name:

Description:

**GRANDVILLE 9 ELEV 3 STD.mmdl** 

1ST FLOOR \Flush Beams\B46 L(i8443)

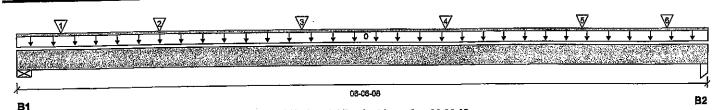
Specifier:

Designer: PL

Wind

BONFORMS TO OBC 2012

Customer: Company: CCMC 12472-R Code reports:



Total Horizontal Product Length = 06-06-08

Reaction	<b>Summary</b>	(Down /	Uplift)	(lbs)
Regring	1	_ive		Dead

Bearing	Live	Dead	Snow
B1, 3-1/2"	768 / 0	422 / 0	5/0
B2, 3-1/2"	727 / 0	380 / 0	0/0

Los	d Summary						LIVE	Dea
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-06-08	Top		5
4	J1(i8452)	Conc. Pt. (lbs)	L	00-04-12	00-04-12	Тор	232	139
2	J1(i8428)	Conc. Pt. (lbs)	L	01-04-00	01-04-00	Тор	252	126
3	J1(18437)	Conc. Pt. (lbs)	L	02-08-00	02-08-00	Top	296	148
4	J1(i8430)	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	296	148
5	J1(i8408)	Conc. Pt. (lbs)	L	05-04-00	05-04-00	Тор	238	119
6	J1(i8467)	Conc. Pt. (lbs)	L	06-01-12	06-01-12	Тор	178	89

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2160 ft-lbs	11610 ft-lbs	18.6%	1	02-08-00
End Shear	1231 lbs	5785 lbs	21.3%	1	05-05-08
Total Load Deflection	L/999 (0.041")	n\a	n\a	35	03-03-00
Live Load Deflection	L/999 (0.027")	n\a	n\a	51	03-03-00
Max Defl.	0.041"	n\a	n\a	35	O3-03-00
Span / Donth	7.7				

Rearing	ı Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material_
B1	Wall/Plate	3-1/2" x 1-3/4"	1684 lbs	44.7%	22.5%	Spruce-Pine-Fir
B2		3-1/2" x 1-3/4"	1566 lbs	31.5%	21.0%	Unspecified

#### Notes

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

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

Resistance Factor phi has been applied to all presented results per CSA O86. AMENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86. Unbalanced snow loads determined from building geometry were used in selected product's verification.

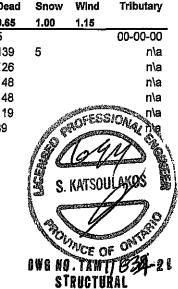
Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

COMPONENT Disclosure

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

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







PASSED

May 28, 2021 08:09:53

## 2ND FLOOR \Flush Beams\B47(i8447) (Flush Beam)

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

**CCMC 12472-R** 

Dry | 1 span | No cant.

**GRANDVILLE 9 ELEV 3 STD.mmdl** 

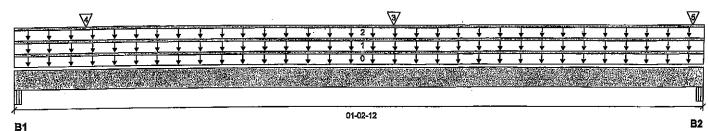
File name: Description:

2ND FLOOR \Flush Beams\B47(i8447)

Specifier:

Designer: PL.

Company:



Total Horizontal Product Length = 01-02-12

Reaction Summary (Down / Uplift) (lbs)

Snow Live B1, 5-1/2" 104 / 0 148 / 0 133 / 0 79/0 121 / 0 93/0 B2, 2-3/4"

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	Enđ	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-02-12	Top		12			00-00-00
1	E118(i7014)	Unf. Lin. (lb/ft)	L	00-00-00	01-02-12	Top	33	111	76		n\a
2	ROOF	Unf. Lin. (lb/ft)	Ļ	00-00-00	01-02-12	Top	33	30	76		n\a
3	J6(i8409)	Conc. Pt. (lbs)	L	00-88-00	00-88-00	Тор	94	47			n\a
4	E118(i7014)	Conc. Pt. (!bs)	L	00-01-08	00-01-08	Top		9	22		n\a
5	E118(i7014)	Conc. Pt. (lbs)	L	01-02-08	01-02-08	Тор	8	25	17		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	56 ft-lbs	35392 ft-lbs	0.2%	1	00-8-00
End Shear	238 lbs	14464 lbs	1.6%	1	00-05-08
Span / Depth	0.7				

	Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
-	B1	Beam	5-1/2" x 3-1/2"	488 lbs	4.8%	2.1%	Unspecified
	B2	Beam	2-3/4" x 3-1/2"	370 lbs	7.2%	3.1%	Unspecified

#### Notes

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

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

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

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-02-12.

DONFORMS TO OBC 2012

Wind

AMENDED 2020







PASSED

#### 2ND FLOOR \Flush Beams\B47(i8447) (Flush Beam)

Dry | 1 span | No cant.

May 28, 2021 08:09:53

**Build 7773** 

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

**CCMC 12472-R** 

File name:

**GRANDVILLE 9 ELEV 3 STD.mmdi** 

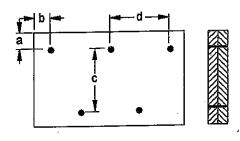
2ND FLOOR \Flush Beams\B47(i8447) Description:

Specifier:

Designer: PL

Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = 7-7/8" ,, d = **359** 6

Calculated Side Load = 99.9 lb/ft

Connectors are:

Nails ARDOX SPIRAL

ONICE OF ON 846 NO. TAM [ / 835

**Disclosure** 

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**BC CALC® Member Report** 



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

passed

#### 2ND FLOOR \Flush Beams\B48(i8471) (Flush Beam)

Dry | 1 span | No cant.

May 28, 2021 08:09:53

**Build 7773** 

Job name: Address:

Customer: Code reports:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

File name:

**GRANDVILLE 9 ELEV 3 STD.mmdl** 

2ND FLOOR \Flush Beams\B48(i8471) Description:

Specifier:

Company:

Designer: PL

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		10.7									
]	CHAPTER TO DE LA COMP										Company of the last of the las

Total Horizontal Product Length = 18-10-09

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/16"	5/0	669 / 0	1978 / 0	
B2, 2-1/2"		594 / 0	1893 / 0	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-10-09	Тор		18			00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	18-10-09	Тор		45	201		n\a
2	-	Conc. Pt. (lbs)	L	00-00-15	00-00-15	Тор	5	70	75		n\a

Controls Summary	Factored Demand_	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	16344 ft-lbs	24098 ft-lbs	67.8%	13	09-05-09
End Shear	3126 lbs	21696 lbs	14.4%	13	01-02-15
Total Load Deflection	L/464 (0.479")	n\a	51.7%	35	09-05-09
Live Load Deflection	L/610 (0.365")	n\a	59.0%	51	09-05-09
Max Defl.	0.479"	n\a	n\a	35	09-05-09
Span / Depth	18.7				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	3-1/16" x 5-1/4"	3808 lbs	38.2%	19.3%	Spruce-Pine-Fir
B2	Hanger	2-1/2" x 5-1/4"	3581 lbs	n\a	22.4%	HUC610

#### **Cautions**

Header for the hanger HUC610 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC610 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

**Notes** 

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

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

BONFORMS TO OBC 2012

Hanger Manufacturer: Unassigned

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

AMENDED 2020

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

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

verification.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top. 18-07-00, Bottom: 18-07-00.

OF OF OF





Passed

## 2ND FLOOR \Flush Beams\B48(i8471) (Flush Beam)

Dry | 1 span | No cant.

May 28, 2021 08:09:53

**Build 7773** 

Job name: Address:

City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

File name:

**GRANDVILLE 9 ELEV 3 STD.mmdi** 

Description:

2ND FLOOR \Flush Beams\B48(i8471)

Specifier:

Designer:

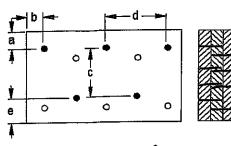
PL

Customer: Code reports:

CCMC 12472-R

Company:

## Connection Diagram: Full Length of Member



4 pows

a minimum = ‡"  $b \min = 3$ " c = **8**-7/8" e minimum = 3"

Nailing applies to both sides of the member Connectors are: ....... Nails

ARDOX SPIRAL

NO OF OR UWB NO . FAM [](33)

STRUCTURAL COMPONENT ONLY

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Passed

2ND FLOOR \Fiush Beams\B49 CANT (i8440) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | L cant.

May 28, 2021 08:09:53

**Build 7773** 

Јов пате: Address:

City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9 ELEV 3 STD.mmdl** 

Description: 2ND FLOOR \Flush Beams\B49 CANT (i8440)

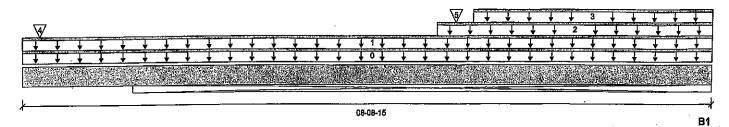
Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

PL Company:



Total Horizontal Product Length = 08-08-15

Reaction Summary (Down / Uplift) (lbs)

Dead Snow Wind Bearing 1499 / 0 4264 / 0 33 / 0 B1, 88-1/2"

l oa	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Lec.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-15	Тор		12			00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	08-08-15	Top		45	231		n∖a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	05-02-03	08-08-15	Тор	9	5			n\a
3	E76(i5628)	Unf. Lin. (lb/ft)	L	05-07-11	08-08-15	Top		111	95		n\a
4	B23(i8471)	Conc. Pt. (lbs)	L	00-02-10	00-02-10	Тор		589	1879		n\a
5	E117(i7021)	Conc. Pt. (lbs)	· L	05-04-15	05-04-15	Тор		50	69		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos, Moment	0 ft-lbs	31622 ft-lbs	n\a	18	00-00-00
Neg. Moment	-4477 ft-lbs	-33044 ft-lbs	13.6%	13	01-04-07
End Shear	3713 lbs	14464 <b>l</b> bs	25.7%	13	00-04-09
Total Load Deflection	2xL/1998 (0.003")	n\a	n\a	35	00-00-00
Live Load Deflection	2xL/1998 (0.002")	n\a	n\a	51	00-00-00
Span / Depth	1.4				
Dist. Load (B1)	698.94 lb/ft	57645.1 lb/ft	1.2%		
Conc. Load (B1)	166 lbs	16813 lbs	1.0%		

Demand/ Demand/ Resistance Resistance Member Bearing Supports Dim. (LxW) Demand Support Material 4.4% 2.2% Spruce-Pine-Fir 88-1/2" x 3-1/2" 8302 lbs

Concentrated side load(s) 6 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.







PASSED

2ND FLOOR \Flush Beams\B49 CANT (i8440) (Flush Beam)

Dry | 1 span | L cant.

May 28, 2021 08:09:53

**BC CALC® Member Report Build 7773** 

Job name:

Customer:

Address: City, Province, Postal Code: HAMILTON

File name:

Description:

GRANDVILLE 9 ELEV 3 STD.mmdl

2ND FLOOR \Flush Beams\B49 CANT (i8440)

Specifier:

Designer: PL

CCMC 12472-R Code reports:

Company:

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

CONFORMS TO OBC 2012

Design meets User specified (2xL/360) Live load deflection criteria.

AMENDED 2020

Resistance Factor phi has been applied to all presented results per CSA O86. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

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

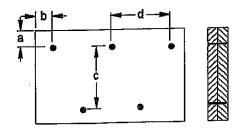
verification.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

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

Calculations assume unbraced length of Top: 04-08-15, Bottom: 03-08-15.

## Connection Diagram: Full Length of Member



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

Connectors are: '

. Nails ÁRDOX SPIKAL



COMPONENT ONLY

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## 1ST FLOOR \Flush Beams\B70(i6623) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

May 28, 2021 08:24:04

**Build 7773** 

Job name: Address:

City, Province, Postal Code: HAMILTON

File name:

GRANDVILLE 9 ELEV 1 OPT DECK.mmdl -

Description: 1ST FLOOR \Flush Beams\B70(l6623)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

PL Company:

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					***																							
													03-03-	08					1 / L								16.7	

Total Horizontal Product Length = 03-03-08

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 4-1/4"	746 / 0	457 / 0
B2. 5-1/4"	768 / 0	473 / 0

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-03-08	Тор		12			00-00-00
1	E32(i1698)	Unf. Lin. (lb/ft)	L	00-00-00	03-03-08	Top		41			n\a
,	J10(i6532)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	379	189			n\a
3	J10(i6490)	Conc. Pt. (lbs)	L	01-01-12	01-01-12	Top	379	189			n\a
4	J10(i6524)	Conc. Pt. (lbs)	L	02-01-12	02-01-12	Top	377	188			n\a
5	J10(i6518)	Conc. Pt. (lbs)	L	03-01-12	03-01-12	Тор	379	189			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	714 ft-lbs	35392 ft-lbs	2.0%	1	01-02-06
End Shear	635 lbs	14464 lbs	4.4%	1	01-04-02
Total Load Deflection	L/999 (0.001")	n\a	n\a	4	01-07-04
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-07-04
Max Defl.	0.001" .	n\a	n\a	4	01-07-04
Span / Depth	2.7				

D t-	O		Damand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Rearii	ng Supports	Dim. (LxW)	Demand	auphoir	MAIIINGI	Marailai
B1	Wall/Plate	4-1/4" x 3-1/2"	1689 lbs	18.5%	9.3%	Spruce-Pine-Fir
B2	Wall/Plate	5-1/4" x 3-1/2"	1743 lbs	15.4%	7.8%	Spruce-Pine-Fir

#### **Notes**

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

DENVERMS TO OBC 2012

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

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

AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-08-08.



STRUCTURAL COMPONENT ONLY



**BC CALC® Member Report** 



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

PASSED

## 1ST FLOOR \Flush Beams\B70(i6623) (Flush Beam)

Dry | 1 span | No cant.

May 28, 2021 08:24:04

**Build 7773** 

Job name: Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

**CCMC 12472-R** 

File name:

**GRANDVILLE 9 ELEV 1 OPT DECK.mmdl** 1ST FLOOR \Flush Beams\B70(i6623)

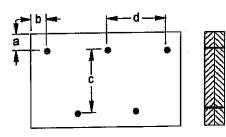
Description:

Specifier:

Designer: PL

Company:

## Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

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

Calculated Side Load = 402.4 lb/ft Connectors are: 16d . . . Nails

3%" ARDOX SPIRAL



DWG NO. TAM 1/838-21 COMPONENT ONLY

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## 1ST FLOOR \Flush Beams\B71(i6412) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant.

May 28, 2021 08:24:04

**Build 7773** 

Job name: Address:

City, Province, Postal Code: HAMILTON

File name:

**GRANDVILLE 9 ELEV 1 OPT DECK.mmdl** 

1ST FLOOR \Flush Beams\B71(i6412) Description:

Wind

Specifier:

Designer: PL

Customer: Code reports:

CCMC 12472-R

Company:

7	<del>2</del> /				3	
	T T T		<b>+ + +</b>			
	76.48 W (64					
<u> </u>		18 3844-18 66-19				
				03-00-12		

#### Total Horizontal Product Length = 03-00-12

Snow

Reaction Summary (Down / Uplift) (ibs)

Bearing	_ Live	Dead
B1, 3-1/2"	580 / 0	371 / 0
B2, 3-1/4"	322 / 0	241 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-00-12	Top		12			00-00-00
1	E25(i1691)	Unf, Lin. (lb/ft)	L	00-00-00	03-00-12	Top		41			л\а
,	J2(i6379)	Conc. Pt. (lbs)	L	00-06-00	00-06-00	Top	451	225			n\a
3	J2(i6384)	Conc. Pt. (lbs)	L	01-10-00	01-10-00	Тор	451	225			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	753 ft-lbs	35392 ft-lbs	2.1%	1	01-10-00
End Shear	672 lbs	14464 lbs	4.6%	1	01-09-10
Total Load Deflection	L/999 (0.001")	n\a	n\a	4	01-06-14
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-06-14
Max Defl.	0.001"	n\a	n\a	4	01-06-14
Snan / Denth	2.7				

Bearir	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material_
B1	Wall/Plate	3-1/2" x 3-1/2"	1333 lbs	17.7%	8.9%	Spruce-Pine-Fir
B2	Wall/Plate	3-1/4" x 3-1/2"	785 lbs	11.2%	5.7%	Spruce-Pine-Fir

#### Notes

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

CONFORMS TO OBC 2012

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

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

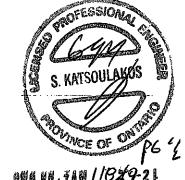
AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.







PASSED

#### 1ST FLOOR \Flush Beams\B71(i6412) (Flush Beam)

Dry | 1 span | No cant.

May 28, 2021 08:24:04

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Job name: Address:

City, Province, Postal Code: HAMILTON

**BC CALC® Member Report** 

Customer:

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CCMC 12472-R

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**GRANDVILLE 9 ELEV 1 OPT DECK.mmdl** 

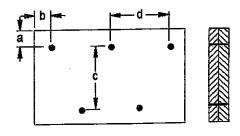
Description: 1ST FLOOR \Flush Beams\B71(i6412)

Specifier:

Designer: PL

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d= 6 1

Calculated Side Load = 478.9 lb/ft

Connectors are: "

. Nails

- A- -3%" ARDOX SPIRAL



#### **Disclosure**

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

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



## Maximum Floor Spans Live Load = 40 psf, Dead Load = 15 psf

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







	Series		Ba	are	1/2" Gypsum Ceiling					
Depth			On Centi	re Spacing		On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	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	
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"		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	
	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'-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	
	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	
4.011	NI-70	23'-6"	21'- <del>9</del> "	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A	
16"	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21' <del>-9</del> "	N/A	
	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A	

	Series		Mid-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling					
Depth			On Centi	e Spacing		On Centre Spacing				
p		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	
11-7/8"	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A	
	NI-60	21'-4"	19'- <del>9</del> "	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	
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22¹-2"	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	
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	N/A	
••	NI-80	251-7"	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"	251-3"	24'-2"	N/A	
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A	
16"	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 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 celling 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 celling 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.



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







	Series		B	are	1/2" Gypsum Ceiling					
Depth			On Centi	re Spacing		On Centre 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"	
, -	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"	
	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"	
11-7/8"	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"	
	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'	
1 <b>4</b> "	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"	
47	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"	
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"	
16"	Nt-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"	

	Series	•	Mid-Spa	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling						
Depth			On Centi	re Spacing			On Centre Spacing				
D-Lpti.		12"	16"	19.2"	24"	12"	16"	19.2"	24"		
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15 <sup>'</sup> -5"	14'-6"	13'-5"		
	NJ-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"		
	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"	1 <del>9</del> '-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'- <del>6</del> "	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'- <del>9</del> "	27'-9"	25'-11"	24'-8"	23'-4"		
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"		
	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"		
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.

2. 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.



## **Maximum Floor Spans**

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







	Series		B	are	1/2" Gypsum Ceiling						
Depth ·			On Centi	re Spacing			On Centre Spacing				
•		12"	16"	19.2"	24"	12"	16"	19.2"	24"		
	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		
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		
4.4 m fall	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'- <u>3"</u>	18' <u>-5"</u>	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'- <del>9</del> "	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		
	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		
4.50	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A		
16"	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		

	Series		Mid-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling					
Depth			On Centr	e 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'-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	
	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	
	NI-70	27'- <del>9</del> "	25'-8"	24' <del>-6</del> "	N/A	28'-5"	26'-5"	25'-2"	N/A	
16"	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.



## Maximum Floor Spans Live Load = 40 psf, Dead Load = 30 psf

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







	Series		Ba	ar <del>e</del>	1/2" Gypsum Ceiling					
Depth			On Cente	e Spacing		On Centre Spacing				
Бери		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"	1 <u>6'-9"</u>	15'-10'	
	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"	
11-7/8"	NI-70	20'-9"	19'-2"	18'-3"	<b>17'-</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'-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'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"	
7.4	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'- <del>9</del> "	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"	
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"	

	Series		Mid-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Celling					
Depth			On Centr	e Spacing		On Centre Spacing				
Debai		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'-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"	
11-7/8"	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'-5"	21'-0"	19'-6"	
14"	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'- <del>9</del> "	21'-0"	
14	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"	
	NI-90x	20-0 27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"	
		27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"	
	NI-60	27 -5 28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"	
16"	NI-70	20 -0 29'-1"	20'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10'	
	NI-80			26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10'	
	NI- <u>90x</u>	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26-11		

<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.

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

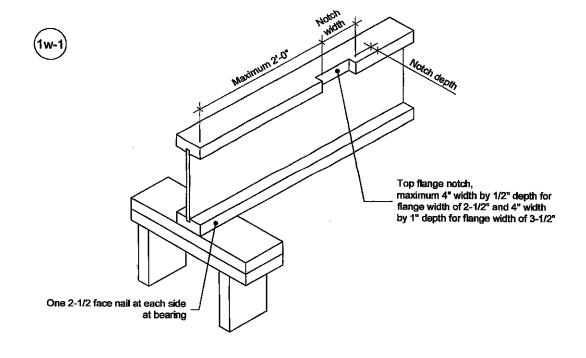
a live load deflection limit of 1/460 and a local load deflected limit of 1/240.

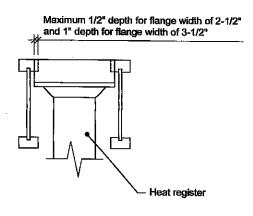
2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

<sup>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.





#### Notes:

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

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

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

NORDIC STRUCTURES

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Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

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DATE

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2018-04-10

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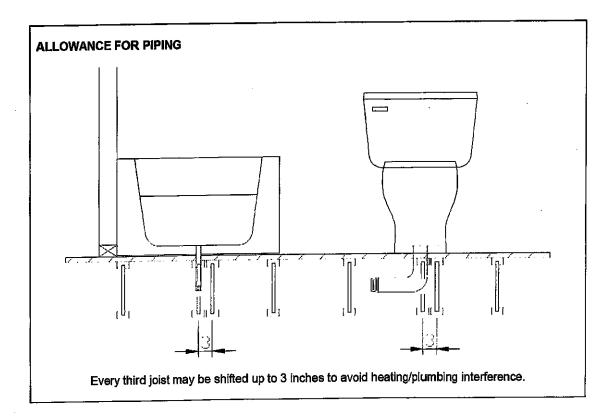


# Allowance for Piping (Installation Notes)

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

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

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



Revised April 12, 2012