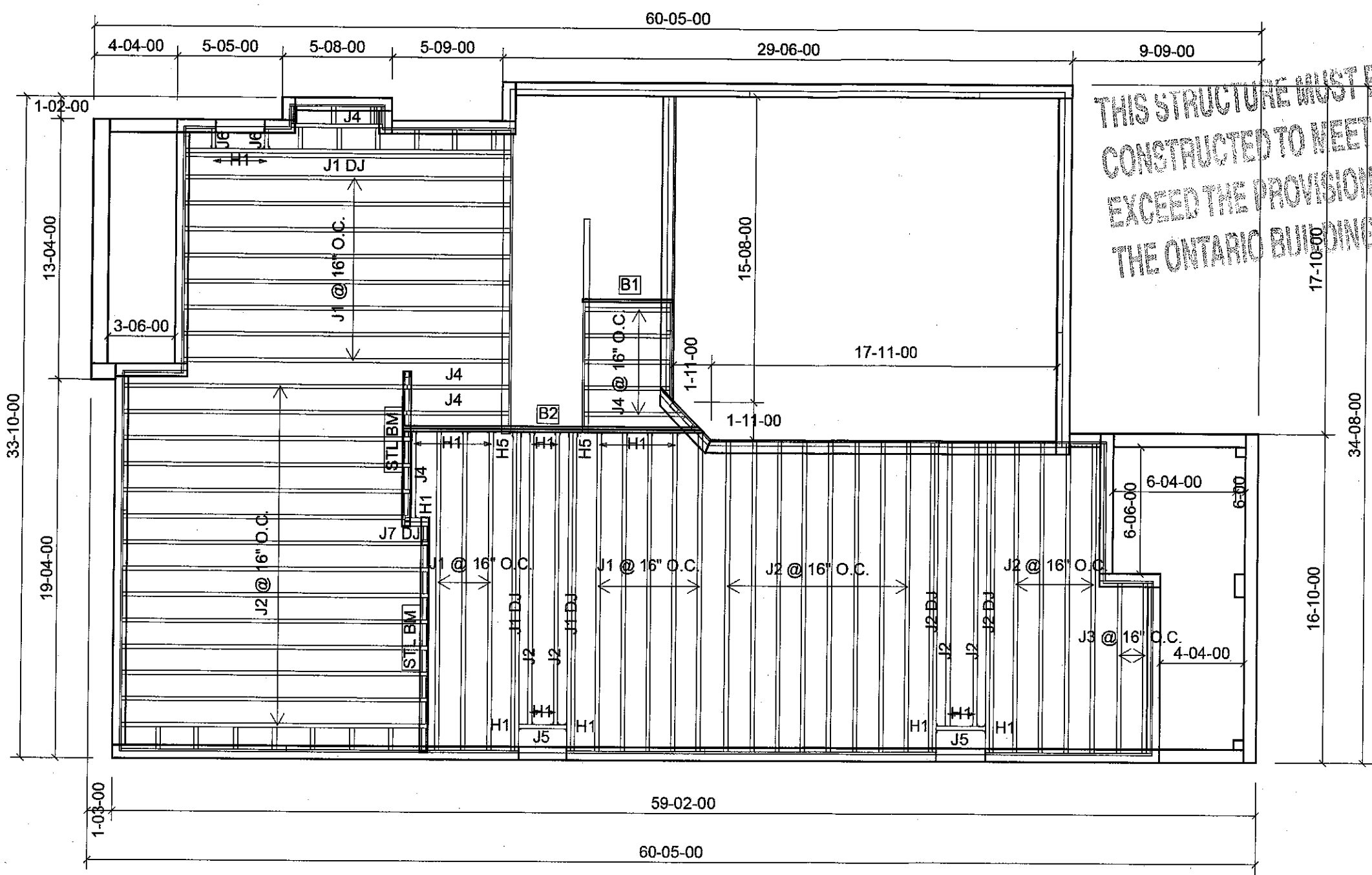


FROM PLAN DATED: OCT 2018
BUILDER: GREENPARK HOMES
SITE: LAMBERTS LANE
MODEL: KINMOUNT 4B
ELEVATION: 1
LOT:
CITY: CALEDON
SALESMAN: MD
DESIGNER: PL
REVISION:

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²
SUBFLOOR: 3/4" GLUED AND NAILED
DATE: 11/17/2018

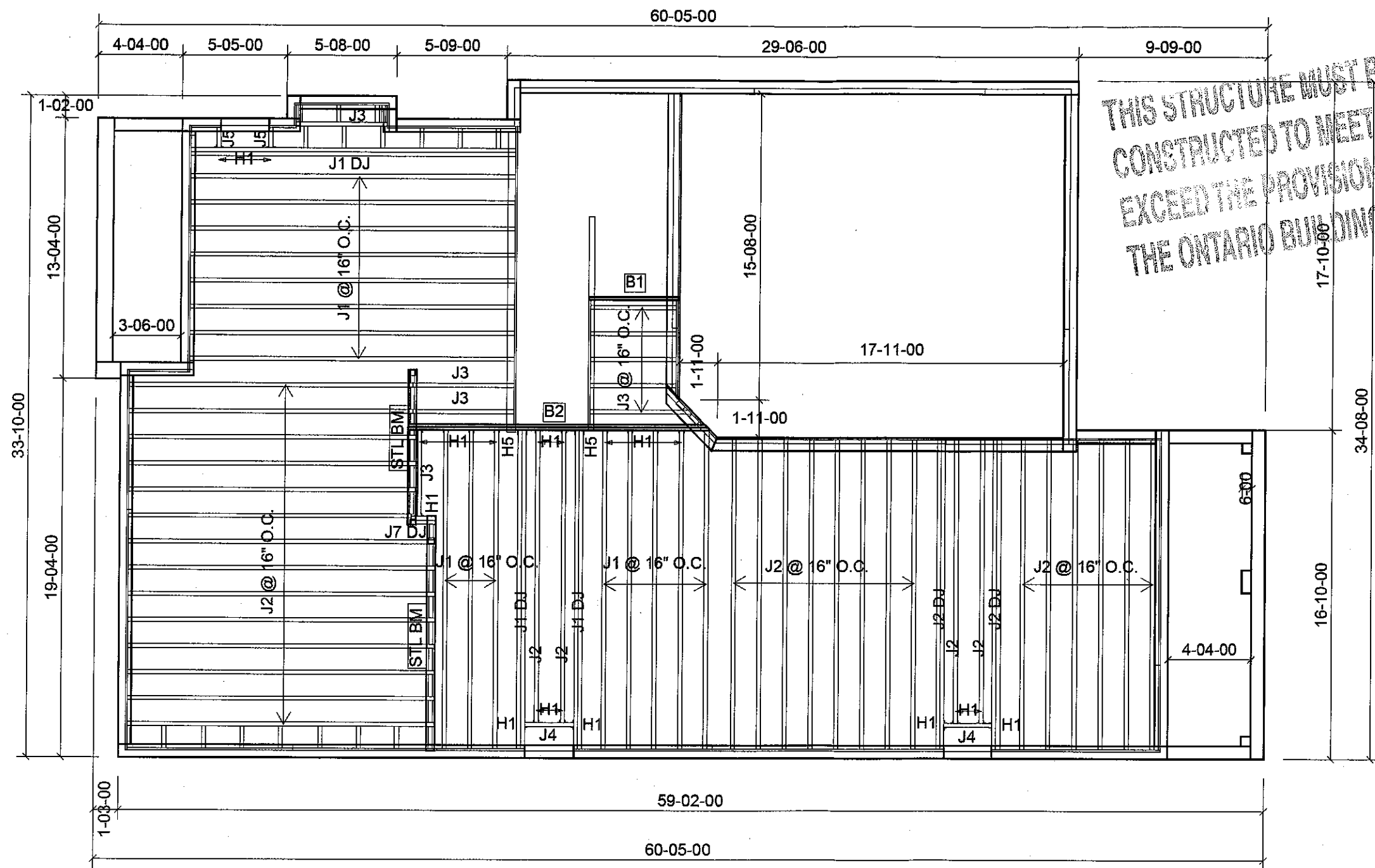
1st FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	16
J1 DJ	18-00-00	11 7/8" NI-40x	2	6
J2	16-00-00	11 7/8" NI-40x	1	30
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	10-00-00	11 7/8" NI-40x	1	2
J4	6-00-00	11 7/8" NI-40x	1	9
J5	4-00-00	11 7/8" NI-40x	1	2
J6	2-00-00	11 7/8" NI-40x	1	2
J7 DJ	2-00-00	11 7/8" NI-40x	2	2
B2	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
7	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H5	HU310-2

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JUL 26 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO



TAMARACK
LUMBER INC
ALPHA LUMBER GROUP

FROM PLAN DATED: OCT 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 4B

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: MD

DESIGNER: PL

REVISION:

NOTES:

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

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 11/17/2018

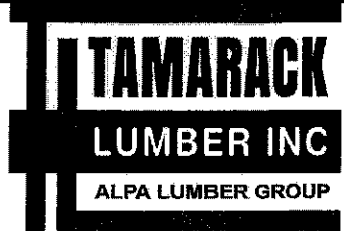
1st FLOOR

Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	16
J1 DJ	18-00-00	11 7/8" NI-40x	2	6
J2	16-00-00	11 7/8" NI-40x	1	32
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	6-00-00	11 7/8" NI-40x	1	9
J4	4-00-00	11 7/8" NI-40x	1	2
J5	2-00-00	11 7/8" NI-40x	1	2
J7 DJ	2-00-00	11 7/8" NI-40x	2	2
B2	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
7	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H5	HU310-2

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JUL 26 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.



FROM PLAN DATED: OCT 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 4B

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: MD

DESIGNER: PL

REVISION:

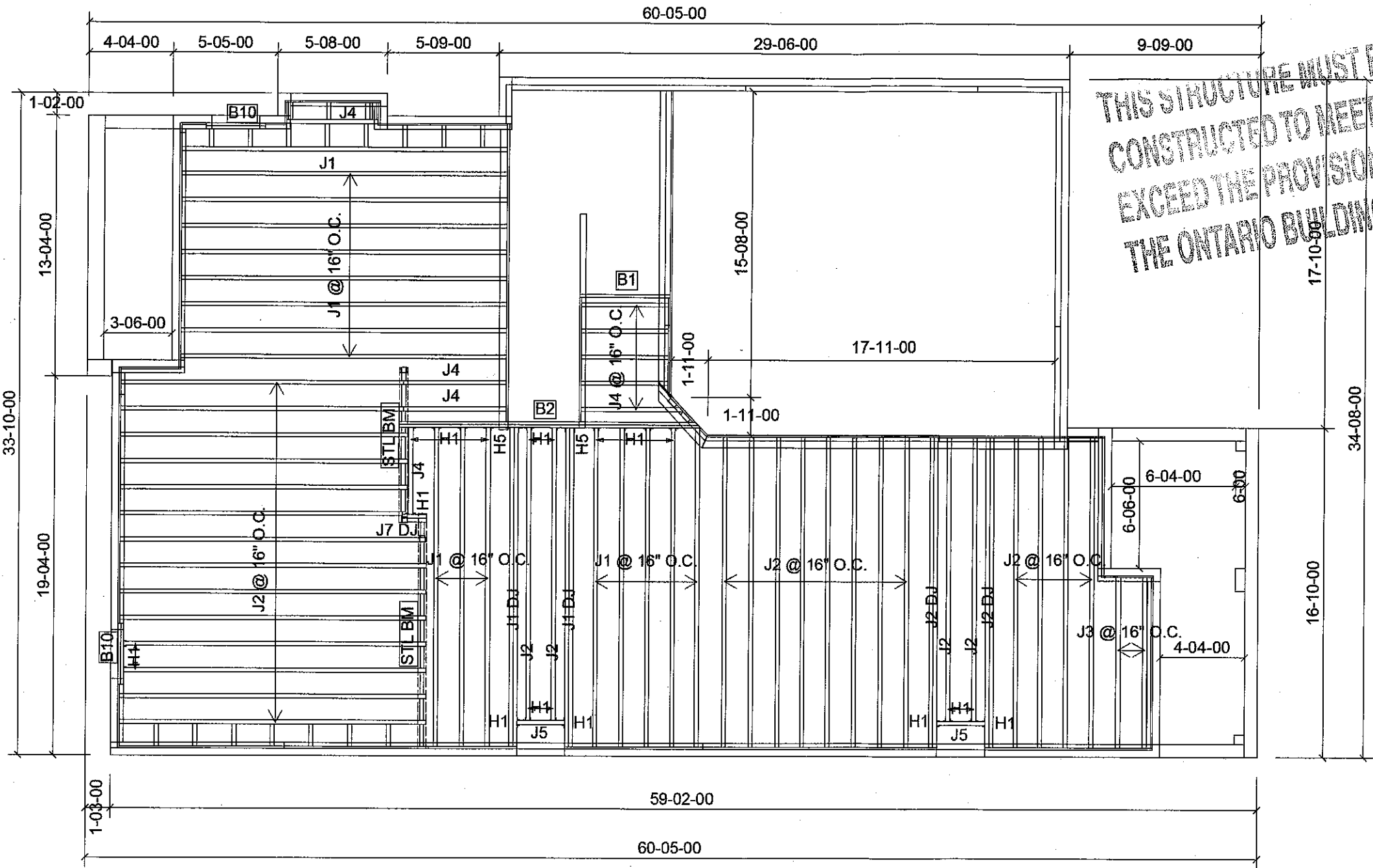
NOTES:
REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK REQ.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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-07-06

1st FLOOR

DECK CONDITION

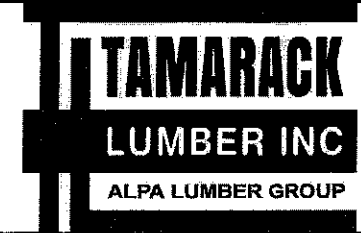


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	17
J1 DJ	18-00-00	11 7/8" NI-40x	2	4
J2	16-00-00	11 7/8" NI-40x	1	30
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	10-00-00	11 7/8" NI-40x	1	2
J4	6-00-00	11 7/8" NI-40x	1	9
J5	4-00-00	11 7/8" NI-40x	1	2
J7 DJ	2-00-00	11 7/8" NI-40x	2	2
B2	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	4

Connector Summary		
Qty	Manuf	Product
12	H1	IUS2.56/11.88
5	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H5	HU310-2

RECEIVED
JUL 26 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

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



FROM PLAN DATED: OCT 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 4B

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: MD

DESIGNER: PL

REVISION:

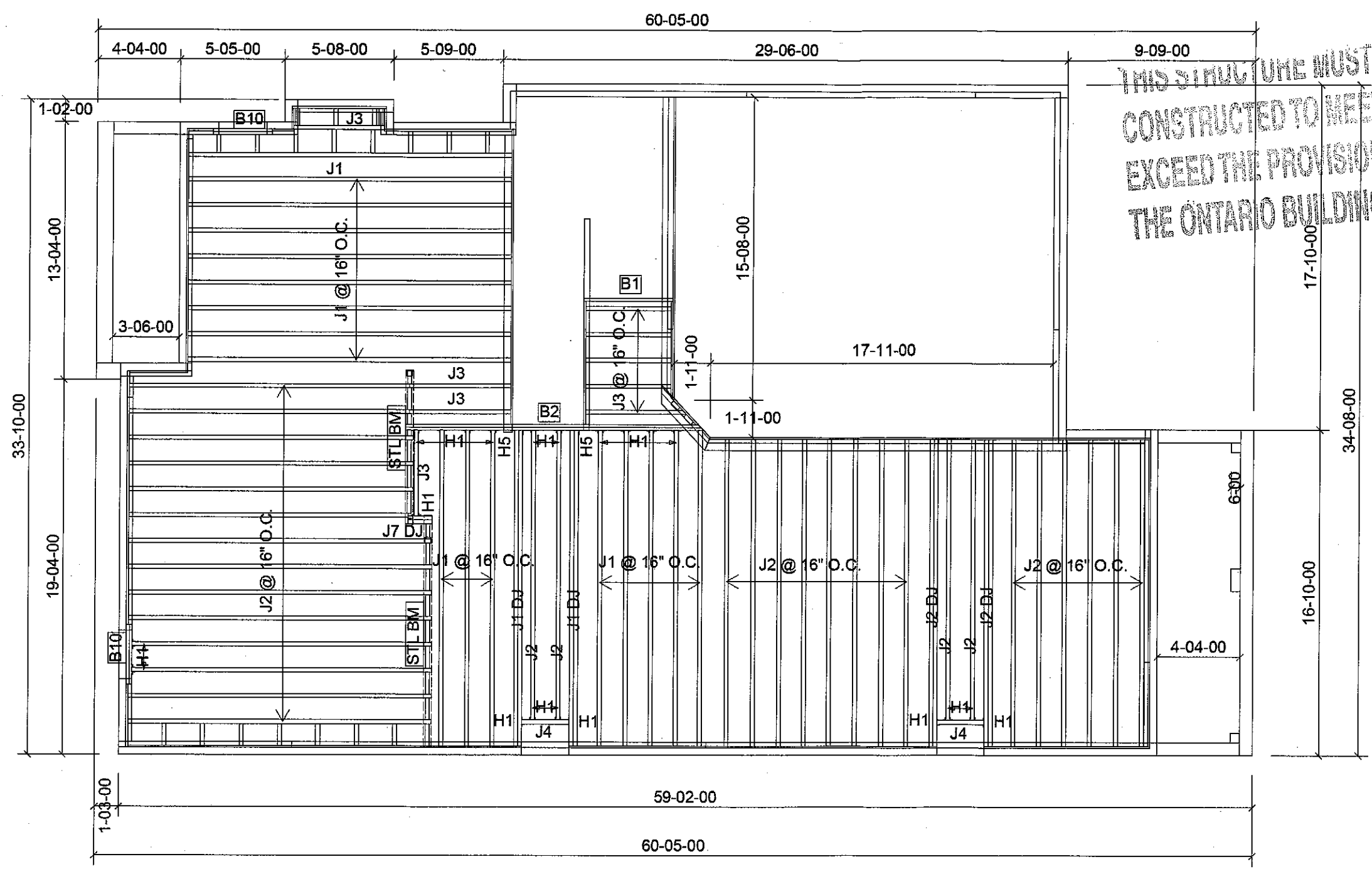
NOTES:
REFER TO THE **NORDIC INSTALLATION**
GUIDE FOR PROPER STORAGE AND
INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F
REQ'D UNDER INTERIOR UNIFORM LOAD
BEARING WALLS. **MULTIPLE SQUASH**
BLOCKS REQ'D UNDER CONCENTRATED
LOADS. SEE FIGURE 1. **CANTILEVERED**
JOISTS INCLUDING **CANT' OVER BRICK**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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-07-06

1st FLOOR

DECK CONDITION

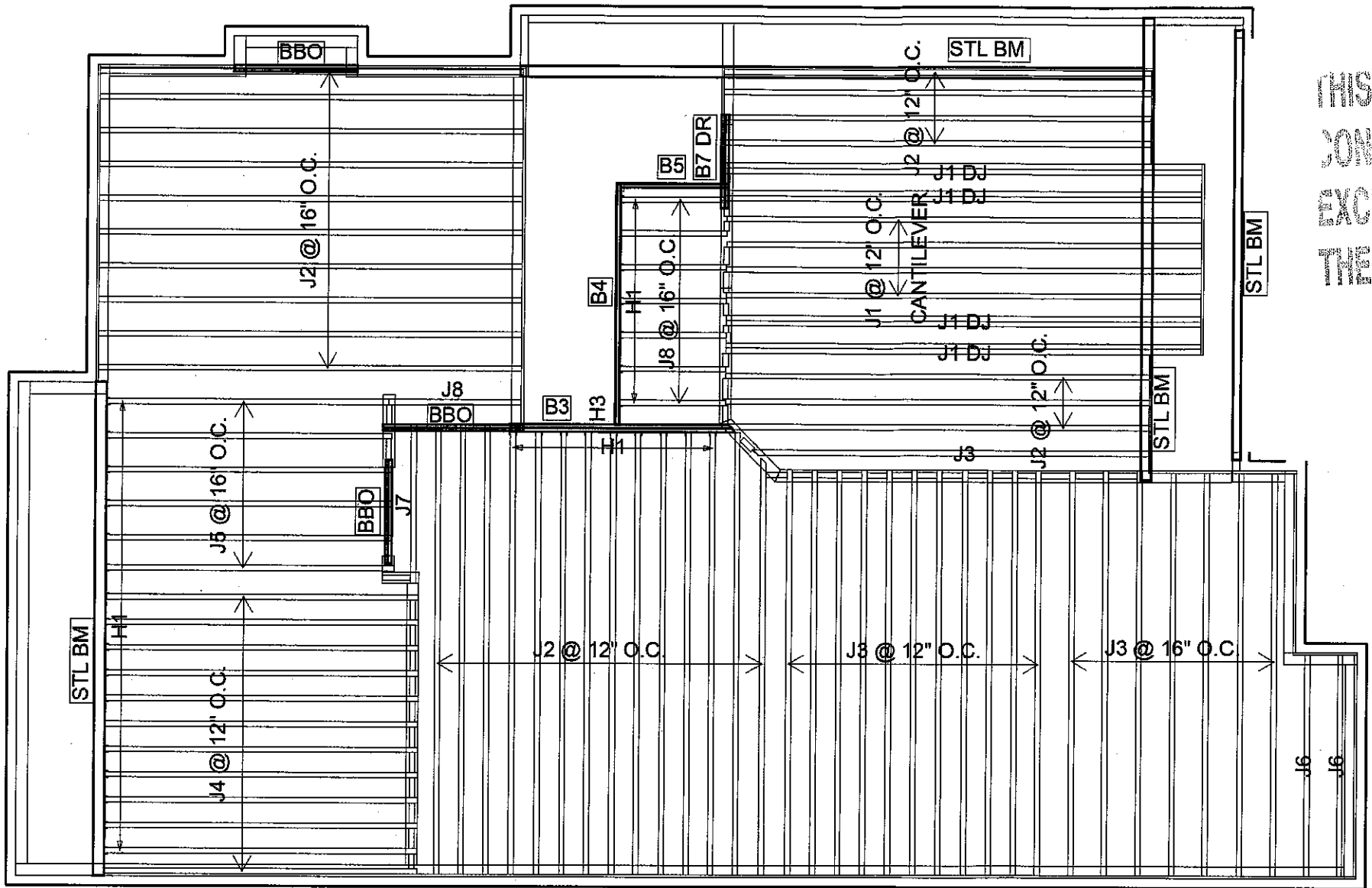
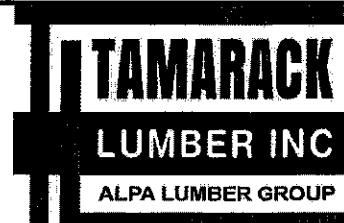


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	17
J1 DJ	18-00-00	11 7/8" NI-40x	2	4
J2	16-00-00	11 7/8" NI-40x	1	32
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	6-00-00	11 7/8" NI-40x	1	9
J4	4-00-00	11 7/8" NI-40x	1	2
J7 DJ	2-00-00	11 7/8" NI-40x	2	2
B2	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	4

Connector Summary		
Qty	Manuf	Product
12	H1	IUS2.56/11.88
5	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H5	HU310-2

RECEIVED
JUL 26 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO



FROM PLAN DATED: OCT 2018
BUILDER: GREENPARK HOMES
SITE: LAMBERTS LANE
MODEL: KINMOUNT 4B
ELEVATION: 1
LOT:
CITY: CALEDON
SALESMAN: MD
DESIGNER: PL
REVISION:

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²
SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 11/19/2018

2nd FLOOR

Products				
PlotID	Length	Product	Plies	Net Qty
J1	20-00-00	11 7/8" NI-40x	1	4
J1 DJ	20-00-00	11 7/8" NI-40x	2	8
J2	18-00-00	11 7/8" NI-40x	1	31
J3	16-00-00	11 7/8" NI-40x	1	19
J4	14-00-00	11 7/8" NI-40x	1	12
J5	12-00-00	11 7/8" NI-40x	1	6
J6	10-00-00	11 7/8" NI-40x	1	2
J7	8-00-00	11 7/8" NI-40x	1	1
J8	6-00-00	11 7/8" NI-40x	1	8
B7 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
17	H1	IUS2.56/11.88
1	H4	HUS1.81/10

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TOWN OF CALEDON
BUILDING SECTION
FILE NO _____

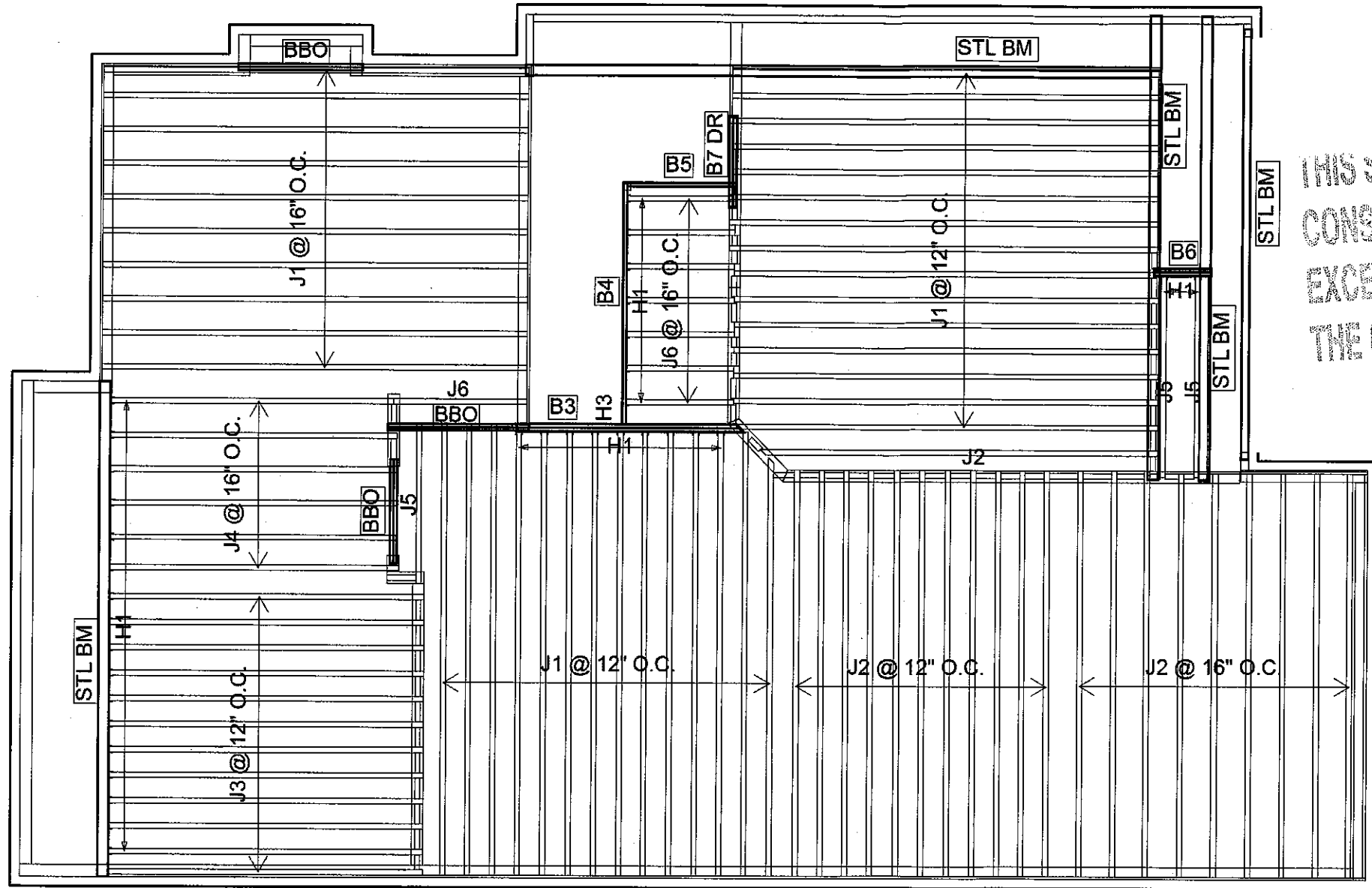
FROM PLAN DATED: OCT 2018
BUILDER: GREENPARK HOMES
SITE: LAMBERTS LANE
MODEL: KINMOUNT 4B
ELEVATION: 2
LOT:
CITY: CALEDON
SALESMAN: MD
DESIGNER: PL
REVISION:

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²
SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 11/19/2018

2nd FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	39
J2	16-00-00	11 7/8" NI-40x	1	21
J3	14-00-00	11 7/8" NI-40x	1	12
J4	12-00-00	11 7/8" NI-40x	1	6
J5	8-00-00	11 7/8" NI-40x	1	3
J6	6-00-00	11 7/8" NI-40x	1	8
B7 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/11.88
11	H1	IUS2.56/11.88
17	H1	IUS2.56/11.88
1	H4	HUS1.81/10

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fsc.org/cert

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TOWN OF CALEDON
BUILDING SECTION
FILE NO.



Refer to the Installation Guide for Residential Floors for additional information.
CCMC EVALUATION REPORT 13032-R

WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centerline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- 1-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centered on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can be cut into a 1-joint web shall equal the clear distance between the flanges of the 1-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent 1-joint flange.

- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the minimum round hole permitted at that location.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the largest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- Limit three maximum size holes per span, of which one may be a duct chase opening.
- A group of round holes of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS
Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.)											
		Round Hole Diameter (in.)											
9-1/2"	N1-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-0"	---	---	---	---	---	---
	N1-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	---	---	---	---	---	---
	N1-60	1-8"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---	---
	N1-70	2-0"	3-4"	4-0"	6-3"	8-0"	8-4"	---	---	---	---	---	---
	N1-80	2-8"	3-6"	5-0"	6-6"	8-2"	8-3"	---	---	---	---	---	---
11-7/8"	N1-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-5"	5-0"	5-6"	7-6"	---	---	---
	N1-40x	0-7"	0-8"	1-0"	2-4"	4-0"	4-5"	5-0"	5-6"	7-0"	8-4"	---	---
	N1-60	0-7"	1-8"	3-0"	4-5"	6-0"	7-3"	8-10"	10-0"	---	---	---	---
	N1-70	1-8"	2-6"	4-0"	5-4"	6-6"	7-2"	8-4"	10-0"	11-2"	---	---	---
	N1-80	1-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---	---
14"	N1-20	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-40x	0-7"	0-8"	1-5"	3-2"	4-4"	4-9"	6-3"	---	---	---	---	---
	N1-60	0-7"	0-8"	1-6"	3-4"	4-3"	4-8"	5-6"	6-4"	7-0"	8-5"	10-2"	---
	N1-70	0-7"	0-8"	1-6"	3-4"	4-3"	4-8"	5-6"	6-4"	7-0"	8-5"	10-2"	---
	N1-80	0-7"	0-8"	1-6"	3-4"	4-3"	4-8"	5-6"	6-4"	7-0"	8-5"	10-2"	---
16"	N1-20	0-7"	0-8"	1-6"	3-4"	4-3"	4-8"	5-6"	6-4"	7-0"	8-5"	10-2"	---
	N1-40x	0-7"	0-8"	1-6"	3-4"	4-3"	4-8"	5-6"	6-4"	7-0"	8-5"	10-2"	---
	N1-60	0-7"	1-0"	2-3"	3-6"	4-10"	5-3"	6-3"	7-8"	8-6"	10-3"	12-4"	14-0"
	N1-70	0-7"	1-3"	2-6"	3-10"	4-3"	5-6"	6-6"	8-0"	9-4"	11-0"	12-3"	14-5"
	N1-80	0-7"	0-8"	1-6"	3-4"	4-3"	4-8"	5-6"	6-4"	7-0"	8-5"	10-2"	---

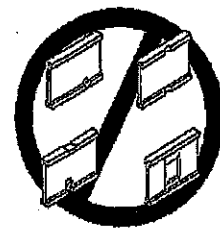
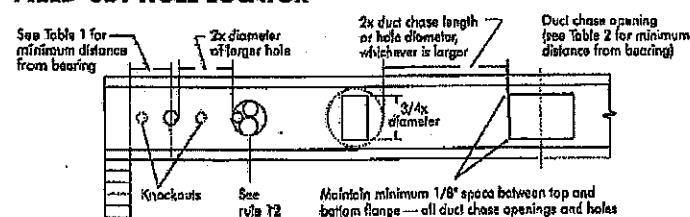
- Above table may be used for 1-joint spacing of 24 inches on center or less.
- Hole location distance is measured from inside face of supports to centre of hole.
- Distances in this chart are based on uniformly loaded joists.
- The above table is based on the 1-joint being used of their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS
Simple Span Only

Joist Depth	Joist Series	Minimum Distance from Inside Face of Supports to Centre of Opening (ft - in.)											
		Duct Chase Length (in.)											
9-1/2"	N1-20	4-1"	4-3"	4-10"	5-4"	5-8"	6-1"	6-5"	7-1"	7-5"	---	---	---
	N1-40x	5-3"	5-8"	6-0"	6-6"	7-3"	7-3"	7-8"	8-3"	8-4"	---	---	---
	N1-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-3"	8-9"	---	---	---
	N1-70	5-1"	5-5"	5-10"	6-3"	6-7"	7-1"	7-6"	8-1"	8-4"	---	---	---
	N1-80	5-3"	5-8"	6-0"	6-6"	7-3"	7-3"	7-8"	8-3"	8-4"	---	---	---
11-7/8"	N1-20	5-9"	6-2"	6-6"	7-1"	7-5"	7-9"	8-3"	8-9"	9-4"	---	---	---
	N1-40x	6-0"	7-2"	7-6"	8-1"	8-5"	9-1"	9-5"	10-1"	10-5"	---	---	---
	N1-60	7-1"	7-4"	8-0"	8-6"	9-0"	9-4"	9-9"	10-3"	11-0"	---	---	---
	N1-70	7-1"	7-4"	7-9"	8-3"	8-7"	9-1"	9-6"	10-1"	10-4"	---	---	---
	N1-80	7-2"	7-7"	8-0"	8-5"	8-10"	9-3"	9-8"	10-2"	10-8"	---	---	---
14"	N1-20	7-6"	7-11"	8-4"	8-9"	9-2"	9-7"	10-1"	10-7"	10-11"	---	---	---
	N1-40x	7-7"	8-1"	8-5"	8-10"	9-4"	9-8"	10-2"	10-8"	11-2"	---	---	---
	N1-60	8-1"	8-7"	9-0"	9-6"	10-1"	10-7"	11-2"	11-8"	12-3"	---	---	---
	N1-70	8-0"	9-3"	9-8"	10-4"	10-9"	11-4"	11-9"	12-4"	13-0"	---	---	---
	N1-80	8-7"	9-1"	9-5"	9-10"	10-4"	10-9"	11-3"	11-7"	12-3"	---	---	---
16"	N1-20	9-0"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	12-1"	12-6"	---	---	---
	N1-40x	9-4"	9-8"	10-3"	10-7"	11-1"	11-5"	12-0"	12-4"	13-0"	---	---	---
	N1-60	10-2"	10-8"	11-2"	11-6"	12-1"	12-5"	13-0"	13-4"	14-10"	---	---	---
	N1-70	10-1"	10-5"	11-0"	11-4"	11-10"	12-3"	12-8"	13-3"	14-0"	---	---	---
	N1-80	10-6"	10-9"	11-3"	11-9"	12-1"	12-7"	13-1"	13-8"	14-4"	---	---	---

- Above table may be used for 1-joint spacing of 24 inches on center or less.
- Duct chase opening location distance is measured from inside face of supports to centre of opening.
- The above table is based on simple span joists only. For other applications, contact your local distributor.
- Distances are based on a uniformly loaded floor joist that meets the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of 1/400.
- The above table is based on the 1-joint being used of their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

FIGURE 7
FIELD-CUT HOLE LOCATOR



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

Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw.

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

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on 1-joints until fully braced and sheathed, or serious injuries can result.



Never stack building materials over unbraced 1-joints. Once sheathed, do not over-stress 1-joints with concentrated loads from building materials.

WARNING: 1-joints are not stable until completely installed, and will not carry any load until fully braced and sheathed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

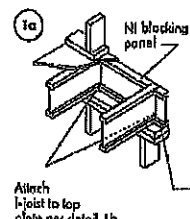
- Brace and nail each 1-joint as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joint ends. When 1-joints are applied continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- When the building is completed, the floor sheathing will provide lateral support for the top flanges of the 1-joints. Until this sheathing is applied, temporary bracing, often called stints, or temporary sheathing must be applied to prevent 1-joint rollover or buckling.
 - Temporary bracing or stints must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on center, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each 1-joint. Nail the bracing to a lateral restraint at the end of each bay. Top ends of bracing must be secured with a minimum of two 2-1/2" nails.
 - 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 bay.
- For cantilevered 1-joints, bracing-top and bottom flanges, and brace ends with down panels, rim board, or cross-bracing.
- Install and fully nail permanent sheathing to each 1-joint before placing loads on the floor system. Then, stack building materials over braced walls only.
- Never install a damaged 1-joint.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic 1-joints, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

PRODUCT WARRANTY

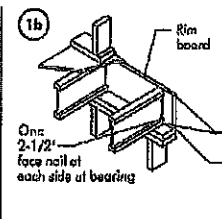
Chatter's Chibougman guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chatter's Chibougman warrants that our products, when installed in accordance with our building and installation instructions, will meet or exceed our specifications for the lifetime of the structure.



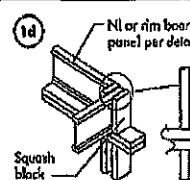
Blocking Panel or Rim Board	Maximum Factored Uniform Vertical Load* (psf)
N1 Joists	3,300

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



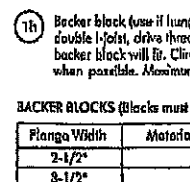
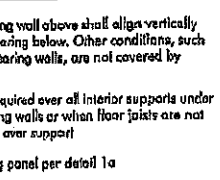
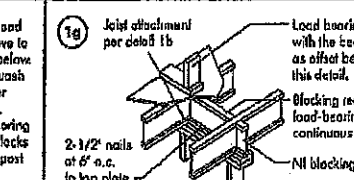
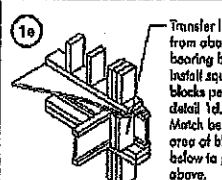
Blocking Panel or Rim Board	Maximum Factored Uniform Vertical Load* (psf)
1-1/8" Rim Board Plus	8,090

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



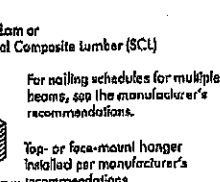
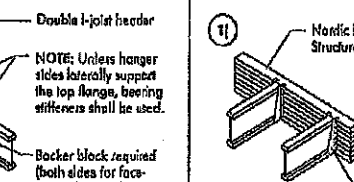
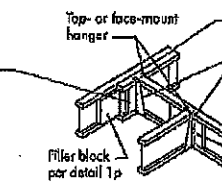
Pair of Squash Blocks	Maximum Factored Uniform Vertical Load per Pair of Squash Blocks (lbs)
2x Lumber	3,125
1-1/8" Rim Board Plus	8,500

Provide lateral bracing per detail 1a or 1b.

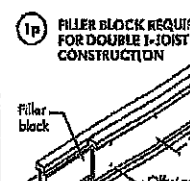
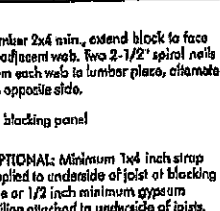
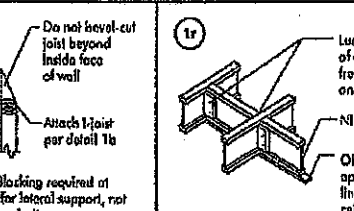
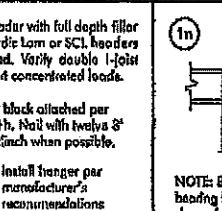
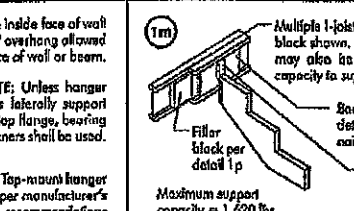
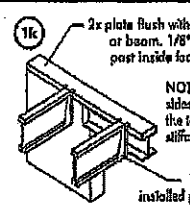


Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be S-PF No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C325 or CAN/CSA-O47 Standard.
** For face-mount hangers use not joist depth minus 2-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use not depth minus 4-1/4".



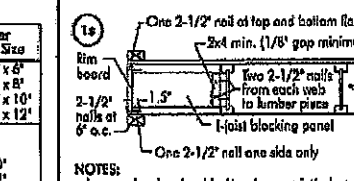
BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)



NOTES:

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

Flange Size	Net Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2"	2-1/8" x 8"
3-1/2" x 1-1/2"	11-7/8"	2-1/8" x 8"
3-1/2" x 1-1/2"	14"	2-1/8" x 12"
3-1/2" x 1-1/2"	16"	3" x 6"
3-1/2" x 1-1/2"	18"	3" x 8"
3-1/2" x 1-1/2"	20"	3" x 10"
3-1/2" x 1-1/2"	22"	3" x 12"



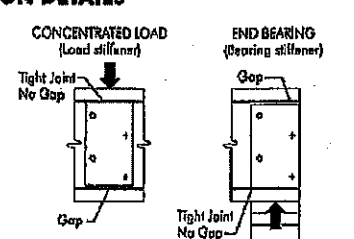
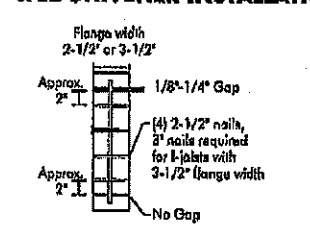
OPTIONAL: Minimum 1x4 inch strip applied to underside of joist of blocking line or 1/2 inch minimum gypsum taping attached to underside of joist.

WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the 1-joint properties table found in the Joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the 1-joint is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

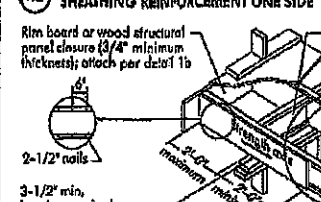
FIGURE 2
WEB STIFFENER INSTALLATION DETAILS



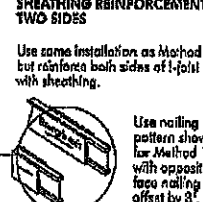
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-3/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE



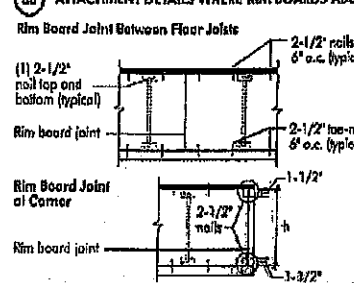
Method 2 — SHEATHING REINFORCEMENT TWO SIDES



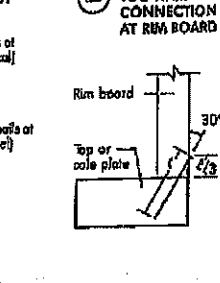
NOTES: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/8") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c. top and bottom flange. Install with face grain horizontal. Attach 1-joint to plate at all supports per detail 1b. Verify reinforced 1-joint capacity.

RIM BOARD INSTALLATION DETAILS

3a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



3b TOE-NAIL CONNECTION AT RIM BOARD



NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
Nov. 16, 2018 15:43

PROJECT
J1 DJ 2ND FLOOR ABOVE
GARAGE

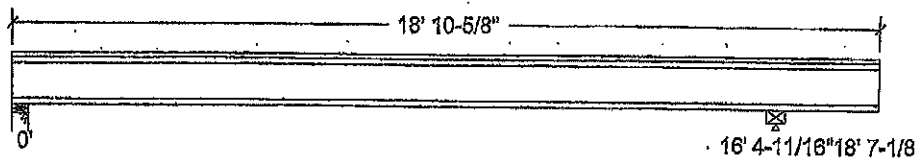
Design Check Calculation Sheet Nordic Sizer - Canada 7.1

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area	No		20.00	psf
Load2	Live	Full Area	Yes		40.00	psf
LOW D	Dead	Partial UDL	No	16.68 18.89	30.0 30.0	plf
LOW L	Live	Partial UDL	Yes	16.68 18.89	33.0 33.0	plf
LOW SN	Snow	Partial UDL	Yes	16.68 18.89	102.0 102.0	plf
WALL	Snow	Partial UDL	Yes	16.68 18.89	100.0 100.0	plf
HIGH ROOF D	Dead	Partial UDL	No	16.68 18.89	30.0 30.0	plf
HIGH ROOF L	Live	Partial UDL	Yes	16.68 18.89	33.0 33.0	plf
HIGH ROOF SN	Snow	Partial UDL	Yes	16.68 18.89	102.0 102.0	plf
T9 D	Dead	Point	No	17.20	106	lbs
T9 L	Live	Point	Yes	17.20	75	lbs
T9 SN	Live	Point	Yes	17.20	246	lbs

Load magnitude does not include Normal Importance factor from O86 Table 5.2.3.2, which is applied during analysis.

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



Unfactored:					
Dead	149			461	
Live	328			908	
Snow	-45			715	
Factored:					
Total	678			2654	
Bearing:					
Resistance					
Joist	4672			10747	
Support	15488			-	
Des ratio				0.25	
Joist	0.15			-	
Support	0.04			#4	
Load case	#10			5	
Length	4-3/8			3-1/2	
Min req'd	1-3/4			No	
Stiffener	No			1.00	
KD	1.00			-	
KB support	1.00			-	
fop sup	769			-	
Kzcp sup	1.15			-	



DESIGN CONFORMS TO OBC2012

Maximum reaction on at least one support is from a different load combination than the critical one for bearing design, shown here, due to KD factor. See Analysis results for reaction from critical load combination. Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

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

RECEIVED
JUL 26 2019
TOWN OF CALEDON
BUILDING SECTION
ET0000599 NO

Nordic Joist 11-7/8" NI-40x 2-ply Floor joist @ 12" o.c.

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

Total length: 18' 10-5/8"; Clear span: 18' 1-5/16", 1' 11-15/16"; 5/8" 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	Analysis/Design
Shear	Vf = 1912	Vr = 4672	lbs	Vf/Vr = 0.41
Moment (+)	Mf = 2701	Mr = 12509	lbs-ft	Mf/Mr = 0.22
Moment (-)	Mf = 1840	Mr = 12509	lbs-ft	Mf/Mr = 0.15
Deflection:				
Interior Perm	0.04 = < L/999	0.55 = L/360	in	0.06
Live	0.09 = < L/999	0.41 = L/480	in	0.22
Total	0.13 = < L/999	0.82 = L/240	in	0.15
Cantil. Perm	-0.01 = < L/999	0.15 = L/180	in	0.07
Live	-0.03 = L/768	0.11 = L/240	in	0.31
Total	-0.04 = L/591	0.22 = L/120	in	0.20
Bare Defl'n	-0.04 = L/702	0.15 = L/180	in	0.26
Vibration	Imax = 16'-4.7	Lv = 21'-9	ft	0.75
Defl'n	= 0.018	= 0.039	in	0.46

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC
Vr	2336	1.00	1.00	-	-	-	-	-	#5
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#10
Mr-	6255	1.00	1.00	-	1.000	-	-	-	#5
EI	371.1 million	-	-	-	-	-	-	-	#10

CRITICAL LOAD COMBINATIONS:

Shear : LC #5 = 1.25D + (1.0)1.5S + 1.0L
 Moment (+) : LC #10 = 1.25D + 1.5L (pattern: L)
 Moment (-) : LC #5 = 1.25D + (1.0)1.5S + 1.0L

Deflection: LC #1 = 1.0D (permanent)
 LC #10 = 1.0D + 1.0L (pattern: L) (live)
 LC #10 = 1.0D + 1.0L (pattern: L) (total)
 LC #10 = 1.0D + 1.0L (pattern: L) (bare joist)

Bearing : Support 1 - LC #4 = 1.25D + 1.5L + (1.0)1.0S
 Support 2 - LC #0 = 1.4D

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

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

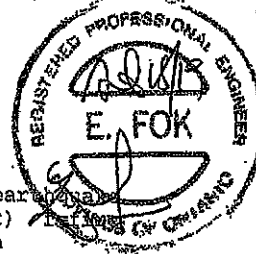
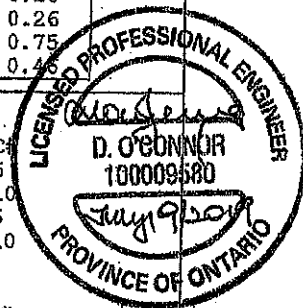
All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

Deflection: EIEff = 406e06 lb-in²/ply K = 6.18e06 lbs/ply
 "Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

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 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 Joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DESIGN CONFORMS
TO 0802012



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

PASSED

BC CALC® Member Report

Dry | 1 span | No cant

November 16, 2018 17:22:31

Build 6476

Job name:

File name: K\N\MOUNT 4B.mmdl

Address:

Description: 1ST FLOOR FRAMING\Flush Beams\B1(13638)

City, Province, Postal Code: CALEDON

Specifier:

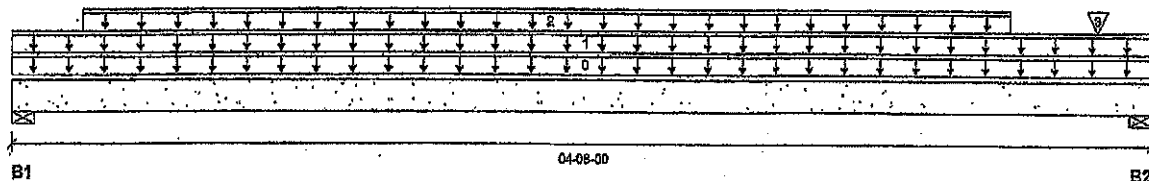
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	268 / 0	148 / 0		
B2, 3-1/2"	302 / 0	176 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-08-00	Top	1.00	6	1.00	1.16	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-08-00	Top	11	5			n/a
2	STAIRS	Unf. Lin. (lb/ft)	L	00-03-08	04-01-00	Top	120	60			n/a
3	4(1315)	Conc. Pt. (lbs)	L	04-05-04	04-05-04	Top	65	43			n/a

Controls Summary

Pos. Moment	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
End Shear	623 ft-lbs	17,696 ft-lbs	3.5%	1	02-04-00
Total Load Deflection	482 lbs	7,232 lbs	6.7%	1	03-04-10
Live Load Deflection	L/999 (0.003")	n/a	n/a	4	02-04-00
Max Defl.	L/999 (0.002")	n/a	n/a	5	02-04-00
Span / Depth	0.003"	n/a	n/a	4	02-04-00
	4.3				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 1-3/4"	587 lbs	22.4%	7.9%	Unspecified
B2	Wall/Plate 3-1/2" x 1-3/4"	672 lbs	25.7%	9.0%	Unspecified

DESIGN CONFORMS TO OBC2012

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBC 2015 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9

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™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

ET0000601



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

PASSED

BC CALC® Member Report

1ST FLOOR FRAMING\Flush Beams\B2\B362

Dry | 3 spans | No cant.

November 16, 2018 17:22:31

Build 6476

Job name:

File name: KINMOUNT 4B.mmdl

Address:

Description: 1ST FLOOR FRAMING\Flush Beams\B2\B362

City, Province, Postal Code: CALEDON

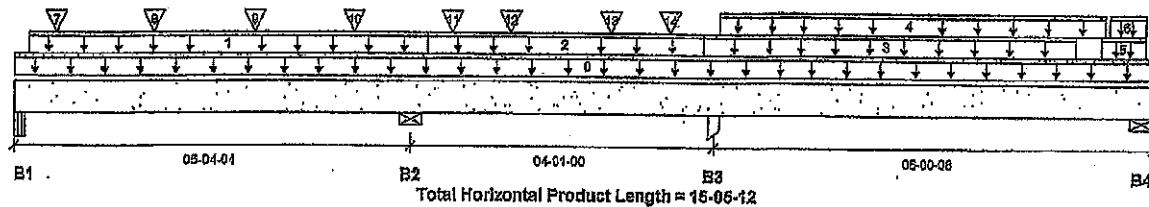
Specifier:

Customer:

Designer: PL

Code reports: CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5"	559 / 92	288 / 0		
B2, 5-1/2"	2,342 / 0	1,076 / 0		
B3, 3-1/2"	2,609 / 0	1,279 / 0		
B4, 4-13/16"	1,182 / 73	687 / 0		

Load Summary

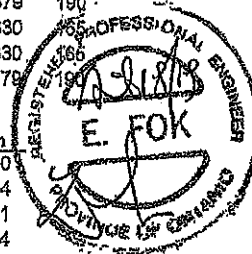
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-05-12	Top	1.80	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-08	05-07-00	Top	16	8			n/a
2	STAIRS	Unf. Lin. (lb/ft)	L	05-07-00	09-03-08	Top	240	120			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	09-03-08	14-05-04	Top	16	8			n/a
4	Smoothed Load	Unf. Lin. (lb/ft)	L	09-03-08	14-10-00	Top	328	164			n/a
5	5(1316)	Unf. Lin. (lb/ft)	L	14-09-07	15-04-07	Top	344	289			n/a
6	5(1316)	Unf. Lin. (lb/ft)	L	14-10-11	15-04-07	Top	510	255			n/a
7	J4(13374)	Conc. Pt. (lbs)	L	00-07-00	00-07-00	Top	80	40			n/a
8	J1(13390)	Conc. Pt. (lbs)	L	01-11-00	01-11-00	Top	388	194			n/a
9	J1(13433)	Conc. Pt. (lbs)	L	03-03-00	03-03-00	Top	439	220			n/a
10	J1(13433)	Conc. Pt. (lbs)	L	04-07-00	04-07-00	Top	439	220			n/a
11	J1 DJ(13370)	Conc. Pt. (lbs)	L	05-11-00	05-11-00	Top	379	190			n/a
12	J2(13373)	Conc. Pt. (lbs)	L	06-08-08	06-08-08	Top	330				n/a
13	J2(13373)	Conc. Pt. (lbs)	L	08-00-08	08-00-08	Top	330				n/a
14	J1 DJ(13369)	Conc. Pt. (lbs)	L	08-10-00	08-10-00	Top	379				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2,333 ft-lbs	35,392 ft-lbs	6.6%	2	12-10-00
Neg. Moment	-2,735 ft-lbs	-35,392 ft-lbs	7.7%	5	09-05-04
End Shear	1,918 lbs	14,464 lbs	13.3%	2	14-01-01
Cont. Shear	2,140 lbs	14,464 lbs	14.8%	5	10-06-14
Total Load Deflection	L/999 (0.008")	n/a	n/a	13	12-08-00
Live Load Deflection	L/999 (0.008")	n/a	n/a	18	12-06-00
Total Neg. Defl.	L/999 (-0.002")	n/a	n/a	13	07-07-00
Max Defl.	0.008"	n/a	n/a	13	12-06-00
Span / Depth	5.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 5" x 3-1/2"	1,169 lbs	16.0%	5.6%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	4,857 lbs	59.1%	20.7%	Unspecified
B3	Column 3-1/2" x 3-1/2"	5,512 lbs	69.3%	38.9%	Unspecified
B4	Wall/Plate 4-13/16" x 3-1/2"	2,608 lbs	36.0%	12.6%	Unspecified

Half one ply to another with
3 1/2" spiral nails @ 9" o.c. staggered in 2 rows



DESIGN CONFORMS TO OBC 2012

ET0000602



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING/Dropped Beams/B7 DR(I3786)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

November 19, 2018 17:18:06

Build 6475

Job name:

File name: KINMOUNT 4B.mmdl

Address:

Description: 2ND FLOOR FRAMING/Dropped Beams/B7 DR(I3786)

City, Province, Postal Code: CALEDON

Specifier:

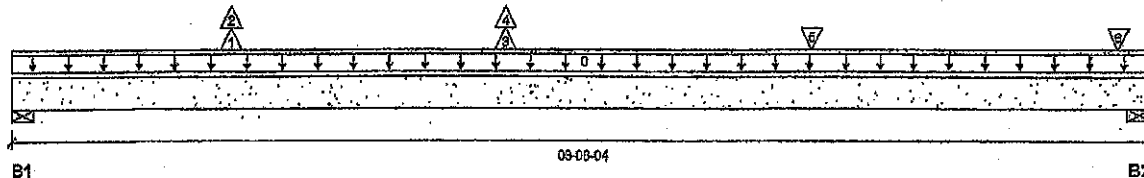
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,077 / 18	530 / 0	0 / 38	
B2, 4-3/4"	891 / 8	452 / 0	0 / 17	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	10				00-00-00
1	-	Conc. Pl. (lbs)	L	00-08-07	00-08-07	Top	928	455	-19		n/a
2	-	Conc. Pl. (lbs)	L	00-08-07	00-08-07	Top	-10				n/a
3	J1 DJ (I3723)	Conc. Pl. (lbs)	L	01-07-00	01-07-00	Top	363	148	-36		n/a
4	J1 DJ (I3723)	Conc. Pl. (lbs)	L	01-07-00	01-07-00	Top	-16				n/a
5	J2(I3742)	Conc. Pl. (lbs)	L	02-07-00	02-07-00	Top	341	170			n/a
6	J2(I3683)	Conc. Pl. (lbs)	L	03-07-00	03-07-00	Top	341	170			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,333 ft-lbs	23,220 ft-lbs	5.7%	21	01-07-00
End Shear	1,313 lbs	11,571 lbs	11.3%	21	01-01-00
Total Load Deflection	L/999 (0.003")	n/a	n/a	56	01-08-12
Live Load Deflection	L/999 (0.002")	n/a	n/a	83	01-08-12
Max Defl.	0.003"	n/a	n/a	56	01-08-12
Span / Depth	3.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	2,279 lbs	22.9%	16.2%	Unspecified
B2	Wall/Plate 4-3/4" x 3-1/2"	1,901 lbs	14.1%	9.4%	Unspecified

Notes

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

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

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

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

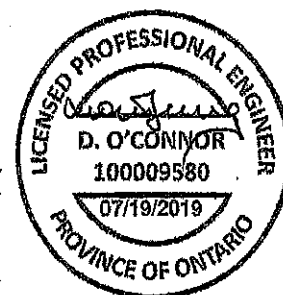
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Nail one ply to another with 3 1/2" spiral nails @ 4" o.c. staggered in 2 rows



DESIGN CONFORMS TO OBC2012



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B4\13492

BC CALC® Member Report

Dry | 1 span | No cant.

November 16, 2018 17:22:31

Build 6475

Job name:

File name: KINMOUNT 4B.mmdl

Address:

Description: 2ND FLOOR FRAMING\Flush Beams\B4\13492

City, Province, Postal Code: CALEDON

Specifier:

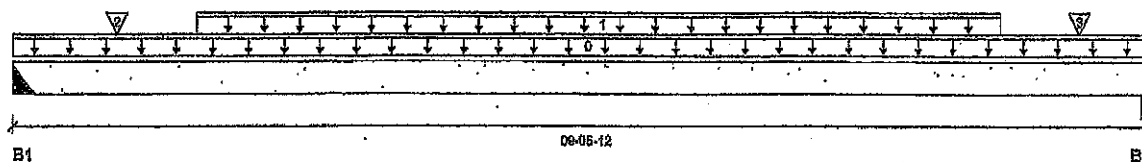
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	385 / 0	222 / 0		
B2, 3-1/2"	394 / 0	226 / 0		

Load Summary

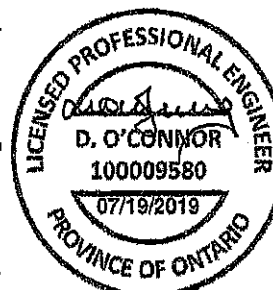
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-05-12	Top		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-04	08-02-04	Top	88	44.			n/a
2	J8(13517)	Conc. Pt. (lbs)	L	00-10-04	00-10-04	Top	103	52			n/a
3	J8(13457)	Conc. Pt. (lbs)	L	08-10-04	08-10-04	Top	86	43			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2,020 ft-lbs	17,896 ft-lbs	11.4%	1	04-10-04
End Shear	760 lbs	7,232 lbs	10.5%	1	01-02-14
Total Load Deflection	L/999 (0.043")	n/a	n/a	4	04-08-04
Live Load Deflection	L/999 (0.027")	n/a	n/a	5	04-08-04
Max Defl.	0.043"	n/a	n/a	4	04-08-04
Span / Depth	9.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	3" x 1-3/4"	855 lbs	n/a	13.3%	HUS1.81/10
B2 Column	3-1/2" x 1-3/4"	872 lbs	21.9%	11.7%	Unspecified



DESIGN CONFORMS TO OBC2012

Cautions

Header for the hanger HUS1.81/10 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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

ET0000604



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B3(3555)

BC CALC® Member Report

Dry | 1 span | No cant

November 16, 2018 17:22:31

Build 6475

Job name:

File name: KINMOUNT 4B.mmdl

Address:

Description: 2ND FLOOR FRAMING\Flush Beams\B3(3555)

City, Province, Postal Code: CALEDON

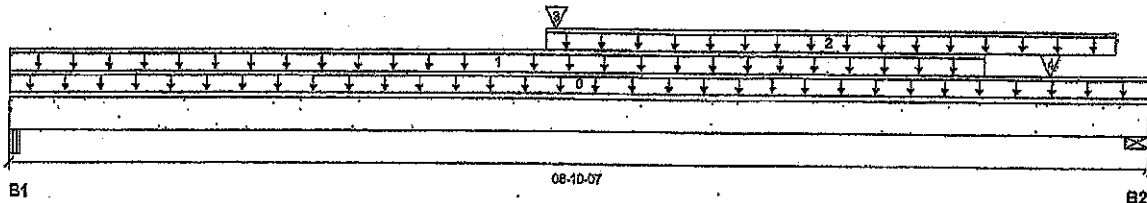
Specifier:

Customer:

Designer: PL

Code reports: CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-9/16"	1,980 / 0	1,049 / 0		
B2, 3-3/4"	1,774 / 0	952 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-10-07	Top	12				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	07-07-04	Top	369	184			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	04-02-00	08-07-04	Top	20	10			n/a
3	B4(3492)	Conc. Pt. (lbs)	L	04-02-14	04-02-14	Top	378	218			n/a
4		Conc. Pt. (lbs)	L	08-01-04	08-01-04	Top	455	228			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8,415 ft-lbs	35,392 ft-lbs	23.8%	1	04-02-14
End Shear	3,263 lbs	14,464 lbs	22.6%	1	07-08-13
Total Load Deflection	L/999 (0.071")	n/a	n/a	4	04-05-08
Live Load Deflection	L/999 (0.045")	n/a	n/a	5	04-05-08
Max Defl.	0.071"	n/a	n/a	4	04-05-08
Span / Depth	6.3				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-9/16" x 3-1/2"	4,251 lbs	51.4%	18.0%	Unspecified
B2 Wall/Plate	3-3/4" x 3-1/2"	3,850 lbs	69.1%	24.2%	Unspecified



Notes

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

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

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

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

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

Nail one ply to another with

1 1/2" spiral nails @ 2'

Nails staggered in 2 rows

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

DESIGN CONFORMS TO OBC2012

ET0000605



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

PASSED

2ND FLOOR FRAMING Flush Beams B5(13452)

BC CALC® Member Report

Dry | 1 span | No cant.

November 16, 2018 17:22:31

Build 6475

Job name:

File name: KINMOUNT 4B.mmdl

Address:

Description: 2ND FLOOR FRAMING Flush Beams B5(13452)

City, Province, Postal Code: CALEDON

Specifier:

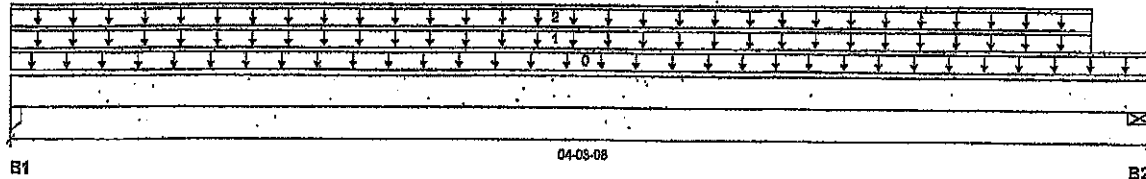
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	531 / 0	278 / 0		
B2, 2-3/4"	495 / 0	281 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-03-08	Top	1.00	0.65	1.00	1.16	00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	04-00-12	Top	240	120			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-00-12	Top	12	6			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,110 ft-lbs	17,696 ft-lbs	6.3%	1	02-01-04
End Shear	527 lbs	7,232 lbs	7.3%	1	01-01-10
Total Load Deflection	L/999 (0.008")	n/a	n/a	4	02-01-04
Live Load Deflection	L/999 (0.003")	n/a	n/a	5	02-01-04
Max Defl.	0.005"	n/a	n/a	4	02-01-04
Span / Depth	4.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 1-3/4"	1,145 lbs	57.5%	30.6%	Unspecified
B2	Wall/Plate 2-3/4" x 1-3/4"	1,068 lbs	51.9%	18.2%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DESIGN CONFORMS TO OBC2012

Disclosure

Use of the Balse 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 Balse 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®, AIS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

ET0000606

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

BC CALC® Member Report

Dry | 1 span | No cant.

November 17, 2018 08:54:35

Build 6476

Job name:

File name: KINMOUNT 4B ELEV 2.mmdl

Address:

Description: 2ND FLOOR FRAMING\Flush Beams\B6(13967)

City, Province, Postal Code: CALEDON

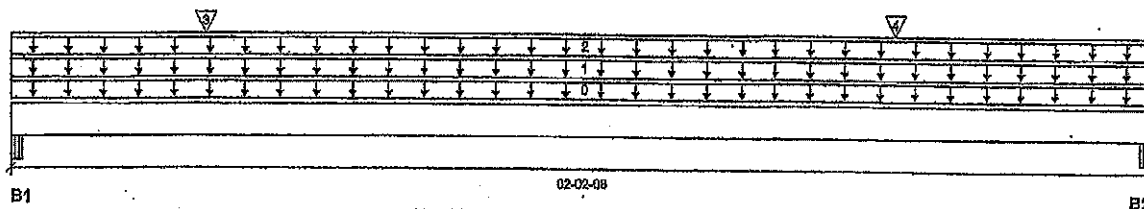
Specifier:

Customer:

Designer: PL

Code reports: CCMC 12472-R

Company:

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

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	292 / 0	353 / 0	489 / 0	
B2, 5"	349 / 0	425 / 0	591 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-02-08	Top	1.00	0.65	1.00	1.15	00-00-00
1	E27(I4168)	Unf. Lin. (lb/ft)	L	00-00-00	02-02-08	Top	126	245	387		n/a
2	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-02-08	Top	33	30	102		n/a
3	J5(I4112)	Conc. Pt. (lbs)	L	00-04-08	00-04-08	Top	139	69			n/a
4	J6(I4113)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	151	76			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	500 ft-lbs	35,392 ft-lbs	1.4%	13	01-00-00
End Shear	219 lbs	14,464 lbs	1.5%	13	01-02-06
Total Load Deflection	1/999 (0")	n/a	n/a	35	01-00-00
Live Load Deflection	1/999 (0")	n/a	n/a	51	01-00-00
Max Defl.	0"	n/a	n/a	35	01-00-00
Span / Depth	1.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 2-1/2" x 3-1/2"	1,467 lbs	31.4%	13.7%	Unspecified
B2	Beam 5" x 3-1/2"	1,767 lbs	18.9%	8.3%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Nail one ply to another with

3 1/2" spiral nails @ 12"

o.c. staggered in 2 rows



DESIGN CONFORMS TO OBC2012

ET0000607

**Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLOOR FRAMING\Flush Beams\B10\I3990**

BC CALCO® Member Report

Dry | 1 span | No cant.

April 12, 2018 08:55:57

Build 6766

Job name:

File name: KINMOUNT 4B DECK CONDITION.mxd

Address:

Description: 1ST FLOOR FRAMING\Flush Beams\B10\I3990

City, Province, Postal Code: CALEDON

Specifier:

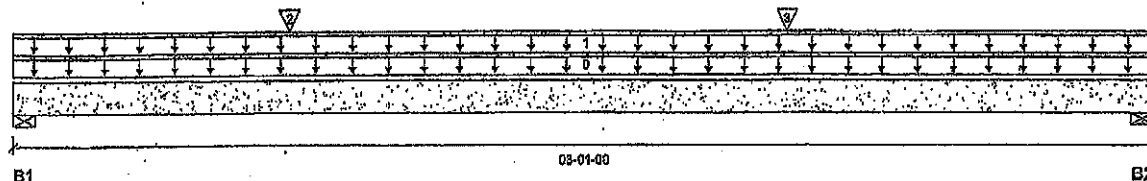
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:

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

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	468 / 0	377 / 0		
B2, 3-1/2"	386 / 0	336 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		12			00-00-00
1	E14(I197)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		81			n/a
2	J2(I3982)	Conc. Pt. (lbs)	L	00-09-00	00-09-00	Top	427	213			n/a
3	J2(I3977)	Conc. Pt. (lbs)	L	02-01-00	02-01-00	Top	427	213			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	716 ft-lbs	35,382 ft-lbs	2.0%	1	02-01-00
End Shear	593 lbs	14,484 lbs	4.1%	1	01-09-10
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	01-06-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-06-08
Max Defl.	0.001"	n/a	n/a	4	01-06-08
Span / Depth	2.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	1,172 lbs	17.9%	7.8%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	1,000 lbs	15.3%	6.7%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

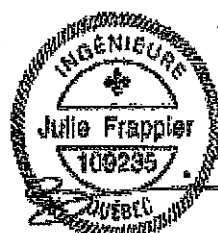
Importance Factor : Normal Part code : Part 9

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

Nail one ply to another with
3 1/2" spiral nails @ 4"
o.c. staggered in 2 rows



DESIGN CONFORMS TO OBC2012



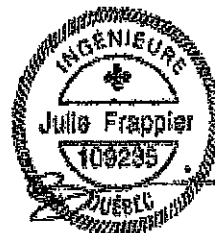
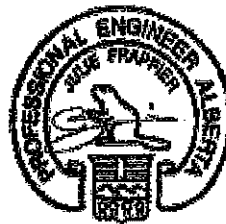
Maximum Floor Spans

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

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

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

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



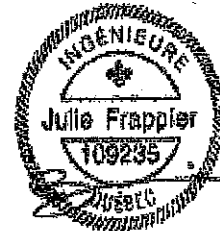
Maximum Floor Spans

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

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

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

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



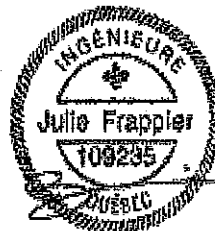
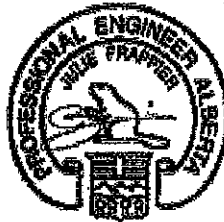
Maximum Floor Spans

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

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

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

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



Maximum Floor Spans

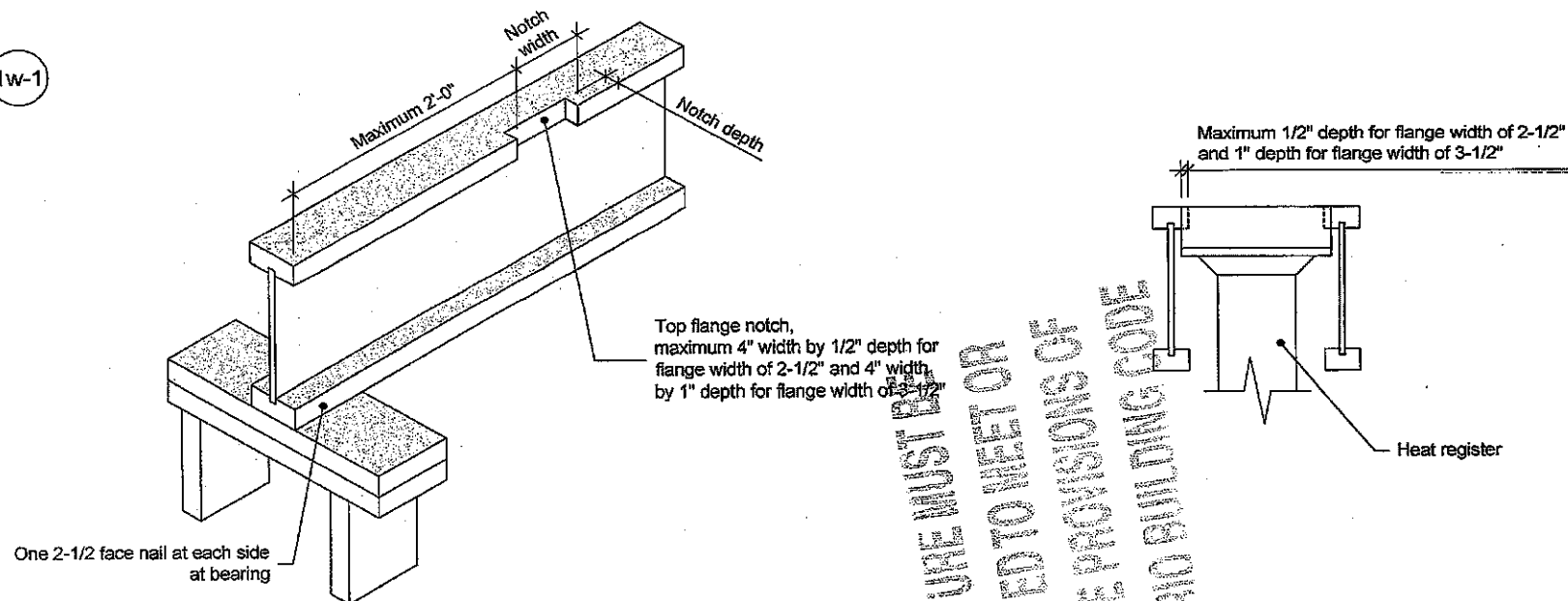
Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
5/8" OSB G&N Sheathing

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

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

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

1W-1



Notes:

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

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

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

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TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

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DATE

2018-04-10

NUMBER

1W-1



Construction Detail

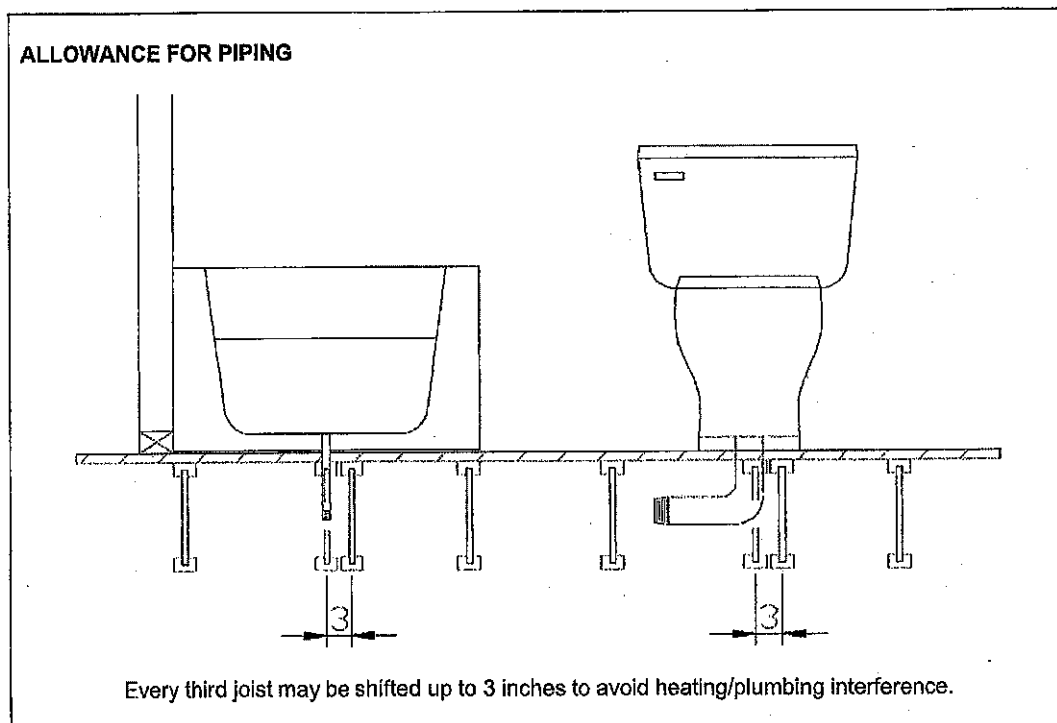
Limit States Design

Allowance for Piping (Installation Notes)

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

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

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



Revised April 12, 2012