

FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: M D

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

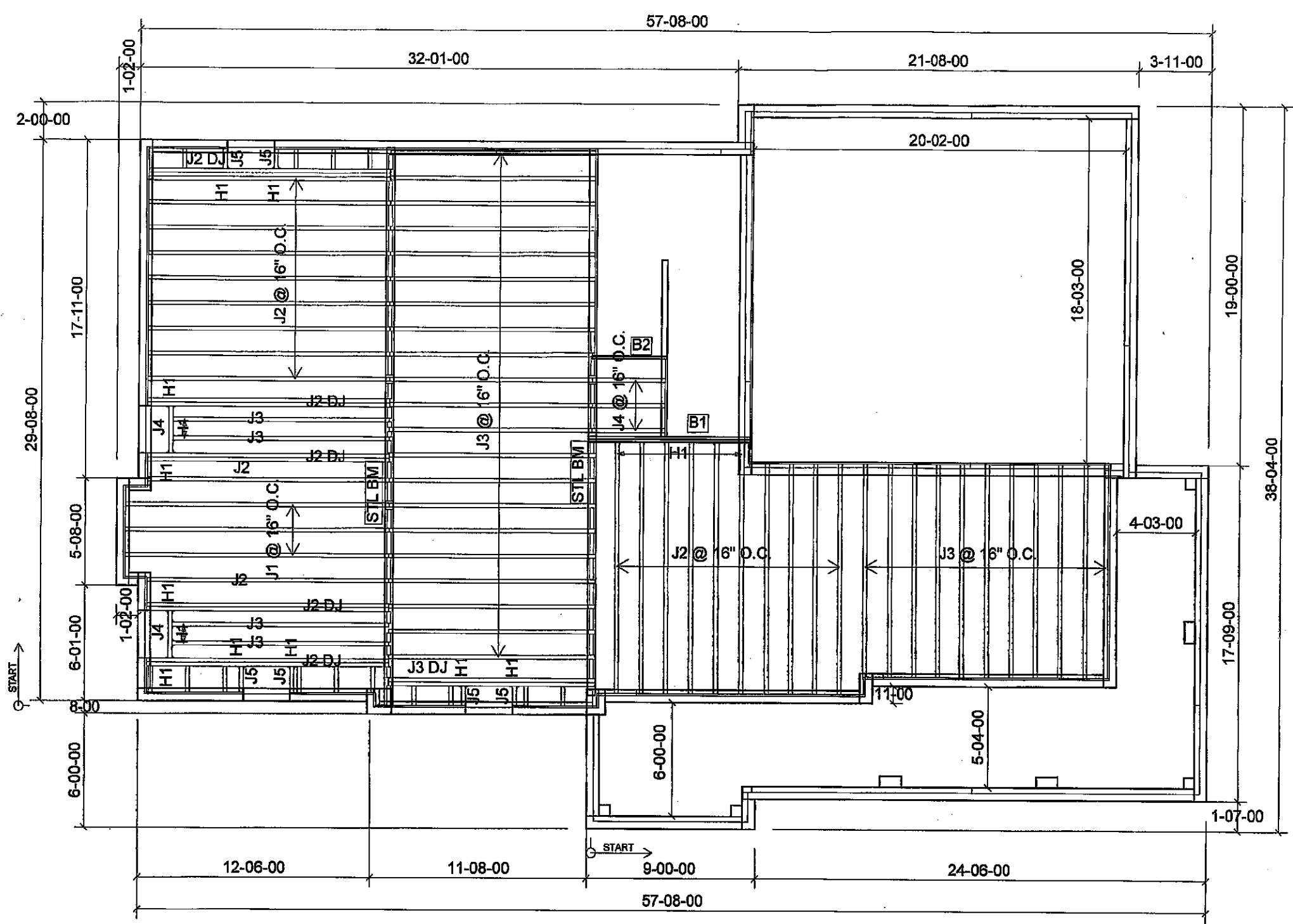
DEAD LOAD: 15.0 lb/ft²

TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 11/5/2018

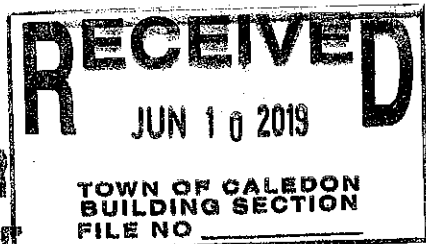
1st FLOOR

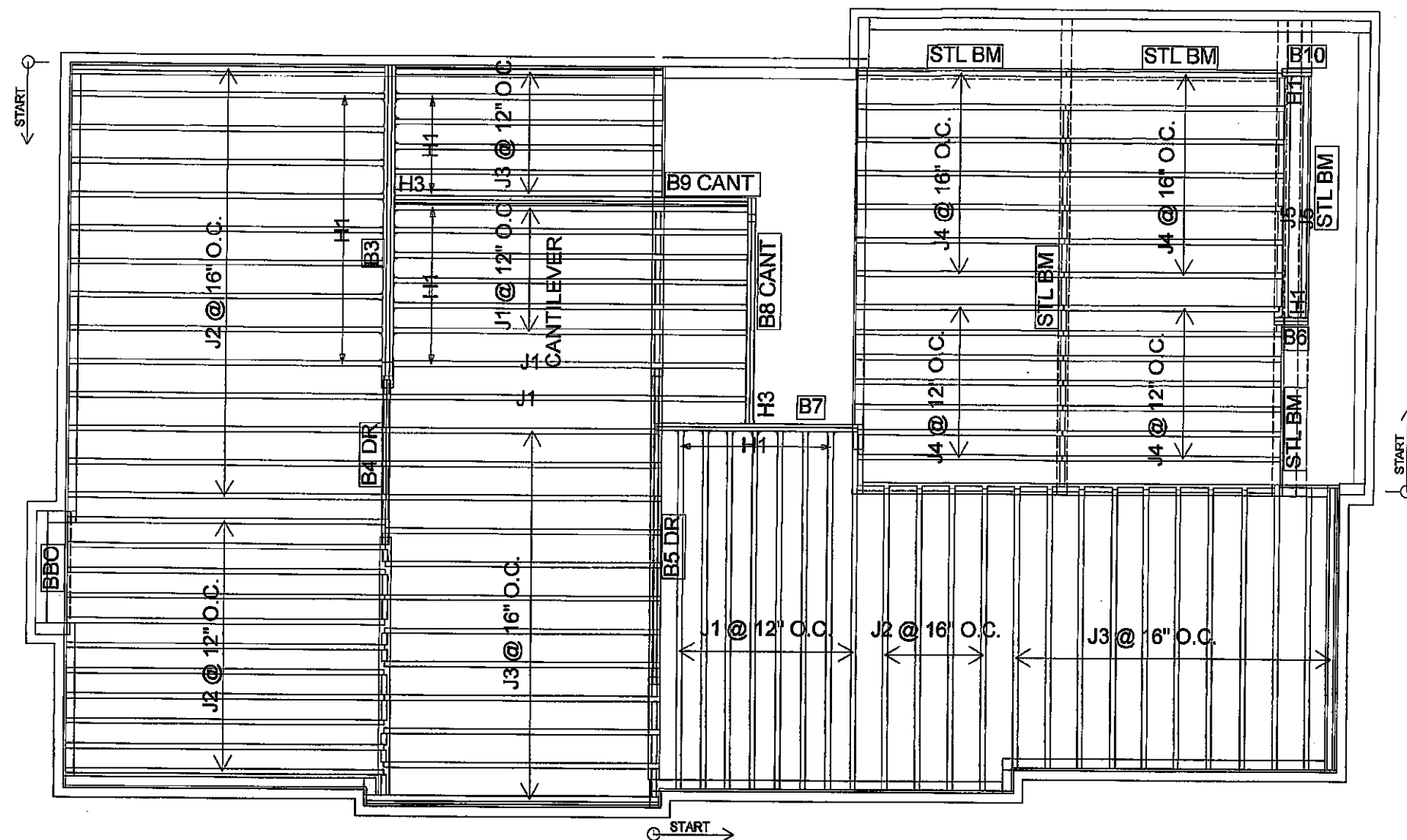


Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	21
J2 DJ	14-00-00	9 1/2" NI-40x	2	10
J3	12-00-00	9 1/2" NI-40x	1	36
J3 DJ	12-00-00	9 1/2" NI-40x	2	2
J4	4-00-00	9 1/2" NI-40x	1	5
J5	2-00-00	9 1/2" NI-40x	1	6
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
6	H1	IUS2.56/9.5
10	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5

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

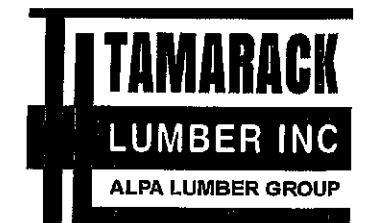




Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	16
J2	14-00-00	9 1/2" NI-40x	1	29
J3	12-00-00	9 1/2" NI-40x	1	29
J4	10-00-00	9 1/2" NI-40x	1	28
J5	10-00-00	9 1/2" NI-40x	1	2
B9 CANT	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B5 DR	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B7	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8 CANT	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4 DR	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B6	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/9.5
21	H1	IUS2.56/9.5
1	H3	HGUS410
1	H3	HGUS410

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



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: M D

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

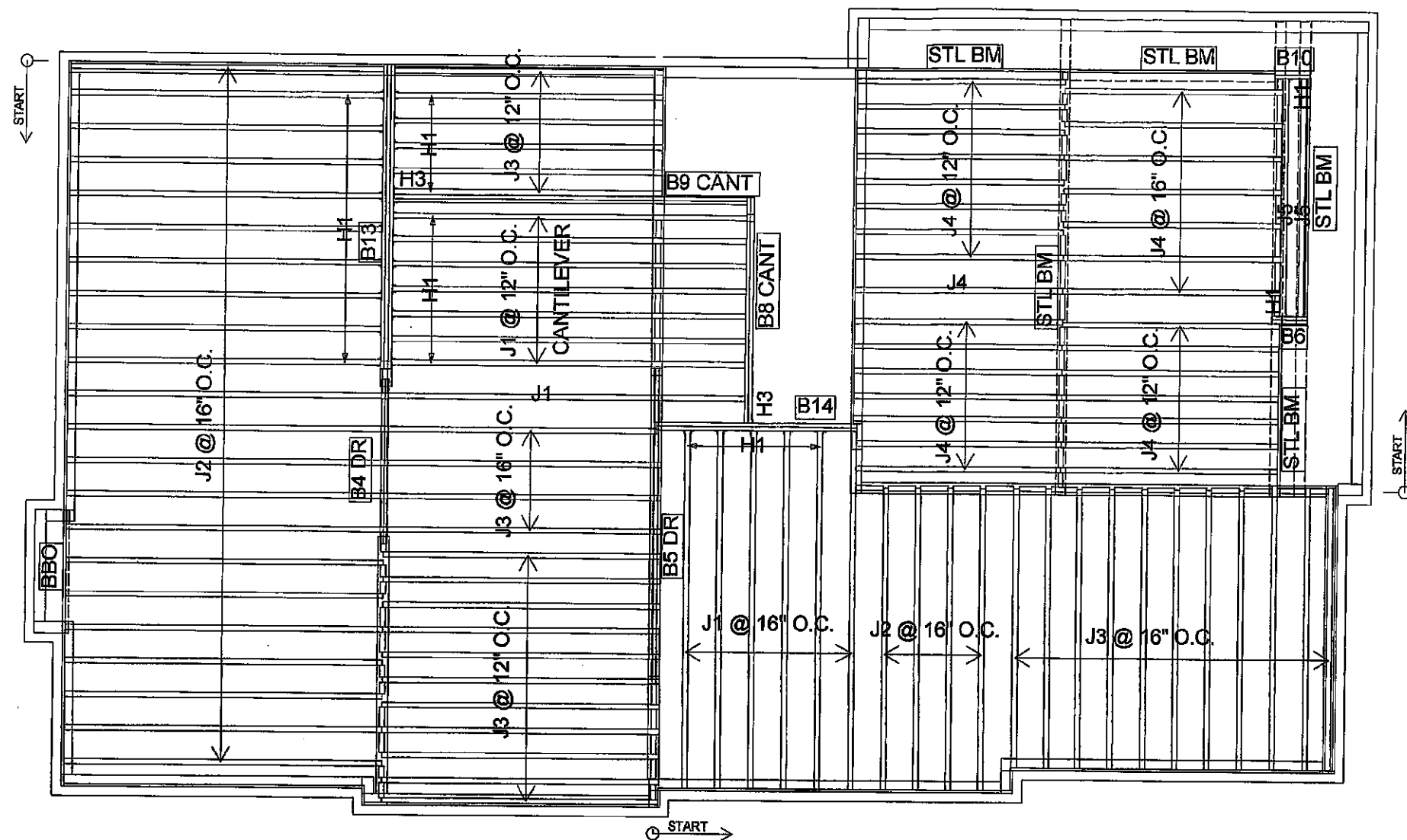
TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-02-28

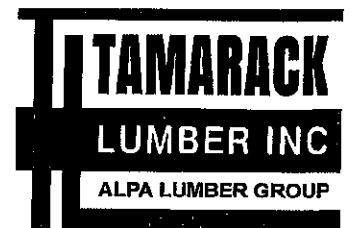
2nd FLOOR

STANDARD



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	14
J2	14-00-00	9 1/2" NI-40x	1	26
J3	12-00-00	9 1/2" NI-40x	1	32
J4	10-00-00	9 1/2" NI-40x	1	30
J5	10-00-00	9 1/2" NI-40x	1	2
B9 CANT	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B5 DR	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B14	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8 CANT	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4 DR	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B6	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
21	H1	IUS2.56/9.5
1	H3	HGUS410
1	H3	HGUS410



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: M D

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

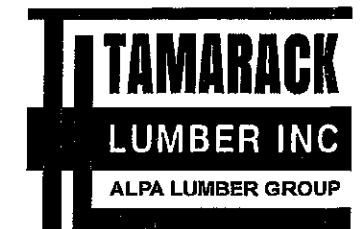
TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-02-28

2nd FLOOR

OPTIONAL 5 BEDROOM



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

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

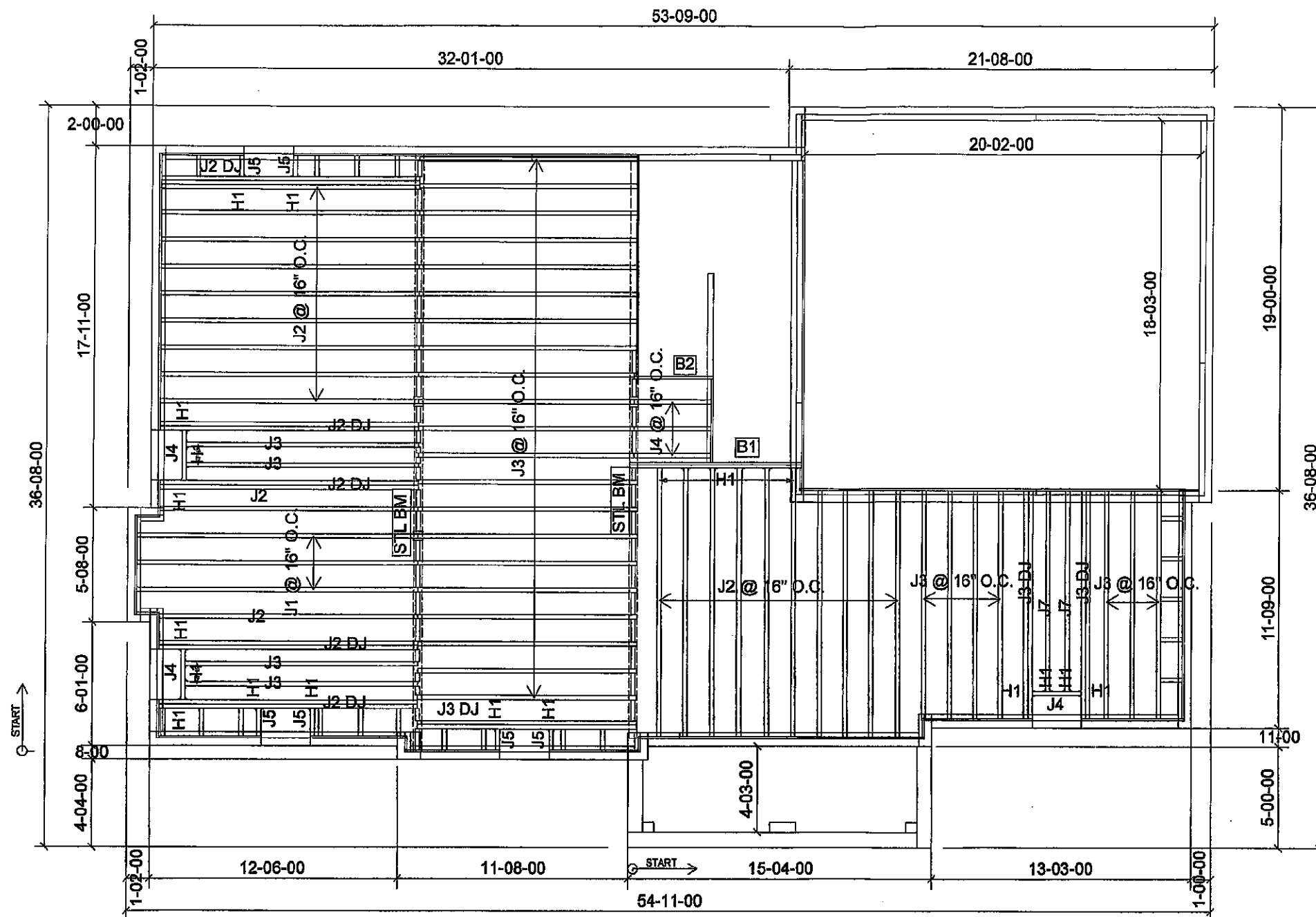
DEAD LOAD: 15.0 lb/ft²

TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-02-28

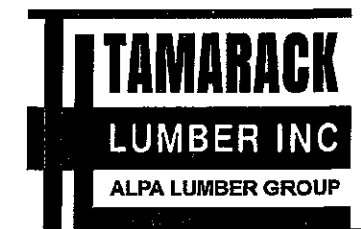
1st FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	21
J2 DJ	14-00-00	9 1/2" NI-40x	2	10
J3	12-00-00	9 1/2" NI-40x	1	32
J3 DJ	12-00-00	9 1/2" NI-40x	2	6
J7	10-00-00	9 1/2" NI-40x	1	2
J4	4-00-00	9 1/2" NI-40x	1	6
J5	2-00-00	9 1/2" NI-40x	1	6
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
6	H1	IUS2.56/9.5
12	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5

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



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

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

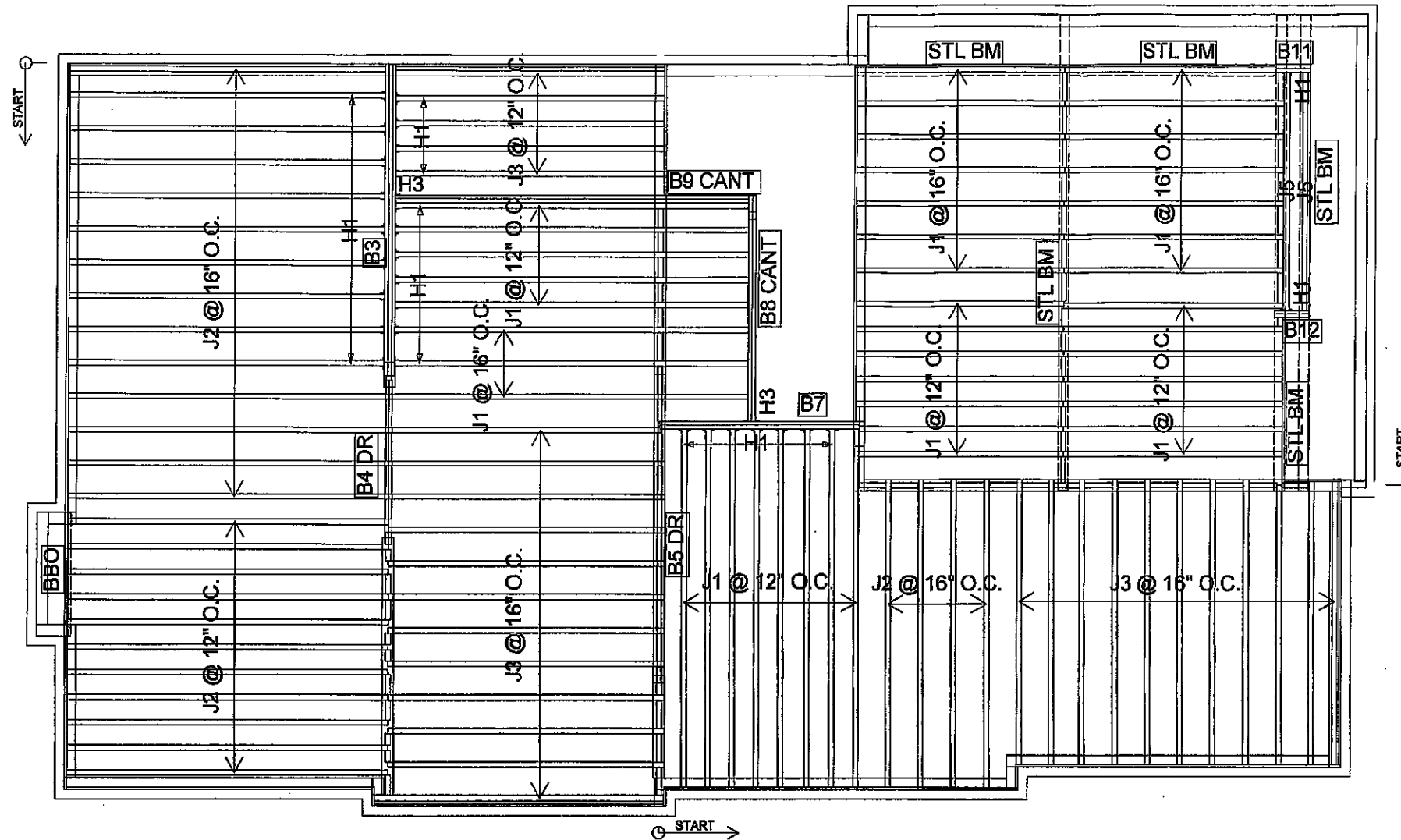
TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-02-28

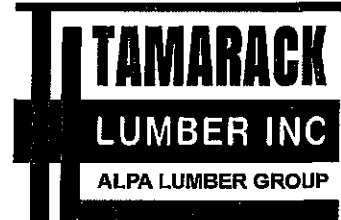
2nd FLOOR

STANDARD



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	16
J2	14-00-00	9 1/2" NI-40x	1	29
J3	12-00-00	9 1/2" NI-40x	1	28
J1	10-00-00	9 1/2" NI-40x	1	28
J5	10-00-00	9 1/2" NI-40x	1	2
B9 CANT	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B5 DR	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B7	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8 CANT	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4 DR	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/9.5
20	H1	IUS2.56/9.5
1	H3	HGUS410
1	H3	HGUS410



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

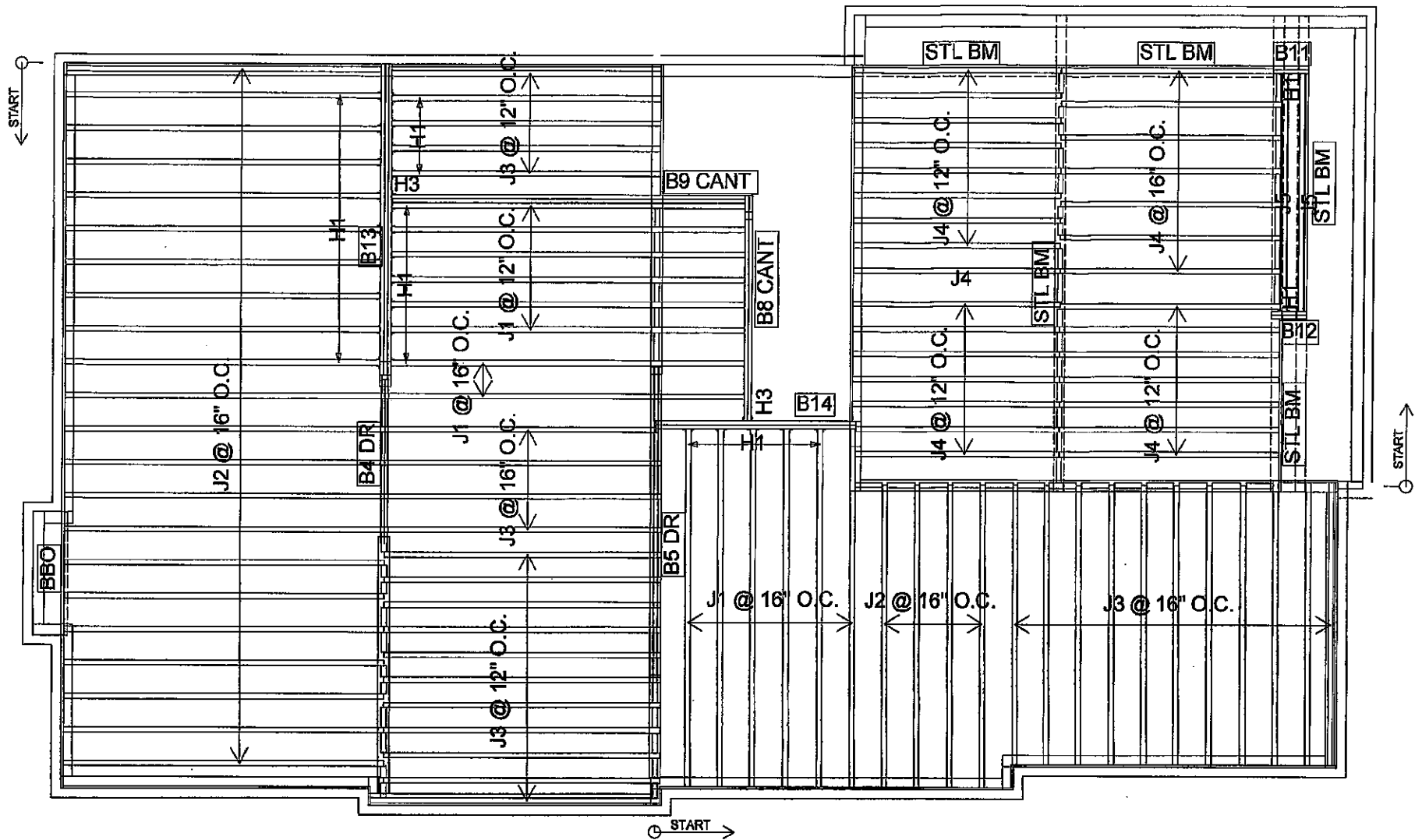
NOTES:
REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** 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: 2019-02-28

2nd FLOOR

OPTIONAL 5 BEDROOM CONDITION



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	14
J2	14-00-00	9 1/2" NI-40x	1	26
J3	12-00-00	9 1/2" NI-40x	1	31
J4	10-00-00	9 1/2" NI-40x	1	30
J5	10-00-00	9 1/2" NI-40x	1	2
B9 CANT	16-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B13	14-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	3	3
B5 DR	14-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	3	3
B14	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B8 CANT	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B4 DR	8-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B11	2-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B12	2-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
20	H1	IUS2.56/9.5
1	H3	HGUS410
1	H3	HGUS410

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



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: M D

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

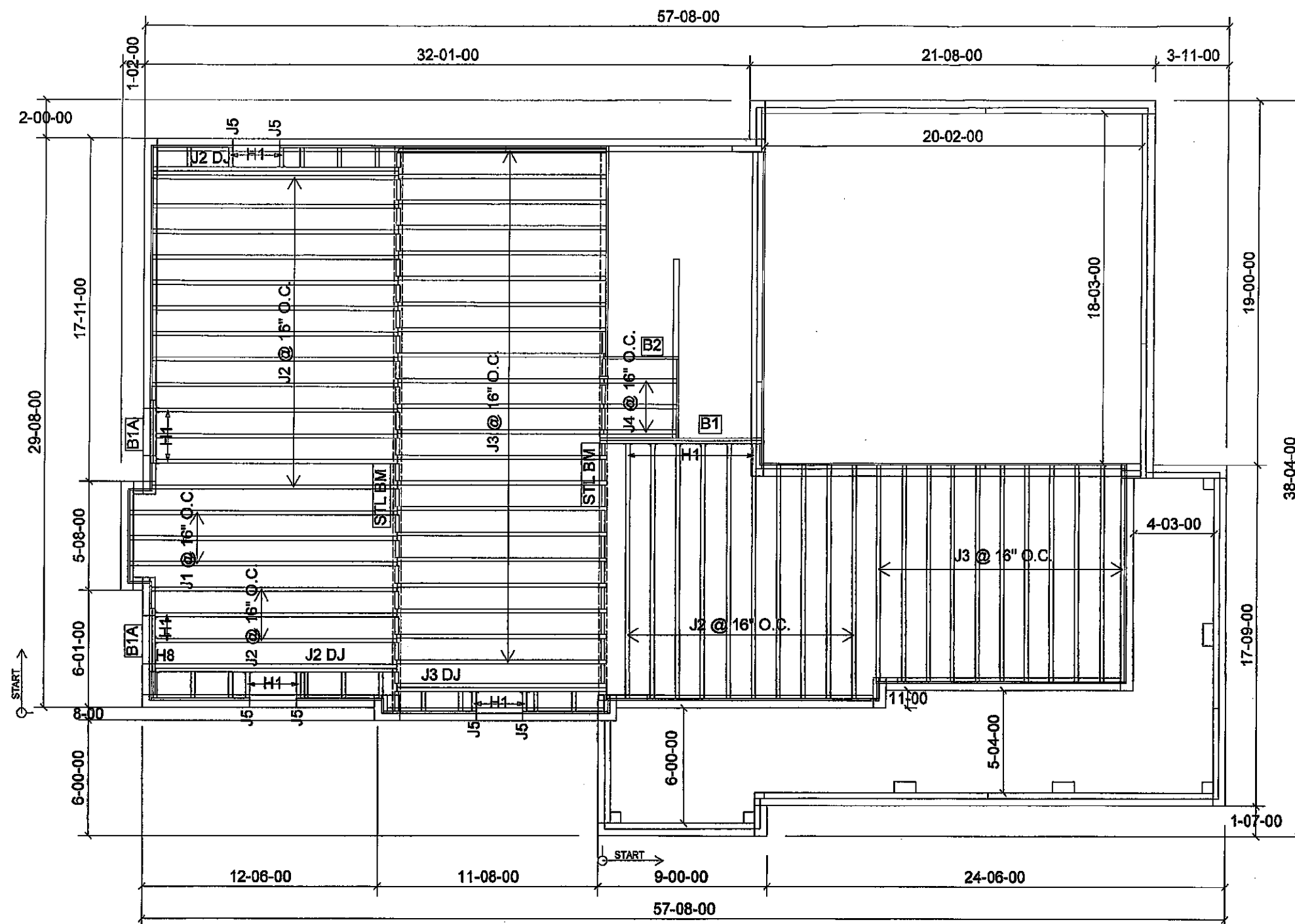
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-02-28

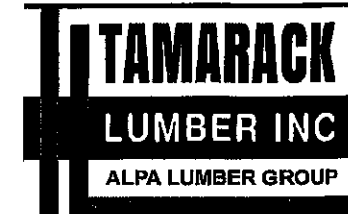
1st FLOOR

WITH DECK



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	26
J2 DJ	14-00-00	9 1/2" NI-40x	2	4
J3	12-00-00	9 1/2" NI-40x	1	32
J3 DJ	12-00-00	9 1/2" NI-40x	2	2
J4	4-00-00	9 1/2" NI-40x	1	3
J5	2-00-00	9 1/2" NI-40x	1	6
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B1A	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	4

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
1	H8	HU310-2



FROM PLAN DATED: SEPT 26 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: PRESTON 11

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

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

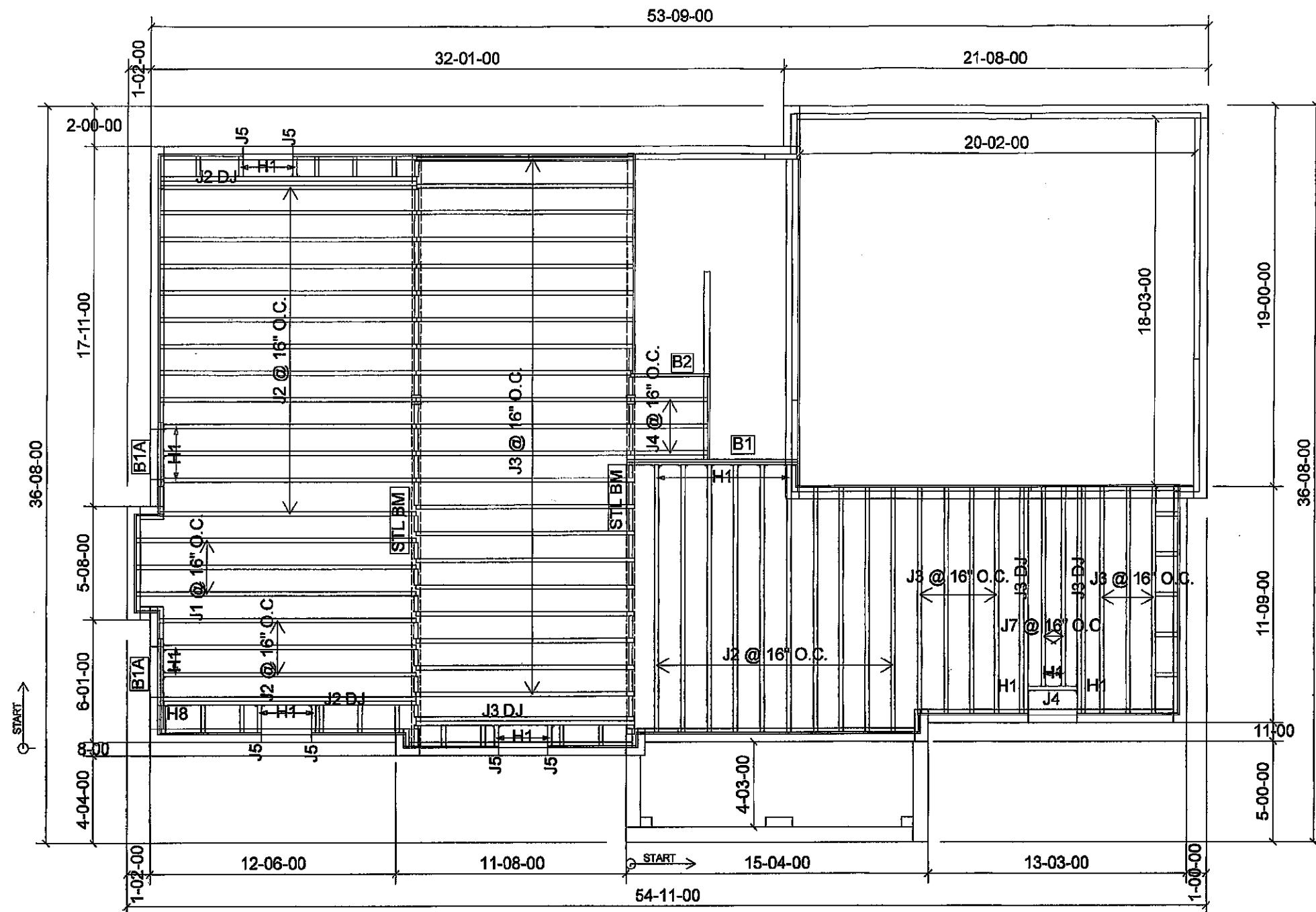
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-02-28

1st FLOOR

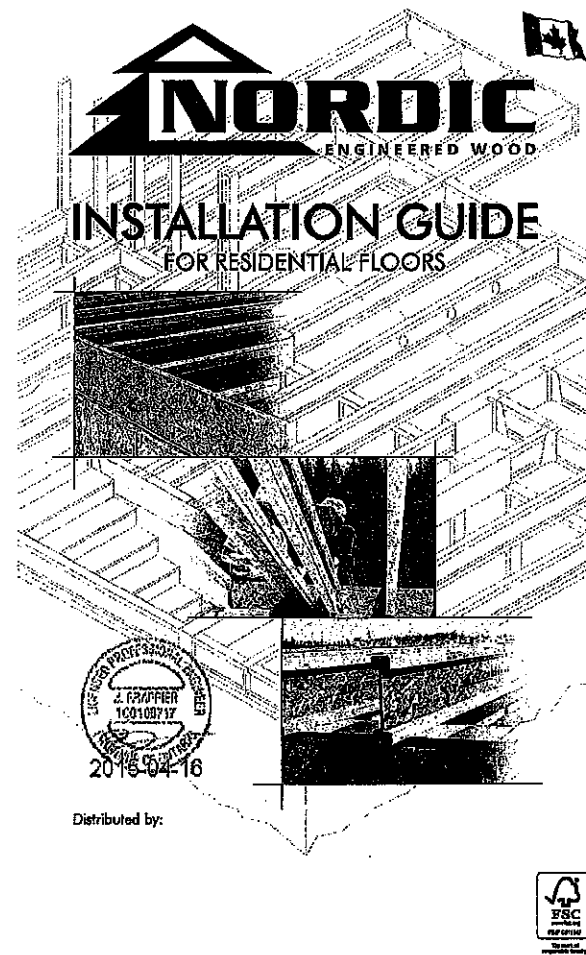
WITH DECK



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	26
J2 DJ	14-00-00	9 1/2" NI-40x	2	4
J3	12-00-00	9 1/2" NI-40x	1	28
J3 DJ	12-00-00	9 1/2" NI-40x	2	6
J7	10-00-00	9 1/2" NI-40x	1	2
J4	4-00-00	9 1/2" NI-40x	1	4
J5	2-00-00	9 1/2" NI-40x	1	6
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B1A	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	4

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
1	H8	HU310-2

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



NORDIC / November 2014

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on joists until fully fastened and braced, or serious injuries can result.



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

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

STORAGE AND HANDLING GUIDELINES

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



MAXIMUM FLOOR SPANS

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

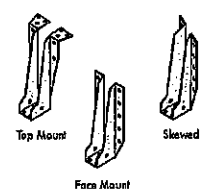
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

Joist Depth	Joist Series	Simple spans				Multiple spans			
		On centre spacing	12"	14"	16"	On centre spacing	12"	14"	16"
9-1/2"	NI-20	19.2"	14.2'	13.9'	13.5'	16.3'	15.4'	14.10'	14.7'
	NI-40	16.1"	15.2'	14.8'	14.4'	17.5'	16.5'	15.10'	15.8'
	NI-60	14.3"	13.4'	13.1'	12.7'	15.7'	14.7'	13.40'	14.1'
11-7/8"	NI-20	17.3"	16.3'	15.9'	15.5'	18.10'	17.4'	16.11'	17.0'
	NI-40	16.1"	16.0'	15.5'	15.1'	17.3'	16.3'	15.0'	15.8'
	NI-60	14.3"	13.4'	13.1'	12.7'	15.7'	14.7'	13.40'	14.1'
14"	NI-20	18.1"	17.0'	16.5'	16.1'	20.3'	18.9'	18.0'	18.1'
	NI-40	16.1"	16.0'	15.5'	15.1'	17.3'	16.3'	15.0'	15.8'
	NI-60	14.3"	13.4'	13.1'	12.7'	15.7'	14.7'	13.40'	14.1'
16"	NI-20	20.2"	18.7'	18.1'	17.1'	22.3'	20.7'	19.8'	19.9'
	NI-40	16.1"	16.0'	15.5'	15.1'	17.3'	16.3'	15.0'	15.8'
	NI-60	14.3"	13.4'	13.1'	12.7'	15.7'	14.7'	13.40'	14.1'

CCMC EVALUATION REPORT 13032-R

I-JOIST HANGERS

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



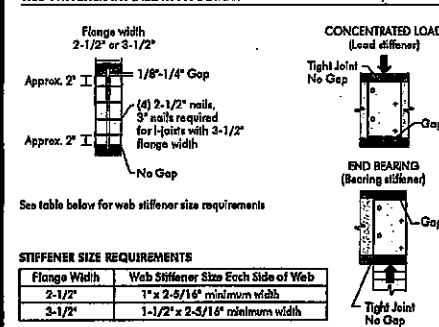
WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist construction table found in the I-joist 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 flange. The gap between the stiffener and the 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 to 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.

SI units conversion: 1 inch = 25.4 mm

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS



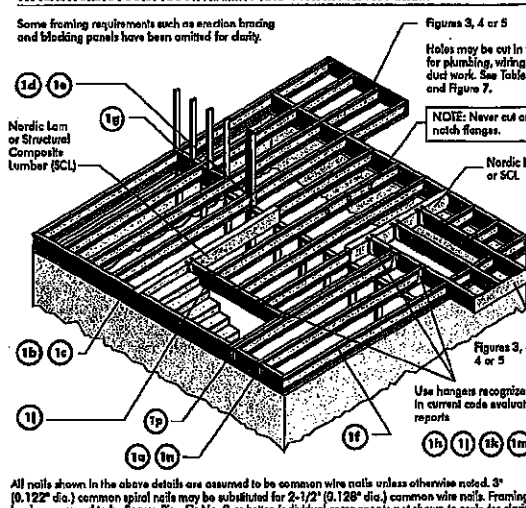
See table below for web stiffener size requirements

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

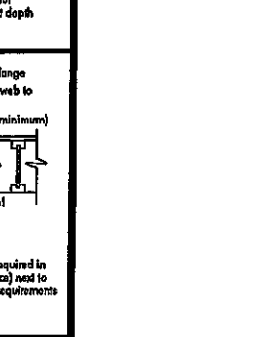
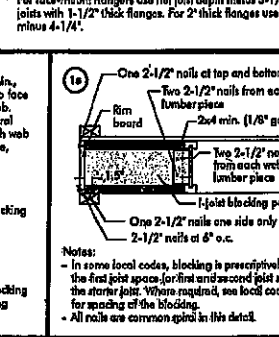
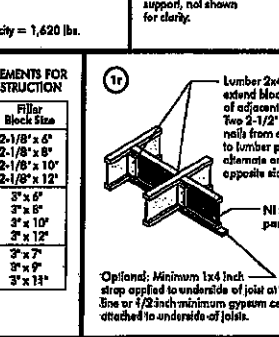
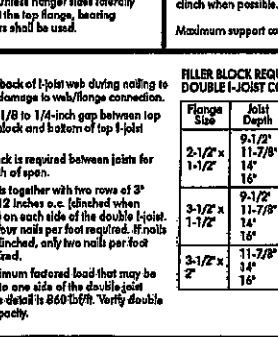
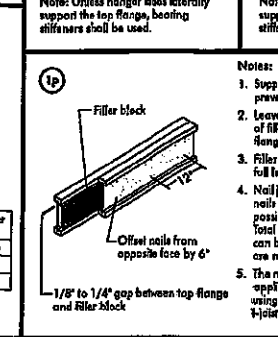
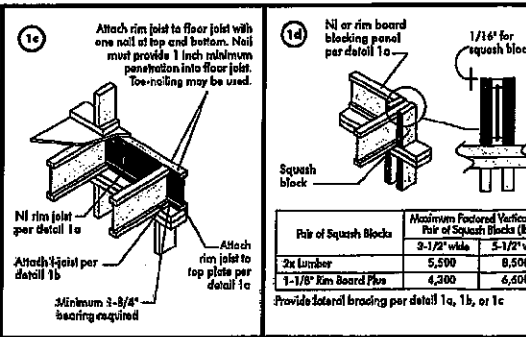
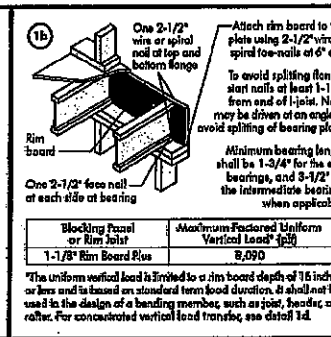
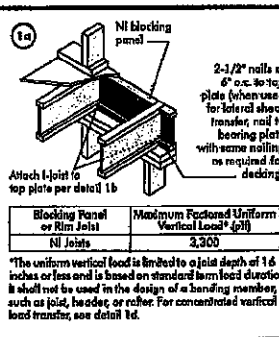
INSTALLING NORDIC I-JOISTS

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

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



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



The uniform vertical load is limited to a joist depth of 14 inches or less and is based on standard term load duration. It shall not be used in the design of a bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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 bearing member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



Refer to the Installation Guide for Residential Floors for additional information.
CMC 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.
- I-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 an I-joint web shall equal the clear distance between the flanges of the I-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 I-joint flange.

- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- 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 (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	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---	---
	N1-70	2-0"	3-4"	4-9"	6-3"	8-0"	8-4"	---	---	---	---	---	---
	N1-80	2-8"	3-6"	5-0"	6-4"	8-0"	8-4"	---	---	---	---	---	---
11-7/8"	N1-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-9"	---	---	---
	N1-40x	0-7"	0-8"	1-3"	2-6"	4-0"	4-4"	5-5"	7-0"	8-4"	---	---	---
	N1-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---
	N1-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-3"	8-4"	10-0"	11-2"	---	---	---
	N1-80	1-4"	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"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-60	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-70	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-80	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
16"	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"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-60	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-70	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	N1-80	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---

- Above table may be used for I-joint spacing of 24 inches on centre 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 I-joints being used of their minimum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

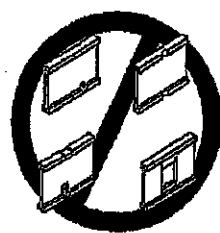
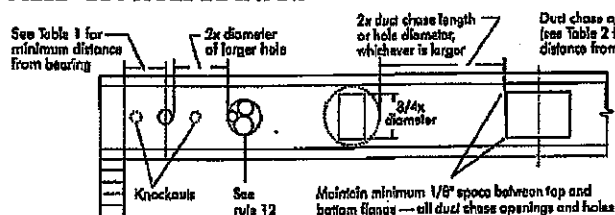
TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum Distance from Inside Face of Supports to Centre of Opening (in.)											
		Duct Chase Length (in.)											
9-1/2"	N1-20	4-1"	4-5"	4-10"	5-4"	6-9"	8-9"	10-2"	11-4"	12-2"	13-0"	14-0"	15-0"
	N1-40x	5-8"	6-0"	6-0"	6-0"	6-0"	6-0"	6-0"	6-0"	6-0"	6-0"	6-0"	6-0"
	N1-60	5-4"	5-8"	6-2"	6-7"	7-1"	7-5"	8-0"	8-3"	8-9"	9-4"	9-4"	9-4"
	N1-70	5-1"	5-8"	5-10"	6-3"	6-7"	7-1"	7-5"	8-1"	8-1"	8-1"	8-1"	8-1"
	N1-80	6-2"	6-8"	6-8"	6-8"	6-8"	6-8"	6-8"	6-8"	6-8"	6-8"	6-8"	6-8"
11-7/8"	N1-20	5-9"	6-2"	7-1"	7-5"	7-9"	8-3"	8-9"	9-4"	9-4"	9-4"	9-4"	9-4"
	N1-40x	6-8"	7-2"	7-6"	8-1"	8-6"	9-1"	9-6"	10-1"	10-6"	11-0"	11-0"	11-0"
	N1-60	6-8"	7-2"	7-6"	8-1"	8-6"	9-1"	9-6"	10-1"	10-6"	11-0"	11-0"	11-0"
	N1-70	7-1"	7-4"	7-9"	8-3"	8-7"	9-1"	9-6"	10-1"	10-6"	11-0"	11-0"	11-0"
	N1-80	7-2"	7-7"	8-2"	8-6"	9-0"	9-4"	9-8"	10-2"	10-6"	11-0"	11-0"	11-0"
14"	N1-20	7-6"	7-11"	8-5"	9-9"	9-2"	9-7"	10-1"	10-6"	11-0"	11-4"	11-8"	12-2"
	N1-40x	8-1"	8-7"	9-1"	9-6"	10-1"	10-6"	11-0"	11-4"	11-8"	12-2"	12-6"	13-0"
	N1-60	8-9"	9-3"	9-8"	10-1"	10-6"	11-0"	11-4"	11-8"	12-2"	12-6"	13-0"	13-4"
	N1-70	8-7"	9-1"	9-5"	9-10"	10-4"	10-8"	11-2"	11-6"	12-0"	12-4"	12-8"	13-2"
	N1-80	9-0"	9-3"	9-8"	10-1"	10-6"	11-0"	11-4"	11-8"	12-2"	12-6"	13-0"	13-4"
16"	N1-20	9-2"	9-8"	10-6"	10-6"	10-6"	10-6"	10-6"	10-6"	10-6"	10-6"	10-6"	10-6"
	N1-40x	9-4"	9-8"	10-2"	10-7"	11-1"	11-5"	11-9"	12-3"	12-7"	13-1"	13-5"	13-9"
	N1-60	10-3"	10-8"	11-2"	11-6"	12-0"	12-4"	12-8"	13-2"	13-6"	14-0"	14-4"	14-8"
	N1-70	10-1"	10-5"	11-0"	11-4"	11-8"	12-2"	12-6"	13-0"	13-4"	13-8"	14-2"	14-6"
	N1-80	10-4"	10-9"	11-3"	11-7"	12-1"	12-5"	12-9"	13-3"	13-7"	14-1"	14-5"	14-9"

- Above table may be used for I-joint spacing of 24 inches on centre or less.
- Duct chase opening location distance is measured from inside face of supports to centre of opening.
- The above table is based on single-span joists only. For other applications, contact your local distributor.
- Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of 1/480.
- The above table is based on the I-joints being used of their minimum 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 precast 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 centre along the length of the I-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. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joint.

SAFETY AND CONSTRUCTION PRECAUTIONS



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



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

WARNING: I-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 I-joint as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joist ends. When I-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 flange of the I-joint. Until this sheathing is applied, temporary bracing, often called chairs, or temporary sheathing must be applied to prevent I-joint rollover or buckling.
- Temporary bracing or sheathing must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joint. Nail the bracing to a lateral restraint at the end of each bay. Top ends of adjoining bracing over at least two I-joints.
- On sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joints at the end of the bay.
- For cantilevered I-joints, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
- Install and fully nail permanent sheathing to each I-joint before placing loads on the floor system. Then, stack building materials over beams or walls only.
- Never install a damaged I-joint.

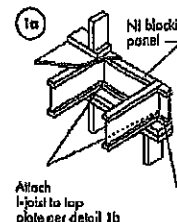
Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joints, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines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



PRODUCT WARRANTY

Chantrelle Shoukran guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

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

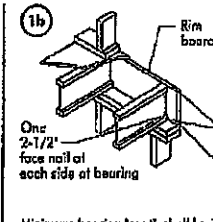


Blocking Panel or Rim Joist
Maximum Factored Uniform Vertical Load* (plf)

1-1/8" Rim Board Plus	8,090
-----------------------	-------

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

2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)



Rim board
Maximum Factored Uniform Vertical Load* (plf)

1-1/8" Rim Board Plus	8,090
-----------------------	-------

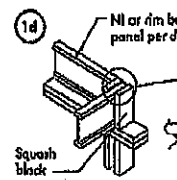
*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

One 2-1/2" wire or spiral nail at top and bottom flange

Attach rim board to top plate using 2-1/2" wire or spiral nails at 6" o.c.

To avoid splitting flange, start nails at least 1-1/2" from end of I-joint. Nails may be driven at an angle to avoid splitting of bearing plate.

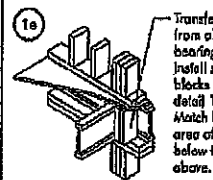
Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.



NI or rim board blocking panel per detail 1a
Pair of Squash Blocks
Maximum Factored Uniform Vertical Load per Pair of Squash Blocks (lb)

2x Lumber	5,500
1-1/8" Rim Board Plus	4,300
1-1/8" Rim Board Plus	6,600

Provide lateral bracing per detail 1a or 1b



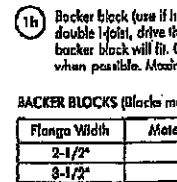
Transfer load from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above.

Joist attachment per detail 1b

Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail.

Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over support

NI blocking panel per detail 1a



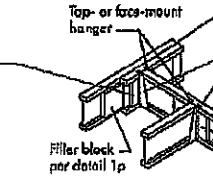
Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joint, drive three additional 3" nails through the web and filler block where the backer block will fit. Check install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

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

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

* Minimum grade for backer block material shall be S-PF No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C308 or CAN/CSA-C137 Standard.

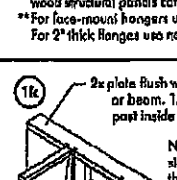
** For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".



Top- or face-mount hanger
Double I-joint header
NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Backer block required (both sides for face-mount hangers)

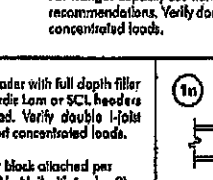
For hanger capacity see hanger manufacturer's recommendations. Verify double I-joint capacity to support concentrated loads.



2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

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

Top-mount hanger installed per manufacturer's recommendations

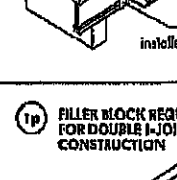


Multiple I-joint header with full depth filler block shows. Nordic Lam or SCL headers may also be used. Verify double I-joint capacity to support concentrated loads.

Backer block attached per detail 1b. Nail with twelve 3" nails, clinched when possible.

Install hanger per manufacturer's recommendations

Maximum support capacity = 1,620 lbs.

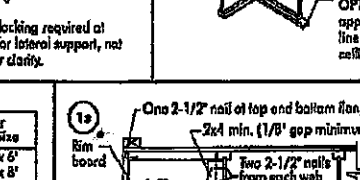


FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOINT CONSTRUCTION

NOTES:

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

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



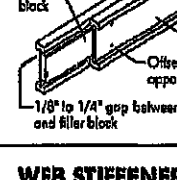
One 2-1/2" nail at top and bottom flange

2x4 min. (1/8" gap minimum)

Two 2-1/2" nails from each web to lumber piece

NI blocking panel

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



1/8" to 1/4" gap between top flange and filler block

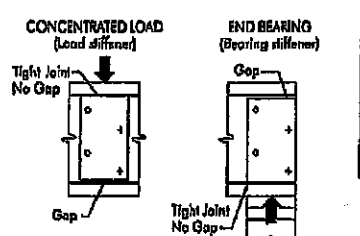
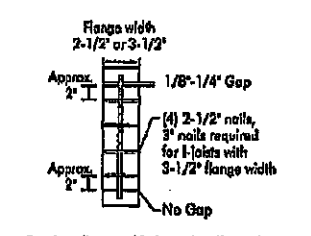
Offset nails from opposite face by 6"

WEB STIFFENERS

RECOMMENDATIONS:

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





Boles Cascade



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

PASSED

BC CALCO Member Report
Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 6, 2018 13:46:06

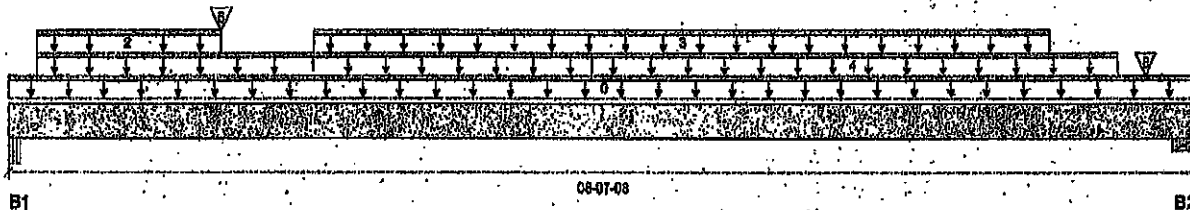
File name: PRESTON 11.mmdf

Description: 1ST FLOOR FRAMING\Flush Beams\B1(12237)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 08-07-08

Reaction Summary (Down / Uplift) (lbs)

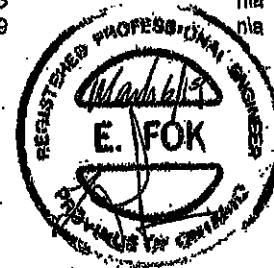
Bearing	Live	Dead	Snow	Wind
B1, 5"	1,262 / 0	675 / 0		
B2, 3-1/2"	2,064 / 0	1,129 / 0		

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	08-07-08	Top	1.00	10	1.00	1.18	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-08	04-02-08	Top	0	5			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-08	01-08-08	Top	35	18			n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	02-02-08	07-08-08	Top	269	135			n/a
4	STAIRS	Unf. Lin. (lb/ft)	L	04-02-08	08-00-08	Top	240	120			n/a
5	J2(12190)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	336	168			n/a
6		Conc. Pt. (lbs)	L	08-03-00	08-03-00	Top	626	319			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7,105 ft-lbs	23,220 ft-lbs	30.6%	1	04-08-08
End Shear	3,438 lbs	11,571 lbs	29.7%	1	07-08-08
Total Load Deflection	L/999 (0.116")	n/a	n/a	4	04-05-08
Live Load Deflection	L/999 (0.076")	n/a	n/a	5	04-05-08
Max Defl.	0.116"	n/a	n/a	4	04-05-08
Span / Depth	10.2				



Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5" x 3-1/2"	2,737 lbs	29.3%	12.8%	Unspecified
B2 Wall/Plate	3-1/2" x 3-1/2"	4,508 lbs	68.9%	30.2%	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.

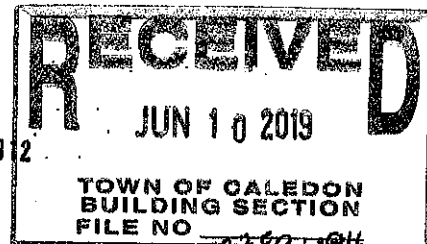
BC CALCO analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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.

CONFORMS TO UBC 2012

STRUCTURAL
COMPONENT ONLY

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

T-190KAP



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

PASSED

BC CALC® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: GCMG 12472-R

Dry | 1 span | No cant.

November 8, 2018 13:46:08

File name: PRESTON 11.mmdl

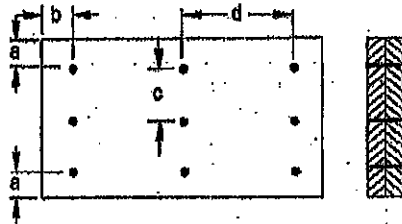
Description: 1ST FLOOR FRAMING\Flush Beams\B1(i2237)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 2-3/4"
d = 6"

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

Connectors are: 1. Nails

3/4" 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™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,
DWG NO. YAM 3390-18H
STRUCTURAL
COMPONENT ONLY
p624
T-1903K44675



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

PASSED

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 6, 2018 13:46:08

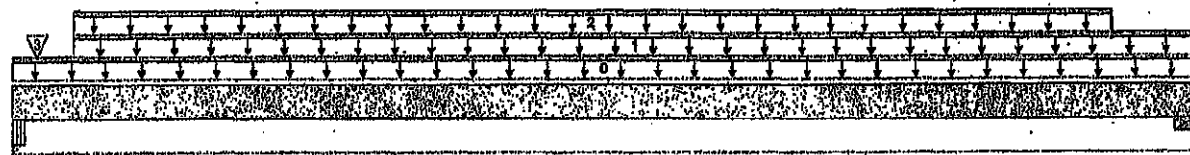
File name: PRESTON 11.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B2\12365

Specifier:

Designer: PL

Company:



B1

04-00-00

B2

Total Horizontal Product Length = 04-00-00

Reaction Summary (Down / Uplift) (lbs)

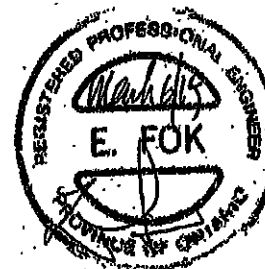
Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	516 / 0	279 / 0		
B2, 3-1/2"	472 / 0	246 / 0		

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	04-00-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-08	04-00-00	Top	28	13			n/a
2	STAIRS	Unf. Lin. (lb/ft)	L	00-02-08	03-08-08	Top	240	120			n/a
3	7(1449)	Conc. Pt. (lbs)	L	00-01-00	00-01-00	Top	51	37			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	936 ft-lbs	11,610 ft-lbs	8.1%	1	01-11-08
End Shear	647 lbs	5,785 lbs	9.4%	1	01-00-00
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	01-11-08
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	01-11-08
Max Defl.	0.008"	n/a	n/a	4	01-11-08
Span / Depth	4.6				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-1/2" x 1-3/4"	1,122 lbs	48.0%	21.0%	Unspecified
B2 Wall/Plate	3-1/2" x 1-3/4"	1,016 lbs	31.1%	13.6%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO DBC 2012

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.

BWU NO. TAN 3391-184
STRUCTURAL
COMPONENT ONLY

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

T. 193405



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

2ND FLOOR FRAMING (Flush Beams) B9 CANT (I2465)

PASSED

November 6, 2018 13:46:08

BC CALCO Member Report

Buld 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | R cant.

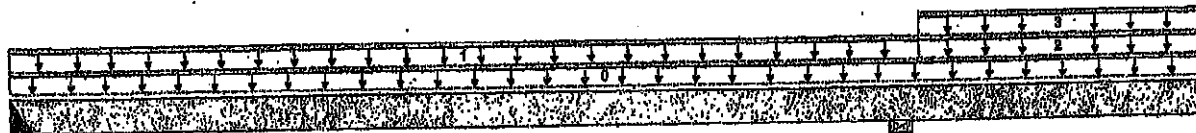
File name: PRESTON 11.mmdl

Description: 2ND FLOOR FRAMING (Flush Beams) B9 CANT (I2465)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	65 / 166	2 / 0		
B2, 5-1/2"	1,086 / 0	624 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-04-10	Top	1.00	0.68	1.00	1.18	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-11-14	Top	12	6			n/a
2	STAIRS	Unf. Lin. (lb/ft)	L	10-11-14	14-04-10	Top	240	120			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	10-11-14	14-04-10	Top	9	5			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	128 ft-lbs	23,220 ft-lbs	0.6%	5	03-01-12
Neg. Moment	-3,546 ft-lbs	-23,220 ft-lbs	15.3%	1	10-09-02
End Shear	225 lbs	11,571 lbs	1.9%	6	01-01-08
Cont. Shear	1,411 lbs	11,571 lbs	12.2%	1	11-09-08
Total Load Deflection	2xL/673 (0.129")	n/a	35.6%	10	14-04-10
Live Load Deflection	2xL/1,998 (0.09")	n/a	n/a	13	14-04-10
Total Neg. Defl.	L/999 (-0.053")	n/a	n/a	10	08-08-02
Max Defl.	-0.053"	n/a	n/a	10	08-08-02
Span / Depth	13.2				



Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 4" x 3-1/2"	99 lbs	n/a	0.6%	HGUS410
B1	Uplift	232 lbs			
B2	Wall/Plate 5-1/2" x 3-1/2"	2,380 lbs	23.2%	10.1%	Unspecified

Cautions

Uplift of 232 lbs found at span 1 - Left.
 Hanger B1 cannot handle uplift of -232 lbs.) - (SIMPSON HGUS410 (0.31)
 Header for the hanger HGUS410 at B1 is a Triple 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.
 Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

DRG NO. TAM 3396-18H
 STRUCTURAL
 COMPONENT ONLY

T. V. ROUSO



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING (Flush Beams) B9 CANT (12486)
Dry | 2 spans | R cant.

PASSED

November 6, 2018 13:46:06

BC CALCO® Member Report
Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: PRESTON 11.mmdl

Description: 2ND FLOOR FRAMING (Flush Beams) B9 CANT (12486)

Specifier:

Designer: PL

Company:

Notes

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

Design meets User specified (2xL/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 Q86.

CONFORMS TO OBC 2012

BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2016 and CSA Q86.

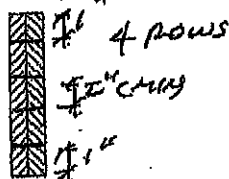
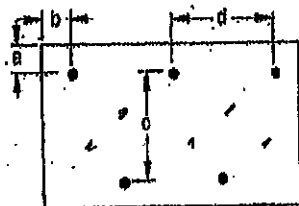
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Member has no side loads.

Connection Diagram: Full Length of Member



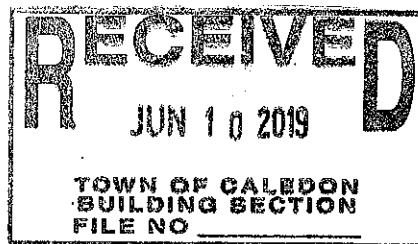
a minimum = 1/2"
b minimum = 3"

c = 7-1/2"
d = 12"

Member has no side loads.

Connectors are: Nails

3 1/2" 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.

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

USE NO. YAM 3396-174
STRUCTURAL
COMPONENT ONLY

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

T-190450(1)



Triple 1-3/4" x 8-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B3(12462)

Dry | 1 span | No cant.

November 8, 2018 13:46:08

BC CALC® Member Report

Build 6478

Job name:

File name: PRESTON 11.mmdl

Address:

Description: 2ND FLOOR FRAMING\Flush Beams\B3(12462)

City, Province, Postal Code: CALEDON

Specifier:

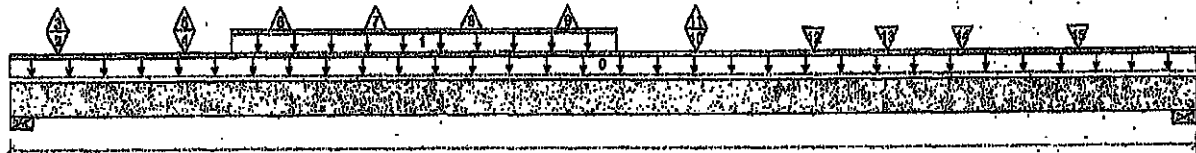
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



B1

12-05-00

B2

Total Horizontal Product Length = 12-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6-1/2"	3,102 / 211	1,556 / 0		
B2, 6-1/2"	2,613 / 133	1,355 / 0		

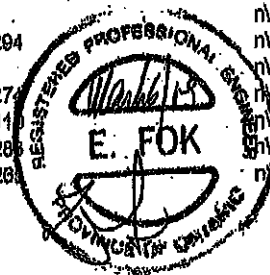
Load Summary

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	12-05-00	Top		14			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-03-15	08-03-15	Top	481	228			n/a
2		Conc. Pt. (lbs)	L	00-06-00	00-06-00	Top	644	303			n/a
3		Conc. Pt. (lbs)	L	00-06-00	00-06-00	Top	-38				n/a
4		Conc. Pt. (lbs)	L	01-10-00	01-10-00	Top	607	287			n/a
5		Conc. Pt. (lbs)	L	01-10-00	01-10-00	Top	-33				n/a
6	J1(12695)	Conc. Pt. (lbs)	L	02-09-15	02-09-15	Top	-28				n/a
7	J1(12693)	Conc. Pt. (lbs)	L	03-09-15	03-09-15	Top	-28				n/a
8	J1(12688)	Conc. Pt. (lbs)	L	04-09-15	04-09-15	Top	-28				n/a
9	J1(12681)	Conc. Pt. (lbs)	L	05-09-15	05-09-15	Top	-27				n/a
10		Conc. Pt. (lbs)	L	07-01-15	07-01-15	Top	672	294			n/a
11		Conc. Pt. (lbs)	L	07-01-15	07-01-15	Top	-182				n/a
12		Conc. Pt. (lbs)	L	08-04-08	08-04-08	Top	546	274			n/a
13	J3(12684)	Conc. Pt. (lbs)	L	09-02-00	09-02-00	Top	221	110			n/a
14		Conc. Pt. (lbs)	L	09-11-09	09-11-09	Top	667	286			n/a
15		Conc. Pt. (lbs)	L	11-02-00	11-02-00	Top	631	281			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	17,088 ft-lbs	36,222 ft-lbs	47.1%	1	06-08-15
End Shear	6,691 lbs	17,366 lbs	32.2%	1	11-02-00
Total Load Deflection	L/360 (0.385")	n/a	65.6%	6	06-03-07
Live Load Deflection	L/642 (0.255")	n/a	68.4%	6	06-03-07
Max Defl.	0.385"	n/a	n/a	6	06-03-07
Span / Depth	14.6				

Bearing Supports	dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6-1/2" x 6-1/4"	6,508 lbs	38.2%	15.8%	Unspecified
B2	Wall/Plate 6-1/2" x 6-1/4"	5,613 lbs	38.4%	15.9%	Unspecified



REVIEWED BY 3393-18H
STRUCTURAL
COMPONENT ONLY

T-1903407



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

PASSED

BC CALC® Member Report
Build 6476

2ND FLOOR FRAMING\Flush Beams\B3(12482)

Dry | 1 span | No cant.

November 8, 2018 13:48:08

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

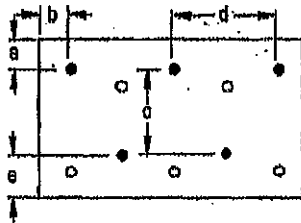
File name: PRESTON 11.mmdl
Description: 2ND FLOOR FRAMING\Flush Beams\B3(12482)
Specifier:
Designer: PL
Company:

Notes

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

CONFORMS TO NBC 2012

Connection Diagram: Full Length of Member

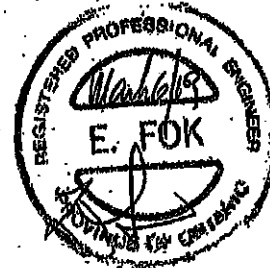


4 rows

a minimum = 2"
b minimum = 3"
c = 6 1/2"
d = 6"
e minimum = 2"

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.
Nailing schedule applies to both sides of the member.
Connectors are: 1 Nails

3/4" ARDUX SPIRAL



Disclosure

Use of the Boles 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 Boles 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)292-0788 before installation.

WOOD FRAM 3393-18H
STRUCTURAL
COMPONENT ONLY

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

T-19314761



Boles Cascade

**Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****2ND FLOOR FRAMING\Dropped Beams\B5 DR(12350)****PASSED**

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 6, 2018 13:46:06

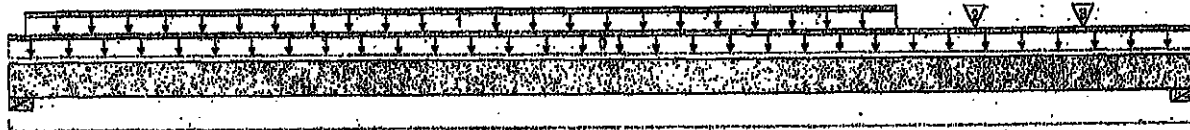
File name: PRESTON 11.mxd

Description: 2ND FLOOR FRAMING\Dropped Beams\B5 DR(12350)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 12-07-04

Reaction Summary (Down / Uplift) (lbs)

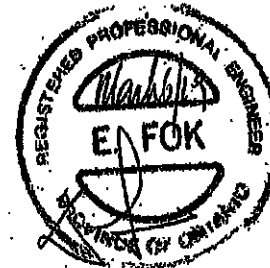
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,862 / 0	936 / 0		
B2, 3-1/2"	2,457 / 0	1,370 / 0		

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	12-07-04	Top	1.00	0.85	1.00	1.18	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-02-04	09-06-00	Top	222	111			n/a
2		Conc. Pl. (lbs)	L	10-03-02	10-03-02	Top	1,280	899			n/a
3	J1(12315)	Conc. Pl. (lbs)	L	11-05-00	11-05-00	Top	616	308			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	12,369 ft-lbs	36,222 ft-lbs	34.1%	1	07-06-00
End Shear	5,376 lbs	17,368 lbs	31.0%	1	11-06-04
Total Load Deflection	L/483 (0.315")	n/a	61.9%	4	06-08-00
Live Load Deflection	L/722 (0.202")	n/a	49.9%	5	08-09-00
Max Defl.	0.315"	n/a	n/a	4	08-09-00
Span / Depth	15.3				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 5-1/4"	3,862 lbs	24.5%	16.3%	Unspecified
B2	Wall/Plate 3-1/2" x 5-1/4"	5,398 lbs	36.2%	24.1%	Unspecified

Notes

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

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

Calculations assume unbraced length of Top: 00-06-13; Bottom: 00-06-13.

Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**

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.

Nailing schedule applies to both sides of the member.

Member has no side loads.

DWONG, TAN 3392-184
STRUCTURAL
COMPONENT ONLY
P672

T. 19/11/18



Boise Cascade

**Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****2ND FLOOR FRAMING/Dropped Beams/B5 DR(I2350)**

Dry | 1 span | No cant.

PASSED

November 6, 2018 13:48:08

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CGMC 12472-R

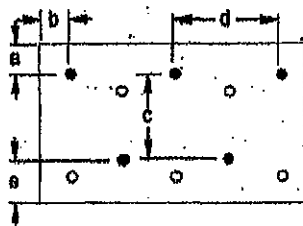
File name: PRESTON 11.mmdl

Description: 2ND FLOOR FRAMING/Dro...ed Beams/B5 DR(I2350)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member

4 rows

a minimum = 1"

b minimum = 3"

c = 6 1/2"

d = 8"

e minimum = 2"

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.

Nailing schedule applies to both sides of the member.

Member has no side loads.

Connectors are: Nails

3 1/2" 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.

DOWNLOADED FROM 3392186
STRUCTURAL
COMPONENT ONLY

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

16/11/18
T. 190310665

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLOOR FRAMING (Flush Beams) B7(12403)**

Dry | 1 span | No cant.

November 6, 2018 13:48:08

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

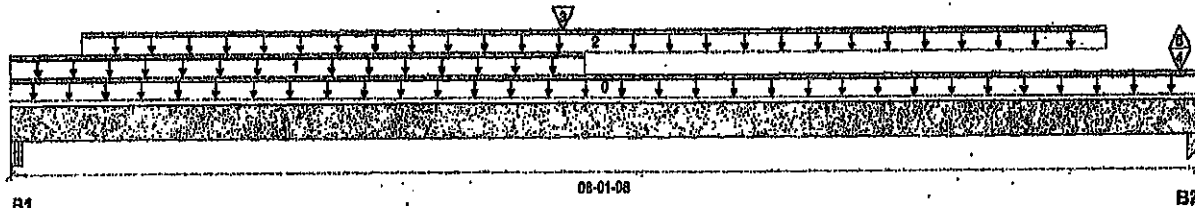
File name: PRESTON 11.mmdl

Description: 2ND FLOOR FRAMING (Flush Beams) B7(12403)

Specifier:

Designer: PL

Company:

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

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	1,084 / 0	802 / 0		
B2, 3"	1,316 / 9	710 / 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	08-01-08	Top	10	10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-11-00	Top	22	11			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-08-00	07-08-00	Top	289	144			n/a
3	B8 CANT (12414)	Conc. Pt. (lbs)	L	03-09-04	03-09-04	Top	39	39			n/a
4	J1(12423)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	287	139			n/a
5	J1(12423)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	-9				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6,031 ft-lbs	23,220 ft-lbs	21.7%	1	04-00-00
End Shear	2,310 lbs	11,571 lbs	20.0%	1	01-00-02
Total Load Deflection	L/999 (0.077")	n/a	n/a	8	04-00-00
Live Load Deflection	L/999 (0.049")	n/a	n/a	8	04-00-00
Max Defl.	0.077"	n/a	n/a	8	04-00-00
Span / Depth	9.8				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 2-5/8" x 3-1/2"	2,378 lbs	23.8%	21.2%	Unspecified
B2	Column 3" x 3-1/2"	2,860 lbs	33.5%	22.3%	Unspecified

Notes

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

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

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

Resistance Factor phi has been applied to all presented results per CSA 086. **CONFORMS TO UBC 2012**

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

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.

DATE: 11/06/18
 STRUCTURAL
 COMPONENT ONLY

T-1903468



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(12403)

Dry | 1 span | No cant.

November 6, 2018 13:46:06

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: PRESTON 11.mxd

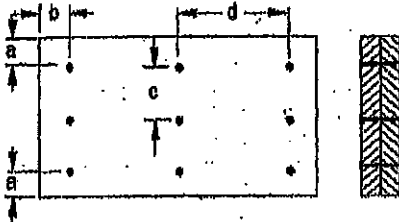
Description: 2ND FLOOR FRAMING\Flush Beams\B7(12403)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 2-3/4"
d = 2" 8"

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

Connectors are: Nails

3% ARDXX 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)282-0788 before installation.

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

DWG NO. YAW 3394-184
STRUCTURAL
COMPONENT ONLY

PL

T. L. Gossesby

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLOOR FRAMING\Flush Beams\B3 CANT (I2414)**

Dry | 2 spans | R cant.

November 6, 2018 13:46:06

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

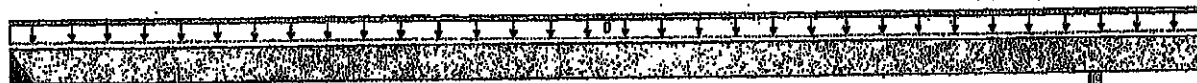
File name: PRESTON 11.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B3 CANT (I2414)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 09-00-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"		40 / 0		
B2, 3-1/2"		47 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. L/n. (lb/ft)	L	00-00-00	09-00-04	Top	1.00	0.88	1.00	1.18	00-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	108 ft-lbs	16,093 ft-lbs	0.7%	0	04-01-08
Neg. Moment	-4 ft-lbs	-16,093 ft-lbs	n/a	0	08-02-08
End Shear	43 lbs	7,521 lbs	0.6%	0	00-11-08
Cont. Shear	43 lbs	7,521 lbs	0.6%	0	07-03-04
Total Load Deflection	L/999 (0.002")	n/a	n/a	1	04-01-06
Total Neg. Defl.	2xL/1,998 (-0.001")	n/a	n/a	1	09-00-04
Max Defl.	0.002"	n/a	n/a	1	04-01-06
Span / Depth	10.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 3-1/2"	56 lbs	n/a	1.0%	HGUS410
B2 Column	3-1/2" x 3-1/2"	66 lbs	1.0%	0.7%	Unspecified

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. 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.
 Calculations assume member is fully braced.
 Hanger Manufacturer: Unassigned
 Resistance Factor phi has been applied to all presented results per CSA 086. **CONFORMS TO OBC 2012**
 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
 Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.
 Member has no side loads.



DWG NO. TAM 3395-18H
 STRUCTURAL
 COMPONENT ONLY

T-1903409



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING\Flush Beams\B8 CANT (I2414)
Dry | 2 spans | R cant.

PASSED

November 6, 2018 13:46:06

BC CALC® Member Report

Build 0476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: OCMC 12472-R.

File name: PRESTON 11.mmdl

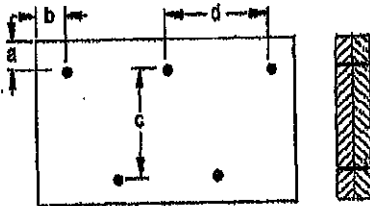
Description: 2ND FLOOR FRAMING\Flu...Beams\B8 CANT (I2414)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/2"
b minimum = 3" d = 6"

Member has no side loads.

Connectors are: 7 Nails

3/4" 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®,

WWW.BC.FAM 3395-184
STRUCTURAL
COMPONENT ONLY

16m

T. Gromosky



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

PASSED

2ND FLOOR FRAMING Dropped Beams B4 DR(4769)

Dry | 1 span | No cant.

February 28, 2019 07:45:14

BC CALC® Member Report

Build 8768

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

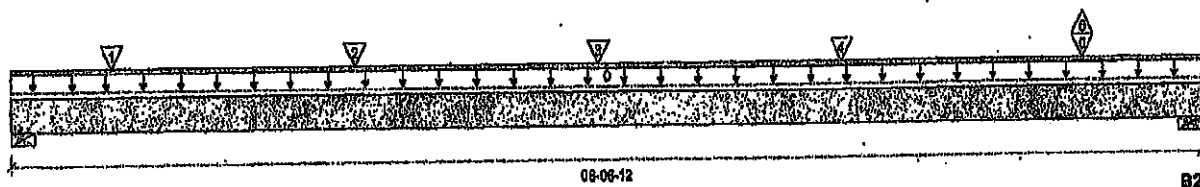
File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

Description: 2ND FLOOR FRAMING Dropped Beams B4 DR(4769)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 08-08-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/4"	1,561 / 2	811 / 0		
B2, 3-1/2"	1,593 / 32	813 / 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	08-08-12	Top	100	0.85	1.00	1.15	00-00-00
1	-	Conc. Pt. (lbs)	L	00-08-12	00-08-12	Top	605	303			n/a
2	-	Conc. Pt. (lbs)	L	01-10-12	01-10-12	Top	636	318			n/a
3	-	Conc. Pt. (lbs)	L	03-02-12	03-02-12	Top	636	318			n/a
4	-	Conc. Pt. (lbs)	L	04-08-12	04-08-12	Top	638	269			n/a
5	-	Conc. Pt. (lbs)	L	05-10-12	05-10-12	Top	739	353			n/a
6	-	Conc. Pt. (lbs)	L	05-10-12	05-10-12	Top	-34				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,844 ft-lbs	23,220 ft-lbs	20.9%	1	03-02-12
End Shear	2,577 lbs	11,571 lbs	22.3%	1	05-05-12
Total Load Deflection	L/999 (0.045")	n/a	n/a	8	03-02-12
Live Load Deflection	L/999 (0.03")	n/a	n/a	8	03-02-12
Max Defl.	0.045"	n/a	n/a	6	03-02-12
Span / Depth	7.7				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/4" x 3-1/2"	3,356 lbs	38.3%	24.2%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,408 lbs	34.2%	22.8%	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: 00-02-09, Bottom: 00-02-09.

Resistance Factor phi has been applied to all presented results per CSA Q86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA Q86.

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.

Member has no side loads.

CONFORMS TO CBC 2012

DWG NO. TAM 339818H
STRUCTURAL
COMPONENT ONLY

T. 903152



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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B4 DR\14769)

Dry | 1 span | No cant.

February 28, 2019 07:45:14

BC CALC® Member Report

Build 6768

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CGMC 12472-R

File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

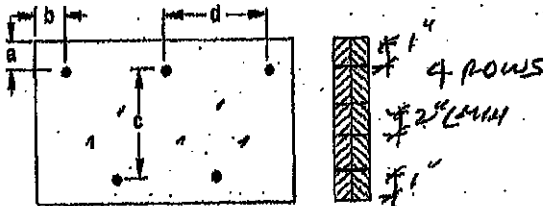
Description: 2ND FLOOR FRAMING\Dro...ed Beams\B4 DR\14769)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 1"

b minimum = 3"

c = 1-1/2"

d = 6"

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

Member has no side loads.

Connectors are: 1/4" Nails

3/4" ARDOX SPIRAL



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

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.

DWENU.TAM 3398-184
STRUCTURAL
COMPONENT ONLY

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

T. J. G. (M)



Bolted Cascode



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

PASSEY

2ND FLOOR FRAMING\Flush Beams\B10\I4533

Dry | 1 span | No cant.

February 28, 2019 07:45:14

BC CALC® Member Report

Build 6768

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

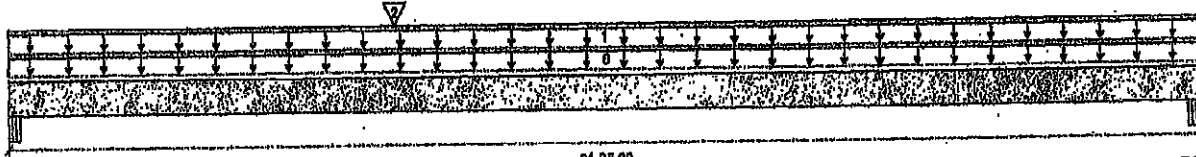
File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B10\I4533

Specifier:

Designer: PL

Company:



01-05-00

B2

B1

Total Horizontal Product Length = 01-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	160 / 0	180 / 0	180 / 0	
B2, 5"	37 / 0	116 / 0	131 / 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	01-05-00	Top		10			00-00-00
1	E24(I2035)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-15	Top	83	155	186		na
2	J8(I4582)	Conc. Pl. (lbs)	L	00-05-08	00-05-08	Top	112	63	49		na

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	34 ft-lbs	23,220 ft-lbs	0.1%	13	00-08-08
End Shear	168 lbs	11,671 lbs	1.4%	13	00-05-00
Span / Depth	0.0				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	6" x 3-1/2"	644 lbs	6.9%	3.0%	Unspecified
B2 Beam	5" x 3-1/2"	378 lbs	4.0%	1.8%	Unspecified



Notes

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO Q86 2012

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.

OWNED, FAW 3399-18H
STRUCTURAL
COMPONENT ONLY

T-1903153



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B10\14533)

Dry | 1 span | No cant.

February 28, 2019 07:45:14

BC CALC® Member Report

Build 6766

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

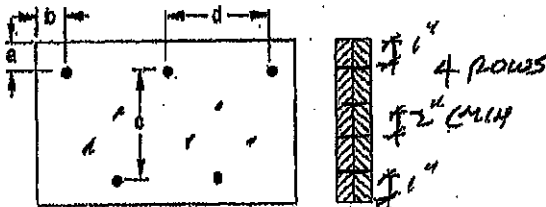
File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B10\14533)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member

a minimum = 6"
b minimum = 3"

c = 1-1/2"
d = 6"

Calculated Side Load = 208.8 lb/ft

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

Connectors are: 7 Nails

3 1/2" ARDOX SPIRAL



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

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®.

DWG NO. 7AM 3399-18 H
STRUCTURAL
COMPONENT ONLY

p6/2

T-190315360

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLOOR FRAMING\Flush Beams\B6(14525)**

Dry | 1 span | No cant.

February 28, 2019 07:46:14

BC CALC® Member Report

Build 6766

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

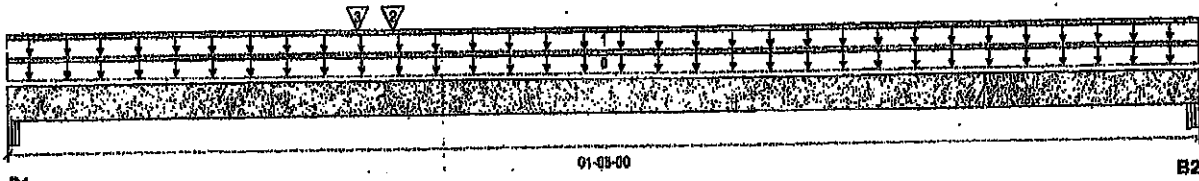
File name: PRESTON 11 ELEV 1 OPT 5 BED.mxd

Description: 2ND FLOOR FRAMING\Flush Beams\B6(14525)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 01-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	155 / 0	184 / 0	192 / 0	
B2, 5"	38 / 0	117 / 0	131 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	100	0.85	1.00	1.15	00-00-00
1	E26(2036)	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	53	155	185		n/a
2		Conc. Pt. (lbs)	L	00-05-08	00-06-08	Top	110	59	38		n/a
3	LOWROOF	Conc. Pt. (lbs)	L	00-05-00	00-05-00	Top	8	7	23		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	34 ft-lbs	23,220 ft-lbs	0.1%	13	00-08-08
End Shear	156 lbs	11,571 lbs	1.4%	13	00-05-00
Span / Depth	0.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 6" x 3-1/2"	673 lbs	7.2%	3.2%	Unspecified
B2	Beam 6" x 3-1/2"	380 lbs	4.1%	1.8%	Unspecified

Notes

Calculations assume member is fully braced.

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

CONFORMS TO DBC 2012

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.

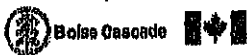
Design based on Dry Service Condition.

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.

DWG NO. TAM 3400-18H
STRUCTURAL
COMPONENT ONLY 1612

T-1903154P



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B6(14525)

Dry | 1 span | No cant.

February 28, 2019 07:45:14

BC CALC® Member Report

Build 6786

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: PRESTON 11 ELEV 1 OPT 5 BED.mmd

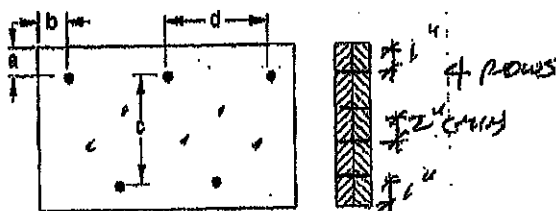
Description: 2ND FLOOR FRAMING\Flush Beams\B6(14525)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 4"
b minimum = 3"

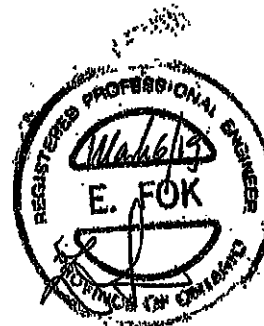
c = 7-1/2"
d = 20"

Calculated Side Load = 193.2 lb/ft

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

Connectors are: 1 Nails

3/4" 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™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,
STRUCTURAL COMPONENT ONLY

-C-1903154(1)



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

PASSED

B.C. CALC® Member Report

Build 0476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 6, 2018 13:55:05

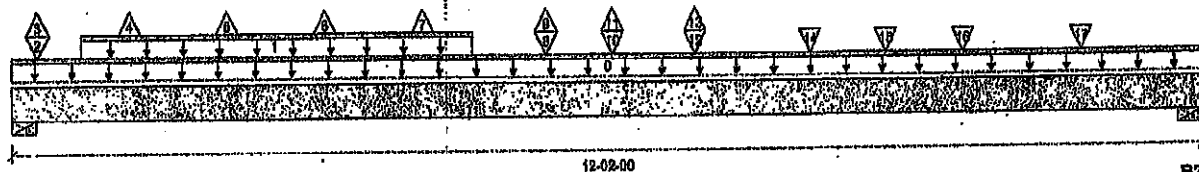
File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

Description: 2ND FLOOR FRAMING/Flush Beams/B13(13343)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 12-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	3,100 / 210	1,562 / 0		
B2, 5-1/2"	2,613 / 132	1,356 / 0		

Load Summary

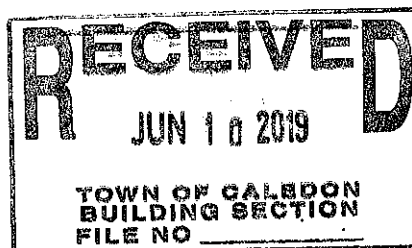
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.68	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-02-00	Top		14			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-08-07	04-09-07	Top	482	227			n/a
2	-	Conc. Pt. (lbs)	L	00-03-01	00-03-01	Top	602	285			n/a
3	-	Conc. Pt. (lbs)	L	00-03-01	00-03-01	Top	-32				n/a
4	J1(12535)	Conc. Pt. (lbs)	L	01-02-07	01-02-07	Top	-27				n/a
5	J1(12553)	Conc. Pt. (lbs)	L	02-02-07	02-02-07	Top	-28				n/a
6	J1(12559)	Conc. Pt. (lbs)	L	03-02-07	03-02-07	Top	-28				n/a
7	J1(12553)	Conc. Pt. (lbs)	L	04-02-07	04-02-07	Top	-28				n/a
8	-	Conc. Pt. (lbs)	L	05-05-06	05-05-06	Top	561	285			n/a
9	-	Conc. Pt. (lbs)	L	05-05-06	05-05-06	Top	-27				n/a
10	J1(12711)	Conc. Pt. (lbs)	L	06-01-07	06-01-07	Top	180	70			n/a
11	J1(12711)	Conc. Pt. (lbs)	L	06-01-07	06-01-07	Top	-24				n/a
12	-	Conc. Pt. (lbs)	L	06-11-08	06-11-08	Top	576	234			n/a
13	-	Conc. Pt. (lbs)	L	06-11-08	06-11-08	Top	-148				n/a
14	-	Conc. Pt. (lbs)	L	06-11-08	06-11-08	Top	548	274			n/a
15	J3(12584)	Conc. Pt. (lbs)	L	08-11-00	08-11-00	Top	221	110			n/a
16	-	Conc. Pt. (lbs)	L	09-08-09	09-08-09	Top	667	283			n/a
17	-	Conc. Pt. (lbs)	L	10-11-00	10-11-00	Top	631	265			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	17,040 ft-lbs	36,222 ft-lbs	47.0%	1	06-01-07
End Shear	6,592 lbs	17,356 lbs	32.2%	1	10-11-00
Total Load Deflection	1/380 (0.385")	n/a	66.6%	6	06-01-07
Live Load Deflection	1/542 (0.255")	n/a	66.4%	6	06-01-07
Max Defl.	0.385"	n/a	n/a	6	06-01-07
Span / Depth	14.6				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 5-1/4"	6,590 lbs	67.2%	29.4%	Unspecified
B2	Wall/Plate 5-1/2" x 5-1/4"	6,616 lbs	38.4%	15.9%	Unspecified



OWNED, TOWN 3/03 - 184
STRUCTURAL
COMPONENT ONLY

T-1903157



Boise Cascade

**Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****2ND FLOOR FRAMING (Flush Beams) B13 (13343)****PASSED**

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 6, 2016 13:55:05

File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

Description: 2ND FLOOR FRAMING (Flush Beams) B13 (13343)

Specifier:

Designer: PL

Company:

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**

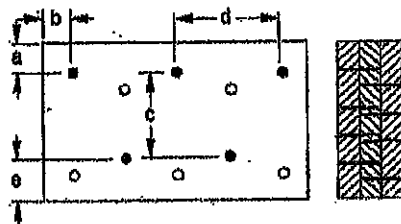
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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.

Nailing schedule applies to both sides of the member.

Connection Diagram: Full Length of Member

4 ROWS

a minimum = 1"

b minimum = 3"

c = 1 1/2"

d = 6 1/4"

e minimum = 2"

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.

Nailing schedule applies to both sides of the member.

Connectors are: Nails

3/4" 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.

DWG NO. TAM 3403-194
STRUCTURAL
COMPONENT ONLY

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

p622

T 9015767



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING (Flush Beams) B14(I3351)

PASSED

BC CALCO Member Report

Dry | 1 span | No cant.

November 8, 2018 13:55:05

Build 6476

Job name:

File name: PRESTON 11 ELEV 1 OPT 6 BED.mxd

Address:

Description: 2ND FLOOR FRAMING (Flush Beams) B14(I3351)

City, Province, Postal Code: CALEDON

Specifier:

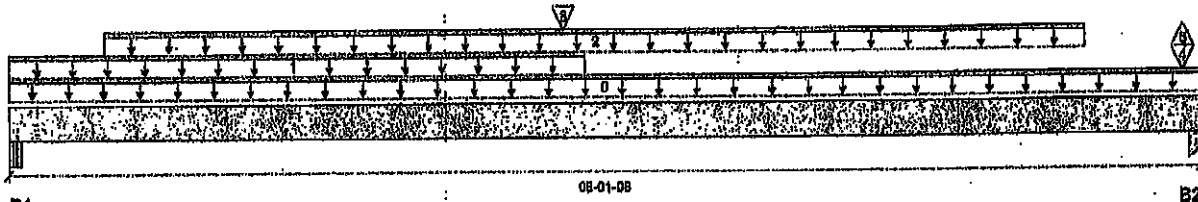
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-8/8"	1,034 / 0	578 / 0		
B2, 3"	1,315 / 9	712 / 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	08-01-08	Top	10				00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-11-00	Top	22	11			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-08-00	07-04-00	Top	288	144			n/a
3	B8 CANT (I3356)	Conc. Pt. (lbs)	L	03-09-04	03-09-04	Top	39				n/a
4	J1(I3305)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	336	164			n/a
5	J1(I3305)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	-9				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	5,040 ft-lbs	23,220 ft-lbs	21.7%	1	04-00-00
End Shear	2,213 lbs	11,571 lbs	19.1%	1	01-00-02
Total Load Deflection	1/999 (0.076")	n/a	n/a	6	04-00-00
Live Load Deflection	1/999 (0.049")	n/a	n/a	8	04-00-00
Max Defl.	0.076"	n/a	n/a	6	04-00-00
Span / Depth	9.8				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 2-5/8" x 3-1/2"	2,274 lbs	22.7%	20.3%	Unspecified
B2	Column 3" x 3-1/2"	2,862 lbs	33.6%	22.3%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume unbraced length of Top: 00-00-04, Bottom: 00-00-04.
Resistance Factor phi has been applied to all presented results per CSA 086. CONFORMS TO CBC 2012
BC CALCO 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
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.

HONG YAN 3404-18H
STRUCTURAL
COMPONENT ONLY 1624

T-1903158



Boise Cascade



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

PASSED

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 6, 2018 13:55:05

File name: PRESTON 11 ELEV 1 OPT 5 BED.mmdl

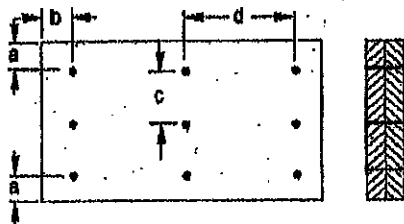
Description: 2ND FLOOR FRAMING\Flush Beams\B14\13351

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 2-3/4"
d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Connectors are: 1/2" x 3" Nails

3/4" ARDOX SPIRAL



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

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.

DWONG, TAN 3404-18
STRUCTURAL
COMPONENT ONLY

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

T-190315861



Briar Cascade



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

PASSED

BC CALCO Member Report

Build 6788

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

February 28, 2019 07:58:06

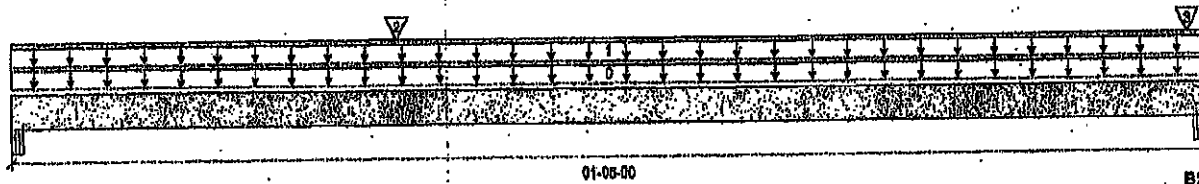
File name: PRESTON 11 ELEV 2.mxd

Description: 2ND FLOOR FRAMING Flush Beams B11(14042)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 01-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5"	124 / 0	145 / 0	109 / 0	
B2, 5"	32 / 0	94 / 0	69 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	10	10			00-00-00
1	E24(12035)	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	10	104	82		n/a
2	J5(14077)	Conc. Pt. (lbs)	L	00-05-08	00-05-08	Top	117	66	61		n/a
3	FC2 Floor Material	Conc. Pt. (lbs)	L	01-04-12	01-04-12	Top	24	14	11		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	17 ft-lbs	23,220 ft-lbs	n/a	13	00-08-08
End Shear	80 lbs	11,571 lbs	0.7%	13	00-06-00
Span / Depth	0.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 5" x 3-1/2"	477 lbs	5.1%	2.2%	Unspecified
B2	Beam 5" x 3-1/2"	262 lbs	2.7%	1.2%	Unspecified



Notes

Calculations assume member is fully braced.

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

CONFORMS TO NBC 2012

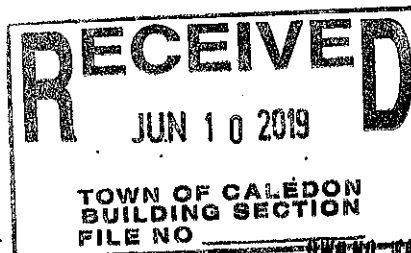
BC CALCO analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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.



FWB NO. TAM 3401-1814
STRUCTURAL
COMPONENT ONLY

T-1903155



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING\Flush Beams\B11(14042)
Dry | 1 span | No cant.

PASSED

February 28, 2019 07:58:08

BC CALC® Member Report

Build 0708

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMG 12472-R

File name: PRESTON 11 ELEV 2.mmdf

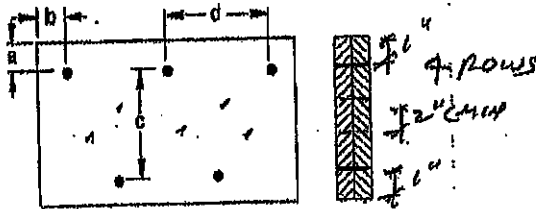
Description: 2ND FLOOR FRAMING\Flush Beams\B11(14042)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 4"
b minimum = 3"

c = 7-1/2"
d = 6"

Calculated Side Load = 217.2 lb/ft

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

Connectors are: 7 Nails

3/4" ARBOX 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.

DWONG, YAM 3401-1
STRUCTURAL
COMPONENT ONLY

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

T-1923155(1)

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLOOR FRAMING Flush Beams B12(14063)**

Dry | 1 span | No cant.

February 28, 2019 07:58:06

BC CALC® Member Report

Build 6786

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CGMC 12472-R

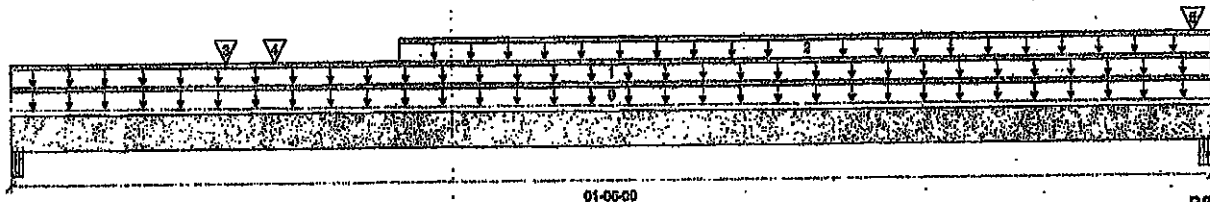
File name: PRESTON 11 ELEV 2.mxd

Description: 2ND FLOOR FRAMING Flush Beams B12(14063)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 01-05-00

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5'	286 / 0	361 / 0	617 / 0	
B2, 5'	32 / 0	94 / 0	88 / 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	01-05-00	Top		10			00-00-00
1	E25(12036)	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top		81			n/a
2	E25(12036)	Unf. Lin. (lb/ft)	L	00-05-08	01-05-00	Top	10	23	82		n/a
3	-	Conc. Pt. (lbs)	L	00-03-01	00-03-01	Top	276	283	673		n/a
4	LOW ROOF	Conc. Pl. (lbs)	L	00-03-12	00-03-12	Top	7	6	21		n/a
5	FC2 Floor Material	Conc. Pt. (lbs)	L	01-04-12	01-04-12	Top	24	14	11		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	17 ft-lbs	23,220 ft-lbs	n/a	13	00-08-09
End Shear	80 lbs	11,571 lbs	0.7%	13	01-00-00
Span / Depth	0.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5" x 3-1/2"	1,885 lbs	17.8%	7.8%	Unspecified
B2 Beam	5" x 3-1/2"	262 lbs	2.7%	1.2%	Unspecified

Notes

Calculations assume member is fully braced.

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

CONFORMS TO OBC 2012

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.



DWG NO. F2402-118H
STRUCTURAL
COMPONENT ONLY

T-1903156



Boise Cascade



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

2ND FLOOR FRAMING\Flush Beams\B12(14063)

Dry | 1 span | No cant.

PASSED

February 28, 2019 07:56:06

BC CALCO® Member Report

Build 6766

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMG 12472-R

File name: PRESTON 11 ELEV 2.mmdl

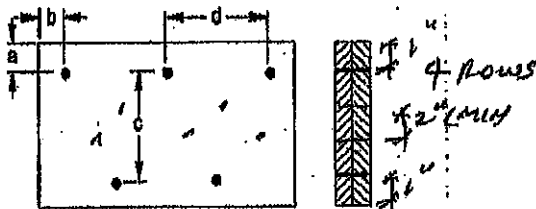
Description: 2ND FLOOR FRAMING\Flush Beams\B12(14063)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 1/2"
b minimum = 3"

c = 1-1/2"
d = 4"

Calculated Side Load = 200.6 lb/ft

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

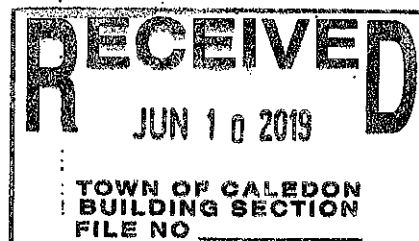
Connectors are: 1 Nails

3/8" 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)232-0768 before installation.



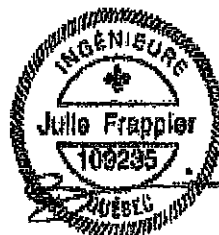
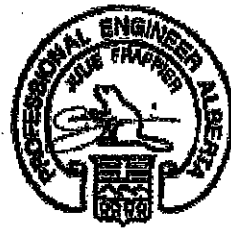
SWH/HV, YAM 3402-18H
STRUCTURAL
COMPONENT ONLY

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

T-1903156(8)

Maximum Floor Spans

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



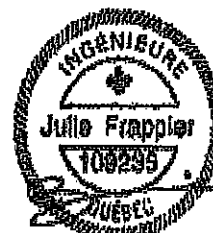
Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"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

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

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



Maximum Spans - A3
Limit States Design (CAN)



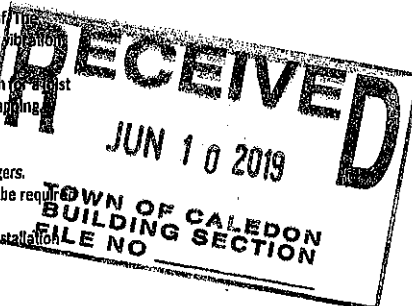
Maximum Floor Spans

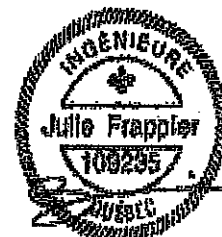
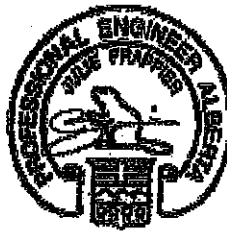
Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

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-90	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-6"	16'-9"	16'-1"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-3"
	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-90	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 and 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 and 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 CBC 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'-5"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-4"	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 CBC 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.



Construction Detail

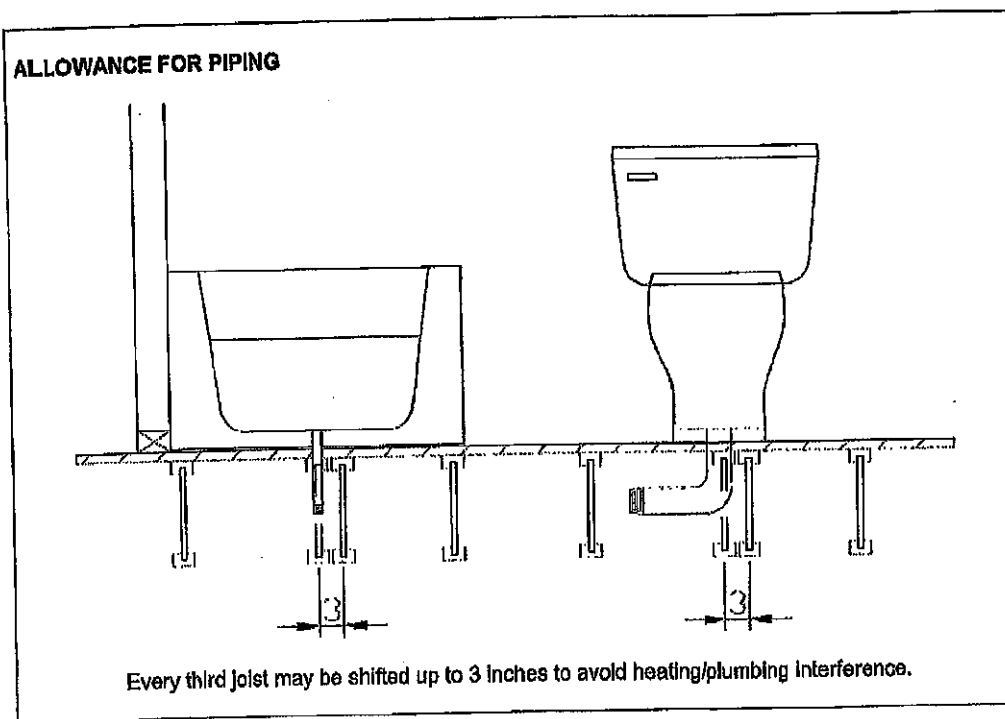
Limit States Design

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