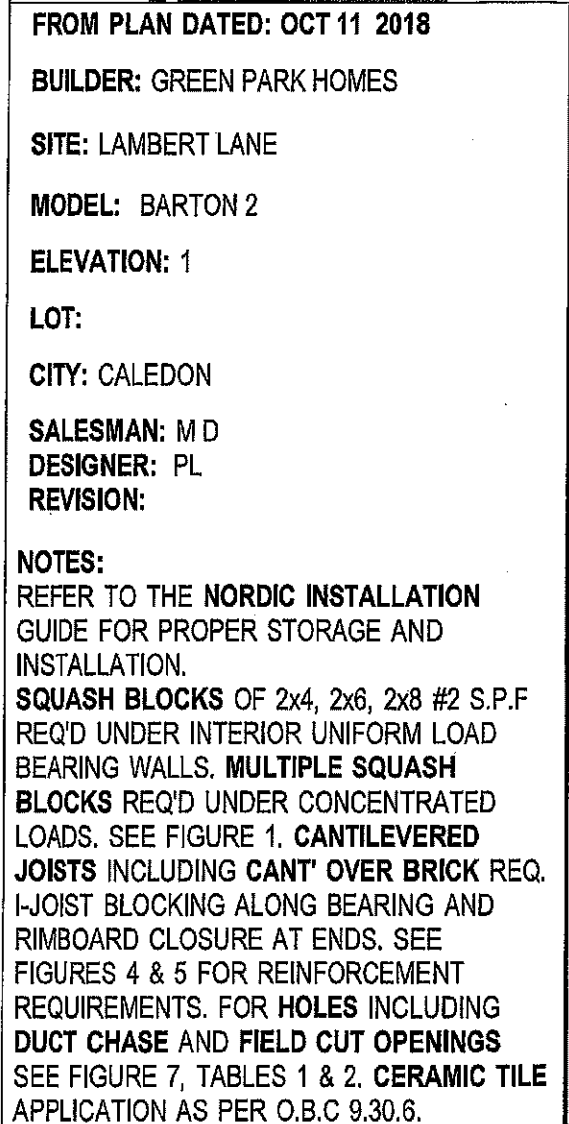
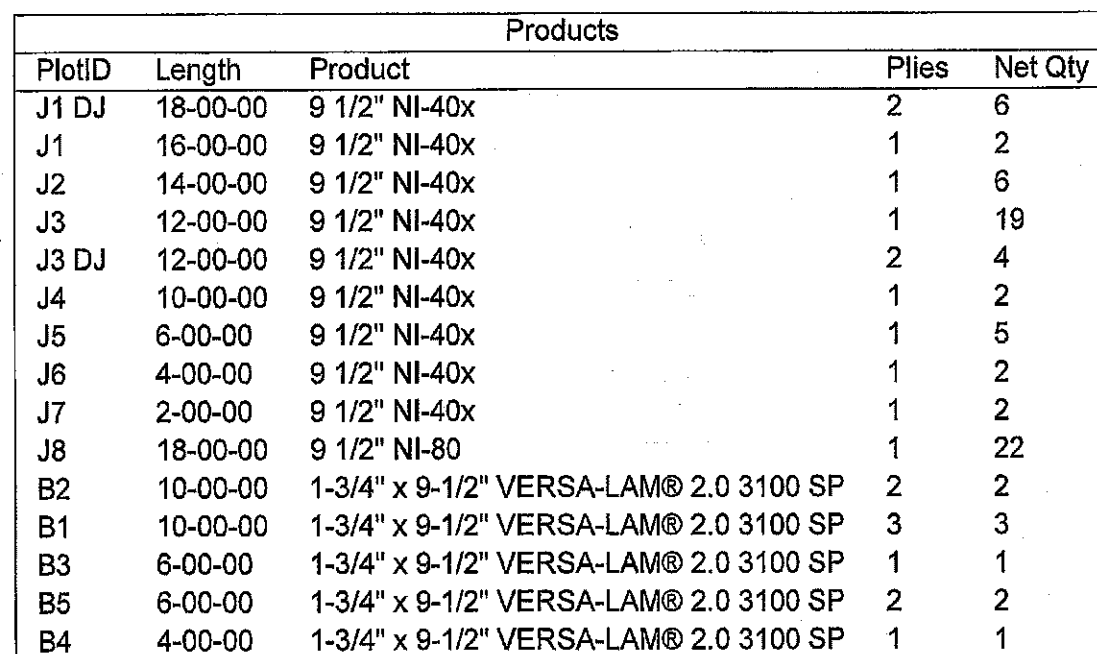




DATE: 11/15/2018

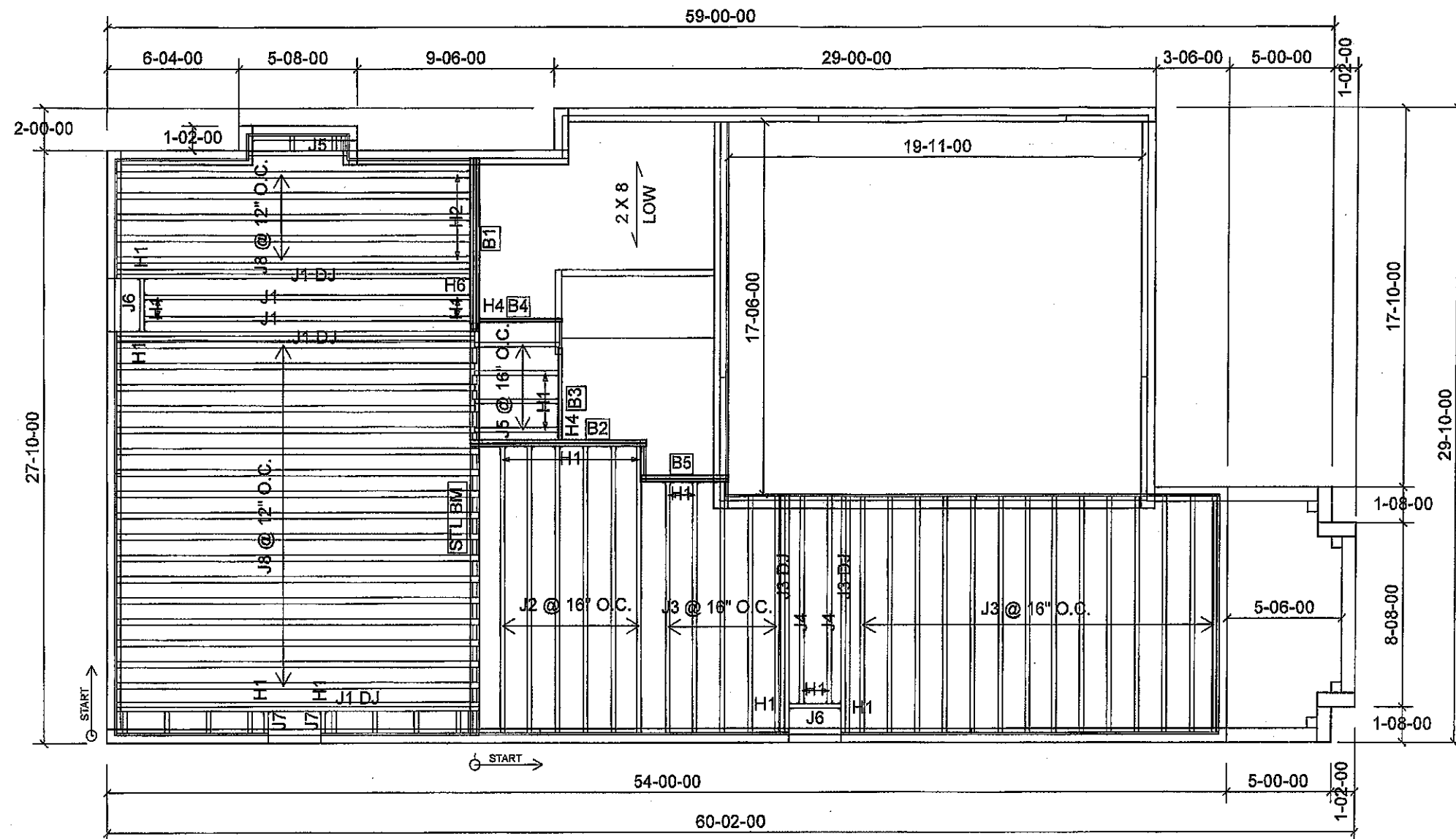
1st FLOOR



Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
5	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10
1	H6	HU310-2

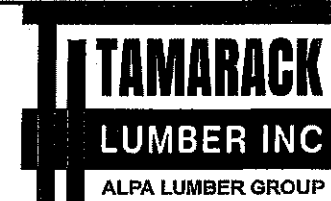
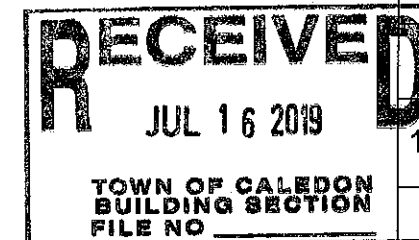
RECEIVED
JUL 16 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

THE
COST
OF
LIFE
IS
NOT
TO
BE
CALCULATED
IN
TERMS
OF
MONEY
BUT
IN
TERMS
OF
HUMANITY



Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	6
J1	16-00-00	9 1/2" NI-40x	1	2
J2	14-00-00	9 1/2" NI-40x	1	6
J3	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J4	10-00-00	9 1/2" NI-40x	1	2
J5	6-00-00	9 1/2" NI-40x	1	5
J6	4-00-00	9 1/2" NI-40x	1	2
J7	2-00-00	9 1/2" NI-40x	1	2
J8	18-00-00	9 1/2" NI-80	1	22
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
5	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10
1	H6	HU310-2



FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

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. 1-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.

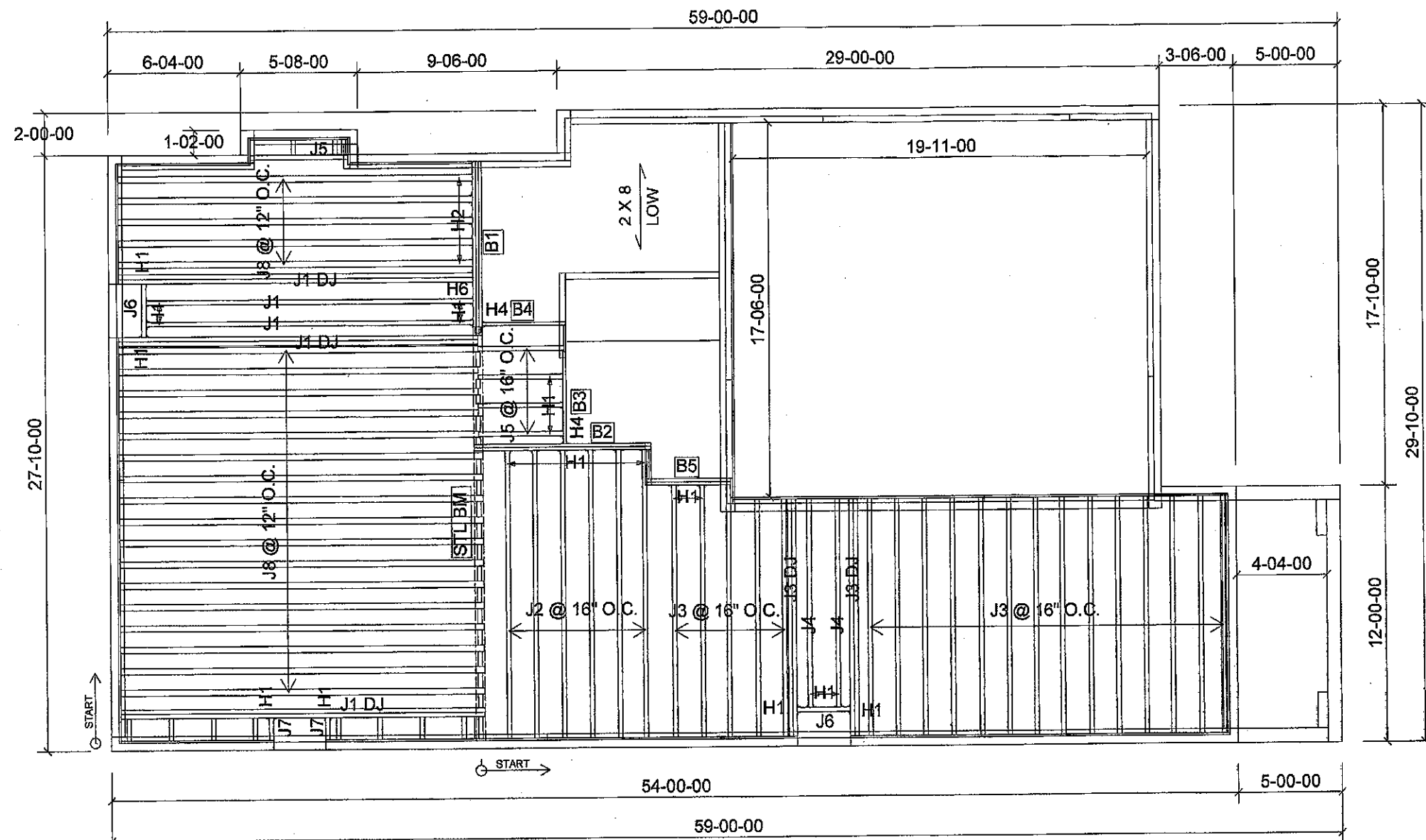
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 11/15/2018

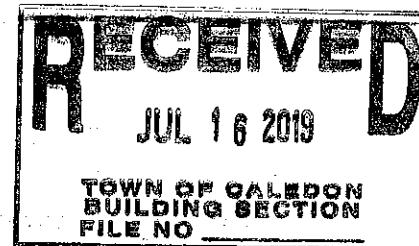
1st FLOOR

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



Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	6
J1	16-00-00	9 1/2" NI-40x	1	2
J2	14-00-00	9 1/2" NI-40x	1	6
J3	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J4	10-00-00	9 1/2" NI-40x	1	2
J5	6-00-00	9 1/2" NI-40x	1	5
J6	4-00-00	9 1/2" NI-40x	1	2
J7	2-00-00	9 1/2" NI-40x	1	2
J8	18-00-00	9 1/2" NI-80	1	22
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
5	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10
1	H6	HU310-2



FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

ELEVATION: 3

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

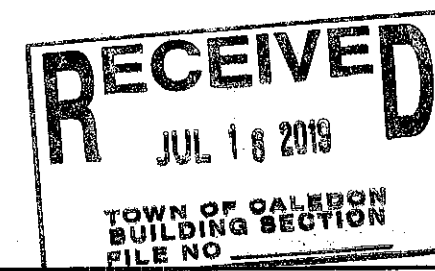
DEAD LOAD: 15.0 lb/ft²

TILED AREAS: 20 lb/ft²

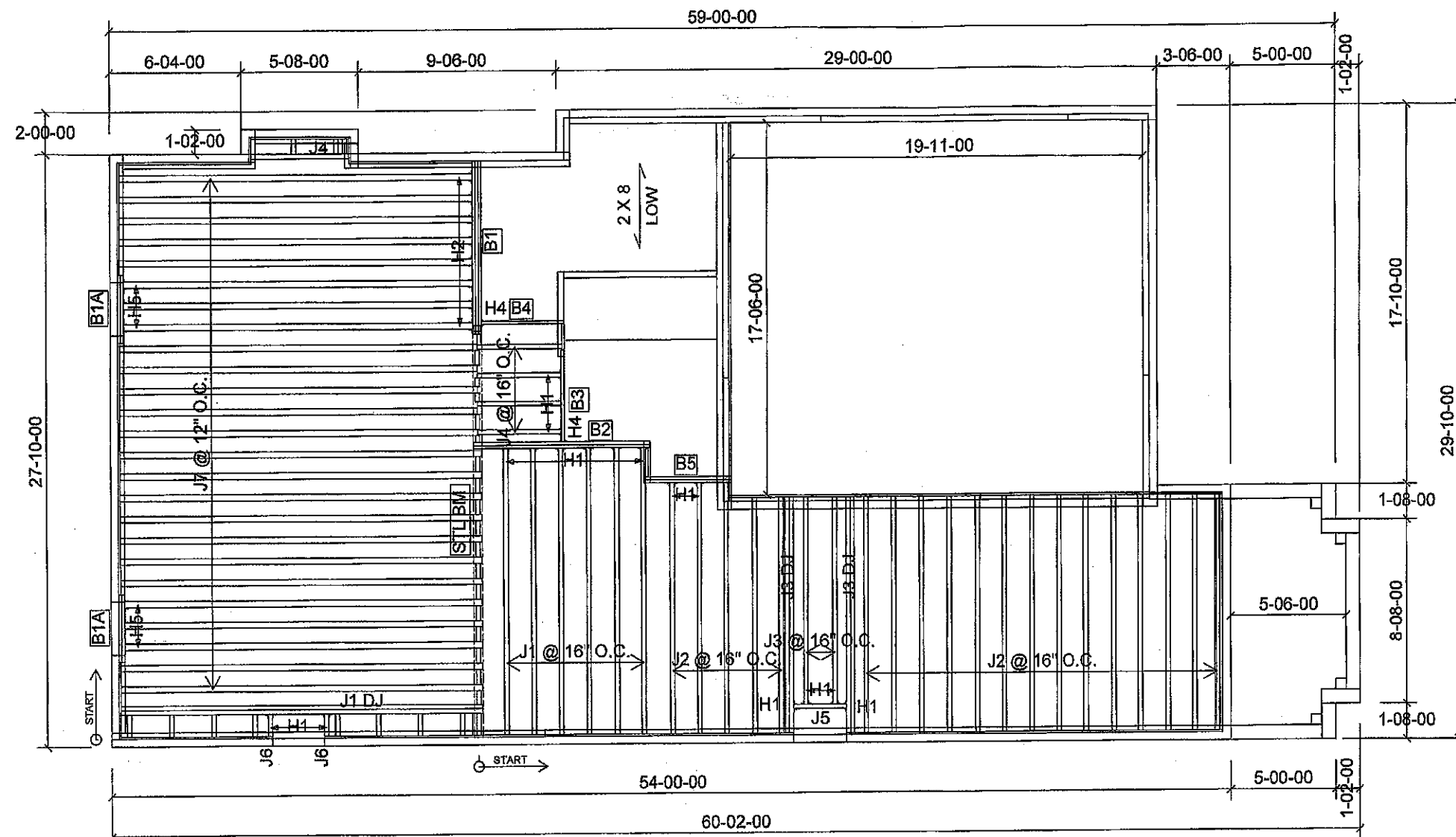
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-06-05

1st FLOOR

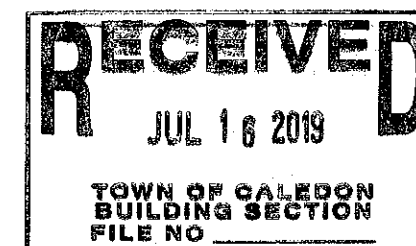


THE STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE



Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	2
J1	14-00-00	9 1/2" NI-40x	1	6
J2	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	5
J5	4-00-00	9 1/2" NI-40x	1	1
J6	2-00-00	9 1/2" NI-40x	1	2
J7	18-00-00	9 1/2" NI-80	1	24
J8	18-00-00	9 1/2" NI-80	1	1
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	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
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
8	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10
6	H5	IUS3.56/9.5



FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

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

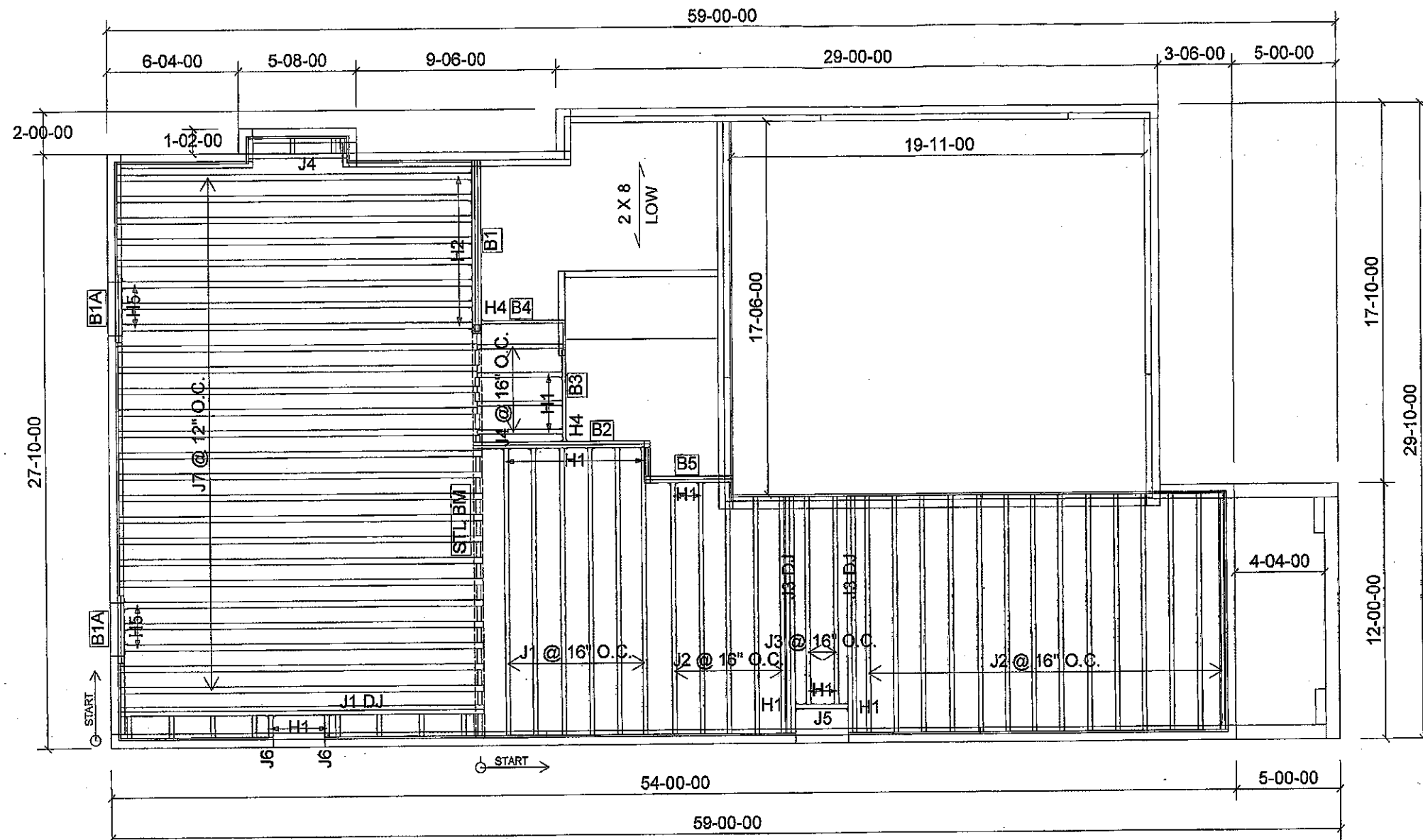
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-04-12

1st FLOOR

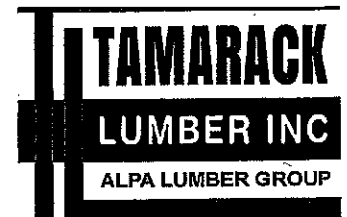
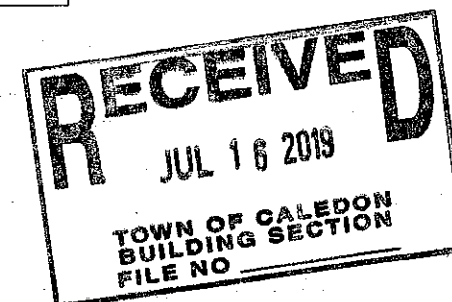
DECK CONDITION

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



Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	2
J1	14-00-00	9 1/2" NI-40x	1	6
J2	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	5
J5	4-00-00	9 1/2" NI-40x	1	1
J6	2-00-00	9 1/2" NI-40x	1	2
J7	18-00-00	9 1/2" NI-80	1	25
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	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
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
8	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10
6	H5	IUS3.56/9.5



FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

ELEVATION: 3

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

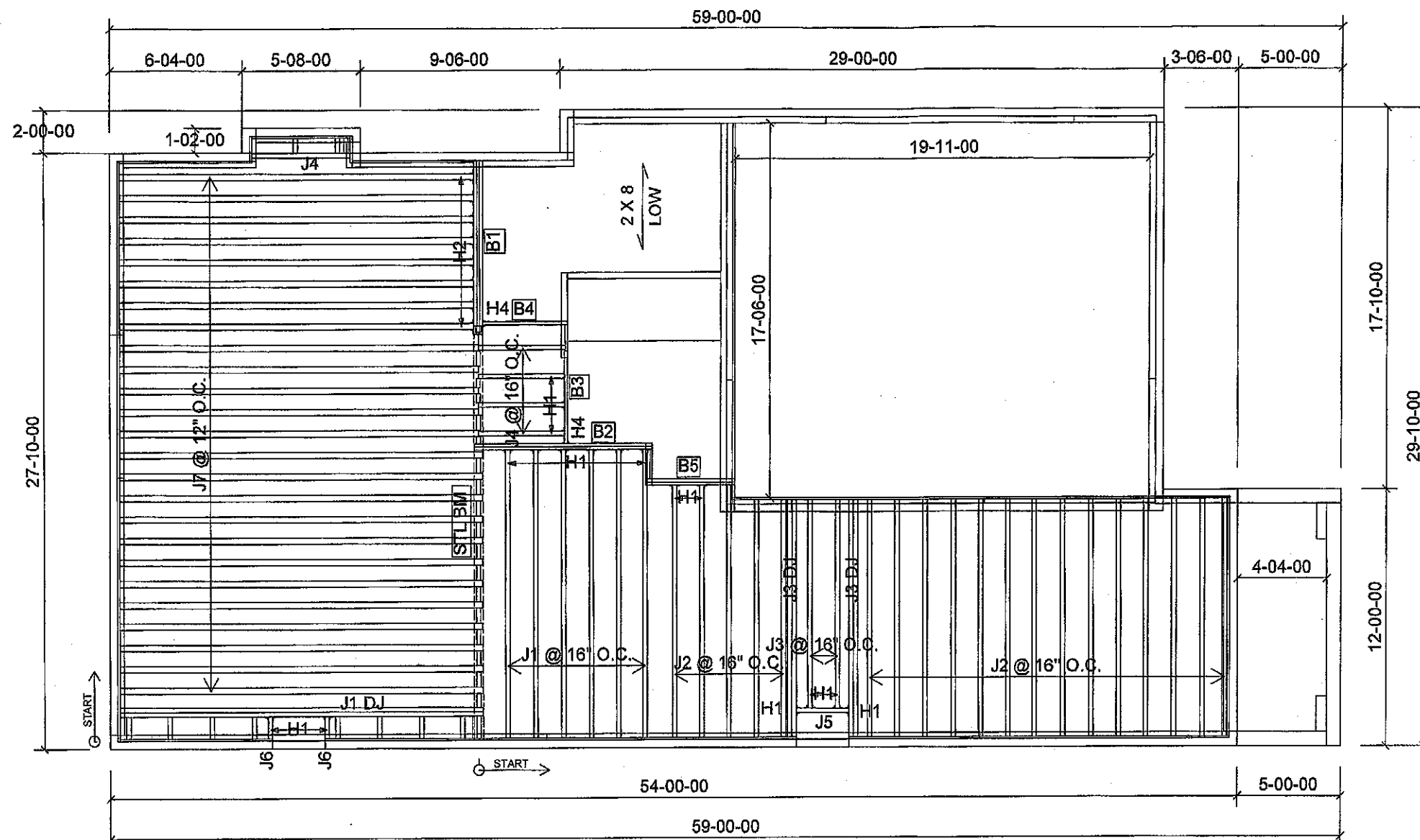
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-06-05

1st FLOOR

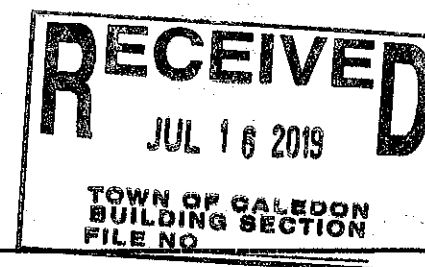
DECK CONDITION

THIS STRUCTURE MUST BE
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Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	2
J1	14-00-00	9 1/2" NI-40x	1	6
J2	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	5
J5	4-00-00	9 1/2" NI-40x	1	1
J6	2-00-00	9 1/2" NI-40x	1	2
J7	18-00-00	9 1/2" NI-80	1	25
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
8	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10



TAMARACK
LUMBER INC
ALPHA LUMBER GROUP

FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

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/ft

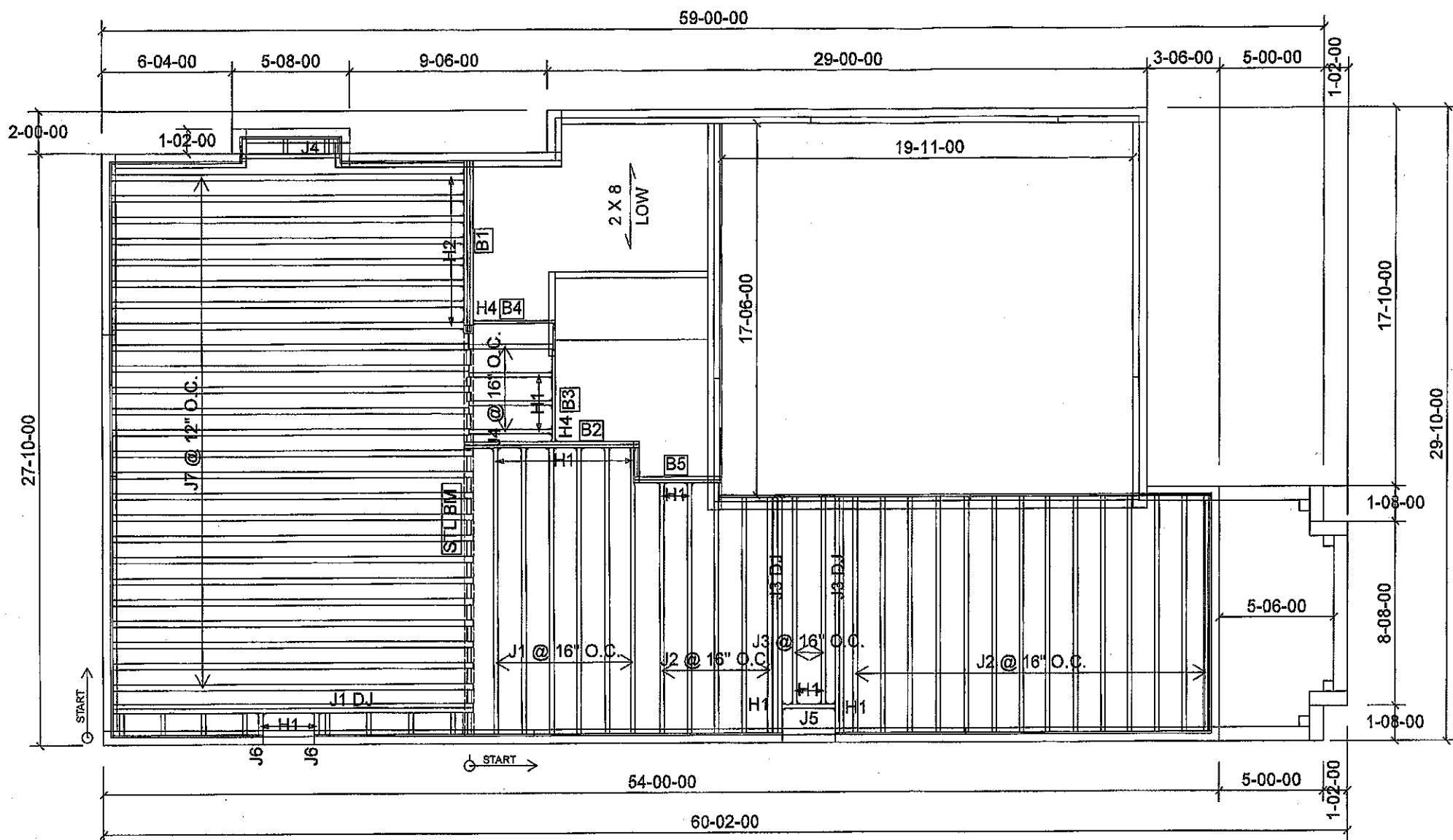
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-04-12

1st FLOOR

WALKOUT CONDITION

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



Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	2
J1	14-00-00	9 1/2" NI-40x	1	6
J2	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	5
J5	4-00-00	9 1/2" NI-40x	1	1
J6	2-00-00	9 1/2" NI-40x	1	2
J7	18-00-00	9 1/2" NI-80	1	24
J8	18-00-00	9 1/2" NI-80	1	1
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
8	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10

RECEIVED
JUL 16 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO



FROM PLAN DATED: OCT 11 2018
BUILDER: GREEN PARK HOMES
SITE: LAMBERT LANE
MODEL: BARTON 2
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.

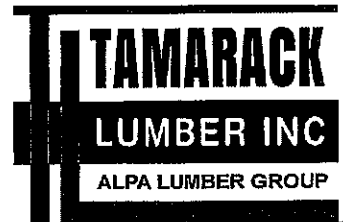
LOADING:
DESIGN LOADS: L/480,000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILED AREAS: 20 lb/ft²
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-04-12

1st FLOOR

WALKOUT CONDITION

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



FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

ELEVATION: 3

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

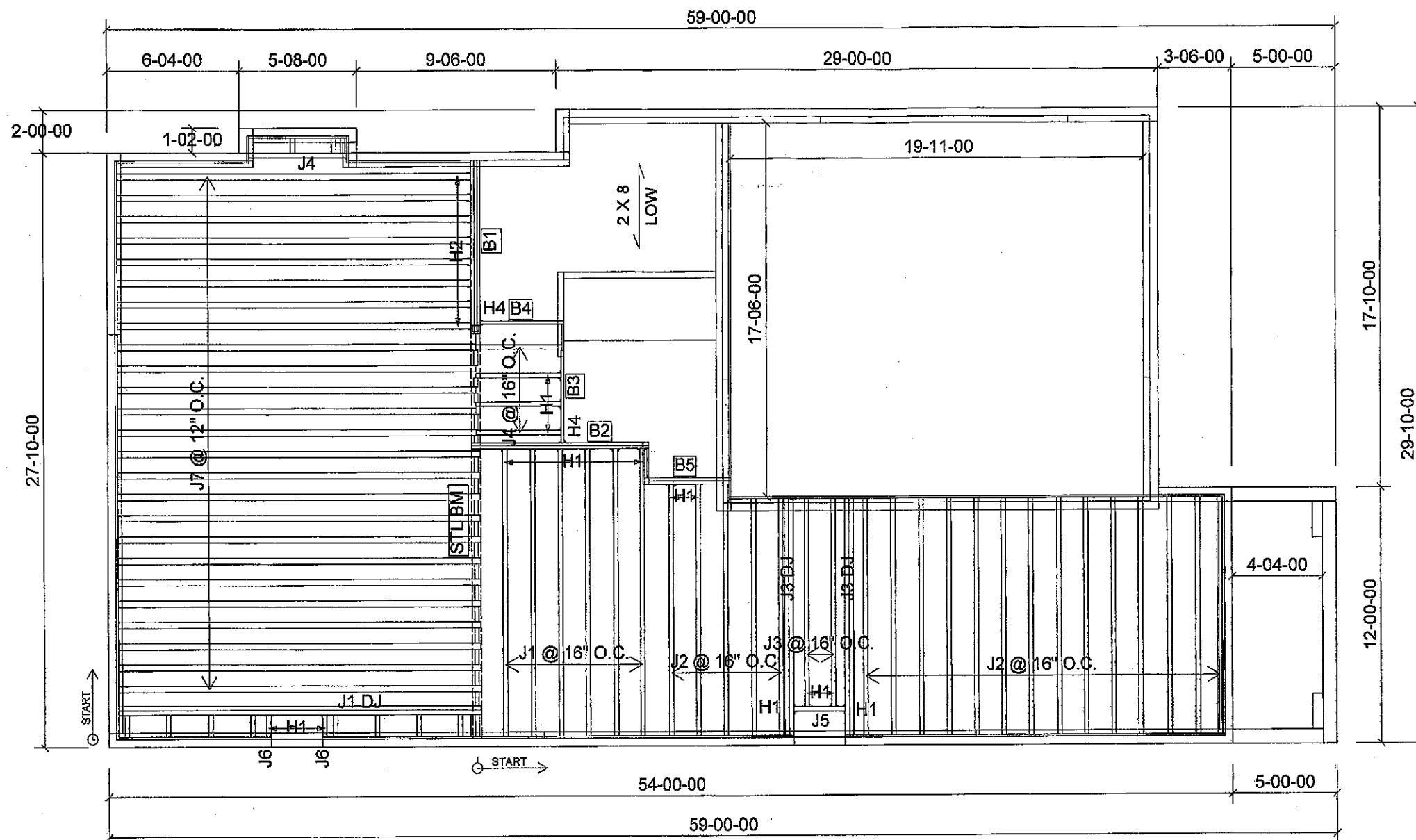
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2019-06-05

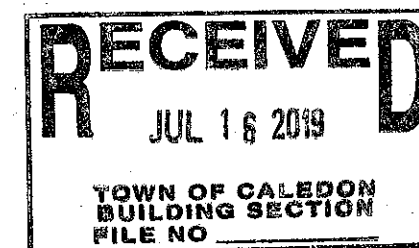
1st FLOOR

WALKOUT CONDITION

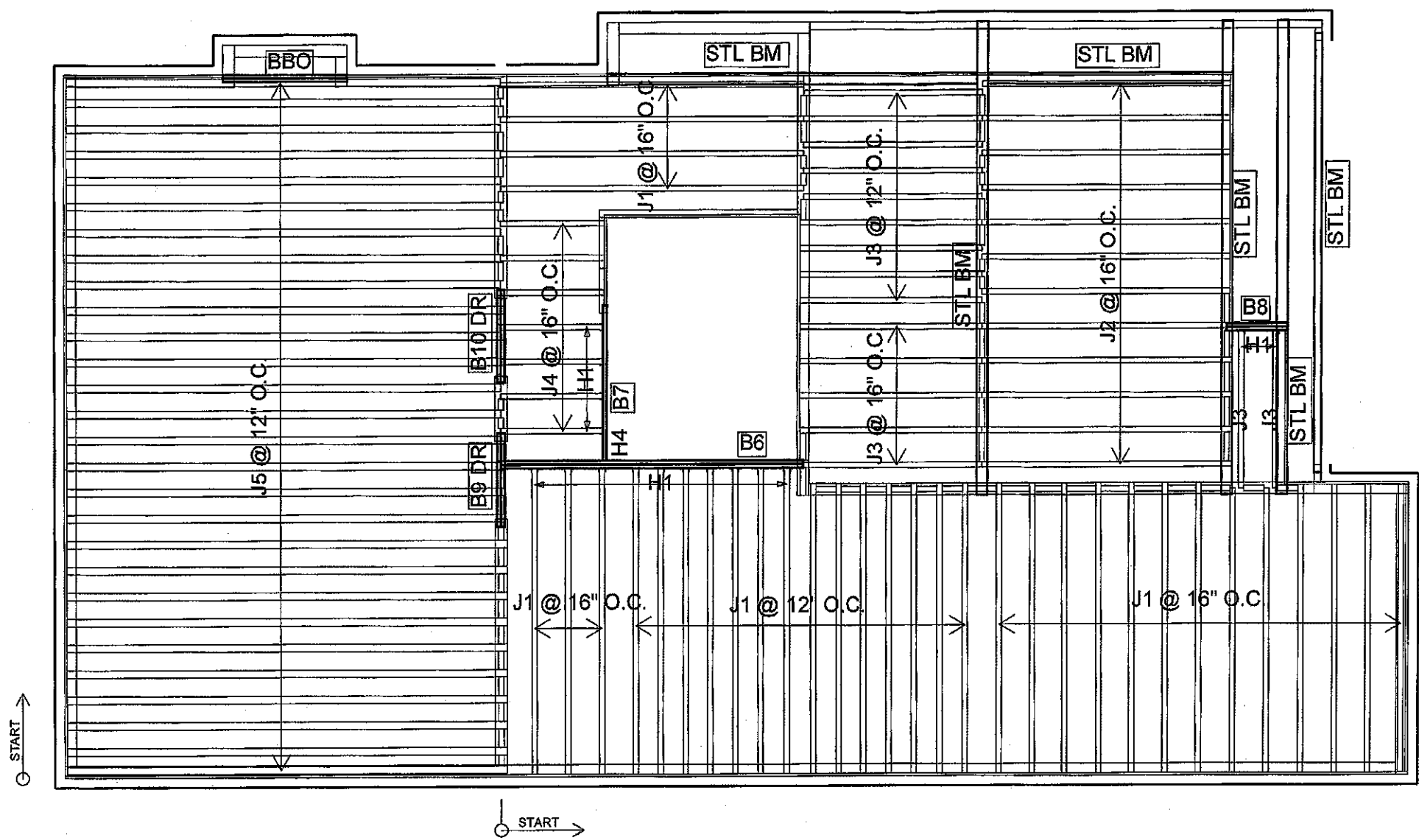


Products				
PlotID	Length	Product	Plies	Net Qty
J1 DJ	18-00-00	9 1/2" NI-40x	2	2
J1	14-00-00	9 1/2" NI-40x	1	6
J2	12-00-00	9 1/2" NI-40x	1	19
J3 DJ	12-00-00	9 1/2" NI-40x	2	4
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	5
J5	4-00-00	9 1/2" NI-40x	1	1
J6	2-00-00	9 1/2" NI-40x	1	2
J7	18-00-00	9 1/2" NI-80	1	25
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B3	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
8	H2	IUS3.56/9.5
1	H4	HUS1.81/10
1	H4	HUS1.81/10



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CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE



Products				
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	34
J2	10-00-00	9 1/2" NI-40x	1	12
J3	8-00-00	9 1/2" NI-40x	1	16
J4	6-00-00	9 1/2" NI-40x	1	7
J5	18-00-00	9 1/2" NI-80	1	28
B6	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B7	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B10 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
4	H1	IUS2.56/9.5
12	H1	IUS2.56/9.5
1	H4	HUS1.81/10

RECEIVED
JUL 16 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO



FROM PLAN DATED: OCT 11 2018
BUILDER: GREEN PARK HOMES
SITE: LAMBERT LANE
MODEL: BARTON 2
ELEVATION: 1
LOT:
CITY: CALEDON
SALESMAN: M D
DESIGNER: PL
REVISION:

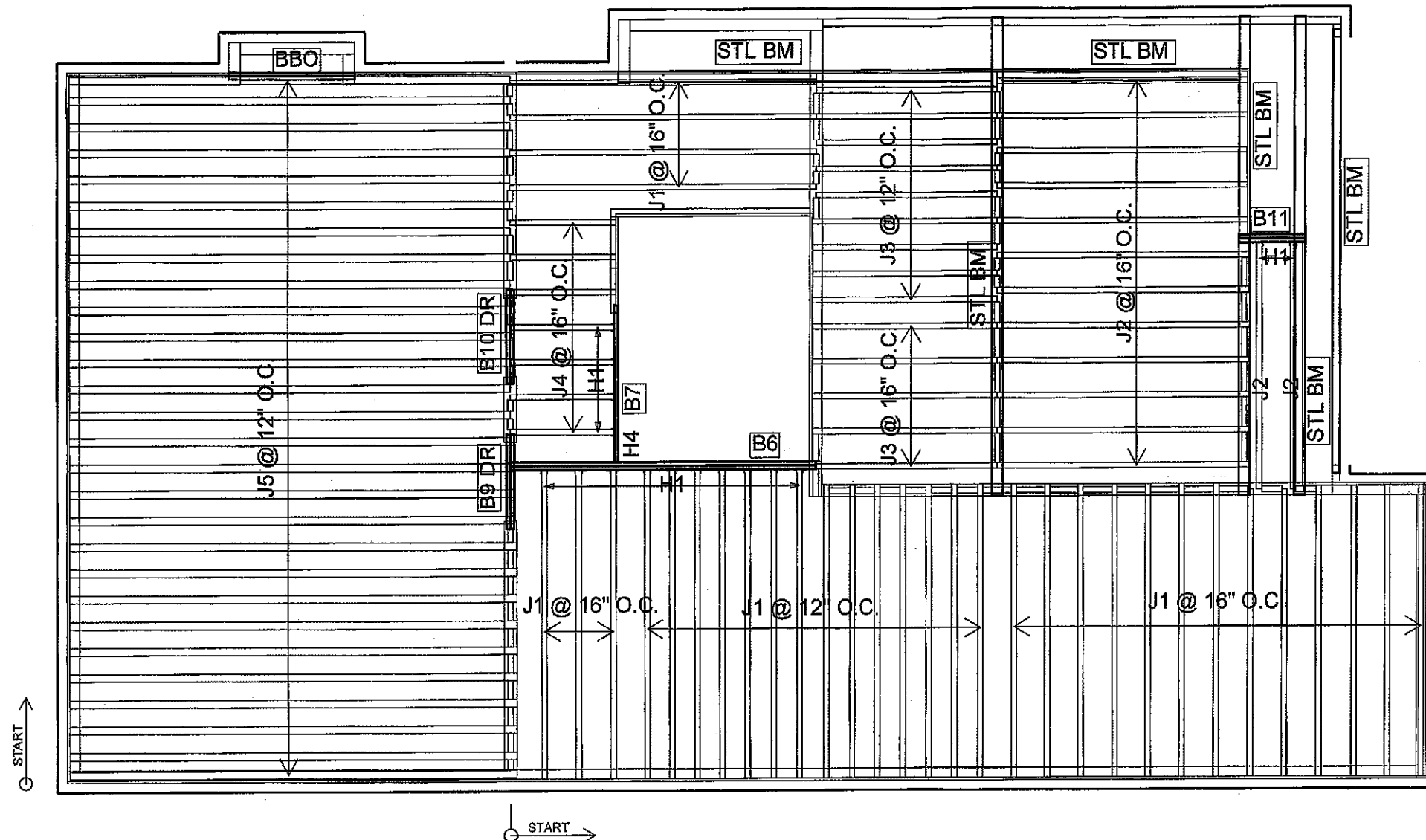
NOTES:
REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK 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: 11/14/2018

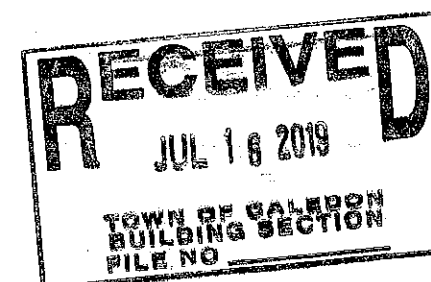
2nd FLOOR

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Products				
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	34
J2	10-00-00	9 1/2" NI-40x	1	14
J3	8-00-00	9 1/2" NI-40x	1	14
J4	6-00-00	9 1/2" NI-40x	1	7
J5	18-00-00	9 1/2" NI-80	1	28
B6	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B7	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B10 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
4	H1	IUS2.56/9.5
12	H1	IUS2.56/9.5
1	H4	HUS1.81/10



TAMARACK
LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

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

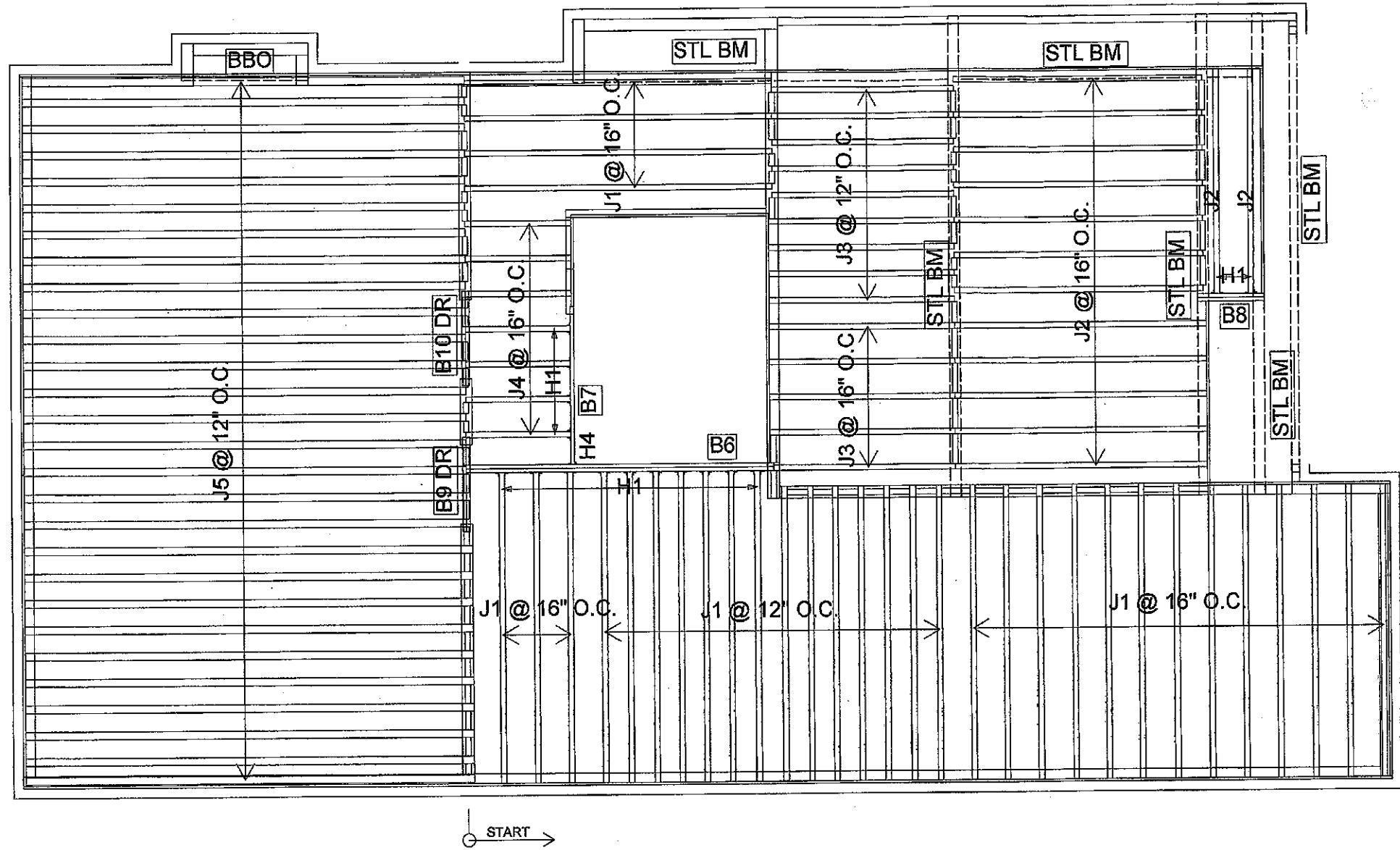
TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 11/14/2018

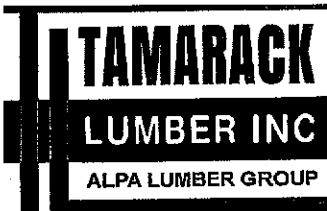
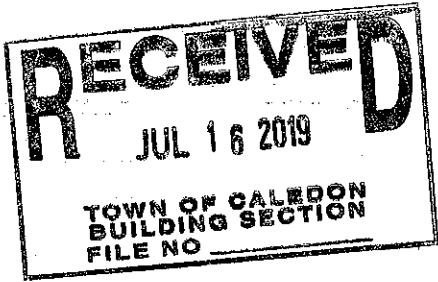
2nd FLOOR

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Products				
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	34
J2	10-00-00	9 1/2" NI-40x	1	14
J3	8-00-00	9 1/2" NI-40x	1	14
J4	6-00-00	9 1/2" NI-40x	1	7
J5	18-00-00	9 1/2" NI-80	1	28
B6	12-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B7	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1
B10 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B8	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
B9 DR	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2
STL BM	10-00-00	5-00 x 9-08 Generic Material	1	1

Connector Summary		
Qty	Manuf	Product
4	H1	IUS2.56/9.5
12	H1	IUS2.56/9.5
1	H4	HUS1.81/10



FROM PLAN DATED: OCT 11 2018

BUILDER: GREEN PARK HOMES

SITE: LAMBERT LANE

MODEL: BARTON 2

ELEVATION: 3

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

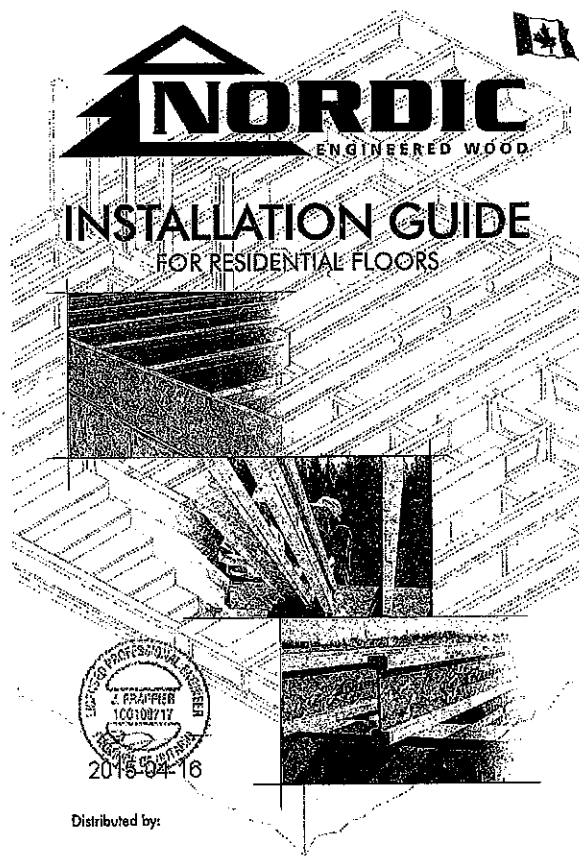
REVISION:

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: 2019-06-05

2nd FLOOR



SAFETY AND CONSTRUCTION PRECAUTIONS

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

Avoid Accidents by Following these Important Guidelines:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joist ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at that location, bracing will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on center, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Top ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. Never install a damaged I-joist.

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

STORAGE AND HANDLING GUIDELINES

1. Bundle wrap can be slippery when wet. Avoid walking on wrapped 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 a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

MAXIMUM FLOOR SPANS

1. Maximum clear spans applicable 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-nailed 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 CC35-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum and/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 C35-09 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

SIMPLE AND MULTIPLE SPANS

Joist Depth	Joist Series	Simple spans				Multiple spans			
		On centre spacing	12"	16"	19.2"	On centre spacing	12"	16"	19.2"
9-1/2"	N-20	15-11"	14-2"	13-9"	13-5"	16-3"	15-4"	14-10"	13-7"
	N-20S	16-11"	15-2"	14-8"	14-5"	17-0"	16-0"	15-0"	14-0"
	N-40	16-3"	15-4"	14-10"	14-11"	17-7"	16-7"	16-0"	15-1"
	N-40S	17-11"	16-11"	15-6"	15-7"	18-7"	17-4"	16-9"	16-10"
11-7/8"	N-20	16-11"	15-0"	14-5"	14-6"	18-4"	17-3"	16-9"	16-7"
	N-20S	17-11"	16-0"	15-6"	15-7"	19-0"	18-0"	17-0"	16-0"
	N-40	16-11"	15-0"	14-5"	14-6"	18-4"	17-3"	16-9"	16-7"
	N-40S	17-11"	16-11"	15-6"	15-7"	19-0"	18-0"	17-0"	16-0"
14"	N-20	18-4"	17-3"	16-9"	16-9"	20-3"	19-3"	18-9"	18-1"
	N-20S	19-4"	18-0"	17-4"	17-5"	21-5"	20-5"	20-0"	19-1"
	N-40	18-4"	17-3"	16-9"	16-9"	20-3"	19-3"	18-9"	18-1"
	N-40S	19-4"	18-4"	17-10"	17-11"	22-3"	20-7"	19-8"	19-9"
16"	N-20	20-4"	19-3"	18-9"	18-9"	22-9"	21-9"	21-5"	20-6"
	N-20S	21-4"	20-4"	19-10"	19-11"	23-9"	22-9"	22-5"	21-6"
	N-40	20-4"	19-3"	18-9"	18-9"	22-9"	21-9"	21-5"	20-6"
	N-40S	21-4"	20-4"	19-10"	19-11"	23-9"	22-9"	22-5"	21-6"

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 fastened reactions greater than shown in the I-joist properties 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 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.

SI units conversion: 1 inch = 25.4 mm

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS

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

NORDIC I-JOIST SERIES

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

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

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 as full top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span applications must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, media 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 (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and to 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

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

FIGURES 3, 4 or 5
Holes may be cut in web for plumbing, wiring and duct work. See Tables 1, 2 and Figure 7.

NOTE: Never cut or notch flanges.

FIGURES 3, 4 or 5
Use hangers recognized in current code evaluation reports.

All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.125" dia.) common spiral nails may be substituted for 2-1/2" (0.125" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

10 Transfer load from above to bearing below. Install squish blocks per detail 1d. Squish bearing area of blocks below to post above.

11 Use single I-joist for loads up to 3,300 plf, double I-joists for loads up to 6,600 plf (filler block not required). Attach I-joist to top plate using 2-1/2" nails at 6" o.c.

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

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

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

15 Double I-joist header.

16 Top- or face-mount hanger.

17 Filler block per detail 1p.

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

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

20 Backer blocks (blocks must be long enough to permit required nailing without splitting).

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

22 Do not bevel-cut joist beyond inside face of wall.

23 Attach I-joist per detail 1b.

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

25 Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side.

26 Optional: Minimum 1x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

27 One 2-1/2" nails at top and bottom flange from each web to lumber piece. Two 2-1/2" nails from each web to lumber piece. One 2-1/2" nails one side only. 2-1/2" nails at 6" o.c.

BACKER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Flange Width	Joist Depth	Filler Block Size
2-1/2"	9-1/2"	2-1/8" x 6"
2-1/2"	11-7/8"	2-1/8" x 8"
2-1/2"	14"	2-1/8" x 10"
2-1/2"	16"	2-1/8" x 12"
3-1/2"	9-1/2"	3" x 6"
3-1/2"	11-7/8"	3" x 8"
3-1/2"	14"	3" x 10"
3-1/2"	16"	3" x 12"
4"	11-7/8"	3" x 7"
4"	14"	3" x 9"
4"	16"	3" x 11"

Notes:

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

FIGURE 3
Attach rim joist to floor joist with one nail at top and bottom. Nail must provide 1 inch minimum restraint into floor joist. Toe-nailing may be used.

FIGURE 4
Nail rim board blocking panel per detail 1a.

FIGURE 5
1/16" for squish blocks.

FIGURE 6
Squish block.

FIGURE 7
Pair of Squish Blocks.

FIGURE 8
2x Lumber.

FIGURE 9
Attach rim joist to top plate per detail 1a.

FIGURE 10
Minimum 1-3/4" bearing required.

FIGURE 11
Attach rim joist to top plate per detail 1a.

FIGURE 12
Minimum 1-3/4" bearing required.

FIGURE 13
Attach rim joist to top plate per detail 1a.

FIGURE 14
Minimum 1-3/4" bearing required.

FIGURE 15
Attach rim joist to top plate per detail 1a.

FIGURE 16
Minimum 1-3/4" bearing required.

FIGURE 17
Attach rim joist to top plate per detail 1a.

FIGURE 18
Minimum 1-3/4" bearing required.

FIGURE 19
Attach rim joist to top plate per detail 1a.

FIGURE 20
Minimum 1-3/4" bearing required.

FIGURE 21
Attach rim joist to top plate per detail 1a.

FIGURE 22
Minimum 1-3/4" bearing required.

FIGURE 23
Attach rim joist to top plate per detail 1a.

FIGURE 24
Minimum 1-3/4" bearing required.

FIGURE 25
Attach rim joist to top plate per detail 1a.

FIGURE 26
Minimum 1-3/4" bearing required.

FIGURE 27
Attach rim joist to top plate per detail 1a.

FIGURE 28
Minimum 1-3/4" bearing required.

FIGURE 29
Attach rim joist to top plate per detail 1a.

FIGURE 30
Minimum 1-3/4" bearing required.

FIGURE 31
Attach rim joist to top plate per detail 1a.

FIGURE 32
Minimum 1-3/4" bearing required.

FIGURE 33
Attach rim joist to top plate per detail 1a.

FIGURE 34
Minimum 1-3/4" bearing required.

FIGURE 35
Attach rim joist to top plate per detail 1a.

FIGURE 36
Minimum 1-3/4" bearing required.

FIGURE 37
Attach rim joist to top plate per detail 1a.

FIGURE 38
Minimum 1-3/4" bearing required.

FIGURE 39
Attach rim joist to top plate per detail 1a.

FIGURE 40
Minimum 1-3/4" bearing required.

FIGURE 41
Attach rim joist to top plate per detail 1a.

FIGURE 42
Minimum 1-3/4" bearing required.

FIGURE 43
Attach rim joist to top plate per detail 1a.

FIGURE 44
Minimum 1-3/4" bearing required.

FIGURE 45
Attach rim joist to top plate per detail 1a.

FIGURE 46
Minimum 1-3/4" bearing required.

FIGURE 47
Attach rim joist to top plate per detail 1a.

FIGURE 48
Minimum 1-3/4" bearing required.

FIGURE 49
Attach rim joist to top plate per detail 1a.

FIGURE 50
Minimum 1-3/4" bearing required.

FIGURE 51
Attach rim joist to top plate per detail 1a.

FIGURE 52
Minimum 1-3/4" bearing required.

FIGURE 53
Attach rim joist to top plate per detail 1a.

FIGURE 54
Minimum 1-3/4" bearing required.

FIGURE 55
Attach rim joist to top plate per detail 1a.

FIGURE 56
Minimum 1-3/4" bearing required.

FIGURE 57
Attach rim joist to top plate per detail 1a.

FIGURE 58
Minimum 1-3/4" bearing required.

FIGURE 59
Attach rim joist to top plate per detail 1a.

FIGURE 60
Minimum 1-3/4" bearing required.

FIGURE 61
Attach rim joist to top plate per detail 1a.

FIGURE 62
Minimum 1-3/4" bearing required.

FIGURE 63
Attach rim joist to top plate per detail 1a.

FIGURE 64
Minimum 1-3/4" bearing required.

FIGURE 65
Attach rim joist to top plate per detail 1a.

FIGURE 66
Minimum 1-3/4" bearing required.

FIGURE 67
Attach rim joist to top plate per detail 1a.

FIGURE 68
Minimum 1-3/4" bearing required.

FIGURE 69
Attach rim joist to top plate per detail 1a.

FIGURE 70
Minimum 1-3/4" bearing required.

FIGURE 71
Attach rim joist to top plate per detail 1a.

FIGURE 72
Minimum 1-3/4" bearing required.

FIGURE 73
Attach rim joist to top plate per detail 1a.

FIGURE 74
Minimum 1-3/4" bearing required.

FIGURE 75
Attach rim joist to top plate per detail 1a.

FIGURE 76
Minimum 1-3/4" bearing required.

FIGURE 77
Attach rim joist to top plate per detail 1a.

FIGURE 78
Minimum 1-3/4" bearing required.

FIGURE 79
Attach rim joist to top plate per detail 1a.

FIGURE 80
Minimum 1-3/4" bearing required.

FIGURE 81
Attach rim joist to top plate per detail 1a.

FIGURE 82
Minimum 1-3/4" bearing required.

FIGURE 83
Attach rim joist to top plate per detail 1a.

FIGURE 84
Minimum 1-3/4" bearing required.

FIGURE 85
Attach rim joist to top plate per detail 1a.

FIGURE 86
Minimum 1-3/4" bearing required.

FIGURE 87
Attach rim joist to top plate per detail 1a.

FIGURE 88
Minimum 1-3/4" bearing required.

FIGURE 89
Attach rim joist to top plate per detail 1a.

FIGURE 90
Minimum 1-3/4" bearing required.

FIGURE 91
Attach rim joist to top plate per detail 1a.

FIGURE 92
Minimum 1-3/4" bearing required.

FIGURE 93
Attach rim joist to top plate per detail 1a.

FIGURE 94
Minimum 1-3/4" bearing required.

FIGURE 95
Attach rim joist to top plate per detail 1a.

FIGURE 96
Minimum 1-3/4" bearing required.

FIGURE 97
Attach rim joist to top plate per detail 1a.

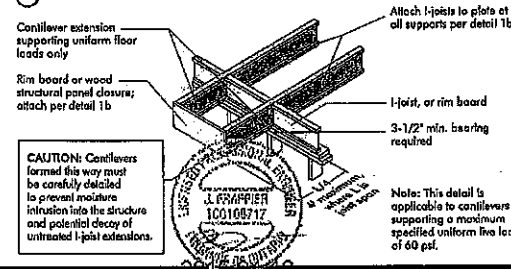
FIGURE 98
Minimum 1-3/4" bearing required.

FIGURE 99
Attach rim joist to top plate per detail 1a.

FIGURE 100
Minimum 1-3/4" bearing required.

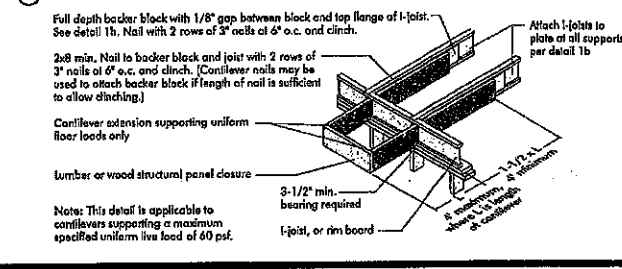
CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

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



CAUTION: Cantilevers formed this way must be carefully detailed to prevent moisture intrusion into the structure and potential decay of untreated I-joist extensions.

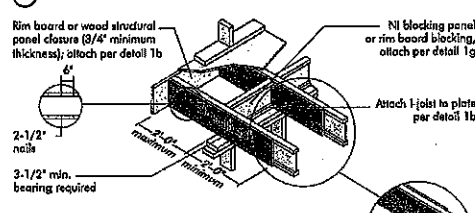
3b) LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



Note: This detail is applicable to cantilevers supporting a maximum specified uniform live load of 60 psf.

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

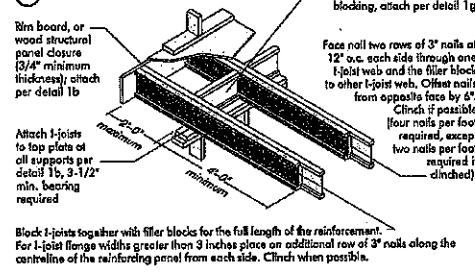


Method 2 — SHEATHING REINFORCEMENT TWO SIDES

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

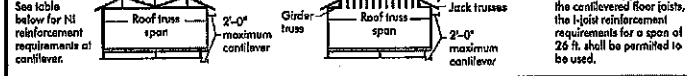
Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4\"/>

4b) Alternate Method 2 — DOUBLE I-JOIST



Block I-joists together with filler blocks for the full length of the reinforcement. For I-joist flange widths greater than 12 inches place an additional row of 3\"/>

FIGURE 4 (continued)



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

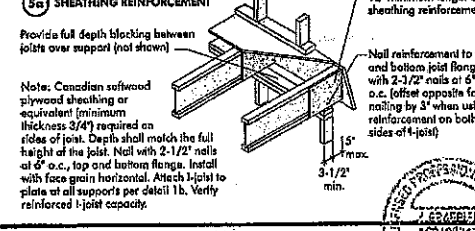
CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft.)	REINFORCEMENT METHODS ALLOWED				REINFORCEMENT METHODS ALLOWED			
		1	2	3	4	1	2	3	4
9-1/2"	12	N	N	N	N	N	N	N	N
11-7/8"	12	N	N	N	N	N	N	N	N
14"	12	N	N	N	N	N	N	N	N
16"	12	N	N	N	N	N	N	N	N
18"	12	N	N	N	N	N	N	N	N
20"	12	N	N	N	N	N	N	N	N
22"	12	N	N	N	N	N	N	N	N
24"	12	N	N	N	N	N	N	N	N
26"	12	N	N	N	N	N	N	N	N
28"	12	N	N	N	N	N	N	N	N
30"	12	N	N	N	N	N	N	N	N
32"	12	N	N	N	N	N	N	N	N
34"	12	N	N	N	N	N	N	N	N
36"	12	N	N	N	N	N	N	N	N
38"	12	N	N	N	N	N	N	N	N
40"	12	N	N	N	N	N	N	N	N

- N = No reinforcement required.
- NI = NI reinforced with 3/4\"/>

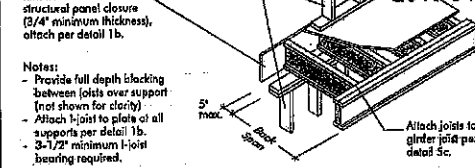
BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

5a) SHEATHING REINFORCEMENT



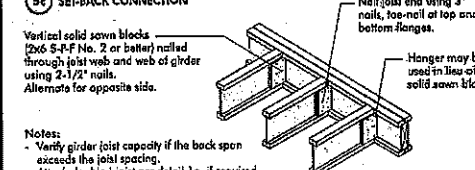
Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4\"/>

5b) SET-BACK DETAIL



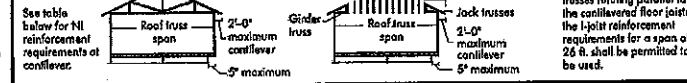
Notes:

5c) SET-BACK CONNECTION



Notes:

FIGURE 5 (continued)



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

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft.)	REINFORCEMENT METHODS ALLOWED				REINFORCEMENT METHODS ALLOWED			
		1	2	3	4	1	2	3	4
9-1/2"	12	N	N	N	N	N	N	N	N
11-7/8"	12	N	N	N	N	N	N	N	N
14"	12	N	N	N	N	N	N	N	N
16"	12	N	N	N	N	N	N	N	N
18"	12	N	N	N	N	N	N	N	N
20"	12	N	N	N	N	N	N	N	N
22"	12	N	N	N	N	N	N	N	N
24"	12	N	N	N	N	N	N	N	N
26"	12	N	N	N	N	N	N	N	N
28"	12	N	N	N	N	N	N	N	N
30"	12	N	N	N	N	N	N	N	N
32"	12	N	N	N	N	N	N	N	N
34"	12	N	N	N	N	N	N	N	N
36"	12	N	N	N	N	N	N	N	N
38"	12	N	N	N	N	N	N	N	N
40"	12	N	N	N	N	N	N	N	N

- N = No reinforcement required.
- NI = NI reinforced with 3/4\"/>

WEB HOLES

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-joist 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-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.
- The sides of square holes or larger sized holes 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 shall be 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

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft.)	Minimum distance from inside face of any support to center of hole (in.)											
		12	16	20	24	28	32	36	40	44	48	52	56
9-1/2"	12	N	N	N	N	N	N	N	N	N	N	N	N
11-7/8"	12	N	N	N	N	N	N	N	N	N	N	N	N
14"	12	N	N	N	N	N	N	N	N	N	N	N	N
16"	12	N	N	N	N	N	N	N	N	N	N	N	N
18"	12	N	N	N	N	N	N	N	N	N	N	N	N
20"	12	N	N	N	N	N	N	N	N	N	N	N	N
22"	12	N	N	N	N	N	N	N	N	N	N	N	N
24"	12	N	N	N	N	N	N	N	N	N	N	N	N
26"	12	N	N	N	N	N	N	N	N	N	N	N	N
28"	12	N	N	N	N	N	N	N	N	N	N	N	N
30"	12	N	N	N	N	N	N	N	N	N	N	N	N
32"	12	N	N	N	N	N	N	N	N	N	N	N	N
34"	12	N	N	N	N	N	N	N	N	N	N	N	N
36"	12	N	N	N	N	N	N	N	N	N	N	N	N
38"	12	N	N	N	N	N	N	N	N	N	N	N	N
40"	12	N	N	N	N	N	N	N	N	N	N	N	N

1. Above table may be used for I-joist spacing of 24 inches on center or less.

2. Hole location distance is measured from inside face of support to center of hole.

3. Distances in this chart are based on uniformly loaded joists.

OPTIONAL:

This table is based on the I-joists used of their maximum span. If the I-joists are placed at less than their full maximum span (see Manufacturer's literature), the minimum distance from the centerline of the hole to the face of any support (D) as given above may be reduced as follows:

Reduced = Actual x D

Where:

Deducted = Distance from the inside face of any support to center of hole, reduced for less than maximum span application.

Actual = The actual measured span distance between inside face of supports (S).

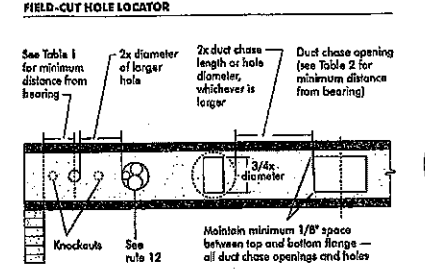
SAF = Span Adjustment Factor given in this table.

D = The minimum distance from the inside face of any support to center of hole from this table.

If Deducted is greater than 1, use 1 in the above calculation for Actual.

SAF

FIGURE 7 FIELD-CUT HOLE LOCATOR



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

TABLE 2 DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft.)	Minimum distance from inside face of any support to center of opening (in.)											
		12	16	20	24	28	32	36	40	44	48	52	56
9-1/2"	12	N	N	N	N	N	N	N	N	N	N	N	N
11-7/8"	12	N	N	N	N	N	N	N	N	N	N	N	N
14"	12	N	N	N	N	N	N	N	N	N	N	N	N
16"	12	N	N	N	N	N	N	N	N	N	N	N	N
18"	12	N	N	N	N	N	N	N	N	N	N	N	N
20"	12	N	N	N	N	N	N	N	N	N	N	N	N
22"	12	N	N	N	N	N	N	N	N	N	N	N	N
24"	12	N	N	N	N	N	N	N	N	N	N	N	N
26"	12	N	N	N	N	N	N	N	N	N	N	N	N
28"	12	N	N	N	N	N	N	N	N	N	N	N	N
30"	12	N	N	N	N	N	N	N	N	N	N	N	N
32"	12	N	N	N	N	N	N	N	N	N	N	N	N
34"	12	N	N	N	N	N	N	N	N	N	N	N	N
36"	12	N	N	N	N	N	N	N	N	N	N	N	N
38"	12	N	N	N	N	N	N	N	N	N	N	N	N
40"	12	N	N	N	N	N	N	N	N	N	N	N	N

1. Above table may be used for I-joist spacing of 24 inches on center or less.

2. Duct chase opening location distance is measured from inside face of supports to center of opening.

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

4. Distances are based on uniformly loaded floor joists (but 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 L/480. For other applications, consult your local distributor.

INSTALLING THE GLUED JOIST SYSTEM

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

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Maximum Joist Spacing (in.)	Minimum Panel Thickness (in.)	Nail Size and Type				Maximum Spacing of Fasteners (in.)
		Common Nail or Spiral Nail	Ring Threaded Nails or Screws	Staples	Staples	
16	5/8	2"	1-3/4"	2"	6"	12"
20	5/8	2"	1-3/4"	2"	6"	12"
24	3/4	2"	1-3/4"	2"	6"	12"

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

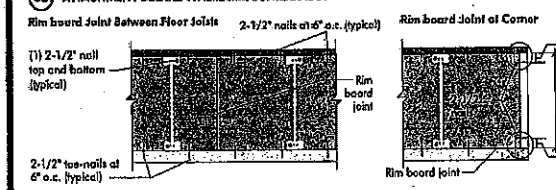
Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:

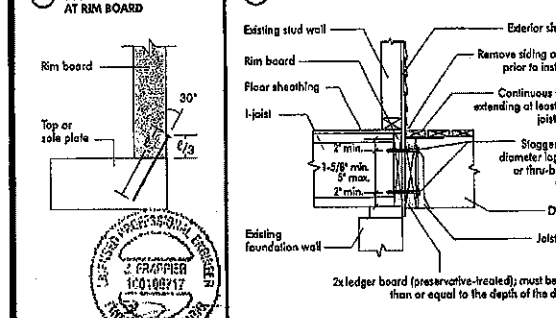
After sheathing must be field-glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor.

RIM BOARD INSTALLATION DETAILS

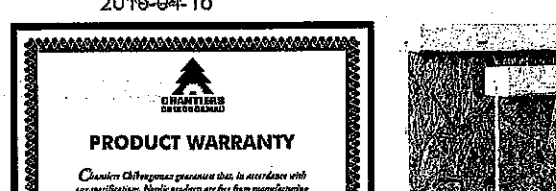
3a) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



3b) TOE-NAILED CONNECTION AT RIM BOARD



3c) 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL



PRODUCT WARRANTY

Chemical Adhesives guarantee that, in accordance with our specifications, Plastic products are free from manufacturing defects in material and workmanship.

Furthermore, Chemical Adhesives warrant that, when used in accordance with our bonding and installation instructions, will meet or exceed our specifications for the lifetime of the structure.



Refer to the Installation Guide for Residential Floors for additional information.
CCMAG EVALUATION REPORT 13032-1

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-joist 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-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.

- The sides of square holes or longest sides of rectangular holes shall 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.

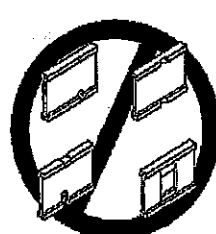
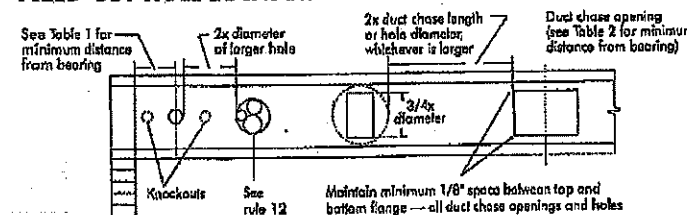
TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS

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 (ft - in.)												
		Round Hole Diameter (in.)												
9-1/2"	NI-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-1"	---	---	---	---	---	---	---
	NI-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	---	---	---	---	---	---	---
	NI-60	0-7"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---	---	---
	NI-70	0-7"	3-4"	4-8"	6-2"	8-0"	8-4"	---	---	---	---	---	---	---
	NI-80	0-7"	3-6"	5-0"	6-4"	8-2"	8-6"	---	---	---	---	---	---	---
11-7/8"	NI-20	0-7"	0-5"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-5"	---	---	---	---
	NI-40x	0-7"	0-5"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-5"	---	---	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---	---	---
	NI-80	1-4"	2-10"	4-2"	5-6"	7-0"	7-4"	8-6"	10-3"	11-4"	---	---	---	---
14"	NI-20	0-7"	0-5"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-5"	---	---	---	---
	NI-40x	0-7"	0-5"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-5"	---	---	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---	---	---
	NI-80	1-4"	2-10"	4-2"	5-6"	7-0"	7-4"	8-6"	10-3"	11-4"	---	---	---	---
16"	NI-20	0-7"	0-5"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-5"	---	---	---	---
	NI-40x	0-7"	0-5"	1-0"	2-4"	3-8"	4-0"	5-0"	6-4"	7-5"	---	---	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---	---	---
	NI-80	1-4"	2-10"	4-2"	5-6"	7-0"	7-4"	8-6"	10-3"	11-4"	---	---	---	---

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

FIGURE 7
FIELD-CUT HOLE LOCATOR



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

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

Holes in webs should be cut with a sharp saw.

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

SAFETY AND CONSTRUCTION PRECAUTIONS



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



Never stack building materials over unbraced I-joists. Once sheathed, do not overstack I-joists with concentrated loads from building materials.

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

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

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

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

PRODUCT WARRANTY

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

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

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

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

Attach I-joist to top plate per detail 1b.

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

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 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 bearing 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-joist.

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.

Pair of Squash Blocks	Maximum Factored Uniform Vertical Load per Pair of Squash Blocks (lbs)
3-1/2" wide	5,500
5-1/2" wide	8,500
1-1/8" Rim Board Plus	4,300
	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.

2-1/2" nails at 6" o.c. to top plate.

NI blocking panel per detail 1a.

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

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-C0925 or CAN/CSA-C437 Standard.

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

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

Nordic Lam or Structural Composite Lumber (SCL). For nailing schedules for multiple beams, see the manufacturer's recommendations.

Top- or face-mount hanger installed per manufacturer's recommendations.

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

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

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

Install hanger per manufacturer's recommendations.

Maximum support capacity = 1,620 lbs.

Do not bore-cut joist beyond inside face of wall.

Attach I-joist per detail 1b.

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

Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece on opposite side.

NI blocking panel.

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

Filler block.

Offset nails from opposite face by 6".

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

NOTES:

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

Flange Size	Nail Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2" x 1-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
3-1/2" x 2"	11-7/8"	3" x 7"
	14"	3" x 9"
	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 on opposite side. One 2-1/2" nail on one side only.

NOTES:

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

All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.125" dia.) common spiral nails may be substituted for 2-1/2" (0.125" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

WEB STIFFENERS

RECOMMENDATIONS:

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

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS

CONCENTRATED LOAD (Load stiffener). END BEARING (Bearing stiffener).

Tight Joint No Gap. Gap. Tight Joint No Gap.

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

See the adjacent table for web stiffener size requirements.

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 - SHEATHING REINFORCEMENT ONE SIDE.

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

2-1/2" nails.

3-1/2" min. bearing required.

Method 2 - SHEATHING REINFORCEMENT TWO SIDES.

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.

Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

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

RIM BOARD INSTALLATION DETAILS

Attachment details where rim boards abut.

Rim Board Joint Between Floor Joists.

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

Rim board joint.

Rim Board Joint at Corner.

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

Rim board joint.

Toe-Nail Connection at Rim Board.

Rim board.

Top or sole plate.

30°.

4/8".

NORDIC STRUCTURES

COMPANY
Apr. 12, 2019 10:57

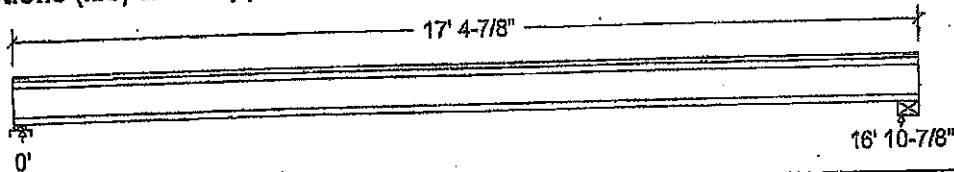
PROJECT
J8 1ST FLOOR

Design Check Calculation Sheet Nordic Sizer - Canada 7.2

Loads:

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

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



Unfactored:			169
Dead	169		338
Live	338		
Factored:			719
Total	719		
Bearing:			1893
Capacity			-
Joist	1893		0.38
Support	6659		-
Des ratio			#2
Joist	0.38		5
Support	0.11		1-3/4
Load case	#2		No
Length	2-3/4		1.00
Min req'd	1-3/4		-
Stiffener	No		-
KD	1.00		-
KB support	1.00		-
fcp sup	769		-
Kzcp sup	1.13		-



DESIGN CONFORMS TO OBC2012

Nordic 9-1/2" NI-80 Floor Joist @ 12" o.c.
Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W;
Total length: 17' 4-7/8"; Clear span: 16' 9-1/8"; 3/4" nailed and glued OSB sheathing
This section PASSES the design code check.

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

ET0000287

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	$V_f = 719$	$V_r = 1895$	lbs	$V_f/V_r = 0.38$
Moment (+)	$M_f = 3037$	$M_r = 8958$	lbs-ft	$M_f/M_r = 0.34$
Perm. Defl'n	$0.11 = < L/999$	$0.56 = L/360$	in	0.20
Live Defl'n	$0.22 = L/907$	$0.42 = L/480$	in	0.53
Total Defl'n	$0.34 = L/604$	$0.85 = L/240$	in	0.40
Bare Defl'n	$0.25 = L/796$	$0.56 = L/360$	in	0.45
Vibration	$L_{max} = 16'-10.9$	$L_v = 18'-4.9$	ft	0.92
Defl'n	$= 0.029$	$= 0.037$	in	0.78

Additional Data:

FACTORS:	ϕ/E	KD	KH	KZ	KL	KT	KS	KN	LC#
V_r	1895	1.00	1.00	-	-	-	-	-	#2
M_r	8958	1.00	1.00	-	1.000	-	-	-	#2
EI	324.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = $1.25D + 1.5L$
 Moment (+) : LC #2 = $1.25D + 1.5L$
 Deflection: LC #1 = $1.0D$ (permanent)
 LC #2 = $1.0D + 1.0L$ (live)
 LC #2 = $1.0D + 1.0L$ (total)
 LC #2 = $1.0D + 1.0L$ (bare joist)

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

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

Load Patterns: s=S/2 L=L+Ls =no pattern load in this span
 All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

$E I_{eff} = 375.38 \text{ lb-in}^2$ $K = 4.94e06 \text{ lbs}$

"Live" deflection is due to all non-dead loads (live, wind, snow)

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DESIGN CONFORMS TO OBC2012

ET0000288

NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER INC.
3269 NORTH SERVICE ROAD
BURLINGTON ONTARIO
Nov. 14, 2018 09:03

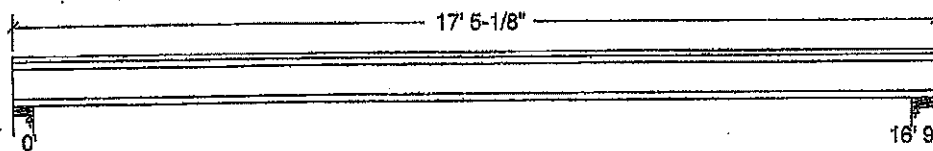
PROJECT
J5 2ND FLOOR

Design Check Calculation Sheet Nordic Sizer - Canada 7.1

Loads:

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

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



Unfactored:			
Dead	168		168
Live	335		335
Factored:			
Total	712		712
Bearing:			
Resistance			
Joist	1893		1893
Support	10829		13614
Des ratio			
Joist	0.38		0.38
Support	0.07		0.05
Load case	#2		#2
Length	4-3/8		5-1/2
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.15		1.15



DESIGN CONFORMS TO OBC2012

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

Nordic Joist 9-1/2" NI-80 Floor joist @ 12" o.c.

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

Total length: 17' 5-1/8"; Clear span: 16' 7-1/4"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 712	Vr = 1895	lbs	Vf/Vr = 0.38
Moment (+)	Mf = 2981	Mr = 8958	lbs-ft	Mf/Mr = 0.33
Perm. Defl'n	0.11 = < L/999	0.56 = L/360	in	0.20
Live Defl'n	0.22 = L/912	0.42 = L/480	in	0.53
Total Defl'n	0.33 = L/608	0.84 = L/240	in	0.39
Bare Defl'n	0.25 = L/817	0.56 = L/360	in	0.44
Vibration	Lmax = 16'-9	Lv = 17'-9.5	ft	0.94
Defl'n	= 0.031	= 0.038	in	0.83

ET0000289

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	8958	1.00	1.00	-	1.000	-	-	-	#2
EI	324.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

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

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

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

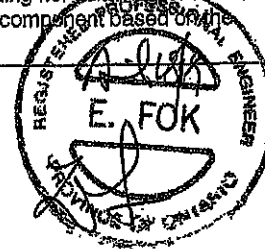
Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span
 All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

Deflection: E_{eff} = 367e06 lb-in² K= 4.94e06 lbs
 "Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMG evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DESIGN CONFORMS TO OBC2012



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B2(13889)

Dry | 1 span | No cant.

November 14, 2018 09:37:12

BC CALCO® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

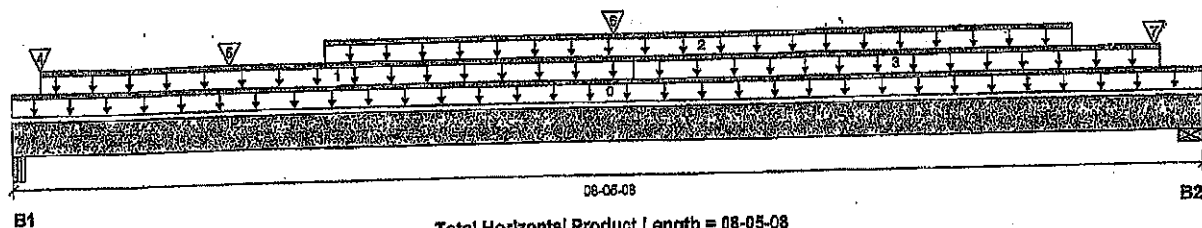
File name: BARTON 2.mmd

Description: 1ST FLOOR FRAMING\Flush Beams\B2(13889)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/8"	1,496 / 0	822 / 0		
B2, 3-1/2"	2,018 / 0	1,059 / 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	08-05-08	Top	10				00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-08	04-04-12	Top	13	6			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	02-02-08	07-08-08	Top	273	136			n/a
3	STAIRS	Unf. Lin. (lb/ft)	L	04-04-12	08-02-00	Top	240	120			n/a
4	13(13609)	Conc. Pt. (lbs)	L	00-02-08	00-02-08	Top	105	76			n/a
5	J2(13783)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	Top	489	244			n/a
6	B3(13862)	Conc. Pt. (lbs)	L	04-03-00	04-03-00	Top	163	100			n/a
7	J2(13768)	Conc. Pt. (lbs)	L	08-01-08	08-01-08	Top	337	169			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7,495 ft-lbs	23,220 ft-lbs	32.3%	1	04-03-00
End Shear	3,255 lbs	11,571 lbs	28.1%	1	07-04-08
Total Load Deflection	L/999 (0.116")	n/a	n/a	4	04-04-12
Live Load Deflection	L/999 (0.076")	n/a	n/a	5	04-04-12
Max Defl.	0.116"	n/a	n/a	4	04-04-12
Span / Depth	9.9				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/8" x 3-1/2"	3,271 lbs	34.1%	14.9%	Unspecified
B2 Wall/Plate	3-1/2" x 3-1/2"	4,350 lbs	66.5%	29.1%	Unspecified

Notes

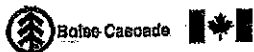
- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Calculations assume member is fully braced.
- Resistance Factor phi has been applied to all presented results per CSA O86.
- BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
- Design based on Dry Service Condition.
- Importance Factor : Normal Part code : Part 9
- Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Nail one ply to another with
3 1/2" spiral nails @ 10"
o.c., staggered in 2 rows



DESIGN CONFORMS TO OBC2012

ET0000291



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

PASSED

BG CALC® Member Report

Dry | 1 span | No cant.

November 14, 2018 09:37:12

Build 6475

Job name:

File name: BARTON 2.mmdl

Address:

Description: 1ST FLOOR FRAMING\Flush Beams\B1(13775)

City, Province, Postal Code: CALEDON

Specifier:

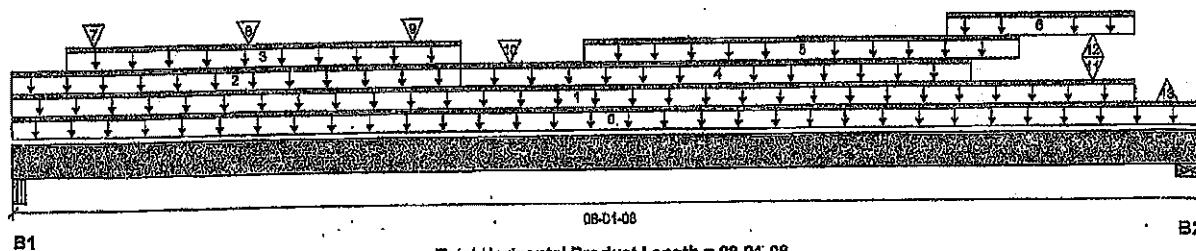
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/4"	3,648 / 1	2,226 / 0		
B2, 3-1/2"	3,047 / 35	1,929 / 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		14			00-00-00
1	12(13389)	Unf. Lin. (lb/ft)	L	00-00-00	07-08-00	Top		81			n/a
2	12(13389)	Unf. Lin. (lb/ft)	L	00-00-00	03-00-08	Top	390	195			n/a
3	12(13389)	Unf. Lin. (lb/ft)	L	00-04-08	03-00-08	Top	82	41			n/a
4	12(13389)	Unf. Lin. (lb/ft)	L	03-00-08	06-06-08	Top	582	282			n/a
5	Smoothed Load	Unf. Lin. (lb/ft)	L	03-10-08	06-10-08	Top	355	177			n/a
6	12(13389)	Unf. Lin. (lb/ft)	L	06-04-08	07-08-00	Top	237	118			n/a
7	-	Conc. Pt. (lbs)	L	00-06-12	00-06-12	Top	568	293			n/a
8	J1(13871)	Conc. Pt. (lbs)	L	01-07-04	01-07-04	Top	347	174			n/a
9	J1 DJ(13823)	Conc. Pt. (lbs)	L	02-08-08	02-08-08	Top	337	168			n/a
10	J8(13779)	Conc. Pt. (lbs)	L	03-04-08	03-04-08	Top	296	148			n/a
11	-	Conc. Pt. (lbs)	L	07-04-10	07-04-10	Top	323	161			n/a
12	-	Conc. Pt. (lbs)	L	07-04-10	07-04-10	Top	-16				n/a
13	E5(1140)	Conc. Pt. (lbs)	L	07-10-12	07-10-12	Top	-20				n/a

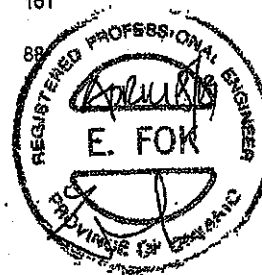
Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	14,247 ft-lbs	36,222 ft-lbs	39.3%	1	04-03-00
End Shear	6,500 lbs	17,356 lbs	37.4%	1	07-00-08
Total Load Deflection	L/668 (0.138")	n/a	36.6%	6	04-01-08
Live Load Deflection	L/999 (0.086")	n/a	n/a	8	04-01-08
Max Defl.	0.138"	n/a	n/a	6	04-01-08
Span / Depth	9.6				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4-3/4" x 5-1/4"	8,254 lbs	62.0%	27.1%	Unspecified
B2	Wall/Plate 3-1/2" x 5-1/4"	8,981 lbs	71.1%	31.1%	Unspecified

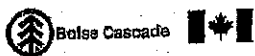
THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE

Nail one ply to another with
3 1/2" spiral nails @ 6" o.c., staggered in 2 rows



DESIGN CONFORMS TO OBC2012

ET0000292



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B3(13915)

Dry | 1 span | No cant.

November 15, 2018 10:23:19

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: OALEDON,

Customer:

Code reports: CCMC 12472-R

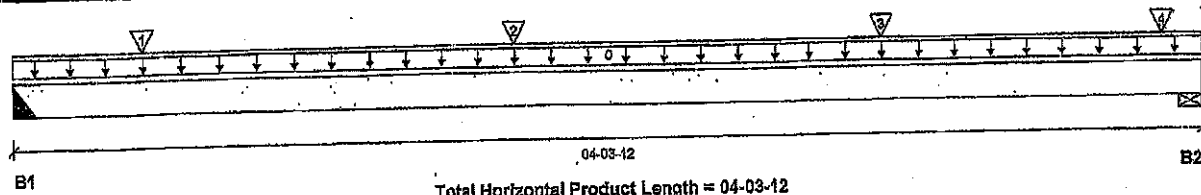
File name: BARTON 2.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B3(13915)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	164 / 0	92 / 0		
B2, 3-1/2"	258 / 0	225 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-03-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	J5(13918)	Conc. Pt. (lbs)	L	00-05-12	00-05-12	Top	78	38			n/a
2	J5(13917)	Conc. Pt. (lbs)	L	01-09-12	01-09-12	Top	112	56			n/a
3	J5(13895)	Conc. Pt. (lbs)	L	03-01-12	03-01-12	Top	112	56			n/a
4	11(1162)	Conc. Pt. (lbs)	L	04-02-00	04-02-00	Top	120	146			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	357 ft-lbs	11,610 ft-lbs	3.1%	1	01-09-12
End Shear	299 lbs	5,785 lbs	5.2%	1	03-02-12
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	02-01-12
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	02-01-12
Max Defl.	0.003"	n/a	n/a	4	02-01-12
Span / Depth	4.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	361 lbs	n/a	5.6%	HUS1.81/10
B2	Wall/Plate 3-1/2" x 1-3/4"	668 lbs	20.4%	8.9%	Unspecified

Cautions

Header for the hanger HUS1.81/10 at B1 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user.

Notes

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



DESIGN CONFORMS TO OBC2012

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®,

ET0000293



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B5(14042)

Dry | 1 span | No cant.

April 12, 2019 10:52:09

BC CALCO Member Report

Build 8768

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

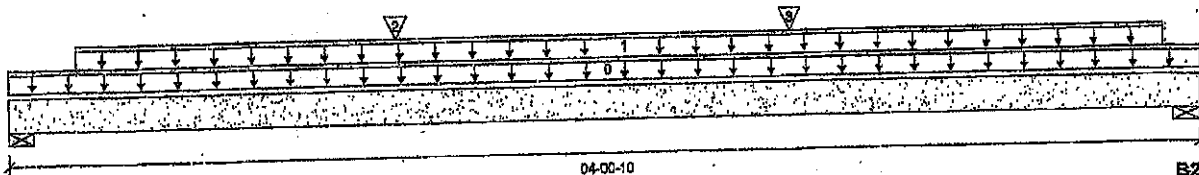
File name: BARTON 2 ELEV 1.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B5(14042)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 04-00-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/4"	778 / 0	409 / 0		
B2, 2-3/8"	771 / 0	405 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.66	Snow 1.80	Wind 1.16	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-00-10	Top		10			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-02-12	03-11-04	Top	240	120			n/a
2	J3(13924)	Conc. Pt. (lbs)	L	01-03-12	01-03-12	Top	337	169			n/a
3	J3(13925)	Conc. Pt. (lbs)	L	02-07-12	02-07-12	Top	322	161			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,782 ft-lbs	23,220 ft-lbs	7.6%	1	02-00-12
End Shear	1,263 lbs	11,571 lbs	10.9%	1	01-00-04
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	02-00-04
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	02-00-04
Max Defl.	0.006"	n/a	n/a	4	02-00-04
Span / Depth	4.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/4" x 3-1/2"	1,679 lbs	32.7%	14.3%	Unspecified
B2	Wall/Plate 2-3/8" x 3-1/2"	1,682 lbs	37.4%	18.4%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

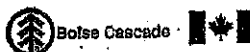
Importance Factor: Normal Part code: Part 9

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

Nail one ply to another with
3 1/2" spiral nails @ 6"
o.c., staggered in 2 rows



DESIGN CONFORMS TO OBC2012



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B4\3784

Dry | 1 span | No cant.

November 14, 2018 09:37:12

BC CALC® Member Report

Build 0475

Job name:

File name: BARTON 2.mmdl

Address:

Description: 1ST FLOOR FRAMING\Flush Beams\B4\3784

City, Province, Postal Code: CALEDON

Specifier:

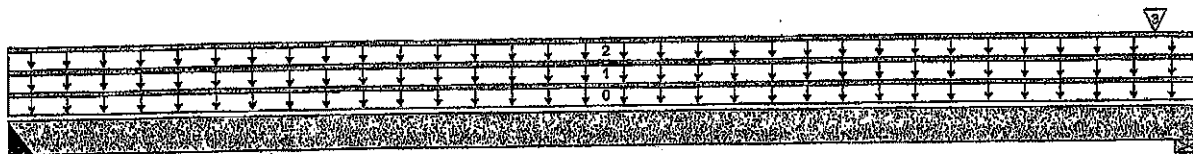
Customer:

Designer: PL

Code reports:

CCMC 12472-R

Company:



B1 03-11-10 B2

Total Horizontal Product Length = 03-11-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	285 / 0	152 / 0		
B2, 3-1/2"	290 / 0	164 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-11-10	Top	1.00	0.66	1.00	1.15	00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-11-10	Top	120	60			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-11-10	Top	24	12			n/a
3	11(162)	Conc. Pt. (lbs)	L	03-09-14	03-09-14	Top		10			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	493 ft-lbs	11,810 ft-lbs	4.2%	1	01-11-09
End Shear	288 lbs	5,785 lbs	5.0%	1	01-00-08
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	01-11-09
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-11-09
Max Defl.	0.003"	n/a	n/a	4	01-11-09
Span / Depth	4.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	617 lbs	n/a	9.6%	HUS1.81/10
B2	Wall/Plate 3-1/2" x 1-3/4"	640 lbs	19.6%	8.6%	Unspecified

Cautions

Header for the hanger HUS1.81/10 at B1 is a Triple 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user.

Notes

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



DESIGN CONFORMS TO OBC2012

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®,

ET0000295



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B6(13884)

Dry | 1 span | No cant.

November 14, 2018 09:37:12

BC CALCO Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

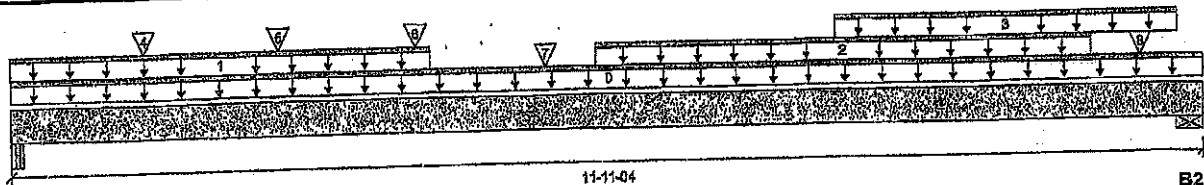
File name: BARTON 2.rmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B6(13884)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 11-11-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	1,719 / 0	965 / 0		
B2, 2-3/4"	2,220 / 0	1,194 / 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	11-11-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	FG2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-02-04	Top	26	13			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	05-10-00	10-10-00	Top	242	121			n/a
3	STAIRS	Unf. Lin. (lb/ft)	L	08-03-00	11-08-08	Top	240	120			n/a
4	J1(13442)	Conc. Pt. (lbs)	L	01-04-00	01-04-00	Top	437	219			n/a
5	J1(13624)	Conc. Pt. (lbs)	L	02-08-00	02-08-00	Top	315	157			n/a
6	-	Conc. Pt. (lbs)	L	04-00-10	04-00-10	Top	521	334			n/a
7	J1(13623)	Conc. Pt. (lbs)	L	05-04-00	05-04-00	Top	278	139			n/a
8	J1(13377)	Conc. Pt. (lbs)	L	11-04-00	11-04-00	Top	229	115			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	11,982 ft-lbs	23,220 ft-lbs	51.6%	1	06-04-00
End Shear	4,146 lbs	11,571 lbs	35.8%	1	10-11-00
Total Load Deflection	L/330 (0.425")	n/a	72.8%	4	06-01-00
Live Load Deflection	L/513 (0.273")	n/a	70.2%	5	06-01-00
Max Defl.	0.425"	n/a	n/a	4	06-01-00
Span / Depth	14.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	1-3/4" x 3-1/2"	3,783 lbs	56.8%	50.6%	Unspecified
B2 Wall/Plate	2-3/4" x 3-1/2"	4,822 lbs	93.8%	41.1%	Unspecified

Notes

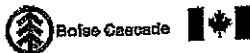
Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALCO analysis is based on Canadian Limit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

Nail one ply to another with
 3 1/2" spiral nails @ 10"
 o.c., staggered in 2 rows



DESIGN CONFORMS TO OBC2012

ET0000296



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(13885)

Dry | 1 span | No cant.

November 14, 2018 09:37:12

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

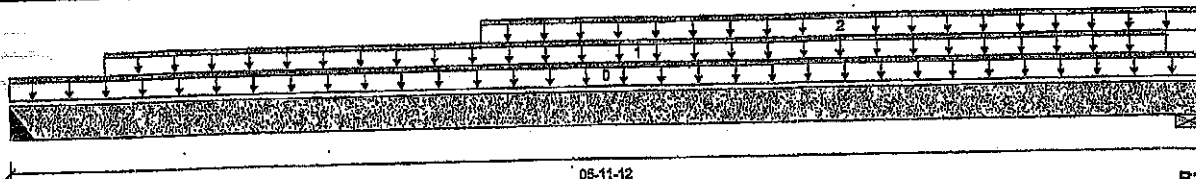
File name: BARTON 2.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B7(13885)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 05-11-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	209 / 0	181 / 0		
B2, 3-1/2"	241 / 0	290 / 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	05-11-12	Top	1.00	0.85	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-05-12	05-09-12	Top	84	42			n/a
2	WALL	Unf. Lin. (lb/ft)	L	02-04-04	05-11-12	Top		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	918 ft-lbs	11,810 ft-lbs	7.9%	1	02-11-12
End Shear	560 lbs	5,785 lbs	9.7%	1	04-10-12
Total Load Deflection	L/999 (0.015")	n/a	n/a	4	02-11-12
Live Load Deflection	L/999 (0.007")	n/a	n/a	5	02-11-12
Max Defl.	0.015"	n/a	n/a	4	02-11-12
Span / Depth	7.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	540 lbs	n/a	8.4%	HUS1.81/10
B2	Wall/Plate 3-1/2" x 1-3/4"	724 lbs	22.1%	9.7%	Unspecified

Cautions

Header for the hanger HUS1.81/10 at B1 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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



DESIGN CONFORMS TO OBC2012

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®,

ET0000297



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING\Dropped Beams\B10 DR\B1714
 Dry | 1 span | No cant.

PASSED

November 14, 2018 09:37:12

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

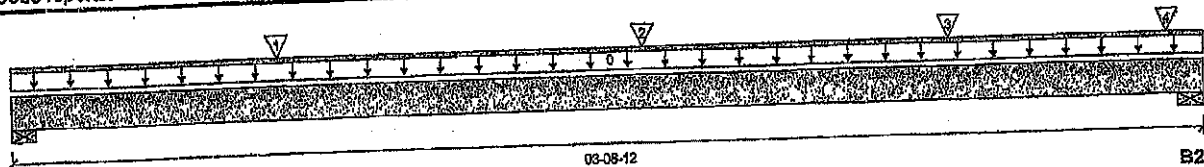
File name: BARTON 2.mmdl

Description: 2ND FLOOR FRAMING\Dro...d Beams\B10 DR\B1714

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 09-08-12

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	624 / 0	330 / 0		
B2, 3-3/4"	719 / 0	378 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-12	Top	100	665	1.00	1.15	00-00-00
1	-	Conc. Pt. (lbs)	L	00-09-08	00-09-08	Top	448	225			n/a
2	-	Conc. Pt. (lbs)	L	01-10-08	01-10-08	Top	448	225			n/a
3	J5(13724)	Conc. Pt. (lbs)	L	02-09-08	02-09-08	Top	339	170			n/a
4	J4(13697)	Conc. Pt. (lbs)	L	03-05-08	03-05-08	Top	108	64			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,191 ft-lbs	23,220 ft-lbs	5.1%	1	01-09-08
End Shear	1,036 lbs	11,571 lbs	8.9%	1	01-00-08
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	01-08-15
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-08-15
Max Defl.	0.003"	n/a	n/a	4	01-08-15
Span / Depth	3.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 3-1/2"	1,349 lbs	15.8%	10.5%	Unspecified
B2	Wall/Plate 3-3/4" x 3-1/2"	1,551 lbs	14.6%	9.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-03-01, Bottom: 00-03-01.
 Resistance Factor phi has been applied to all presented results per CSA 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 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.
 Member has no side loads.

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



DESIGN CONFORMS TO OBC2012

ET0000298



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

PASSED

2ND FLOOR FRAMING/Flush Beams/B8(13662)

Dry | 1 span | No cant.

November 14, 2018 09:37:12

BC CALCO® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMG 12472-R

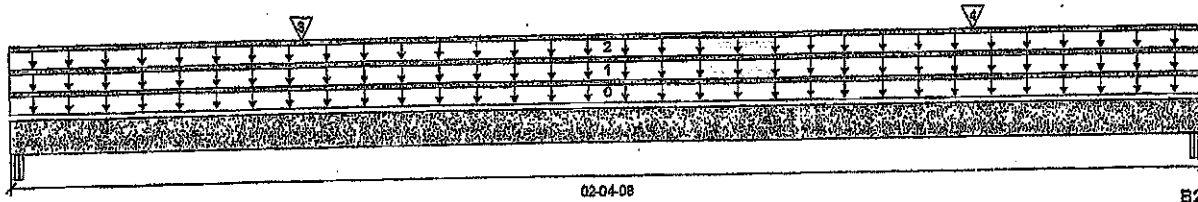
File name: BARTON 2.mmdl

Description: 2ND FLOOR FRAMING/Flush Beams/B8(13662)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 02-04-08

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	240 / 0	283 / 0	497 / 0	
B2, 5"	323 / 0	366 / 0	693 / 0	

Load Summary

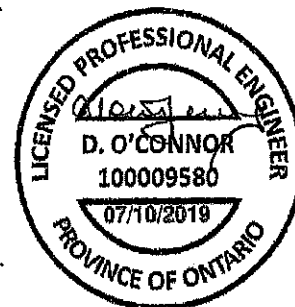
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-04-08	Top	1.00	0.85	1.00	1.15	00-00-00
1	E19(I1355)	Unf. Lin. (lb/ft)	L	00-00-00	02-04-08	Top	116	186	357		n/a
2	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-04-08	Top	33	30	102		n/a
3	J3(13628)	Conc. Pt. (lbs)	L	00-07-00	00-07-00	Top	87	43			n/a
4	J3(13616)	Conc. Pt. (lbs)	L	01-11-00	01-11-00	Top	116	57			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	533 ft-lbs	23,220 ft-lbs	2.3%	13	01-00-12
End Shear	138 lbs	11,571 lbs	1.2%	1	01-00-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	35	01-01-00
Live Load Deflection	L/999 (0")	n/a	n/a	51	01-01-00
Max Defl.	0.001"	n/a	n/a	35	01-01-00
Span / Depth	2.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-1/2" x 3-1/2"	1,339 lbs	28.7%	12.5%	Unspecified
B2 Beam	5" x 3-1/2"	1,656 lbs	17.7%	7.8%	Unspecified



DESIGN CONFORMS TO OBC2012

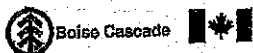
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC 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.

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

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

ET0000299



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING/Dropped Beams/B9 DR(3886)

PASSED

November 14, 2018 09:37:12

BC CALCO® Member Report

Buld 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

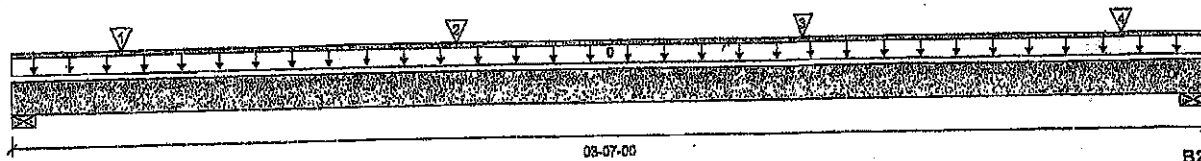
File name: BARTON 2.mmdl

Description: 2ND FLOOR FRAMING/Dropped Beams/B9 DR(3886)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 03-07-00

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,194 / 0	648 / 0		
B2, 3-1/2"	1,868 / 0	1,023 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-07-00	Top	10				00-00-00
1	J5(3450)	Conc. Pt. (lbs)	L	00-04-00	00-04-00	Top	339	170			n/a
2	J5(3450)	Conc. Pt. (lbs)	L	01-04-00	01-04-00	Top	339	170			n/a
3	-	Conc. Pt. (lbs)	L	02-04-07	02-04-07	Top	2,045	1,127			n/a
4	J6(3450)	Conc. Pt. (lbs)	L	03-04-00	03-04-00	Top	339	170			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3,297 ft-lbs	23,220 ft-lbs	14.2%	1	02-04-08
End Shear	3,347 lbs	11,571 lbs	28.9%	1	02-06-00
Total Load Deflection	L/999 (0.007")	n/a	n/a	4	01-10-12
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	01-10-12
Max Defl.	0.007"	n/a	n/a	4	01-10-12
Span / Depth	3.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	2,602 lbs	26.2%	17.4%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	4,081 lbs	41.0%	27.3%	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: 00-02-01, Bottom: 00-02-01.

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.

Member has no side loads.

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



DESIGN CONFORMS TO OBC2012

ET0000300



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

PASSED

2ND FLOOR FRAMING/Flush Beams/B11(I4018)

November 14, 2018 10:13:57

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

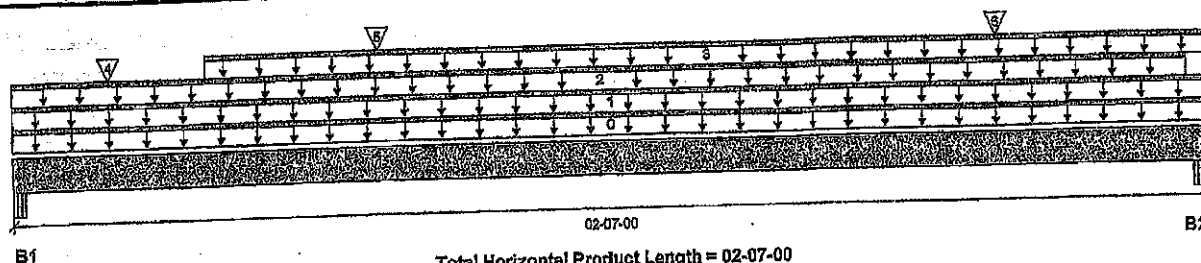
File name: BARTON 2 ELEV 2.mmdl

Description: 2ND FLOOR FRAMING/Flush Beams/B11(I4018)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	993 / 0	1,299 / 0	2,815 / 0	
B2, 5"	410 / 0	408 / 0	658 / 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	02-07-00	Top	33	30	102		n/a
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-07-00	Top		81			n/a
2	E28(I4363)	Unf. Lin. (lb/ft)	L	00-00-00	02-06-08	Top					n/a
3	E28(I4363)	Unf. Lin. (lb/ft)	L	00-05-00	02-07-00	Top	132	120	408		n/a
4	E28(I4363)	Conc. Pt. (lbs)	L	00-02-08	00-02-08	Top	717	979	2,326		n/a
5	J2(I4104)	Conc. Pt. (lbs)	L	00-09-08	00-09-08	Top	131	66			n/a
6	J2(I4281)	Conc. Pt. (lbs)	L	02-01-08	02-01-08	Top	178	88			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	602 ft-lbs	23,220 ft-lbs	2.6%	13	01-03-04
End Shear	188 lbs	11,571 lbs	1.6%	1	01-02-08
Total Load Deflection	L/999 (0.001")	n/a	n/a	35	01-03-08
Live Load Deflection	L/999 (0")	n/a	n/a	51	01-03-08
Max Defl.	0.001"	n/a	n/a	35	01-03-08
Span / Depth	2.4				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 5" x 3-1/2"	6,840 lbs	73.2%	32.0%	Unspecified
B2	Beam 5" x 3-1/2"	1,905 lbs	20.4%	8.9%	Unspecified

DESIGN CONFORMS TO OBC2012

Notes

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

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

Calculations assume member is fully braced.

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

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

ET0000301



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

1ST FLOOR FRAMING\Flush Beams\B1A(4027)

PASSED

April 12, 2019 10:44:37

BC CALC® Member Report

Build 6766

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

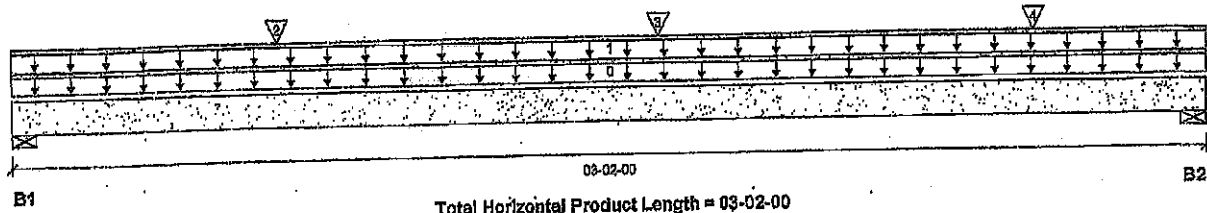
File name: BARTON 2 ELEV 1 DECK.mxd

Description: 1ST FLOOR FRAMING\Flush Beams\B1A(4027)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	1,036 / 0	790 / 0		
B2, 4"	1,136 / 0	840 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-02-00	Top	10				00-00-00
1	E12(148)	Unf. Lin. (lb/ft)	L	00-00-00	03-02-00	Top	352	338			n/a
2	J7(3932)	Conc. Pt. (lbs)	L	00-08-08	00-08-08	Top	352	176			n/a
3	J7(3950)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	352	176			n/a
4	J7(3940)	Conc. Pt. (lbs)	L	02-08-08	02-08-08	Top	352	176			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,534 ft-lbs	23,220 ft-lbs	6.6%	1	01-08-08
End Shear	1,818 lbs	11,571 lbs	15.7%	1	01-01-08
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	01-07-03
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-07-03
Max Defl.	0.003"	n/a	n/a	4	01-07-03
Span / Depth	3.3				

Bearing Supports

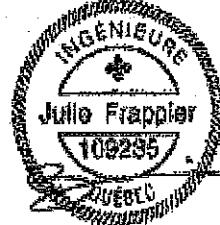
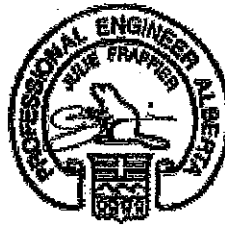
	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4" x 3-1/2"	2,542 lbs	34.0%	14.9%	Unspecified
B2	Wall/Plate 4" x 3-1/2"	2,755 lbs	36.8%	16.1%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA 086.
 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.
 Nail one ply to another with 3 1/2" spiral nails @ 4" o.c, staggered in 2 rows



DESIGN CONFORMS TO OBC2012



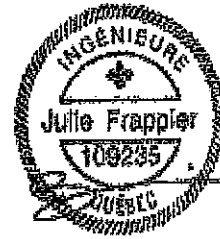
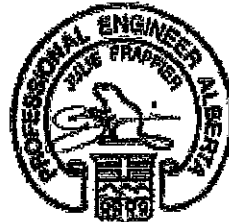
Maximum Floor Spans

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

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15'-5"	14'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	15'-10"
11-7/8"	NI-20	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"
	NI-40x	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	18'-0"	18'-0"
14"	NI-90x	21'-3"	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"	22'-5"	19'-6"	17'-5"	24'-2"	22'-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-1274C.



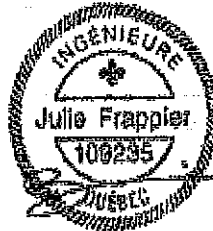
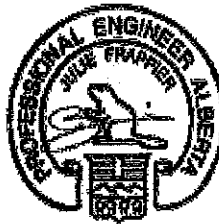
Maximum Floor Spans

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
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
14"	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
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
16"	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'-8"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
	NI-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
14"	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
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
16"	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'-5"	N/A	28'-5"	26'-5"	25'-2"	N/A
	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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



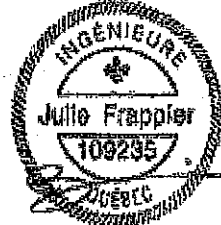
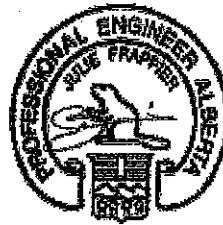
Maximum Floor Spans

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

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

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

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



Maximum Floor Spans

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

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

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

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



Construction Detail

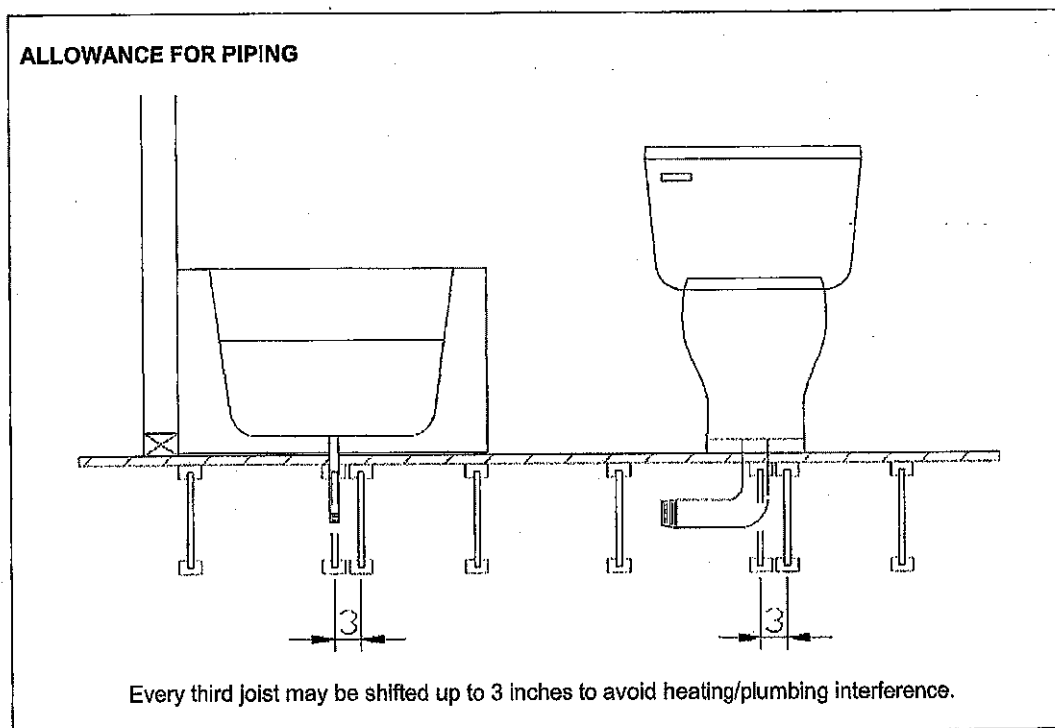
Limit States Design

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.

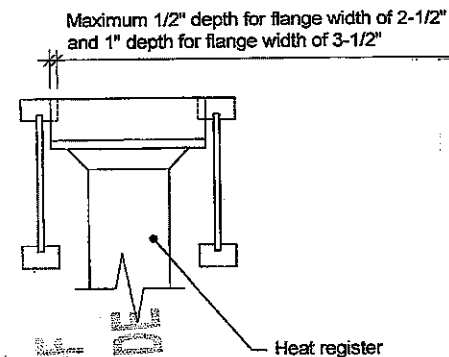
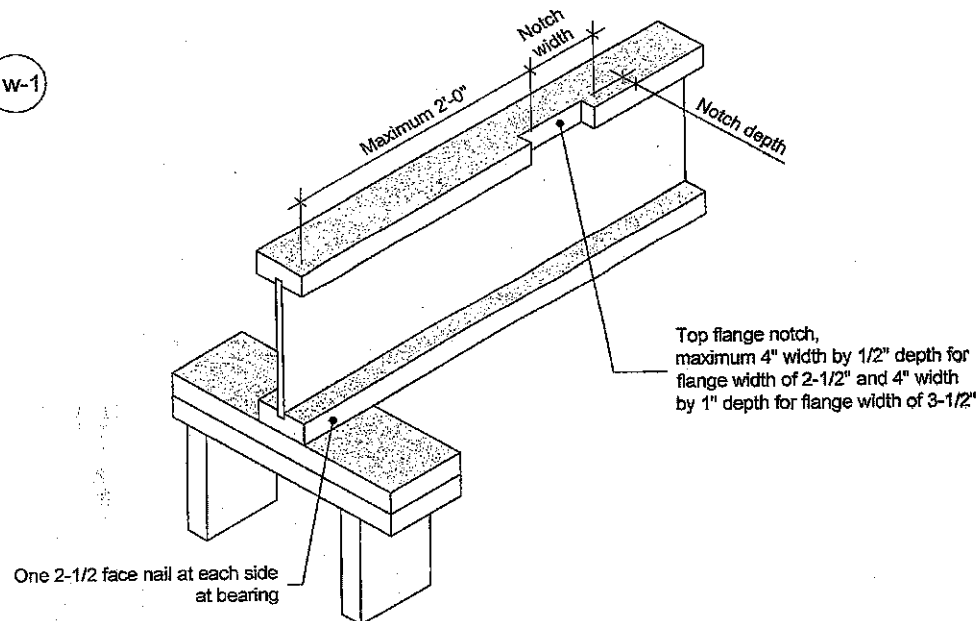
Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced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

1W-1



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

Notes:

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

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

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

**NORDIC
STRUCTURES**

T 514-871-8526
1 866 817-3418
nordic.ca

TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

DATE

2018-04-10

NUMBER

1W-1