

Products				
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	7
J2	18-00-00	11 7/8" NI-40x	1	24
J3 DR	18-00-00	11 7/8" NI-40x	2	2
J3	16-00-00	11 7/8" NI-40x	1	1
J4	12-00-00	11 7/8" NI-40x	1	6
J5	10-00-00	11 7/8" NI-40x	1	3
J6	6-00-00	11 7/8" NI-40x	1	4
J7	2-00-00	11 7/8" NI-40x	1	4
B4	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

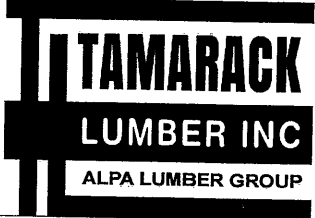
Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H2	HUS1.81/10

TOWN OF BRADFORD WEST GWILLIMBURY  
BUILDING DEPARTMENT  
PLANS EXAMINED  
ONTARIO BUILDING CODE APPLIES  
DATE: 04/22/2024  
INSPECTOR: BG

REVIEWED

DATE: 2021-11-17

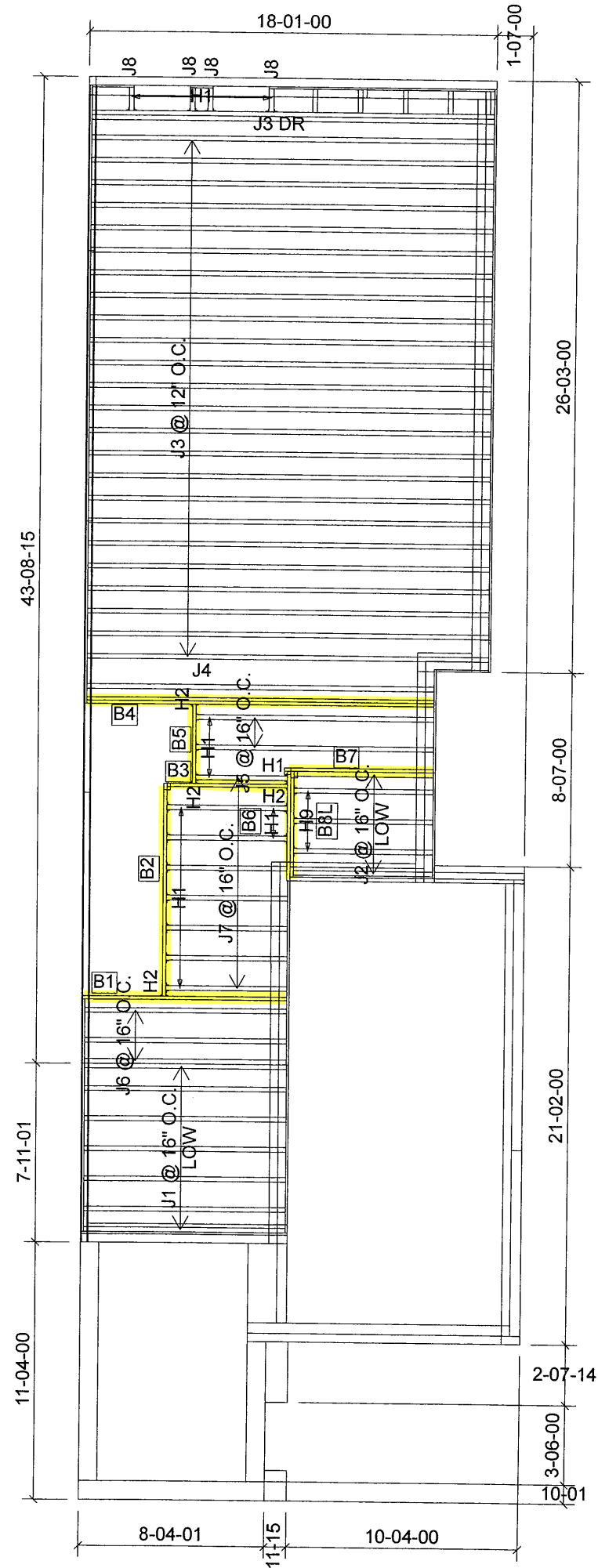
1st FLOOR



FROM PLAN DATED: 2021/10  
BUILDER: BAYVIEW WELLINGTON  
SITE: GREEN VALLEY EAST  
MODEL: TH-2  
ELEVATION: A  
LOT:  
CITY: BRADFORD  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
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  
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



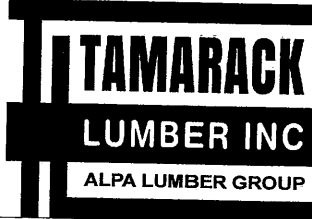
Products				
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	7
J2	8-00-00	9 1/2" NI-40x	1	5
J3	18-00-00	11 7/8" NI-40x	1	24
J3 DR	18-00-00	11 7/8" NI-40x	2	2
J4	16-00-00	11 7/8" NI-40x	1	1
J5	12-00-00	11 7/8" NI-40x	1	2
J6	10-00-00	11 7/8" NI-40x	1	3
J7	6-00-00	11 7/8" NI-40x	1	8
J8	2-00-00	11 7/8" NI-40x	1	4
B8L	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
13	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
3	H2	HUS1.81/10
1	H2	HUS1.81/10
3	H9	IUS2.56/9.5

REVIEWED

DATE: 2021-11-17

1st FLOOR SUNKEN

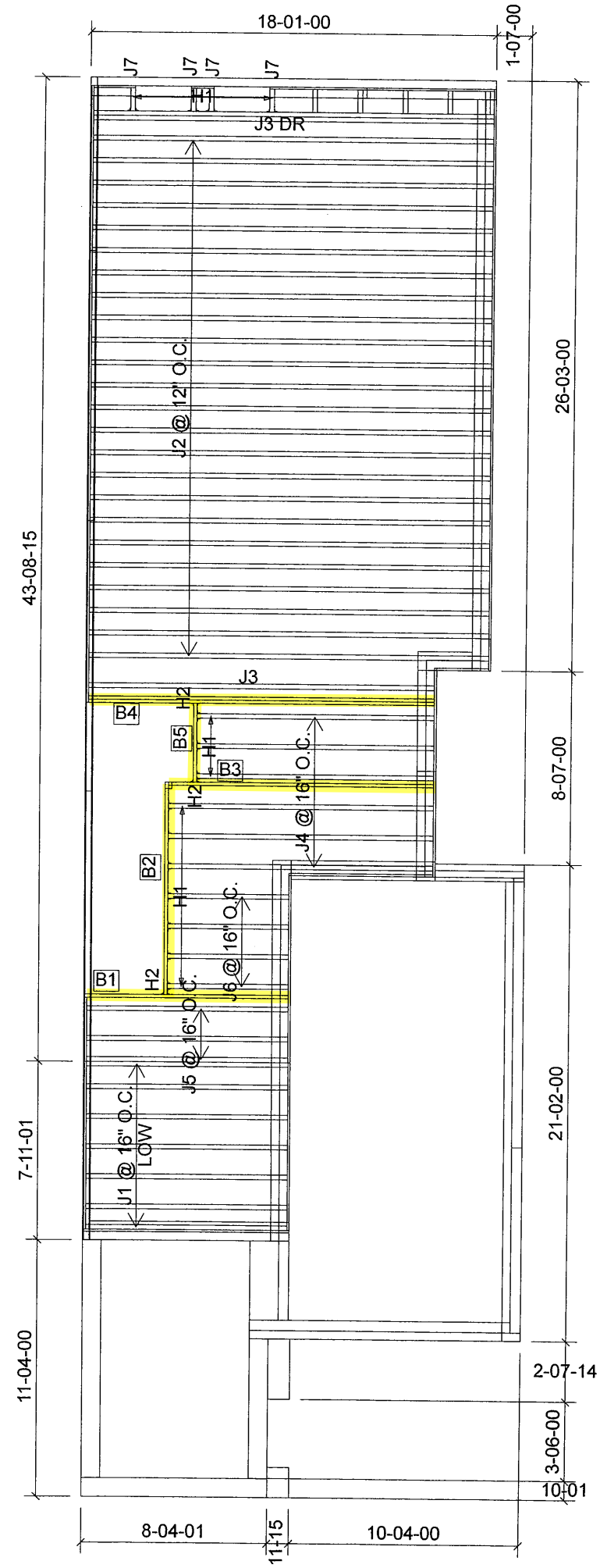


FROM PLAN DATED: 2021/10  
BUILDER: BAYVIEW WELLINGTON  
SITE: GREEN VALLEY EAST  
MODEL: TH-2  
ELEVATION: A  
LOT:  
CITY: BRADFORD  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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  
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



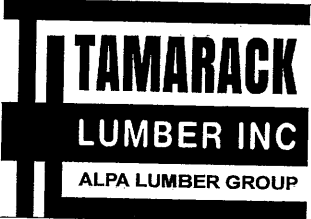
Products				
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	7
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J3	16-00-00	11 7/8" NI-40x	1	1
J4	12-00-00	11 7/8" NI-40x	1	6
J5	10-00-00	11 7/8" NI-40x	1	3
J6	6-00-00	11 7/8" NI-40x	1	4
J7	2-00-00	11 7/8" NI-40x	1	4
B4	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H2	HUS1.81/10

REVIEWED

DATE: 2021-11-17

1st FLOOR

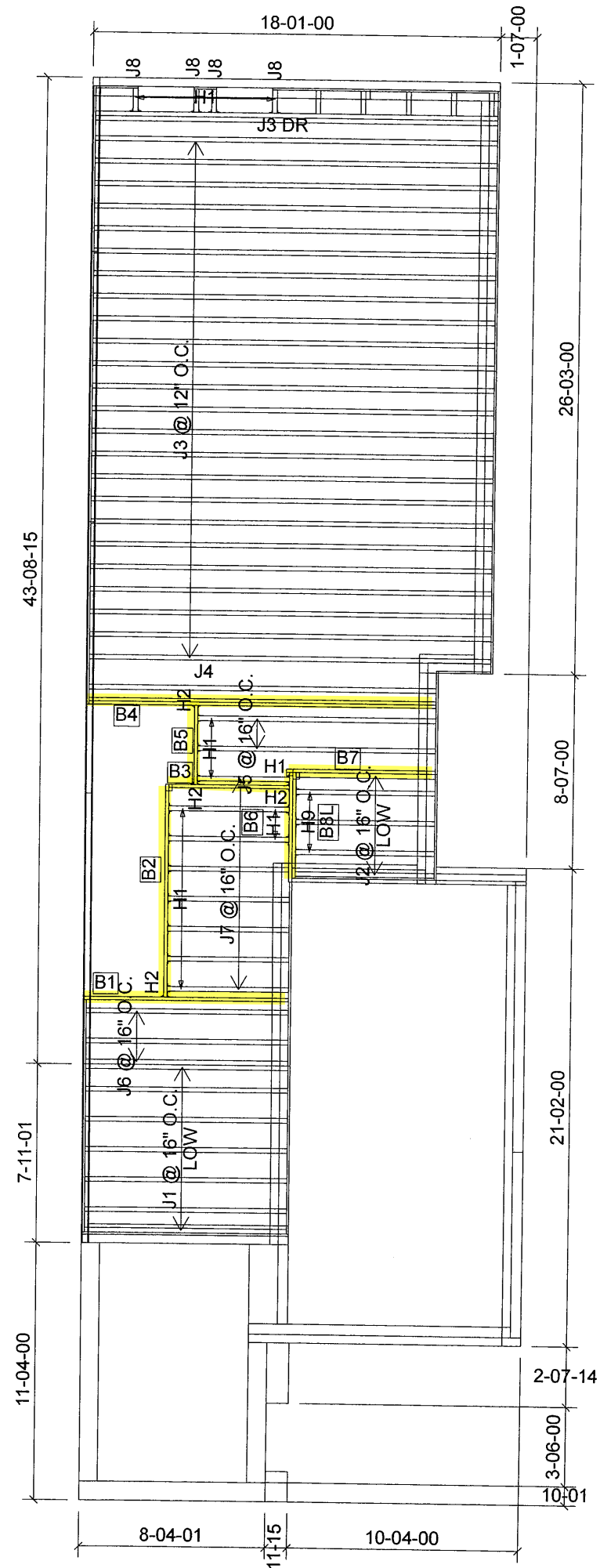


FROM PLAN DATED: 2021/10  
BUILDER: BAYVIEW WELLINGTON  
SITE: GREEN VALLEY EAST  
MODEL: TH-2  
ELEVATION: B  
LOT:  
CITY: BRADFORD  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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  
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



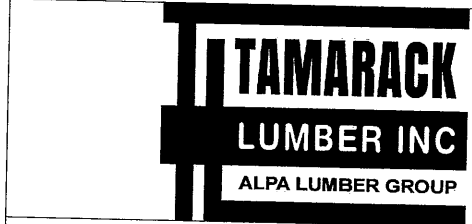
Products				
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	7
J2	8-00-00	9 1/2" NI-40x	1	5
J3	18-00-00	11 7/8" NI-40x	1	24
J3 DR	18-00-00	11 7/8" NI-40x	2	2
J4	16-00-00	11 7/8" NI-40x	1	1
J5	12-00-00	11 7/8" NI-40x	1	2
J6	10-00-00	11 7/8" NI-40x	1	3
J7	6-00-00	11 7/8" NI-40x	1	8
J8	2-00-00	11 7/8" NI-40x	1	4
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B4	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
13	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
3	H2	HUS1.81/10
1	H2	HUS1.81/10
3	H9	IUS2.56/9.5

REVIEWED

DATE: 2021-11-17

1st FLOOR SUNKEN



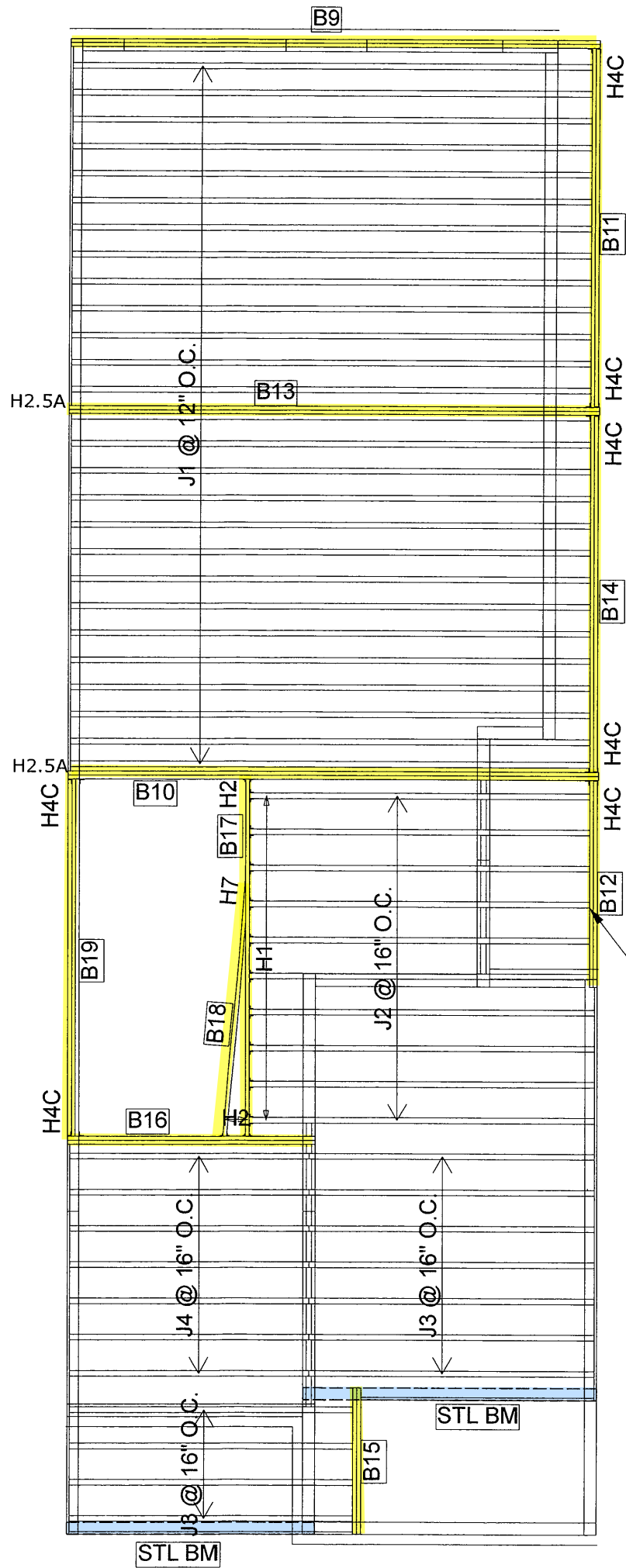
FROM PLAN DATED: 2021/10  
BUILDER: BAYVIEW WELLINGTON  
SITE: GREEN VALLEY EAST  
MODEL: TH-2  
ELEVATION: B  
LOT:  
CITY: BRADFORD  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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  
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED





Products				
PlotID	Length	Product	Plies	Net Qty
J1	20-00-00	11 7/8" NI-40x	1	27
J2	14-00-00	11 7/8" NI-40x	1	10
J3	12-00-00	11 7/8" NI-40x	1	11
J4	10-00-00	11 7/8" NI-40x	1	7
B10	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B17	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B14	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B18	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B16	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B15	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

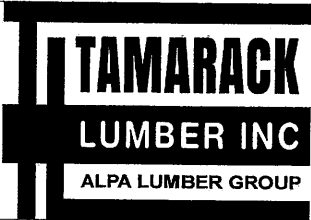
Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H2	HUS1.81/10
7	H4C	HUC412
1	H7	LSSR1.81Z
2	H2.5A	H2.5A*

HANGER NOT REQ'D J1/ B14 AND B11 J2/ B12 CONNCETION

REVIEWED

DATE: 2021-12-02

2ND FLOOR

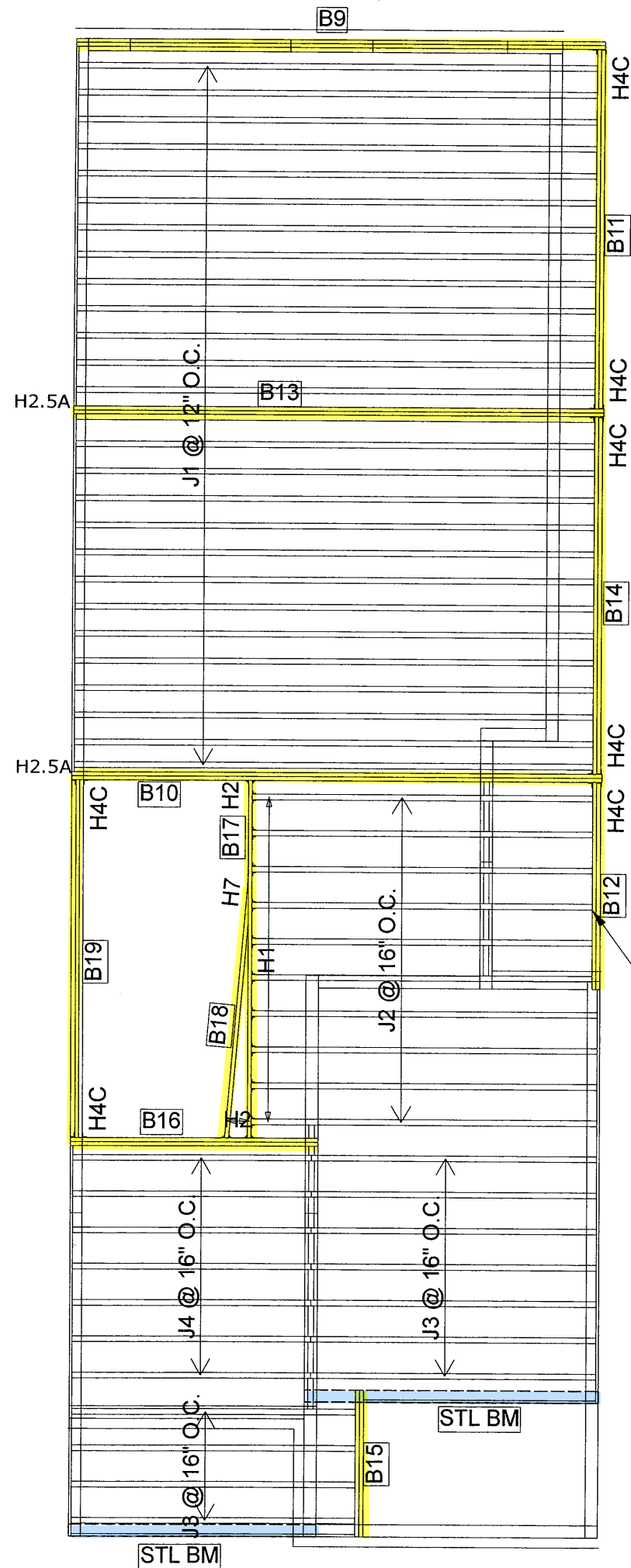


FROM PLAN DATED: 2021/10  
BUILDER: BAYVIEW WELLINGTON  
SITE: GREEN VALLEY EAST  
MODEL: TH-2  
ELEVATION: A  
LOT:  
CITY: BRADFORD  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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  
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	20-00-00	11 7/8" NI-40x	1	27
J2	14-00-00	11 7/8" NI-40x	1	10
J3	12-00-00	11 7/8" NI-40x	1	11
J4	10-00-00	11 7/8" NI-40x	1	7
B10	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B17	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B14	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B18	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B16	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B15	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

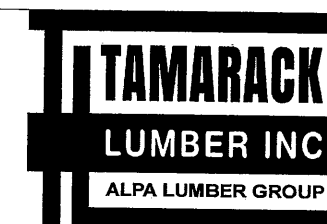
Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H2	HUS1.81/10
7	H4C	HUC412
1	H7	LSSR1.81Z
2	H2.5A	H2.5A*

HANGER NOT REQ'D J1/ B14 AND B11 J2/ B12 CONNCETION

REVIEWED

DATE: 2021-12-02

2ND FLOOR



FROM PLAN DATED: 2021/10  
BUILDER: BAYVIEW WELLINGTON  
SITE: GREEN VALLEY EAST  
MODEL: TH-2  
ELEVATION: 3  
LOT:  
CITY: BRADFORD  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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

LOADING:  
DESIGN LOADS: L/480.000  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 3/4" GLUED AND NAILED



# NORDIC

## INSTALLATION GUIDE NORDIC JOIST

NS-G133



ENGLISH

2020-10-01

### Engineered Wood Products

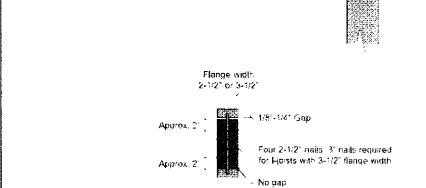
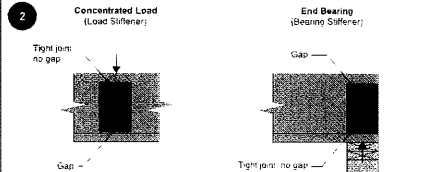
## BASIC INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



## NORDIC STRUCTURES

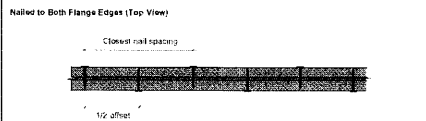
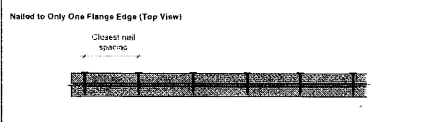
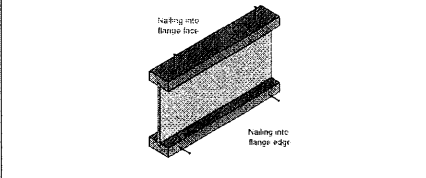
nordic.ca

### WEB STIFFENERS



Stiffener Size Requirements	Flange width (in.)	Web stiffener size each side of web (in.)
3-1/2"	3-1/2"	1 x 2-1/8" Minimum width
4-1/2"	4-1/2"	1-1/2 x 2-1/8" Minimum width

### NAIL SPACING



Recommended Closest Nail Spacing for Fastening Sheathing to Joist Flanges to Minimize Splitting	Flange fastener spacing (in.)	Flange edge fastener spacing (in.)
Flange width (in.)	Flange fastener spacing (in.)	Flange edge fastener spacing (in.)
3-1/2"	1	5-1/2"
4-1/2"	1-1/2"	7-1/4"

Fastener size (diameter x length)	End distance (in.)	Nail spacing (in.)	Nails to only one flange edge	Nails to both flange edges
5/16" or smaller in diameter and 3-1/4" or shorter in length	2	2	2	4
Greater than 5/16" up to 3/4" in diameter and 3-1/4" or shorter in length	2	2	2	4
Greater than 3/4" up to 1-1/4" in diameter and 3-1/4" or shorter in length	2	2	2	4
Greater than 1-1/4" up to 1-3/4" in diameter and 3-1/4" or shorter in length	2	2	2	4
Greater than 1-3/4" up to 2-1/4" in diameter and 3-1/4" or shorter in length	2	2	2	4
Greater than 2-1/4" up to 3-1/4" in diameter and 3-1/4" or shorter in length	2	2	2	4

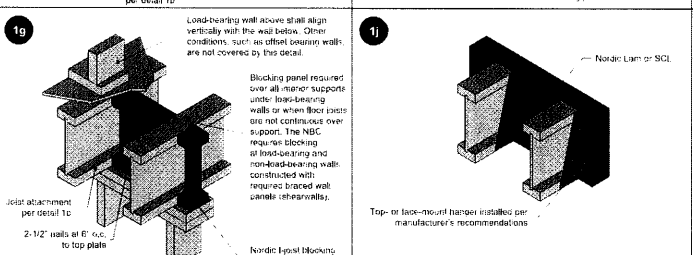
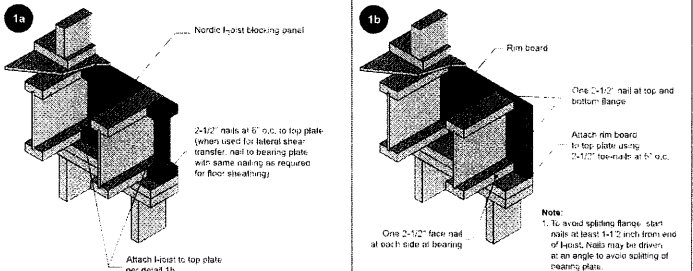
\* If more than one row is required, offset rows a minimum of 1/2 inch and stagger.

\* Closest nail spacing measured from one flange edge. Nails on opposite flange edge must be offset one-half the minimum spacing.

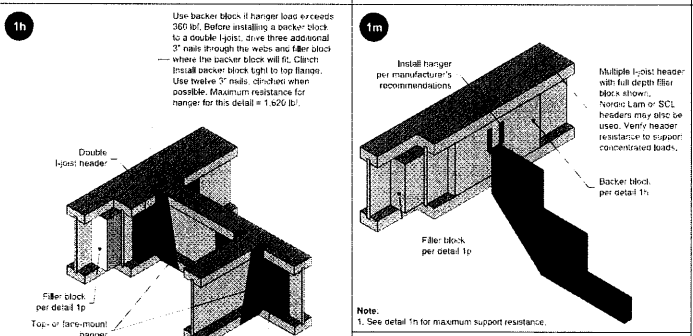
### INSTALLING NORDIC I-JOISTS

- Installation of Nordic I-joists shall be as shown in details 1.
- Except for cutting to length, I-joist flanges should never be cut, drilled or notched.
- Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads such as ceiling fans or light fixtures.
- I-joists must be protected from the weather prior to installation.
- I-joists must not be used in applications where they will be permanently exposed to weather or will reach a moisture content of 15 percent or greater such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with concrete or masonry.
- End bearing length must be at least 1-3/4 inch. For multiple-span joists, intermediate bearing length must be at least 3-1/2 inches.
- Ends of floor joists shall be restrained to prevent rollover. Use rim board or I-joist blocking panels.
- I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (concrete blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
- For I-joists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the maximum vertical load using a single I-joist is 3,300 plf and 6,600 plf if double I-joists are used.
- Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5.
- Nails installed in flange face or edge shall be spaced in accordance with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).
- Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
- For temporary bracing of wood I-joists and placement of temporary construction loads, see **APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735**.

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.



**Note:** 1. To avoid splitting flange, start nail at least 1-1/2 inch from end of flange. Nails may be driven at an angle to avoid splitting of heavy flange.



**Note:** 1. An occasional blocking panel (one per line of blocking) may be left out for the passage of plumbing or ventilation ducts. For other applications, consult Nordic Structures. 2. For other options, see details 1a, 1b, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, 1m, 1n, 1o, 1p, 1q, 1r, 1s, 1t, 1u, 1v, 1w, 1x, 1y, 1z, 2a, 2b, 2c, 2d, 2e, 2f, 2g, 2h, 2i, 2j, 2k, 2l, 2m, 2n, 2o, 2p, 2q, 2r, 2s, 2t, 2u, 2v, 2w, 2x, 2y, 2z, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 3m, 3n, 3o, 3p, 3q, 3r, 3s, 3t, 3u, 3v, 3w, 3x, 3y, 3z, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4l, 4m, 4n, 4o, 4p, 4q, 4r, 4s, 4t, 4u, 4v, 4w, 4x, 4y, 4z, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, 5l, 5m, 5n, 5o, 5p, 5q, 5r, 5s, 5t, 5u, 5v, 5w, 5x, 5y, 5z, 6a, 6b, 6c, 6d, 6e, 6f, 6g, 6h, 6i, 6j, 6k, 6l, 6m, 6n, 6o, 6p, 6q, 6r, 6s, 6t, 6u, 6v, 6w, 6x, 6y, 6z, 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h, 7i, 7j, 7k, 7l, 7m, 7n, 7o, 7p, 7q, 7r, 7s, 7t, 7u, 7v, 7w, 7x, 7y, 7z, 8a, 8b, 8c, 8d, 8e, 8f, 8g, 8h, 8i, 8j, 8k, 8l, 8m, 8n, 8o, 8p, 8q, 8r, 8s, 8t, 8u, 8v, 8w, 8x, 8y, 8z, 9a, 9b, 9c, 9d, 9e, 9f, 9g, 9h, 9i, 9j, 9k, 9l, 9m, 9n, 9o, 9p, 9q, 9r, 9s, 9t, 9u, 9v, 9w, 9x, 9y, 9z, 10a, 10b, 10c, 10d, 10e, 10f, 10g, 10h, 10i, 10j, 10k, 10l, 10m, 10n, 10o, 10p, 10q, 10r, 10s, 10t, 10u, 10v, 10w, 10x, 10y, 10z, 11a, 11b, 11c, 11d, 11e, 11f, 11g, 11h, 11i, 11j, 11k, 11l, 11m, 11n, 11o, 11p, 11q, 11r, 11s, 11t, 11u, 11v, 11w, 11x, 11y, 11z, 12a, 12b, 12c, 12d, 12e, 12f, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, 12o, 12p, 12q, 12r, 12s, 12t, 12u, 12v, 12w, 12x, 12y, 12z, 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h, 13i, 13j, 13k, 13l, 13m, 13n, 13o, 13p, 13q, 13r, 13s, 13t, 13u, 13v, 13w, 13x, 13y, 13z, 14a, 14b, 14c, 14d, 14e, 14f, 14g, 14h, 14i, 14j, 14k, 14l, 14m, 14n, 14o, 14p, 14q, 14r, 14s, 14t, 14u, 14v, 14w, 14x, 14y, 14z, 15a, 15b, 15c, 15d, 15e, 15f, 15g, 15h, 15i, 15j, 15k, 15l, 15m, 15n, 15o, 15p, 15q, 15r, 15s, 15t, 15u, 15v, 15w, 15x, 15y, 15z, 16a, 16b, 16c, 16d, 16e, 16f, 16g, 16h, 16i, 16j, 16k, 16l, 16m, 16n, 16o, 16p, 16q, 16r, 16s, 16t, 16u, 16v, 16w, 16x, 16y, 16z, 17a, 17b, 17c, 17d, 17e, 17f, 17g, 17h, 17i, 17j, 17k, 17l, 17m, 17n, 17o, 17p, 17q, 17r, 17s, 17t, 17u, 17v, 17w, 17x, 17y, 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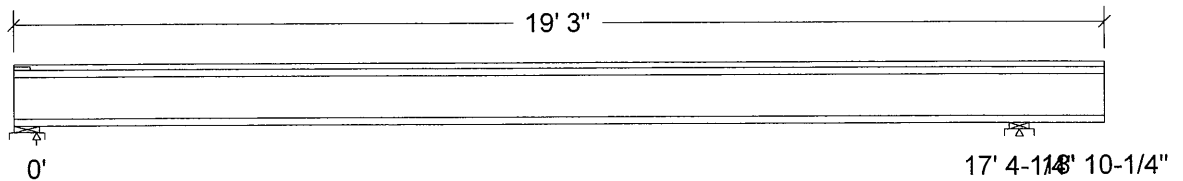
## Design Check Calculation Sheet

Nordic Sizer – Canada 8.0

### Loads:

Load	Type	Distribution	Pat- tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area	No		20.00	psf
Load2	Live	Full Area	Yes		40.00	psf

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



Unfactored:			
Dead	172		205
Live	347		410
Factored:			
Total	736		871
Bearing:			
Capacity			
Joist	2336		5109
Support	9724		7744
Des ratio			
Joist	0.32		0.17
Support	0.08		0.11
Load case	#4		#2
Length	5-1/2		4-3/8
Min req'd	1-1/2		3-1/2
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.15		1.15

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

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

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

Total length: 19' 3"; Clear span: 17' 1-5/16", 1' 3-13/16"; 3/4" nailed and glued OSB sheathing with 1/2" gypsum ceiling

**This section PASSES the design code check.**



DWG NO. TAM25919-21

**REVIEWED**  
STRUCTURAL  
COMPONENT ONLY



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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 743	Vr = 2336	lbs	Vf/Vr = 0.32
Moment(+)	Mf = 3186	Mr = 6255	lbs-ft	Mf/Mr = 0.51
Moment(-)	Mf = 96	Mr = 6255	lbs-ft	Mf/Mr = 0.02
Deflection:				
Interior Perm	0.10 = < L/999	0.58 = L/360	in	0.18
Live	0.21 = < L/999	0.43 = L/480	in	0.48
Total	0.31 = L/672	0.87 = L/240	in	0.36
Cantil. Perm	-0.02 = L/741	0.10 = L/180	in	0.24
Live	-0.05 = L/353	0.08 = L/240	in	0.68
Total	-0.08 = L/239	0.15 = L/120	in	0.50
Bare Defl'n	-0.06 = L/295	0.10 = L/180	in	0.61
Vibration	Lmax = 17'-4.2	Lv = 20'-1.3	ft	0.86
Defl'n	= 0.025	= 0.036	in	0.68

**Additional Data:**

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#4
Mr-	6255	1.00	1.00	-	1.000	-	-	-	#5
EI	371.1 million	-	-	-	-	-	-	-	#4

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L  
 Moment(+) : LC #4 = 1.25D + 1.5L (pattern: L<sub>-</sub>)  
 Moment(-) : LC #5 = 1.25D + 1.5L (pattern: L<sub>-</sub>)  
 Deflection: LC #1 = 1.0D (permanent)  
               LC #4 = 1.0D + 1.0L (pattern: L<sub>-</sub>) (live)  
               LC #4 = 1.0D + 1.0L (pattern: L<sub>-</sub>) (total)  
               LC #4 = 1.0D + 1.0L (pattern: L<sub>-</sub>) (bare joist)  
 Bearing : Support 1 - LC #4 = 1.25D + 1.5L (pattern: L<sub>-</sub>)  
               Support 2 - LC #2 = 1.25D + 1.5L

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

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

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

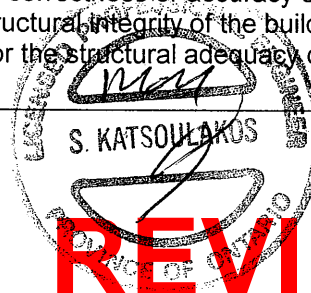
**CALCULATIONS:**

E<sub>IEff</sub> = 443.45 lb-in<sup>2</sup> K = 6.18e06 lbs GA = 0.77e06 lb

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

**CONFORMS TO OBC 2012****Design Notes:****AMENDED 2020**

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



REV NO. 1, 25919-21  
 STRUCTURAL  
 COMPONENT ONLY

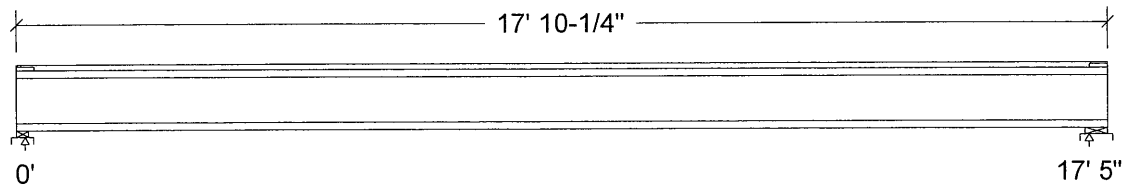
## Design Check Calculation Sheet

Nordic Sizer – Canada 8.0

### 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:			
Dead	174		174
Live	348		348
Factored:			
Total	740		740
Bearing:			
Capacity			
Joist	2102		2336
Support	3981		7735
Des ratio			
Joist	0.35		0.32
Support	0.19		0.10
Load case	#2		#2
Length	2-3/8		4-3/8
Min req'd	1-1/2		1-1/2
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.09		1.15

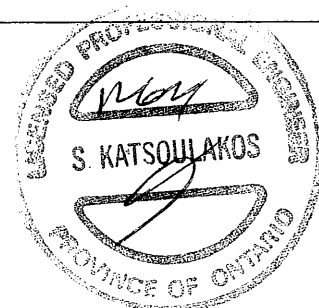
\*Minimum bearing length for joists is 1-1/2" for exterior supports

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

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

Total length: 17' 10-1/4"; Clear span: 17' 3-1/2"; 3/4" nailed and glued OSB sheathing

**This section PASSES the design code check.**



DWG NO. TAM 25920-21

**REVIEWED**  
STRUCTURAL  
COMPONENT ONLY

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 740	Vr = 2336	lbs	Vf/Vr = 0.32
Moment(+)	Mf = 3223	Mr = 6255	lbs-ft	Mf/Mr = 0.52
Perm. Defl'n	0.11 = < L/999	0.58 = L/360	in	0.18
Live Defl'n	0.21 = L/993	0.44 = L/480	in	0.48
Total Defl'n	0.32 = L/662	0.87 = L/240	in	0.36
Bare Defl'n	0.25 = L/831	0.58 = L/360	in	0.43
Vibration	Lmax = 17'-5	Lv = 19'-6.3	ft	0.89
Defl'n	= 0.026	= 0.036	in	0.73

**Additional Data:**

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

**CRITICAL LOAD COMBINATIONS:**

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

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

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

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

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

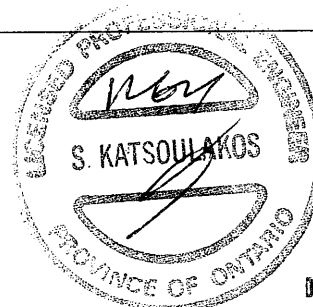
**CALCULATIONS:**

EI<sub>eff</sub> = 443.45 lb-in<sup>2</sup> K = 6.18e06 lbs GA = 0.77e06 lb

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

**AMENDED 2020****Design Notes:**

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
8. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DWG NO. TAM25920-21

STRUCTURAL  
COMPONENT ONLY**REVIEWED**



BC CALC® Member Report

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B1(i561)

City, Province, Postal Code:

Specifier:

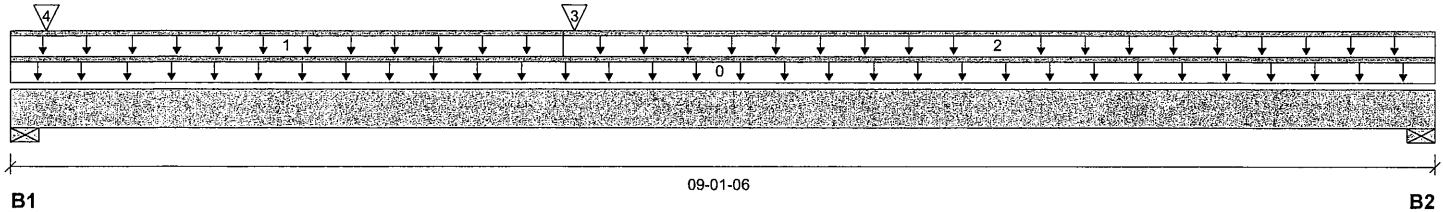
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 09-01-06

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

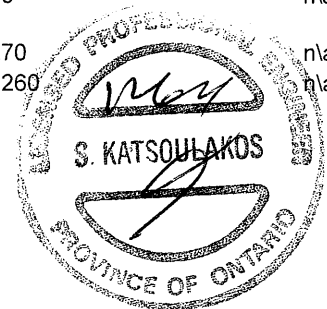
Bearing	Live	Dead	Snow	Wind
B1, 3"	531 / 0	1484 / 0		
B2, 4-3/8"	282 / 0	179 / 0		

**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	09-01-06	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	03-06-08	Top	13	6			n/a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	03-06-08	09-01-06	Top	20	10			n/a
3	B2(i547)	Conc. Pt. (lbs)	L	03-07-06	03-07-06	Top	489	270			n/a
4	E34(i436)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	168	1260			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2604 ft-lbs	17696 ft-lbs	14.7%	1	03-07-06
End Shear	782 lbs	7232 lbs	10.8%	1	01-02-14
Total Load Deflection	L/999 (0.042")	n/a	n/a	4	04-03-15
Live Load Deflection	L/999 (0.026")	n/a	n/a	5	04-03-03
Max Defl.	0.042"	n/a	n/a	4	04-03-15
Span / Depth	8.7				


 DWG NO. FAM2594-21  
**STRUCTURAL COMPONENT ONLY**
**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 1-3/4"	2077 lbs	99.0%	49.9%	Spruce-Pine-Fir
B2	Wall/Plate 4-3/8" x 1-3/4"	646 lbs	13.7%	6.9%	Spruce-Pine-Fir

**Notes**

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

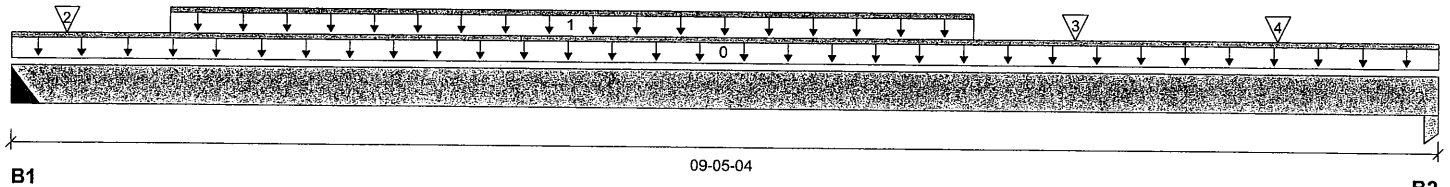
Calculations assume unbraced length of Top: 00-00-00, Bottom: 05-00-12.

**CONFORMS TO OBC 2012**
**AMENDED 2020**
**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®,

# REVIEWED



Total Horizontal Product Length = 09-05-04

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

Bearing	Live	Dead	Snow	Wind
B1, 2"	493 / 0	273 / 0		
B2, 3-1/2"	469 / 0	263 / 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	09-05-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-00-07	06-04-07	Top	109	54			n/a
2	J7(i466)	Conc. Pt. (lbs)	L	00-04-07	00-04-07	Top	97	48			n/a
3	J7(i158)	Conc. Pt. (lbs)	L	07-00-07	07-00-07	Top	151	76			n/a
4	J7(i205)	Conc. Pt. (lbs)	L	08-04-07	08-04-07	Top	134	67			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2489 ft-lbs	17696 ft-lbs	14.1%	1	04-04-08
End Shear	961 lbs	7232 lbs	13.3%	1	08-01-14
Total Load Deflection	L/999 (0.053")	n/a	n/a	4	04-08-07
Live Load Deflection	L/999 (0.034")	n/a	n/a	5	04-08-07
Max Defl.	0.053"	n/a	n/a	4	04-08-07
Span / Depth	9.2				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 1-3/4"	1081 lbs	n/a	25.3%	HUS1.81/10
B2 Column	3-1/2" x 1-3/4"	1032 lbs	20.8%	13.8%	Unspecified

**Cautions**

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

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

**Notes**

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

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

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

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

CONFORMS TO CBC 2012

AMENDED 2020

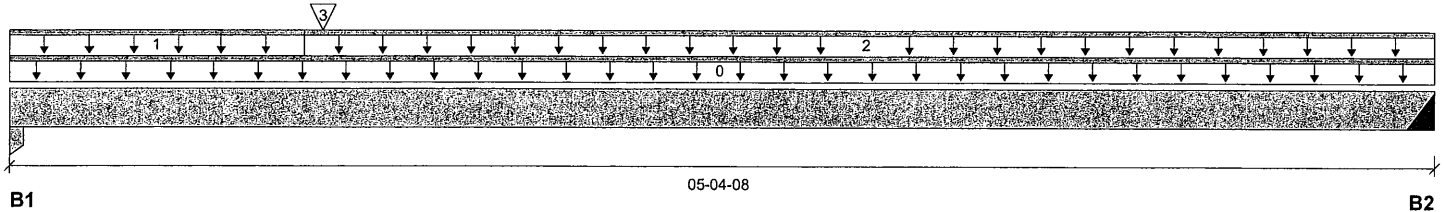

 DWG NO. TAM 25922-21  
 STRUCTURAL  
 COMPONENT ONLY

**Disclosure**

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

# REVIEWED



Total Horizontal Product Length = 05-04-08

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

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	434 / 0	242 / 0		
B2, 2"	170 / 0	103 / 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	05-04-08	Top		6			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-01-04	Top	21	11			n/a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	01-01-04	05-04-08	Top	27	13			n/a
3	B5(i552)	Conc. Pt. (lbs)	L	01-02-02	01-02-02	Top	467	244			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1008 ft-lbs	17696 ft-lbs	5.7%	1	01-02-02
End Shear	938 lbs	7232 lbs	13.0%	1	01-01-10
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	02-05-00
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	02-05-00
Max Defl.	0.006"	n/a	n/a	4	02-05-00
Span / Depth	5.2				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	1-3/4" x 1-3/4"	954 lbs	38.3%	25.5%
B2	Hanger	2" x 1-3/4"	384 lbs	n/a	9.0%

**Cautions**

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

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

**Notes**

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

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

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

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

CONFORMS TO OBC 2012

AMENDED 2020

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# REVIEWED



BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

November 17, 2021 11:33:35

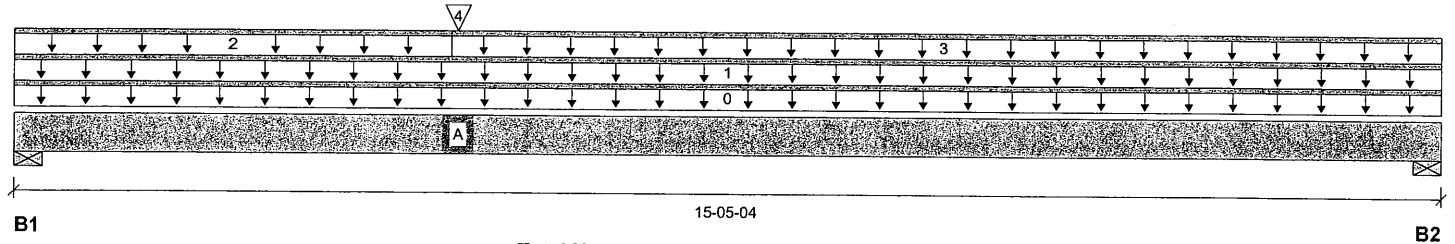
File name: TH-2 EL A.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B4(i549)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 15-05-04

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

Bearing	Live	Dead	Snow	Wind
B1, 1-7/8"	525 / 0	361 / 0		
B2, 4-3/8"	363 / 0	279 / 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	15-05-04	Top		12			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	15-05-04	Top	12	6			n/a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-08-06	Top	6	3			n/a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	04-08-06	15-05-04	Top	14	7			n/a
4	B5(i552)	Conc. Pt. (lbs)	L	04-09-04	04-09-04	Top	516	268			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	5182 ft-lbs	35392 ft-lbs	14.6%	1	04-09-04
End Shear	1177 lbs	14464 lbs	8.1%	1	01-01-12
Total Load Deflection	L/1302 (0.139")	n/a	18.4%	4	07-02-15
Live Load Deflection	L/999 (0.082")	n/a	n/a	5	07-01-03
Max Defl.	0.139"	n/a	n/a	4	07-02-15
Span / Depth	15.2				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-7/8" x 3-1/2"	1239 lbs	30.7%	15.5%	Spruce-Pine-Fir
B2	Wall/Plate 4-3/8" x 3-1/2"	893 lbs	9.5%	4.8%	Spruce-Pine-Fir

**Notes**

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. TAM 25924-21

 STRUCTURAL  
COMPONENT ONLY

# REVIEWED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File name: TH-2 EL A.mmdl

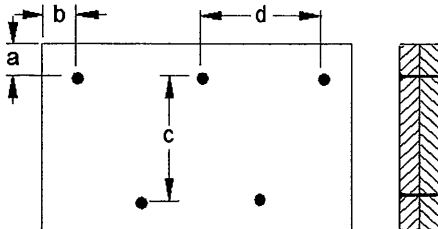
Description: 1ST FLR FRAMING\Flush Beams\B4(i549)

Specifier:

Designer:

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

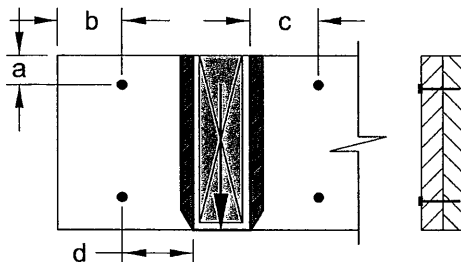
d = 6"

Connectors are: Nails

3 1/2" ARDOX SPIRAL

## Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 4



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are: Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 25924-21  
STRUCTURAL  
COMPONENT ONLY

## Disclosure

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

REVIEWED

BC CALC® Member Report

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B5(i552)

City, Province, Postal Code:

Specifier:

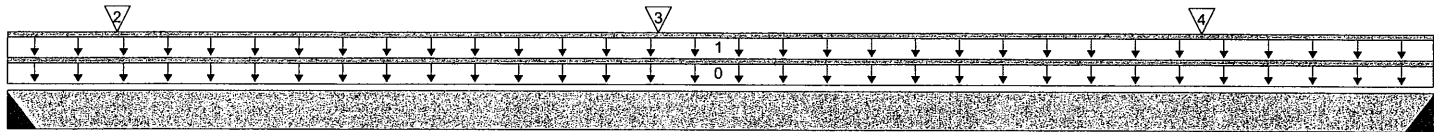
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



B1

03-06-00

B2

Total Horizontal Product Length = 03-06-00

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

Bearing	Live	Dead	Snow	Wind
B1, 2"	459 / 0	240 / 0		
B2, 2"	524 / 0	272 / 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	03-06-00	Top		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	03-06-00	Top	120	60			n/a
2	J7(i197)	Conc. Pt. (lbs)	L	00-03-03	00-03-03	Top	74	37			n/a
3	J5(i514)	Conc. Pt. (lbs)	L	01-07-03	01-07-03	Top	272	136			n/a
4	J5(i490)	Conc. Pt. (lbs)	L	02-11-03	02-11-03	Top	217	108			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	935 ft-lbs	17696 ft-lbs	5.3%	1	01-07-03
End Shear	548 lbs	7232 lbs	7.6%	1	02-04-02
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	01-08-14
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-08-14
Max Defl.	0.002"	n/a	n/a	4	01-08-14
Span / Depth	3.3				


**Bearing Supports**

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2" x 1-3/4"	989 lbs	n/a	23.2%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	1126 lbs	n/a	26.4%	HUS1.81/10

**Cautions**

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

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

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

**Notes**

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

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

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

CONFORMS TO OBC 2012

AMENDED 2020

 DWG NO. TAM25925-21  
**STRUCTURAL  
 COMPONENT ONLY**
**Disclosure**

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

# REVIEWED



## 1ST FLR FRAMING\Flush Beams\B6(i550) (Flush Beam)

Dry | 1 span | No cant.

November 17, 2021 11:33:35

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

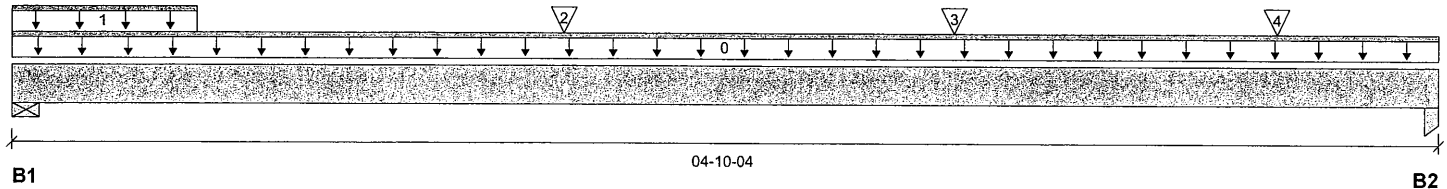
File name: TH-2 EL A.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B6(i550)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 04-10-04

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

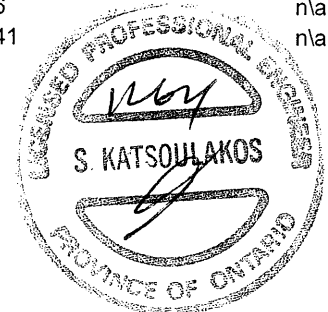
Bearing	Live	Dead	Snow	Wind
B1, 10"	189 / 0	165 / 0		
B2, 1-3/4"	339 / 0	198 / 0		

### 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	04-10-04	Top	1.00	0.65	1.00	1.15	
1	2(i252)	Unf. Lin. (lb/ft)	L	00-00-00	00-07-08	Top		81			n/a
2	J7(i158)	Conc. Pt. (lbs)	L	01-10-08	01-10-08	Top	151	76			n/a
3	J7(i205)	Conc. Pt. (lbs)	L	03-02-08	03-02-08	Top	132	66			n/a
4	-	Conc. Pt. (lbs)	L	04-03-10	04-03-10	Top	245	141			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	576 ft-lbs	17696 ft-lbs	3.3%	1	03-02-08
End Shear	427 lbs	7232 lbs	5.9%	1	03-08-10
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	02-10-00
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	02-10-00
Max Defl.	0.002"	n/a	n/a	4	02-10-00
Span / Depth	4.0				



DWG NO. TAM 25826-21  
STRUCTURAL  
COMPONENT ONLY

### Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 10" x 1-3/4"	490 lbs	4.6%	2.3%	Spruce-Pine-Fir
B2	Column 1-3/4" x 1-3/4"	755 lbs	30.4%	20.2%	Unspecified

### Notes

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

CONFORMS TO CBC 2012

AMENDED 2020

### Disclosure

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

# REVIEWED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

November 17, 2021 11:33:35

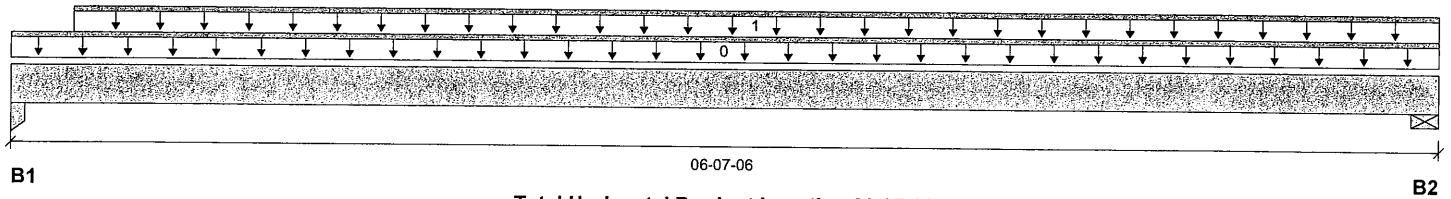
File name: TH-2 EL A.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B7(i548)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 06-07-06

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

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	61 / 0	50 / 0		
B2, 4-3/8"	68 / 0	54 / 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	06-07-06	Top	1.00	6			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-03-08	06-07-06	Top	20	10			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	236 ft-lbs	17696 ft-lbs	1.3%	1	03-03-04
End Shear	101 lbs	7232 lbs	1.4%	1	01-03-06
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	03-03-04
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	03-03-04
Max Defl.	0.002"	n/a	n/a	4	03-03-04
Span / Depth	6.1				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	154 lbs	3.1%	2.1%	Unspecified
B2	Wall/Plate 4-3/8" x 1-3/4"	170 lbs	3.6%	1.8%	Spruce-Pine-Fir

**Notes**

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 05-11-08.

CONFORMS TO CBC 2012

AMENDED 2020



DWG NO. TAM25927-21

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# REVIEWED

BC CALC® Member Report

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B8L(i553)

City, Province, Postal Code:

Specifier:

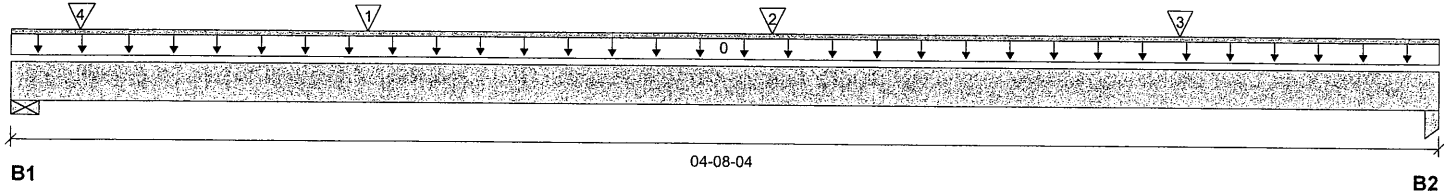
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 04-08-04

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

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	256 / 0	154 / 0		
B2, 3-1/2"	227 / 0	124 / 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	04-08-04	Top		5			00-00-00
1	J2(i531)	Conc. Pt. (lbs)	L	01-02-00	01-02-00	Top	142	71			n/a
2	J2(i534)	Conc. Pt. (lbs)	L	02-06-00	02-06-00	Top	165	82			n/a
3	J2(i532)	Conc. Pt. (lbs)	L	03-10-00	03-10-00	Top	135	68			n/a
4	1(i253)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	41	35			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	572 ft-lbs	11610 ft-lbs	4.9%	1	02-06-00
End Shear	433 lbs	5785 lbs	7.5%	1	01-03-00
Total Load Deflection	L/999 (0.004")	n/a	n/a	4	02-05-01
Live Load Deflection	L/999 (0.003")	n/a	n/a	5	02-05-01
Max Defl.	0.004"	n/a	n/a	4	02-05-01
Span / Depth	5.1				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	577 lbs	9.7%	4.9%	Spruce-Pine-Fir
B2	Column 3-1/2" x 1-3/4"	496 lbs	10.0%	6.6%	Unspecified

 DWG NO. TAM 2592621  
**STRUCTURAL COMPONENT ONLY**
**Notes**

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

CONFORMS TO OBC 2012

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

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

AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

**Disclosure**

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**Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP**  
**2ND FLR FRAMING\Flush Beams\B10(i551) (Flush Beam)**

**PASSED**

BC CALC® Member Report

Dry | 2 spans | R cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B10(i551)

City, Province, Postal Code:

Specifier:

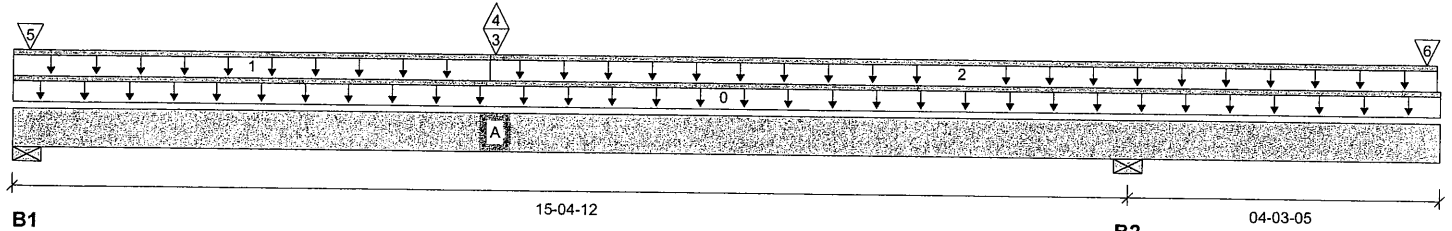
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	1069 / 210	275 / 0	0 / 191	
B2, 5-1/2"	1251 / 95	2118 / 0	891 / 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	19-08-01	Top	1.00	0.65	1.00	1.15	
1	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	06-07-02	Top	11	6			n/a
2	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	06-07-02	19-07-08	Top	23	12			n/a
3	B17(i558)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	1632	749			n/a
4	B17(i558)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	-228				n/a
5	E22(i400)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top		24			n/a
6	-	Conc. Pt. (lbs)	L	19-05-12	19-05-12	Top	227	1195	700		n/a

**Controls Summary**

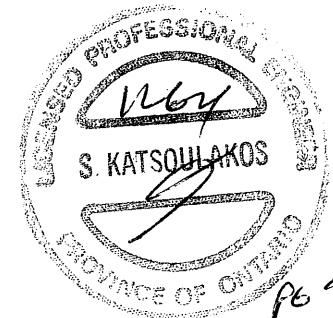
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	11167 ft-lbs	35392 ft-lbs	31.6%	43	06-08-00
Neg. Moment	-11813 ft-lbs	-23618 ft-lbs	50.0%	49	15-04-12
End Shear	1862 lbs	14464 lbs	12.9%	43	01-05-06
Cont. Shear	2937 lbs	14464 lbs	20.3%	49	16-07-06
Total Load Deflection	2xL/281 (0.365")	n/a	85.4%	107	19-08-01
Live Load Deflection	2xL/475 (0.216")	n/a	75.8%	156	19-08-01
Total Neg. Defl.	L/1190 (-0.151")	n/a	20.2%	107	09-11-07
Max Defl.	0.21"	n/a	n/a	102	06-10-13
Span / Depth	15.2				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1948 lbs	16.4%	8.3%	Spruce-Pine-Fir
B1	Uplift	258 lbs			
B2	Wall/Plate 5-1/2" x 3-1/2"	5414 lbs	45.7%	23.1%	Spruce-Pine-Fir

**Cautions**

Uplift of 258 lbs found at bearing B1. (SIMPSON 2-HZ-ST @ B1).  
Concentrated side load(s) 18 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.



BWG NO. TAM 25929-21  
STRUCTURAL  
COMPONENT ONLY

**REVIEWED**



BC CALC® Member Report

Dry | 2 spans | R cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B10(i551)

City, Province, Postal Code:

Specifier:

Customer:

Designer:

Code reports:

CCMC 12472-R

Company:

## Notes

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

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

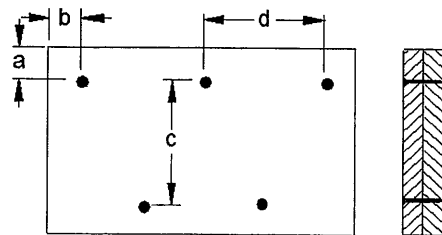
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Calculations assume unbraced length of Top: 00-00-09, Bottom: 08-05-02.

CONFORMS TO CBC 2012

AMENDED 2020

## Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = 10-0"

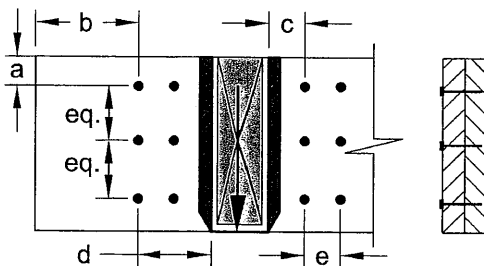
Calculated Side Load = 487.3 lb/ft

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL

## Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 5+6



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are:

Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 25929-21  
STRUCTURAL  
COMPONENT ONLY

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REVIEWED

BC CALC® Member Report

Dry | 1 span | No cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B11(i272)

City, Province, Postal Code:

Specifier:

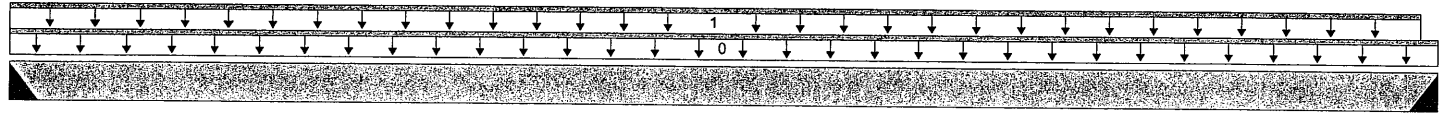
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



B1

13-03-12

B2

Total Horizontal Product Length = 13-03-12

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

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	146 / 0	752 / 0	439 / 0	
B2, 2-1/2"	143 / 0	735 / 0	428 / 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	13-03-12	Top		12			00-00-00
1	E24(i399)	Unf. Lin. (lb/ft)	L	00-00-00	13-01-12	Top	22	101	66		n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5557 ft-lbs	35392 ft-lbs	15.7%	13	06-07-14
End Shear	1431 lbs	14464 lbs	9.9%	13	01-02-06
Total Load Deflection	L/1174 (0.133")	n/a	20.4%	35	06-07-14
Live Load Deflection	L/999 (0.058")	n/a	n/a	51	06-07-14
Max Defl.	0.133"	n/a	n/a	35	06-07-14
Span / Depth	13.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2-1/2" x 3-1/2"	1745 lbs	n/a	16.3%	HUC412
B2 Hanger	2-1/2" x 3-1/2"	1704 lbs	n/a	16.0%	HUC412

### Cautions

Header for the hanger HUC412 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC412 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

### Notes

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

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

Hanger Manufacturer: Unassigned

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

CONFORMS TO CBC 2012

AMENDED 2020



OWB NO. TAM25930-21  
STRUCTURAL  
COMPONENT ONLY

REVIEWED



BC CALC® Member Report

Dry | 1 span | No cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B11(i272)

City, Province, Postal Code:

Specifier:

Customer:

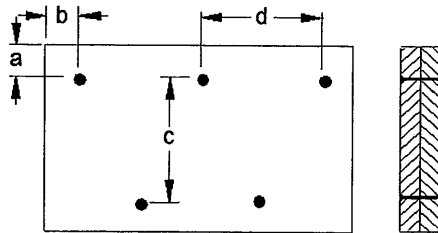
Designer:

Code reports:

CCMC 12472-R

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"  
b minimum = 3"

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

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 25930-21  
STRUCTURAL  
COMPONENT ONLY

## Disclosure

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

REVIEWED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

November 17, 2021 11:33:35

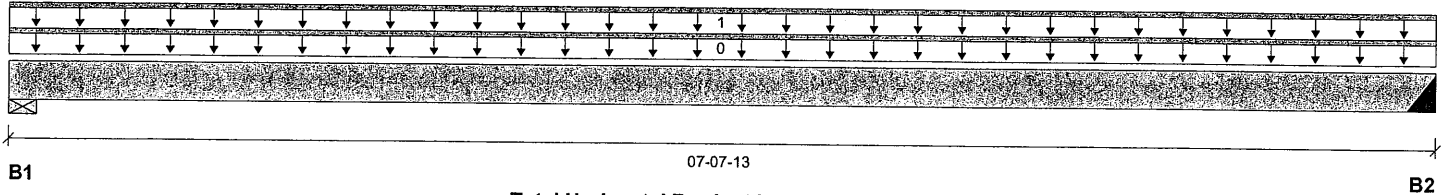
File name: TH-2 EL A.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B12(i464)

Specifier:

Designer:

Company:


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

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	85 / 0	437 / 0	255 / 0	
B2, 2-1/2"	83 / 0	427 / 0	250 / 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	07-07-13	Top		12			00-00-00
1	E24(i399)	Unf. Lin. (lb/ft)	L	00-00-00	07-07-13	Top	22	101	66		n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1735 ft-lbs	35392 ft-lbs	4.9%	13	03-10-07
End Shear	678 lbs	14464 lbs	4.7%	13	01-03-06
Total Load Deflection	L/999 (0.013")	n/a	n/a	35	03-10-07
Live Load Deflection	L/999 (0.006")	n/a	n/a	51	03-10-07
Max Defl.	0.013"	n/a	n/a	35	03-10-07
Span / Depth	7.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Wall/Plate	3-1/2" x 3-1/2"	1014 lbs	13.5%	6.8%	Spruce-Pine-Fir
B2 Hanger	2-1/2" x 3-1/2"	992 lbs	n/a	9.3%	HUC412

**Cautions**

Header for the hanger HUC412 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC412 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

**Notes**

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

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

Hanger Manufacturer: Unassigned

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM25431-21  
 STRUCTURAL  
 COMPONENT ONLY

# REVIEWED





BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

November 17, 2021 11:33:35

File name: TH-2 EL A.mmdl

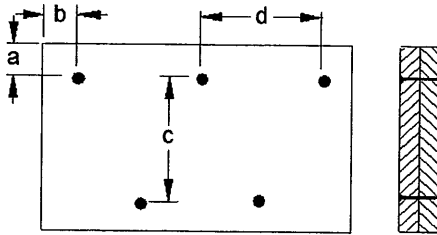
Description: 2ND FLR FRAMING\Flush Beams\B12(i464)

Specifier:

Designer:

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"

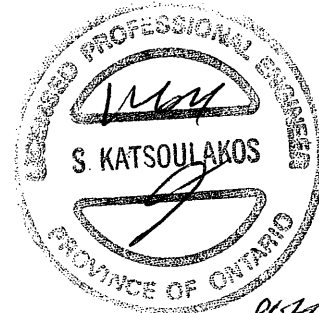
b minimum = 3"

c = 7-7/8"

d = 6' 6"

Connectors are: 1/2" x 3 1/2" ARDOX SPIRAL

3 1/2" ARDOX SPIRAL



OWG NO. TAM 25931-21  
STRUCTURAL  
COMPONENT ONLY

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REVIEWED

BC CALC® Member Report

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B13(i486)

City, Province, Postal Code:

Specifier:

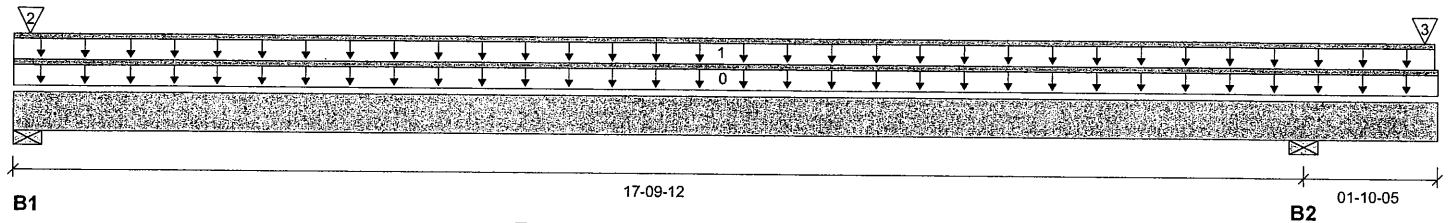
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 19-08-01

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

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	182 / 30	77 / 0	0 / 85	
B2, 5-1/2"	537 / 0	1898 / 0	974 / 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	19-08-01	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	19-07-08	Top	20	10			n/a
2	E22(i400)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top		24			n/a
3	-	Conc. Pt. (lbs)	L	19-05-12	19-05-12	Top	290	1518	889		n/a

**Controls Summary**

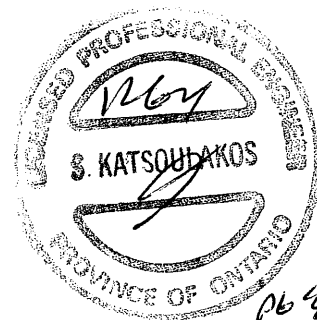
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	912 ft-lbs	35392 ft-lbs	2.6%	35	06-05-00
Neg. Moment	-5952 ft-lbs	-11622 ft-lbs	51.2%	37	17-09-12
End Shear	256 lbs	14464 lbs	1.8%	32	01-05-06
Cont. Shear	3556 lbs	14464 lbs	24.6%	37	19-00-06
Total Load Deflection	2xL/1998 (0.08")	n/a	n/a	83	19-08-01
Live Load Deflection	L/999 (-0.069")	n/a	n/a	121	10-05-05
Total Neg. Defl.	L/999 (-0.113")	n/a	n/a	83	11-01-13
Max Defl.	-0.113"	n/a	n/a	83	11-01-13
Span / Depth	17.6				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	370 lbs	3.1%	1.6%	Spruce-Pine-Fir
B1	Uplift	88 lbs			
B2	Wall/Plate 5-1/2" x 3-1/2"	4370 lbs	36.9%	18.6%	Spruce-Pine-Fir

**Cautions**

Uplift of 88 lbs found at bearing B1. (SIMPSON 2-HZ-SA @ 31) e  
 Concentrated side load(s) 13,8 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.


 BWS NO. FAM25932-21  
 STRUCTURAL  
 COMPONENT ONLY

# REVIEWED

BC CALC® Member Report  
Build 7773

Dry | 2 spans | R cant.

November 17, 2021 11:33:35

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B13(i486)

City, Province, Postal Code:

Specifier:

Customer:

Designer:

Code reports:

CCMC 12472-R

Company:

## Notes

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

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

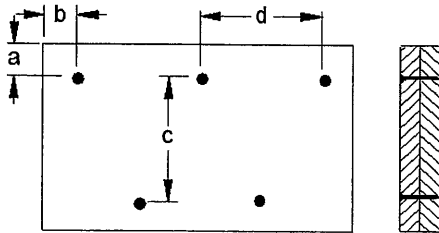
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Calculations assume unbraced length of Top: 00-00-09, Bottom: 17-01-08.

CONFORMS TO OBC 2012

AMENDED 2020

## Connection Diagram: Full Length of Member



a minimum = 2"

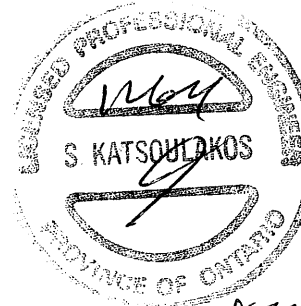
c = 7-7/8"

b minimum = 3"

d = 8"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



OWG NO. TAM25932-21  
STRUCTURAL  
COMPONENT ONLY

## Disclosure

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REVIEWED

BC CALC® Member Report

Dry | 1 span | No cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B14(i484)

City, Province, Postal Code:

Specifier:

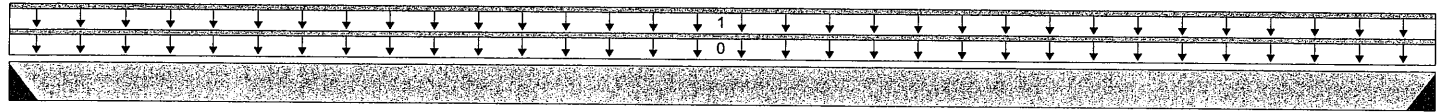
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



B1

13-02-07

B2

Total Horizontal Product Length = 13-02-07

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

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	145 / 0	745 / 0	436 / 0	
B2, 2-1/2"	145 / 0	745 / 0	436 / 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	13-02-07	Top		12			00-00-00
1	E24(i399)	Unf. Lin. (lb/ft)	L	00-00-00	13-02-07	Top	22	101	66		n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5462 ft-lbs	35392 ft-lbs	15.4%	13	06-07-03
End Shear	1416 lbs	14464 lbs	9.8%	13	01-02-06
Total Load Deflection	L/1205 (0.129")	n/a	19.9%	35	06-07-03
Live Load Deflection	L/999 (0.056")	n/a	n/a	51	06-07-03
Max Defl.	0.129"	n/a	n/a	35	06-07-03
Span / Depth	13.0				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2-1/2" x 3-1/2"	1731 lbs	n/a	16.2%	HUC412
B2 Hanger	2-1/2" x 3-1/2"	1731 lbs	n/a	16.2%	HUC412

**Cautions**

Header for the hanger HUC412 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC412 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

**Notes**

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

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

Hanger Manufacturer: Unassigned

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. FAM 25933-21  
 STRUCTURAL  
 COMPONENT ONLY

# REVIEWED



BC CALC® Member Report

Dry | 1 span | No cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B14(i484)

City, Province, Postal Code:

Specifier:

Customer:

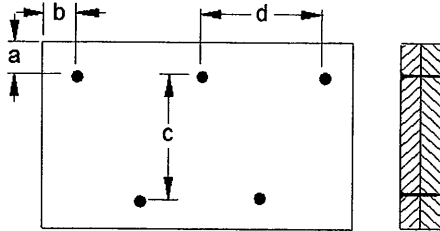
Designer:

Code reports:

CCMC 12472-R

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = 8"

Connectors are:

3/4" Sun Nails

3 1/2" ARDOX SPIRAL



OWG NO. TAM 25933-21  
STRUCTURAL  
COMPONENT ONLY

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REVIEWED

BC CALC® Member Report

Dry | 1 span | No cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B15(i541)

City, Province, Postal Code:

Specifier:

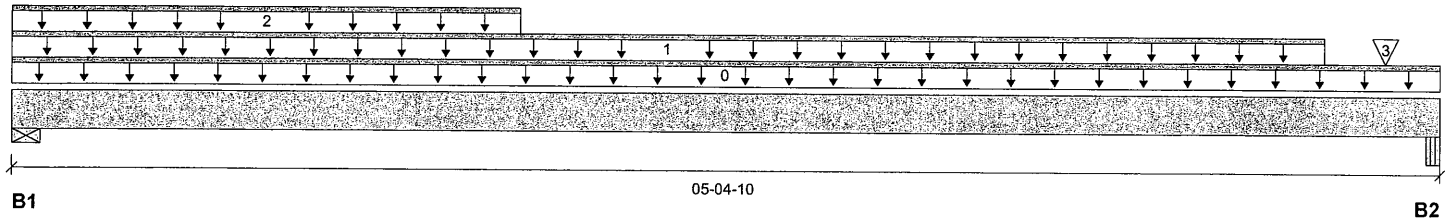
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 05-04-10

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

Bearing	Live	Dead	Snow	Wind
B1, 5-7/16"	172 / 0	472 / 0	594 / 0	
B2, 5-1/4"	167 / 0	470 / 0	595 / 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	05-04-10	Top		12			00-00-00
1	E29(i406)	Unf. Lin. (lb/ft)	L	00-00-00	04-11-06	Top	60	161	220		n/a
2	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-10-15	Top	6				n/a
3	E25(i404)	Conc. Pt. (lbs)	L	05-02-02	05-02-02	Top	27	74	101		n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1621 ft-lbs	35392 ft-lbs	4.6%	13	02-08-02
End Shear	767 lbs	14464 lbs	5.3%	13	03-11-08
Total Load Deflection	L/999 (0.005")	n/a	n/a	35	02-08-02
Live Load Deflection	L/999 (0.003")	n/a	n/a	51	02-08-02
Max Defl.	0.005"	n/a	n/a	35	02-08-02
Span / Depth	4.7				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 5-7/16" x 3-1/2"	1652 lbs	14.1%	7.1%	Spruce-Pine-Fir
B2	Beam 5-1/4" x 3-1/2"	1647 lbs	16.8%	7.3%	Unspecified

**Notes**

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

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

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

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

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

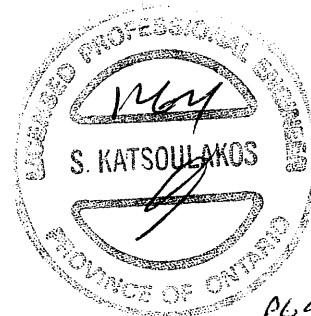
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM 25934-21  
 STRUCTURAL  
 COMPONENT ONLY

**REVIEWED**

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File name: TH-2 EL A.mmdl

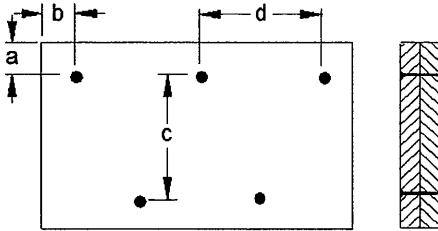
Description: 2ND FLR FRAMING\Flush Beams\B15(i541)

Specifier:

Designer:

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 7-7/8"

d = 2'-0"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 25934-21  
STRUCTURAL  
COMPONENT ONLY

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REVIEWED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

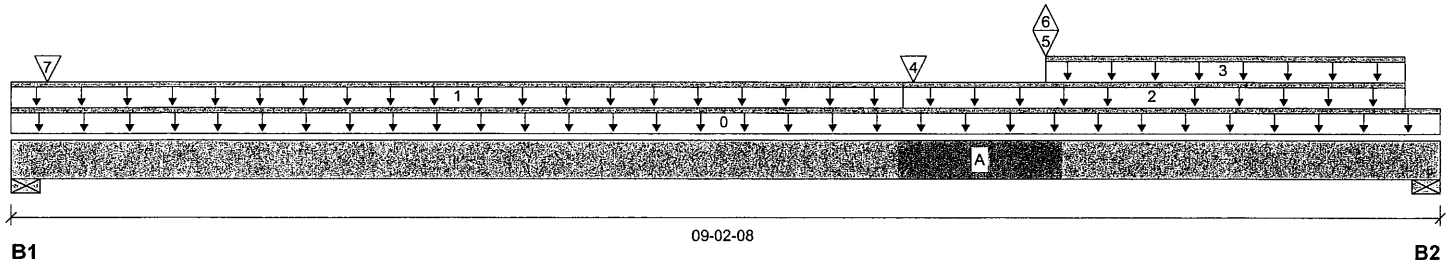
File name: TH-2 EL A.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B16(i557)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 09-02-08

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

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	492 / 22	332 / 0		
B2, 5-1/2"	1300 / 65	718 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-02-08	Top		12			00-00-00
1	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	05-09-01	Top	15	7			n/a
2	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	05-09-01	08-11-12	Top	12	6			n/a
3	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	06-08-00	08-11-12	Top	15	8			n/a
4	B18(i280)	Conc. Pt. (lbs)	L	05-09-13	05-09-13	Top	43	39			n/a
5	B17(i558)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	1587	795			n/a
6	B17(i558)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	-87				n/a
7	E22(i400)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top		24			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	5916 ft-lbs	35392 ft-lbs	16.7%	1	06-08-00
End Shear	2757 lbs	14464 lbs	19.1%	1	07-09-02
Total Load Deflection	L/999 (0.043")	n/a	n/a	6	05-00-15
Live Load Deflection	L/999 (0.028")	n/a	n/a	8	05-00-15
Max Defl.	0.043"	n/a	n/a	6	05-00-15
Span / Depth	8.5				

### Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1152 lbs	9.7%	4.9%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	2848 lbs	24.0%	12.1%	Spruce-Pine-Fir

### Notes

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 05-03-09.

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. YAM25935-21  
STRUCTURAL  
COMPONENT ONLY

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BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File name: TH-2 EL A.mmdl

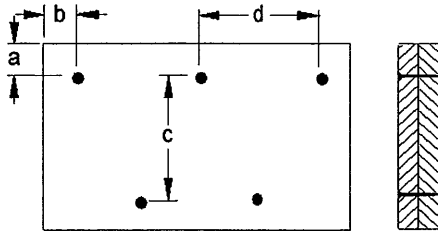
Description: 2ND FLR FRAMING\Flush Beams\B16(i557)

Specifier:

Designer:

Company:

## Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

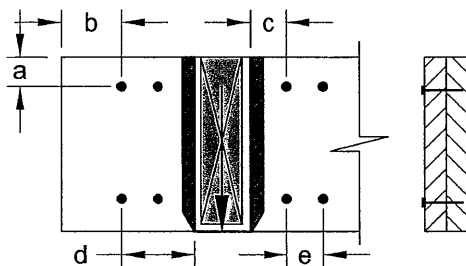
d = 6"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL

## Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 5+6+7



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



DWG NO. FAM 25935-21  
STRUCTURAL  
COMPONENT ONLY

## Disclosure

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REVIEWED



BC CALC® Member Report

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B17(i558)

City, Province, Postal Code:

Specifier:

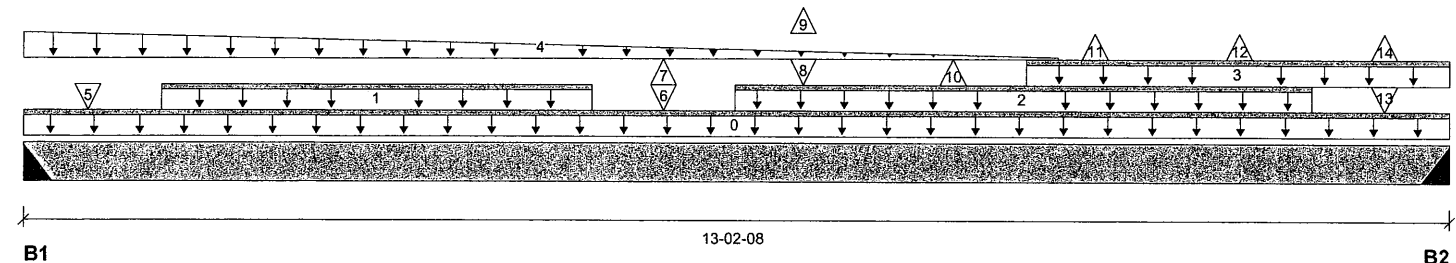
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 13-02-08

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

Bearing	Live	Dead	Snow	Wind
B1, 2"	1587 / 86	796 / 0		
B2, 2"	1631 / 229	748 / 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	13-02-08	Top		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-03-03	05-03-03	Top	253	127			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	06-07-03	11-11-03	Top	177	68			n/a
3	STAIR	Unf. Lin. (lb/ft)	L	09-03-10	13-02-08	Top	120	60			n/a
4	FC4 Floor Decking (Plan View Fill)	Trapezoidal (lb/ft)	L	00-00-00	09-07-02	Top	18	9			n/a
5	J2(i559)	Conc. Pt. (lbs)	L	00-07-03	00-07-03	Top	313	156			n/a
6	J2(i504)	Conc. Pt. (lbs)	L	05-11-03	05-11-03	Top	100	23			n/a
7	J2(i504)	Conc. Pt. (lbs)	L	05-11-03	05-11-03	Top	-7				n/a
8	-	Conc. Pt. (lbs)	L	07-02-14	07-02-14	Top	92	100			n/a
9	-	Conc. Pt. (lbs)	L	07-02-14	07-02-14	Top	-55				n/a
10	-	Conc. Pt. (lbs)	L	08-07-08	08-07-08	Top	-100	-38			n/a
11	J2(i515)	Conc. Pt. (lbs)	L	09-11-03	09-11-03	Top	-55				n/a
12	J2(i463)	Conc. Pt. (lbs)	L	11-03-03	11-03-03	Top	-55				n/a
13	J2(i521)	Conc. Pt. (lbs)	L	12-07-03	12-07-03	Top	187	72			n/a
14	J2(i521)	Conc. Pt. (lbs)	L	12-07-03	12-07-03	Top	-43				n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	9933 ft-lbs	17696 ft-lbs	56.1%	1	07-02-12
End Shear	2989 lbs	7232 lbs	41.3%	1	01-01-14
Total Load Deflection	L/352 (0.443")	n/a	68.1%	6	06-07-00
Live Load Deflection	L/521 (0.3")	n/a	69.1%	8	06-07-00
Max Defl.	0.443"	n/a	n/a	6	06-07-00
Span / Depth	13.1				

### Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 1-3/4"	3376 lbs	n/a	79.1%	HUS1.81/10
B2	Hanger 2" x 1-3/4"	3381 lbs	n/a	79.2%	HUS1.81/10



DWG NO. TAM25936-21  
STRUCTURAL  
COMPONENT ONLY

REVIEWED

BC CALC® Member Report  
Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File name: TH-2 EL A.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B17(i558)

Specifier:

Designer:

Company:

**Cautions**

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

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

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

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

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

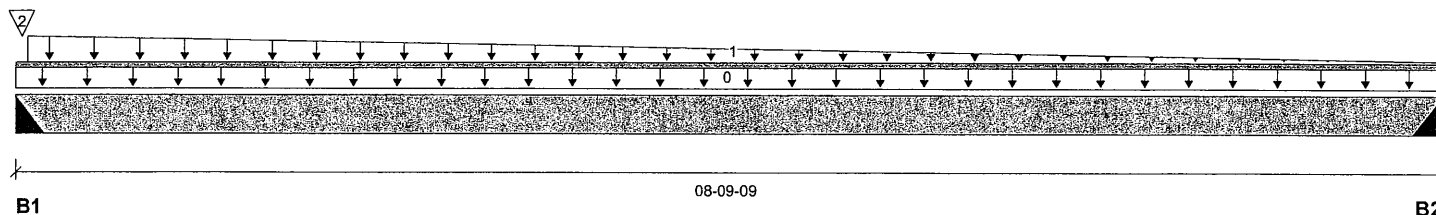
Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

**CONFORMS TO OBC 2012****AMENDED 2020****DWG NO. FAM 25936-21**  
**STRUCTURAL**  
**COMPONENT ONLY****Disclosure**

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**REVIEWED**



Total Horizontal Product Length = 08-09-09

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

Bearing	Live	Dead	Snow	Wind
B1, 2"	56 / 0	55 / 0		
B2, 2"	31 / 0	42 / 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	08-09-09	Top		6			00-00-00
1	FC4 Floor Decking (Plan View Fill)	Trapezoidal (lb/ft)	L	00-00-14	08-09-09	Top	18	9			n/a
2	FC4 Floor Decking (Plan View Fill)	Conc. Pt. (lbs)	L	00-00-07	00-00-07	Top	1	1			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	266 ft-lbs	17696 ft-lbs	1.5%	1	03-11-15
End Shear	137 lbs	7232 lbs	1.9%	1	01-01-14
Total Load Deflection	L/999 (0.005")	n/a	n/a	4	04-03-09
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	04-03-09
Max Defl.	0.005"	n/a	n/a	4	04-03-09
Span / Depth	8.7				

### Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger 2" x 1-3/4"	153 lbs	n/a	3.6%	HUS1.81/10
B2	Hanger 2" x 1-3/4"	99 lbs	n/a	2.3%	LSSR1.81Z

### Cautions

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

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

Header for the hanger LSSR1.81Z is a Single 1-3/4" x 11-7/8" LVL Beam.

Hanger model LSSR1.81Z and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



DWG NO. TAM25937-21  
STRUCTURAL  
COMPONENT ONLY

REVIEWED



## 2ND FLR FRAMING\Flush Beams\B18(i280) (Flush Beam)

BC CALC® Member Report  
Build 7773

Dry | 1 span | No cant.

November 17, 2021 11:33:35

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B18(i280)

City, Province, Postal Code:

Specifier:

Customer:

Designer:

Code reports:

CCMC 12472-R

Company:

**Notes**

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

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

Hanger Manufacturer: Unassigned

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

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

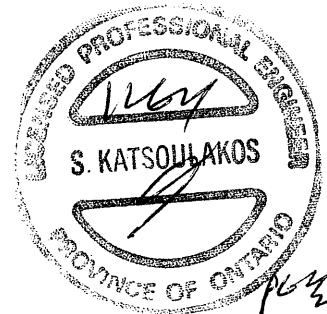
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-10-01, Bottom: 07-01-07.

CONFORMS TO OBC 2012

AMENDED 2020

DWG NO. TAM25937-21  
STRUCTURAL  
COMPONENT ONLY**Disclosure**

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**REVIEWED**

Build 0

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B19(i282)

City, Province, Postal Code:

Specifier:

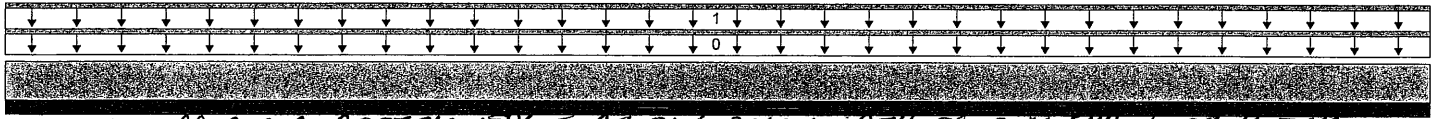
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



FULLY SUPPORTED BOTTOM EDGE ALONG FULL WIDTH & FULL SPAN OF BEAM.  
Total Horizontal Product Length = 13-02-08

### 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	13-02-08	Top		12			00-00-00
1	E22(i400)	Unf. Lin. (lb/ft)	L	00-00-00	13-02-08	Top		81			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Dist. Load	113.26 lb/ft	37469.32 lb/ft	0.3%		
Conc. Load	0 lbs	16813 lbs	n/a		

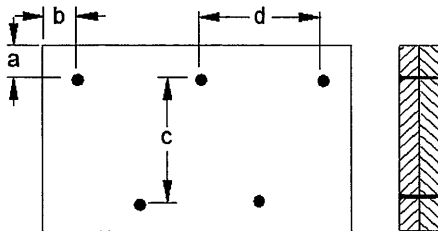
CONFORMS TO OBC 2012

AMENDED 2020

### Notes

Calculations assume member is fully braced.

### Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = 8"

Connectors are:



Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 25938-21  
STRUCTURAL  
COMPONENT ONLY

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REVIEWED

2ND FLR FRAMING\Flush Beams\B9(i270) (Flush Beam)

BC CALC® Member Report

Dry | 3 spans | R cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B9(i270)

City, Province, Postal Code:

Specifier:

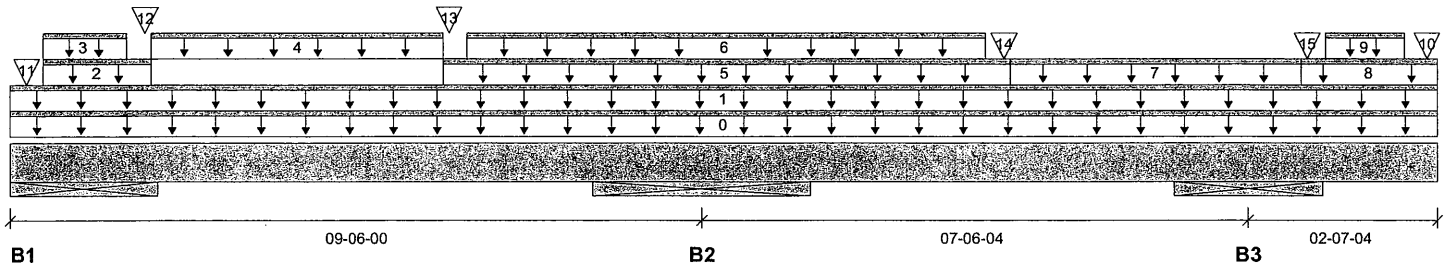
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 24"	971 / 19	1528 / 0	2824 / 0	
B2, 36"	2064 / 0	3221 / 0	6189 / 0	
B3, 24-1/2"	1234 / 0	2582 / 0	3683 / 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	19-07-08	Top	1.00	12			00-00-00
1	FC4 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	19-07-08	Top	20	10			n/a
2	E28(i405)	Unf. Lin. (lb/ft)	L	00-05-08	01-11-00	Top		81			n/a
3	E28(i405)	Unf. Lin. (lb/ft)	L	00-05-08	01-07-00	Top	190	240	623		n/a
4	E30(i430)	Unf. Lin. (lb/ft)	L	01-11-00	05-11-00	Top		61			n/a
5	E31(i431)	Unf. Lin. (lb/ft)	L	05-11-00	13-09-00	Top		81			n/a
6	E31(i431)	Unf. Lin. (lb/ft)	L	06-03-00	13-05-00	Top	190	240	623		n/a
7	E32(i432)	Unf. Lin. (lb/ft)	L	13-09-00	17-09-00	Top		61			n/a
8	E33(i433)	Unf. Lin. (lb/ft)	L	17-09-00	19-07-08	Top		81			n/a
9	E33(i433)	Unf. Lin. (lb/ft)	L	18-01-00	19-02-00	Top	190	240	623		n/a
10	B11(i272)	Conc. Pt. (lbs)	L	19-05-12	19-05-12	Top	145	743	434		n/a
11	E22(i400)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	87	134	286		n/a
12	E28(i405)	Conc. Pt. (lbs)	L	01-10-00	01-10-00	Top	447	600	1466		n/a
13	E31(i431)	Conc. Pt. (lbs)	L	06-00-00	06-00-00	Top	440	590	1441		n/a
14	E31(i431)	Conc. Pt. (lbs)	L	13-08-00	13-08-00	Top	447	600	1466		n/a
15	E33(i433)	Conc. Pt. (lbs)	L	17-10-00	17-10-00	Top	440	590	1441		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3944 ft-lbs	35392 ft-lbs	11.1%	101	13-08-00
Neg. Moment	-4225 ft-lbs	-10545 ft-lbs	40.1%	122	08-00-00
End Shear	1041 lbs	14464 lbs	7.2%	101	02-11-14
Cont. Shear	3930 lbs	14464 lbs	27.2%	122	07-00-02
Total Load Deflection	L/999 (0.014")	n/a	n/a	215	05-01-02
Live Load Deflection	L/999 (0.01")	n/a	n/a	319	05-01-02
Max Defl.	0.014"	n/a	n/a	215	05-01-02
Span / Depth	7.6				
Dist. Load (B1)	1558.13 lb/ft	57645.1 lb/ft	2.7%		
Dist. Load (B2)	1558.13 lb/ft	57645.1 lb/ft	2.7%		
Dist. Load (B3)	127.26 lb/ft	37469.32 lb/ft	0.3%		
Conc. Load (B1)	3396 lbs	16813 lbs	20.2%		
Conc. Load (B3)	3339 lbs	16813 lbs	19.9%		



OWO NO. 25939-21  
STRUCTURAL  
COMPONENT ONLY

REVIEWED

2ND FLR FRAMING\Flush Beams\B9(i270) (Flush Beam)

BC CALC® Member Report

Dry | 3 spans | R cant.

November 17, 2021 11:33:35

Build 7773

Job name:

File name: TH-2 EL A.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B9(i270)

City, Province, Postal Code:

Specifier:

Customer:

Designer:

Code reports:

CCMC 12472-R

Company:

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 24" x 3-1/2"	7094 lbs	13.7%	6.9%	Spruce-Pine-Fir
B2	Wall/Plate 36" x 3-1/2"	14801 lbs	19.1%	9.6%	Spruce-Pine-Fir
B3	Wall/Plate 24-1/2" x 3-1/2"	10012 lbs	19.0%	9.6%	Spruce-Pine-Fir

### Cautions

Concentrated side load(s) 47 are closer than 18" from end of member. Please consult a technical representative or Professional of Record. *OK*

### Notes

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

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

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

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

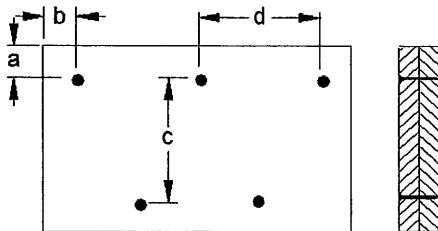
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Calculations assume unbraced length of Top: 00-00-00, Bottom: 18-10-08.

CONFORMS TO OBC 2012

AMENDED 2020

### Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 7-7/8"

d = 6"

Connectors are:

3 1/2" ARDOX SPIRAL

Nails



DWG NO. TAM25939-21  
STRUCTURAL  
COMPONENT ONLY

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## Maximum Floor Spans – S2.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued oriented strand board (OSB) sheathing

### Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. 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'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-
11-7/8"	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	-
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-
	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
14"	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-
	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
16"	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	-
	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-
	NI-90	24'-5"	22'-6"	21'-6"	-	25'-1"	23'-2"	22'-2"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. 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"	-	16'-8"	15'-3"	14'-5"	-
	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
	NI-60	18'-2"	17'-1"	16'-4"	-	18'-8"	17'-4"	16'-4"	-
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-
11-7/8"	NI-20	19'-7"	18'-2"	17'-3"	-	19'-11"	18'-3"	17'-3"	-
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-2"	-
	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-
14"	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-
	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	21'-8"	-
	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-
16"	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-
	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-
	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	-

### Notes:

1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

## Maximum Floor Spans – S4.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued oriented strand board (OSB) sheathing

### Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9'-1/2"	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11'-7/8"	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-2"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
14"	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
16"	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10"
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. 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-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'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
14"	NI-40x	24'-5"	22'-9"	21'-9"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

### Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

# NORDIC STRUCTURES

## Maximum Floor Spans – S6.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued Canadian softwood plywood

### Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-
11-7/8"	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-
	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-
14"	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-
16"	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
11-7/8"	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
14"	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	21'-5"	-
	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
16"	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	-

### Notes:

1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

## Maximum Floor Spans – S7.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued Canadian softwood plywood

### Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. 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	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	15'-1"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11"
	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11"
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
14"	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11"
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
16"	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. 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'-7"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	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'-9"	20'-3"	19'-4"	17'-8"	22'-4"	20'-5"	19'-4"	17'-8"
	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
14"	NI-40x	24'-4"	22'-8"	21'-8"	19'-5"	25'-0"	23'-2"	21'-9"	19'-5"
	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10"
	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
16"	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11"
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

### Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



## Maximum Floor Spans – M2.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued oriented strand board (OSB) sheathing

### Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. 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'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-
11'-7/8"	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	-
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-
	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-
14"	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	-
16"	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-
	NI-90	24'-5"	22'-6"	21'-6"	-	25'-1"	23'-2"	22'-2"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. 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"	-	16'-8"	15'-3"	14'-5"	-
	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
	NI-60	18'-2"	17'-1"	16'-4"	-	18'-8"	17'-4"	16'-4"	-
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-
11'-7/8"	NI-20	19'-7"	18'-2"	17'-3"	-	19'-11"	18'-3"	17'-3"	-
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-0"	-
	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-
	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-
14"	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	20'-11"	-
	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-
	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-
16"	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-
	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	-

### Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

# NORDIC

## STRUCTURES

### Maximum Floor Spans – M4.1

#### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued oriented strand board (OSB) sheathing

#### Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
14"	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
16"	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10"
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling 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"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	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'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-10"	20'-4"	19'-0"	17'-0"	22'-5"	20'-6"	19'-0"	17'-0"
	NI-60	22'-1"	20'-7"	19'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
14"	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

#### Notes:

1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

## Maximum Floor Spans – M6.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued Canadian softwood plywood

### Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-
11-7/8"	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-
	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-
14"	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-
16"	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
11-7/8"	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
14"	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	20'-11"	-
	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
16"	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	-

### Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

## Maximum Floor Spans – M7.1

### Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued Canadian softwood plywood

### Maximum Floor Spans

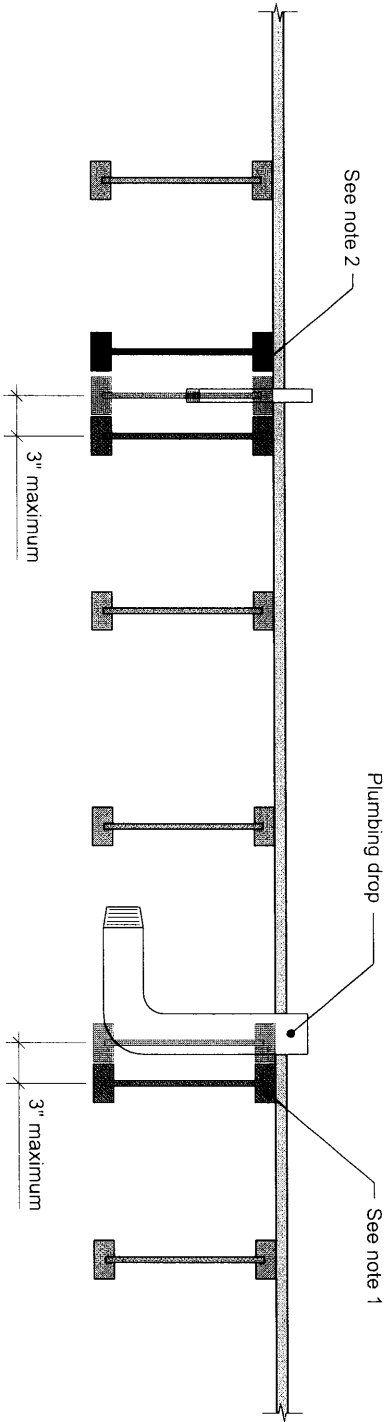
Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11"
	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11"
14"	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11"
16"	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. 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'-7"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11"
	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	18'-2"	16'-10"
11-7/8"	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-9"	20'-3"	19'-0"	17'-0"	22'-4"	20'-5"	19'-0"	17'-0"
	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
14"	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
	NI-40x	24'-4"	22'-8"	20'-11"	18'-8"	25'-0"	22'-11"	20'-11"	18'-8"
	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10"
	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
16"	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11"
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

### Notes:

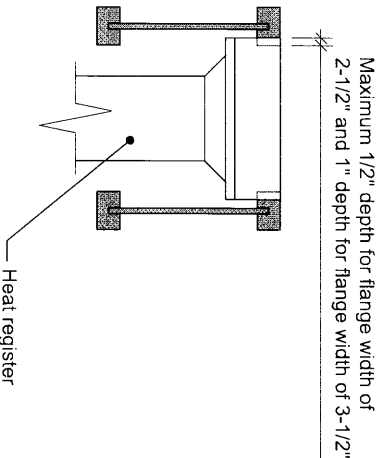
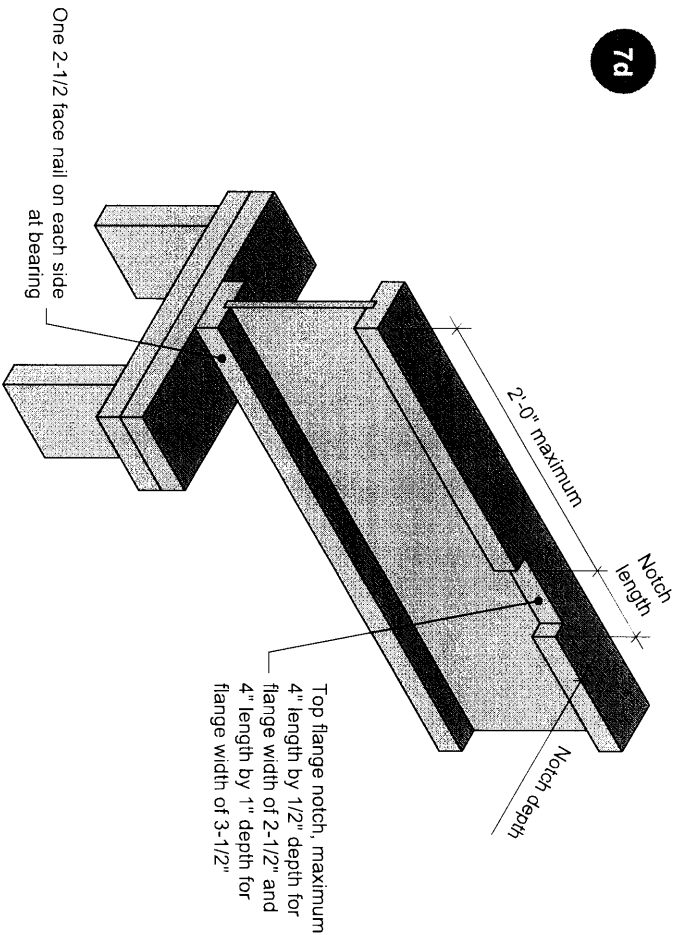
1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.





- Notes:**
1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
  2. In all other cases, an additional joist is required.

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.



- 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 length by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch length 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.

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.

TITLE		DRAWING	
Notch in I-joist for Heat Register		7d	
CATEGORY	SCALE	DATE	PAGE
Openings for Vertical Elements	-	2020-10-01	3.11