

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	4
J2	12-00-00	9 1/2" NI-40x	1	9
J3	6-00-00	9 1/2" NI-40x	1	19
J4	4-00-00	9 1/2" NI-40x	1	4
J5	2-00-00	9 1/2" NI-40x	1	4
J6	18-00-00	9 1/2" NI-80	1	27
B1	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B9	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B13L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B14L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B16L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B6	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B10L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B11L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B12L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B15L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B3	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B7	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B8	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
2	H2	HUS1.81/10
3	H1	IUS3.56/9.5
8	H1	IUS3.56/9.5
3	H3	IUS3.56/9.5
1	H4C	HUC410

DATE: 5/25/23

1st FLOOR FRAMING



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW W.WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-4
ELEVATION: A & A2
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

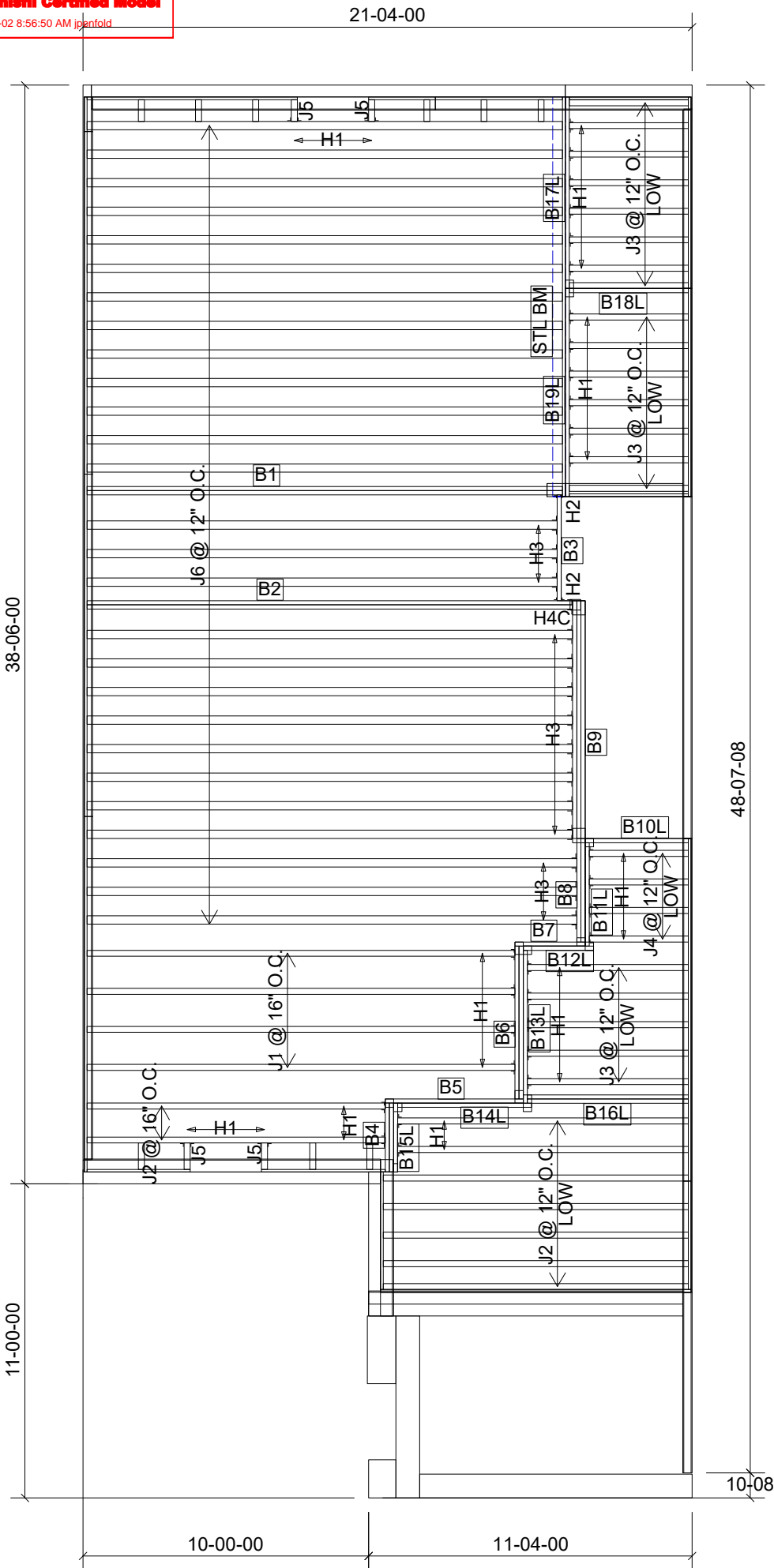
REFER TO THE **NORDIC INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS.
MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.
CANTILEVERED JOISTS INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING 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 6 AND TABLES 6.1/6.2.
CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

ALL **CONNECTORS** MUST BE INSTALLED AS PER THE **MANUFACTURER'S SPECIFICATIONS** USING THE MANUFACTURER **SPECIFIED FASTENERS**.
ALL **BEAM HANGER FASTENERS** INSTALLED INTO THE **SUPPORTING MEMBER MUST** BE A MINIMUM OF **3.5"** IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 3/4" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	4
J2	12-00-00	9 1/2" NI-40x	1	9
J3	6-00-00	9 1/2" NI-40x	1	20
J4	4-00-00	9 1/2" NI-40x	1	4
J5	2-00-00	9 1/2" NI-40x	1	4
J6	18-00-00	9 1/2" NI-80	1	27
B1	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B9	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B17L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B19L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B13L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B14L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B18L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B16L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B6	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B10L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B11L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B12L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B15L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B3	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B7	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B8	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
23	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
2	H2	HUS1.81/10
3	H3	IUS3.56/9.5
3	H3	IUS3.56/9.5
8	H3	IUS3.56/9.5
1	H4C	HUC410

DATE: 5/25/23

1st FLOOR FRAMING

SUNKEN MUDROOM



FROM PLAN DATED: JULY 2017

BUILDER: BAYVIEW WELLINGTON

SITE: ALCONA SHORES

MODEL: RL-4

ELEVATION: A & A2, B & B2

LOT:

CITY: INNISFIL

SALESMAN: WILL GARCIA

DESIGNER: AJ

REVISION: lbv

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

SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 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 6 AND TABLES 6.1/6.2.

CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

ALL **CONNECTORS** MUST BE INSTALLED AS PER THE **MANUFACTURER'S SPECIFICATIONS** USING THE MANUFACTURER **SPECIFIED FASTENERS**.

ALL **BEAM HANGER FASTENERS** INSTALLED INTO THE **SUPPORTING MEMBER MUST** BE A MINIMUM OF **3.5"** IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

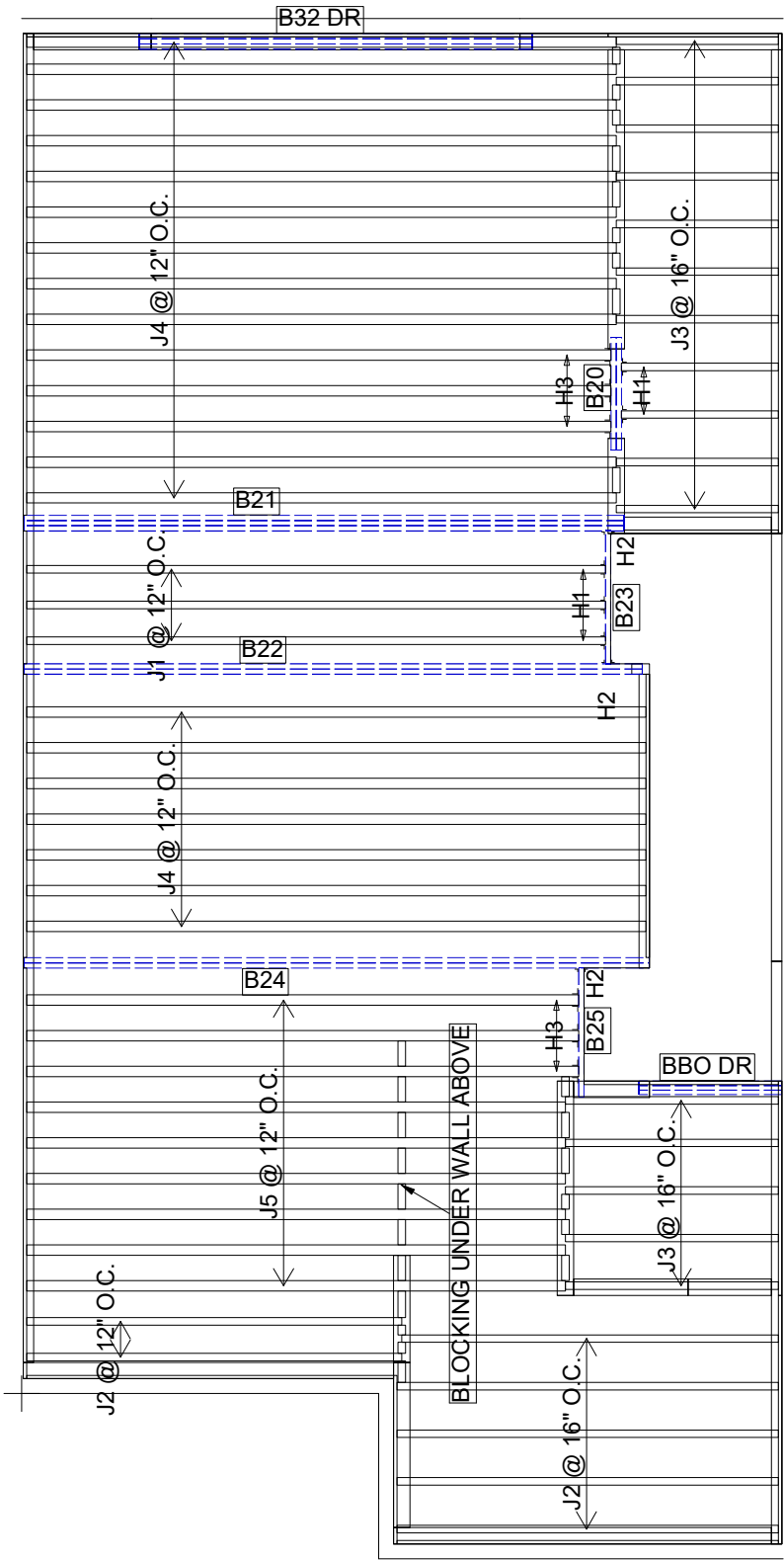
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 3/4" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	3
J2	12-00-00	9 1/2" NI-40x	1	7
J3	6-00-00	9 1/2" NI-40x	1	16
J4	18-00-00	9 1/2" NI-80	1	21
J5	16-00-00	9 1/2" NI-80	1	9
B22	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B24	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B21	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B32 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B23	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B25	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B20	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

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



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WWELLINGTON
SITE: ALCONA SHORES
MODEL: RL-4
ELEVATION: A & A2
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

REFER TO THE **NORDIC INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS.
MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.
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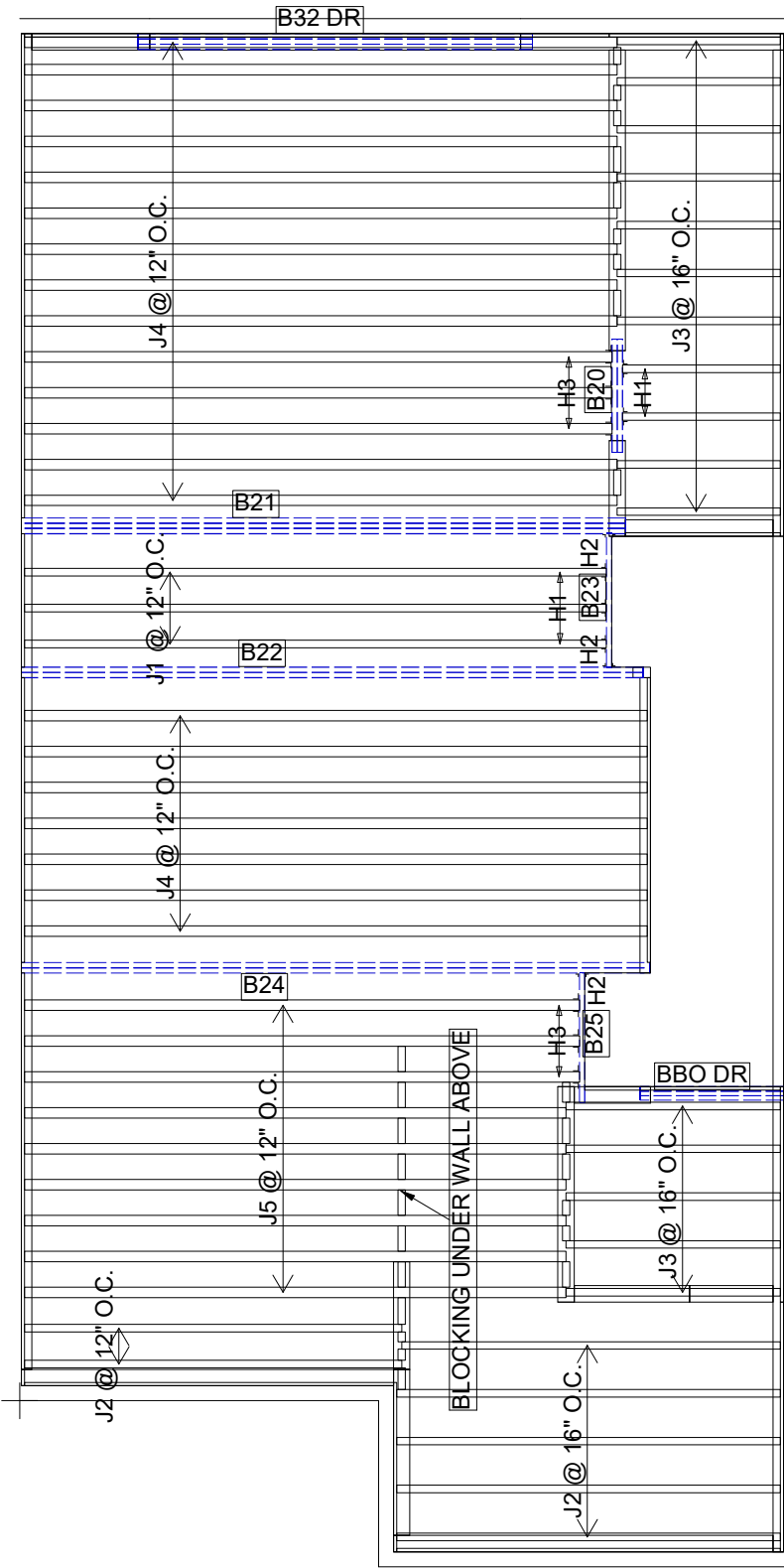
LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-05-10

2nd FLOOR FRAMING



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	3
J2	12-00-00	9 1/2" NI-40x	1	7
J3	6-00-00	9 1/2" NI-40x	1	16
J4	18-00-00	9 1/2" NI-80	1	21
J5	16-00-00	9 1/2" NI-80	1	9
B22	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B24	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B21	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B32 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B23	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B25	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B20	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

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



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-4
ELEVATION: B & B2
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

REFER TO THE **NORDIC INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 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 6 AND TABLES 6.1/6.2.
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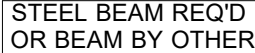
LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-05-10

2nd FLOOR FRAMING



Connector Summary		
Qty	Manuf	Product
22	H1	IUS2.56/9.5
4	H1	IUS3.56/9.5
1	H4	HGUS410
2	H4	HGUS410



LUMBER INC

ALPA LUMBER GROUP

BUILDER: BAYVIEW WWellington

SITE: ALCONA SHORES

MODEL: RL-4

ELEVATION: A & A2

LOT:

CITY: INNISFIL

SALESMAN: WILL GARCIA

DESIGNER: AJ

REVISION: lbv

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

**SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D
UNDER INTERIOR UNIFORM LOAD BEARING WALLS**

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.

**CANTILEVERED JOISTS INCLUDING CANT' OVER
BRICK REQ. 1-JOIST BLOCKING ALONG BEARING
AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES
4/5 FOR REINFORCEMENT REQUIREMENTS.**

FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 6 AND TABLES 6.1/6.2. CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

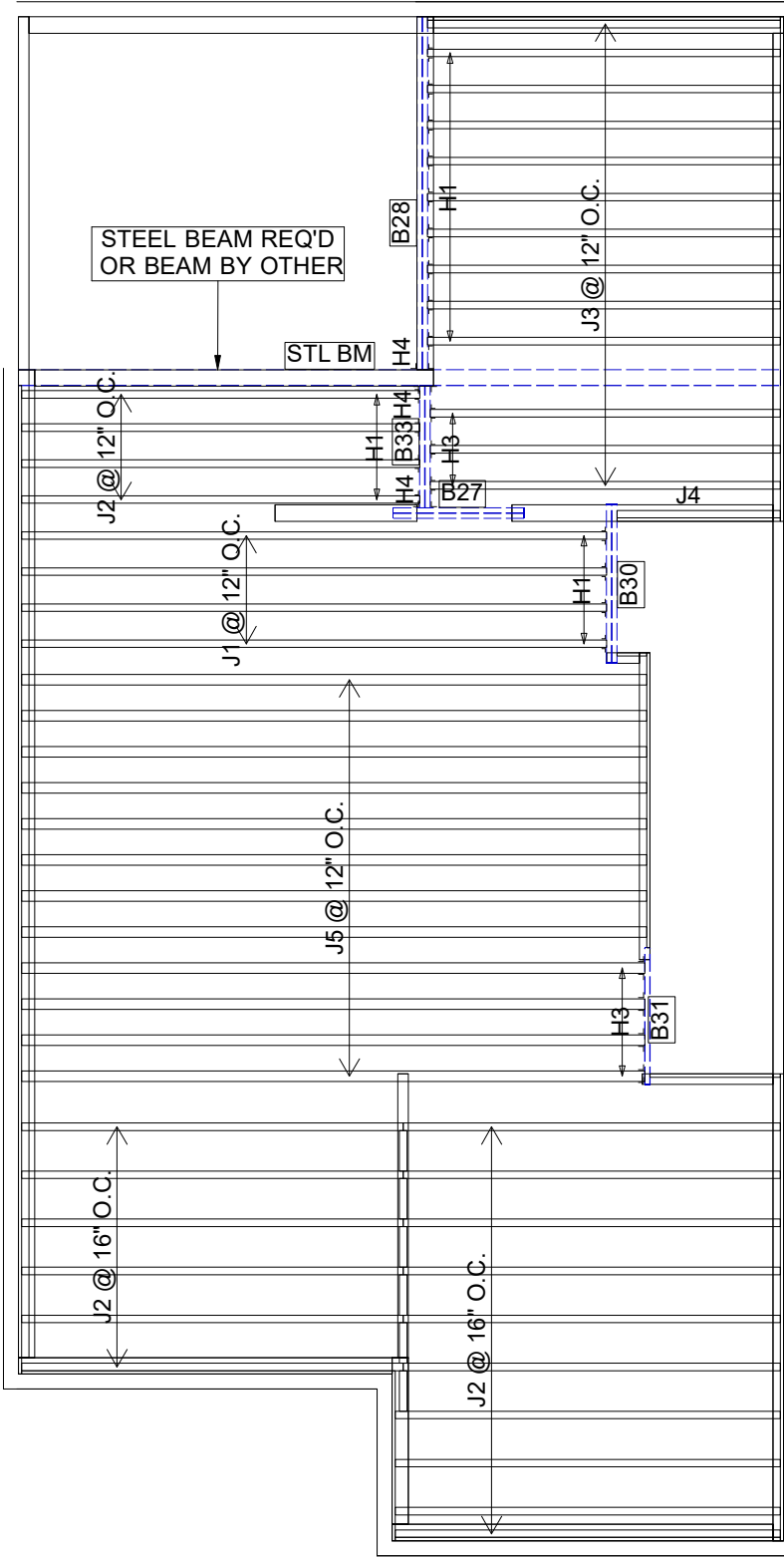
TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: $L/480$

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-05-10

3rd FLOOR FRAMING



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	4
J2	12-00-00	9 1/2" NI-40x	1	20
J3	10-00-00	9 1/2" NI-40x	1	13
J4	6-00-00	9 1/2" NI-40x	1	1
J5	18-00-00	9 1/2" NI-80	1	12
B28	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B30	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B31	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B27	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B33	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
17	H1	IUS2.56/9.5
4	H1	IUS3.56/9.5
3	H1	IUS3.56/9.5
1	H4	HGUS410
2	H4	HGUS410

DATE: 2023-05-10

3rd FLOOR FRAMING



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-4
ELEVATION: B & B2
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

REFER TO THE **NORDIC INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION.
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CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

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LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED


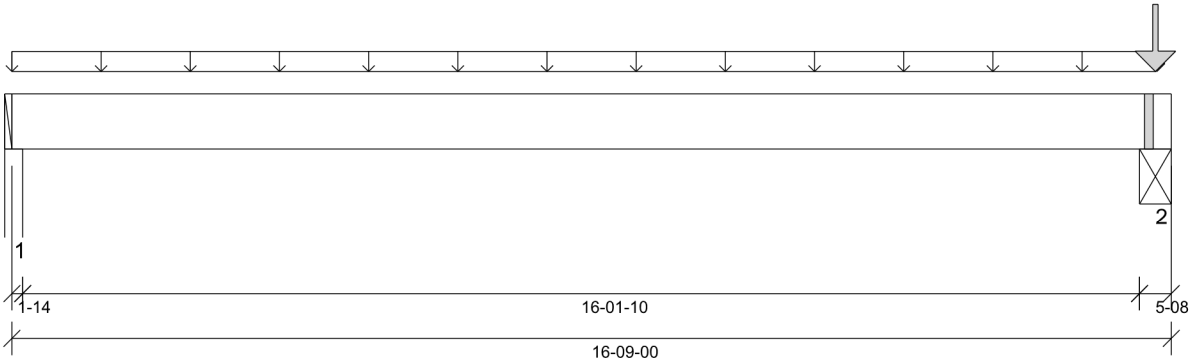
	Builder: BAYVIEW W WELLINGTON Site: ALCONA SHORES Model: RL-4 City: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B1 - i8549 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26
 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:


Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 16'- 1 5/8"

- Factored Resistance of Support Material:**
- 615 psi Wall @ 0'- 7/8"
 - 615 psi Beam @ 16'- 4 1/2"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
DWG # TF23051647

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	7'- 6 13/16"	1.25D + 1.5L	1.00	2719 lb ft	23299 lb ft	Passed - 12%	
Factored Neg. Moment:	16'- 4 1/2"	1.25D + 1.5L	1.00	1036 lb ft	17670 lb ft	Passed - 6%	
Factored Shear:	15'- 6"	1.25D + 1.5L	1.00	768 lb	11052 lb	Passed - 7%	
Live Load (LL) Pos. Defl.:	7'- 11 7/8"	L		0.108"	L/360	Passed - L/999	
Total Load (TL) Pos. Defl.:	7'- 11 1/2"	D + L		0.183"	L/240	Passed - L/999	

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-14	1.25D + 1.5L	1.00	741 lb		6825 lb	4037 lb	Passed - 18%
2	5-08	1.25D + 1.5L	1.00	7796 lb		20020 lb	11839 lb	Passed - 66%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 9"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	16'- 6 3/8"	FC4 Floor Decking (Plan View Fill)	Top	20 lb/ft	40 lb/ft	-	-
Point	16'- 6 1/2"	16'- 6 1/2"	B3(i8550)	Front	285 lb	543 lb	-	-
Point	16'- 6 1/4"	16'- 6 1/4"	6(i245)	Top	2132 lb	2060 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 7/8"	E1(i1)	246 lb	336 lb	-	-
2	16'- 3 1/2"	16'- 9"	STL BM(i12)	2662 lb	2932 lb	-	-

- DESIGN NOTES**
- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
 - Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
 - Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
 - Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
 - Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
 - This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
 - Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
 - When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
 - Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=1.581", W=3.500". LDF=1.00, Pf=5755 lb, Qr=5755 lb, Result=100.00%.

- PLY TO PLY CONNECTION**
- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


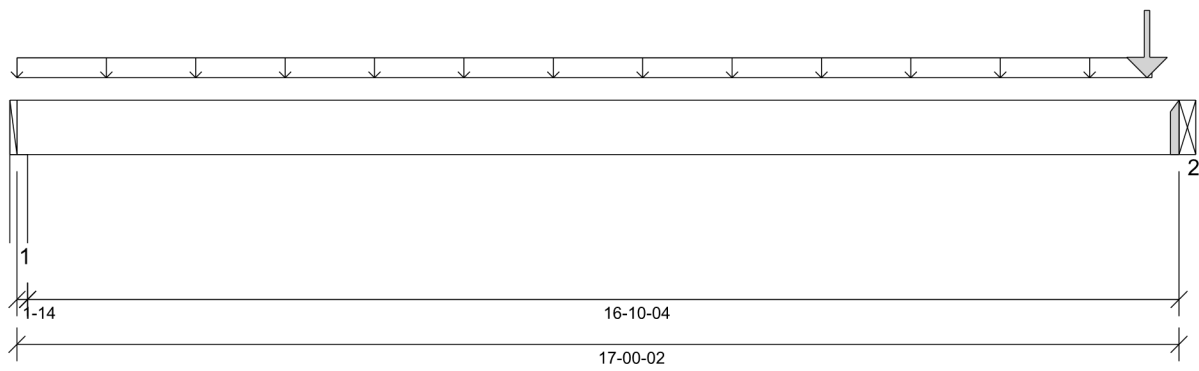
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B2 - i8548 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 16'- 3 3/4"

- Factored Resistance of Support Material:**
- 615 psi Wall @ 0'- 7/8"
 - 615 psi Beam @ 17'- 1/8"

PLY TO PLY CONNECTION:
3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051648

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 11 5/16"	1.25D + 1.5L	1.00	3529 lb ft	23299 lb ft	Passed - 15%
Factored Shear:	0'- 11 3/8"	1.25D + 1.5L	1.00	717 lb	11052 lb	Passed - 6%
Live Load (LL) Pos. Defl.:	8'- 8 1/8"	L		0.158"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 7 15/16"	D + L		0.273"	L/240	Passed - L/740

SUPPORT AND REACTION INFORMATION							
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support
1	1-14	1.25D + 1.5L	1.00	810 lb		6825 lb	4037 lb
2	1-08	1.25D + 1.5L	1.00	2004 lb		5460 lb	-

CONNECTOR INFORMATION						
ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	HUC410		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 1/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	16'- 7 3/8"	FC4 Floor Decking (Plan View Fill)	Top	18 lb/ft	37 lb/ft	-	-
Point	16'- 6 1/2"	16'- 6 1/2"	B3(i8550)	Back	314 lb	612 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 7/8"	E1(i1)	248 lb	335 lb	-	-
2	17'- 1/8"	17'- 1/8"	B9(i8609)	533 lb	890 lb	-	-

- DESIGN NOTES**
- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
 - Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
 - Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
 - Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
 - Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
 - This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
 - Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
 - When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

- PLY TO PLY CONNECTION**
- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


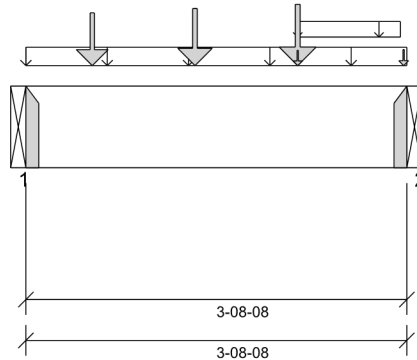
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON BUILDER: ALCONA SHORES SITE: RL-4 MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B3 - i8550 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 10 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 3'- 8 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 7 3/4"	1.25D + 1.5L	1.00	1402 lb ft	11650 lb ft	Passed - 12%
Factored Shear:	2'- 11"	1.25D + 1.5L	1.00	1079 lb	5526 lb	Passed - 20%
Total Load (TL) Pos. Defl.:	1'- 10 3/16"	D + L		0.010"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	1312 lb		2730 lb	-	Passed - 48%
2	1-08	1.25D + 1.5L	1.00	1171 lb		2730 lb	-	Passed - 43%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories		
			Top	Face	Member			
1	HUS1.81/10		-	-	-	Connector manually specified by the user.		
2	HUS1.81/10		-	-	-	Connector manually specified by the user.		

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 8 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	3'- 8 1/2"	User Load	Top	20 lb/ft	40 lb/ft	-	-
Uniform	2'- 7 3/4"	3'- 7 3/4"	FC4 Floor Decking (Plan View Fill)	Top	2 lb/ft	3 lb/ft	-	-
Point	0'- 7 3/4"	0'- 7 3/4"	J6(i8501)	Back	149 lb	299 lb	-	-
Point	1'- 7 3/4"	1'- 7 3/4"	J6(i8516)	Back	167 lb	334 lb	-	-
Point	2'- 7 3/4"	2'- 7 3/4"	J6(i8511)	Back	183 lb	367 lb	-	-
Point	2'- 7 3/4"	2'- 7 3/4"	FC4 Floor Decking (Plan View Fill)	Top	0 lb	0 lb	-	-
Point	3'- 8 1/8"	3'- 8 1/8"	6(i245)	Top	7 lb	4 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B2(i8548)	314 lb	612 lb	-	-
2	3'- 8 1/2"	3'- 8 1/2"	B1(i8549)	285 lb	543 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051649


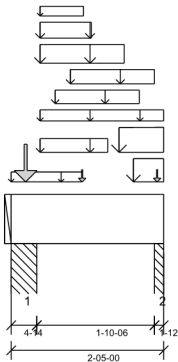
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON BUILDER: ALCONA SHORES SITE: RL-4 MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B4 - i8508 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:


Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 11 3/4"

- Factored Resistance of Support Material:**
- 615 psi Column @ 0'- 3 7/8"
 - 615 psi Column @ 2'- 4 1/4"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 4" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051650 PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 4 3/16"	1.25D + 1.5L	1.00	925 lb ft	23299 lb ft	Passed - 4%
Factored Neg. Moment:	0'- 3 7/8"	1.25D + 1.5L	1.00	514 lb ft	23299 lb ft	Passed - 2%
Factored Shear:	1'- 2 3/8"	1.25D + 1.5L	1.00	853 lb	11052 lb	Passed - 8%


SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-14	1.25D + 1.5L	1.00	7668 lb		17743 lb	10493 lb	Passed - 73%
2	1-12	1.25D + 1.5L	1.00	2756 lb		6370 lb	3767 lb	Passed - 73%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 5"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	1'- 1 1/2"	FC4 Floor Decking (Plan View Fill)	Top	8 lb/ft	17 lb/ft	-	-
Uniform	0'- 5 1/2"	2'- 5"	12(i262)	Top	81 lb/ft	-	-	-
Uniform	0'- 5 1/2"	1'- 9 1/2"	12(i262)	Top	155 lb/ft	289 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 6 3/8"	12(i262)	Top	86 lb/ft	121 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 3 1/4"	12(i262)	Top	102 lb/ft	206 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 1 3/4"	12(i262)	Top	13 lb/ft	-	-	-
Uniform	0'- 8 3/8"	2'- 3/8"	12(i262)	Top	77 lb/ft	117 lb/ft	-	-
Uniform	0'- 11 1/4"	2'- 3 1/4"	12(i262)	Top	79 lb/ft	158 lb/ft	-	-
Uniform	1'- 11 1/4"	2'- 5"	12(i262)	Top	230 lb/ft	430 lb/ft	-	-
Tapered	1'- 8 1/2"	2'- 5"	12(i262)	Top	291 To 295 lb/ft	443 To 450 lb/ft	-	-
Point	1'- 1 1/2"	1'- 1 1/2"	J2(i8518)	Back	134 lb	270 lb	-	-
Point	2'- 3 3/4"	2'- 3 3/4"	J2(i8503)	Back	139 lb	279 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E14(i240)	Top	2075 lb	1905 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 7/8"	PBO14(i81)	2966 lb	3053 lb	-	-
2	2'- 3 1/4"	2'- 5"	PBO5(i33)	499 lb	1008 lb	-	-

- DESIGN NOTES**
- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
 - Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
 - Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
 - Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
 - Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
 - This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
 - Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
 - When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
 - Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=5451 lb, Qr=5460 lb, Result=99.84%.

PLY TO PLY CONNECTION	

Town of Innisfil Certified Model 	BUILDER: BAYVIEW W.WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B4 - i8508 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.




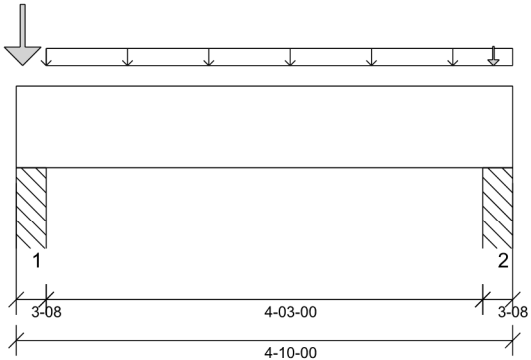
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON BUILDER: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B5 - i8250 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 4'- 3"

- Factored Resistance of Support Material:**
- 615 psi Column @ 0'- 2 1/2"
 - 615 psi Column @ 4'- 7 1/2"


ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 1/4"	1.25D + 1.5L	1.00	73 lb ft	11650 lb ft	Passed - 1%
Factored Neg. Moment:	0'- 2 1/2"	1.25D + 1.5L	1.00	160 lb ft	8525 lb ft	Passed - 2%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	114 lb	5526 lb	Passed - 2%

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1261 lb		6370 lb	3767 lb	Passed - 33%
2	3-08	1.25D + 1.5L	1.00	206 lb		6370 lb	3767 lb	Passed - 5%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 10"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 3 1/2"	4'- 10"	FC4 Floor Decking (Plan View Fill)	Top	12 lb/ft	25 lb/ft	-	-
Point	0'- 3/4"	0'- 3/4"	12(i262)	Top	336 lb	452 lb	-	-
Point	4'- 7 3/4"	4'- 7 3/4"	10(i258)	Top	27 lb	43 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO5(i33)	390 lb	527 lb	-	-
2	4'- 6 1/2"	4'- 10"	PBO4(i32)	52 lb	81 lb	-	-

- DESIGN NOTES**
- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
 - Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
 - Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
 - Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
 - This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
 - Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
 - When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051651


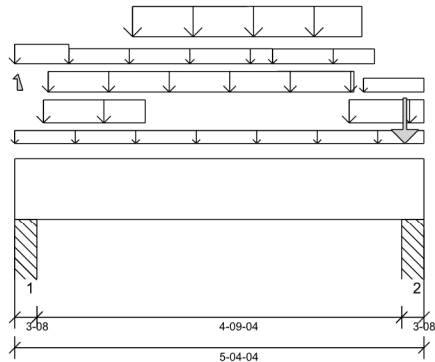
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B6 - i8490 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 5'- 1 3/4"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051652 PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 6 5/16"	1.25D + 1.5L	1.00	7045 lb ft	23299 lb ft	Passed - 30%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	4094 lb	11052 lb	Passed - 37%
Live Load (LL) Pos. Defl.:	2'- 8 1/8"	L		0.028"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 8 1/8"	D + L		0.045"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	5292 lb		12658 lb	7485 lb	Passed - 71%
2	3-08	1.25D + 1.5L	1.00	6201 lb		12740 lb	7534 lb	Passed - 82%


SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 4 1/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	5'- 4 1/4"	10(i258)	Top	81 lb/ft	-	-	-
Uniform	-0'	0'- 8 1/2"	10(i258)	Top	102 lb/ft	297 lb/ft	-	-
Uniform	0'- 4 1/2"	1'- 8 1/2"	10(i258)	Top	207 lb/ft	370 lb/ft	-	-
Uniform	0'- 8 1/2"	3'- 4 1/2"	10(i258)	Top	60 lb/ft	120 lb/ft	-	-
Uniform	3'- 4 1/2"	4'- 8 1/2"	10(i258)	Top	57 lb/ft	113 lb/ft	-	-
Uniform	4'- 4 1/2"	5'- 4 1/4"	10(i258)	Top	218 lb/ft	372 lb/ft	-	-
Uniform	4'- 6 3/4"	5'- 4 1/4"	10(i258)	Top	41 lb/ft	84 lb/ft	-	-
Tapered	0'- 5 1/4"	4'- 5 1/4"	Smoothed Load	Back	154 To 156 lb/ft	306 To 311 lb/ft	-	-
Tapered	1'- 6 1/2"	4'- 6 1/2"	10(i258)	Top	345 lb/ft	597 To 602 lb/ft	-	-
Point	5'- 1 1/4"	5'- 1 1/4"	J1(i8525)	Back	194 lb	388 lb	-	-
Point	0'- 1/2"	0'- 1/2"	10(i258)	Top	-	-85 lb	-	-

UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 3 1/2"	PBO4(i32)	1452 lb	2314/-89 lb	-	-	
2	5'- 3/4"	5'- 4 1/4"	PBO3(i31)	1710 lb	2716 lb	-	-	

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

Town of Innisfil Certified Model 	BUILDER: BAYVIEW W.WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B6 - i8490 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.




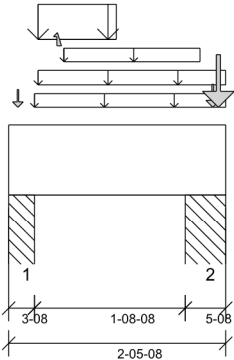
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B7 - i8612 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 10 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 2'- 1"



STRUCTURAL COMPONENT ONLY
 DWG # TF23051653

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 8 1/8"	1.25D + 1.5L	1.00	169 lb ft	11650 lb ft	Passed - 1%
Factored Neg. Moment:	2'- 1"	1.25D + 1.5L	1.00	1191 lb ft	11650 lb ft	Passed - 10%
Factored Shear:	1'- 2 1/2"	1.25D + 1.5L	1.00	1119 lb	5526 lb	Passed - 20%

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1107 lb		6370 lb	3767 lb	Passed - 29%
2	5-08	1.25D + 1.5L	1.00	5577 lb		10010 lb	5919 lb	Passed - 94%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 5 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 3 1/2"	2'- 5 1/2"	FC4 Floor Decking (Plan View Fill)	Top	9 lb/ft	18 lb/ft	-	-
Uniform	0'- 4"	2'- 5 1/2"	11(i257)	Top	81 lb/ft	-	-	-
Uniform	0'- 4"	1'- 2 5/8"	11(i257)	Top	468 lb/ft	894 lb/ft	-	-
Uniform	0'- 7 1/2"	2'- 2"	11(i257)	Top	8 lb/ft	11 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	10(i258)	Top	101 lb	178 lb	-	-
Point	0'- 6 5/8"	0'- 6 5/8"	11(i257)	Top	-	-5 lb	-	-
Point	2'- 3 3/4"	2'- 3 3/4"	User Load	Top	200 lb	400 lb	-	-
Point	2'- 4 1/2"	2'- 4 1/2"	11(i257)	Top	907 lb	1498 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO3(i31)	487 lb	780/-4 lb	-	-
2	2'	2'- 5 1/2"	PBO6(i34)	1351 lb	2145/-1 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=1.858", W=1.750". LDF=1.00, Pf=3381 lb, Qr=3381 lb, Result=100.00%.


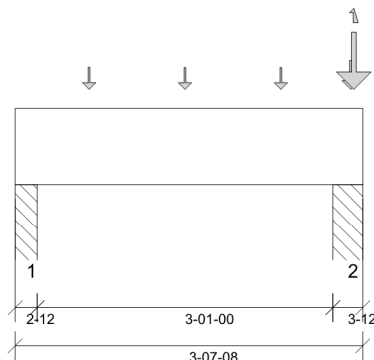
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON BUILDER: ALCONA SHORES SITE: RL-4 MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B8 - i8607 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 8 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 1 3/4"
- 615 psi Column @ 3'- 4 3/4"

PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 4" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
DWG # TF23051654

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 9 1/4"	1.25D + 1.5L	1.00	736 lb ft	23299 lb ft	Passed - 3%
Factored Neg. Moment:	3'- 4 3/4"	1.25D + 1.5L	1.00	744 lb ft	23299 lb ft	Passed - 3%
Factored Shear:	2'- 6 1/4"	1.25D + 1.5L	1.00	1372 lb	11052 lb	Passed - 12%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2'-12	1.25D + 1.5L	1.00	951 lb		10010 lb	5919 lb	Passed - 16%
2	3'-12	1.25D + 1.5L	1.00	7207 lb		13650 lb	8072 lb	Passed - 89%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 7 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Point	0'- 9 1/4"	0'- 9 1/4"	J6(i8496)	Back	186 lb	373 lb	-	-
Point	1'- 9 1/4"	1'- 9 1/4"	J6(i8512)	Back	177 lb	353 lb	-	-
Point	2'- 9 1/4"	2'- 9 1/4"	J6(i8512)	Back	177 lb	353 lb	-	-
Point	3'- 6"	3'- 6"	User Load	Top	350 lb	700 lb	-	-
Point	3'- 6 3/8"	3'- 6 3/8"	7(i253)	Top	1202 lb	1888/-1 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	PBO6(i34)	289 lb	546 lb	-	-
2	3'- 3 3/4"	3'- 7 1/2"	PBO2(i29)	1837 lb	3121/-1 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=4334 lb, Q'r=5460 lb, Result=79.37%.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


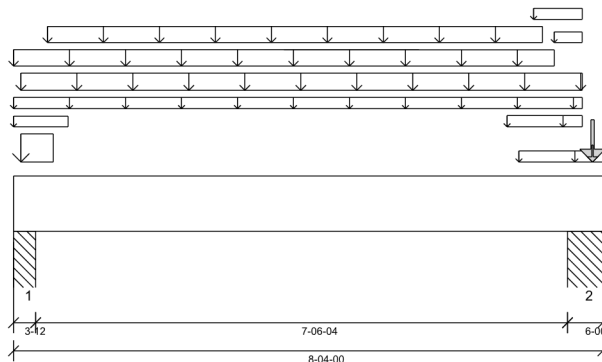
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON BUILDER: SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B9 - i8609 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32




DESIGN INFORMATION		ANALYSIS RESULTS						
Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment) Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360, TL Deflection Limit: L/240,		Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
		Factored Pos. Moment:	4'- 13/16"	1.25D + 1.5L	1.00	17268 lb ft	34949 lb ft	Passed - 49%
		Factored Neg. Moment:	7'- 11"	1.25D + 1.5L	1.00	2552 lb ft	34949 lb ft	Passed - 7%
		Factored Shear:	7'- 1/2"	1.25D + 1.5L	1.00	8214 lb	16578 lb	Passed - 50%
		Live Load (LL) Pos. Defl.:	4'- 5/16"	L		0.105"	L/360	Passed - L/859
		Total Load (TL) Pos. Defl.:	4'- 5/16"	D + L		0.177"	L/240	Passed - L/508
		SUPPORT AND REACTION INFORMATION						
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-12	1.25D + 1.5L	1.00	10806 lb		20475 lb	12108 lb	Passed - 89%
2	6-00	1.25D + 1.5L	1.00	19141 lb		32760 lb	19373 lb	Passed - 99%
		SPECIFIED LOADS						
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 4"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	-0'	8'- 1/2"	7(i253)	Top	65 lb/ft	-	-	-
Uniform	-0'	0'- 9 1/4"	7(i253)	Top	4 lb/ft	7 lb/ft	-	-
Uniform	0'- 1 1/4"	0'- 6 3/4"	7(i253)	Top	574 lb/ft	1121 lb/ft	-	-
Uniform	6'- 11 3/4"	8'- 1/2"	7(i253)	Top	22 lb/ft	43 lb/ft	-	-
Uniform	7'- 1 3/4"	8'- 4"	FC4 Floor Decking (Plan View Fill)	Top	17 lb/ft	33 lb/ft	-	-
Uniform	7'- 4 1/4"	8'- 1/2"	7(i253)	Top	19 lb/ft	39 lb/ft	-	-
Uniform	7'- 7 3/4"	8'- 1/2"	7(i253)	Top	4 lb/ft	6 lb/ft	-	-
Tapered	0'	7'- 7 3/4"	Smoothed Load	Back	188 To 183 lb/ft	377 To 366 lb/ft	-	-
Tapered	0'- 1 1/4"	8'- 1/2"	7(i253)	Top	300 To 298 lb/ft	353 To 348 lb/ft	-	-
Tapered	0'- 5 3/4"	7'- 5 3/4"	7(i253)	Top	176 To 177 lb/ft	353 To 355 lb/ft	-	-
Point	8'- 2 1/4"	8'- 2 1/4"	B2(i8548)	Back	533 lb	890 lb	-	-
Point	8'- 2 1/4"	8'- 2 1/4"	PBO17(i251)	Top	1984 lb	2403 lb	-	-
Point	8'- 2 1/4"	8'- 2 1/4"	User Load	Top	300 lb	600 lb	-	-
		UNFACTORED REACTIONS						
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 3 3/4"	PBO2(i29)	3207 lb	4776 lb	-	-	
2	7'- 10"	8'- 4"	PBO1(i15)	5603 lb	7847 lb	-	-	
		DESIGN NOTES						
		<ul style="list-style-type: none"> The dead loads used in the design of this member were applied to the structure as sloped dead loads. Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.) Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting. Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table. Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices. This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct. Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction. When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam. Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=3.500", W=3.500". LDF=1.00, Pf=6085 lb, Qr=11527 lb, Result=52.79%. 						
		PLY TO PLY CONNECTION						

PLY TO PLY CONNECTION:
3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C
 NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



Town of Innisfil Certified Model 	BUILDER: BAYVIEW W.WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B9 - i8609 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.




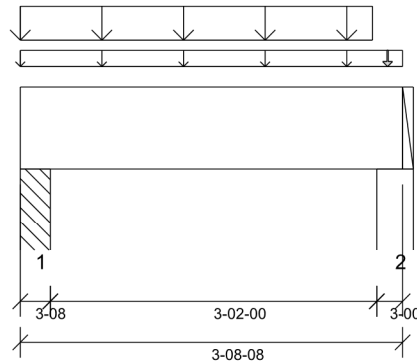
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B10L - i8608 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 3'- 3 3/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 3'- 6 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 10 9/16"	1.25D + 1.5L	1.00	739 lb ft	11650 lb ft	Passed - 6%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	713 lb	5526 lb	Passed - 13%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1011 lb		6370 lb	3767 lb	Passed - 27%
2	3-00	1.25D + 1.5L	1.00	851 lb		5460 lb	3230 lb	Passed - 26%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 8 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	3'- 8 1/2"	FC1 Floor Decking (Plan View Fill)	Top	5 lb/ft	10 lb/ft	-	-
Uniform	0'	3'- 5"	User Load	Back	120 lb/ft	240 lb/ft	-	-
Point	3'- 6 3/4"	3'- 6 3/4"	E44(i6933)	Top	12 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO12(i48)	237 lb	456 lb	-	-
2	3'- 5 1/2"	3'- 8 1/2"	E4(i42)	222 lb	403 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051656


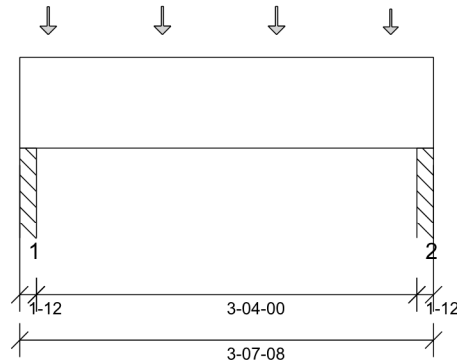
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B11L - i8605 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Column @ 3'- 6 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 3"	1.25D + 1.5L	1.00	241 lb ft	11650 lb ft	Passed - 2%
Factored Shear:	0'- 11 1/4"	1.25D + 1.5L	1.00	323 lb	5526 lb	Passed - 6%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	1.00	329 lb		3185 lb	1883 lb	Passed - 17%
2	1-12	1.25D + 1.5L	1.00	279 lb		3185 lb	1883 lb	Passed - 15%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 7 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Point	0'- 3"	0'- 3"	J4(i8584)	Front	36 lb	72 lb	-	-
Point	1'- 3"	1'- 3"	J4(i8598)	Front	37 lb	74 lb	-	-
Point	2'- 3"	2'- 3"	J4(i8598)	Front	37 lb	74 lb	-	-
Point	3'- 3"	3'- 3"	J4(i8599)	Front	28 lb	56 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO11(i47)	82 lb	146 lb	-	-
2	3'- 5 3/4"	3'- 7 1/2"	PBO12(i48)	74 lb	130 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051657


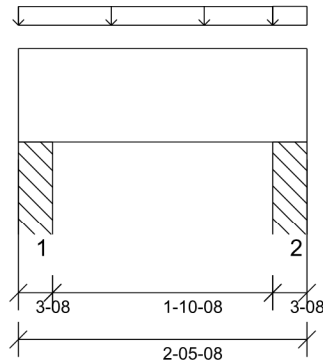
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON BUILDER: AL CONA SHORES SITE: RL-4 MODEL: INNISFIL CITY:	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B12L - i8610 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 2'- 1/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 2'- 3"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 2 3/4"	1.25D + 1.5L	1.00	19 lb ft	11650 lb ft	Passed - 0%
Factored Shear:	1'- 4 1/2"	1.25D + 1.5L	1.00	6 lb	5526 lb	Passed - 0%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	46 lb		6370 lb	3767 lb	Passed - 1%
2	3-08	1.25D + 1.5L	1.00	47 lb		6370 lb	3767 lb	Passed - 1%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 5 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	2'- 2"	FC1 Floor Decking (Plan View Fill)	Top	8 lb/ft	15 lb/ft	-	-
Uniform	2'- 2"	2'- 5 1/2"	FC1 Floor Decking (Plan View Fill)	Top	8 lb/ft	17 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO10(i46)	15 lb	18 lb	-	-
2	2'- 2"	2'- 5 1/2"	PBO11(i47)	15 lb	19 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051658


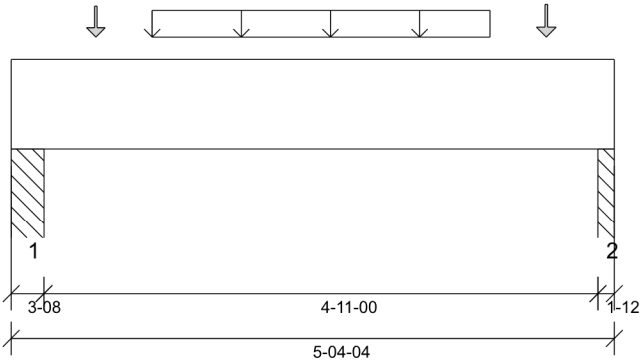
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON BUILDER: AL CONA SHORES SITE: RL-4 MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B13L - i8587 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 5'- 3 1/2"

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	2'- 9"	1.25D + 1.5L	1.00	836 lb ft	11650 lb ft	Passed - 7%	
Factored Shear:	4'- 5"	1.25D + 1.5L	1.00	606 lb	5526 lb	Passed - 11%	
Total Load (TL) Pos. Defl.:	2'- 9 1/16"	D + L		0.011"	L/240	Passed - L/999	

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	592 lb		6370 lb	3767 lb	Passed - 16%
2	1-12	1.25D + 1.5L	1.00	612 lb		3185 lb	1883 lb	Passed - 32%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 4 1/4"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	1'- 3"	4'- 3"	Smoothed Load	Front	59 lb/ft	117 lb/ft	-	-
Point	0'- 9"	0'- 9"	J3(i8582)	Front	47 lb	94 lb	-	-
Point	4'- 9"	4'- 9"	J3(i8589)	Front	53 lb	106 lb	-	-

UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 3 1/2"	PBO7(i43)	148 lb	268 lb	-	-	
2	5'- 2 1/2"	5'- 4 1/4"	PBO10(i46)	154 lb	283 lb	-	-	

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.




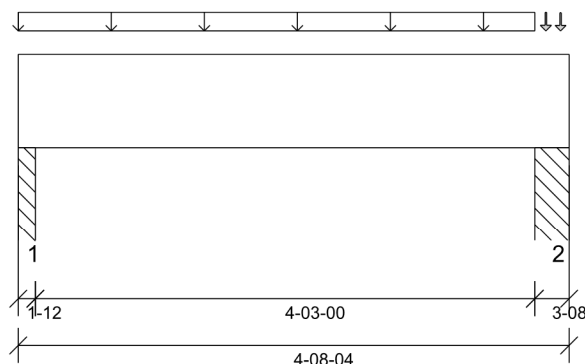
	BUILDER: BAYVIEW W WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B14L - i8603 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 4'- 4 3/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Column @ 4'- 5 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 3 1/8"	1.25D + 1.5L	0.96	78 lb ft	11168 lb ft	Passed - 1%
Factored Shear:	3'- 7 1/4"	1.25D + 1.5L	0.96	43 lb	5298 lb	Passed - 1%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	0.96	77 lb		3053 lb	1806 lb	Passed - 4%
2	3-08	1.25D + 1.5L	0.96	93 lb		6107 lb	3611 lb	Passed - 3%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 8 1/4"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	4'- 4 3/4"	FC1 Floor Decking (Plan View Fill)	Top	6 lb/ft	12 lb/ft	-	-
Point	4'- 5 7/8"	4'- 5 7/8"	9(i259)	Top	11 lb	-	-	-
Point	4'- 7 3/8"	4'- 7 3/8"	9(i259)	Top	7 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO9(i45)	26 lb	30 lb	-	-
2	4'- 4 3/4"	4'- 8 1/4"	PBO8(i44)	43 lb	27 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051660


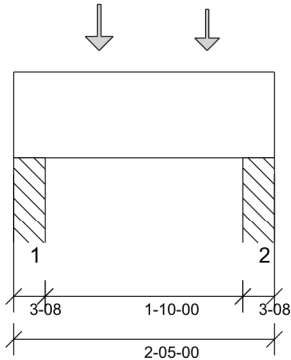
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B15L - i8583 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 2'- 2 1/2"

DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 2'- 2 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 9 1/2"	1.25D + 1.5L	1.00	229 lb ft	11650 lb ft	Passed - 2%
Factored Shear:	1'- 4"	1.25D + 1.5L	1.00	422 lb	5526 lb	Passed - 8%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	397 lb		6370 lb	3767 lb	Passed - 11%
2	3-08	1.25D + 1.5L	1.00	428 lb		6370 lb	3767 lb	Passed - 11%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 5"	Self Weight	Top	5 lb/ft	-	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J2(i8597)	Front	104 lb	208 lb	-	-
Point	1'- 9 1/2"	1'- 9 1/2"	J2(i8581)	Front	87 lb	173 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO13(i50)	97 lb	183 lb	-	-
2	2'- 1 1/2"	2'- 5"	PBO9(i45)	105 lb	198 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.




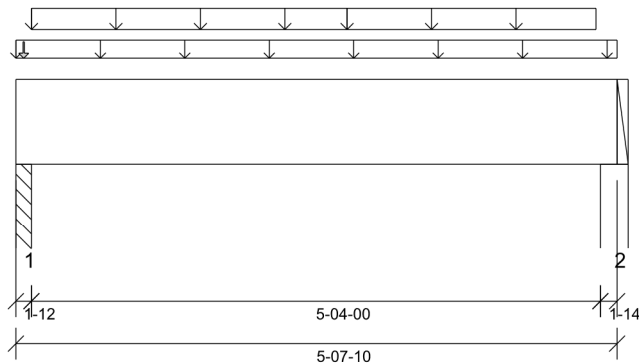

Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON BUILDER: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B16L - i8588 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)	
Design Methodology: LSD	
Service Condition: Dry	
LL Deflection Limit: L/360,	
TL Deflection Limit: L/240,	
Lateral Restraint Requirements:	
Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:	
Top: 0' Bottom: 5'- 5 3/4"	
Factored Resistance of Support Material:	
615 psi Column @ 0'- 3/4"	
615 psi Wall @ 5'- 6 3/4"	
PLY TO PLY CONNECTION:	
3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" O/C	
PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.	
<div><div><div>LICENSED PROFESSIONAL ENGINEER</div><div>5/25/23</div><div>C. M. HEYENS</div><div>100505065</div><div></div><div>PROVINCE OF ONTARIO</div></div><div>STRUCTURAL COMPONENT ONLY</div><div>DWG # TF23051662</div></div>	

ANALYSIS RESULTS								
Design Criteria		Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:		2'- 9 3/4"	1.25D + 1.5L	0.69	741 lb ft	16066 lb ft	Passed - 5%	
Factored Shear:		4'- 8 1/4"	1.25D + 1.5L	0.69	368 lb	7621 lb	Passed - 5%	
SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	0.69	551 lb		4392 lb	2597 lb	Passed - 21%
2	1-14	1.25D + 1.5L	0.69	535 lb		4706 lb	2784 lb	Passed - 19%
SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 7 5/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	5'- 7 5/8"	FC1 Floor Decking (Plan View Fill)	Top	14 lb/ft	28 lb/ft	-	-
Uniform	0'- 1 3/4"	3'- 1 1/4"	9(i259)	Top	101 lb/ft	-	-	-
Uniform	3'- 1 1/4"	5'- 5 1/4"	8(i256)	Top	101 lb/ft	-	-	-
Point	0'- 7/8"	0'- 7/8"	9(i259)	Top	7 lb	-	-	-
UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 1 3/4"	PB07(i43)	340 lb	81 lb	-	-	
2	5'- 5 3/4"	5'- 7 5/8"	E4(i42)	335 lb	81 lb	-	-	
DESIGN NOTES								
<div><div>The dead loads used in the design of this member were applied to the structure as sloped dead loads.</div><div>Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)</div><div>Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.</div><div>Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.</div><div>Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.</div><div>This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.</div><div>Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.</div><div>When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.</div></div>								
PLY TO PLY CONNECTION								
<div><div>Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.</div></div>								


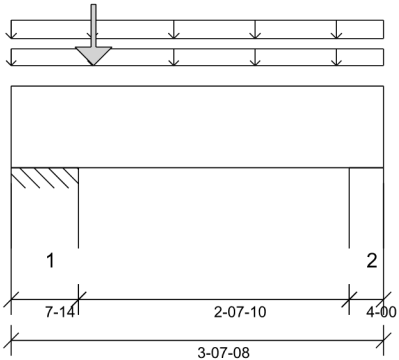
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 3RD FLR FRAMING Label: B27 - i7793 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 2'- 8 1/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 6 7/8"
- 615 psi Wall @ 3'- 4 1/2"

PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 4" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051663

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 10 9/16"	1.25D + 1.5L	1.00	399 lb ft	23299 lb ft	Passed - 2%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	1.00	1734 lb	11052 lb	Passed - 16%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	7-14	1.25D + 1.5L	1.00	1921 lb		28665 lb	16957 lb	Passed - 11%
2	4-00	1.4D	0.65	237 lb		9464 lb	5598 lb	Passed - 4%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 7 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	3'- 7 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	-0'	3'- 7 1/2"	FC6 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-
Point	0'- 9 5/8"	0'- 9 5/8"	B33(i7803)	Back	510 lb	780 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 7 7/8"	14(i990)	671 lb	821 lb	-	-
2	3'- 3 1/2"	3'- 7 1/2"	13(i989)	127 lb	31 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


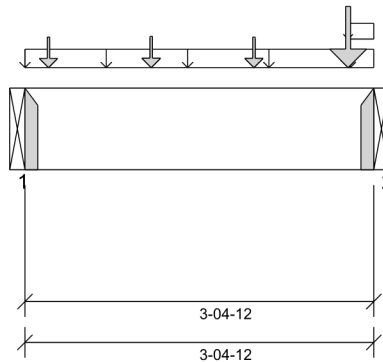
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 3RD FLR FRAMING Label: B33 - i7803 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 3'- 4 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 11 7/8"	1.25D + 1.5L + S	1.00	1457 lb ft	23299 lb ft	Passed - 6%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5L + S	1.00	1002 lb	11052 lb	Passed - 9%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L + S	1.00	1863 lb		5460 lb	-	Passed - 34%
2	1-08	1.25D + 1.5L + S	1.00	2455 lb		5460 lb	-	Passed - 45%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HGUS410		-	-	-	Connector manually specified by the user.
2	HGUS410		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 4 3/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	3'- 4 3/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	3'- 1 3/4"	3'- 4 3/4"	FC6 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	J3(i7162)	Front	80 lb	159 lb	-	-
Point	1'- 2 3/4"	1'- 2 3/4"	J3(i7343)	Front	100 lb	199 lb	-	-
Point	2'- 2 3/4"	2'- 2 3/4"	J3(i7316)	Front	96 lb	191 lb	-	-
Point	3'- 1 3/4"	3'- 1 3/4"	J3(i7065)	Front	69 lb	138 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	J2(i7170)	Back	107 lb	213 lb	-	-
Point	1'- 2 3/4"	1'- 2 3/4"	J2(i7093)	Back	112 lb	223 lb	-	-
Point	2'- 2 3/4"	2'- 2 3/4"	J2(i7131)	Back	107 lb	214 lb	-	-
Point	3'- 1 3/4"	3'- 1 3/4"	J2(i7145)	Back	236 lb	297 lb	432 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B27(i7793)	510 lb	780 lb	-	-
2	3'- 4 3/4"	3'- 4 3/4"	STLBM()	634 lb	856 lb	432 lb	-


DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION



STRUCTURAL COMPONENT ONLY
DWG # TF23051664 PG 1/2

Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 3RD FLR FRAMING Label: B33 - i7803 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.




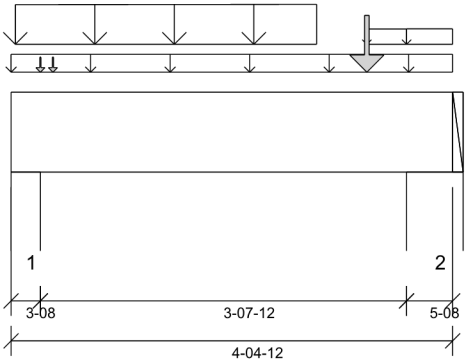
	BUILDER: BAYVIEW W WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 3RD FLR FRAMING Label: B30 - i7289 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology: LSD
Service Condition: Dry
LL Deflection Limit: L/360,
TL Deflection Limit: L/240,

Lateral Restraint Requirements:
Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:
• 615 psi Wall @ 0'- 2 1/2"
• 615 psi Wall @ 4'- 1/4"

PLY TO PLY CONNECTION:
3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
DWG # TF23051665

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 6 1/2"	1.25D + 1.5L	1.00	1440 lb ft	23299 lb ft	Passed - 6%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	1551 lb	11052 lb	Passed - 14%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1650 lb		12740 lb	7536 lb	Passed - 22%
2	5-08	1.25D + 1.5L	1.00	1531 lb		20020 lb	11843 lb	Passed - 13%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 4 3/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	4'- 4 3/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	3'- 6 1/2"	3'- 11 1/4"	FC6 Floor Decking (Plan View Fill)	Top	2 lb/ft	5 lb/ft	-	-
Uniform	3'- 11 1/4"	4'- 4 3/4"	FC6 Floor Decking (Plan View Fill)	Top	3 lb/ft	7 lb/ft	-	-
Tapered	0'- 1/2"	3'- 1/2"	Smoothed Load	Back	166 To 167 lb/ft	331 To 335 lb/ft	-	-
Point	3'- 6 1/2"	3'- 6 1/2"	J1(i7280)	Back	155 lb	311 lb	-	-
Point	0'- 3 1/2"	0'- 3 1/2"	FC6 Floor Decking (Plan View Fill)	Top	1 lb	1 lb	-	-
Point	0'- 5"	0'- 5"	FC6 Floor Decking (Plan View Fill)	Top	1 lb	1 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	15(i996)	492 lb	691 lb	-	-
2	3'- 11 1/4"	4'- 4 3/4"	13(i989)	472 lb	627 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


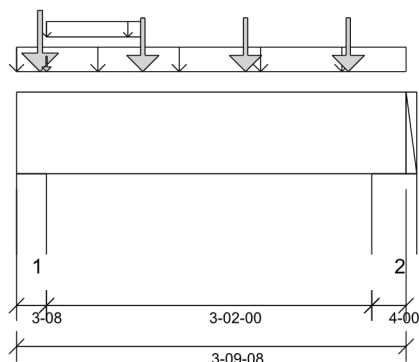
	BUILDER: BAYVIEW W WELLINGTON SITE: ALCONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 3RD FLR FRAMING Label: B31 - i7707 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 8 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Wall @ 3'- 6 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 2 3/4"	1.25D + 1.5L	1.00	1377 lb ft	11650 lb ft	Passed - 12%
Factored Shear:	2'- 8"	1.25D + 1.5L	1.00	1708 lb	5526 lb	Passed - 31%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	2255 lb		6370 lb	3768 lb	Passed - 60%
2	4-00	1.25D + 1.5L	1.00	1859 lb		7280 lb	4306 lb	Passed - 43%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 9 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	-0'	3'- 9 1/2"	User Load	Front	60 lb/ft	120 lb/ft	-	-
Uniform	0'- 3 1/2"	1'- 2 3/4"	FC6 Floor Decking (Plan View Fill)	Top	2 lb/ft	3 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	J4(i7271)	Back	209 lb	417 lb	-	-
Point	1'- 2 3/4"	1'- 2 3/4"	J4(i7317)	Back	174 lb	348 lb	-	-
Point	2'- 2 3/4"	2'- 2 3/4"	J4(i7371)	Back	175 lb	350 lb	-	-
Point	3'- 2 3/4"	3'- 2 3/4"	J4(i7371)	Back	175 lb	350 lb	-	-
Point	0'- 3 1/2"	0'- 3 1/2"	FC6 Floor Decking (Plan View Fill)	Top	1 lb	2 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	17(i998)	552 lb	1084 lb	-	-
2	3'- 5 1/2"	3'- 9 1/2"	16(i995)	429 lb	841 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051666


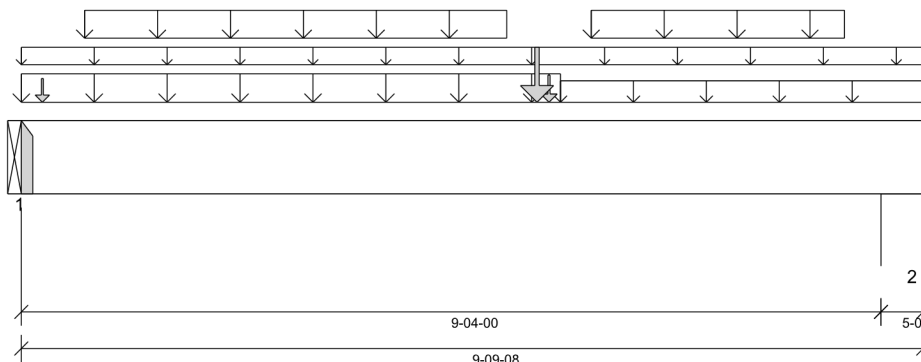
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON BUILDER: AL CONA SHORES SITE: RL-4 MODEL: B28 - i8095 CITY: INNISFIL	Job Name: RL-4 Level: 3RD FLR FRAMING Label: B28 - i8095 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32




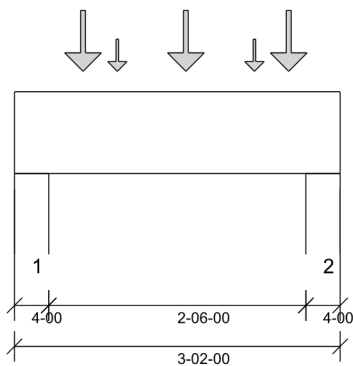
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B20 - i8301 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 6 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3"
- 615 psi Wall @ 2'- 11"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 4" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051668

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 8"	1.25D + 1.5L	1.00	879 lb ft	23299 lb ft	Passed - 4%
Factored Shear:	2'- 1/2"	1.25D + 1.5L	1.00	1401 lb	11052 lb	Passed - 13%

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-00	1.25D + 1.5L	1.00	1250 lb		14560 lb	8613 lb	Passed - 15%
2	4-00	1.25D + 1.5L	1.00	1414 lb		14560 lb	8613 lb	Passed - 16%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 2"	Self Weight	Top	9 lb/ft	-	-	-
Point	1'	1'	J3(i8373)	Front	61 lb	122 lb	-	-
Point	2'- 4"	2'- 4"	J3(i8372)	Front	61 lb	122 lb	-	-
Point	0'- 8"	0'- 8"	J4(i8472)	Back	165 lb	331 lb	-	-
Point	1'- 8"	1'- 8"	J4(i8465)	Back	165 lb	331 lb	-	-
Point	2'- 8"	2'- 8"	J4(i8354)	Back	165 lb	331 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4"	6(i245)	289 lb	549 lb	-	-
2	2'- 10"	3'- 2"	4(i244)	358 lb	688 lb	-	-

- DESIGN NOTES**
- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
 - Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
 - Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
 - Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
 - Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
 - This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
 - Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
 - When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


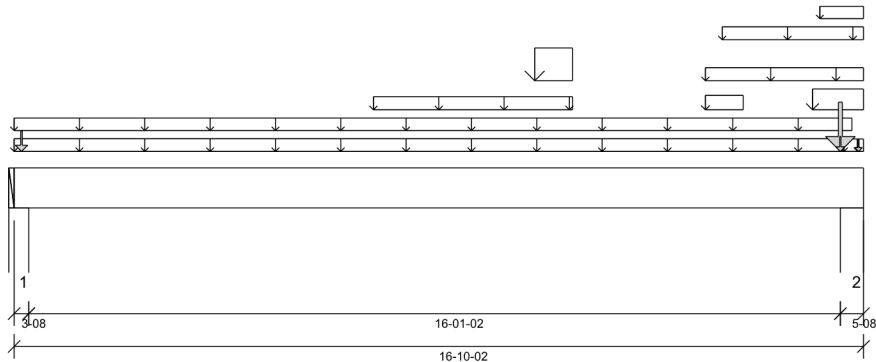
	Builder: BAYVIEW W WELLINGTON Site: AL CONA SHORES Model: RL-4 City: INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B21 - i8334 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 16'- 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Wall @ 16'- 5 5/8"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C
 NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)
 PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



LICENSED PROFESSIONAL ENGINEER
 5/25/23
 C. M. HEYENS
 100505065
 PROVINCE OF ONTARIO

STRUCTURAL COMPONENT ONLY
 DWG # TF23051669 PG 1/2

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	10'- 5 13/16"	1.25D + 1.5L	0.99	12808 lb ft	34527 lb ft	Passed - 37%	
Factored Shear:	15'- 7 1/8"	1.25D + 1.5L	0.99	4077 lb	16378 lb	Passed - 25%	
Live Load (LL) Pos. Defl.:	8'- 9 7/16"	L		0.249"	L/360	Passed - L/776	
Total Load (TL) Pos. Defl.:	8'- 9 3/8"	D + L		0.548"	L/240	Passed - L/352	
Permanent Deflection:	8'- 9 5/16"			-	L/360	Passed - L/666	


SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	0.99	2149 lb		18879 lb	11168 lb	Passed - 19%
2	5-08	1.25D + 1.5L	0.99	5675 lb		29667 lb	17549 lb	Passed - 32%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 10 1/8"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	16'- 7 3/8"	FC5 Floor Decking (Plan View Fill)	Top	7 lb/ft	14 lb/ft	-	-
Uniform	0'	16'- 5 1/2"	FC5 Floor Decking (Plan View Fill)	Top	13 lb/ft	26 lb/ft	-	-
Uniform	7'- 1 1/2"	11'- 7/8"	14(i990)	Top	81 lb/ft	-	-	-
Uniform	10'- 3 7/8"	11'- 7/8"	14(i990)	Top	895 lb/ft	1095 lb/ft	-	-
Uniform	13'- 8 1/2"	16'- 10 1/8"	13(i989)	Top	81 lb/ft	-	-	-
Uniform	13'- 8 1/2"	14'- 5 1/2"	13(i989)	Top	169 lb/ft	41 lb/ft	-	-
Uniform	14'- 1/2"	16'- 10 1/8"	13(i989)	Top	60 lb/ft	-	-	-
Uniform	15'- 10"	16'- 10 1/8"	13(i989)	Top	354 lb/ft	470 lb/ft	-	-
Uniform	15'- 11 3/4"	16'- 10 1/8"	13(i989)	Top	0 lb/ft	0 lb/ft	-	-
Uniform	16'- 5 1/2"	16'- 10 1/8"	FC5 Floor Decking (Plan View Fill)	Top	6 lb/ft	12 lb/ft	-	-
Point	16'- 4 5/8"	16'- 4 5/8"	B23(i8448)	Front	324 lb	630 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	E25(i988)	Top	114 lb	100 lb	-	-
Point	16'- 4 5/8"	16'- 4 5/8"	FC5 Floor Decking (Plan View Fill)	Top	23 lb	47 lb	-	-
Point	16'- 8 3/4"	16'- 8 3/4"	FC5 Floor Decking (Plan View Fill)	Top	1 lb	2 lb	-	-
Point	16'- 8 15/16"	16'- 8 15/16"	13(i989)	Top	1 lb	2 lb	-	-

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	E18(i254)	833 lb	733 lb	-	-
2	16'- 4 5/8"	16'- 10 1/8"	6(i245)	2099 lb	2040 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON SITE: AL CONA SHORES MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B21 - i8334 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.




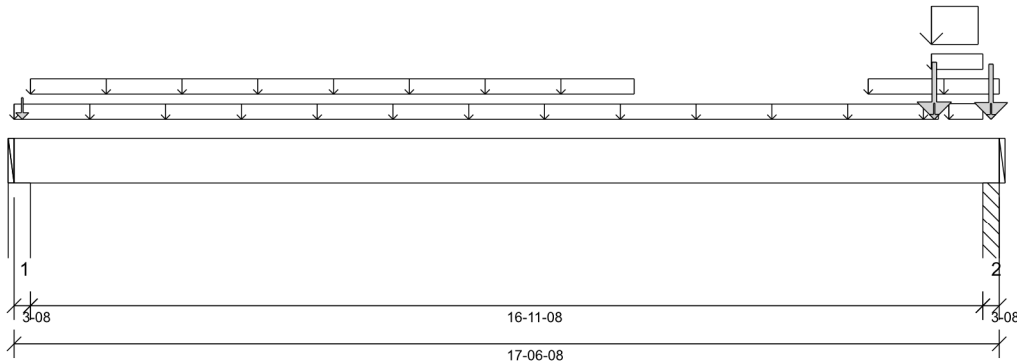
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON AL CONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B22 - i8498 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 16'- 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Column @ 17'- 4"

PLY TO PLY CONNECTION:
3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	9'- 1 15/16"	1.25D + 1.5L	1.00	6865 lb ft	23299 lb ft	Passed - 29%
Factored Neg. Moment:	17'- 4"	1.25D + 1.5L	1.00	98 lb ft	17749 lb ft	Passed - 1%
Factored Shear:	16'- 5 1/2"	1.25D + 1.5L	1.00	2824 lb	11052 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	9'- 1 13/16"	L		0.229"	L/360	Passed - L/889
Total Load (TL) Pos. Defl.:	8'- 10 15/16"	D + L		0.566"	L/240	Passed - L/359
Permanent Deflection:	8'- 9 1/16"			-	L/360	Passed - L/620

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1811 lb		12740 lb	7536 lb	Passed - 24%
2	3-08	1.25D + 1.5L	1.00	5992 lb		12740 lb	7534 lb	Passed - 80%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 6 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	16'- 5 1/2"	FC5 Floor Decking (Plan View Fill)	Top	20 lb/ft	40 lb/ft	-	-
Uniform	0'- 3 1/2"	11'- 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	15'- 2 1/2"	17'- 6 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	16'- 4"	17'- 3"	15(i996)	Top	66 lb/ft	1 lb/ft	-	-
Uniform	16'- 4"	17'- 2"	15(i996)	Top	590 lb/ft	829 lb/ft	-	-
Uniform	16'- 7 3/4"	17'- 3"	15(i996)	Top	70 lb/ft	15 lb/ft	-	-
Point	16'- 4 5/8"	16'- 4 5/8"	B23(i8448)	Back	373 lb	727 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	E25(i988)	Top	91 lb	97 lb	-	-
Point	16'- 4 5/8"	16'- 4 5/8"	FC5 Floor Decking (Plan View Fill)	Top	16 lb	32 lb	-	-
Point	17'- 4 3/4"	17'- 4 3/4"	User Load	Top	350 lb	700 lb	-	-
Point	17'- 4 3/4"	17'- 4 3/4"	16(i995)	Top	38 lb	2 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	E18(i254)	840 lb	514 lb	-	-
2	17'- 3"	17'- 6 1/2"	PBO17(i251)	1903 lb	2403 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051670


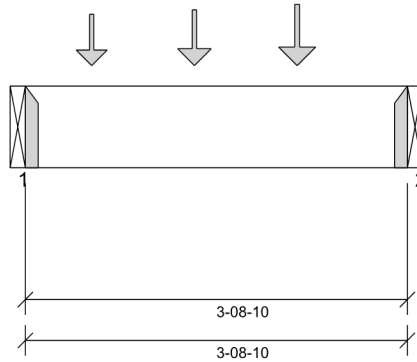
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B23 - i8448 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 11 5/8"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 3'- 8 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 7 3/4"	1.25D + 1.5L	1.00	1703 lb ft	11650 lb ft	Passed - 15%
Factored Shear:	2'- 11 1/8"	1.25D + 1.5L	1.00	1345 lb	5526 lb	Passed - 24%
Total Load (TL) Pos. Defl.:	1'- 10 1/4"	D + L		0.012"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	1556 lb		2730 lb	-	Passed - 57%
2	1-08	1.25D + 1.5L	1.00	1350 lb		2730 lb	-	Passed - 49%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories		
			Top	Face	Member			
1	HUS1.81/10		-	-	-	Connector manually specified by the user.		
2	HUS1.81/10		-	-	-	Connector manually specified by the user.		

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 8 5/8"	Self Weight	Top	5 lb/ft	-	-	-
Point	0'- 7 3/4"	0'- 7 3/4"	J1(i8345)	Back	200 lb	400 lb	-	-
Point	1'- 7 3/4"	1'- 7 3/4"	J1(i8344)	Back	224 lb	448 lb	-	-
Point	2'- 7 3/4"	2'- 7 3/4"	J1(i8343)	Back	255 lb	509 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B22(i8498)	373 lb	727 lb	-	-
2	3'- 8 5/8"	3'- 8 5/8"	B21(i8334)	324 lb	630 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051671


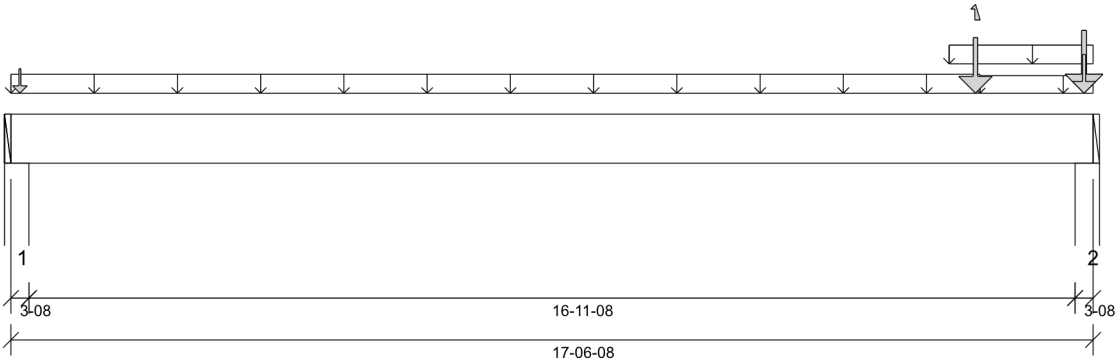
Town of Innisfil Certified Model 	BAYVIEW W WELLINGTON AL CONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B24 - i8539 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26
 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 15'- 3 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Wall @ 17'- 4"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051672

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	10'- 1/4"	1.25D + 1.5L	1.00	4772 lb ft	23299 lb ft	Passed - 20%	
Factored Neg. Moment:	17'- 4"	1.25D + 1.5L	1.00	141 lb ft	18257 lb ft	Passed - 1%	
Factored Shear:	16'- 5 1/2"	1.25D + 1.5L	1.00	1963 lb	11052 lb	Passed - 18%	
Live Load (LL) Pos. Defl.:	9'- 1 1/16"	L		0.223"	L/360	Passed - L/913	
Total Load (TL) Pos. Defl.:	9'- 15/16"	D + L		0.381"	L/240	Passed - L/534	

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1269 lb		12740 lb	7536 lb	Passed - 17%
2	3-08	1.25D + 1.5L	1.00	4322 lb		12740 lb	7536 lb	Passed - 57%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 6 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	15'- 8 1/2"	FC5 Floor Decking (Plan View Fill)	Top	21 lb/ft	41 lb/ft	-	-
Uniform	15'- 2 1/2"	17'- 6 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	15'- 8 1/2"	17'- 6 1/2"	FC5 Floor Decking (Plan View Fill)	Top	12 lb/ft	23 lb/ft	-	-
Point	15'- 7 5/8"	15'- 7 5/8"	B25(i8278)	Front	302 lb	587/-1 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	E25(i988)	Top	94 lb	103 lb	-	-
Point	17'- 4 3/4"	17'- 4 3/4"	User Load	Top	350 lb	700 lb	-	-
Point	17'- 4 3/4"	17'- 4 3/4"	16(i995)	Top	186 lb	327 lb	-	-

UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 3 1/2"	E18(i254)	395 lb	520 lb	-	-	
2	17'- 3"	17'- 6 1/2"	7(i253)	1189 lb	1887/-1 lb	-	-	

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.


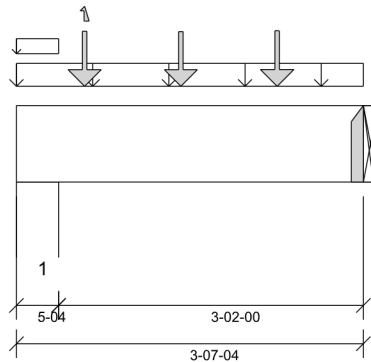
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B25 - i8278 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/4"
- 615 psi Beam @ 3'- 7 1/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 8 1/2"	1.25D + 1.5L	1.00	1240 lb ft	11650 lb ft	Passed - 11%
Factored Shear:	2'- 9 3/4"	1.25D + 1.5L	1.00	1053 lb	5526 lb	Passed - 19%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-04	1.25D + 1.5L	1.00	1705 lb		9555 lb	5652 lb	Passed - 30%
2	1-08	1.25D + 1.5L	1.00	1259 lb		2730 lb	-	Passed - 46%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	HUS1.81/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 7 1/4"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	3'- 7 1/4"	User Load	Top	60 lb/ft	120 lb/ft	-	-
Uniform	0'	0'- 5 1/4"	FC5 Floor Decking (Plan View Fill)	Top	6 lb/ft	12 lb/ft	-	-
Point	0'- 8 1/2"	0'- 8 1/2"	J5(i8412)	Back	164 lb	308/-6 lb	-	-
Point	1'- 8 1/2"	1'- 8 1/2"	J5(i8447)	Back	156 lb	313 lb	-	-
Point	2'- 8 1/2"	2'- 8 1/2"	J5(i8451)	Back	160 lb	319 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	11(i257)	414 lb	792/-5 lb	-	-
2	3'- 7 1/4"	3'- 7 1/4"	B24(i8539)	302 lb	587/-1 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051673


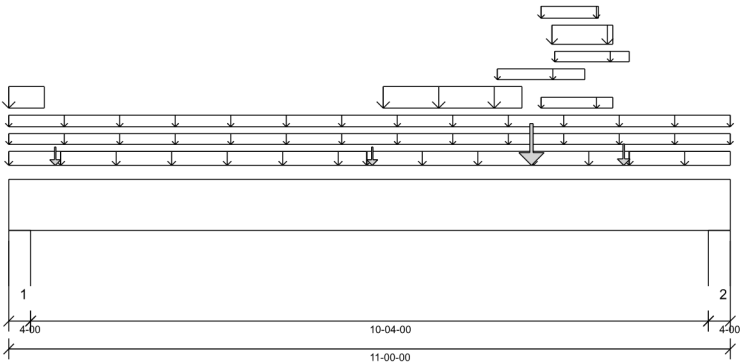
Town of Innisfil Certified Model 	BAYVIEW W'WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 2ND FLR FRAMING Label: B32 DR - i8470 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:32



DESIGN INFORMATION	
Building Code:	NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
Design Methodology:	LSD
Service Condition:	Dry
LL Deflection Limit:	L/360,
TL Deflection Limit:	L/240,

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 11' Bottom: 11'

- Factored Resistance of Support Material:**
- 1334 psi Wall @ 0'- 3"
 - 1334 psi Wall @ 10'- 9"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C
 NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051674 PG 1/2

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	7'- 4 13/16"	1.25D + 1.5S + L	1.00	16864 lb ft	34949 lb ft	Passed - 48%	
Factored Shear:	9'- 10 1/2"	1.25D + 1.5S + L	1.00	7035 lb	16578 lb	Passed - 42%	
Live Load (LL) Pos. Defl.:	5'- 10 5/16"	S + 0.5L		0.161"	L/360	Passed - L/772	
Total Load (TL) Pos. Defl.:	5'- 10 1/16"	D + S + 0.5L		0.303"	L/240	Passed - L/408	
Permanent Deflection:	5'- 9 3/4"			-	L/360	Passed - L/894	


SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-00	1.25D + 1.5S + L	1.00	4907 lb		21840 lb	28022 lb	Passed - 22%
2	4-00	1.25D + 1.5S + L	1.00	7248 lb		21840 lb	28022 lb	Passed - 33%

SPECIFIED LOADS									
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	11'	Self Weight	Top	14 lb/ft	-	-	-	
Uniform	-0'	11'	J4(i8454)	Top	13 lb/ft	20 lb/ft	-	-	
Uniform	-0'	11'	R1(i8440)	Top	5 lb/ft	5 lb/ft	-	-	
Uniform	-0'	0'- 9 1/2"	R1(i8440)	Top	100 lb/ft	-	-	-	
Uniform	-0'	0'- 6 1/2"	R1(i8440)	Top	75 lb/ft	-	244 lb/ft	-	
Uniform	0'- 9 1/2"	5'- 5 1/2"	R1(i8440)	Top	100 lb/ft	-	-	-	
Uniform	5'- 5 1/2"	9'- 5 1/2"	R1(i8440)	Top	100 lb/ft	-	-	-	
Uniform	5'- 8 1/2"	7'- 9 7/8"	R1(i8440)	Top	75 lb/ft	-	244 lb/ft	-	
Uniform	7'- 5 3/8"	8'- 9 3/8"	R1(i8440)	Top	4 lb/ft	7 lb/ft	-	-	
Uniform	8'- 1 3/8"	9'- 2 1/2"	R1(i8440)	Top	4 lb/ft	8 lb/ft	-	-	
Uniform	8'- 1 3/8"	8'- 11 7/8"	R1(i8440)	Top	16 lb/ft	26 lb/ft	-	-	
Uniform	8'- 3 3/8"	9'- 2 1/2"	R1(i8440)	Top	117 lb/ft	-	132 lb/ft	-	
Uniform	8'- 3 7/8"	9'- 5 1/2"	R1(i8440)	Top	2 lb/ft	3 lb/ft	-	-	
Uniform	9'- 5 1/2"	11'	R1(i8440)	Top	100 lb/ft	-	-	-	
Point	0'- 8 1/2"	0'- 8 1/2"	R1(i8440)	Top	233 lb	-	632 lb	-	
Point	5'- 6 1/2"	5'- 6 1/2"	R1(i8440)	Top	232 lb	-	628 lb	-	
Point	7'- 11 5/8"	7'- 11 5/8"	R1(i8440)	Top	1280 lb	867 lb	1281 lb	-	
Point	9'- 4 1/2"	9'- 4 1/2"	R1(i8440)	Top	571 lb	131 lb	495 lb	-	

UNFACTORED REACTIONS							
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4"	E11(i237)	1604 lb	392 lb	1672 lb	-
2	10'- 8"	11'	E28(i1750)	2501 lb	923 lb	2135 lb	-

- DESIGN NOTES**
- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
 - Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
 - Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
 - Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
 - Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
 - This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
 - Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
 - When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

Town of Innisfil Certified Model

	BUILDER:	BAYVIEW W WELLINGTON	Job Name:	RL-4	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE:	AL CONA SHORES	Level:	2ND FLR FRAMING		
	MODEL:	RL-4	Label:	B32 DR - i8470		
	CITY:	INNISFIL	Type:	Beam		

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.




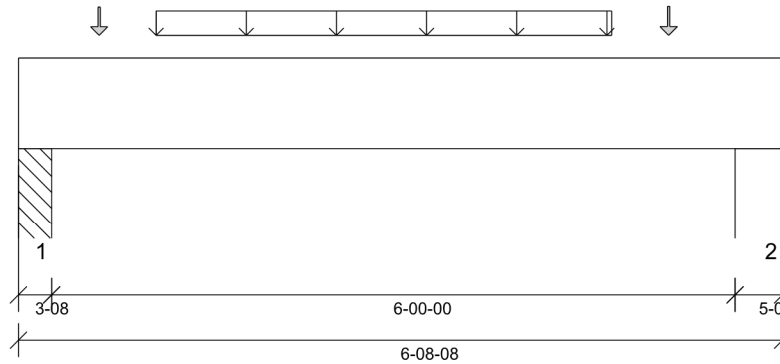
Town of Innisfil Certified Model 	BAYVIEW WELLINGTON BUILDER: AL CONA SHORES SITE: RL-4 MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B17L - i3812 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 05/25/2023 08:27



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 6'- 4 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 8 1/2"	1.25D + 1.5L	1.00	909 lb ft	11650 lb ft	Passed - 8%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	561 lb	5526 lb	Passed - 10%
Live Load (LL) Pos. Defl.:	3'- 3 1/2"	L		0.012"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 3 1/2"	D + L		0.018"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	568 lb		6370 lb	3767 lb	Passed - 15%
2	5-00	1.25D + 1.5L	1.00	547 lb		9100 lb	5383 lb	Passed - 10%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 8 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	1'- 2 1/2"	5'- 2 1/2"	Smoothed Load	Front	44 lb/ft	88 lb/ft	-	-
Point	0'- 8 1/2"	0'- 8 1/2"	J3(i4058)	Front	37 lb	75 lb	-	-
Point	5'- 8 1/2"	5'- 8 1/2"	J3(i4053)	Front	40 lb	79 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO16(i91)	144 lb	258 lb	-	-
2	6'- 3 1/2"	6'- 8 1/2"	W15(i85)	140 lb	248 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051675


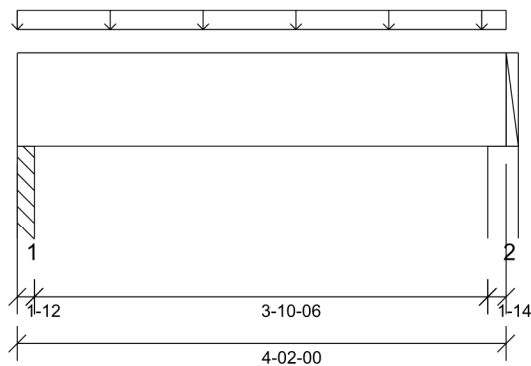
Town of Innisfil Certified Model 	BAYVIEW WELLINGTON ALCONA SHORES RL-4 INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B18L - i3813 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:27



DESIGN INFORMATION

Building Code:

NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology:

LSD

Service Condition:

Dry

LL Deflection Limit:

L/360,

TL Deflection Limit:

L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
Top: 0' Bottom: 4'- 1/8"

Factored Resistance of Support Material:

615 psi Column @ 0'- 3/4"

615 psi Wall @ 4'- 1 1/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 15/16"	1.25D + 1.5L	1.00	98 lb ft	11650 lb ft	Passed - 1%
Factored Shear:	0'- 11 1/4"	1.25D + 1.5L	1.00	55 lb	5526 lb	Passed - 1%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	1.00	107 lb		3185 lb	1883 lb	Passed - 6%
2	1-14	1.25D + 1.5L	1.00	105 lb		3413 lb	2019 lb	Passed - 5%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	4'- 2"	FC3 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO15(i87)	32 lb	44 lb	-	-
2	4'- 1/8"	4'- 2"	E9(i90)	32 lb	44 lb	-	-

DESIGN NOTES

The dead loads used in the design of this member were applied to the structure as sloped dead loads.

Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.

Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.

This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.

Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.

When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

LICENSED PROFESSIONAL ENGINEER

5/25/23

C. M. HEYENS

100505065

Chayen

PROVINCE OF ONTARIO

STRUCTURAL COMPONENT ONLY

DWG # TF23051676



STRUCTURAL COMPONENT ONLY
DWG # TF23051676


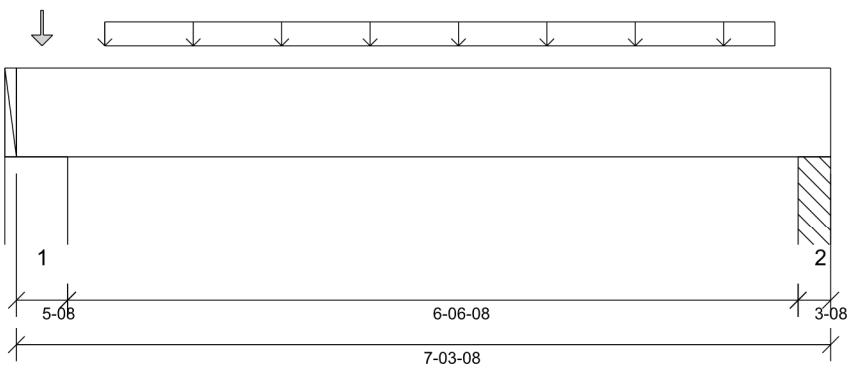
Town of Innisfil Certified Model 	BAYVIEW WELLINGTON BUILDER: AL CONA SHORES SITE: RL-4 MODEL: RL-4 CITY: INNISFIL	Job Name: RL-4 Level: 1ST FLR FRAMING Label: B19L - i3880 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. Pitch: 0/12
 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15
 Report Version: 2021.03.26 05/25/2023 08:27



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 7'- 1"

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	3'- 3 1/2"	1.25D + 1.5L	1.00	1055 lb ft	11650 lb ft	Passed - 9%	
Factored Shear:	6'- 2 1/2"	1.25D + 1.5L	1.00	580 lb	5526 lb	Passed - 11%	
Live Load (LL) Pos. Defl.:	3'- 8 7/8"	L		0.016"	L/360	Passed - L/999	
Total Load (TL) Pos. Defl.:	3'- 8 7/8"	D + L		0.025"	L/240	Passed - L/999	

SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	841 lb		10010 lb	5921 lb	Passed - 14%
2	3-08	1.25D + 1.5L	1.00	587 lb		6370 lb	3767 lb	Passed - 16%

SPECIFIED LOADS								
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 3 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 9 1/2"	6'- 9 1/2"	Smoothed Load	Front	44 lb/ft	88 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	5(i243)	Top	83 lb	106 lb	-	-

UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 5 1/2"	1(i11)	235 lb	371 lb	-	-	
2	7'	7'- 3 1/2"	PBO15(i87)	147 lb	263 lb	-	-	

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY
DWG # TF23051677

NORDIC STRUCTURES

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 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'-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 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'-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"	-
	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"	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"	-
	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:

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.

NORDIC STRUCTURES

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 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"	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 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"	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:

- 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 – 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 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'-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 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'-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:

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.

NORDIC STRUCTURES

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 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'-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 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'-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:

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.

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:

- 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 – 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 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"	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:

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.

NORDIC STRUCTURES

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

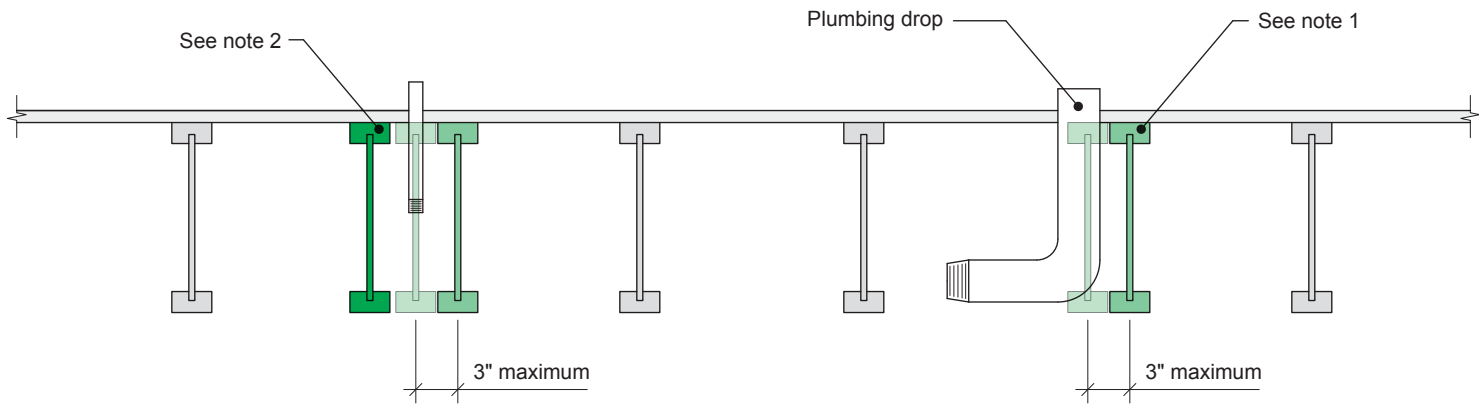
Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9'-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	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"
	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 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'-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"
	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"	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"
	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:

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.

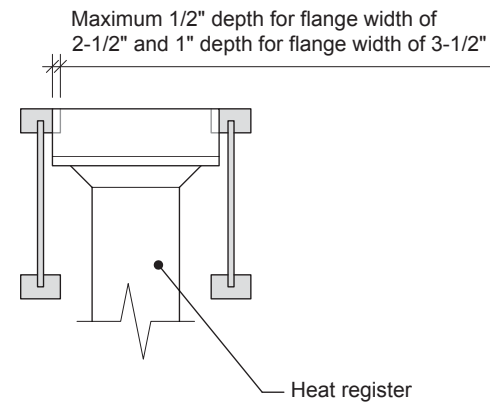
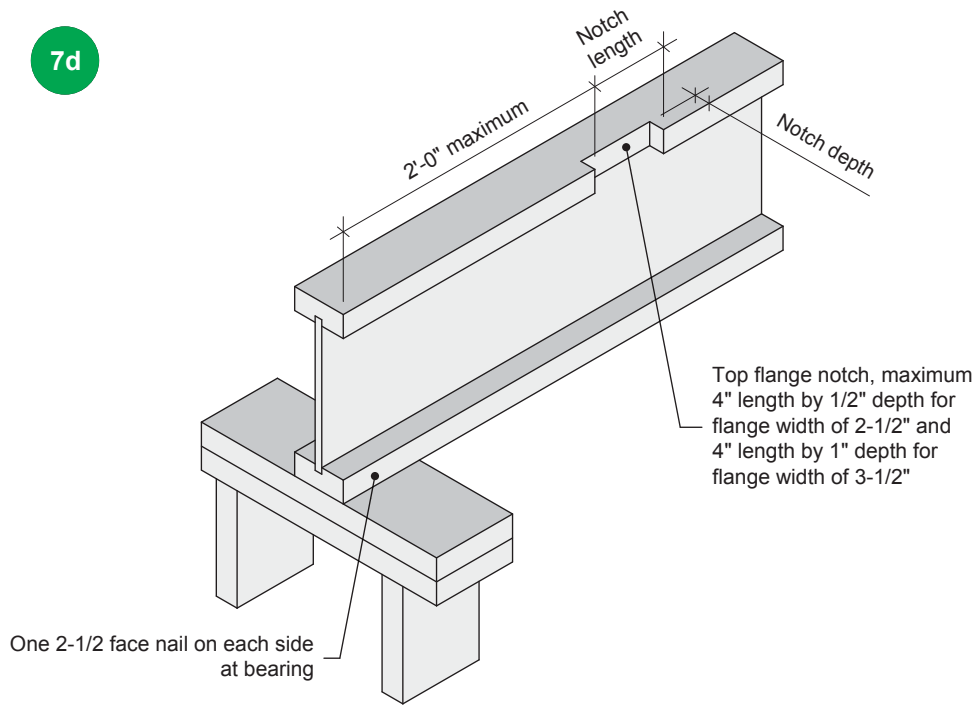
7c



- 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.

7d



- 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.