

Products				
PlotID	Length	Product	Plies	Net Qty
J9DJ	18-00-00	9 1/2" NI-40x	2	2
J1	16-00-00	9 1/2" NI-40x	1	22
J1DJ	16-00-00	9 1/2" NI-40x	2	2
J2	14-00-00	9 1/2" NI-40x	1	18
J3	10-00-00	9 1/2" NI-40x	1	4
J4	8-00-00	9 1/2" NI-40x	1	10
J5	6-00-00	9 1/2" NI-40x	1	2
J6	4-00-00	9 1/2" NI-40x	1	1
J7	2-00-00	9 1/2" NI-40x	1	4
J8	18-00-00	9 1/2" NI-80	1	3
B6	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B8	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B14L	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B1	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B10L	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B11L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B15L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B2	8-00-00	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
B5	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B7	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B3	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B12L	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
25	H1	IUS2.56/9.5
11	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
5	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H2	HUS1.81/10
1	H2	HUS1.81/10
1	H3	HU310-2
1	H3	HU310-2
1	H4	HGUS410
1	H4	HGUS410
3	H7	IUS3.56/9.5

DATE: 5/25/23

1st FLOOR FRAMING



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-6E
ELEVATION: A & B
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.

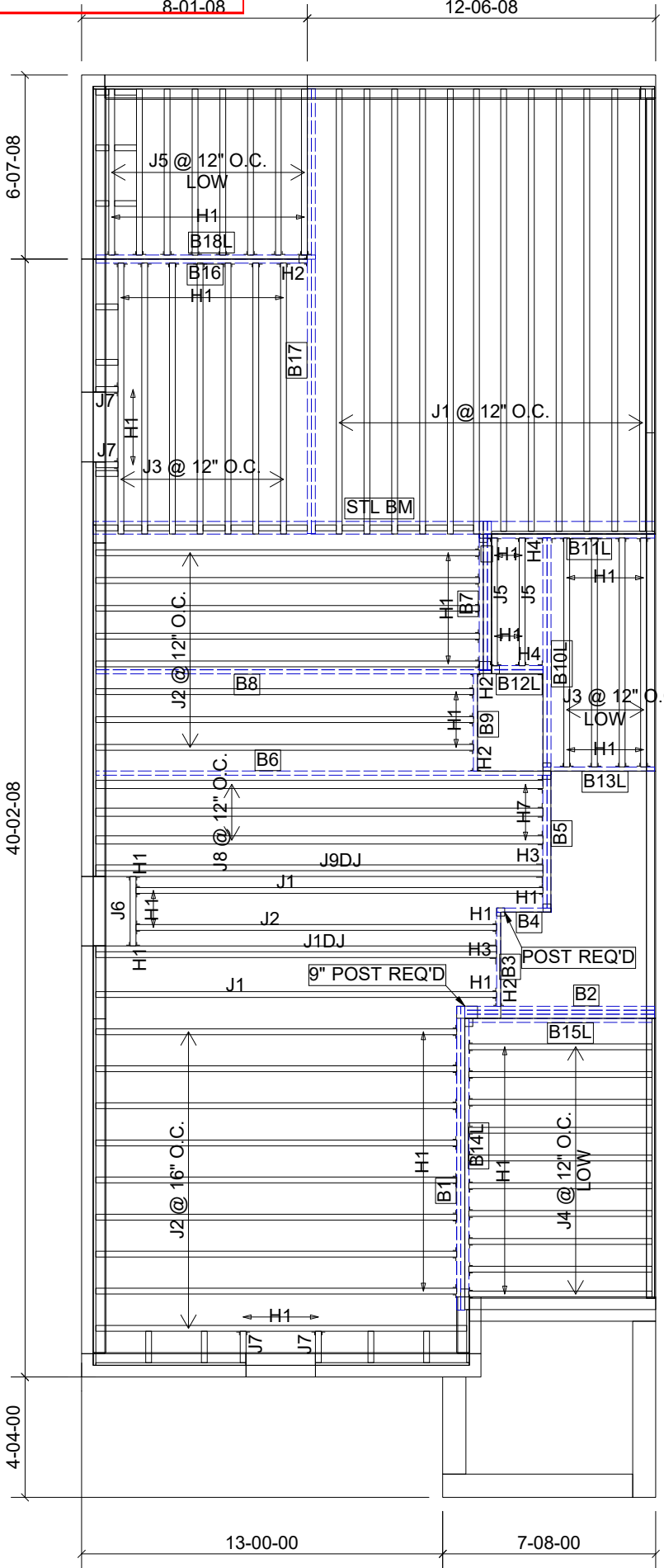
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

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
J9DJ	18-00-00	9 1/2" NI-40x	2	2
J1	16-00-00	9 1/2" NI-40x	1	14
J1DJ	16-00-00	9 1/2" NI-40x	2	2
J2	14-00-00	9 1/2" NI-40x	1	18
J3	10-00-00	9 1/2" NI-40x	1	11
J4	8-00-00	9 1/2" NI-40x	1	10
J5	6-00-00	9 1/2" NI-40x	1	10
J6	4-00-00	9 1/2" NI-40x	1	1
J7	2-00-00	9 1/2" NI-40x	1	4
J8	18-00-00	9 1/2" NI-80	1	3
B6	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B8	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B17	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B14L	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B1	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B10L	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B11L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B15L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B16	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B18L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B2	8-00-00	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
B5	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B7	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B3	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B12L	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
40	H1	IUS2.56/9.5
11	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
5	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H2	HUS1.81/10
1	H2	HUS1.81/10
1	H2	HUS1.81/10
1	H3	HU310-2
1	H3	HU310-2
1	H4	HGUS410
1	H4	HGUS410
3	H7	IUS3.56/9.5

DATE: 2023-05-12

1st FLOOR FRAMING
SUNKEN MUDROOM



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-6E
ELEVATION: A & B
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

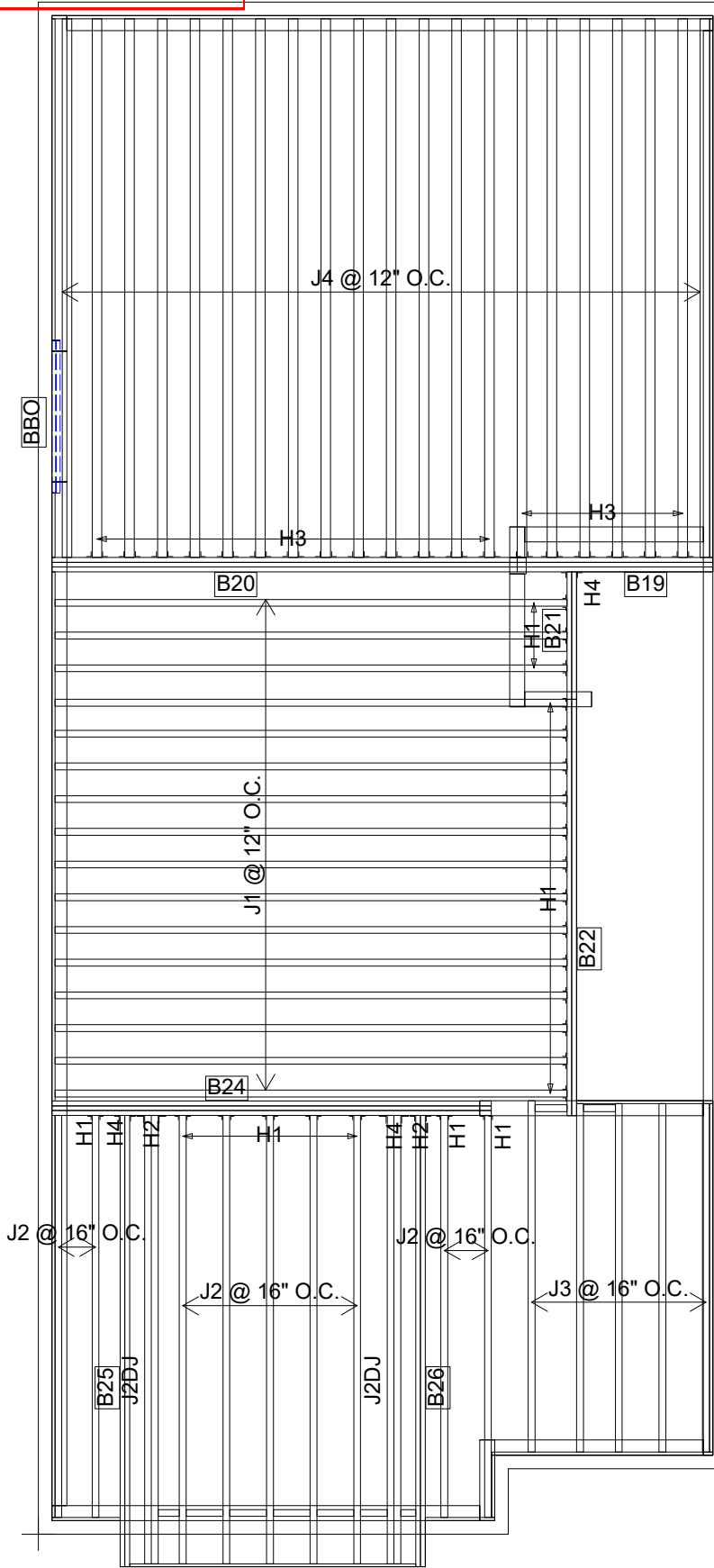
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MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.
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FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2.
CERAMIC TILE APPLICATION AS 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	16
J2	14-00-00	9 1/2" NI-40x	1	9
J2DJ	14-00-00	9 1/2" NI-40x	2	4
J3	12-00-00	9 1/2" NI-40x	1	5
J4	18-00-00	9 1/2" NI-80	1	21
B20	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B22	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B25	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B26	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B24	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B19	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B21	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
16	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
2	H2	HU310-2
19	H3	IUS3.56/9.5
3	H4	HGUS410



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-6E
ELEVATION: A
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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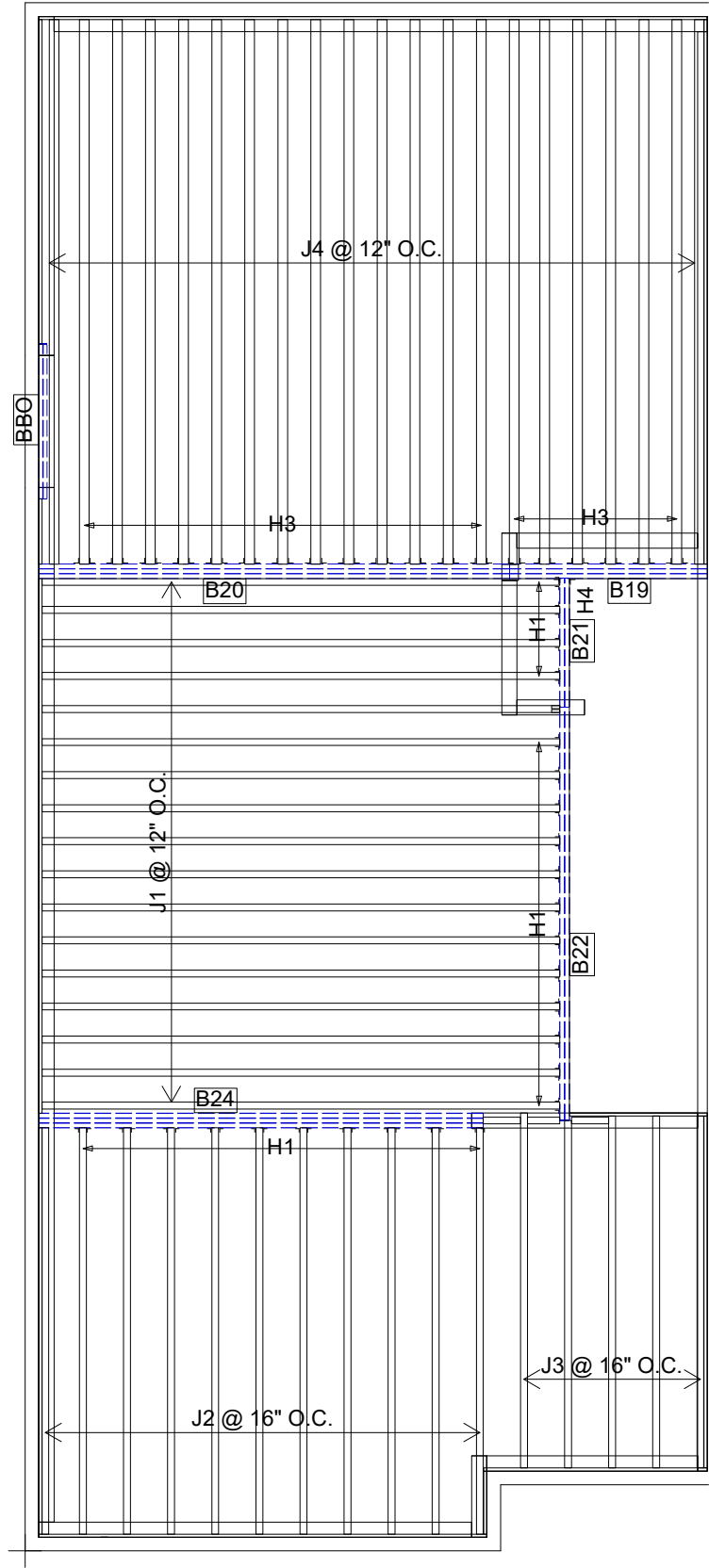
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LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480
SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 5/25/23

2nd FLOOR FRAMING



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	17
J2	14-00-00	9 1/2" NI-40x	1	11
J3	12-00-00	9 1/2" NI-40x	1	5
J4	18-00-00	9 1/2" NI-80	1	21
B20	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B22	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B24	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B19	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B21	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
16	H1	IUS2.56/9.5
10	H1	IUS2.56/9.5
19	H3	IUS3.56/9.5
1	H4	HGUS410



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-6E
ELEVATION: B
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

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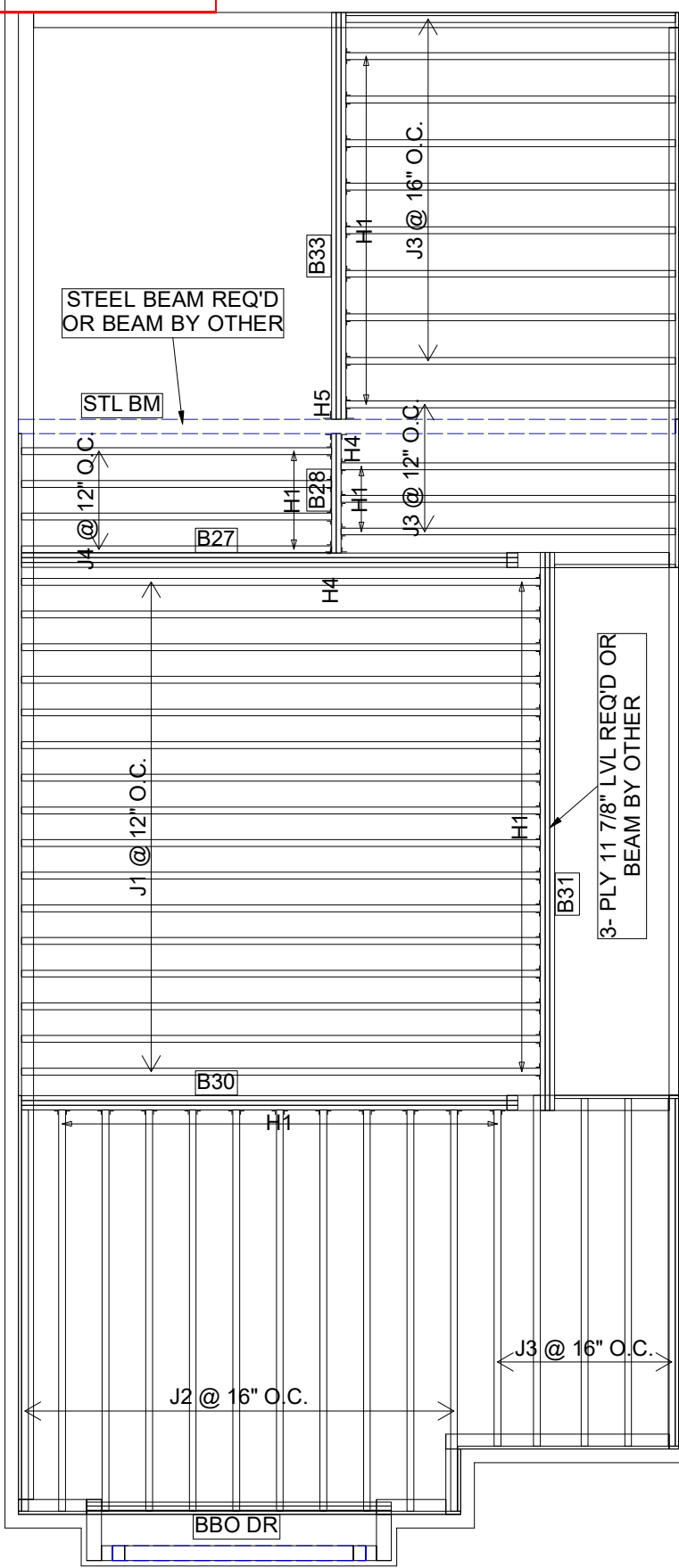
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LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

DATE: 2023-05-12

2nd FLOOR FRAMING

JOIST LL DEFLECTION LIMIT: L/480
SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	16
J2	14-00-00	9 1/2" NI-40x	1	11
J3	12-00-00	9 1/2" NI-40x	1	18
J4	10-00-00	9 1/2" NI-40x	1	4
B27	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B30	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B33	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B28	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B31	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
20	H1	IUS2.56/9.5
16	H1	IUS2.56/9.5
1	H4	HGUS410
1	H4	HGUS410
1	H5	HGUS5.50/10



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-6E
ELEVATION: A
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

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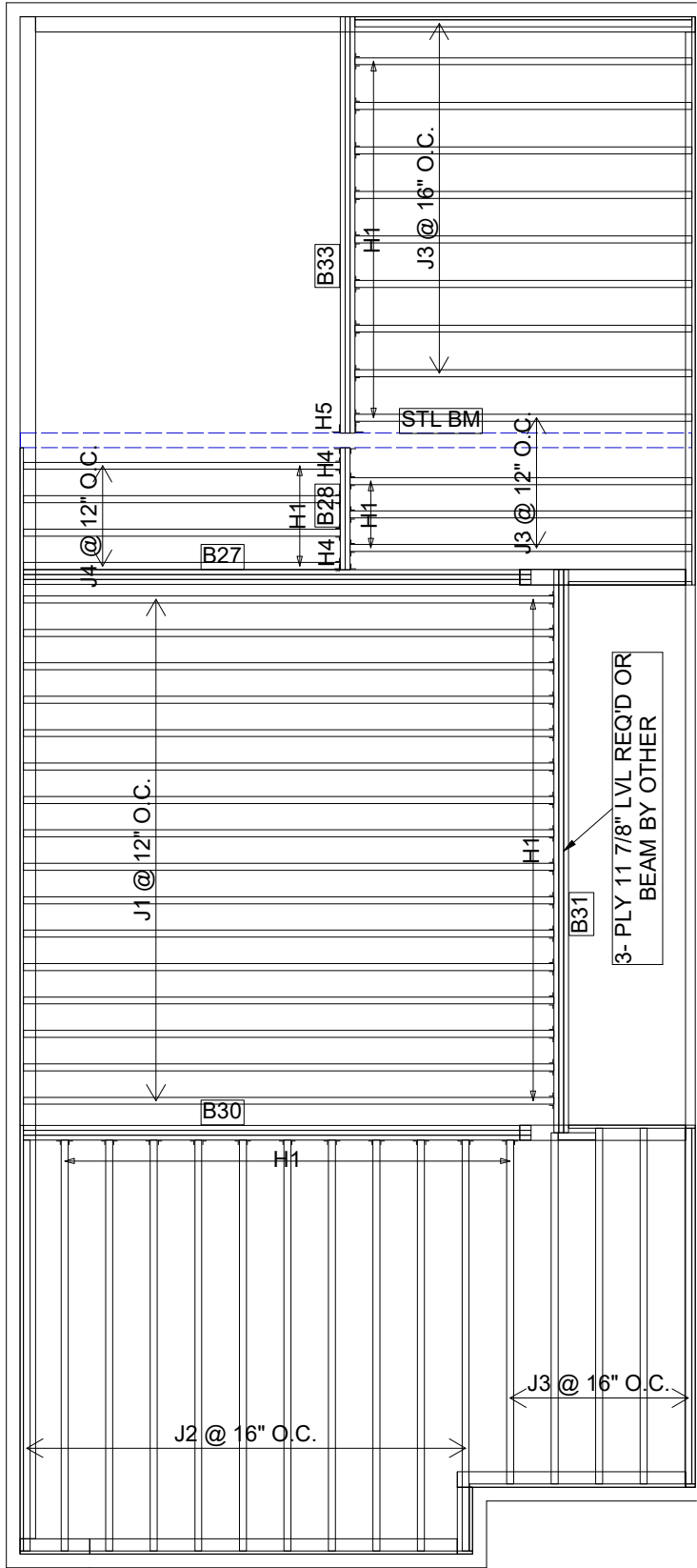
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LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

DATE: 5/25/23

3rd FLOOR FRAMING

JOIST LL DEFLECTION LIMIT: L/480
SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	16
J2	14-00-00	9 1/2" NI-40x	1	11
J3	12-00-00	9 1/2" NI-40x	1	18
J4	10-00-00	9 1/2" NI-40x	1	4
B27	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B30	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B33	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B28	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B31	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
20	H1	IUS2.56/9.5
16	H1	IUS2.56/9.5
1	H4	HGUS410
1	H4	HGUS410
1	H5	HGUS5.50/10

DATE: 5/25/23

3rd FLOOR FRAMING



FROM PLAN DATED: JULY 2019
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA SHORES
MODEL: RL-6E
ELEVATION: B
LOT:
CITY: INNISFIL
SALESMAN: WILL GARCIA
DESIGNER: AJ
REVISION: lbv

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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


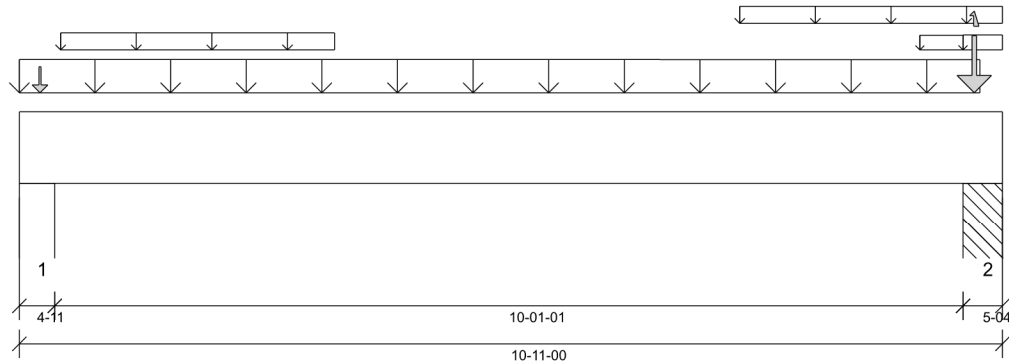
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B1 - i6467 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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 Wall @ 0'- 3 11/16"
- 615 psi Column @ 10'- 6 3/4"

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:	6'	1.25D + 1.5L	1.00	7778 lb ft	23299 lb ft	Passed - 33%
Factored Neg. Moment:	10'- 6 3/4"	1.25D + 1.5L	1.00	182 lb ft	23299 lb ft	Passed - 1%
Factored Shear:	1'- 2 3/16"	1.25D + 1.5L	1.00	3282 lb	11052 lb	Passed - 30%
Live Load (LL) Pos. Defl.:	5'- 5 3/16"	L		0.134"	L/360	Passed - L/901
Total Load (TL) Pos. Defl.:	5'- 5 1/8"	D + L		0.217"	L/240	Passed - L/558

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	4-11	1.25D + 1.5L	1.00	4519 lb		17160 lb	10151 lb	Passed - 45%
2	5-04	1.25D + 1.5L	1.00	7474 lb		19110 lb	11301 lb	Passed - 66%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 11"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 5 1/2"	3'- 6"	User Load	Top	60 lb/ft	-	-	-
Uniform	8'	10'- 11"	User Load	Top	60 lb/ft	-	-	-
Uniform	10'	10'- 5 3/4"	FC4 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	10'- 5 3/4"	10'- 11"	FC4 Floor Decking (Plan View Fill)	Top	6 lb/ft	11 lb/ft	-	-
Tapered	0'	10'- 8"	Smoothed Load	Back	134 To 133 lb/ft	268 To 264 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E5(i210)	Top	320 lb	512 lb	-	-
Point	10'- 7 1/4"	10'- 7 1/4"	1(i213)	Top	1309 lb	1710/-72 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 11/16"	W8(i8)	1276 lb	1968 lb	-	-
2	10'- 5 3/4"	10'- 11"	PBO5(i28)	2240 lb	3098/-72 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=4093 lb, Q'r=5460 lb, Result=74.97%.

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 # TF23051700

Town of Innisfil Certified Model


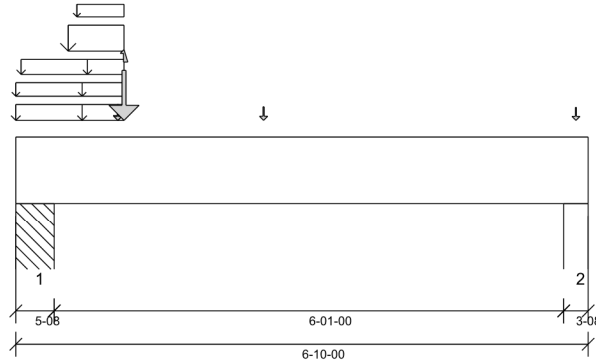
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B2 - i6480 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 5'- 3" Bottom: 5'- 3"

Factored Resistance of Support Material:

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

PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" 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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 3 1/2"	1.25D + 1.5L	1.00	15126 lb ft	34949 lb ft	Passed - 43%
Factored Shear:	1'- 3"	1.25D + 1.5L	1.00	16370 lb	16578 lb	Passed - 99%
Live Load (LL) Pos. Defl.:	3'- 15/16"	L		0.044"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 15/16"	D + L		0.076"	L/240	Passed - L/956

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	16941 lb		30030 lb	17758 lb	Passed - 95%
1	5-08	1.25D + 1.5L	1.00	16941 lb		30030 lb	17758 lb	Passed - 95%
2	3-08	1.25D + 1.5L	1.00	3274 lb		19110 lb	11304 lb	Passed - 29%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 10"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	-0'	1'- 3 1/2"	1(i213)	Top	81 lb/ft	-	-	-
Uniform	0'	1'- 3 1/2"	FC4 Floor Decking (Plan View Fill)	Top	8 lb/ft	17 lb/ft	-	-
Uniform	0'- 3/4"	1'- 3 1/2"	1(i213)	Top	60 lb/ft	-	-	-
Uniform	0'- 7 1/2"	1'- 3 1/2"	1(i213)	Top	108 lb/ft	215 lb/ft	-	-
Uniform	0'- 8 3/4"	1'- 3 1/2"	1(i213)	Top	0 lb/ft	1 lb/ft	-	-
Point	1'- 2 5/8"	1'- 2 5/8"	B3(i6670)	Back	372 lb	730 lb	-	-
Point	1'- 2 5/8"	1'- 2 5/8"	FC4 Floor Decking (Plan View Fill)	Top	6 lb	12 lb	-	-
Point	1'- 3 1/2"	1'- 3 1/2"	1(i213)	Top	5215 lb	7119/0 lb	-	-
Point	2'- 11 1/2"	2'- 11 1/2"	User Load	Top	120 lb	240 lb	-	-
Point	6'- 8 1/4"	6'- 8 1/4"	E50(i6393)	Top	139 lb	34 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	PBO5(i28)	5139 lb	6999 lb	-	-
2	6'- 6 1/2"	6'- 10"	W15(i34)	1072 lb	1302 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 # TF23051701

Town of Innisfil Certified Model


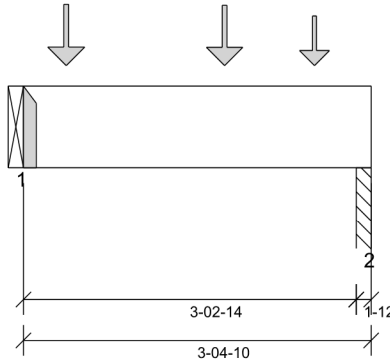
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B3 - i6670 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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'- 2 3/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Column @ 3'- 3 7/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 11 1/2"	1.25D + 1.5L	1.00	1336 lb ft	11650 lb ft	Passed - 11%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5L	1.00	1575 lb	5526 lb	Passed - 28%

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	1579 lb		2730 lb	-	Passed - 58%
2	1-12	1.25D + 1.5L	1.00	1526 lb		3185 lb	1883 lb	Passed - 81%

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.

* 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 5/8"	Self Weight	Top	5 lb/ft	-	-	-
Point	0'- 5"	0'- 5"	J1(i6893)	Back	266 lb	533 lb	-	-
Point	1'- 11 1/2"	1'- 11 1/2"	J1DJ(i6921)	Back	261 lb	521 lb	-	-
Point	2'- 10"	2'- 10"	J2(i6894)	Back	199 lb	398 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B2(i6480)	372 lb	730 lb	-	-
2	3'- 2 7/8"	3'- 4 5/8"	PBO4(i27)	370 lb	722 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 # TF23051702

Town of Innisfil Certified Model


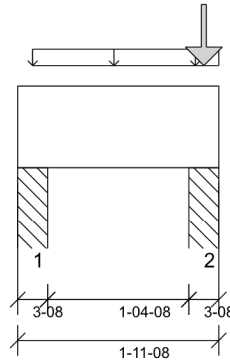
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B4 - i6533 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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'- 6 1/4"

Factored Resistance of Support Material:

- 615 psi Column @ 1'- 9"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Neg. Moment:	1'- 9"	1.25D + 1.5L	1.00	94 lb ft	11650 lb ft	Passed - 1%
Factored Moment:	1'- 9"	1.25D + 1.5L	1.00	94 lb ft	11650 lb ft	Passed - 1%
Factored Moment:				0 lb ft	0 lb ft	
Factored Moment:				0 lb ft	0 lb ft	
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	65 lb	5526 lb	Passed - 1%
Live Load (LL) Deflection:	1'- 1 1/2"	L		0.000"	L/360	Passed - L/999
Total Load (TL) Deflection:	1'- 1 9/16"	D + L		0.000"	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		-27 lb	-	-	
2	3-08	1.25D + 1.5L	1.00	1587 lb		6370 lb	3767 lb	Passed - 42%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 11 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 1 3/4"	1'- 11 1/2"	FC4 Floor Decking (Plan View Fill)	Top	8 lb/ft	16 lb/ft	-	-
Point	1'- 9 3/4"	1'- 9 3/4"	User Load	Top	350 lb	700 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO4(i27)	11 lb	13 lb	-	-
2	1'- 8"	1'- 11 1/2"	PBO3(i26)	362 lb	716 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.



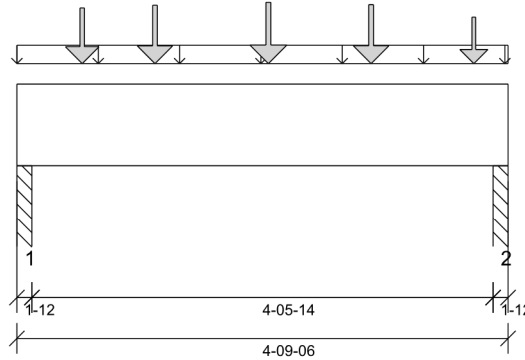
STRUCTURAL COMPONENT ONLY
 DWG # TF23051703

	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B5 - i6657 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 12:59



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 Column @ 0'- 3/4"
- 615 psi Column @ 4'- 8 5/8"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 5 3/8"	1.25D + 1.5L	1.00	2226 lb ft	23299 lb ft	Passed - 10%
Factored Shear:	0'- 11 1/4"	1.25D + 1.5L	1.00	1771 lb	11052 lb	Passed - 16%
Total Load (TL) Pos. Defl.:	2'- 4 9/16"	D + L		0.013"	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	1-12	1.25D + 1.5L	1.00	1852 lb		6370 lb	3767 lb	Passed - 49%
2	1-12	1.25D + 1.5L	1.00	1831 lb		6370 lb	3767 lb	Passed - 49%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 9 3/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	4'- 9 3/8"	User Load	Top	60 lb/ft	-	-	-
Point	0'- 7 5/8"	0'- 7 5/8"	J1(i6895)	Back	152 lb	304 lb	-	-
Point	1'- 4 1/8"	1'- 4 1/8"	J9DJ(i6920)	Back	162 lb	325 lb	-	-
Point	2'- 5 3/8"	2'- 5 3/8"	J8(i6935)	Back	173 lb	346 lb	-	-
Point	3'- 5 3/8"	3'- 5 3/8"	J8(i6936)	Back	164 lb	329 lb	-	-
Point	4'- 5 3/8"	4'- 5 3/8"	J8(i6937)	Back	117 lb	235 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO3(i26)	535 lb	746 lb	-	-
2	4'- 7 5/8"	4'- 9 3/8"	PBO2(i25)	565 lb	793 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 # TF23051704


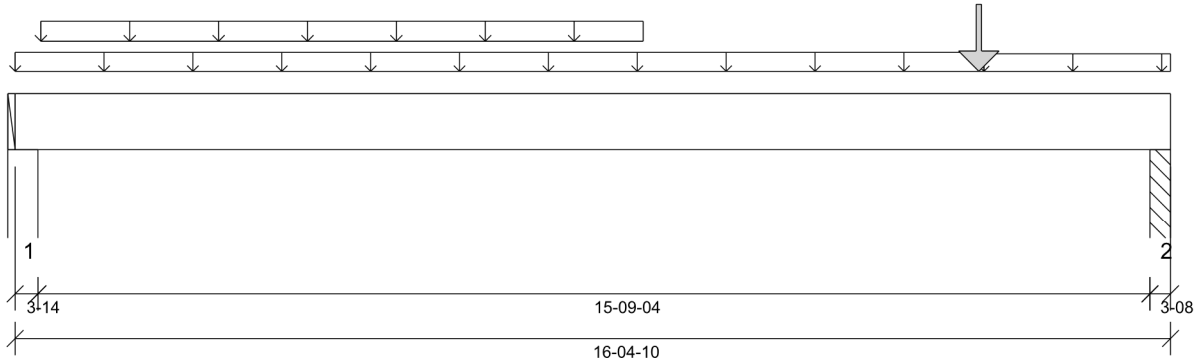
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B6 - i6475 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 13'- 3 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 7/8"
- 615 psi Column @ 16'- 2 1/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 8 1/16"	1.25D + 1.5L	0.98	4886 lb ft	11374 lb ft	Passed - 43%
Factored Shear:	15'- 3 5/8"	1.25D + 1.5L	0.98	1611 lb	5395 lb	Passed - 30%
Live Load (LL) Pos. Defl.:	8'- 8 7/8"	L		0.313"	L/360	Passed - L/603
Total Load (TL) Pos. Defl.:	8'- 4 11/16"	D + L		0.703"	L/240	Passed - L/269
Permanent Deflection:	8'- 1 7/16"			-	L/360	Passed - L/499

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'-14	1.4D	0.65	792 lb		4584 lb	2712 lb	Passed - 29%
2	3'-08	1.25D + 1.5L	0.98	1640 lb		6219 lb	3678 lb	Passed - 45%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 4 5/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	13'- 8 7/8"	FC4 Floor Decking (Plan View Fill)	Top	13 lb/ft	27 lb/ft	-	-
Uniform	0'- 4 3/8"	8'- 10 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	13'- 8 7/8"	16'- 4 5/8"	FC4 Floor Decking (Plan View Fill)	Top	5 lb/ft	10 lb/ft	-	-
Point	13'- 8"	13'- 8"	B9(i6649)	Back	296 lb	577 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 7/8"	W25(i4419)	566 lb	307 lb	-	-
2	16'- 1 1/8"	16'- 4 5/8"	PBO2(i25)	517 lb	665 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 # TF23051705


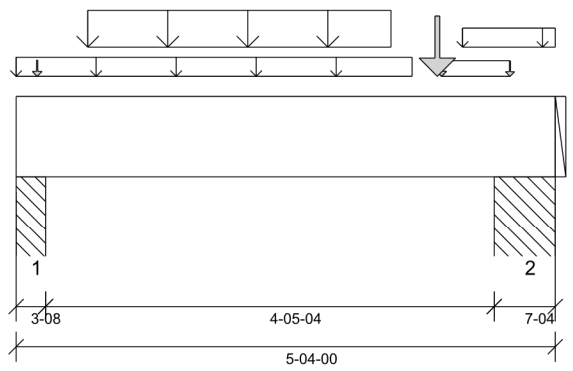
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B7 - i6555 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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,

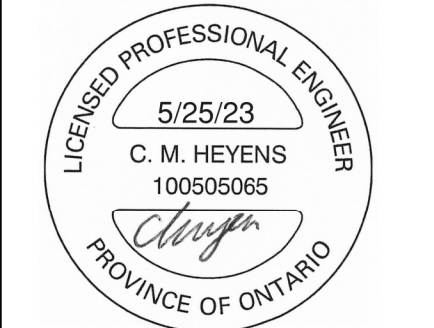
Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Beam @ 4'- 9 3/4"

PLY TO PLY CONNECTION:
 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" 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 # TF23051706

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2"	1.25D + 1.5L	1.00	9659 lb ft	34949 lb ft	Passed - 28%
Factored Shear:	3'- 11 1/4"	1.25D + 1.5L	1.00	10437 lb	16578 lb	Passed - 63%
Live Load (LL) Pos. Defl.:	2'- 9 3/16"	L		0.018"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 9 1/8"	D + L		0.030"	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	4006 lb		19110 lb	11301 lb	Passed - 35%
2	7-04	1.25D + 1.5L	1.00	15134 lb		39585 lb	23408 lb	Passed - 65%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 4"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	-0'	3'- 11"	9(i1768)	Top	81 lb/ft	-	-	-
Uniform	0'- 8 1/2"	3'- 8 1/2"	Smoothed Load	Back	144 lb/ft	289 lb/ft	-	-
Uniform	4'- 2 1/2"	4'- 10 5/8"	FC4 Floor Decking (Plan View Fill)	Top	4 lb/ft	9 lb/ft	-	-
Uniform	4'- 5"	5'- 4"	3(i215)	Top	81 lb/ft	-	-	-
Point	0'- 2 1/2"	0'- 2 1/2"	J2(i6879)	Back	93 lb	186 lb	-	-
Point	4'- 2 1/2"	4'- 2 1/2"	J2(i6883)	Back	132 lb	264 lb	-	-
Point	4'- 2"	4'- 2"	PBO12(i1776)	Top	4404 lb	6820 lb	-	-
Point	4'- 10 5/8"	4'- 10 5/8"	FC4 Floor Decking (Plan View Fill)	Top	2 lb	5 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO1(i24)	1454 lb	2063 lb	-	-
2	4'- 8 3/4"	5'- 4"	-	4081 lb	6085 lb	-	-
+++	4'- 9 5/8"	4'- 9 5/8"	PBO13(i2894)	985 lb	1469 lb	-	-
+++	5'- 1 1/4"	5'- 1 1/4"	STL BM(i13)	3096 lb	4616 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.
- User loads assume a bearing length of 3.5" in determining member capacity for loads near supports.
- 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=5.250". LDF=1.00, Pf=15735 lb, Qr=19110 lb, Result=82.34%.

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


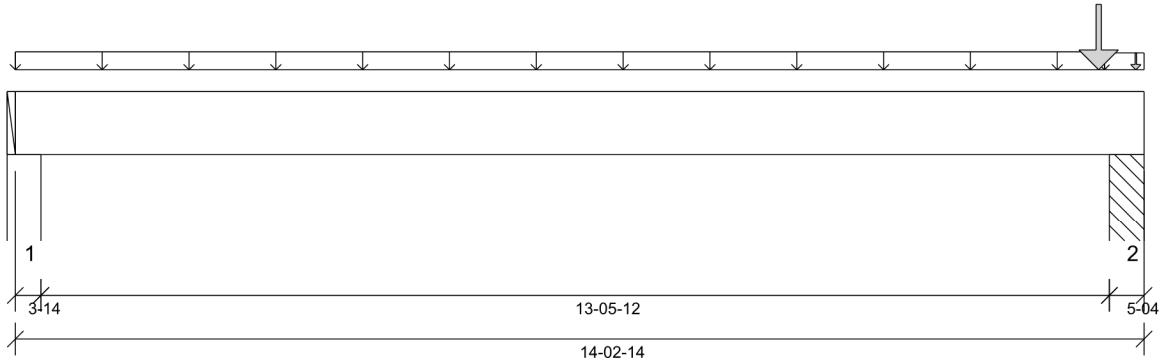
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B8 - i6483 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 13'- 3 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 7/8"
- 615 psi Column @ 13'- 10 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 5 5/8"	1.25D + 1.5L	1.00	1263 lb ft	11650 lb ft	Passed - 11%
Factored Shear:	13'- 1/8"	1.25D + 1.5L	1.00	1513 lb	5526 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	7'- 2 3/8"	L		0.075"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	7'- 2 3/16"	D + L		0.127"	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'-14"	1.25D + 1.5L	1.00	366 lb		7053 lb	4172 lb	Passed - 9%
2	5'-04"	1.25D + 1.5L	1.00	1574 lb		9555 lb	5650 lb	Passed - 28%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 2 7/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	13'- 8 7/8"	FC4 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-
Uniform	13'- 8 7/8"	14'- 2 7/8"	FC4 Floor Decking (Plan View Fill)	Top	3 lb/ft	7 lb/ft	-	-
Point	13'- 8"	13'- 8"	B9(i6649)	Front	299 lb	581 lb	-	-
Point	14'- 1 5/8"	14'- 1 5/8"	9(i1768)	Top	12 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 7/8"	W25(i4419)	104 lb	142 lb	-	-
2	13'- 9 5/8"	14'- 2 7/8"	PBO1(i24)	414 lb	719 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 # TF23051707

Town of Innisfil Certified Model


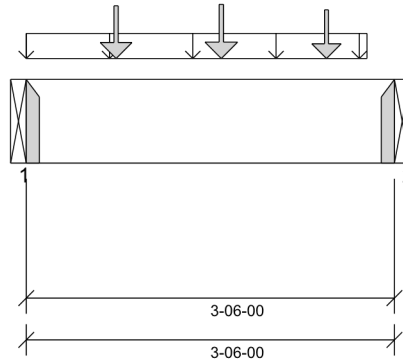
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B9 - i6649 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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'- 6"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 10 1/4"	1.25D + 1.5L	1.00	1293 lb ft	11650 lb ft	Passed - 11%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5L	1.00	1034 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	1-08	1.25D + 1.5L	1.00	1240 lb		2730 lb	-	Passed - 45%
2	1-08	1.25D + 1.5L	1.00	1241 lb		2730 lb	-	Passed - 45%

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'- 6"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	3'- 2 7/8"	User Load	Top	60 lb/ft	120 lb/ft	-	-
Point	0'- 10 1/4"	0'- 10 1/4"	J2(i6876)	Back	131 lb	263 lb	-	-
Point	1'- 10 1/4"	1'- 10 1/4"	J2(i6877)	Back	136 lb	273 lb	-	-
Point	2'- 10 1/4"	2'- 10 1/4"	J2(i6878)	Back	117 lb	234 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B6(i6475)	296 lb	577 lb	-	-
2	3'- 6"	3'- 6"	B8(i6483)	299 lb	581 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 # TF23051708


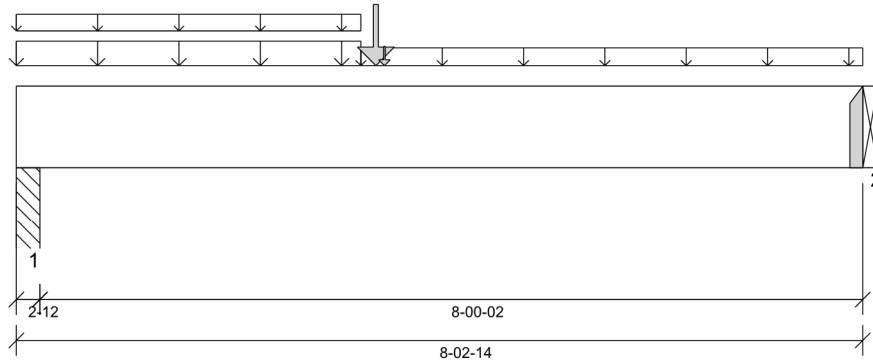
	BUILDER: BAYVIEW WELLINGTON	Job Name: RL-6E	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE: ALCONA SHORES	Level: 1ST FLR FRAMING		
	MODEL: RL-6E	Label: B10L - i6696		
	CITY: INNISFIL	Type: Beam		

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 12:59

**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'- 7 1/8"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 1 3/4"
- 615 psi Beam @ 8'- 2 7/8"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 6"	1.25D + 1.5L	1.00	14681 lb ft	23299 lb ft	Passed - 63%
Factored Shear:	1'- 1/4"	1.25D + 1.5L	1.00	4621 lb	11052 lb	Passed - 42%
Live Load (LL) Pos. Defl.:	3'- 11 13/16"	L		0.131"	L/360	Passed - L/736
Total Load (TL) Pos. Defl.:	3'- 11 7/8"	D + L		0.205"	L/240	Passed - L/468

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	4935 lb		10010 lb	5919 lb	Passed - 83%
2	1-08	1.25D + 1.5L	1.00	3306 lb		5460 lb	-	Passed - 61%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories		
			Top	Face	Member			
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'	8'- 2 7/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	3'- 4 1/4"	User Load	Top	60 lb/ft	120 lb/ft	-	-
Uniform	0'	3'- 4 1/4"	FC2 Floor Decking (Plan View Fill)	Top	8 lb/ft	17 lb/ft	-	-
Uniform	3'- 4 1/4"	8'- 2 7/8"	FC2 Floor Decking (Plan View Fill)	Top	16 lb/ft	32 lb/ft	-	-
Point	3'- 6"	3'- 6"	B12L(i6503)	Back	1590 lb	2864 lb	-	-
Point	3'- 7"	3'- 7"	4(i214)	Top	150 lb	232 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	PBO8(i37)	1301 lb	2292 lb	-	-
2	8'- 2 7/8"	8'- 2 7/8"	B11L(i6463)	828 lb	1428 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 # TF23051709


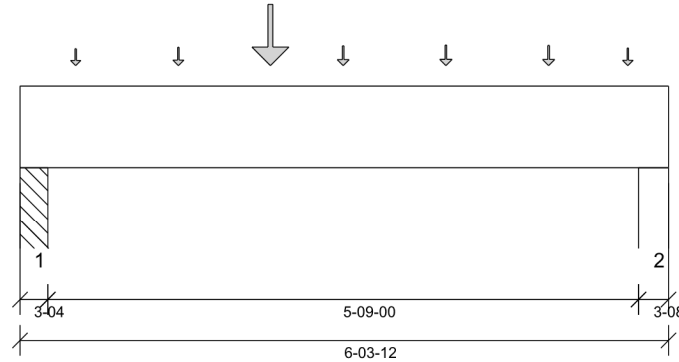
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B11L - i6463 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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'- 5 1/4" Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 5 1/4"	1.25D + 1.5L	1.00	5413 lb ft	11650 lb ft	Passed - 46%
Factored Shear:	1'- 3/4"	1.25D + 1.5L	1.00	2587 lb	5526 lb	Passed - 47%
Live Load (LL) Pos. Defl.:	3'- 3/16"	L		0.054"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 3/16"	D + L		0.085"	L/240	Passed - L/810

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	3-04	1.25D + 1.5L	1.00	2593 lb		5915 lb	3498 lb	Passed - 74%
2	3-08	1.25D + 1.5L	1.00	2120 lb		6370 lb	3767 lb	Passed - 56%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 3 3/4"	Self Weight	Top	5 lb/ft	-	-	-
Point	0'- 6 1/2"	0'- 6 1/2"	J5(i6702)	Front	27 lb	54 lb	-	-
Point	1'- 6 1/2"	1'- 6 1/2"	J5(i6703)	Front	49 lb	98 lb	-	-
Point	2'- 5 1/4"	2'- 5 1/4"	B10L(i6696)	Front	828 lb	1428 lb	-	-
Point	3'- 1 3/4"	3'- 1 3/4"	J3(i6704)	Front	74 lb	148 lb	-	-
Point	4'- 1 3/4"	4'- 1 3/4"	J3(i6805)	Front	85 lb	171 lb	-	-
Point	5'- 1 3/4"	5'- 1 3/4"	J3(i6706)	Front	80 lb	160 lb	-	-
Point	5'- 11"	5'- 11"	J3(i6707)	Front	37 lb	75 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/4"	PBO6(i35)	669 lb	1168 lb	-	-
2	6'- 1/4"	6'- 3 3/4"	W14(i30)	541 lb	966 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.



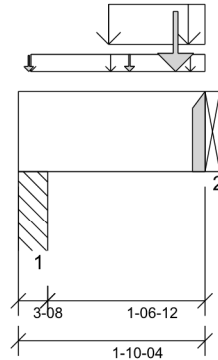
STRUCTURAL COMPONENT ONLY
 DWG # TF23051710

	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B12L - i6503 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 12:59



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 Beam @ 1'- 10 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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 6 3/4"	1.25D + 1.5L	1.00	1507 lb ft	23299 lb ft	Passed - 6%
Factored Shear:	1'- 3/4"	1.25D + 1.5L	1.00	1169 lb	11052 lb	Passed - 11%

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	1706 lb		12740 lb	7534 lb	Passed - 23%
2	1-08	1.25D + 1.5L	1.00	5428 lb		5460 lb	-	Passed - 99%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
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'	1'- 10 1/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 1 1/2"	1'- 10 1/4"	4(i214)	Top	101 lb/ft	-	-	-
Uniform	0'- 10 3/4"	1'- 10 1/4"	4(i214)	Top	412 lb/ft	795 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J5(i6702)	Back	29 lb	57 lb	-	-
Point	1'- 1 1/4"	1'- 1 1/4"	J5(i6703)	Back	52 lb	104 lb	-	-
Point	1'- 6 3/4"	1'- 6 3/4"	4(i214)	Top	1195 lb	2281 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PB07(i36)	273 lb	339 lb	-	-
2	1'- 10 1/4"	1'- 10 1/4"	B10L(i6696)	1590 lb	2864 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 # TF23051711


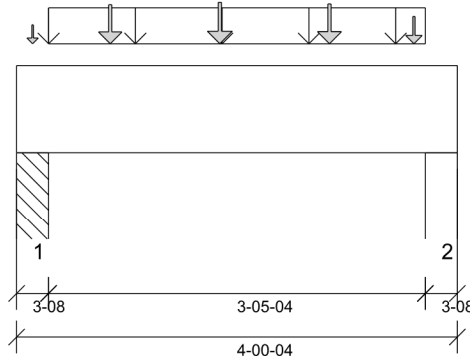
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B13L - i6568 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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 @ 3'- 9 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 10 1/4"	1.25D + 1.5L	1.00	1430 lb ft	11650 lb ft	Passed - 12%
Factored Shear:	2'- 11 1/4"	1.25D + 1.5L	1.00	1387 lb	5526 lb	Passed - 25%
Total Load (TL) Pos. Defl.:	2'- 1/8"	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	3'-08	1.25D + 1.5L	1.00	1491 lb		6370 lb	3767 lb	Passed - 40%
2	3'-08	1.25D + 1.5L	1.00	1512 lb		6370 lb	3767 lb	Passed - 40%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 1/4"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 3 1/2"	3'- 8 3/4"	User Load	Front	120 lb/ft	240 lb/ft	-	-
Point	0'- 10 1/4"	0'- 10 1/4"	J3(i6704)	Back	77 lb	154 lb	-	-
Point	1'- 10 1/4"	1'- 10 1/4"	J3(i6805)	Back	85 lb	171 lb	-	-
Point	2'- 10 1/4"	2'- 10 1/4"	J3(i6706)	Back	80 lb	160 lb	-	-
Point	3'- 7 1/2"	3'- 7 1/2"	J3(i6707)	Back	37 lb	75 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	User Load	Top	9 lb	18 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO8(i37)	355 lb	692 lb	-	-
2	3'- 8 3/4"	4'- 1/4"	W14(i30)	364 lb	710 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 # TF23051712


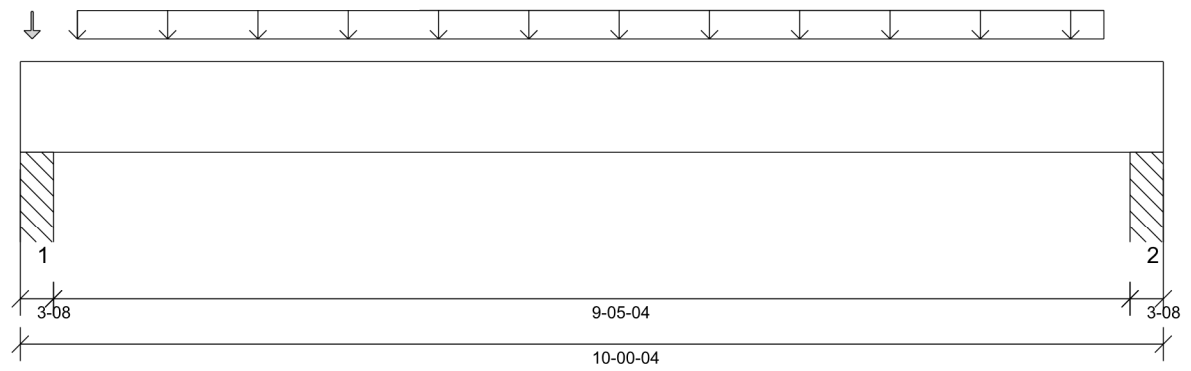
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Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 05/25/2023 12:59



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 @ 9'- 9 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'	1.25D + 1.5L	1.00	3399 lb ft	11650 lb ft	Passed - 29%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	1322 lb	5526 lb	Passed - 24%
Live Load (LL) Pos. Defl.:	5'- 1/8"	L		0.106"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 1/8"	D + L		0.163"	L/240	Passed - L/693

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	1472 lb		6370 lb	3767 lb	Passed - 39%
2	3'-08"	1.25D + 1.5L	1.00	1322 lb		6370 lb	3767 lb	Passed - 35%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 1/4"	Self Weight	Top	5 lb/ft	-	-	-
Tapered	0'- 6"	9'- 6"	Smoothed Load	Front	68 lb/ft	134 To 136 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J4(i6821)	Front	34 lb	68 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO9(i41)	365 lb	678 lb	-	-
2	9'- 8 3/4"	10'- 1/4"	PBO10(i42)	328 lb	607 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.




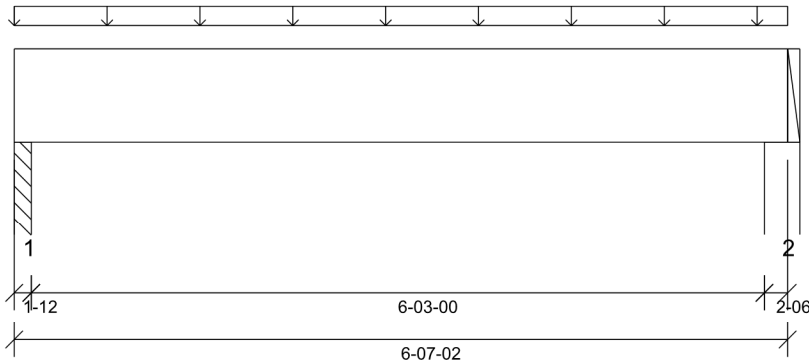
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B15L - i6481 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 6'- 4 3/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Wall @ 6'- 5 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 3 1/4"	1.25D + 1.5L	1.00	253 lb ft	11650 lb ft	Passed - 2%
Factored Shear:	5'- 7 1/4"	1.25D + 1.5L	1.00	115 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	1-12	1.25D + 1.5L	1.00	168 lb		3185 lb	1883 lb	Passed - 9%
2	2-06	1.25D + 1.5L	1.00	168 lb		4322 lb	2557 lb	Passed - 7%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 7 1/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	6'- 7 1/8"	FC1 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"	PBO10(i42)	50 lb	70 lb	-	-
2	6'- 4 3/4"	6'- 7 1/8"	W16(i40)	51 lb	70 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.
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- 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 # TF23051714

Town of Innisfil Certified Model


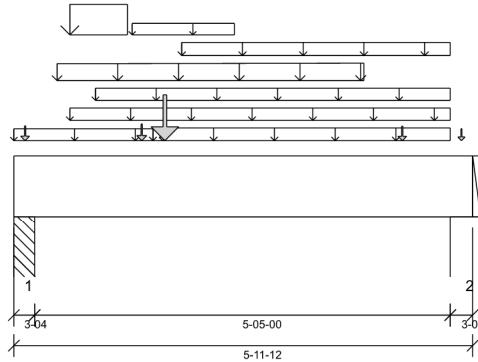
	BUILDER: BAYVIEW WELLINGTON	Job Name: RL-6E	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE: ALCONA SHORES	Level: 2ND FLR FRAMING		
	MODEL: RL-6E	Label: B19 - i6470		
	CITY: INNISFIL	Type: Beam		

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 12:59



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'- 2 1/4"
- 615 psi Wall @ 5'- 9 1/4"

PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" 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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 11 5/8"	1.25D + 1.5L	1.00	14322 lb ft	34949 lb ft	Passed - 41%
Factored Shear:	1'- 3/4"	1.25D + 1.5L	1.00	8680 lb	16578 lb	Passed - 52%
Live Load (LL) Pos. Defl.:	2'- 9 5/8"	L		0.041"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 9 11/16"	D + L		0.070"	L/240	Passed - L/929

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	3-04	1.25D + 1.5L	1.00	10225 lb		17745 lb	10493 lb	Passed - 97%
2	3-08	1.25D + 1.5L	1.00	5970 lb		19110 lb	11304 lb	Passed - 53%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 11 3/4"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	1'- 9 3/4"	FC5 Floor Decking (Plan View Fill)	Top	12 lb/ft	23 lb/ft	-	-
Uniform	0'- 8 3/4"	5'- 8 1/4"	7(i1264)	Top	81 lb/ft	-	-	-
Uniform	0'- 8 3/4"	1'- 5 3/4"	7(i1264)	Top	787 lb/ft	872 lb/ft	-	-
Uniform	1'- 3/4"	5'- 8 1/4"	7(i1264)	Top	60 lb/ft	-	-	-
Uniform	1'- 6 1/2"	2'- 10 1/2"	7(i1264)	Top	2 lb/ft	2 lb/ft	-	-
Uniform	1'- 9 3/4"	5'- 8 1/4"	User Load	Front	35 lb/ft	70 lb/ft	-	-
Uniform	2'- 2 1/4"	5'- 8 1/4"	7(i1264)	Top	48 lb/ft	92 lb/ft	-	-
Tapered	0'- 6 3/4"	4'- 6 3/4"	Smoothed Load	Back	159 To 175 lb/ft	320 To 349 lb/ft	-	-
Point	1'- 8"	1'- 8"	B21(i6855)	Front	258 lb	482 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	J4(i6849)	Back	159 lb	319 lb	-	-
Point	5'- 3/4"	5'- 3/4"	J4(i6748)	Back	143 lb	286 lb	-	-
Point	1'- 11 1/4"	1'- 11 1/4"	FC5 Floor Decking (Plan View Fill)	Top	1 lb	2 lb	-	-
Point	1'- 11 5/8"	1'- 11 5/8"	7(i1264)	Top	1856 lb	3042 lb	-	-
Point	5'- 10"	5'- 10"	E23(i1263)	Top	67 lb	6 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/4"	PBO12(i1776)	3048 lb	4461 lb	-	-
2	5'- 8 1/4"	5'- 11 3/4"	E48(i6376)	1786 lb	2307 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.
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- 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 # TF23051715

Town of Innisfil Certified Model


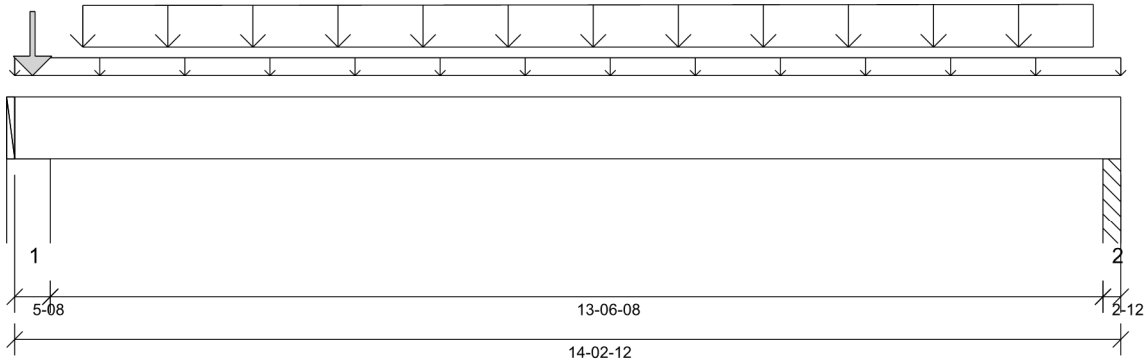
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 2ND FLR FRAMING Label: B20 - i6638 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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'- 4 1/2"
- 615 psi Column @ 14'- 1"

PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" 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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 4 1/2"	1.25D + 1.5L	1.00	18114 lb ft	34949 lb ft	Passed - 52%
Factored Shear:	13'- 2 1/2"	1.25D + 1.5L	1.00	5076 lb	16578 lb	Passed - 31%
Live Load (LL) Pos. Defl.:	7'- 2 13/16"	L		0.386"	L/360	Passed - L/421
Total Load (TL) Pos. Defl.:	7'- 2 13/16"	D + L		0.593"	L/240	Passed - L/273
Permanent Deflection:	7'- 2 7/8"			-	L/360	Passed - L/806

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	5686 lb		30030 lb	17764 lb	Passed - 32%
2	2-12	1.25D + 1.5L	1.00	5144 lb		15015 lb	8879 lb	Passed - 58%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 2 3/4"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	-0'	14'- 2 3/4"	FC5 Floor Decking (Plan View Fill)	Top	12 lb/ft	23 lb/ft	-	-
Tapered Point	0'- 10 1/2"	13'- 10 1/2"	Smoothed Load	Back	162 To 169 lb/ft	324 To 338 lb/ft	-	-
	0'- 2 3/4"	0'- 2 3/4"	E10(i1256)	Top	258 lb	271 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E1(i211)	1502 lb	2547 lb	-	-
2	14'	14'- 2 3/4"	PBO12(i1776)	1275 lb	2359 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 # TF23051716


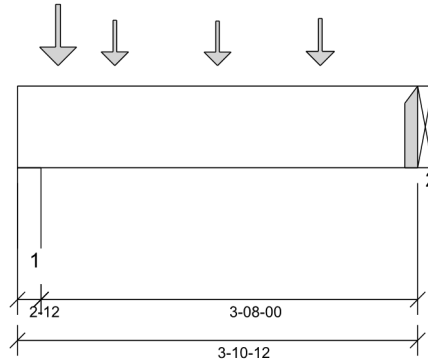
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 2ND FLR FRAMING Label: B21 - i6855 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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 1/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/4"
- 615 psi Beam @ 3'- 10 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 # TF23051717

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 11 3/8"	1.25D + 1.5L	1.00	1417 lb ft	23299 lb ft	Passed - 6%
Factored Shear:	3'- 1 1/4"	1.25D + 1.5L	1.00	1107 lb	11052 lb	Passed - 10%

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	2100 lb		10010 lb	5921 lb	Passed - 35%
2	1-08	1.25D + 1.5L	1.00	1117 lb		5460 lb	-	Passed - 20%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
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'- 10 3/4"	Self Weight	Top	9 lb/ft	-	-	-
Point	0'- 4 3/4"	0'- 4 3/4"	User Load	Front	250 lb	500 lb	-	-
Point	0'- 11 3/8"	0'- 11 3/8"	J1(i6789)	Back	164 lb	327 lb	-	-
Point	1'- 11 3/8"	1'- 11 3/8"	J1(i6780)	Back	159 lb	319 lb	-	-
Point	2'- 11 3/8"	2'- 11 3/8"	J1(i6779)	Back	173 lb	346 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	4(i214)	524 lb	1010 lb	-	-
2	3'- 10 3/4"	3'- 10 3/4"	B19(i6470)	258 lb	482 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


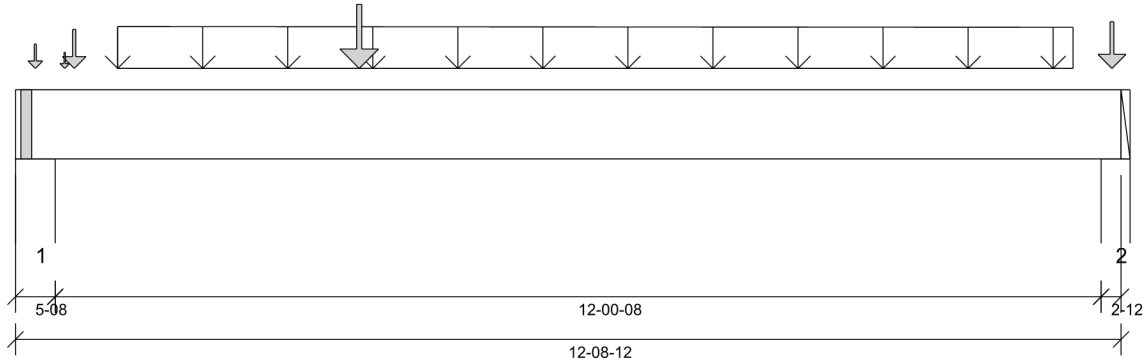
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 2ND FLR FRAMING Label: B22 - i6509 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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 Wall @ 12'- 7"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 8 1/8"	1.25D + 1.5L	1.00	14760 lb ft	23299 lb ft	Passed - 63%
Factored Shear:	1'- 3"	1.25D + 1.5L	1.00	4913 lb	11052 lb	Passed - 44%
Live Load (LL) Pos. Defl.:	6'- 4 11/16"	L		0.379"	L/360	Passed - L/381
Total Load (TL) Pos. Defl.:	6'- 4 11/16"	D + L		0.578"	L/240	Passed - L/250
Permanent Deflection:	6'- 4 3/4"			-	L/360	Passed - L/750

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	5109 lb		20020 lb	11843 lb	Passed - 43%
2	2-12	1.25D + 1.5L	1.00	4906 lb		10010 lb	5921 lb	Passed - 83%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 8 3/4"	Self Weight	Top	9 lb/ft	-	-	-
Tapered	1'- 2 1/8"	12'- 2 1/8"	Smoothed Load	Back	161 To 156 lb/ft	323 To 314 lb/ft	-	-
Point	3'- 11 1/2"	3'- 11 1/2"	User Load	Front	250 lb	500 lb	-	-
Point	0'- 8 1/8"	0'- 8 1/8"	J1(i6839)	Back	120 lb	240 lb	-	-
Point	12'- 7 1/2"	12'- 7 1/2"	J1(i6773)	Back	159 lb	319 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	8(i1265)	Top	71 lb	60 lb	-	-
Point	0'- 6 13/16"	0'- 6 13/16"	FC5 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'- 5 1/2"	1(i213)	1271 lb	2340 lb	-	-
2	12'- 6"	12'- 8 3/4"	4(i214)	1195 lb	2281 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 # TF23051718


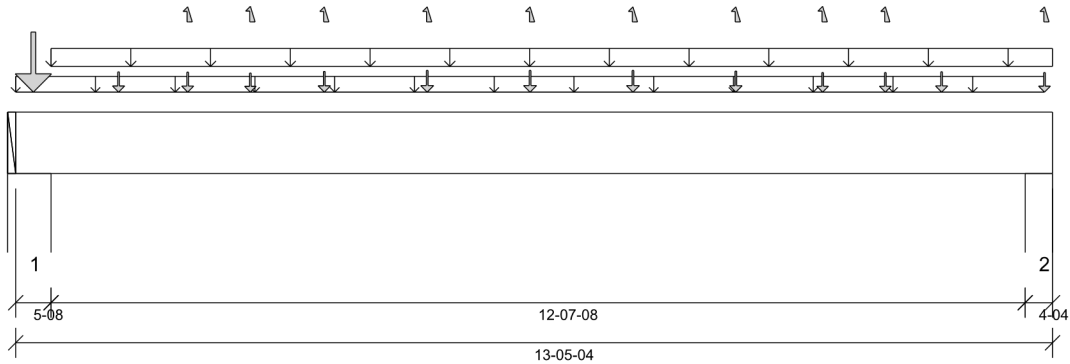
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 2ND FLR FRAMING Label: B24 - i6642 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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 Wall @ 0'- 4 1/2"
- 615 psi Wall @ 13'- 2"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 8"	1.25D + 1.5L	1.00	12552 lb ft	34949 lb ft	Passed - 36%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	1.00	675 lb ft	34949 lb ft	Passed - 2%
Factored Shear:	1'- 3"	1.25D + 1.5L	1.00	3809 lb	16578 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	6'- 9 9/16"	L		0.208"	L/360	Passed - L/729
Total Load (TL) Pos. Defl.:	6'- 9 9/16"	D + L		0.360"	L/240	Passed - L/420

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	8522 lb		30030 lb	17764 lb	Passed - 48%
2	4-04	1.25D + 1.5L	1.00	4261 lb		23205 lb	13727 lb	Passed - 31%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	13'- 5 1/4"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	13'- 4"	FC5 Floor Decking (Plan View Fill)	Top	5 lb/ft	9 lb/ft	-	-
Uniform	0'- 5 1/2"	13'- 5 1/4"	User Load	Top	60 lb/ft	-	-	-
Point	1'- 4"	1'- 4"	J2(i6710)	Front	126 lb	253 lb	-	-
Point	2'- 2 3/4"	2'- 2 3/4"	B25(i6666)	Front	146 lb	215/-11 lb	-	-
Point	3'- 1/2"	3'- 1/2"	J2DJ(i6711)	Front	74 lb	223/-46 lb	-	-
Point	4'	4'	J2(i6712)	Front	124 lb	289/-5 lb	-	-
Point	5'- 4"	5'- 4"	J2(i6843)	Front	148 lb	336/-6 lb	-	-
Point	6'- 8"	6'- 8"	J2(i6714)	Front	148 lb	336/-6 lb	-	-
Point	8'	8'	J2(i6830)	Front	148 lb	336/-6 lb	-	-
Point	9'- 4"	9'- 4"	J2(i6716)	Front	132 lb	310/-5 lb	-	-
Point	10'- 5 1/2"	10'- 5 1/2"	J2DJ(i6717)	Front	84 lb	244/-46 lb	-	-
Point	11'- 3 1/4"	11'- 3 1/4"	B26(i6454)	Front	138 lb	194/-11 lb	-	-
Point	12'	12'	J2(i6826)	Front	128 lb	257 lb	-	-
Point	13'- 4"	13'- 4"	J2(i6719)	Front	111 lb	224/-1 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E10(i1256)	Top	1440 lb	1872 lb	-	-

UNFACTORED REACTIONS


ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E1(i211)	2691 lb	3498/-71 lb	-	-
2	13'- 1"	13'- 5 1/4"	1(i213)	1285 lb	1710/-72 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=5.250". LDF=1.00, Pf=4608 lb, Qr=8190 lb, Result=56.26%.



Town of Innisfil Certified Model

	BUILDER: BAYVIEW WELLINGTON	Job Name: RL-6E	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE: ALCONA SHORES	Level: 2ND FLR FRAMING		
	MODEL: RL-6E	Label: B24 - i6642		
	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.




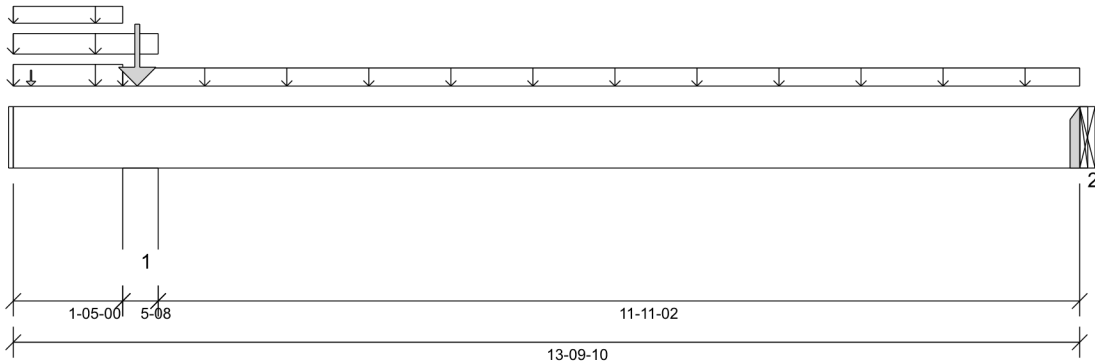
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 2ND FLR FRAMING Label: B25 - i6666 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 11'- 11 1/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 1'- 7 3/4"
- 615 psi Beam @ 13'- 9 5/8"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 13/16"	1.25D + 1.5L	0.69	1389 lb ft	16143 lb ft	Passed - 9%
Factored Neg. Moment:	1'- 7 3/4"	1.25D + 1.5L	0.98	659 lb ft	19879 lb ft	Passed - 3%
Factored Shear:	2'- 8"	1.25D + 1.5L	0.69	456 lb	7658 lb	Passed - 6%
Live Load (LL) Pos. Defl.:	7'- 8 11/16"	L		0.035"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	7'- 10 7/16"	D + L		0.052"	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	4669 lb		20020 lb	11843 lb	Passed - 39%
2	1-08	1.25D + 1.5L	0.69	500 lb		3783 lb	-	Passed - 13%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Top	Face	Member	Nailing Requirements	Other Information or Requirement for Reinforcement Accessories
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'	13'- 9 5/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	1'- 10 1/2"	E20(i1260)	Top	100 lb/ft	-	-	-
Uniform	0'	1'- 5"	E20(i1260)	Top	40 lb/ft	80 lb/ft	-	-
Uniform	0'	1'- 5"	FC5 Floor Decking (Plan View Fill)	Top	10 lb/ft	19 lb/ft	-	-
Uniform	1'- 5"	13'- 9 5/8"	FC5 Floor Decking (Plan View Fill)	Top	17 lb/ft	34 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	FC5 Floor Decking (Plan View Fill)	Top	15 lb	9 lb	-	-
Point	1'- 7 1/4"	1'- 7 1/4"	E20(i1260)	Top	1120 lb	1400 lb	-	-

UNFACTORED REACTIONS


ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1'- 5"	1'- 10 1/2"	E6(i208)	1593 lb	1771 lb	-	-
2	13'- 9 5/8"	13'- 9 5/8"	B24(i6642)	146 lb	215/-11 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.
- The deflection at the cantilever for either live and/or total loads is less than 1/4" and therefore has been excluded from the deflection ratio considerations.
- 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 WELLINGTON	Job Name: RL-6E	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE: ALCONA SHORES	Level: 2ND FLR FRAMING		
	MODEL: RL-6E	Label: B25 - i6666		
	CITY: INNISFIL	Type: 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=3500 lb, Q'r=5460 lb, Result=64.10%.

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.



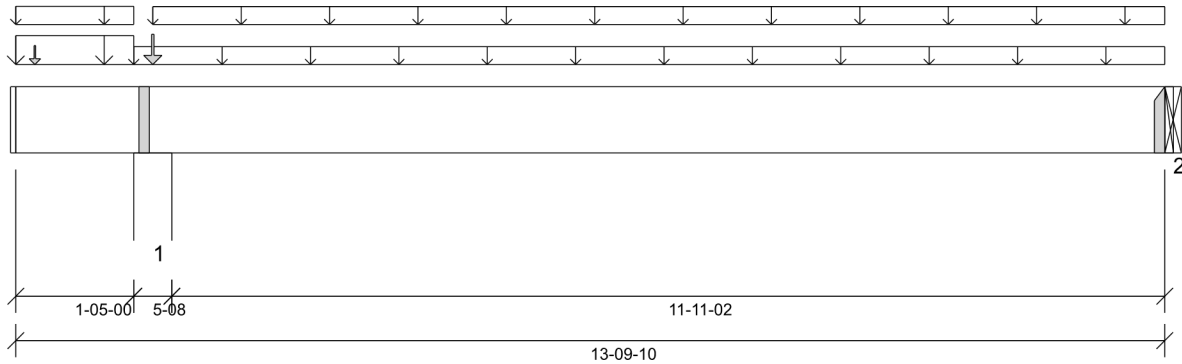
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 2ND FLR FRAMING Label: B26 - i6454 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 11'- 11 1/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 1'- 7 3/4"
- 615 psi Beam @ 13'- 9 5/8"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 7/16"	1.25D + 1.5L	0.90	1286 lb ft	20913 lb ft	Passed - 6%
Factored Neg. Moment:	1'- 7 3/4"	1.25D + 1.5L	0.79	508 lb ft	16804 lb ft	Passed - 3%
Factored Shear:	2'- 8"	1.25D + 1.5L	0.90	415 lb	9920 lb	Passed - 4%
Live Load (LL) Pos. Defl.:	7'- 8 11/16"	L		0.031"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	7'- 10 1/4"	D + L		0.049"	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	1235 lb		20001 lb	11831 lb	Passed - 10%
2	1-08	1.25D + 1.5L	0.90	460 lb		4901 lb	-	Passed - 9%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
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'	13'- 9 5/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	1'- 5"	E22(i1261)	Top	140 lb/ft	80 lb/ft	-	-
Uniform	0'	1'- 5"	FC5 Floor Decking (Plan View Fill)	Top	10 lb/ft	19 lb/ft	-	-
Uniform	1'- 5"	13'- 9 5/8"	FC5 Floor Decking (Plan View Fill)	Top	7 lb/ft	15 lb/ft	-	-
Uniform	1'- 7 3/4"	13'- 9 5/8"	FC5 Floor Decking (Plan View Fill)	Top	8 lb/ft	16 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	FC5 Floor Decking (Plan View Fill)	Top	15 lb	9 lb	-	-
Point	1'- 7 3/4"	1'- 7 3/4"	E15(i1254)	Top	61 lb	75 lb	-	-

UNFACTORED REACTIONS


ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1'- 5"	1'- 10 1/2"	E6(i208)	474 lb	424 lb	-	-
2	13'- 9 5/8"	13'- 9 5/8"	B24(i6642)	138 lb	194/-11 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.
- The deflection at the cantilever for either live and/or total loads is less than 1/4" and therefore has been excluded from the deflection ratio considerations.
- 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 WELLINGTON	Job Name: RL-6E	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE: ALCONA SHORES	Level: 2ND FLR FRAMING		
	MODEL: RL-6E	Label: B26 - i6454		
	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


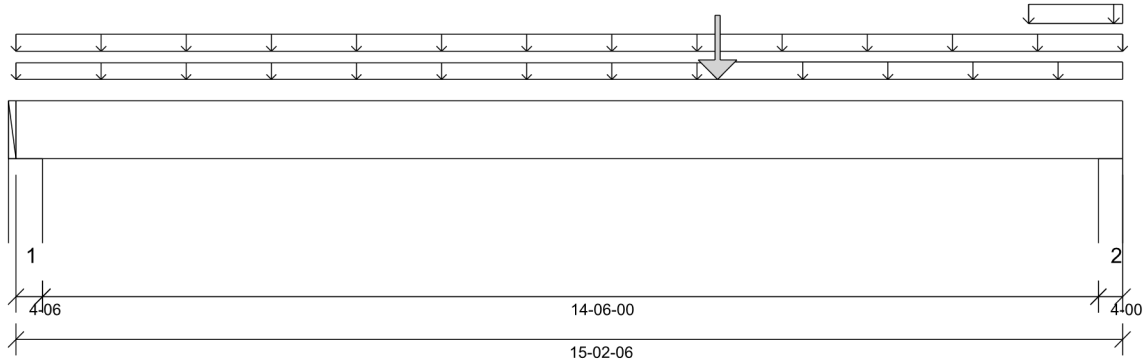
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 3RD FLR FRAMING Label: B27 - i6827 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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: 9'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 14'- 11 3/8"

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.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051722

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	9'- 7 5/8"	1.25D + 1.5L	1.00	7366 lb ft	34949 lb ft	Passed - 21%
Factored Shear:	14'- 7/8"	1.25D + 1.5L	1.00	1541 lb	16578 lb	Passed - 9%
Live Load (LL) Pos. Defl.:	8'- 13/16"	L		0.133"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 1/2"	D + L		0.238"	L/240	Passed - L/730

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	4-06	1.25D + 1.5L	1.00	1090 lb		23888 lb	14130 lb	Passed - 8%
2	4-00	1.25D + 1.5L	1.00	1719 lb		21840 lb	12919 lb	Passed - 13%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	15'- 2 3/8"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	15'- 2 3/8"	FC6 Floor Decking (Plan View Fill)	Top	7 lb/ft	13 lb/ft	-	-
Uniform	0'	9'- 7 5/8"	FC6 Floor Decking (Plan View Fill)	Top	3 lb/ft	7 lb/ft	-	-
Uniform	9'- 7 5/8"	15'- 2 3/8"	FC6 Floor Decking (Plan View Fill)	Top	9 lb/ft	18 lb/ft	-	-
Uniform	13'- 10 7/8"	15'- 2 3/8"	User Load	Top	60 lb/ft	-	-	-
Point	9'- 7 5/8"	9'- 7 5/8"	B28(i6941)	Back	481 lb	709 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E10(i1256)	367 lb	421 lb	-	-
2	14'- 10 3/8"	15'- 2 3/8"	7(i1264)	590 lb	654 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.


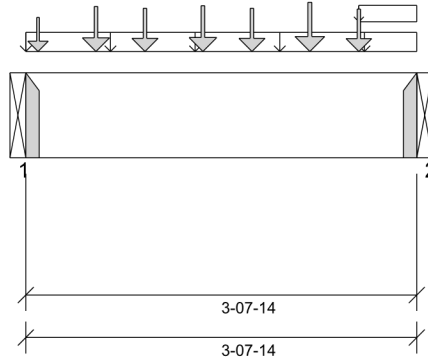
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 3RD FLR FRAMING Label: B28 - i6941 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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'- 5 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 3'- 7 7/8"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 7 7/8"	1.25D + 1.5L	1.00	1564 lb ft	23299 lb ft	Passed - 7%
Factored Shear:	2'- 10 3/8"	1.25D + 1.5L	1.00	1031 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	1.00	1657 lb		5460 lb	-	Passed - 30%
2	1-08	1.25D + 1.5L	1.00	1502 lb		5460 lb	-	Passed - 28%

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'- 7 7/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	3'- 7 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	3'- 1 3/8"	3'- 7 7/8"	FC6 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Point	0'- 7 7/8"	0'- 7 7/8"	J3(i6835)	Front	101 lb	203 lb	-	-
Point	1'- 7 7/8"	1'- 7 7/8"	J3(i6608)	Front	104 lb	208 lb	-	-
Point	2'- 7 7/8"	2'- 7 7/8"	J3(i6607)	Front	116 lb	231 lb	-	-
Point	0'- 1 3/8"	0'- 1 3/8"	J4(i6803)	Back	63 lb	126 lb	-	-
Point	1'- 1 3/8"	1'- 1 3/8"	J4(i6801)	Back	95 lb	190 lb	-	-
Point	2'- 1 3/8"	2'- 1 3/8"	J4(i6605)	Back	95 lb	190 lb	-	-
Point	3'- 1 3/8"	3'- 1 3/8"	J4(i6850)	Back	92 lb	185 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B27(i6827)	481 lb	709 lb	-	-
2	3'- 7 7/8"	3'- 7 7/8"	STL BM(i3125)	441 lb	628 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 # TF23051723


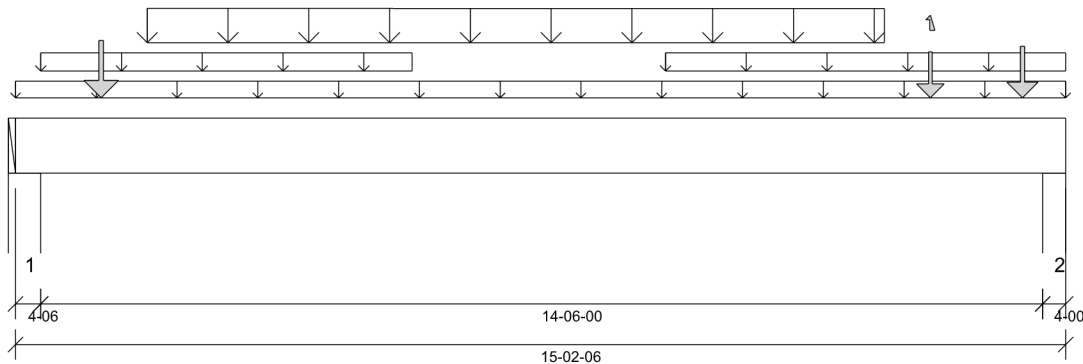
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 3RD FLR FRAMING Label: B30 - i6648 Type: Beam	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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 Wall @ 0'- 3 3/8"
- 615 psi Wall @ 14'- 11 3/8"

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.



STRUCTURAL COMPONENT ONLY
 DWG # TF23051724

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 10 7/8"	1.25D + 1.5L	1.00	16818 lb ft	34949 lb ft	Passed - 48%
Factored Shear:	14'- 7/8"	1.25D + 1.5L	1.00	4428 lb	16578 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	7'- 7 3/16"	L		0.378"	L/360	Passed - L/460
Total Load (TL) Pos. Defl.:	7'- 7 1/4"	D + L		0.640"	L/240	Passed - L/271
Permanent Deflection:	7'- 7 1/4"			-	L/360	Passed - L/685

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	4-06	1.25D + 1.5L	1.00	4518 lb		23887 lb	14130 lb	Passed - 32%
2	4-00	1.25D + 1.5L	1.00	4578 lb		21840 lb	12919 lb	Passed - 35%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	15'- 2 3/8"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	15'- 2 3/8"	FC6 Floor Decking (Plan View Fill)	Top	10 lb/ft	19 lb/ft	-	-
Uniform	0'- 4 3/8"	5'- 8 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	9'- 4 7/8"	15'- 2 3/8"	User Load	Top	60 lb/ft	-	-	-
Tapered	1'- 10 7/8"	12'- 6 7/8"	Smoothed Load	Front	126 To 125 lb/ft	251 To 249 lb/ft	-	-
Point	1'- 2 7/8"	1'- 2 7/8"	J2(i6580)	Front	154 lb	307 lb	-	-
Point	13'- 2 7/8"	13'- 2 7/8"	J2(i6660)	Front	112 lb	224/0 lb	-	-
Point	14'- 6 7/8"	14'- 6 7/8"	J3(i6686)	Front	133 lb	265 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E10(i1256)	1367 lb	1868 lb	-	-
2	14'- 10 3/8"	15'- 2 3/8"	8(i1265)	1399 lb	1891 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


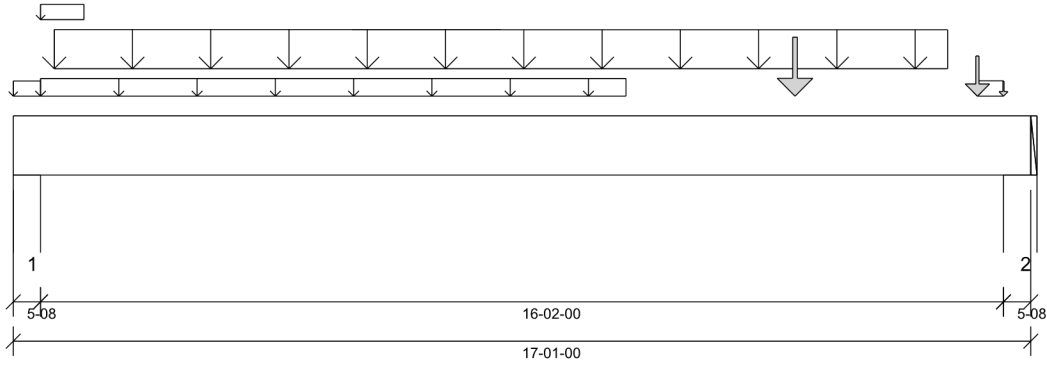
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 3RD FLR FRAMING Label: B31 - i6458 Type: Beam	3 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:59



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:

- 1334 psi Wall @ 0'- 4 1/2"
- 1334 psi Wall @ 16'- 8 1/2"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 10 13/16"	1.25D + 1.5L	1.00	27684 lb ft	53017 lb ft	Passed - 52%
Factored Shear:	15'- 7 5/8"	1.25D + 1.5L	1.00	6824 lb	20723 lb	Passed - 33%
Live Load (LL) Pos. Defl.:	8'- 7 1/2"	L		0.404"	L/360	Passed - L/479
Total Load (TL) Pos. Defl.:	8'- 7 1/16"	D + L		0.672"	L/240	Passed - L/288
Permanent Deflection:	8'- 6 3/8"			-	L/360	Passed - L/747

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	6456 lb		30030 lb	38531 lb	Passed - 21%
2	5-08	1.25D + 1.5L	1.00	6871 lb		30030 lb	38531 lb	Passed - 23%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 1"	Self Weight	Top	18 lb/ft	-	-	-
Uniform	0'	0'- 5 1/2"	FC6 Floor Decking (Plan View Fill)	Top	3 lb/ft	7 lb/ft	-	-
Uniform	0'- 5 1/2"	10'- 3 7/16"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 5 1/2"	1'- 2 1/4"	FC6 Floor Decking (Plan View Fill)	Top	4 lb/ft	9 lb/ft	-	-
Uniform	16'- 2 1/4"	16'- 7 1/2"	FC6 Floor Decking (Plan View Fill)	Top	4 lb/ft	9 lb/ft	-	-
Tapered	0'- 8 1/4"	15'- 8 1/4"	Smoothed Load	Back	166 To 164 lb/ft	331 To 327 lb/ft	-	-
Point	13'- 1 1/2"	13'- 1 1/2"	User Load	Front	250 lb	500 lb	-	-
Point	16'- 2 1/4"	16'- 2 1/4"	J1(i6679)	Back	144 lb	287 lb	-	-
Point	16'- 7 1/2"	16'- 7 1/2"	FC6 Floor Decking (Plan View Fill)	Top	2 lb	3 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	8(i1265)	1914 lb	2701 lb	-	-
2	16'- 7 1/2"	17'- 1"	7(i1264)	1856 lb	3042 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 # TF23051725


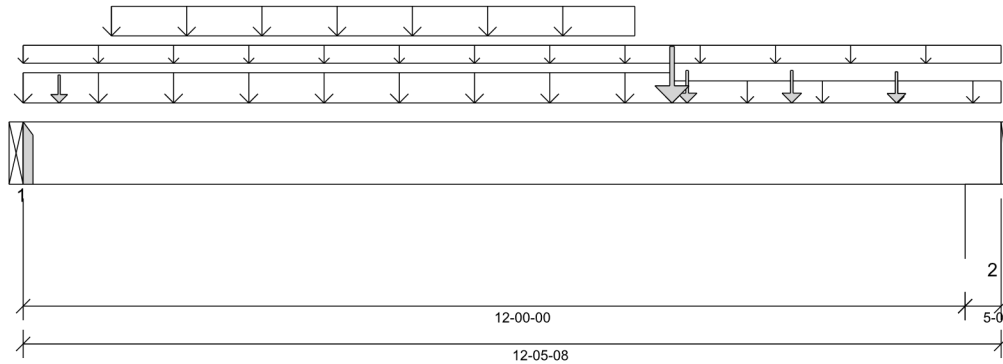
	BUILDER: BAYVIEW WELLINGTON	Job Name: RL-6E	3 Ply Member	Status:
	SITE: ALCONA SHORES	Level: 3RD FLR FRAMING	1 3/4" x 9 1/2" (2.0E 3100)	Design
	MODEL: RL-6E	Label: B33 - i6639	WestFraser LVL	Passed
	CITY: INNISFIL	Type: Beam		

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 12:59



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 Beam @ 0'
- 615 psi Wall @ 12'- 1"

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 3 5/8"	1.25D + 1.5S + L	1.00	19418 lb ft	34949 lb ft	Passed - 56%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5S + L	1.00	5598 lb	16578 lb	Passed - 34%
Live Load (LL) Pos. Defl.:	6'- 1 5/16"	S + 0.5L		0.279"	L/360	Passed - L/516
Total Load (TL) Pos. Defl.:	6'- 1 1/16"	D + S + 0.5L		0.476"	L/240	Passed - L/302
Permanent Deflection:	6'- 3/4"			-	L/360	Passed - L/754

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 + 1.5S + L	1.00	6081 lb		8190 lb	-	Passed - 74%
2	5-08	1.25D + 1.5S + L	1.00	6009 lb		30030 lb	17764 lb	Passed - 34%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories		
			Top	Face	Member			
1	HGUS5.50/10		-	-	-	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'	12'- 5 1/2"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	12'- 5 1/2"	E34(i3643)	Top	81 lb/ft	-	-	-
Uniform	0'	8'- 3 3/16"	E34(i3643)	Top	81 lb/ft	-	260 lb/ft	-
Uniform	1'- 1 1/2"	7'- 9 1/2"	Smoothed Load	Front	109 lb/ft	217 lb/ft	-	-
Uniform	8'- 3 3/16"	12'- 5 1/2"	E34(i3643)	Top	36 lb/ft	-	132 lb/ft	-
Point	0'- 5 1/2"	0'- 5 1/2"	J3(i6645)	Front	109 lb	218 lb	-	-
Point	8'- 5 1/2"	8'- 5 1/2"	J3(i6573)	Front	145 lb	289 lb	-	-
Point	9'- 9 1/2"	9'- 9 1/2"	J3(i6572)	Front	145 lb	289 lb	-	-
Point	11'- 1 1/2"	11'- 1 1/2"	J3(i6662)	Front	134 lb	268 lb	-	-
Point	8'- 3 3/16"	8'- 3 3/16"	E34(i3643)	Top	227 lb	-	777 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	STL BM(i3125)	1754 lb	1289 lb	1738 lb	-
2	12'	12'- 5 1/2"	E11(i1258)	1736 lb	1220 lb	1741 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 WELLINGTON	Job Name: RL-6E	3 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
	SITE: ALCONA SHORES	Level: 3RD FLR FRAMING		
	MODEL: RL-6E	Label: B33 - i6639		
	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.




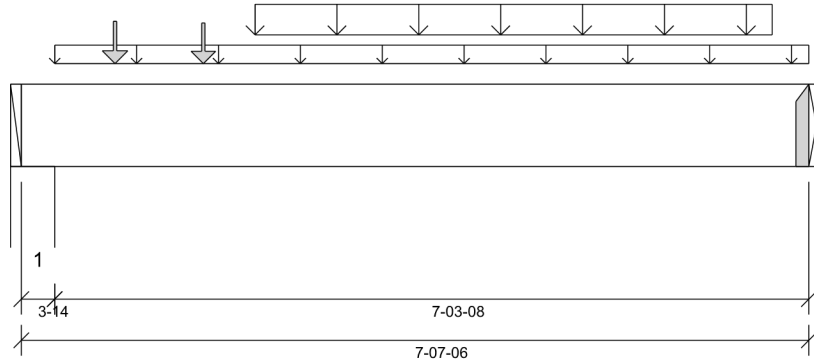
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B16 - i4814 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:00



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 7/8"
- 615 psi Beam @ 7'- 7 3/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 9 1/8"	1.25D + 1.5L	1.00	3421 lb ft	11650 lb ft	Passed - 29%
Factored Shear:	6'- 9 7/8"	1.25D + 1.5L	1.00	1628 lb	5526 lb	Passed - 29%
Live Load (LL) Pos. Defl.:	3'- 11 1/16"	L		0.054"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 1/16"	D + L		0.099"	L/240	Passed - L/886

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	3-14	1.25D + 1.5L	1.00	1782 lb		7052 lb	4172 lb	Passed - 43%
2	1-08	1.25D + 1.5L	1.00	1692 lb		2730 lb	-	Passed - 62%

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'	7'- 7 3/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 3 7/8"	7'- 7 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	2'- 3 1/8"	7'- 3 1/8"	Smoothed Load	Front	98 lb/ft	196 lb/ft	-	-
Point	0'- 10 7/8"	0'- 10 7/8"	J3(i4659)	Front	97 lb	194 lb	-	-
Point	1'- 9 1/8"	1'- 9 1/8"	J3(i4793)	Front	91 lb	182 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 7/8"	W24(i4560)	585 lb	700 lb	-	-
2	7'- 7 3/8"	7'- 7 3/8"	B17(i4813)	566 lb	656 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 # TF23051727

Town of Innisfil Certified Model


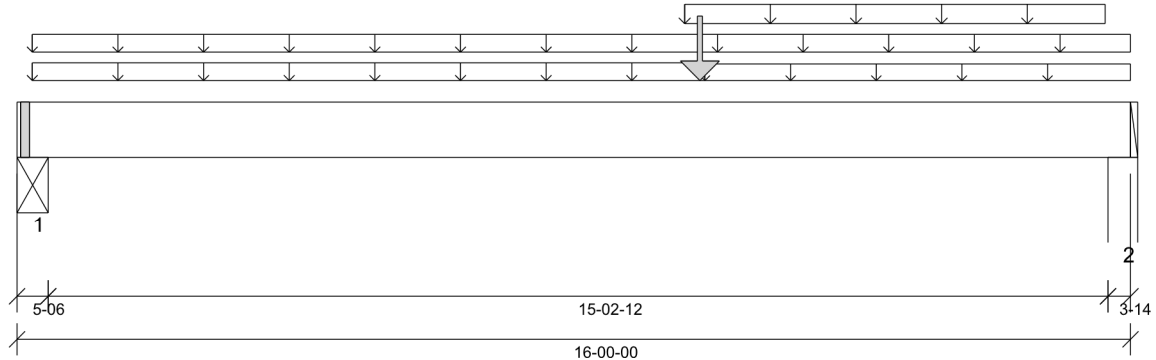
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B17 - i4813 Type: Beam	2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:00



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: 9'- 3 1/2"

Factored Resistance of Support Material:

- 534 psi Beam @ 0'- 4 3/8"
- 615 psi Wall @ 15'- 9 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 # TF23051728

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	9'- 9 3/4"	1.25D + 1.5L	0.97	9446 lb ft	22704 lb ft	Passed - 42%
Factored Shear:	14'- 10 5/8"	1.25D + 1.5L	0.97	1886 lb	10770 lb	Passed - 18%
Live Load (LL) Pos. Defl.:	8'- 4 5/16"	L		0.258"	L/360	Passed - L/709
Total Load (TL) Pos. Defl.:	8'- 5 1/16"	D + L		0.525"	L/240	Passed - L/347
Permanent Deflection:	8'- 5 13/16"			-	L/360	Passed - L/703

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	5-06	1.25D + 1.5L	0.97	1474 lb		19065 lb	9789 lb	Passed - 15%
2	3-14	1.25D + 1.5L	0.97	2022 lb		13744 lb	8130 lb	Passed - 25%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 2 5/8"	16'	FC4 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-
Uniform	0'- 2 5/8"	9'- 10 5/8"	FC4 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-
Uniform	9'- 7 1/8"	15'- 7 5/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	9'- 10 5/8"	16'	FC4 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Point	9'- 9 3/4"	9'- 9 3/4"	B16(i4814)	Back	566 lb	656 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 3/8"	STL BM(i13)	509 lb	546 lb	-	-
2	15'- 8 1/8"	16'	W18(i65)	844 lb	657 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


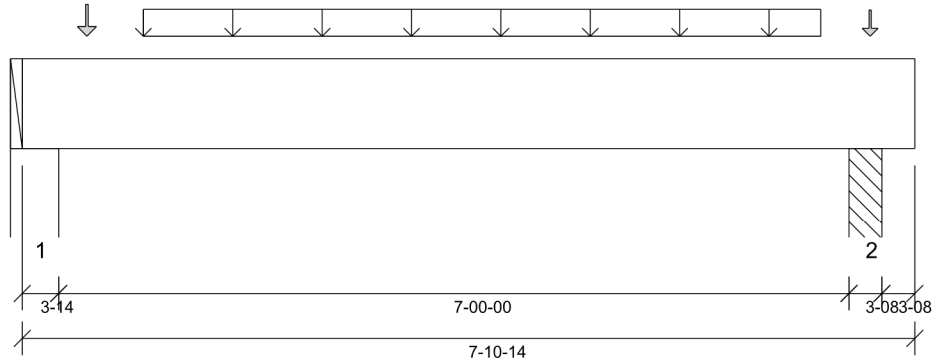
	BUILDER: BAYVIEW WELLINGTON SITE: ALCONA SHORES MODEL: RL-6E CITY: INNISFIL	Job Name: RL-6E Level: 1ST FLR FRAMING Label: B18L - i4620 Type: Beam	1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	Status: Design Passed
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Illustration Not to Scale. 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 12:00



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'- 3 1/2" Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 7/8"
- 615 psi Column @ 7'- 5 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 6 7/8"	1.25D + 1.5L	1.00	1707 lb ft	11650 lb ft	Passed - 15%
Factored Shear:	1'- 1 3/8"	1.25D + 1.5L	1.00	937 lb	5526 lb	Passed - 17%
Live Load (LL) Pos. Defl.:	3'- 10 1/4"	L		0.030"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 10 1/4"	D + L		0.046"	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	3-14	1.25D + 1.5L	1.00	944 lb		7052 lb	4172 lb	Passed - 23%
2	3-08	1.25D + 1.5L	1.00	984 lb		6370 lb	3767 lb	Passed - 26%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 10 7/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	1'- 7/8"	7'- 7/8"	Smoothed Load	Back	60 lb/ft	120 lb/ft	-	-
Point	0'- 6 7/8"	0'- 6 7/8"	J5(i4618)	Back	50 lb	100 lb	-	-
Point	7'- 6 1/8"	7'- 6 1/8"	J5(i4615)	Back	31 lb	63 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 7/8"	W22(i4085)	235 lb	434 lb	-	-
2	7'- 3 7/8"	7'- 7 3/8"	PBO14(i4079)	244 lb	452 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.
- The deflection at the cantilever for either live and/or total loads is less than 3/8" and therefore has been excluded from the deflection ratio considerations.
- 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 # TF23051729

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:

- 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 – 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:

- 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 – 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:

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

NORDIC

STRUCTURES

Maximum Floor Spans – M4.1

Design Criteria

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

Maximum Floor Spans

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

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
11-7/8"	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-10"	20'-4"	19'-0"	17'-0"	22'-5"	20'-6"	19'-0"	17'-0"
	NI-60	22'-1"	20'-7"	19'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
14"	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

Notes:

- 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

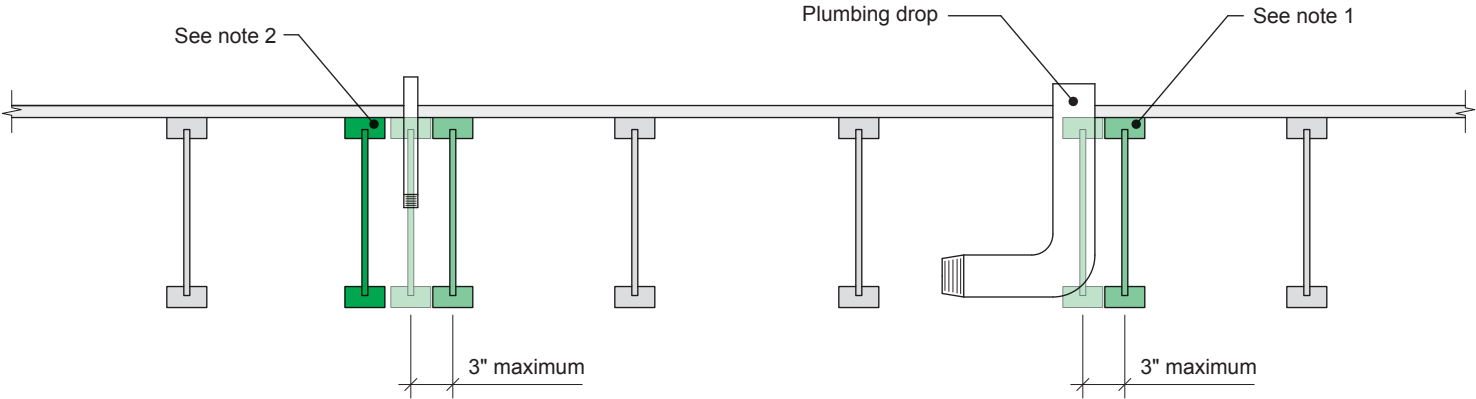
Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9'-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"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

- 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.

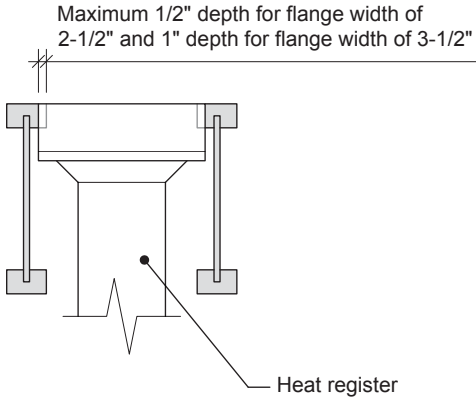
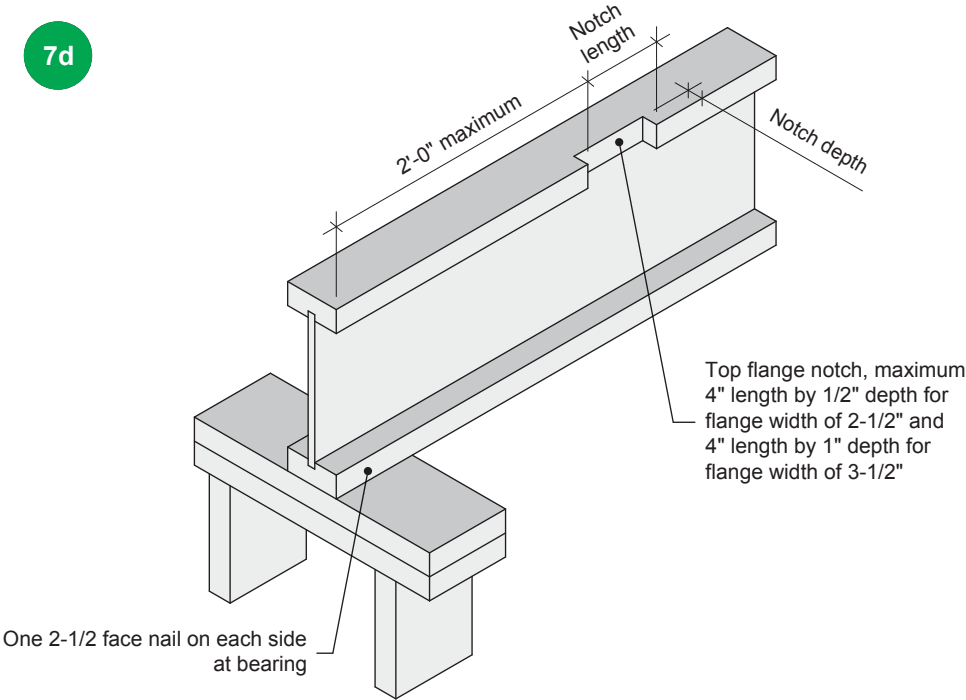
7c



- 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.