

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	34
J2DJ	14-00-00	9 1/2" NI-40x	2	8
J3	12-00-00	9 1/2" NI-40x	1	10
J4	8-00-00	9 1/2" NI-40x	1	9
J5	4-00-00	9 1/2" NI-40x	1	2
J6	2-00-00	9 1/2" NI-40x	1	4
J7	18-00-00	9 1/2" NI-80	1	22
B1	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B7	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2AL	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B3AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B10	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B20AL	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B8	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
17	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
9	H1	IUS2.56/9.5
7	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4C	HUC410
1	H4	HGUS410



FROM PLAN DATED: OCT 2023  
BUILDER: BAYVIEW WELLINGTON  
SITE: ALCONA SHORES  
MODEL: S45-4C  
ELEVATION: A  
LOT:  
CITY: INNISFIL  
SALESMAN: WILL GARCIA  
DESIGNER: AJ  
REVISION: lbv / CH

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.

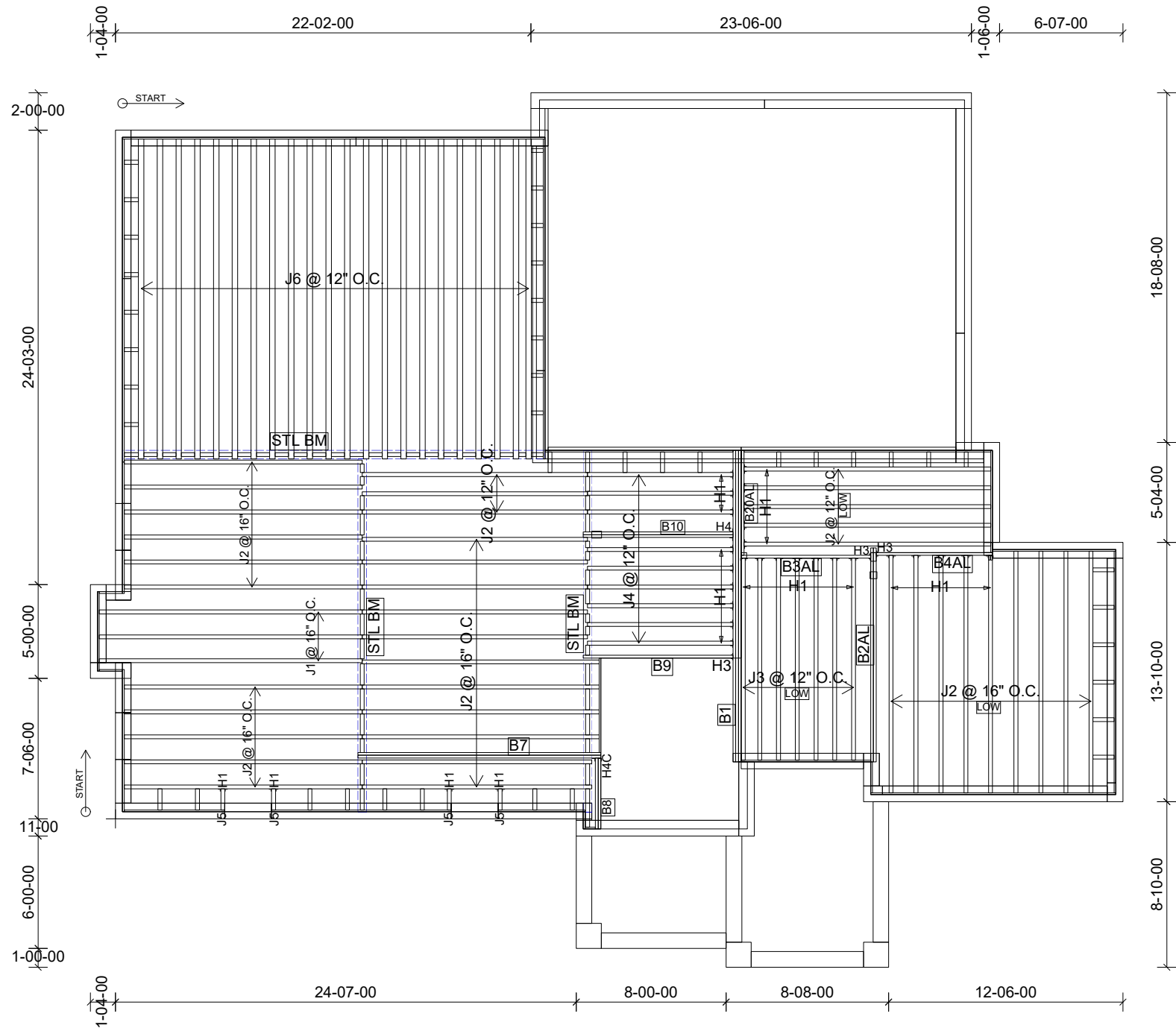
**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480

**SUBFLOOR:** 5/8" GLUED AND NAILED

DATE: 12/15/23

1st FLOOR FRAMING



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	39
J3	12-00-00	9 1/2" NI-40x	1	7
J4	8-00-00	9 1/2" NI-40x	1	9
J5	2-00-00	9 1/2" NI-40x	1	4
J6	18-00-00	9 1/2" NI-80	1	22
B1	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B7	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2AL	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B3AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B10	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B20AL	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B8	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
17	H1	IUS2.56/9.5
9	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4C	HUC410
1	H4	HGUS410

DATE: 12/15/23

## 1st FLOOR FRAMING DECK CONDITION

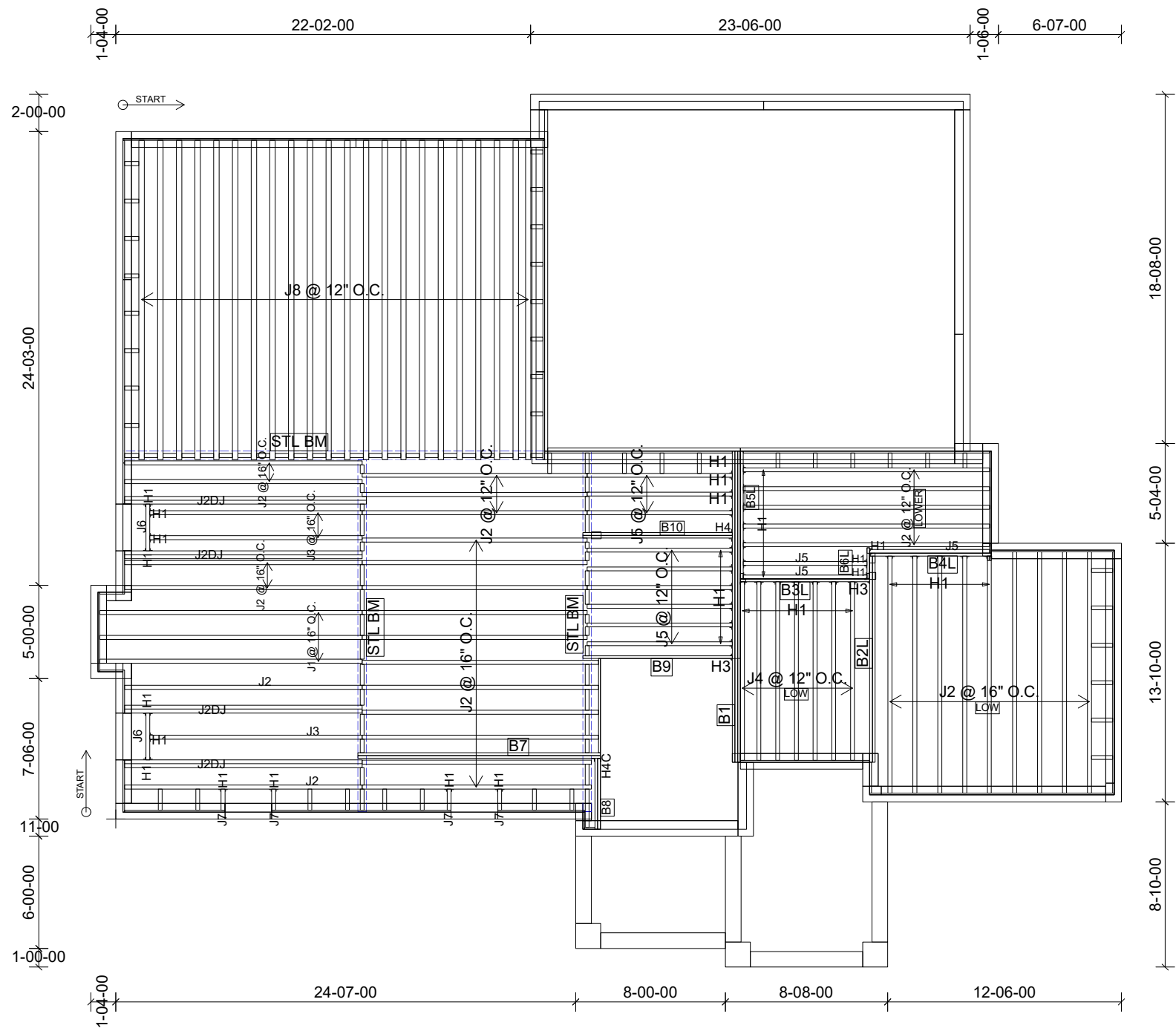


FROM PLAN DATED: OCT 2023  
BUILDER: BAYVIEW WELLINGTON  
SITE: ALCONA SHORES  
MODEL: S45-4C  
ELEVATION: A  
LOT:  
CITY: INNISFIL  
SALESMAN: WILL GARCIA  
DESIGNER: AJ  
REVISION: lbv / CH

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. 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.

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**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>  
  
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	3
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J2DJ	14-00-00	9 1/2" NI-40x	2	8
J3	12-00-00	9 1/2" NI-40x	1	3
J4	10-00-00	9 1/2" NI-40x	1	7
J5	8-00-00	9 1/2" NI-40x	1	12
J6	4-00-00	9 1/2" NI-40x	1	2
J7	2-00-00	9 1/2" NI-40x	1	4
J8	18-00-00	9 1/2" NI-80	1	22
B1	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B7	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2L	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B3L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B10	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B8	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B6L	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
22	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
9	H1	IUS2.56/9.5
7	H1	IUS2.56/9.5
1	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4C	HUC410
1	H4	HGUS410

DATE: 12/18/23

1st FLOOR FRAMING  
SUNKEN MUDROOM



FROM PLAN DATED: OCT 2023  
BUILDER: BAYVIEW WELLINGTON  
SITE: ALCONA SHORES  
MODEL: S45-4C  
ELEVATION: A  
LOT:  
CITY: INNISFIL  
SALESMAN: WILL GARCIA  
DESIGNER: AJ  
REVISION: lbv / CH

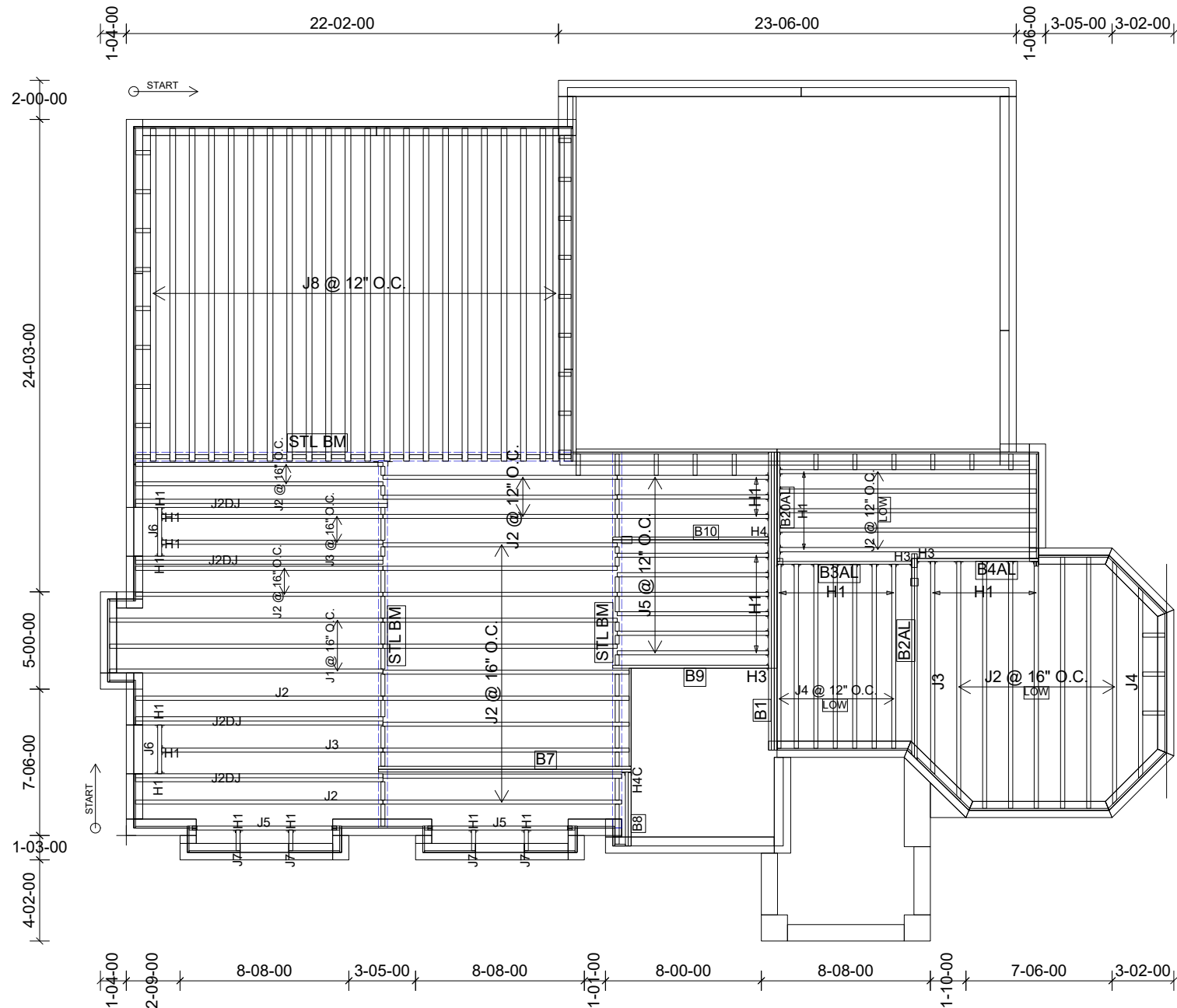
REFER TO THE **NORDIC INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION.  
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**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

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	3
J2	14-00-00	9 1/2" NI-40x	1	32
J2DJ	14-00-00	9 1/2" NI-40x	2	8
J3	12-00-00	9 1/2" NI-40x	1	4
J4	10-00-00	9 1/2" NI-40x	1	8
J5	8-00-00	9 1/2" NI-40x	1	11
J6	4-00-00	9 1/2" NI-40x	1	2
J7	2-00-00	9 1/2" NI-40x	1	4
J8	18-00-00	9 1/2" NI-80	1	22
B1	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B7	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2AL	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B3AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B10	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B20AL	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B8	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2

Connector Summary		
Qty	Manuf	Product
17	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
9	H1	IUS2.56/9.5
7	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4C	HUC410
1	H4	HGUS410



**FROM PLAN DATED:** OCT 2023  
**BUILDER:** BAYVIEW WELLINGTON  
**SITE:** ALCONA SHORES  
**MODEL:** S45-4C  
**ELEVATION:** B  
**LOT:**  
**CITY:** INNISFIL  
**SALESMAN:** WILL GARCIA  
**DESIGNER:** AJ  
**REVISION:** lbv / CH

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/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

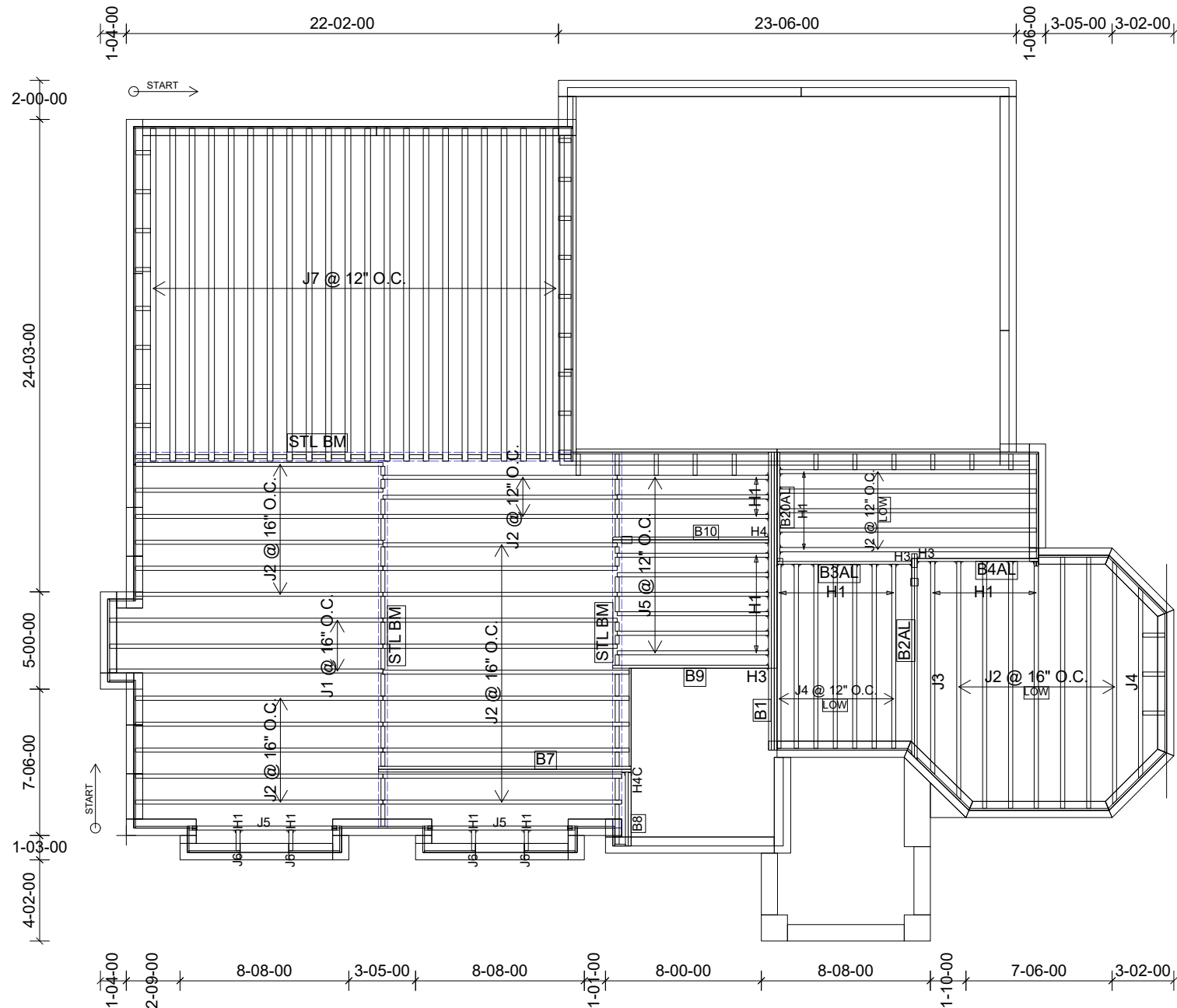
JOIST LL DEFLECTION LIMIT:  $L/480$

**SUBFLOOR: 5/8" GLUED AND NAILED**

**DATE:** 12/18/23

# 1st FLOOR FRAMING





Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	3
J2	14-00-00	9 1/2" NI-40x	1	37
J3	12-00-00	9 1/2" NI-40x	1	1
J4	10-00-00	9 1/2" NI-40x	1	8
J5	8-00-00	9 1/2" NI-40x	1	11
J6	2-00-00	9 1/2" NI-40x	1	4
J7	18-00-00	9 1/2" NI-80	1	22
B1	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B7	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B2AL	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B3AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4AL	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B10	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B20AL	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
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Qty	Manuf	Product
17	H1	IUS2.56/9.5
9	H1	IUS2.56/9.5
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2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4C	HUC410
1	H4	HGUS410

**DATE:** 12/18/23

# 1st FLOOR FRAMING DECK CONDITION



**TAMARACK**  
LUMBER INC  
ALPHA LUMBER GROUP

**FROM PLAN DATED:** OCT 2023  
**BUILDER:** BAYVIEW WELLINGTON  
**SITE:** ALCONA SHORES  
**MODEL:** S45-4C  
**ELEVATION:** B  
**LOT:**  
**CITY:** INNISFIL  
**SALESMAN:** WILL GARCIA  
**DESIGNER:** AJ  
**REVISION:** lbv / CH

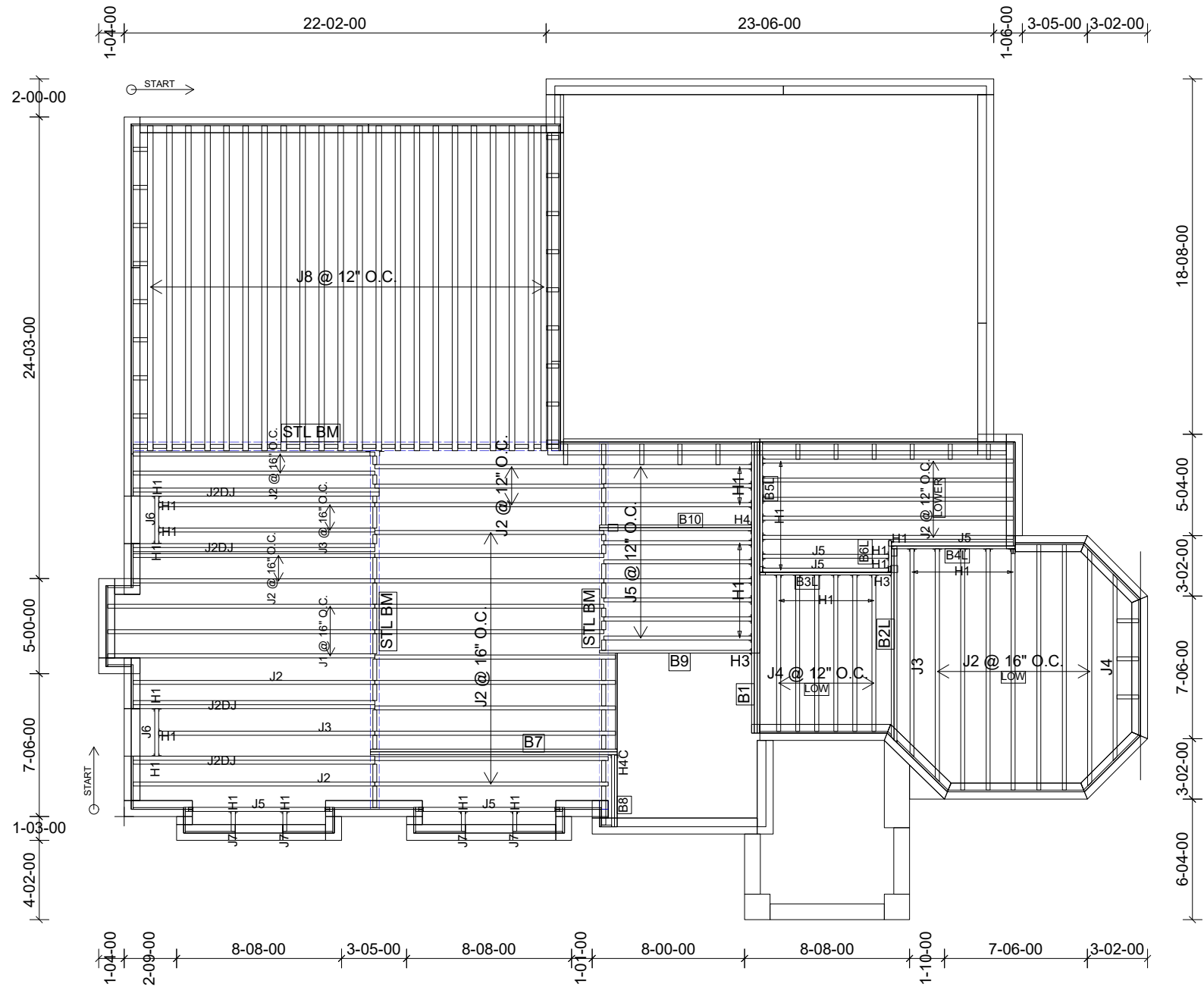
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**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
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TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT:  $L/480$

**SUBFLOOR: 5/8" GLUED AND NAILED**



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B2L	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B3L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
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B6L	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
21	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
9	H1	IUS2.56/9.5
7	H1	IUS2.56/9.5
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1	H3	HUS1.81/10
1	H4C	HUC410
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DATE: 12/18/23

1st FLOOR FRAMING  
SUNKEN MUDROOM



FROM PLAN DATED: OCT 2023  
BUILDER: BAYVIEW WELLINGTON  
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MODEL: S45-4C  
ELEVATION: B  
LOT:  
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SALESMAN: WILL GARCIA  
DESIGNER: AJ  
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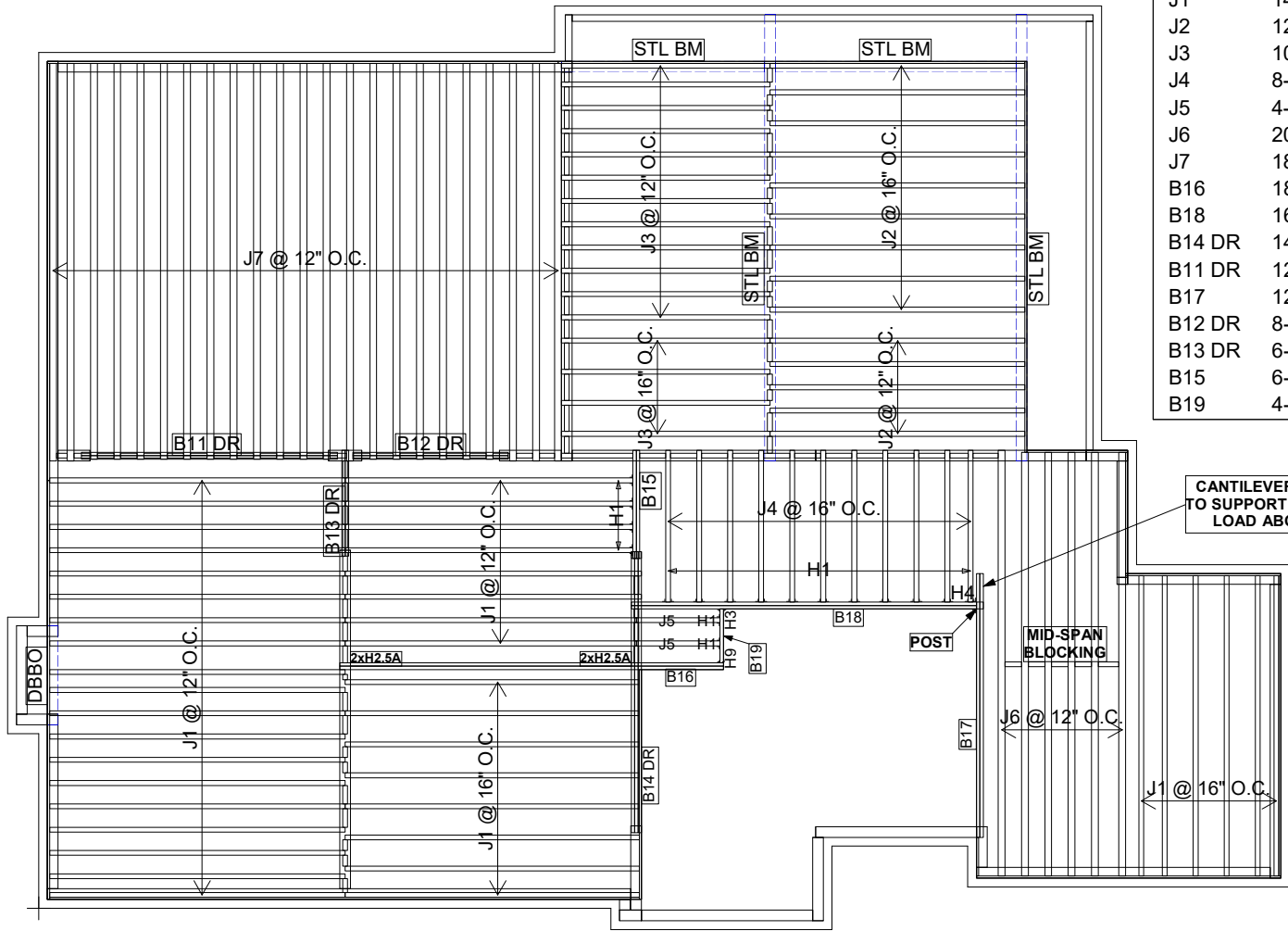
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**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	41
J2	12-00-00	9 1/2" NI-40x	1	14
J3	10-00-00	9 1/2" NI-40x	1	16
J4	8-00-00	9 1/2" NI-40x	1	11
J5	4-00-00	9 1/2" NI-40x	1	2
J6	20-00-00	9 1/2" NI-80	1	6
J7	18-00-00	9 1/2" NI-80	1	23
B16	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B18	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B14 DR	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B11 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B17	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B12 DR	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B13 DR	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B15	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B19	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
2	H1	IUS2.56/9.5
15	H1	IUS2.56/9.5
1	H3	HUS1.81/10
1	H4	HGUS410
1	H9	LS90
4		H2.5A*



FROM PLAN DATED: OCT 2023  
BUILDER: BAYVIEW WELLINGTON  
SITE: ALCONA SHORES  
MODEL: S45-4C  
ELEVATION: A  
LOT:  
CITY: INNISFIL  
SALESMAN: WILL GARCIA  
DESIGNER: AJ  
REVISION: lbv / CH

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.

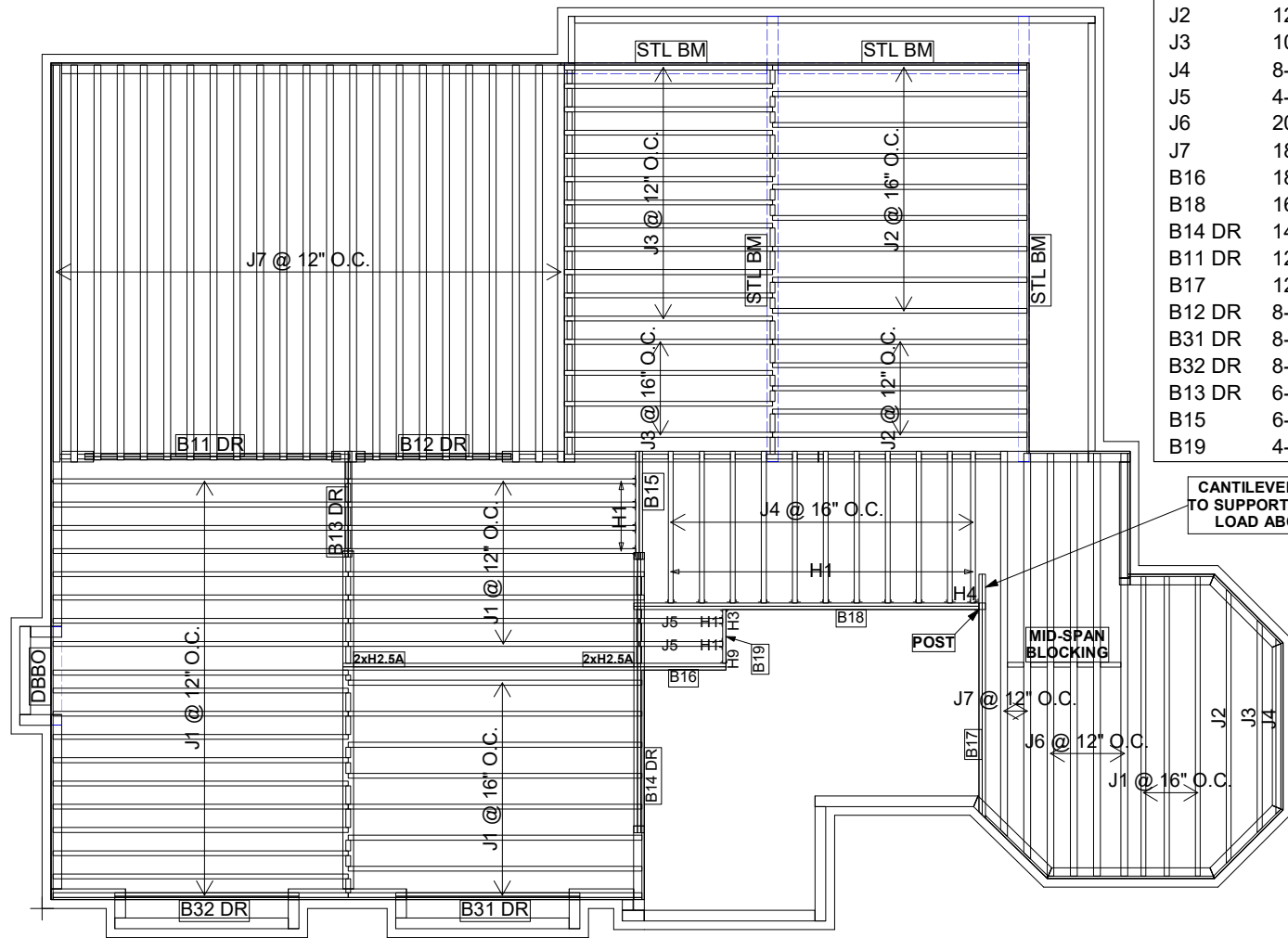
**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

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

DATE: 12/18/23

2nd FLOOR FRAMING





Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	38
J2	12-00-00	9 1/2" NI-40x	1	15
J3	10-00-00	9 1/2" NI-40x	1	17
J4	8-00-00	9 1/2" NI-40x	1	12
J5	4-00-00	9 1/2" NI-40x	1	2
J6	20-00-00	9 1/2" NI-80	1	4
J7	18-00-00	9 1/2" NI-80	1	25
B16	18-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B18	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B14 DR	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B11 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B17	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B12 DR	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B31 DR	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B32 DR	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B13 DR	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B15	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B19	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
2	H1	IUS2.56/9.5
15	H1	IUS2.56/9.5
1	H3	HUS1.81/10
1	H4	HGUS410
1	H9	LS90
4		H2.5A*



FROM PLAN DATED: OCT 2023  
BUILDER: BAYVIEW WELLINGTON  
SITE: ALCONA SHORES  
MODEL: S45-4C  
ELEVATION: B  
LOT:  
CITY: INNISFIL  
SALESMAN: WILL GARCIA  
DESIGNER: AJ  
REVISION: lbv / CH

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/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 12/18/23

2nd FLOOR FRAMING





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B1 - i2977**  
Type: **Beam**

**3 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

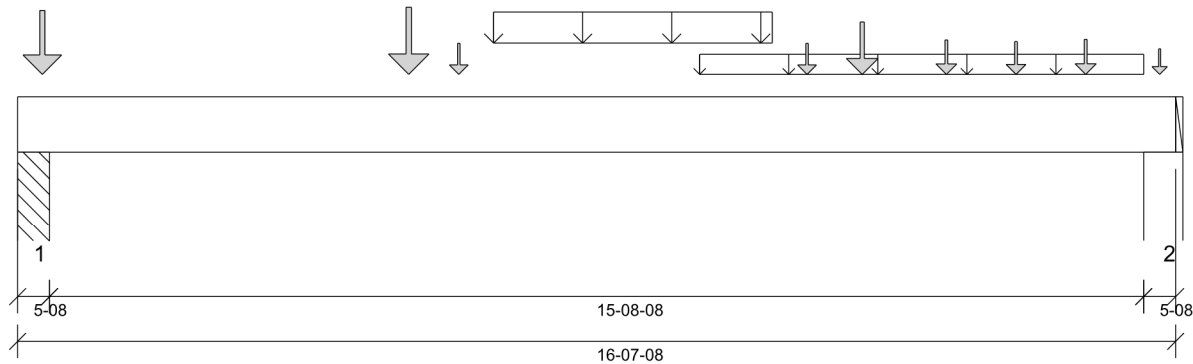
Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26

12/15/2023 16:39



### 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'- 6 1/2" Bottom: 5'- 6 1/2"

#### Factored Resistance of Support Material:

- 615 psi Column @ 0'- 4 1/2"
- 615 psi Wall @ 16'- 3"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" 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'- 5 3/16"	1.25D + 1.5L	1.00	13788 lb ft	34949 lb ft	Passed - 39%
Factored Shear:	15'- 4 1/2"	1.25D + 1.5L	1.00	3548 lb	16578 lb	Passed - 21%
Live Load (LL) Pos. Defl.:	8'- 5 1/16"	L		0.352"	L/360	Passed - L/535
Total Load (TL) Pos. Defl.:	8'- 5 11/16"	D + L		0.611"	L/240	Passed - L/308
Permanent Deflection:	8'- 6 9/16"			-	L/360	Passed - L/749

### 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	3388 lb		30030 lb	17758 lb	Passed - 19%
2	5'-08"	1.25D + 1.5L	1.00	3821 lb		30030 lb	17764 lb	Passed - 22%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 7 1/2"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	6'- 10"	10'- 10"	Smoothed Load	Back	85 lb/ft	170 lb/ft	-	-
Uniform	9'- 9 1/2"	16'- 2"	User Load	Top	60 lb/ft	-	-	-
Point	5'- 7 3/8"	5'- 7 3/8"	B9(i2951)	Back	279 lb	521 lb	-	-
Point	6'- 4"	6'- 4"	J4(i2910)	Back	76 lb	152 lb	-	-
Point	11'- 4"	11'- 4"	J4(i3185)	Back	76 lb	152 lb	-	-
Point	12'- 1 1/2"	12'- 1 1/2"	B10(i2857)	Back	239 lb	327 lb	-	-
Point	13'- 4"	13'- 4"	J4(i2927)	Back	94 lb	187 lb	-	-
Point	14'- 4"	14'- 4"	J4(i2876)	Back	85 lb	170 lb	-	-
Point	15'- 4"	15'- 4"	J4(i2816)	Back	97 lb	194 lb	-	-
Point	0'- 4 1/4"	0'- 4 1/4"	User Load	Top	250 lb	500 lb	-	-
Point	16'- 4 3/4"	16'- 4 3/4"	E26(i1033)	Top	76 lb	64 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	PB02(i67)	959 lb	1460 lb	-	-
2	16'- 2"	16'- 7 1/2"	W38(i58)	1272 lb	1487 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

### PLY TO PLY CONNECTION



STRUCTURAL COMPONENT ONLY  
DWG # TF23120960 PG 1/2





BUILDER:	<b>BAYVIEW WELLINGTON</b>	Job Name:	<b>S45-4C</b>	<b>3 Ply Member</b>	Status:
SITE:	<b>ALCONA SHORES</b>	Level:	<b>1ST FLR FRAMING</b>	<b>1 3/4" x 9 1/2" (2.0E 3100)</b>	<b>Design</b>
MODEL:	<b>S45-4C</b>	Label:	<b>B1 - i2977</b>	<b>WestFraser LVL</b>	<b>Passed</b>
CITY:	<b>INNISFIL</b>	Type:	<b>Beam</b>		

#### 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: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B2AL - i2830**  
Type: **Beam**

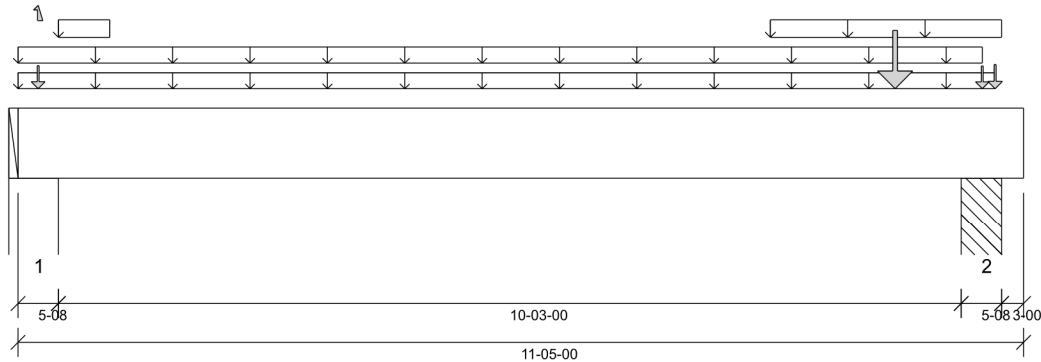
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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: 10'- 9 3/8"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 10'- 11 1/4"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" O/C**

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

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	9'- 11 1/2"	1.25D + 1.5L + S	1.00	6899 lb ft	23299 lb ft	Passed - 30%
Factored Neg. Moment:	10'- 11 1/4"	1.25D + 1.5L + S	1.00	283 lb ft	20786 lb ft	Passed - 1%
Factored Shear:	9'- 11"	1.25D + 1.5L + S	1.00	6853 lb	11052 lb	Passed - 62%
Live Load (LL) Pos. Defl.:	6'- 3 1/16"	L + 0.5S		0.087"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 3 5/16"	D + L + 0.5S		0.165"	L/240	Passed - L/746

### 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	2709 lb		20020 lb	11843 lb	Passed - 23%
2	5-08	1.25D + 1.5L + S	1.00	10596 lb		20020 lb	11839 lb	Passed - 90%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 5"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	11'- 1 1/8"	FC2 Floor Decking (Plan View Fill)	Top	9 lb/ft	19 lb/ft	-	-
Uniform	-0'	10'- 11 3/8"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	21 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	8'- 6 1/2"	11'- 2"	User Load	Top	60 lb/ft	-	-	-
Point	11'- 1 1/8"	11'- 1 1/8"	B4AL(i3156)	Front	531 lb	686 lb	-	-
Point	10'- 11 3/8"	10'- 11 3/8"	B3AL(i2835)	Back	353 lb	675 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E10(i896)	Top	555 lb	515/-59 lb	-50 lb	-
Point	9'- 11 1/2"	9'- 11 1/2"	PBO9(i1227)	Top	2475 lb	2528 lb	544 lb	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	W15(i21)	1022 lb	994/-61 lb	-1 lb	-
2	10'- 8 1/2"	11'- 2"	PBO1(i64)	3413 lb	3852 lb	495 lb	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- The deflection at the cantilever for either live and/or total loads is less than 1/8" 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.

### 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 # TF23120961



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B3AL - i2835**  
Type: **Beam**

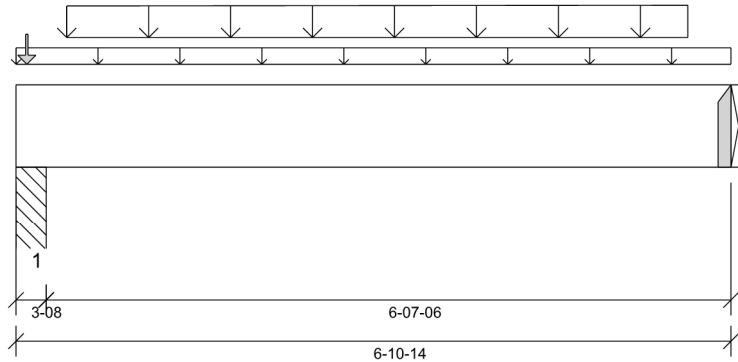
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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 3/4"

#### Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Beam @ 6'- 10 7/8"

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 11 7/8"	1.25D + 1.5L	1.00	2707 lb ft	11650 lb ft	Passed - 23%
Factored Shear:	6'- 1 3/8"	1.25D + 1.5L	1.00	1426 lb	5526 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	3'- 6 11/16"	L		0.042"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 6 11/16"	D + L		0.064"	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	1735 lb		6370 lb	3767 lb	Passed - 46%
2	1-08	1.25D + 1.5L	1.00	1457 lb		2730 lb	-	Passed - 53%

### CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Top	Face	Member	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
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'	6'- 10 7/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	6'- 10 7/8"	FC2 Floor Decking (Plan View Fill)	Top	7 lb/ft	14 lb/ft	-	-
Tapered	0'- 5 7/8"	6'- 5 7/8"	Smoothed Load	Front	104 To 109 lb/ft	210 To 218 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J3(i3081)	Front	53 lb	105 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO3(i68)	421 lb	808 lb	-	-
2	6'- 10 7/8"	6'- 10 7/8"	B2AL(i2830)	353 lb	675 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120962





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B4AL - i3156**  
Type: **Beam**

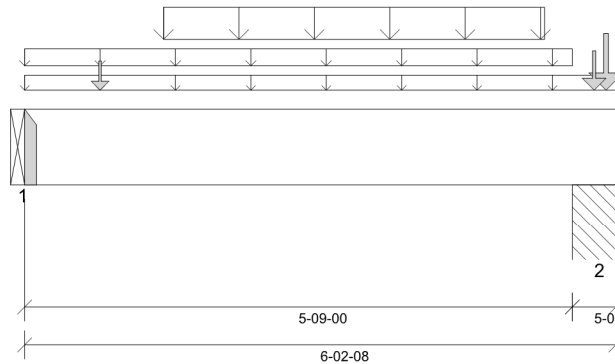
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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 Column @ 5'- 10"

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 7 3/4"	1.25D + 1.5L	1.00	2349 lb ft	11650 lb ft	Passed - 20%
Factored Neg. Moment:	5'- 10"	1.25D + 1.5L + S	1.00	609 lb ft	11650 lb ft	Passed - 5%
Factored Shear:	4'- 11 1/2"	1.25D + 1.5L + S	1.00	1657 lb	5526 lb	Passed - 30%
Live Load (LL) Pos. Defl.:	2'- 10 1/4"	L		0.024"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 10 5/16"	D + L		0.042"	L/240	Passed - L/999

### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	1592 lb		2730 lb	-	Passed - 58%
2	5-08	1.25D + 1.5L + S	1.00	4452 lb		10010 lb	5919 lb	Passed - 75%

### CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Top	Face	Member	Nailing Requirements	Other Information or Requirement for Reinforcement Accessories
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'	6'- 2 1/2"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	6'- 2 1/2"	FC2 Floor Decking (Plan View Fill)	Top	5 lb/ft	11 lb/ft	-	-
Uniform	0'	5'- 9"	User Load	Top	60 lb/ft	-	-	-
Tapered	1'- 5 1/2"	5'- 5 1/2"	Smoothed Load	Front	126 To 124 lb/ft	251 To 249 lb/ft	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J2(i3173)	Front	142 lb	285 lb	-	-
Point	6'- 1 1/4"	6'- 1 1/4"	J2(i3065)	Front	433 lb	756 lb	30 lb	-
Point	5'- 11 3/4"	5'- 11 3/4"	E30(i1246)	Top	266 lb	422 lb	30 lb	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B2AL(i2830)	531 lb	686 lb	-	-
2	5'- 9"	6'- 2 1/2"	PBO4(i72)	1218 lb	1844 lb	60 lb	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120963



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B7 - i2811**  
Type: **Beam**

**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

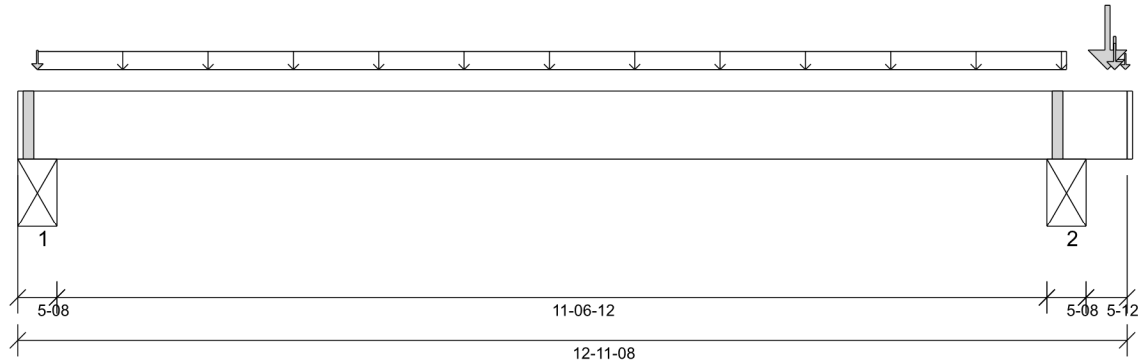
Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11

Report Version: 2021.03.26

12/15/2023 16:39



### 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'- 6 3/4"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Beam @ 12'- 3"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" 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'- 10 1/8"	1.4D	0.65	13 lb ft	15145 lb ft	Passed - 0%
Factored Neg. Moment:	12'- 3"	1.25D + 1.5L	1.00	3994 lb ft	20409 lb ft	Passed - 20%
Factored Shear:	11'- 2 3/4"	1.25D + 1.5L	1.00	669 lb	11052 lb	Passed - 6%
Live Load (LL) Neg. Defl.:	7'- 11 9/16"	L		0.030"	L/360	Passed - L/999
Total Load (TL) Neg. Defl.:	8'- 1/2"	D + L		0.050"	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	428 lb		20020 lb	11839 lb	Passed - 4%
2	5-08	1.25D + 1.5L	1.00	8580 lb		20020 lb	11839 lb	Passed - 72%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 11 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 2 3/4"	12'- 3"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	27 lb/ft	-	-
Point	12'- 9 3/4"	12'- 9 3/4"	B8(i2412)	Front	587 lb	681 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	4(i1120)	Top	97 lb	146 lb	-	-
Point	12'- 8 3/4"	12'- 8 3/4"	5(i1167)	Top	1563 lb	2031 lb	-	-
Point	12'- 9 3/4"	12'- 9 3/4"	User Load	Top	250 lb	500 lb	-	-
Point	12'- 11 1/4"	12'- 11 1/4"	FC3 Floor Decking (Plan View Fill)	Top	4 lb	7 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STL BM(i60)	96 lb	119 lb	-	-
2	12'- 1/4"	12'- 5 3/4"	STL BM(i61)	2687 lb	3566 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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 1/8" 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.
- 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=5000 lb, Qr=5460 lb, Result=91.59%.

### 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 # TF23120964



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B8 - i2412**  
Type: **Beam**

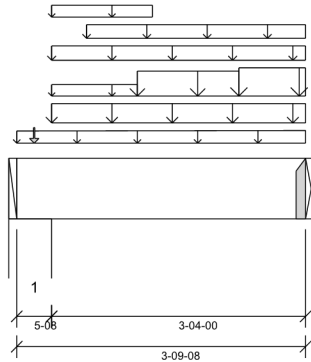
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



#### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 3'- 4"

#### Factored Resistance of Support Material:

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

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

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 2 7/16"	1.25D + 1.5L	1.00	1354 lb ft	23299 lb ft	Passed - 6%
Factored Shear:	3'	1.25D + 1.5L	1.00	836 lb	11052 lb	Passed - 8%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	1325 lb		20020 lb	11843 lb	Passed - 11%
2	1-08	1.25D + 1.5L	1.00	1764 lb		5460 lb	-	Passed - 32%

#### CONNECTOR INFORMATION

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

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

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 9 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 5 1/2"	3'- 9 1/2"	User Load	Top	70 lb/ft	140 lb/ft	-	-
Uniform	0'- 5 1/2"	3'- 9 1/2"	5(i1167)	Top	81 lb/ft	-	-	-
Uniform	0'- 5 1/2"	1'- 9 3/8"	5(i1167)	Top	5 lb/ft	9 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 7"	5(i1167)	Top	2 lb/ft	2 lb/ft	-	-
Uniform	0'- 11"	3'- 9 1/2"	5(i1167)	Top	60 lb/ft	-	-	-
Uniform	1'- 7"	2'- 11"	5(i1167)	Top	120 lb/ft	240 lb/ft	-	-
Uniform	2'- 11"	3'- 9 1/2"	5(i1167)	Top	148 lb/ft	297 lb/ft	-	-
Tapered	-0'	3'- 9 1/2"	FC3 Floor Decking (Plan View Fill)	Top	7 To 12 lb/ft	14 To 24 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E21(i986)	Top	63 lb	-	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	W18(i35)	523 lb	453 lb	-	-
2	3'- 9 1/2"	3'- 9 1/2"	B7(i2811)	587 lb	681 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120965





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B9 - i2951**  
Type: **Beam**

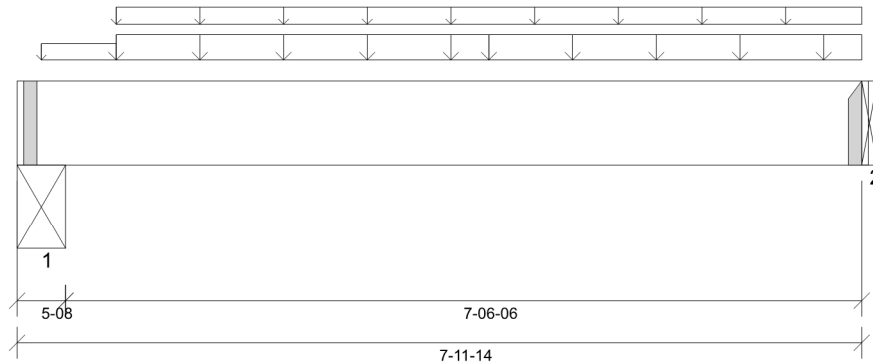
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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: 7'- 5/8"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Beam @ 7'- 11 7/8"

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2 7/16"	1.25D + 1.5L	1.00	2113 lb ft	11650 lb ft	Passed - 18%
Factored Shear:	7'- 2 3/8"	1.25D + 1.5L	1.00	882 lb	5526 lb	Passed - 16%
Live Load (LL) Pos. Defl.:	4'- 2 1/4"	L		0.042"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 2 1/4"	D + L		0.064"	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	976 lb		10010 lb	5919 lb	Passed - 16%
2	1-08	1.25D + 1.5L	1.00	1130 lb		2730 lb	-	Passed - 41%

### CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Top	Face	Member	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
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'- 11 7/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 2 3/4"	0'- 11 1/4"	FC3 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 11 1/4"	7'- 11 7/8"	FC3 Floor Decking (Plan View Fill)	Top	8 lb/ft	16 lb/ft	-	-
Uniform	0'- 11 1/4"	4'- 5 9/16"	User Load	Front	60 lb/ft	120 lb/ft	-	-
Uniform	4'- 5 9/16"	7'- 11 7/8"	User Load	Top	60 lb/ft	120 lb/ft	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STL BM(i61)	244 lb	447 lb	-	-
2	7'- 11 7/8"	7'- 11 7/8"	B1(i2977)	279 lb	521 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120966



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B10 - i2857**  
Type: **Beam**

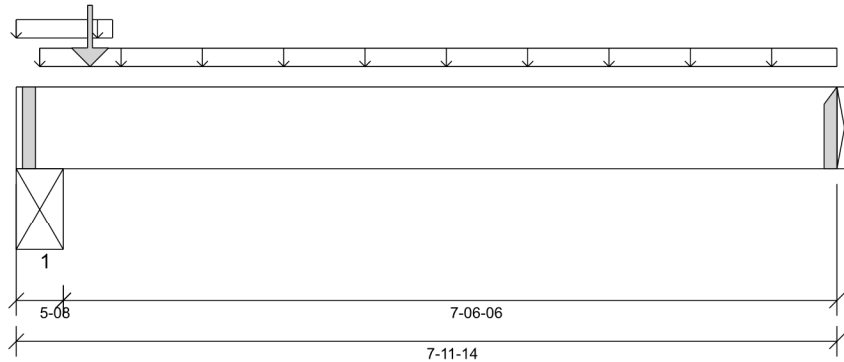
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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: 7'- 6 3/8"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Beam @ 7'- 11 7/8"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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:	0'- 8 5/8"	1.25D + 1.5L	1.00	2909 lb ft	23299 lb ft	Passed - 12%
Factored Shear:	7'- 2 3/8"	1.25D + 1.5L	1.00	676 lb	11052 lb	Passed - 6%
Live Load (LL) Pos. Defl.:	3'- 9 1/4"	L		0.022"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 9 1/4"	D + L		0.038"	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	8559 lb		20020 lb	11839 lb	Passed - 72%
2	1-08	1.25D + 1.5L	1.00	790 lb		5460 lb	-	Passed - 14%

### 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'	7'- 11 7/8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	0'- 11 1/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 2 3/4"	7'- 11 7/8"	FC3 Floor Decking (Plan View Fill)	Top	20 lb/ft	40 lb/ft	-	-
Point	0'- 8 5/8"	0'- 8 5/8"	PBO8(i1172)	Top	2611 lb	3482 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STL BM(i61)	2668 lb	3483 lb	-	-
2	7'- 11 7/8"	7'- 11 7/8"	B1(i2977)	239 lb	327 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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=5.250", W=3.500". LDF=1.00, Pf=8487 lb, Q'r=13043 lb, Result=65.07%.

### 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 # TF23120967



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B20AL - i2999**  
Type: **Beam**

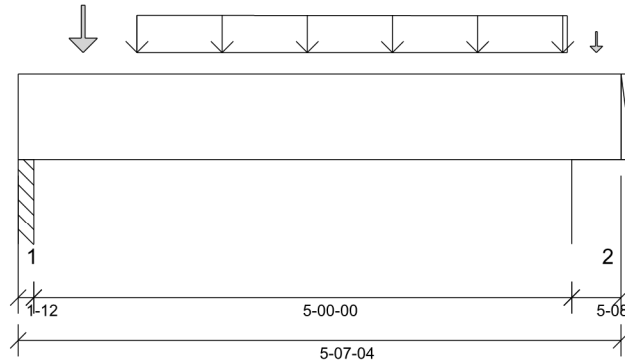
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



#### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 7 1/4"	1.25D + 1.5L	1.00	1918 lb ft	11650 lb ft	Passed - 16%
Factored Shear:	4'- 4 1/4"	1.25D + 1.5L	1.00	1371 lb	5526 lb	Passed - 25%
Live Load (LL) Pos. Defl.:	2'- 7 13/16"	L		0.017"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 7 3/4"	D + L		0.026"	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	1345 lb		3185 lb	1883 lb	Passed - 71%
2	5-08	1.25D + 1.5L	1.00	1450 lb		10010 lb	5921 lb	Passed - 24%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 7 1/4"	Self Weight	Top	5 lb/ft	-	-	-
Tapered	1'- 1 1/4"	5'- 1 1/4"	Smoothed Load	Front	133 To 130 lb/ft	265 To 259 lb/ft	-	-
Point	0'- 7 1/4"	0'- 7 1/4"	J2(i3161)	Front	108 lb	217 lb	-	-
Point	5'- 4 1/2"	5'- 4 1/2"	E27(i1050)	Top	30 lb	23 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO3(i68)	322 lb	619 lb	-	-
2	5'- 1 3/4"	5'- 7 1/4"	W39(i63)	368 lb	669 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.



STRUCTURAL COMPONENT ONLY  
DWG # TF23120968



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B11 DR - i3155**  
Type: **Beam**

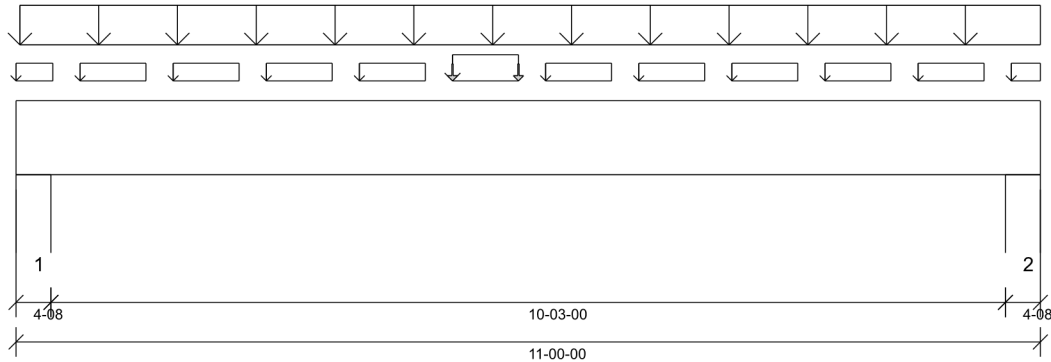
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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'- 8 1/2" Bottom: 11'

#### Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 3 1/2"
- 812 psi Wall @ 10'- 8 1/2"

#### PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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:	5'- 6 1/2"	1.25D + 1.5L	1.00	11360 lb ft	23299 lb ft	Passed - 49%
Factored Shear:	1'- 2"	1.25D + 1.5L	1.00	3799 lb	11052 lb	Passed - 34%
Live Load (LL) Pos. Defl.:	5'- 5 7/8"	L		0.190"	L/360	Passed - L/646
Total Load (TL) Pos. Defl.:	5'- 5 15/16"	D + L		0.323"	L/240	Passed - L/380
Permanent Deflection:	5'- 5 15/16"			-	L/360	Passed - L/953

### 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	4-08	1.25D + 1.5L	1.00	4451 lb		16380 lb	12789 lb	Passed - 35%
2	4-08	1.25D + 1.5L	1.00	4491 lb		16380 lb	12789 lb	Passed - 35%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	0'- 4 3/4"	Bk1(i2998)	Top	60 lb/ft	-	-	-
Uniform	0'- 1/2"	11'	Smoothed Load	Top	184 lb/ft	332 lb/ft	-	-
Uniform	0'- 8 1/4"	1'- 4 3/4"	Bk1(i3060)	Top	60 lb/ft	-	-	-
Uniform	1'- 8 1/4"	2'- 4 3/4"	Bk1(i3050)	Top	60 lb/ft	-	-	-
Uniform	2'- 8 1/4"	3'- 4 3/4"	Bk1(i3141)	Top	60 lb/ft	-	-	-
Uniform	3'- 8 1/4"	4'- 4 3/4"	Bk1(i2897)	Top	60 lb/ft	-	-	-
Uniform	4'- 8 1/4"	5'- 4 3/4"	Bk1(i1676)	Top	119 lb/ft	117 lb/ft	-	-
Uniform	5'- 8 1/4"	6'- 4 3/4"	Bk1(i2656)	Top	60 lb/ft	-	-	-
Uniform	6'- 8 1/4"	7'- 4 3/4"	Bk1(i2831)	Top	60 lb/ft	-	-	-
Uniform	7'- 8 1/4"	8'- 4 3/4"	Bk1(i2909)	Top	60 lb/ft	-	-	-
Uniform	8'- 8 1/4"	9'- 4 3/4"	Bk1(i2952)	Top	60 lb/ft	-	-	-
Uniform	9'- 8 1/4"	10'- 4 3/4"	Bk1(i2933)	Top	60 lb/ft	-	-	-
Uniform	10'- 8 1/4"	11'	Bk1(i2556)	Top	60 lb/ft	-	-	-
Point	4'- 8 1/4"	4'- 8 1/4"	Bk1(i1676)	Top	9 lb	17 lb	-	-
Point	5'- 4 3/4"	5'- 4 3/4"	Bk1(i1676)	Top	9 lb	17 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 1/2"	2(i1116)	1296 lb	1839 lb	-	-
2	10'- 7 1/2"	11'	3(i1117)	1348 lb	1919 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

### PLY TO PLY CONNECTION



STRUCTURAL COMPONENT ONLY  
DWG # TF23120969 PG 1/2





BUILDER:	<b>BAYVIEW WELLINGTON</b>	Job Name:	<b>S45-4C</b>	<b>2 Ply Member</b>	Status:
SITE:	<b>ALCONA SHORES</b>	Level:	<b>2ND FLR FRAMING</b>	<b>1 3/4" x 9 1/2" (2.0E 3100)</b>	<b>Design</b>
MODEL:	<b>S45-4C</b>	Label:	<b>B11 DR - i3155</b>	<b>WestFraser LVL</b>	<b>Passed</b>
CITY:	<b>INNISFIL</b>	Type:	<b>Beam</b>		

#### 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: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B12 DR - i2823**  
Type: **Beam**

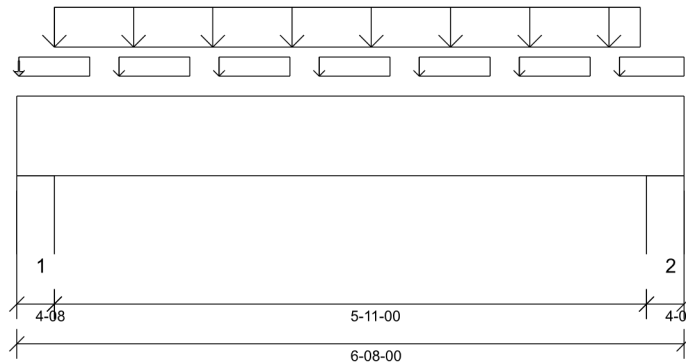
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



#### 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'- 8 1/2" Bottom: 6'- 8"

#### Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 3 1/2"
- 812 psi Wall @ 6'- 4 1/2"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" 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'- 1 3/8"	1.25D + 1.5L	1.00	3864 lb ft	23299 lb ft	Passed - 17%
Factored Shear:	1'- 2"	1.25D + 1.5L	1.00	2132 lb	11052 lb	Passed - 19%
Live Load (LL) Pos. Defl.:	3'- 4"	L		0.023"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 4"	D + L		0.038"	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	4-08	1.25D + 1.5L	1.00	2528 lb		16380 lb	12789 lb	Passed - 20%
2	4-08	1.25D + 1.5L	1.00	2581 lb		16380 lb	12789 lb	Passed - 20%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 8"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 1/4"	0'- 8 3/4"	Bk1(i1662)	Top	71 lb/ft	21 lb/ft	-	-
Uniform	0'- 4 1/2"	6'- 2 3/4"	Smoothed Load	Top	192 lb/ft	345 lb/ft	-	-
Uniform	1'- 1/4"	1'- 8 3/4"	Bk1(i1662)	Top	71 lb/ft	21 lb/ft	-	-
Uniform	2'- 1/4"	2'- 8 3/4"	Bk1(i1662)	Top	71 lb/ft	21 lb/ft	-	-
Uniform	3'- 1/4"	3'- 8 3/4"	Bk1(i1662)	Top	71 lb/ft	21 lb/ft	-	-
Uniform	4'- 1/4"	4'- 8 3/4"	Bk1(i1662)	Top	71 lb/ft	21 lb/ft	-	-
Uniform	5'- 1/4"	5'- 8 3/4"	Bk1(i1662)	Top	71 lb/ft	21 lb/ft	-	-
Uniform	6'- 1/4"	6'- 8"	Bk1(i1648)	Top	71 lb/ft	21 lb/ft	-	-
Point	0'- 1/4"	0'- 1/4"	Bk1(i1662)	Top	2 lb	3 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 1/2"	3(i1117)	726 lb	1002 lb	-	-
2	6'- 3 1/2"	6'- 8"	1(i1085)	806 lb	1127 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120970



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B13 DR - i2655**  
Type: **Beam**

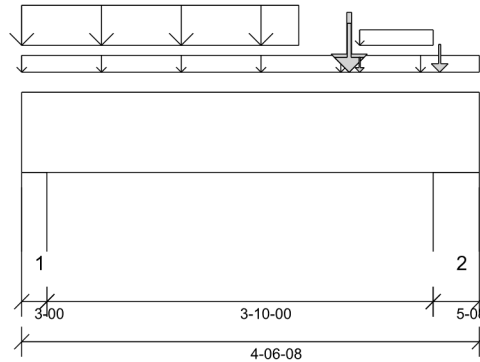
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



#### 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'- 10 3/4" Bottom: 4'- 1"

#### Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 2"
- 812 psi Wall @ 4'- 2"

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 3"	1.25D + 1.5L	1.00	2415 lb ft	23299 lb ft	Passed - 10%
Factored Shear:	3'- 3 1/2"	1.25D + 1.5L	1.00	1912 lb	11052 lb	Passed - 17%
Total Load (TL) Pos. Defl.:	2'- 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'-00	1.25D + 1.5L	1.00	2789 lb		10920 lb	8526 lb	Passed - 33%
2	5'-08	1.25D + 1.5L	1.00	2240 lb		20020 lb	15631 lb	Passed - 14%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 6 1/2"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	4'- 6 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'	2'- 9"	Smoothed Load	Top	272 lb/ft	543 lb/ft	-	-
Uniform	3'- 4 1/4"	4'- 1"	Bk1(i1559)	Top	5 lb/ft	11 lb/ft	-	-
Point	3'- 3"	3'- 3"	J1(i2462)	Top	166 lb	332 lb	-	-
Point	3'- 3"	3'- 3"	J1(i2906)	Top	125 lb	251 lb	-	-
Point	3'- 4 1/4"	3'- 4 1/4"	Bk1(i1559)	Top	1 lb	1 lb	-	-
Point	4'- 1 3/4"	4'- 1 3/4"	J7(i3003)	Top	48 lb	95 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3"	4(i1120)	769 lb	1240 lb	-	-
2	4'- 1"	4'- 6 1/2"	3(i1117)	636 lb	941 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120971





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B14 DR - i2967**  
Type: **Beam**

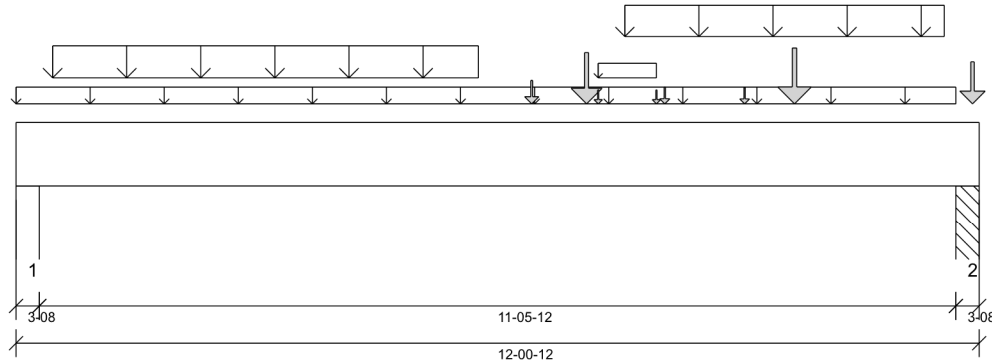
**3 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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: 1'- 2 1/16" Bottom: 12'- 3/4"

#### Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 2 1/2"
- 615 psi Column @ 11'- 10 1/4"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" 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'- 1 3/4"	1.25D + 1.5L	1.00	18737 lb ft	34949 lb ft	Passed - 54%
Factored Neg. Moment:	11'- 10 1/4"	1.25D + 1.5L	1.00	202 lb ft	34949 lb ft	Passed - 1%
Factored Shear:	10'- 11 3/4"	1.25D + 1.5L	1.00	6596 lb	16578 lb	Passed - 40%
Live Load (LL) Pos. Defl.:	6'- 2 15/16"	L		0.249"	L/360	Passed - L/552
Total Load (TL) Pos. Defl.:	6'- 2 13/16"	D + L		0.431"	L/240	Passed - L/319
Permanent Deflection:	6'- 2 11/16"			-	L/360	Passed - L/781

### 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	4798 lb		19110 lb	14921 lb	Passed - 32%
2	3-08	1.25D + 1.5L	1.00	8385 lb		19110 lb	11301 lb	Passed - 74%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 3/4"	Self Weight	Top	14 lb/ft	-	-	-
Uniform	0'	11'- 9 1/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 5 1/2"	5'- 9 1/2"	Smoothed Load	Top	130 lb/ft	259 lb/ft	-	-
Uniform	7'- 3 1/2"	8'- 1/4"	Bk1(i3148)	Top	4 lb/ft	9 lb/ft	-	-
Uniform	7'- 7 1/2"	11'- 7 1/2"	Smoothed Load	Top	124 lb/ft	248 lb/ft	-	-
Point	6'- 5 1/2"	6'- 5 1/2"	J1(i2469)	Top	131 lb	262 lb	-	-
Point	7'- 1 3/4"	7'- 1 3/4"	B16(i2840)	Top	582 lb	951 lb	-	-
Point	7'- 3 1/2"	7'- 3 1/2"	Bk1(i3148)	Top	1 lb	1 lb	-	-
Point	8'- 1/4"	8'- 1/4"	Bk1(i3148)	Top	1 lb	1 lb	-	-
Point	8'- 1 1/2"	8'- 1 1/2"	J5(i2953)	Top	38 lb	75 lb	-	-
Point	9'- 1 1/2"	9'- 1 1/2"	J5(i2976)	Top	30 lb	61 lb	-	-
Point	9'- 9"	9'- 9"	B18(i2821)	Top	694 lb	1030 lb	-	-
Point	11'- 11 3/4"	11'- 11 3/4"	B15(i2939)	Top	488 lb	669 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	5(i1167)	1496 lb	1945 lb	-	-
2	11'- 9 1/4"	12'- 3/4"	PBO8(i1172)	2537 lb	3482 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120972



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B15 - i2939**  
Type: **Beam**

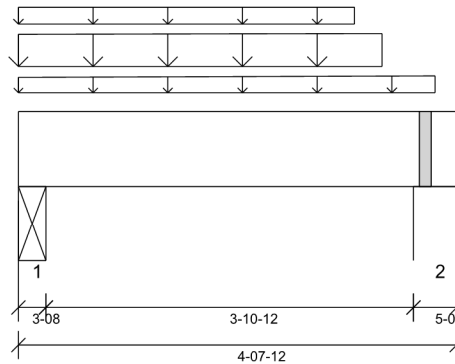
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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:

- 1040 psi Beam @ 0'- 2 1/2"
- 615 psi Wall @ 4'- 3 1/4"

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

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

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 4 1/4"	1.25D + 1.5L	1.00	1434 lb ft	23299 lb ft	Passed - 6%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	1448 lb	11052 lb	Passed - 13%

### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1592 lb		12740 lb	12740 lb	Passed - 12%
2	5-08	1.25D + 1.5L	1.00	1168 lb		20020 lb	11843 lb	Passed - 10%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 7 3/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	3'- 6 3/4"	User Load	Top	60 lb/ft	-	-	-
Tapered	0'	4'- 5"	FC4 Floor Decking (Plan View Fill)	Top	10 To 20 lb/ft	19 To 40 lb/ft	-	-
Tapered	0'	3'- 10 1/4"	Smoothed Load	Back	129 To 134 lb/ft	258 To 270 lb/ft	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	B14 DR(i2967)	488 lb	669 lb	-	-
2	4'- 2 1/4"	4'- 7 3/4"	E26(i1033)	342 lb	478 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120973



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B16 - i2840**  
Type: **Beam**

**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

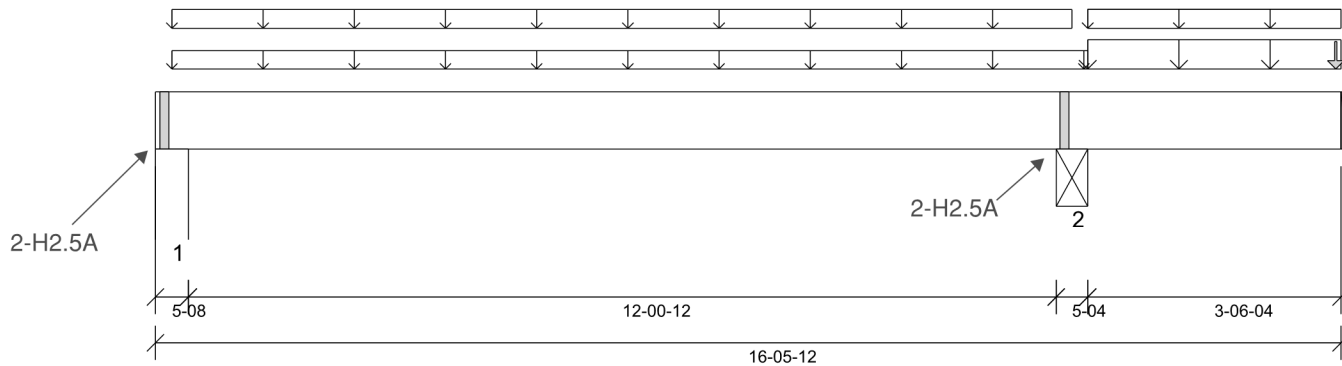
Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26

12/15/2023 16:39



### 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: 12'- 3/4"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 1040 psi Beam @ 12'- 8 7/8"

**PLY TO PLY CONNECTION:**  
3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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:	5'- 7 7/16"	1.25D + 1.5L	0.89	1135 lb ft	20759 lb ft	Passed - 5%
Factored Neg. Moment:	12'- 8 7/8"	1.25D + 1.5L	0.98	3006 lb ft	19920 lb ft	Passed - 15%
Factored Shear:	13'- 9"	1.25D + 1.5L	0.98	1115 lb	10869 lb	Passed - 10%
Live Load (LL) Neg. Defl.:	7'- 6 3/16"	L		0.048"	L/360	Passed - L/999
Total Load (TL) Neg. Defl.:	8'- 1 1/4"	D + L		0.047"	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	0.89	448 lb		17838 lb	10552 lb	Passed - 4%
1	5-08	0.9D + 1.5L	0.98		-71 lb	-	-	
2	5-04	1.25D + 1.5L	1.00	2161 lb		19110 lb	19110 lb	Passed - 11%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 5 3/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 2 3/4"	12'- 11 1/2"	FC4 Floor Decking (Plan View Fill)	Top	7 lb/ft	14 lb/ft	-	-
Uniform	0'- 2 3/4"	12'- 8 7/8"	FC4 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-
Uniform	12'- 11 1/2"	16'- 5 3/4"	User Load	Front	70 lb/ft	140 lb/ft	-	-
Uniform	12'- 11 1/2"	16'- 5 3/4"	FC4 Floor Decking (Plan View Fill)	Top	11 lb/ft	23 lb/ft	-	-
Point	16'- 4 7/8"	16'- 4 7/8"	B19(i2921)	Back	37 lb	63 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	4(i1120)	107 lb	209/-106 lb	-	-
2	12'- 6 1/4"	12'- 11 1/2"	B14 DR(i2967)	582 lb	951 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- The deflection at the cantilever for either live and/or total loads is less than 1/8" 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.

### 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 # TF23120974





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B17 - I2406**  
Type: **Beam**

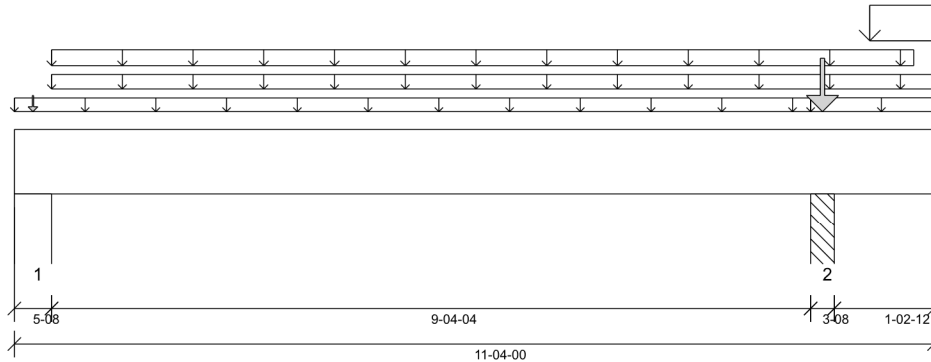
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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'- 9 3/4"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 9'- 11 1/2"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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:	5'- 1/4"	1.25D + 1.5L	0.96	4809 lb ft	22385 lb ft	Passed - 21%
Factored Neg. Moment:	9'- 11 1/2"	1.25D + 1.5S + L	0.70	1952 lb ft	15692 lb ft	Passed - 12%
Factored Shear:	9'- 1/4"	1.25D + 1.5L + S	1.00	1935 lb	11052 lb	Passed - 18%
Live Load (LL) Pos. Defl.:	5'- 2"	L		0.063"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 1 5/16"	D + L		0.116"	L/240	Passed - L/964

### 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	0.96	2264 lb		19234 lb	11378 lb	Passed - 20%
2	3-08	1.25D + 1.5L + S	1.00	7320 lb		12740 lb	7534 lb	Passed - 97%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	9'- 9 3/4"	FC4 Floor Decking (Plan View Fill)	Top	11 lb/ft	22 lb/ft	-	-
Uniform	0'- 5 1/2"	11'- 4"	6(i2138)	Top	81 lb/ft	-	-	-
Uniform	0'- 5 1/2"	11'- 1"	6(i2138)	Top	64 lb/ft	140 lb/ft	-	-
Uniform	9'- 9 3/4"	11'- 4"	FC4 Floor Decking (Plan View Fill)	Top	13 lb/ft	27 lb/ft	-	-
Uniform	10'- 6 1/2"	11'- 4"	6(i2138)	Top	509 lb/ft	575 lb/ft	624 lb/ft	-
Point	9'- 11 1/2"	9'- 11 1/2"	B18(i2821)	Back	917 lb	1051 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E38(i1748)	Top	75 lb	64 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E10(i896)	814 lb	842/-59 lb	-50 lb	-
2	9'- 9 3/4"	10'- 1 1/4"	PBO9(i1227)	2374 lb	2528 lb	544 lb	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- The deflection at the cantilever for either live and/or total loads is less than 1/8" 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.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=3.500", W=3.500". LDF=1.00, Pf=2723 lb, Qr=8493 lb, Result=32.06%.

### 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 # TF23120975



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B18 - i2821**  
Type: **Beam**

**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

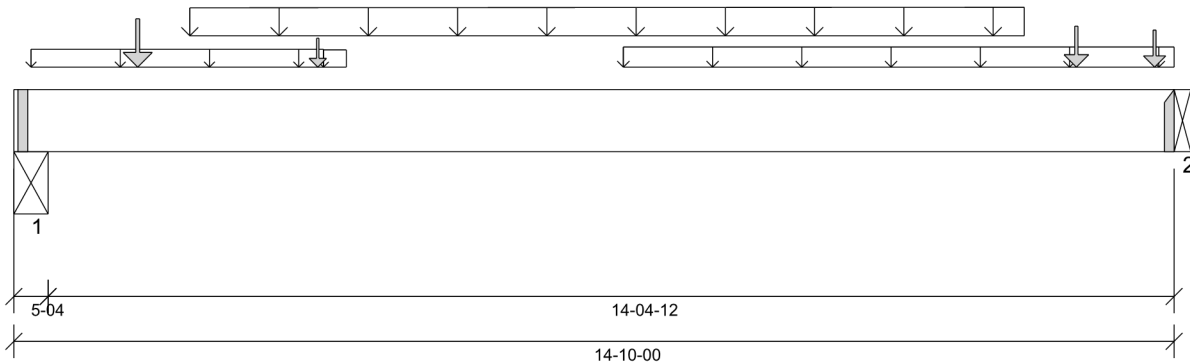
Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26

12/15/2023 16:39



### 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:

- 1040 psi Beam @ 0'- 4 1/4"
- 615 psi Beam @ 14'- 10"

#### PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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'- 3"	1.25D + 1.5L	1.00	9281 lb ft	23299 lb ft	Passed - 40%
Factored Shear:	14'- 1/2"	1.25D + 1.5L	1.00	2649 lb	11052 lb	Passed - 24%
Live Load (LL) Pos. Defl.:	7'- 6 9/16"	L		0.294"	L/360	Passed - L/587
Total Load (TL) Pos. Defl.:	7'- 7 1/2"	D + L		0.520"	L/240	Passed - L/332
Permanent Deflection:	7'- 8 11/16"			-	L/360	Passed - L/787

### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-04	1.25D + 1.5L	1.00	2418 lb		19110 lb	19110 lb	Passed - 13%
2	1-08	1.25D + 1.5L	1.00	2718 lb		5460 lb	-	Passed - 50%

### 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'	14'- 10"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'- 2 5/8"	3'- 11 1/2"	FC4 Floor Decking (Plan View Fill)	Top	6 lb/ft	12 lb/ft	-	-
Uniform	3'- 11 1/2"	4'- 3"	FC4 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	7'- 9 1/2"	14'- 10"	User Load	Top	60 lb/ft	-	-	-
Tapered	2'- 3"	12'- 11"	Smoothed Load	Back	67 To 70 lb/ft	133 To 139 lb/ft	-	-
Point	3'- 10 5/8"	3'- 10 5/8"	B19(i2921)	Front	43 lb	77 lb	-	-
Point	1'- 7"	1'- 7"	J4(i2913)	Back	104 lb	209 lb	-	-
Point	13'- 7"	13'- 7"	J4(i2817)	Back	80 lb	160 lb	-	-
Point	14'- 7"	14'- 7"	J4(i2914)	Back	67 lb	134 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	B14 DR(i2967)	694 lb	1030 lb	-	-
2	14'- 10"	14'- 10"	B17(i2406)	917 lb	1051 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

### PLY TO PLY CONNECTION



STRUCTURAL COMPONENT ONLY  
DWG # TF23120976 PG 1/2



BUILDER:	<b>BAYVIEW WELLINGTON</b>	Job Name:	<b>S45-4C</b>	<b>2 Ply Member</b>	Status:
SITE:	<b>ALCONA SHORES</b>	Level:	<b>2ND FLR FRAMING</b>	<b>1 3/4" x 9 1/2" (2.0E 3100)</b>	<b>Design</b>
MODEL:	<b>S45-4C</b>	Label:	<b>B18 - i2821</b>	<b>WestFraser LVL</b>	<b>Passed</b>
CITY:	<b>INNISFIL</b>	Type:	<b>Beam</b>		

#### 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: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B19 - i2921**  
Type: **Beam**

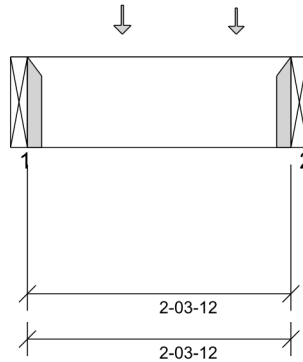
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design  
Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:39



### 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 @ 2'- 3 3/4"

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 10"	1.25D + 1.5L	1.00	115 lb ft	11650 lb ft	Passed - 1%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5L	1.00	136 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	1-08	1.25D + 1.5L	1.00	141 lb		2730 lb	-	Passed - 5%
2	1-08	1.25D + 1.5L	1.00	169 lb		2730 lb	-	Passed - 6%

### CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	LS90		-	-	-	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'	2'- 3 3/4"	Self Weight	Top	5 lb/ft	-	-	-
Point	0'- 10"	0'- 10"	J5(i2953)	Back	39 lb	79 lb	-	-
Point	1'- 10"	1'- 10"	J5(i2976)	Back	30 lb	61 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B16(i2840)	37 lb	63 lb	-	-
2	2'- 3 3/4"	2'- 3 3/4"	B18(i2821)	43 lb	77 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120977



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B2L - i2340**  
Type: **Beam**

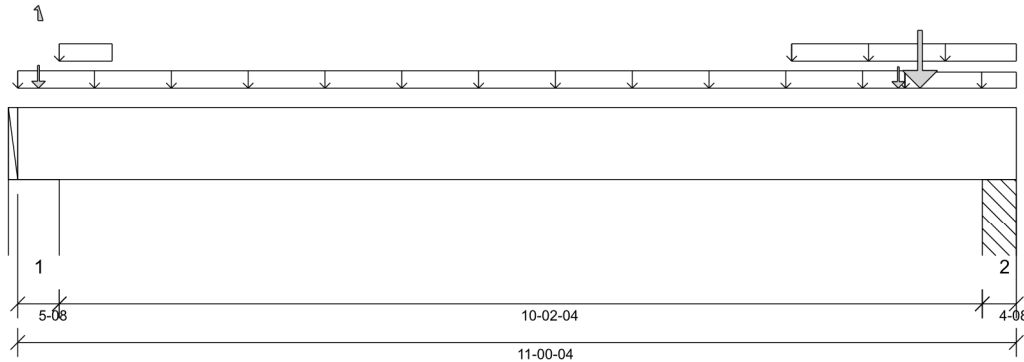
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:38



### 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'- 6 5/8"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 10'- 8 3/4"

**PLY TO PLY CONNECTION:**  
**3 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" 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 # TF23120978

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	9'- 8 5/8"	1.25D + 1.5L + S	1.00	6830 lb ft	23299 lb ft	Passed - 29%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	1.00	221 lb ft	21326 lb ft	Passed - 1%
Factored Shear:	9'- 10 1/4"	1.25D + 1.5L + S	1.00	7502 lb	11052 lb	Passed - 68%
Live Load (LL) Pos. Defl.:	6'- 1 7/8"	L + 0.5S		0.085"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 2 1/16"	D + L + 0.5S		0.156"	L/240	Passed - L/782

### 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	2716 lb		20020 lb	11843 lb	Passed - 23%
2	4-08	1.25D + 1.5L + S	1.00	8641 lb		16380 lb	9686 lb	Passed - 89%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 1/4"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	9'- 9 1/2"	FC2 Floor Decking (Plan View Fill)	Top	20 lb/ft	40 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	8'- 6 1/2"	11'- 1/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	9'- 9 1/2"	11'- 1/4"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	22 lb/ft	-	-
Point	9'- 8 5/8"	9'- 8 5/8"	B3L(i2254)	Back	320 lb	564 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E10(i896)	Top	555 lb	515/-59 lb	-50 lb	-
Point	9'- 11 1/2"	9'- 11 1/2"	PBO9(i1227)	Top	2475 lb	2528 lb	544 lb	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	W15(i21)	1039 lb	1035/-61 lb	-3 lb	-
2	10'- 7 3/4"	11'- 1/4"	PBO1(i64)	2810 lb	2996 lb	497 lb	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=3.500", W=3.500". LDF=1.00, Pf=7430 lb, Qr=9707 lb, Result=76.54%.

### 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: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B3L - i2254**  
Type: **Beam**

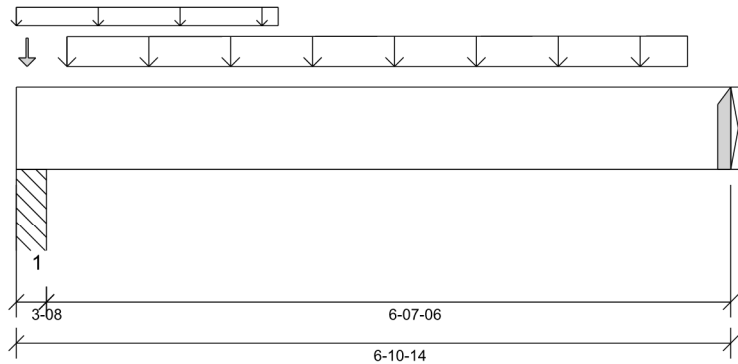
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:38



### 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 3/4"

#### Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Beam @ 6'- 10 7/8"

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 6"	1.25D + 1.5L	1.00	2376 lb ft	11650 lb ft	Passed - 20%
Factored Shear:	6'- 1 3/8"	1.25D + 1.5L	1.00	1244 lb	5526 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	3'- 6 11/16"	L		0.035"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 6 1/2"	D + L		0.057"	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	1625 lb		6370 lb	3767 lb	Passed - 43%
2	1-08	1.25D + 1.5L	1.00	1249 lb		2730 lb	-	Passed - 46%

### CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Top	Face	Member	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
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'	6'- 10 7/8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	2'- 6 3/8"	User Load	Top	60 lb/ft	-	-	-
Tapered	0'- 5 7/8"	6'- 5 7/8"	Smoothed Load	Front	94 To 97 lb/ft	188 To 196 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J4(i2134)	Front	47 lb	94 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO3(i68)	484 lb	681 lb	-	-
2	6'- 10 7/8"	6'- 10 7/8"	B2L(i2340)	320 lb	564 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120979





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B4L - i2339**  
Type: **Beam**

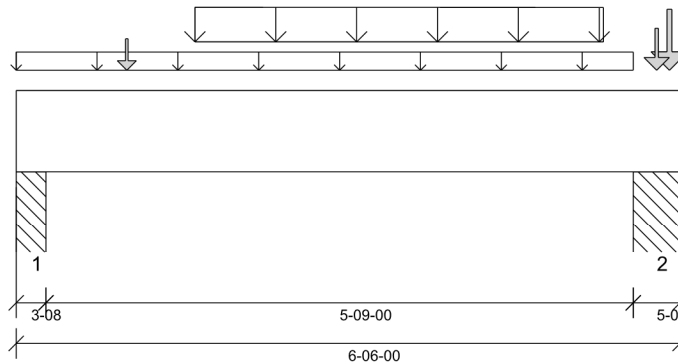
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:38



#### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 7 1/16"	1.25D + 1.5L	1.00	2357 lb ft	11650 lb ft	Passed - 20%
Factored Neg. Moment:	6'- 1 1/2"	1.25D + 1.5L + S	1.00	610 lb ft	11650 lb ft	Passed - 5%
Factored Shear:	5'- 3"	1.25D + 1.5L + S	1.00	1648 lb	5526 lb	Passed - 30%
Live Load (LL) Pos. Defl.:	3'- 1 1/4"	L		0.024"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 1 5/16"	D + L		0.043"	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	1548 lb		6370 lb	3767 lb	Passed - 41%
2	5-08	1.25D + 1.5L + S	1.00	4424 lb		10010 lb	5919 lb	Passed - 75%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 6"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'	6'- 1/2"	User Load	Top	60 lb/ft	-	-	-
Tapered	1'- 9"	5'- 9"	Smoothed Load	Front	127 To 126 lb/ft	254 To 251 lb/ft	-	-
Point	1'- 1"	1'- 1"	J2(i1864)	Front	146 lb	292 lb	-	-
Point	6'- 4 3/4"	6'- 4 3/4"	J2(i1858)	Front	435 lb	760 lb	30 lb	-
Point	6'- 3 1/4"	6'- 3 1/4"	E30(i1246)	Top	266 lb	422 lb	30 lb	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO1(i64)	532 lb	655 lb	-	-
2	6'- 1/2"	6'- 6"	PBO4(i72)	1214 lb	1830 lb	60 lb	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120980



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B5L - i1791**  
Type: **Beam**

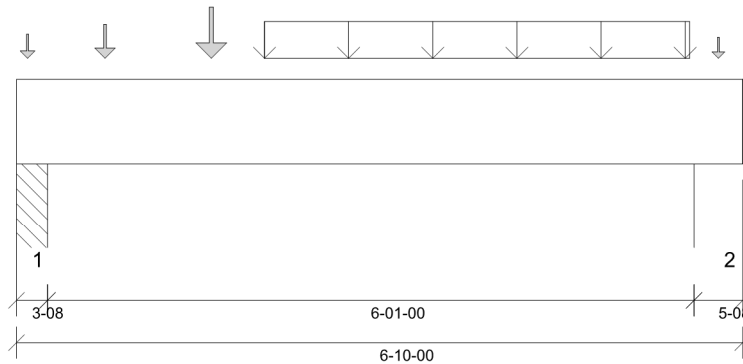
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:38



### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 6'- 5 1/2"

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10"	1.25D + 1.5L	1.00	2643 lb ft	11650 lb ft	Passed - 23%
Factored Shear:	5'- 7"	1.25D + 1.5L	1.00	1653 lb	5526 lb	Passed - 30%
Live Load (LL) Pos. Defl.:	3'- 4 1/4"	L		0.035"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 4 1/4"	D + L		0.054"	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	1534 lb		6370 lb	3767 lb	Passed - 41%
2	5-08	1.25D + 1.5L	1.00	1737 lb		10010 lb	5921 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	5 lb/ft	-	-	-
Uniform	2'- 4"	6'- 4"	Smoothed Load	Front	132 lb/ft	263 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J5(i90)	Front	29 lb	58 lb	-	-
Point	0'- 10"	0'- 10"	J5(i85)	Front	63 lb	127 lb	-	-
Point	1'- 10"	1'- 10"	J2(i1945)	Front	123 lb	247 lb	-	-
Point	6'- 7 1/4"	6'- 7 1/4"	E27(i1050)	Top	33 lb	23 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO5(i73)	373 lb	715 lb	-	-
2	6'- 4 1/2"	6'- 10"	W39(i63)	435 lb	792 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.



STRUCTURAL COMPONENT ONLY  
DWG # TF23120981



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **1ST FLR FRAMING**  
Label: **B6L - i2342**  
Type: **Beam**

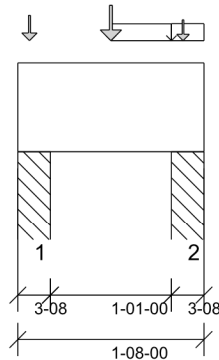
**1 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/15/2023 16:38



### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

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

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 10"	1.25D + 1.5L	1.00	78 lb ft	11650 lb ft	Passed - 1%
Factored Shear:	0'- 7"	1.25D + 1.5L	1.00	145 lb	5526 lb	Passed - 3%

### 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	271 lb		6370 lb	3767 lb	Passed - 7%
2	3-08	1.25D + 1.5L	1.00	194 lb		6370 lb	3767 lb	Passed - 5%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 8"	Self Weight	Top	5 lb/ft	-	-	-
Uniform	0'- 10"	1'- 4 1/2"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	3 lb/ft	-	-
Uniform	1'- 4 1/2"	1'- 8"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	5 lb/ft	-	-
Point	1'- 5 3/4"	1'- 5 3/4"	J5(i2341)	Front	14 lb	28 lb	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J5(i90)	Back	29 lb	58 lb	-	-
Point	0'- 10"	0'- 10"	J5(i85)	Back	63 lb	125 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO6(i75)	68 lb	129 lb	-	-
2	1'- 4 1/2"	1'- 8"	PBO7(i76)	47 lb	85 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- 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 # TF23120982



BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B31 DR - i4306**  
Type: **Beam**

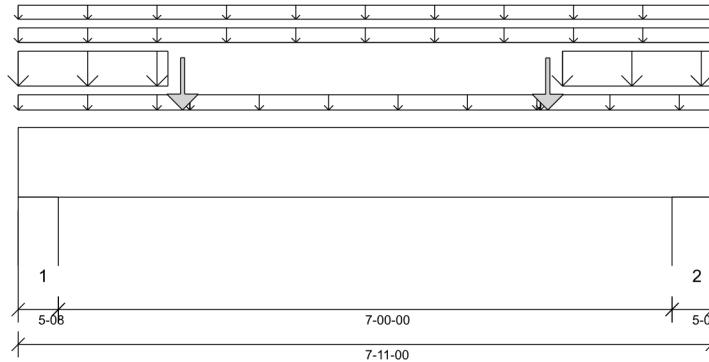
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/18/2023 08:13



### 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: 7'- 11" Bottom: 7'- 11"

#### Factored Resistance of Support Material:

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

#### PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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'- 11 1/4"	1.25D + 1.5S + L	1.00	7749 lb ft	21944 lb ft	Passed - 35%
Factored Neg. Moment:	7'- 6 1/2"	1.25D + 1.5S + L	1.00	119 lb ft	21944 lb ft	Passed - 1%
Factored Shear:	1'- 3"	1.25D + 1.5S + L	1.00	4634 lb	11052 lb	Passed - 42%
Live Load (LL) Pos. Defl.:	3'- 11 1/2"	S + 0.5L		0.074"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 1/2"	D + S + 0.5L		0.115"	L/240	Passed - L/729

### 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 + 1.5S + L	1.00	6751 lb		20020 lb	15631 lb	Passed - 43%
2	5-08	1.25D + 1.5S + L	1.00	6736 lb		20020 lb	15631 lb	Passed - 43%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 11"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	0'	7'- 11"	R1(i3968)	Top	20 lb/ft	5 lb/ft	40 lb/ft	-
Uniform	0'	7'- 11"	J1(i4308)	Top	15 lb/ft	26 lb/ft	-	-
Uniform	0'	1'- 11 1/2"	R1(i3968)	Top	100 lb/ft	-	-	-
Uniform	0'	1'- 8 1/2"	R1(i3968)	Top	249 lb/ft	-	740 lb/ft	-
Uniform	1'- 11 1/2"	5'- 11 1/2"	R1(i3968)	Top	100 lb/ft	-	-	-
Uniform	5'- 11 1/2"	7'- 11"	R1(i3968)	Top	100 lb/ft	-	-	-
Uniform	6'- 2 1/2"	7'- 11"	R1(i3968)	Top	249 lb/ft	-	740 lb/ft	-
Point	1'- 10 1/2"	1'- 10 1/2"	R1(i3968)	Top	596 lb	-	1672 lb	-
Point	6'- 1/2"	6'- 1/2"	R1(i3968)	Top	592 lb	-	1658 lb	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E55(i4300)	1558 lb	121 lb	3016 lb	-
2	7'- 5 1/2"	7'- 11"	E15(i897)	1628 lb	121 lb	3159 lb	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 0.94
- 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 # TF23120983





BUILDER: **BAYVIEW WELLINGTON**  
SITE: **ALCONA SHORES**  
MODEL: **S45-4C**  
CITY: **INNISFIL**

Job Name: **S45-4C**  
Level: **2ND FLR FRAMING**  
Label: **B32 DR - i4307**  
Type: **Beam**

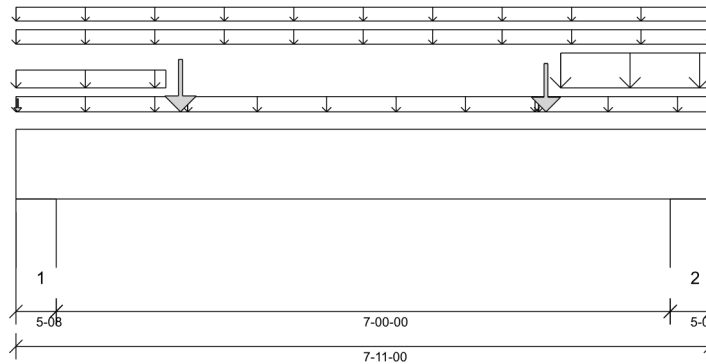
**2 Ply Member**  
**1 3/4" x 9 1/2" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design  
Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update16.11

Report Version: 2021.03.26 12/18/2023 08:13



### 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: 7'- 11" Bottom: 7'- 11"

#### Factored Resistance of Support Material:

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

#### PLY TO PLY CONNECTION:

3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" 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:	4'- 1/16"	1.25D + 1.5S + L	1.00	9944 lb ft	21944 lb ft	Passed - 45%
Factored Neg. Moment:	7'- 6 1/2"	1.25D + 1.5S + L	1.00	145 lb ft	21944 lb ft	Passed - 1%
Factored Shear:	1'- 3"	1.25D + 1.5S + L	1.00	6209 lb	11052 lb	Passed - 56%
Live Load (LL) Pos. Defl.:	3'- 11 9/16"	S + 0.5L		0.099"	L/360	Passed - L/848
Total Load (TL) Pos. Defl.:	3'- 11 9/16"	D + S + 0.5L		0.148"	L/240	Passed - L/567

### 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 + 1.5S + L	1.00	7008 lb		20020 lb	15631 lb	Passed - 45%
2	5-08	1.25D + 1.5S + L	1.00	8318 lb		20020 lb	15631 lb	Passed - 53%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 11"	Self Weight	Top	9 lb/ft	-	-	-
Uniform	-0'	7'- 11"	R1(i3968)	Top	20 lb/ft	5 lb/ft	40 lb/ft	-
Uniform	0'	7'- 11"	J1(i4319)	Top	12 lb/ft	19 lb/ft	-	-
Uniform	-0'	1'- 11 1/2"	R1(i3968)	Top	100 lb/ft	-	-	-
Uniform	-0'	1'- 8 1/2"	R1(i3968)	Top	47 lb/ft	-	164 lb/ft	-
Uniform	1'- 11 1/2"	5'- 11 1/2"	R1(i3968)	Top	100 lb/ft	-	-	-
Uniform	5'- 11 1/2"	7'- 11"	R1(i3968)	Top	100 lb/ft	-	-	-
Uniform	6'- 2 1/2"	7'- 11"	R1(i3968)	Top	249 lb/ft	-	740 lb/ft	-
Point	0'- 1/4"	0'- 1/4"	J1(i4319)	Top	1 lb	1 lb	-	-
Point	1'- 10 1/2"	1'- 10 1/2"	R1(i3968)	Top	958 lb	-	2769 lb	-
Point	6'- 1/2"	6'- 1/2"	R1(i3968)	Top	867 lb	-	2476 lb	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E54(i4274)	1594 lb	146 lb	3118 lb	-
2	7'- 5 1/2"	7'- 11"	E55(i4300)	1916 lb	134 lb	3988 lb	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected 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.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 0.94
- 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.

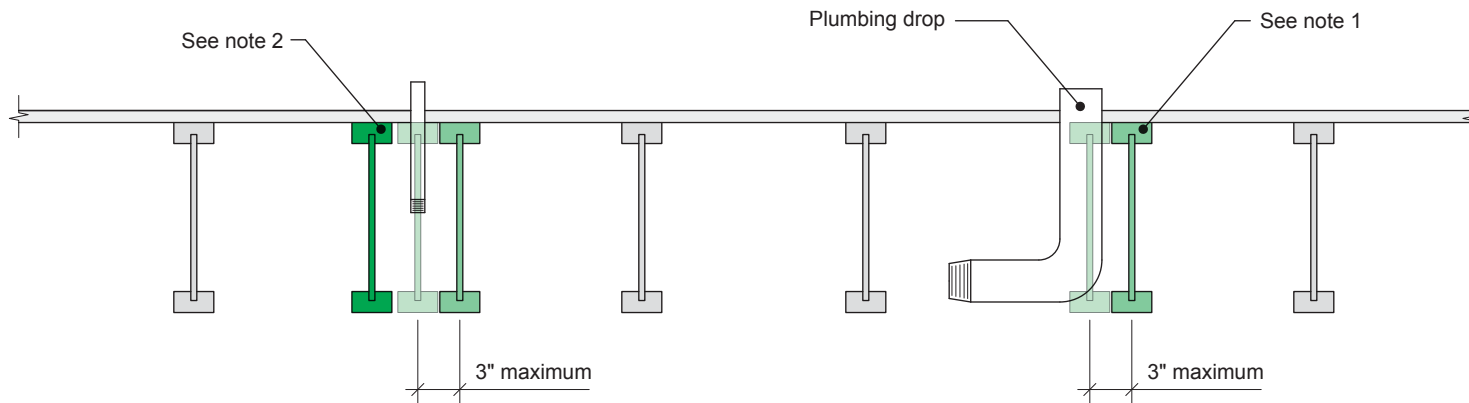
### PLY TO PLY CONNECTION

- 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 # TF23120984

7c

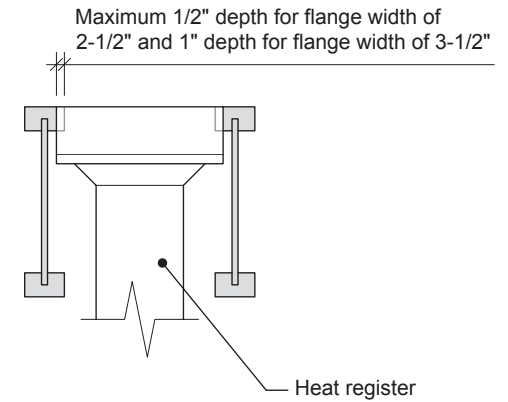
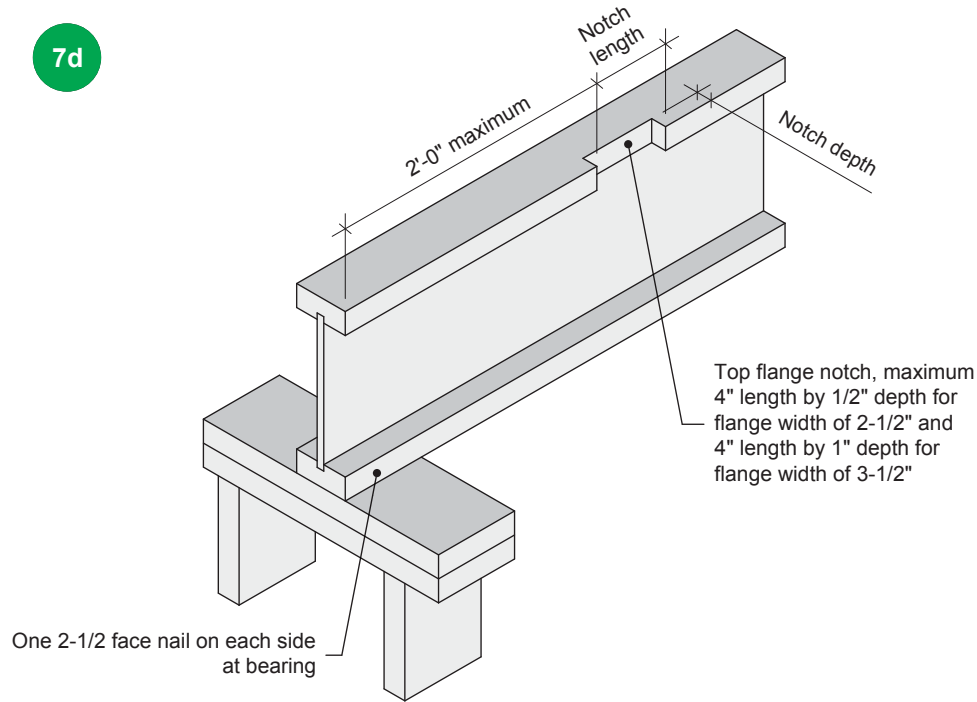


**Notes:**

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.



# NORDIC STRUCTURES

## Maximum Floor Spans – S2.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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





# NORDIC STRUCTURES

## Maximum Floor Spans – S4.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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 – S6.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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



# NORDIC STRUCTURES

## Maximum Floor Spans – S7.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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



# NORDIC STRUCTURES

## Maximum Floor Spans – M2.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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





# NORDIC STRUCTURES

## Maximum Floor Spans – M4.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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 – M6.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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



# NORDIC STRUCTURES

## Maximum Floor Spans – M7.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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