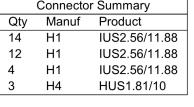
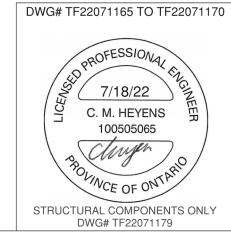


Products									
PlotID	Length	Product						Plies	Net Qty
J1	18-00-00	11 7/8" NI-	40x					1	34
J1 DJ	18-00-00	11 7/8" NI-	40x					2	8
J2	14-00-00	11 7/8" NI-	40x					1	24
J2 DJ	14-00-00	11 7/8" NI-	40x					2	2
J3	10-00-00	11 7/8" NI-	40x					1	1
J4	8-00-00	11 7/8" NI-	40x					1	8
J5	6-00-00	11 7/8" NI-	40x					1	5
J6	4-00-00	11 7/8" NI-	40x					1	6
J7	2-00-00	11 7/8" NI-	40x					1	4
B1	20-00-00	1 3/4" x 11	7/8"	(2.0E 3	3100)	WestF	raser LVL	1	1
B2	14-00-00	1 3/4" x 11	7/8" (	2.0E	3100)	WestF	raser LVL	1	1
B6 H	14-00-00	1 3/4" x 11	7/8"	2.0E	3100)	WestF	raser LVL	1	1
B3	12-00-00	1 3/4" x 11	7/8"	(2.0E 3	3100)	WestF	raser LVL	1	1
B4	10-00-00	1 3/4" x 11	7/8"	(2.0E 3	3100)	WestF	raser LVL	1	1
B5	8-00-00	1 3/4" x 11	7/8" (	2.0E	3100)	WestF	raser LVL	1	1
<u></u>	nnector Sum	mory							





The wood beams and joists outlined on this plan are designed as individual building onents to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or

joist span tables for each component identified on this placement plan.
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are not within the scope of work of this seal.

The building designer must review and approve this plan to acertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

**DATE:** 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: 2022/01/12 **BUILDER:** ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

**MODEL**: 4002 **ELEVATION**: A

LOT:

**CITY:** BRAMPTON

**SALESMAN:** Rick DiCiano

**DESIGNER**: PL **REVISION:** 

> 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

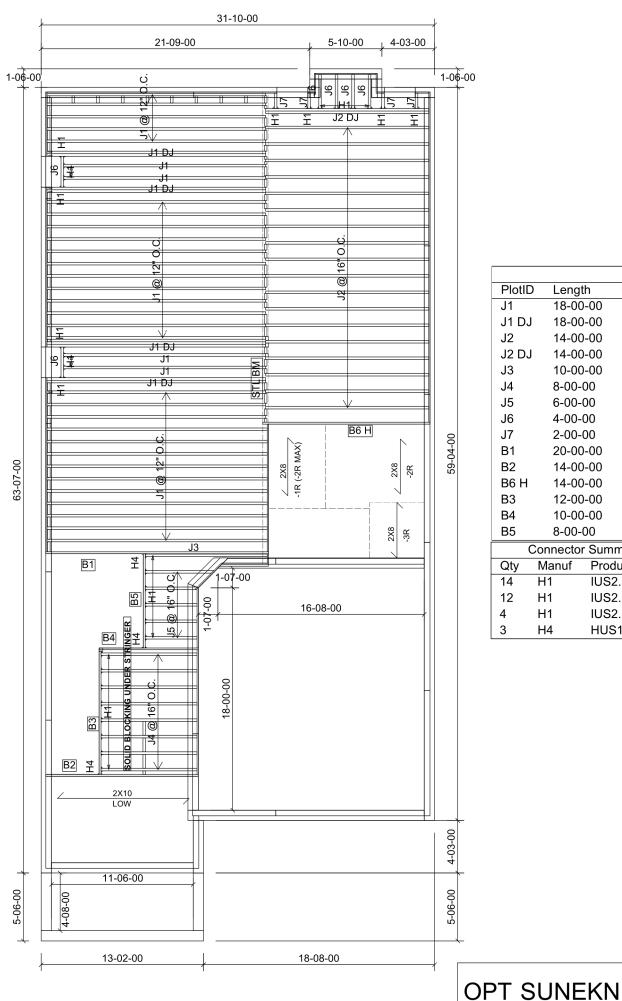
**BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

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:

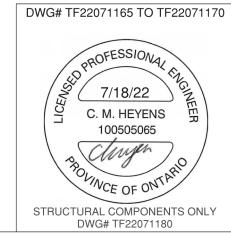
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	34
J1 DJ	18-00-00	11 7/8" NI-40x	2	8
J2	14-00-00	11 7/8" NI-40x	1	18
J2 DJ	14-00-00	11 7/8" NI-40x	2	2
J3	10-00-00	11 7/8" NI-40x	1	1
J4	8-00-00	11 7/8" NI-40x	1	8
J5	6-00-00	11 7/8" NI-40x	1	5
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B1	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6 H	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
В3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B5	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary					
Qty	Manuf	Product			
14	H1	IUS2.56/11.88			
12	H1	IUS2.56/11.88			
4	H1	IUS2.56/11.88			
3	H4	HUS1.81/10			



The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or

joist span tables for each component identified on this placement plan.

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are not within the scope of work of this seal.

The building designer must review and approve this plan to acertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

**DATE:** 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: 2022/01/12 **BUILDER:** ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

**MODEL**: 4002 **ELEVATION**: A

LOT:

**CITY:** BRAMPTON

**SALESMAN:** Rick DiCiano

**DESIGNER**: PL **REVISION:** 

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

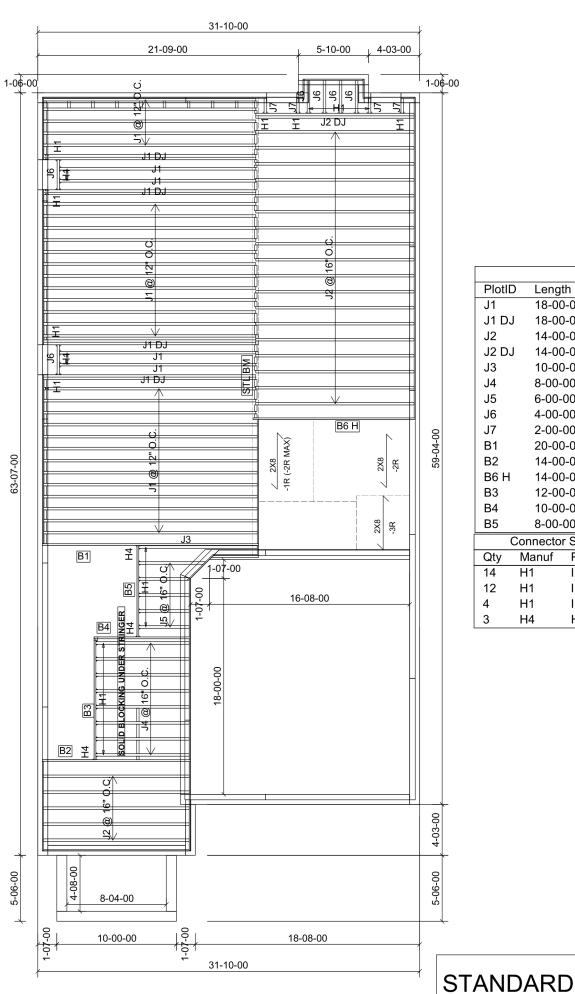
**BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

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



				Product	S			
PlotID	Length	Product					Plies	Net Qty
J1	18-00-00	11 7/8" NI-	40x				1	34
J1 DJ	18-00-00	11 7/8" NI-	40x				2	8
J2	14-00-00	11 7/8" NI-	40x				1	23
J2 DJ	14-00-00	11 7/8" NI-	40x				2	2
J3	10-00-00	11 7/8" NI-	40x				1	1
J4	8-00-00	11 7/8" NI-	40x				1	8
J5	6-00-00	11 7/8" NI-	40x				1	5
J6	4-00-00	11 7/8" NI-	40x				1	6
J7	2-00-00	11 7/8" NI-	40x				1	4
B1	20-00-00	1 3/4" x 11	7/8"	(2.0E 31	00)	WestFraser LVL	1	1
B2	14-00-00	1 3/4" x 11	7/8"	(2.0E 31	00)	WestFraser LVL	1	1
B6 H	14-00-00	1 3/4" x 11	7/8"	(2.0E 31	00)	WestFraser LVL	1	1
В3	12-00-00	1 3/4" x 11	7/8"	(2.0E 31	00)	WestFraser LVL	1	1
B4	10-00-00	1 3/4" x 11	7/8"	(2.0E 31	00)	WestFraser LVL	1	1
B5	8-00-00	1 3/4" x 11	7/8"	(2.0E 31	00)	WestFraser LVL	. 1	1
Co	nnector Sur	mary						

Connector Summary						
Manuf	Product					
H1	IUS2.56/11.88					
H1	IUS2.56/11.88					
H1	IUS2.56/11.88					
H4	HUS1.81/10					
	Manuf H1 H1 H1					



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**DATE:** 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: 2022/01/12 **BUILDER:** ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

**MODEL**: 4002 **ELEVATION**: B

LOT:

**CITY:** BRAMPTON

**SALESMAN:** Rick DiCiano

**DESIGNER**: PL **REVISION:** 

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

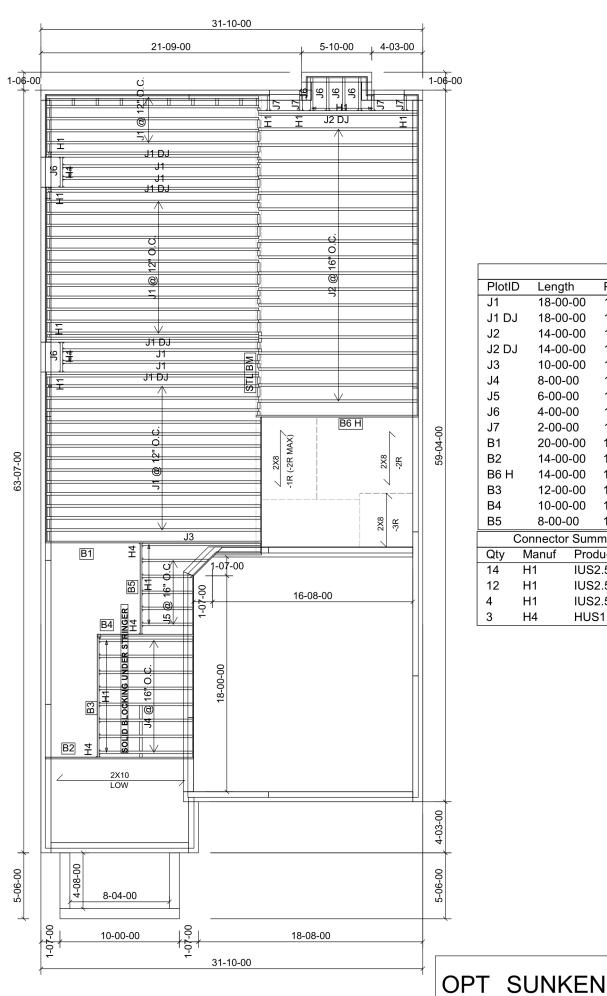
**BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

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:

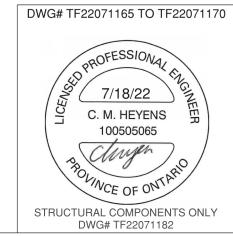
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



	Products						
PlotID	Length	Product	Plies	Net Qty			
J1	18-00-00	11 7/8" NI-40x	1	34			
J1 DJ	18-00-00	11 7/8" NI-40x	2	8			
J2	14-00-00	11 7/8" NI-40x	1	18			
J2 DJ	14-00-00	11 7/8" NI-40x	2	2			
J3	10-00-00	11 7/8" NI-40x	1	1			
J4	8-00-00	11 7/8" NI-40x	1	8			
J5	6-00-00	11 7/8" NI-40x	1	5			
J6	4-00-00	11 7/8" NI-40x	1	6			
J7	2-00-00	11 7/8" NI-40x	1	4			
B1	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser	·LVL 1	1			
B2	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser	· LVL 1	1			
B6 H	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser	·LVL 1	1			
B3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser	· LVL 1	1			
B4	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser	· LVL 1	1			
B5	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser	· LVL 1	1			

Connector Summary						
Qty	Manuf	Product				
14	H1	IUS2.56/11.88				
12	H1	IUS2.56/11.88				
4	H1	IUS2.56/11.88				
3	H4	HUS1.81/10				



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**DATE:** 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: 2022/01/12 **BUILDER:** ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

**MODEL**: 4002 **ELEVATION**: B

LOT:

**CITY:** BRAMPTON

SALESMAN: Rick DiCiano

**DESIGNER**: PL REVISION:

> 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

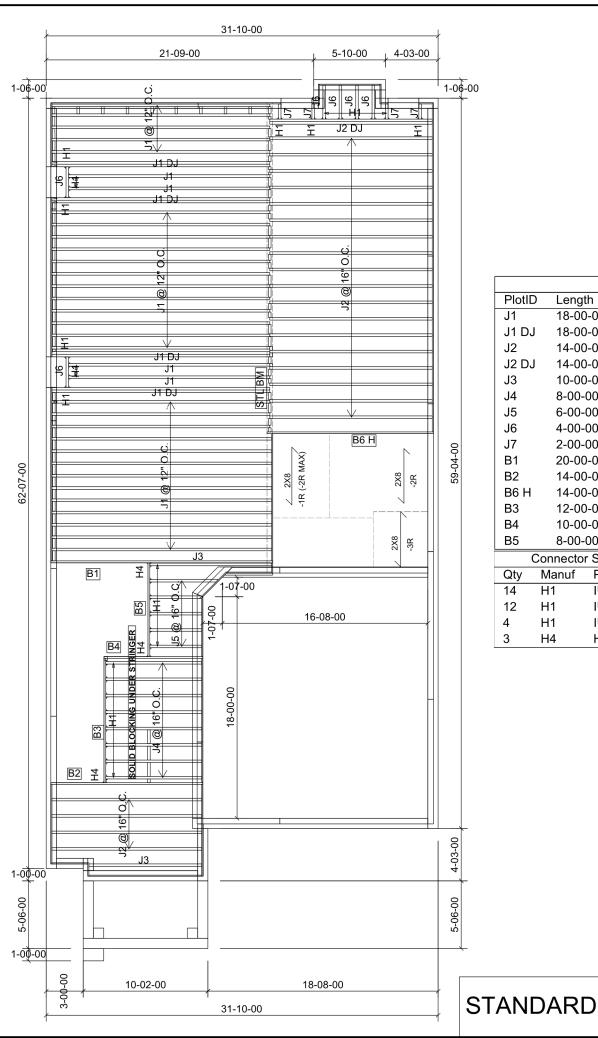
**BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

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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



Products					
PlotID	Length	Product	Plies	Net Qty	
J1	18-00-00	11 7/8" NI-40x	1	34	
J1 DJ	18-00-00	11 7/8" NI-40x	2	8	
J2	14-00-00	11 7/8" NI-40x	1	22	
J2 DJ	14-00-00	11 7/8" NI-40x	2	2	
J3	10-00-00	11 7/8" NI-40x	1	2	
J4	8-00-00	11 7/8" NI-40x	1	8	
J5	6-00-00	11 7/8" NI-40x	1	5	
J6	4-00-00	11 7/8" NI-40x	1	6	
J7	2-00-00	11 7/8" NI-40x	1	4	
B1	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B2	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B6 H	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B4	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B5	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	

Connector Summary					
Qty	Manuf	Product			
14	H1	IUS2.56/11.88			
12	H1	IUS2.56/11.88			
4	H1	IUS2.56/11.88			
3	H4	HUS1.81/10			



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**DATE:** 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: 2022/01/12 **BUILDER:** ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

**MODEL**: 4002 **ELEVATION**: C

LOT:

**CITY:** BRAMPTON

**SALESMAN:** Rick DiCiano

**DESIGNER**: PL **REVISION:** 

> 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

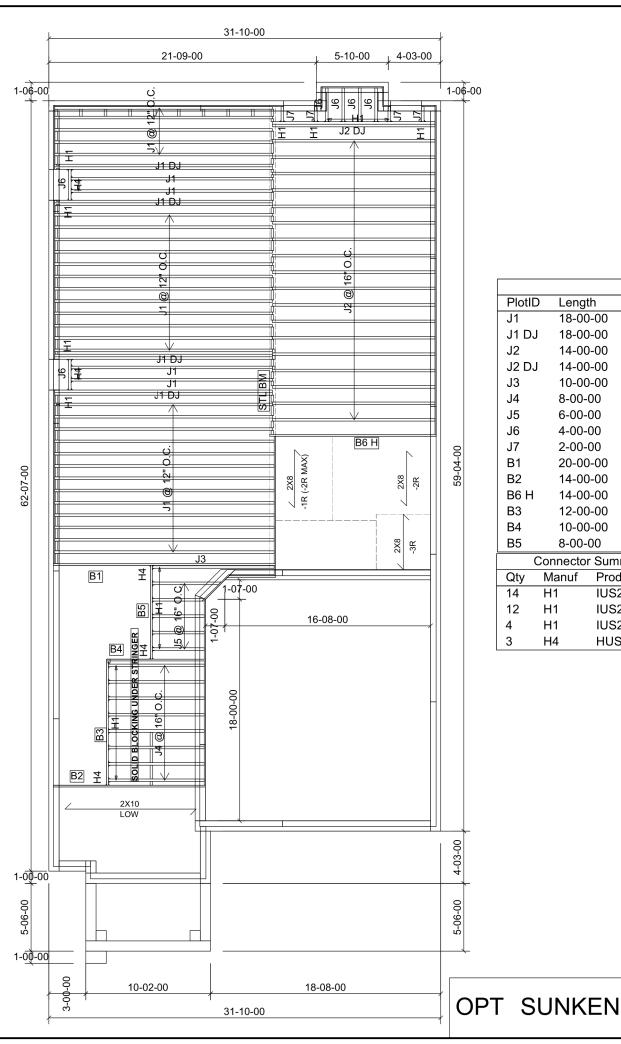
4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

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# LOADING:

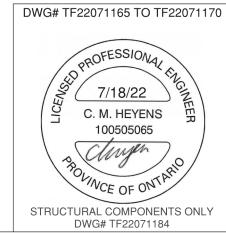
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



			Product	S		
PlotID	Length	Product			Plies	Net Qty
J1	18-00-00	11 7/8" NI-	40x		1	34
J1 DJ	18-00-00	11 7/8" NI-	40x		2	8
J2	14-00-00	11 7/8" NI-	40x		1	18
J2 DJ	14-00-00	11 7/8" NI-	40x		2	2
J3	10-00-00	11 7/8" NI-	40x		1	1
J4	8-00-00	11 7/8" NI-	40x		1	8
J5	6-00-00	11 7/8" NI-	40x		1	5
J6	4-00-00	11 7/8" NI-	40x		1	6
J7	2-00-00	11 7/8" NI-	40x		1	4
B1	20-00-00	1 3/4" x 11	7/8" (2.0E 31	00) WestFraser LVL	1	1
B2	14-00-00	1 3/4" x 11	7/8" (2.0E 31	00) WestFraser LVL	1	1
B6 H	14-00-00	1 3/4" x 11	7/8" (2.0E 31	00) WestFraser LVL	1	1
B3	12-00-00	1 3/4" x 11	7/8" (2.0E 31	00) WestFraser LVL	1	1
B4	10-00-00	1 3/4" x 11	7/8" (2.0E 31	00) WestFraser LVL	1	1
B5	8-00-00	1 3/4" x 11	7/8" (2.0E 31	00) WestFraser LVL	1	1
Со	nnector Sum	ımary				

Connector Summary					
Qty	Manuf	Product			
14	H1	IUS2.56/11.88			
12	H1	IUS2.56/11.88			
4	H1	IUS2.56/11.88			
3	H4	HUS1.81/10			



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**DATE:** 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: 2022/01/12 **BUILDER:** ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

**MODEL**: 4002 **ELEVATION**: C

LOT:

**CITY:** BRAMPTON

**SALESMAN:** Rick DiCiano

**DESIGNER**: PL **REVISION:** 

> 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

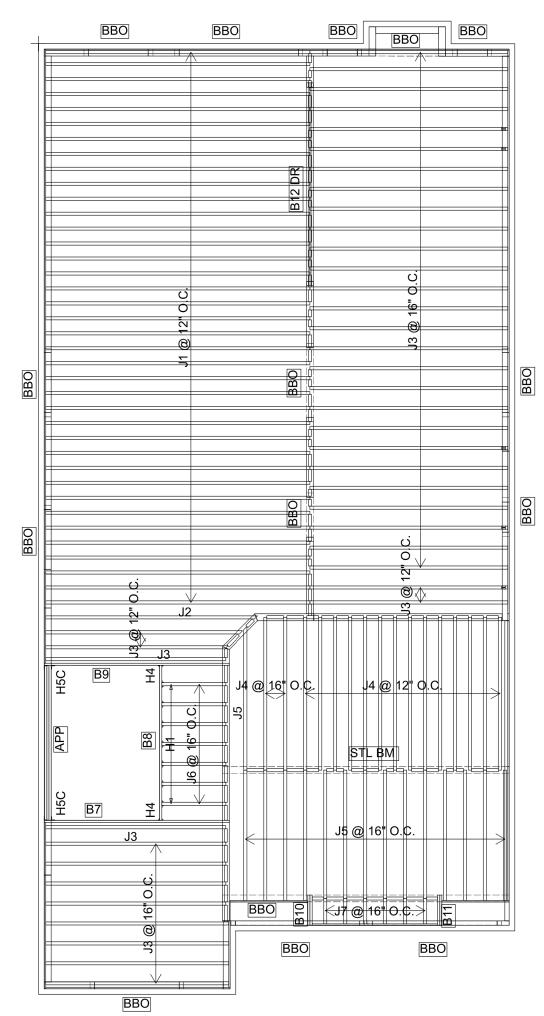
AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

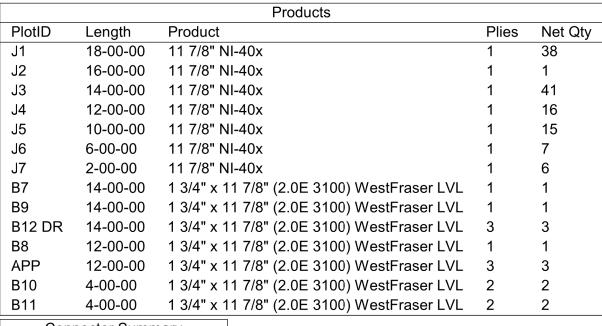
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# LOADING:

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





	Connector Summary					
Qty	Manuf	Product				
7	H1	IUS2.56/11.88				
2	H4	HUS1.81/10				
2	H5C	HUC610				



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**DATE**: 2022-07-15

2nd FLOOR FRAMING



**FROM PLAN DATED**: 2022/01/12 **BUILDER**: ROYAL PINE HOMES

**SITE**: FORESTSIDE ESTATES

MODEL: 4002 ELEVATION: A

LOT:

CITY: BRAMPTON

**SALESMAN:** Rick DiCiano

DESIGNER: PL REVISION:

> 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
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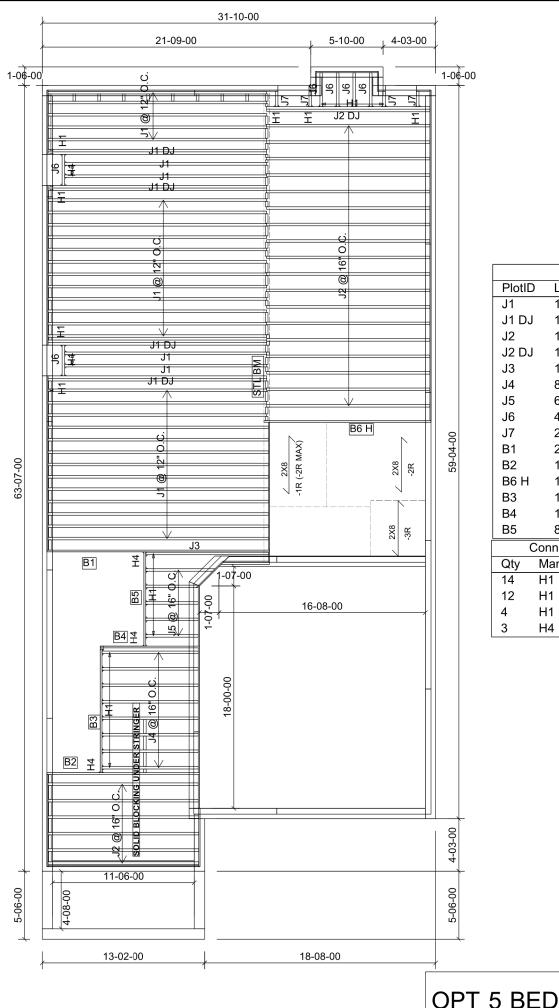
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JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	34
J1 DJ	18-00-00	11 7/8" NI-40x	2	8
J2	14-00-00	11 7/8" NI-40x	1	24
J2 DJ	14-00-00	11 7/8" NI-40x	2	2
J3	10-00-00	11 7/8" NI-40x	1	1
J4	8-00-00	11 7/8" NI-40x	1	8
J5	6-00-00	11 7/8" NI-40x	1	5
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B1	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6 H	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B5	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

 Connector Summary

 Qty
 Manuf
 Product

 14
 H1
 IUS2.56/11.88

 12
 H1
 IUS2.56/11.88

 4
 H1
 IUS2.56/11.88

 3
 H4
 HUS1.81/10



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**DATE**: 2022-07-15

2nd FLOOR FRAMING



FROM PLAN DATED: 2022/01/12
BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES

MODEL: 4002 ELEVATION: A

LOT:

CITY: BRAMPTON

**SALESMAN:** Rick DiCiano

DESIGNER: PL REVISION:

> 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.

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.

CANTILEVERED JOISTS INCLUDING CANT' OVER

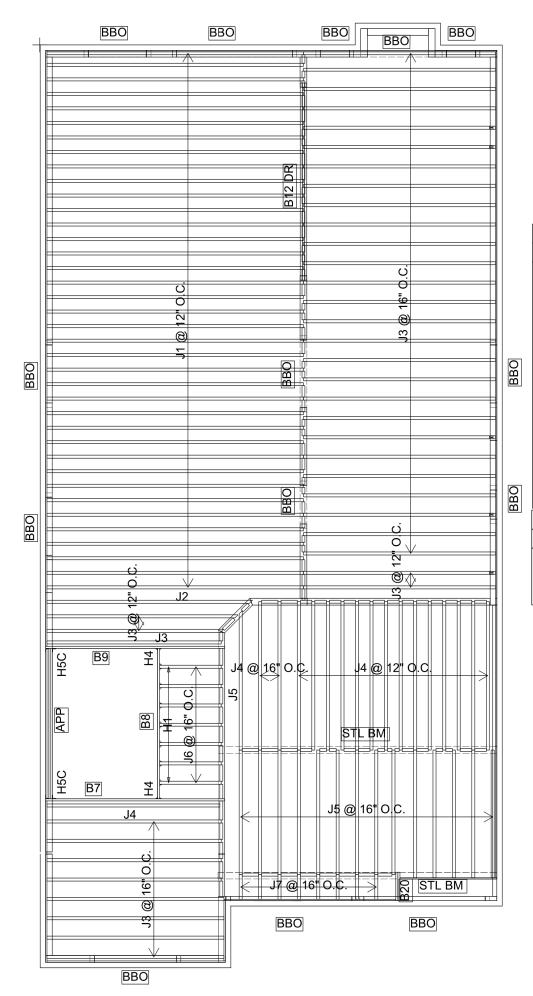
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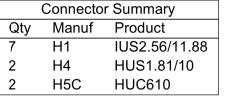
# LOADING:

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



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	38
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	40
J4	12-00-00	11 7/8" NI-40x	1	17
J5	10-00-00	11 7/8" NI-40x	1	15
J6	6-00-00	11 7/8" NI-40x	1	7
J7	2-00-00	11 7/8" NI-40x	1	8
B7	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
В9	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B12 DR	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B8	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B20	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
Con	nector Sumn	nary		





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**DATE**: 2022-07-15

2nd FLOOR FRAMING



FROM PLAN DATED: 2022/01/12
BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES

MODEL: 4002 ELEVATION: B

LOT:

CITY: BRAMPTON

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

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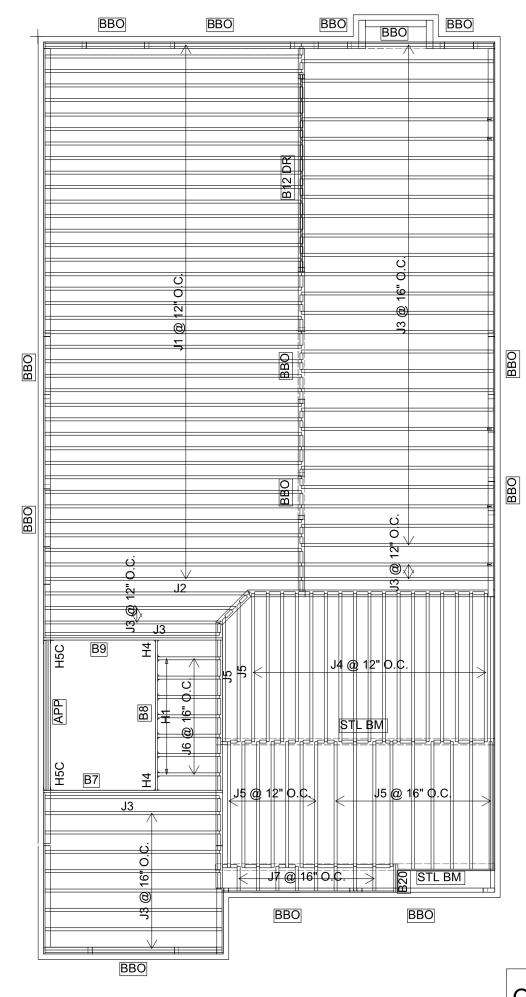
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DEAD LOAD: 15.0 lb/ft<sup>2</sup>
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	38
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	41
J4	12-00-00	11 7/8" NI-40x	1	17
J5	10-00-00	11 7/8" NI-40x	1	18
J6	6-00-00	11 7/8" NI-40x	1	7
J7	2-00-00	11 7/8" NI-40x	1	8
B7	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B12 DR	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
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APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B20	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
Con	nector Sumn	narv		

 Connector Summary

 Qty
 Manuf
 Product

 7
 H1
 IUS2.56/11.88

 2
 H4
 HUS1.81/10

 2
 H5C
 HUC610



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**DATE**: 2022-07-15

OPT 5 BEDROOM 2nd FLOOR FRAMING



FROM PLAN DATED: 2022/01/12
BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES

MODEL: 4002 ELEVATION: B

LOT:

CITY: BRAMPTON

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

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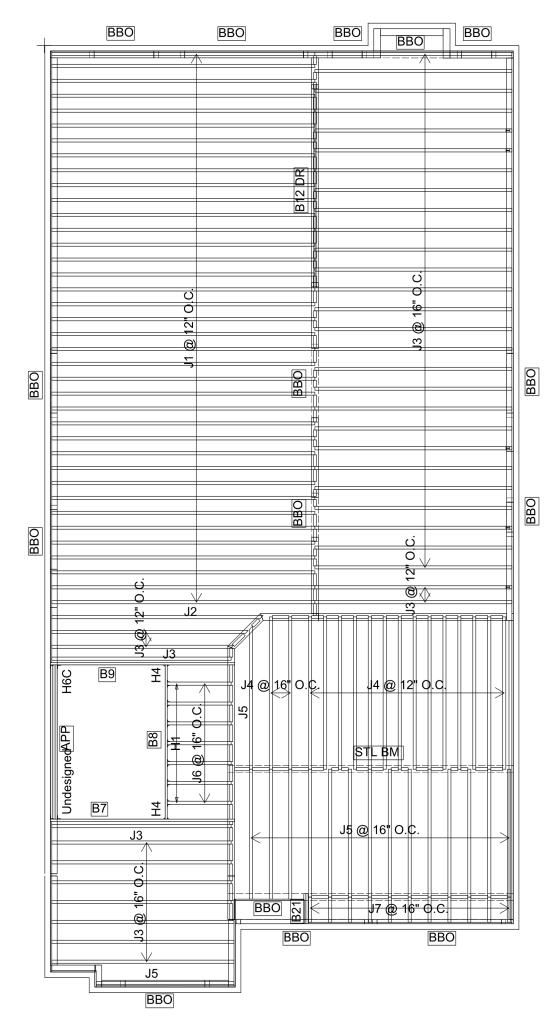
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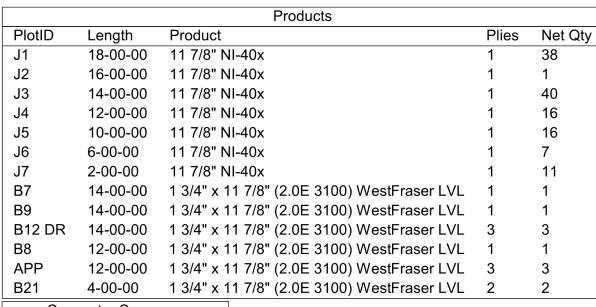
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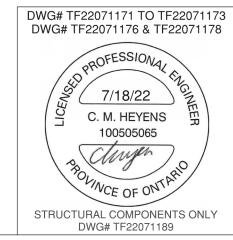
LIVE LOAD: 40.0 lb/ft<sup>2</sup>
DEAD LOAD: 15.0 lb/ft<sup>2</sup>
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480





Connector Summary								
Qty Manuf Product								
7	H1	IUS2.56/11.88						
2	H4	HUS1.81/10						
1	H6C	HUC610						



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**DATE**: 2022-07-15

2nd FLOOR FRAMING



FROM PLAN DATED: 2022/01/12
BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES

MODEL: 4002 ELEVATION: C

LOT:

CITY: BRAMPTON

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

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CANTILEVERED JOISTS INCLUDING CANT' OVER

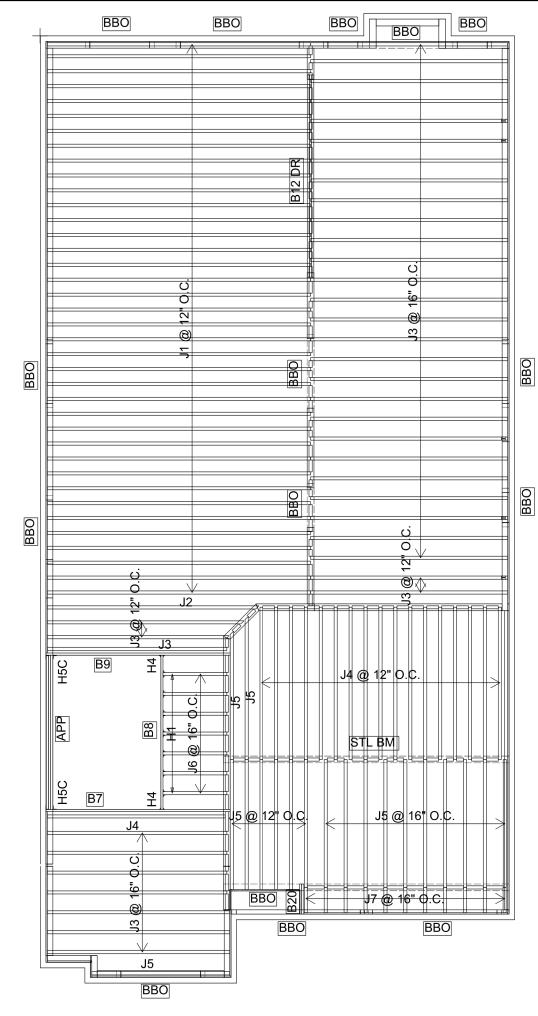
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J3	14-00-00	11 7/8" NI-40x	1	39
J4	12-00-00	11 7/8" NI-40x	1	18
J5	10-00-00	11 7/8" NI-40x	1	19
J6	6-00-00	11 7/8" NI-40x	1	7
J7	2-00-00	11 7/8" NI-40x	1	11
B7	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B12 DR	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B8	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
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B20	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B20		1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	_	_

Connector Summary									
Qty	Manuf	Product							
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**DATE:** 2022-07-15

OPT 5 BEDROOM 2nd F

2nd FLOOR FRAMING



FROM PLAN DATED: 2022/01/12
BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES

MODEL: 4002 ELEVATION: C

LOT:

**CITY**: BRAMPTON

SALESMAN: Rick DiCiano

DESIGNER: PL REVISION:

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CANTILEVERED JOISTS INCLUDING CANT' OVER

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BY THE SUPPORTING MEMBER ENGINEER OF RECORD

# LOADING:

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DEAD LOAD: 15.0 lb/ft<sup>2</sup>

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

JOIST LL DEFLECTION LIMIT: L/480

# NORDIC

INSTALLATION GUIDE NORDIC JOIST NS-GI33 **■**◆■

**Engineered Wood Products** 

BASIC INSTALLATION **GUIDE FOR RESIDENTIAL FLOORS** 

NORDIC **U**JOIST

NORDIC **STRUCTURES** 

WEB STIFFENERS

**NAIL SPACING** 

nordic.ca

1 x 2-5/16 Minimum width 1-1/2 x 2-5/16 Minimum width

1g

# INSTALLING NORDIC I-JOISTS

- Except for cutting to length, I-joist flanges should never be cut, drilled or notched
- Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment
- Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
- I-joists must be protected from the weather prior to installation.
- I-joists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of 15 percent or greater, such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with
- End bearing length must be at least 1-3/4 inch. For multiple-span joists, intermediate bearing length must be at least 3-1/2 inches.
- I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (cripple blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
- For I-inists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the using a single I-joist is 3.300 plf, and 6.600 plf if double I-joists are used.
- . Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5.
- . Nails installed in flange face or edge shall be spaced in accordance with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).
- B. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
- 4. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735.

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

1b

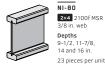
1

2×3 S-P-F No. 2

NORDIC I-JOIST SERIES RESIDENTIAL SERIES

2x3 1950f MSR 3/8 in. web 33 pieces per unit





2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

SAFETY AND CONSTRUCTION PRECAUTIONS

Avoid Accidents by Following these Important Guidelines

of I-ioists at the end of the bay.

rim board, or cross-bridging.

5. Never install a damaged I-joist

-joists are not stable until completely installed, and will not carry any load until fully brace

I. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and

or cross-bridging at joist ends. When I-joists are applied continuous over interior supports

and a load-bearing wall is planned at that location, blocking will be required at the interior

2. When the building is completed, the floor sheathing will provide lateral support for the top

or temporary sheathing must be applied to prevent I-joist rollover or buckling. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced

system. Then, stack building materials over beams or walls only.

flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts,

no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2-inch nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.

Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet

3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure

to use web stiffeners when required can result in serious accidents. Follow these installation

NI-90 2x4 2400f MSR 7/16 in. web

Width Length 1-1/8 in. 16 ft APA Rim Board Plus

RIM BOARDS

Do not walk on I-joist

Never stack building

braced or serious

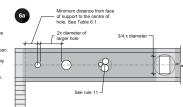
until fully fastened an

# WEB HOLES AND OPENINGS

# WEB HOLES IN I-JOISTS

- Rules for Cutting Holes in I-Joists The distance between the inside edge of the support and the centreline of any hole shall be in compliance with the requirement of Table 6.1.

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provide
- materials over unsheathed I-joists Once sheathed, do no overstress I-joist with



## DUCT CHASE OPENINGS

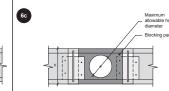
6b

Rules for Cutting Duct Chase Openings in I-joists

- The distance between the inside edge of the support and the co duct chase opening shall be in compliance with the requiremen
- I-joist top and bottom flanges must never be cut, notched or otherwise mo
- The maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the opening and the adjacent I-joist flange. Holes cut into the blocking panels are subject to the following limitations The top and bottom flanges of an I-joist blocking panel must never be cut,
- All openings shall be cut in accordance with the restrictions listed above and as illustrated in detail 6h

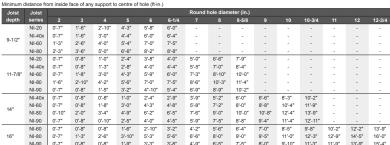
Allowable Hole Size in Lateral-restraint-only Blocking Panels

HOLES IN BLOCKING PANELS



I-joist or rim board blocking depth (in.)	Maximum allowable hole diameter (in.) <sup>(a)</sup>				
9-1/2	6-1/4				
11-7/8	7-3/4				
14	9-1/4				

# TABLE 6.1 - LOCATION OF WEB HOLES



I-joist depth (in.)	Maximum depth of the opening (in.)
9-1/2	6-1/4
11-7/8	8-5/8
14	10-3/4
16	12-3/4

# Minimum 1/8" space between top or bottom flange and openin

	imple or multiple span finimum distance from inside face of any support to centre of hole (ft-in.)												Simple spa Minimum di				
Joist	Joist	oist Round hole diameter (in.)											Joist				
depth	series						6-1/4			8-5/8		10	10-3/4		12	12-3/4	depth :
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-	-	-	-	-	-	-	-	
9-1/2"	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"	-	-	-	-	-	-	-	-	-	9-1/2"
9-1/2	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	-	-	-	-	-	-	-	-	-	9-1/2
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	-	
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-	
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	-	
11-7/8"	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-	-	-	-	-	-	11-7/8"
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-	
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4"-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-	
	NI-40x	0'-7"	0"-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-	
	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-	

Design Criteria		
Joist spacing	Up to 24 inches	
Loads	Live load = 40 psf and dead load = 15 psf	
Deflection limits	L/480 under live load and L/240 under total load	

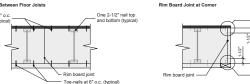
# TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

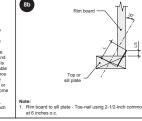
aeptn	series	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10"	-	-	-	-	-	-
9-1/2"	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	-
	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	-
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
	NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	-
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	-	-
11-7/8"	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	-	-
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8
	NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-1
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11'-2"	-	-
14"	NI-60	8'-9"	9'-3"	9'-8"	10'-11"	10'-6"	11'-1"	11'-6"	-	-
14"	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-€
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"	11'-5"	11'-9"	12'-4"	12'-1
	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	-	-
16"	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-4
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-1
		D! 0								
		Design C	riteria							

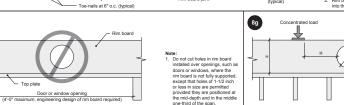
# RIM BOARDS 8a

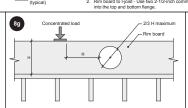
8f

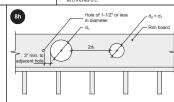




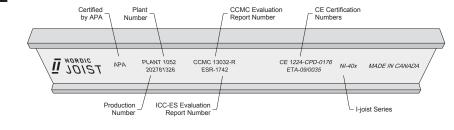








# -JOIST MARKING



For the latest version, consult nordic.ca or contact Nordic Structures.	
_	

construction details  $\rightarrow$ DC3

1k

2-1/8 to 2-1/4 x 12 2x12 + 5/8" or 3/4" she 2 x 2x10 2 x 2x12

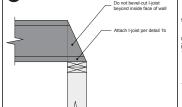
1s-1

FOR ALL

1h

use net joist depth minus 3-1/4 inches for joists with

1n



connection. Leave a 1/8-inch to 1/4-inch gap between top of filler block and bottom of top

1.) Filler block size (in.) Example

2-1/8 to 2-1/4 x 6 2x6 + 5/8" or 3/4" she

2-1/8 to 2-1/4 x 8 2x8 + 5/8" or 3/4" she

2-1/8 to 2-1/4 x 10 2x10 + 5/8" or 3/4" she



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD**Level: **1ST FLOOR** 

Label: **B1 - i5915**Type: **Beam** 

1 Ply Member 1 3/4" x 11 7/8" (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 Report Version: 2021.03.26 07/15/2022 13:41

# 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 9/16"

# Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 17'- 8"

ANALYSIS RESULTS	ANALYSIS RESULTS												
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result							
Factored Pos. Moment:	7'- 11 9/16"	1.25D + 1.5L	0.95	9144 lb ft	16725 lb ft	Passed - 55%							
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	0.95	32 lb ft	4702 lb ft	Passed - 1%							
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.95	1558 lb	6537 lb	Passed - 24%							
Live Load (LL) Pos. Defl.:	8'- 9 5/8"	L		0.294"	L/360	Passed - L/697							
Total Load (TL) Pos. Defl.:	8'- 8 7/16"	D + L		0.658"	L/240	Passed - L/312							
Permanent Deflection:	8'- 7 1/2"			-	L/360	Passed - L/581							

SUP	SUPPORT AND REACTION INFORMATION											
Input Controlling Load Factored Factored Factored ID Bearing Combination LDF Downward Uplift Resistance Resul Length Reaction Reaction of Member of Support												
1	5-08	1.25D + 1.5L	0.95	1879 lb		9473 lb	5604 lb	Passed - 34%				
2	5-08	1.25D + 1.5L	0.95	1416 lb		9473 lb	5602 lb	Passed - 25%				
SPF	SPECIFIED LOADS											

П	SPECII	FIED LOAL	,3						
	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
	Self Weight	0'	18'- 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
	Uniform	0'- 3"	7'- 10 11/16"	FC1 Floor Decking (Plan View Fill)	Тор	11 lb/ft	21 lb/ft	-	-
	Uniform	0'- 5 1/2"	8'- 5"	User Load	Top	60 lb/ft	-	-	-
	Uniform	7'- 10 11/16"	18'- 1/2"	FC1 Floor Decking (Plan View Fill)	Тор	12 lb/ft	24 lb/ft	-	-
	Point	7'- 11 9/16"	7'- 11 9/16"	B5(i5985)	Front	462 lb	516 lb	-	-
	Point	0'- 1/4"	0'- 1/4"	FC1 Floor Decking (Plan View Fill)	Тор	9 lb	19 lb	-	-
	Point	0'- 3 1/16"	0'- 3 1/16"	E84(i2497)	Top	54 lb	50 lb	-	-
	Point	17'- 9 3/4"	17'- 9 3/4"	8(i820)	Top	47 lb	70 lb	-	-

Ш	UNFAC	JOKED KI	EACTIONS					
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
	1	0'	0'- 5 1/2"	W24(i36)	843 lb	557 lb	-	-
	2	17'- 7"	18'- 1/2"	STL BM (i44)	518 lb	506 lb	-	-

# **DESIGN NOTES**

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





CITY:

ROYAL PINE HOMES
FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD** Level: **1ST FLOOR** 

Label: **B2 - i5971**Type: **Beam** 

1 Ply Member 1 3/4" x 11 7/8" (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 8.5.3.233.Update5.15 Report Version: 2021.03.26 07/15/2022 13:41

## 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'- 10 5/16"

# Factored Resistance of Support Material:

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

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 4 11/16"	1.25D + 1.5L	1.00	11415 lb ft	17672 lb ft	Passed - 65%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L + S	1.00	2961 lb	6908 lb	Passed - 43%
Live Load (LL) Pos. Defl.:	5'- 9 1/4"	L		0.208"	L/360	Passed - L/660
Total Load (TL) Pos. Defl.:	5'- 9 1/8"	D + L		0.339"	L/240	Passed - L/405
SUPPORT AND REAC	TION INFORM	IATION				

н	SUPP	JK I AND K	EACTION	INFURIMATIO	N				
		Input Controlling Load LDF D Bearing Combination LDF Length		Factore Downwa Reactio	rd Uplift	Factored Resistance of Member	Factored Resistance of Support	Result	
ı	1	5-08	1.25D + 1.5	5L + S 1.00	3212 lb	)	10010 lb	5921 lb	Passed - 54%
Ί	2	5-08	1.25D +	1.5L 1.00	1903 lb	)	10010 lb	5921 lb	Passed - 32%
l	SPECI	FIED LOAD	S						
ı	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
l	Self Weight	0'	12'- 4 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
l	Uniform	0'- 3"	4'- 3 13/16"	FC1 Floor Decking (Plan View Fill)	<sup>ј</sup> Тор	9 lb/ft	19 lb/ft	-	-
ı	Uniform	0'- 5 1/2"	4'- 5 9/16"	User Load	Тор	60 lb/ft	-	-	-
l	Uniform	4'- 3 13/16"	12'- 4 1/2"	FC1 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
ı	Point	4'- 4 11/16"	4'- 4 11/16"	B3(i5981)	Back	749 lb	1352 lb	-	-
ı	Point	7'- 11 9/16"	7'- 11 9/16"	Bk1(i6007)	Back	18 lb	35 lb	-	-
ı	Point	0'- 3 1/16"	0'- 3 1/16"	E10(i679)	Тор	52 lb	18 lb	26 lb	-
ı	Point	4'- 4 11/16"	4'- 4 11/16"	User Load	Тор	200 lb	400 lb	-	-
ı	Point	12'- 1 15/16"	12'- 1 15/16"	3(i809)	Тор	31 lb	39 lb	-	-
l	UNFAC	CTORED RE	EACTIONS						
١	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1	0'	0'- 5 1/2"	W24(i36)		989 lb	1319 lb	27 lb	-
1	2	11'- 11"	12'- 4 1/2"	W28(i43)		520 lb	816 lb	-1 lb	-

# **DESIGN NOTES**

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





CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4002 **BRAMPTON**  Job Name: 4002 -ELEV A STD Level: 1ST FLOOR

Label: B3 - i5981

Type: **Beam**  1 Ply Member

1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL Passed

Status: Design

Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 07/15/2022 13:41 8.5.3.233.Update5.15

9-10-06 10-02-14

# **DESIGN INFORMATION**

NBCC 2015, Part9, BCBC 2018, **Building Code:** 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:

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

# Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Column @ 9'- 11 3/8"

l	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	3'- 9 5/16"	1.25D + 1.5L	1.00	8010 lb ft	17672 lb ft	Passed - 45%
l	Factored Neg. Moment:	9'- 11 3/8"	1.25D + 1.5L	1.00	218 lb ft	17672 lb ft	Passed - 1%
l	Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	2942 lb	6908 lb	Passed - 43%
l	Live Load (LL) Pos. Defl.:	4'- 9 1/2"	L		0.126"	L/360	Passed - L/941
l	Total Load (TL) Pos. Defl.:	4'- 9 7/8"	D + L		0.200"	L/240	Passed - L/591

SUP	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	1-10	1.25D + 1.5L	1.00	2949 lb		2949 lb	-	Passed - 100%				
2	4-08	1.25D + 1.5L	1.00	4098 lb		8190 lb	4843 lb	Passed - 85%				

	INFORMAT	

ID	Part No.	Manufacturar	Nai	ling Requirem	ents	Other Information or Requirement for
	Part No.	Manufacturer	Тор	Face	Member	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									
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	10'- 2 7/8"	Self Weight	Тор	6 lb/ft	-	-	-	
Uniform	3'- 8 13/16"	9'- 13/16"	Smoothed Load	Front	78 lb/ft	156 lb/ft	-	-	
Uniform	6'- 1 1/8"	10'- 1 1/8"	User Load	Тор	60 lb/ft	-	-	-	
Point	0'- 4 13/16"	0'- 4 13/16"	J4(i5902)	Front	95 lb	191 lb	-	-	
Point	1'- 8 13/16"	1'- 8 13/16"	J4(i5978)	Front	147 lb	295 lb	-	-	
Point	3'- 13/16"	3'- 13/16"	J4(i5956)	Front	140 lb	280 lb	-	-	
Point	9'- 8 13/16"	9'- 8 13/16"	J4(i5918)	Front	71 lb	142 lb	-	-	
Point	3'- 9 5/16"	3'- 9 5/16"	User Load	Тор	350 lb	700 lb	-	-	
Point	10'- 1 1/8"	10'- 1 1/8"	User Load	Тор	350 lb	700 lb	-	-	

UNFA	UNFACTORED REACTIONS										
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)				
1	0'	0'	B2(i5971)	749 lb	1352 lb	-	-				
2	9'- 10 3/8"	10'- 2 7/8"	PBO1(i59)	1120 lb	1788 lb	-	-				

# **DESIGN NOTES**

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





CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD** Level: **1ST FLOOR** 

Label: **B4 - i6031**Type: **Beam** 

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

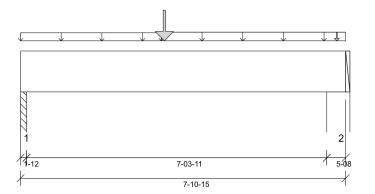
Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 13:41



# 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'- 10 9/16"

# Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Wall @ 7'- 6 7/16"

ANALYSIS RESULTS									
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result			
Factored Pos. Moment:	3'- 6"	1.25D + 1.5L	1.00	2979 lb ft	17672 lb ft	Passed - 17%			
Factored Shear:	1'- 1 5/8"	1.25D + 1.5L	1.00	885 lb	6908 lb	Passed - 13%			
Live Load (LL) Pos. Defl.:	3'- 8 3/4"	L		0.022"	L/360	Passed - L/999			
Total Load (TL) Pos. Defl.:	3'- 8 3/4"	D + L		0.037"	L/240	Passed - L/999			
SUPPORT AND REACTION INFORMATION									

Factored

Factored

Factored

Factored

ID	Bearing Controlling Load Length Combination			Downward Reaction	l Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1-12	1.25D +	1.5L 1.00	921 lb		3185 lb	1883 lb	Passed - 49%
2	5-08	1.25D +	1.5L 1.00	936 lb		10010 lb	5921 lb	Passed - 16%
SPEC	IFIED LOAI	os						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 10 15/16"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	3'- 5 1/8"	FC1 Floor Decking (Plan View Fill)	Тор	5 lb/ft	10 lb/ft	-	-
Uniform	3'- 5 1/8"	7'- 10 15/16"	FC1 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
Point	3'- 6"	3'- 6"	B5(i5985)	Back	398 lb	619 lb	-	-
Point	7'- 8 3/8"	7'- 8 3/8"	3(i809)	Тор	18 lb	13 lb	-	-
UNFA	CTORED R	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO1(i59)		268 lb	396 lb	-	-
2	7'- 5 7/16"	7'- 10 15/16"	W28(i43)		272 lb	392 lb	-	-

# **DESIGN NOTES**

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





CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD**Level: **1ST FLOOR** 

Label: **B5 - i5985**Type: **Beam** 

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

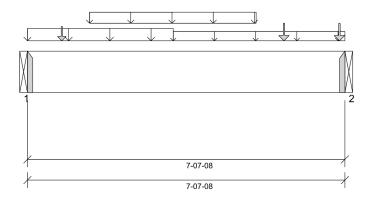
Design Passed

Status:

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 13:41



# 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 Beam @ 7'- 7 1/2"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 5 15/16"	1.25D + 1.5L	1.00	2541 lb ft	17672 lb ft	Passed - 14%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	970 lb	6908 lb	Passed - 14%
Live Load (LL) Pos. Defl.:	3'- 8 1/4"	L		0.022"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 8 15/16"	D + L		0.040"	L/240	Passed - L/999

IJ	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				
Ш	1	1-08	1.25D + 1.5L	1.00	1431 lb		2730 lb	-	Passed - 52%				
Ш	2	1-08	1.25D + 1.5L	1.00	1346 lb		2730 lb	-	Passed - 49%				

	INFORMATION

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

\* 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.

SPECIF	FIED LOAD	)S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 7 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	3'- 6"	User Load	Back	60 lb/ft	120 lb/ft	-	-
Uniform	3'- 6"	7'- 7 1/2"	User Load	Тор	60 lb/ft	-	-	-
Tapered	1'- 5 15/16"	5'- 5 15/16"	Smoothed Load	Front	42 To 43 lb/ft	85 lb/ft	-	-
Point	0'- 9 15/16"	0'- 9 15/16"	J5(i5883)	Front	47 lb	95 lb	-	-
Point	6'- 1 15/16"	6'- 1 15/16"	J5(i6006)	Front	70 lb	140 lb	-	-
Point	7'- 5 15/16"	7'- 5 15/16"	J3(i5927)	Front	71 lb	141 lb	-	-
UNFAC	TORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	n'	B4(i6031)		398 lb	619 lh		

# **DESIGN NOTES**

7'- 7 1/2"

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

B1(i5915)

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





DER: ROYAL PINE HOMES
FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD** Level: **1ST FLOOR** 

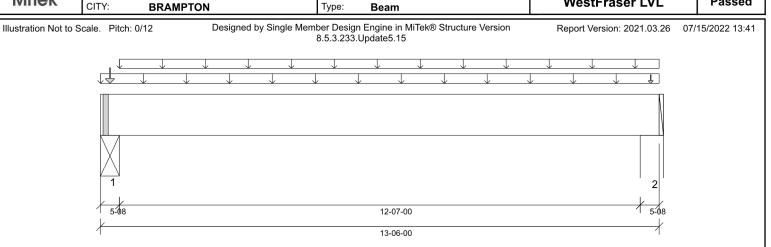
Label: B6 H - i6004
Type: Beam

SUPPORT AND REACTION INFORMATION

Controlling Load

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL Status:

Design
Passed



## 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'- 7"

# Factored Resistance of Support Material:

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

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 9 3/16"	1.25D + 1.5L	0.80	2801 lb ft	14051 lb ft	Passed - 20%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	0.80	37 lb ft	3567 lb ft	Passed - 1%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.80	739 lb	5492 lb	Passed - 13%
Live Load (LL) Pos. Defl.:	6'- 9 1/8"	L		0.033"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 9 1/16"	D + L		0.131"	L/240	Passed - L/999

Factored

Factored

Factored

Factored

3		Bearing Length	Controlling		Downwar Reaction		Resistance of Member	Resistance of Support	Result
١	1	5-08	1.25D +	1.5L 0.80	1131 lb		7959 lb	4706 lb	Passed - 24%
ı	2	5-08	1.25D +	1.5L 0.80	956 lb		7959 lb	4708 lb	Passed - 20%
ı	SPEC	FIED LOAD	S						
ı	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	Self Weight	0'	13'- 6"	Self Weight	Тор	6 lb/ft	-	-	-
ı	Uniform	0'	13'- 6"	User Load	Тор	60 lb/ft	-	-	-
ı	Uniform	0'- 5 1/2"	13'- 6"	FC1 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
1	Point	0'- 2 3/4"	0'- 2 3/4"	7(i819)	Тор	59 lb	95 lb	-	-
1	Point	13'- 3 9/16"	13'- 3 9/16"	E22(i836)	Тор	15 lb	-	-	-
١	UNFA	CTORED RE	EACTIONS						
ı	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1	0'	0'- 5 1/2"	STL BM (i4	4)	590 lb	267 lb	-	-
ı	2	13'- 1/2"	13'- 6"	W18(i32)		548 lb	176 lb	-	-

# DESIGN NOTES

Input

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





**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4002 **BRAMPTON**  Job Name: 4002 -ELEV A STD Level: 2ND FLOOR

Label: B7 - i5827 Type: **Beam** 

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

Status: Design Passed

CITY: Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 07/15/2022 13:41 8.5.3.233.Update5.15 2 5-08 5-08 11-05-06

12-04-06

# **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:

Bottom: 7'- 2 15/16" Top: 0'

# Factored Resistance of Support Material:

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

ANALYSIS RESULTS											
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	7'- 9 5/16"	1.25D + 1.5L	0.90	5130 lb ft	15919 lb ft	Passed - 32%					
Factored Shear:	10'- 11"	1.25D + 1.5L	0.90	1372 lb	6222 lb	Passed - 22%					
Live Load (LL) Pos. Defl.:	6'- 7 1/8"	L		0.073"	L/360	Passed - L/999					
Total Load (TL) Pos. Defl.:	6'- 5 9/16"	D + L		0.170"	L/240	Passed - L/809					
SUPPORT AND REACTION INFORMATION											
Input Co.	ntrolling Lood	Factored	Factored	Factored	Factored						

ID	Input Bearing Length	Controlling Combin		Factor Downw Reacti	ard Uplift	Factored Resistance of Member	Factored Resistance of Support	Result			
1	5-08	1.25D + 1.	.5S + L 0.76	1013	lb	7653 lb	4527 lb	Passed - 22%			
2	5-08	1.25D +	1.5L 0.90	1548	lb	9017 lb	5334 lb	Passed - 29%			
SPECIFIED LOADS											
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)			
Self Weight	0'	12'- 4 3/8"	Self Weight	Тор	6 lb/ft	-	-	-			
Uniform	n -0'	7'- 8 7/16"	FC2 Floor Deckin (Plan View Fill)	9 Тор	5 lb/ft	9 lb/ft	-	-			
Uniform	n 0'- 5 1/2"	12'- 3/8"	User Load	Top	60 lb/ft	-	-	-			
Uniform	7'- 8 7/16"	12'- 1 5/8"	FC2 Floor Deckin (Plan View Fill)	9 Тор	16 lb/ft	31 lb/ft	-	-			
Point	7'- 9 5/16"	7'- 9 5/16"	B8(i5405)	Back	308 lb	555 lb	-	-			
Point	0'- 2 7/16"	0'- 2 7/16"	E53(i1869)	Тор	28 lb	-	26 lb	-			
UNFA	CTORED RI	EACTIONS	3								
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)			
1	0'	0'- 5 1/2"	E85(i258	3)	562 lb	281 lb	27 lb	-			
2	11'- 10 7/8"	12'- 4 3/8"	3(i809)		646 lb	485 lb	-1 lb	-			

# **DESIGN NOTES**

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





CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD** Level: **2ND FLOOR** 

Label: **B8 - i5405**Type: **Beam** 

1 Ply Member

1 3/4" x 11 7/8" (2.0E 3100) Des WestFraser LVL Pas

Status:

Design
Passed

07/15/2022 13:41

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version

8.5.3.233.Update5.15

Report Version: 2021.03.26

# 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 7/8"

# Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 10'- 4 5/16"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 5 3/16"	1.25D + 1.5L	1.00	4417 lb ft	17672 lb ft	Passed - 25%
Factored Shear:	9'- 4 7/16"	1.25D + 1.5L	1.00	1872 lb	6908 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	5'- 5 3/16"	L		0.081"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 5 1/8"	D+L		0.125"	L/240	Passed - L/992

SUP	SUPPORT AND REACTION INFORMATION											
ID	Input Controlling L Bearing 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	1217 lb		2730 lb	-	Passed - 45%				
2	1-08	1.25D + 1.5L	1.00	2384 lb		2730 lb	-	Passed - 87%				

CONNECTOR INFORMATION	

ID	Part No.	Manufacturer	Na	ailing Requireme	nts	Other Information or Requirement for
טו	Fait No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories
1	HUS1.81/10		-	-	-	Connector manually specified by the user.
2	HUS1.81/10		-	-	-	Connector manually specified by the user.
1						

\* 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.

SPECIF	FIED LOAD	08						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 4 5/16"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	1'- 9 3/16"	9'- 9 3/16"	Smoothed Load	Front	44 lb/ft	89 lb/ft	-	-
Uniform	6'- 10 5/16"	10'- 4 5/16"	User Load	Тор	120 lb/ft	240 lb/ft	-	-
Point	1'- 1 3/16"	1'- 1 3/16"	J6(i5408)	Front	55 lb	111 lb	-	-
UNFAC	TORED R	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B7(i5827)		308 lb	555 lb	-	-
2	10'- 4 5/16"	10'- 4 5/16"	B9(i5796)		583 lb	1104 lb	-	-

# **DESIGN NOTES**

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





ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD**Level: **2ND FLOOR** 

Label: **B9 - i5796** Type: **Beam** 

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

5-08

of Support

4950 lb

5734 lb

Passed - 28%

Passed - 41%

Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 07/15/2022 13:41

11-05-06

1.25D + 1.5S + L

1.25D + 1.5L

# DESIGN INFORMATION

5-08

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'- 2 15/16"

# Factored Resistance of Support Material:

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

ANA	ALYSIS RESULT:	S					
	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Facto	red Pos. Moment:	7'- 9 5/16"	1.25D + 1.5L	0.97	8266 lb ft	17115 lb ft	Passed - 48%
Facto	red Shear:	10'- 11"	1.25D + 1.5L	0.97	2123 lb	6690 lb	Passed - 32%
Live L	oad (LL) Pos. Defl.	.: 6'- 7 5/16"	L		0.132"	L/360	Passed - L/999
Total I	Load (TL) Pos. Defl	i.: 6'- 6 1/4"	D + L		0.258"	L/240	Passed - L/532
SUPPORT AND REACT		ACTION INFORM	ATION				
ID	Input Bearing	Controlling Load Combination	Factored LDF Downward	Factored Uplift	Factored Resistance		Result

Reaction

of Member

8368 lb

9694 lb

Reaction

1400 lb

2329 lb

0.84

0.97

_	0 00	1.200	1.02 0.07	2020		000116	070116	1 40004 1170
SPECIF	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 4 3/8"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	7'- 8 7/16"	FC2 Floor Decking (Plan View Fill)	Тор	4 lb/ft	8 lb/ft	-	-
Uniform	0'- 5 1/2"	12'- 4 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	7'- 8 7/16"	12'- 1 5/8"	FC2 Floor Decking (Plan View Fill)	Тор	17 lb/ft	34 lb/ft	-	-
Point	7'- 9 5/16"	7'- 9 5/16"	B8(i5405)	Front	583 lb	1104 lb	-	-
Point	0'- 2 7/16"	0'- 2 7/16"	E86(i5768)	Тор	46 lb	-	57 lb	-
UNFAC	TORED RE	EACTIONS	5					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E85(i2583)		680 lb	480 lb	59 lb	-
2	11'- 10 7/8"	12'- 4 3/8"	3(i809)		843 lb	837 lb	-2 lb	-

# **DESIGN NOTES**

Length

5-08

5-08

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





CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

EL: 4002 BRAMPTON Job Name: **4002 -ELEV A STD**Level: **2ND FLOOR** 

Label: **B10 - i5497** Type: **Beam** 

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

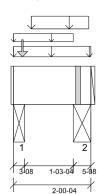
Status:

Design
Passed

07/15/2022 13:41

Illustration Not to Scale. Pitch: 0/12

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



# **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'- 3 1/4"

# Factored Resistance of Support Material:

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

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

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



STRUCTURAL COMPONENT ONLY DWG # TF22071174

ANAL	YSIS RESUL	-15							
D	esign Criteria	Loc	ation	Load	Combinatio	n LDF	Design	Limit	Result
Factored	d Pos. Momen	t: 0'- 1	0 3/4"	1.25	D + 1.5S + I	L 1.00	121 lb ft	35345 lb ft	Passed - 0%
Factored	d Shear:	1'- 3	3 3/8"	1.25	D + 1.5S + I	L 1.00	205 lb	13815 lb	Passed - 1%
SUPP	ORT AND R	EACTION	INFORM	ATION					
	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1 2	3-08 5-08	1.25D + 1. 1.25D + 1.		1.00 1.00	651 lb 567 lb		12740 lb 20020 lb	7534 lb 11839 lb	Passed - 9% Passed - 5%
SPEC	IFIED LOAD	S							
Туре	Start Loc	End Loc	Source	е	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 1/4"	Self We	ight	Тор	12 lb/ft	-	-	-
Uniform	0'	2'- 1/4"	User Lo		Тор	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	-0'	1'- 6 3/4"	FC2 Floor [ (Plan Viev		Тор	12 lb/ft	23 lb/ft	-	-
Uniform	0'- 5 9/16"	1'- 11 9/16"	E48(i18	71)	Тор	130 lb/ft	33 lb/ft	72 lb/ft	-
Point	0'- 2 13/16"	0'- 2 13/16"	E71(i18	92)	Тор	126 lb	13 lb	94 lb	-
UNFA	CTORED RE	EACTIONS							
ID	Start Loc	End Loc	S	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"		O(i859)		264 lb	83 lb	211 lb	-
2	1'- 6 3/4"	2'- 1/4"	ВВ	O(i858)		161 lb	82 lb	136 lb	-

# **DESIGN NOTES**

ANALVEIS DESIL

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

# PLY TO PLY CONNECTION



CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

**BRAMPTON** 

4002

Job Name: 4002 -ELEV A STD Level: 2ND FLOOR

Label: B11 - i5742 Type: **Beam** 

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

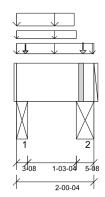
Report Version: 2021.03.26

Status: Design Passed

07/15/2022 13:41

Illustration Not to Scale. Pitch: 0/12

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



# **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:

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

# Factored Resistance of Support Material:

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

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

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



STRUCTURAL COMPONENT ONLY DWG # TF22071175

ANAL	ANALYSIS RESUI								
D	esign Criteria	Loc	cation	Load	Combinatio	n LDF	Design	Limit	Result
Factored	d Pos. Momen	t: 0'- 10	0 13/16"	1.25	D + 1.5S + I	_ 1.00	120 lb ft	35345 lb ft	Passed - 0%
Factored	d Shear:	1'-	3 3/8"	1.25	D + 1.5S + I	_ 1.00	202 lb	13815 lb	Passed - 1%
SUPP	ORT AND R	EACTION	INFORM <i>A</i>	NOITA					
	Length		g Load ation	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	3-08	1.25D + 1.	.5S + L	1.00	596 lb		12740 lb	7534 lb	Passed - 8%
2	5-08	1.25D + 1.	.5S + L	1.00	542 lb		20020 lb	11839 lb	Passed - 5%
SPECI	IFIED LOAD	s							
Туре	Start Loc	End Loc	Source	•	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 1/4"	Self Wei	ght	Тор	12 lb/ft	-	-	-
Uniform	-0'	2'- 1/4"	User Lo	ad	Тор	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	-0'	1'- 6 3/4"	FC2 Floor D (Plan Viev		Тор	11 lb/ft	22 lb/ft	-	-
Uniform	0'- 1/16"	1'- 6 1/16"	E46(i18	,	Тор	130 lb/ft	33 lb/ft	72 lb/ft	-
Point	0'- 2 13/16"	0'- 2 13/16"	FC2 Floor D (Plan Viev		Тор	38 lb	-	22 lb	-
Point	0'- 2 13/16"	0'- 2 13/16"	E46(i18	74)	Тор	8 lb	-	18 lb	-
Point	1'- 8 13/16"	1'- 8 13/16"	E68(i18	89)	Тор	43 lb	15 lb	33 lb	-
UNFA	UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Sc	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	ВВ	O(i860)		213 lb	78 lb	172 lb	-
2	1'- 6 3/4"	2'- 1/4"	BB	O(i858)		174 lb	88 lb	154 lb	-
DESIGN NOTES									

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

# PLY TO PLY CONNECTION

ANALVEIS DESILLT



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: **4002 -ELEV A STD**Level: **2ND FLOOR** 

Label: B12 DR - i5526 Type: Beam 3 Ply Member 1 3/4" x 11 7/8" (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 8.5.3.233.Update5.15 Report Version: 2021.03.26 07/15/2022 13:41

12-11-15 13-06-15

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:

## 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:

L/240.

Top: 0'- 10 3/4" Bottom: 13'- 6 15/16"

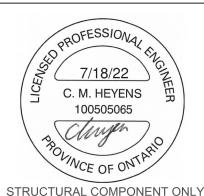
# Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 2 1/2"
- 812 psi Wall @ 13'- 4 7/16"

# PLY TO PLY CONNECTION: 4 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.



DWG # TF22071176

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
Factored Pos. Moment:	6'- 9 15/16"	1.25D + 1.5L	1.00	28708 lb ft	53017 lb ft	Passed - 54%	
Factored Shear:	1'- 3 3/8"	1.25D + 1.5L	1.00	7995 lb	20723 lb	Passed - 39%	
Live Load (LL) Pos. Defl.:	6'- 9 7/16"	L		0.291"	L/360	Passed - L/536	
Total Load (TL) Pos. Defl.:	6'- 9 7/16"	D + L		0.444"	L/240	Passed - L/350	

Ш	SUP	PORT AND	REACTION INFORM						
	ID	Input Controlling Load LC D Bearing Combination LC Length		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
П	1	3-08	1.25D + 1.5L	1.00	8455 lb		19110 lb	14921 lb	Passed - 57%
	2	3-08	1.25D + 1.5L	1.00	8929 lb		19110 lb	14921 lb	Passed - 60%

	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
	Self /eight	0'	13'- 6 15/16"	Self Weight	Тор	18 lb/ft	-	-	-
Та	pered	3'- 1 15/16"	12'- 9 15/16"	Smoothed Load	Top	289 To 289 lb/ft	578 To 579 lb/ft	-	-
F	Point	0'- 9 15/16"	0'- 9 15/16"	J1(i5442)	Top	175 lb	351 lb	-	-
l F	Point	1'- 1 15/16"	1'- 1 15/16"	J3(i5718)	Top	174 lb	348 lb	-	-
F	⊃oint	1'- 9 15/16"	1'- 9 15/16"	J1(i5479)	Тор	175 lb	351 lb	-	=
	Point	2'- 5 15/16"	2'- 5 15/16"	J3(i5761)	Top	174 lb	348 lb	-	-
F	Point	2'- 9 15/16"	2'- 9 15/16"	J1(i5677)	Top	175 lb	351 lb	-	-
F	Point	12'- 9 15/16"	12'- 9 15/16"	J1(i5549)	Top	175 lb	351 lb	-	-
╙	Point	13'- 1 15/16"	13'- 1 15/16"	J3(i5567)	Тор	174 lb	348 lb	-	-

UNFACTORED REACTIONS									
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)	
	1	0'	0'- 3 1/2"	5(i817)	2069 lb	3904 lb	-	-	
П	2	13'- 3 7/16"	13'- 6 15/16"	6(i818)	2186 lb	4139 lb	-	-	

# **DESIGN NOTES**

SPECIFIED LOADS

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

# PLY TO PLY CONNECTION



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: 4002 -ELEV B STD

 Level:
 2ND FLOOR

 Label:
 B20 - i6495

 Type:
 Beam

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

Factored

Resistance

Status:

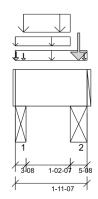
Design
Passed

07/15/2022 13:46

Result

Illustration Not to Scale. Pitch: 0/12

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



Controlling Load

Combination

## DESIGN INFORMATION

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

Amendment)
Design Methodology: LSD

Service Condition: Dry
LL Deflection Limit: L/360,
TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 1'- 2 7/16"

# Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 2 1/2"
- 615 psi Beam @ 1'- 6 15/16"

PLY TO PLY CONNECTION: 4 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:	0'- 7 1/8"	1.25D + 1.5S	1.00	39 lb ft	35345 lb ft	Passed - 0%
Factored Neg. Moment:	1'- 6 15/16"	1.25D + 1.5S + L	1.00	431 lb ft	35345 lb ft	Passed - 1%
Factored Shear:	1'- 3 3/8"	1.25D + 1.5S + L	1.00	677 lb	13815 lb	Passed - 5%
SUPPORT AND REAC	CTION INFORM	IATION				

Factored

Uplift

Factored

Resistance

Factored

Downward

L	Lengui			Reaction	Reaction	of Member	or Support	
1	3-08	1.25D +	1.5L 0.65	487 lb		8281 lb	4897 lb	Passed - 10%
2	5-08	1.25D + 1.	5S + L 1.00	3839 lb		20020 lb	11839 lb	Passed - 32%
SPECII	FIED LOAD	os						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	1'- 11 7/16"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	1'- 11 7/16"	User Load	Тор	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	0'	1'- 5 15/16"	E88(i5503)	Тор	100 lb/ft	-	-	-
Uniform	0'- 2 5/8"	1'- 5 15/16"	E88(i5503)	Тор	172 lb/ft	-	316 lb/ft	-
Point	0'- 1/4"	0'- 1/4"	FC2 Floor Decking (Plan View Fill)	Тор	78 lb	62 lb	30 lb	-
Point	0'- 2 5/8"	0'- 2 5/8"	E88(i5503)	Тор	7 lb	8 lb	17 lb	-
Point	1'- 8 11/16"	1'- 8 11/16"	E92(i5673)	Тор	719 lb	-	1307 lb	-
Point	1'- 10 7/16"	1'- 10 7/16"	FC2 Floor Decking (Plan View Fill)	Тор	1 lb	1 lb	-	-
UNFAC	CTORED R	EACTIONS	3					
ID.	0111	End Land	0		D 1 (D)	12 03	0	100-1000

ı	UNFAC	STORED RE	EACTIONS					
l	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	1	0'	0'- 3 1/2"	BBO(i860)	327 lb	107 lb	315 lb	-
l	2	1'- 5 15/16"	1'- 11 7/16"	STL BM (i858)	929 lb	28 lb	1581 lb	-

# **DESIGN NOTES**

Input

Bearing

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
  specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
  required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=2859 lb, Q'r=5460 lb, Result=52.37%.

# PLY TO PLY CONNECTION



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4002 BRAMPTON Job Name: 4002 -ELEV C STD Level: 2ND FLOOR

Label: **B21 - i6463** Type: **Beam** 

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

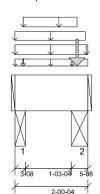
Status:

Design
Passed

07/15/2022 13:50

Illustration Not to Scale. Pitch: 0/12

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



Combination

4.050 . 4.51

# **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'- 3 1/4"

# Factored Resistance of Support Material:

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

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

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



STRUCTURAL COMPONENT ONLY DWG # TF22071178

ANALYSIS RESUL	_TS					
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Momen	t: 0'- 10 5/16"	1.25D + 1.5L	0.68	66 lb ft	23874 lb ft	Passed - 0%
Factored Shear:	1'- 3 3/8"	1.25D + 1.5S + L	1.00	250 lb	13815 lb	Passed - 2%
SUPPORT AND R	EACTION INFORM	IATION				
Input ID Bearing	Controlling Load	Factored LDF Downward	Factored Uplift	Factored Resistance	Factored Resistance	Result

Reaction

Reaction

of Member

70 lb

of Support

680 lb

1 2	3-08 5-08	1.25D + 1.25D + 1.		280 lb 1690 lb		8606 lb 20020 lb	5089 lb 11839 lb	Passed - 6% Passed - 14%
SPECI	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 1/4"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	2'- 1/4"	User Load	Тор	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	-0'	1'- 11 7/16"	E92(i5597)	Тор	100 lb/ft	-	-	-
Uniform	0'	1'- 6 15/16"	FC2 Floor Decking (Plan View Fill)	Тор	4 lb/ft	9 lb/ft	-	-
Uniform	0'- 2 3/4"	1'- 8 5/8"	E92(i5597)	Тор	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	1'- 6 15/16"	2'- 1/4"	FC2 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E92(i5597)	Тор	11 lb	-	23 lb	-
Point	1'- 8 5/8"	1'- 8 5/8"	E92(i5597)	Тор	244 lb	-	548 lb	-
UNFAC	TORED RI	EACTIONS	;					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	BBO(i859)		167 lb	62 lb	144 lb	-

421 lb

# **DESIGN NOTES**

1'- 6 3/4"

2'- 1/4"

Length

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

BBO(i858)

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

# PLY TO PLY CONNECTION



# Maximum Floor Spans - S2.1

# Design Criteria

Spans: Simple span

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**

			В	are			1/2 in. gyp	sum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
9-1/2"	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
9-1/2	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"	-
	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"	-
11-7/8"	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"	-
	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
14"	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
14	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"	-
	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
16"	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"	-

		Mi	d-span blocking	g with 1x4 inch s	trap	Mid-sp	an blocking an	d 1/2 in. gypsum	ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-8"	15'-3"	14'-5"	-	16'-8"	15'-3"	14'-5"	-
0.4/0"	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
9-1/2"	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"	-
	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"	-
11-7/8"	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"	-
	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	21'-8"	-
14"	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
14	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"	-
	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
16"	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"	-

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



# Maximum Floor Spans - S4.1

# Design Criteria

Spans: Simple span

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**

			В	are			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	15'-2"
9-1/2"	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"
	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"
11-7/8"	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"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10
14	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"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	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"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	oan blocking an	d 1/2 in. gypsui	m ceiling	
Joist depth	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"	
9-1/2"	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"	
9-1/2	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'	
	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"	
11-7/8"	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"	
	NI-40x	24'-5"	22'-9"	21'-9"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"	
14"	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10'	
14	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"	
	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"	
16"	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"	

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



# Maximum Floor Spans - 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**

			В	are			1/2 in. gyp	sum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
0.4/0"	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
9-1/2"	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"	-
	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"	-
11-7/8"	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"	-
	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
14"	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
14	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"	-
	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
16"	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"	-

	·	Mi	d-span blocking	with 1x4 inch st	trap	Mid-sp	an blocking an	d 1/2 in. gypsum	ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
0.4/0"	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
9-1/2"	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"	-
	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"	-
11-7/8"	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"	-
	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	21'-5"	-
14"	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
14	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"	-
	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
16"	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"	-

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



# Maximum Floor Spans - S7.1

# Design Criteria

Spans: Simple span

 Loads:
 Live load = 40 psf and dead load = 15 psf

 Deflection limits:
 L/480 under live load and L/240 under total load

 Sheathing:
 3/4 in. nailed-glued Canadian softwood plywood

# **Maximum Floor Spans**

			В	are			1/2 in. gy	sum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	15'-1"
9-1/2"	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"
	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
11-7/8"	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"
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
14"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
14	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"
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
16"	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"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	an blocking an	d 1/2 in. gypsu	ım ceiling	
Joist depth	Joist series		On cent	re spacing		On centre spacing				
9-1/2" 11-7/8" 14"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"	
0.4/0"	NI-40x	18'-7"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"	
9-1/2	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'	
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"	
11-7/8"	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"	
	NI-40x	24'-4"	22'-8"	21'-8"	19'-5"	25'-0"	23'-2"	21'-9"	19'-5"	
1.4"	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10'	
14	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"	
14"	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"	
	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"	
16"	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11'	
9-1/2" 11-7/8"	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"	

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



# Maximum Floor Spans - M2.1

# Design Criteria

Spans: Simple span

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**

			В	are			1/2 in. gyp	sum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-	
0.4/0"	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-	
9-1/2	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"	-	
	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"	-	
9-1/2" 11-7/8"	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"	-	
	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-	
4.4"	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-	
14	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"	-	
	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-	
16"	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"	-	

		Mi	d-span blocking	g with 1x4 inch s	trap	Mid-sp	oan blocking an	d 1/2 in. gypsum	ceiling	
Joist depth 9-1/2"	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-8"	15'-3"	14'-5"	-	16'-8"	15'-3"	14'-5"	-	
0.4/0"	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-	
9-1/2	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"	-	
	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"	-	
11-7/8"	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"	-	
	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	20'-11"	-	
4.4"	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-	
14	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"	-	
	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-	
16"	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-	
9-1/2" 11-7/8"	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	_	

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



# Maximum Floor Spans - M4.1

# Design Criteria

Spans: Simple span

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**

			В	are			1/2 in. gy	osum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
Joist depth 9-1/2" 11-7/8" 14"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"	
0.4/0"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11'	
9-1/2	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"	
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"	
11-7/8"	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"	
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"	
4.4"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10'	
14	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"	
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"	
16"	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"	

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	oan blocking an	d 1/2 in. gypsur	n ceiling	
Joist depth	Joist series		On cent	re spacing		On centre spacing				
9-1/2" 11-7/8" 14"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"	
0.4/0!!	NI-40x	18'-8"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11'	
9-1/2	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'	
	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"	
9-1/2" 11-7/8"	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"	
	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"	
1.4"	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10'	
14	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"	
14"	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"	
	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"	
16"	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"	
11-7/8"	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"	

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



# Maximum Floor Spans - M6.1

# Design Criteria

Spans: Simple span

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

# **Maximum Floor Spans**

			В	are			1/2 in. gyp	sum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
9-1/2" 11-7/8"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-	
0.4/0"	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-	
9-1/2	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"	-	
	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-	
11-7/8"	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"	-	
	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-	
4.4"	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-	
14	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-	
14"	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-	
	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-	
16"	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-	
9-1/2" 11-7/8"	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	-	

		Mi	d-span blocking	with 1x4 inch st	trap	Mid-sp	oan blocking an	d 1/2 in. gypsum	ceiling	
9-1/2"	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-	
0.4/0"	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-	
9-1/2	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"	-	
	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-	
9-1/2"	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"	-	
	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	20'-11"	-	
4.4"	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-	
14	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"	-	
	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-	
16"	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-	
11-7/8"	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	_	

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



# Maximum Floor Spans - M7.1

# Design Criteria

Spans: Simple span

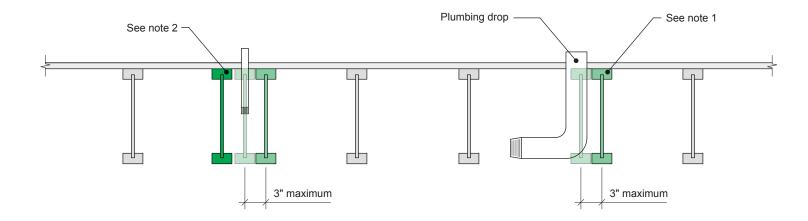
Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

# **Maximum Floor Spans**

			В	are			1/2 in. gyp	osum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
9-1/2" 11-7/8" 14"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"	
0.4/0"	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11'	
9-1/2	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"	
	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"	
11-7/8"	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"	
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"	
4.4"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"	
14	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"	
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"	
16"	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"	

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	an blocking an	d 1/2 in. gypsur	m ceiling	
Joist depth	Joist series		On cent	re spacing		On centre spacing				
9-1/2" 11-7/8" 14"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"	
0.4/0"	NI-40x	18'-7"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11'	
9-1/2	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'	
	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"	
11-7/8"	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"	
	NI-40x	24'-4"	22'-8"	20'-11"	18'-8"	25'-0"	22'-11"	20'-11"	18'-8"	
1.4"	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10'	
14	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"	
14"	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"	
	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"	
11-7/8"	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"	

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



## Notes:

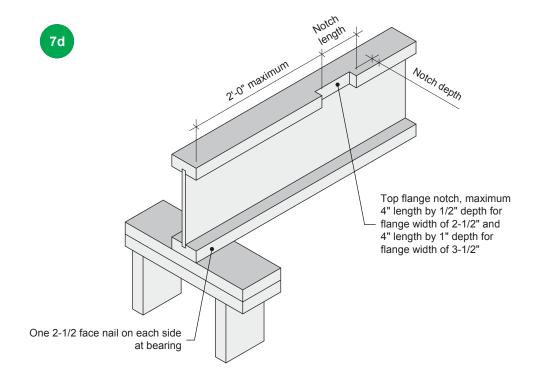
- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

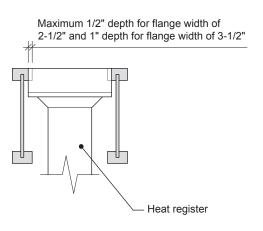
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.





Allowance for Piping		7c	
CATEGORY Openings for Vertical Elements	SCALE	DATE 2020-10-01	PAGE 3.10
Openings for vertical Elements	-	2020-10-01	5.10





#### Notes:

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

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





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