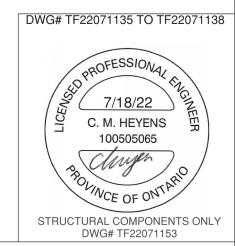


		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	23
J1 DJ	18-00-00	11 7/8" NI-40x	2	6
J2	16-00-00	11 7/8" NI-40x	1	25
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	14-00-00	11 7/8" NI-40x	1	2
J4	8-00-00	11 7/8" NI-40x	1	18
J5	4-00-00	11 7/8" NI-40x	1	6
J6	2-00-00	11 7/8" NI-40x	1	4
B1	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

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



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.

The supporting structure is to be specified by the building designer prior to the

installation of joist(s) and/or beam(s). The building designer is responsible for the bracing of the floor system and its integration into the bracing of the overall structure. All components labelled "by others" or "as per plan", and all steel beams

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**: 4001 **ELEVATION:** 

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.** 

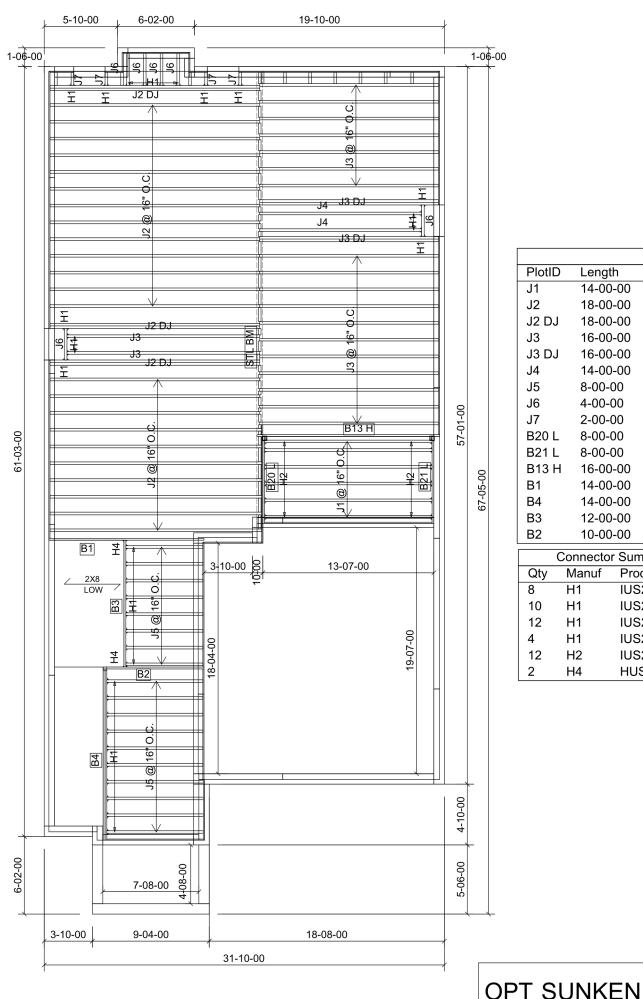
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS. ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM

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	14-00-00	9 1/2" NI-40x	1	6
J2	18-00-00	11 7/8" NI-40x	1	23
J2 DJ	18-00-00	11 7/8" NI-40x	2	6
J3	16-00-00	11 7/8" NI-40x	1	20
J3 DJ	16-00-00	11 7/8" NI-40x	2	4
J4	14-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	18
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B20 L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B21 L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B13 H	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B1	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary					
Qty	Manuf	Product			
8	H1	IUS2.56/11.88			
10	H1	IUS2.56/11.88			
12	H1	IUS2.56/11.88			
4	H1	IUS2.56/11.88			
12	H2	IUS2.56/9.5			
2	H4	HUS1.81/10			



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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**: 4001 **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

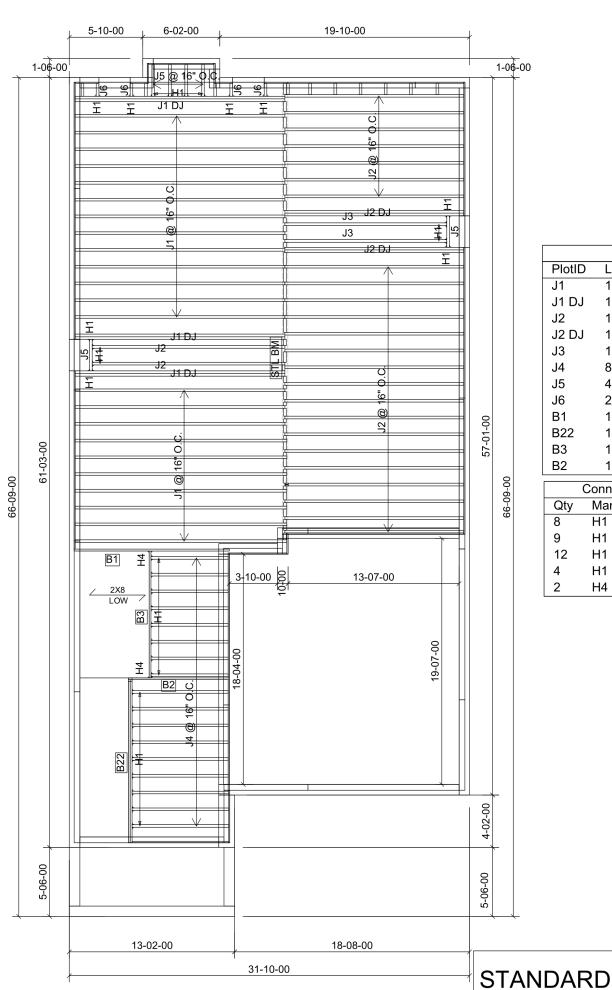
AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD **CUT OPENINGS** SEE FIGURE 6 AND TABLES 6.1/6.2. **CERAMIC TILE APPLICATION AS PER OBC 9.30.6.** 

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:

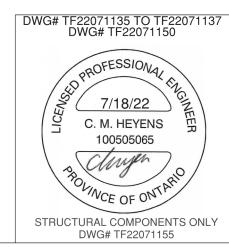
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	23
J1 DJ	18-00-00	11 7/8" NI-40x	2	6
J2	16-00-00	11 7/8" NI-40x	1	26
J2 DJ	16-00-00	11 7/8" NI-40x	2	4
J3	14-00-00	11 7/8" NI-40x	1	2
J4	8-00-00	11 7/8" NI-40x	1	17
J5	4-00-00	11 7/8" NI-40x	1	6
J6	2-00-00	11 7/8" NI-40x	1	4
B1	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B22	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
В3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

	Connector Summary						
Qty	/ Manuf	Product					
8	H1	IUS2.56/11.88					
9	H1	IUS2.56/11.88					
12	H1	IUS2.56/11.88					
4	H1	IUS2.56/11.88					
2	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: 4001 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.

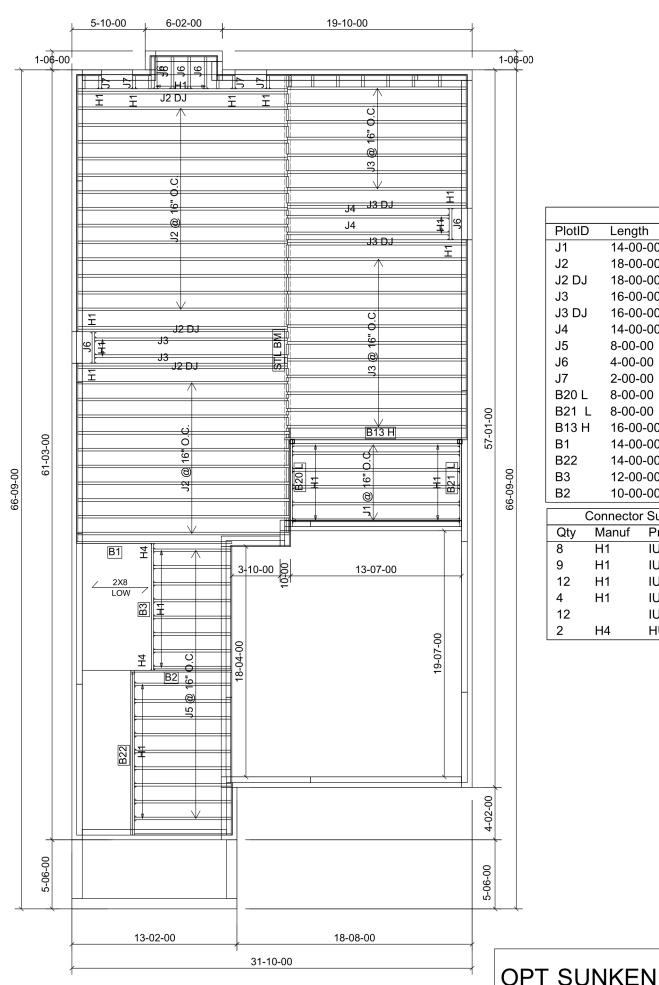
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

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	14-00-00	9 1/2" NI-40x	1	6
J2	18-00-00	11 7/8" NI-40x	1	23
J2 DJ	18-00-00	11 7/8" NI-40x	2	6
J3	16-00-00	11 7/8" NI-40x	1	20
J3 DJ	16-00-00	11 7/8" NI-40x	2	4
J4	14-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	17
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B20 L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B21 L	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B13 H	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B1	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B22	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary					
Qty	Manuf	Product			
8	H1	IUS2.56/11.88			
9	H1	IUS2.56/11.88			
12	H1	IUS2.56/11.88			
4	H1	IUS2.56/11.88			
12		IUS2.56/11.88			
2	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**: 4001 **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.

**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.** 

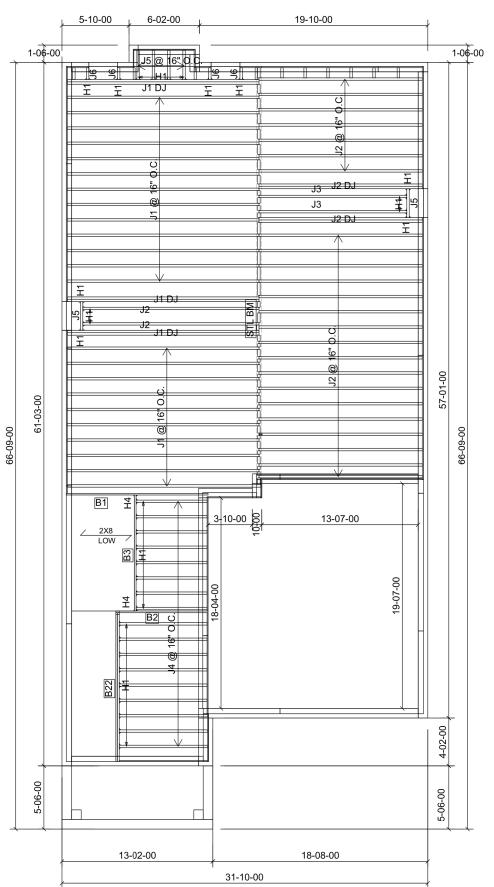
**CANTILEVERED JOISTS INCLUDING CANT' OVER** 

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	23
J1 DJ	18-00-00	11 7/8" NI-	40x	2	6
J2	16-00-00	11 7/8" NI-	40x	1	26
J2 DJ	16-00-00	11 7/8" NI-	40x	2	4
J3	14-00-00	11 7/8" NI-	40x	1	2
J4	8-00-00	11 7/8" NI-	40x	1	17
J5	4-00-00	11 7/8" NI-	40x	1	6
J6	2-00-00	11 7/8" NI-	40x	1	4
B1	14-00-00	1 3/4" x 11	7/8" (2.0E 3100) WestFraser LVL	1	1
B22	14-00-00	1 3/4" x 11	7/8" (2.0E 3100) WestFraser LVL	2	2
B3	12-00-00	1 3/4" x 11	7/8" (2.0E 3100) WestFraser LVL	1	1
B2	10-00-00	1 3/4" x 11	7/8" (2.0E 3100) WestFraser LVL	1	1
Connector Summary					

	Connector Summary						
Qty	Manuf	Product					
8	H1	IUS2.56/11.88					
9	H1	IUS2.56/11.88					
12	H1	IUS2.56/11.88					
4	H1	IUS2.56/11.88					
2	H4	HUS1.81/10					

**STANDARD** 



# THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

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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: 4001 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

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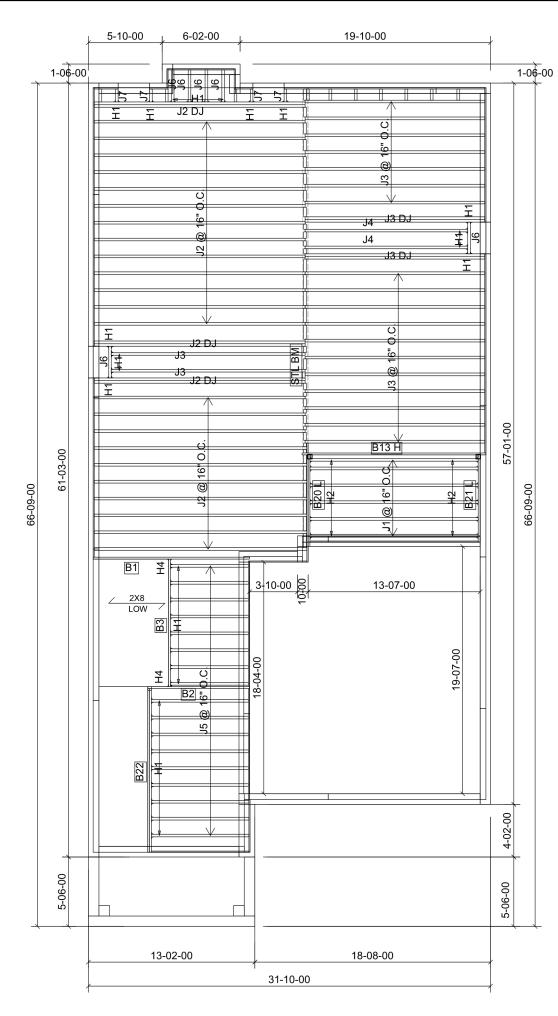
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LOADING:

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

JOIST LL DEFLECTION LIMIT: L/480



J1 14- J2 18-	-00-00 9 -00-00	Product 9 1/2" NI-40x 11 7/8" NI-40x	Plies 1	Net Qty 6
J2 18	-00-00		1	6
"-		11 7/8" NI-40x	4	
J2 DJ 18			1	23
	-00-00 1	11 7/8" NI-40x	2	6
J3 16	-00-00	11 7/8" NI-40x	1	20
J3 DJ 16	-00-00	11 7/8" NI-40x	2	4
J4 14	-00-00	11 7/8" NI-40x	1	2
J5 8-0	00-00 1	11 7/8" NI-40x	1	17
J6 4-0	00-00	11 7/8" NI-40x	1	6
J7 2-0	00-00	11 7/8" NI-40x	1	4
B20 L 8-0	00-00 1	I 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B21 L 8-0	00-00 1	I 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B13 H 16	-00-00 1	I 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B1 14	-00-00 1	I 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B22 14	-00-00 1	I 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3 12-	-00-00 1	I 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B2 10	-00-00 1	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary						
Qty	Manuf	Product				
8	H1	IUS2.56/11.88				
9	H1	IUS2.56/11.88				
12	H1	IUS2.56/11.88				
4	H1	IUS2.56/11.88				
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2	H4	HUS1.81/10				



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**DATE**: 2022-07-15

OPT SUNKEN 1st FLOOR FRAMING



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

MODEL: 4001 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** 

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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.

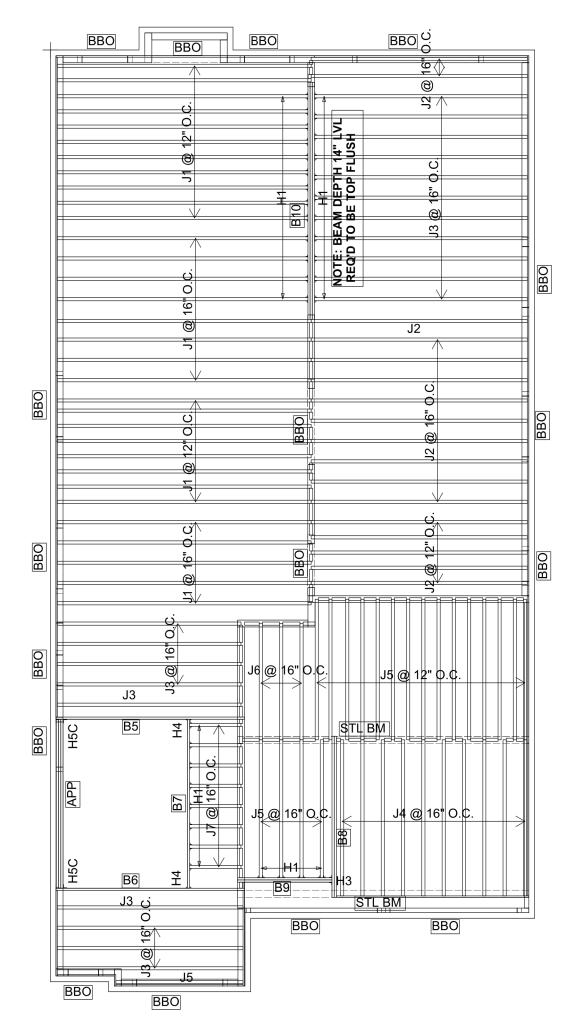
#### LOADING:

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

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

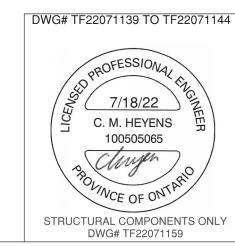
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	32
J2	16-00-00	11 7/8" NI-40x	1	17
J3	14-00-00	11 7/8" NI-40x	1	20
J4	12-00-00	11 7/8" NI-40x	1	10
J5	10-00-00	11 7/8" NI-40x	1	20
J6	8-00-00	11 7/8" NI-40x	1	3
J7	4-00-00	11 7/8" NI-40x	1	8
B5	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B7	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B8	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B9	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10	16-00-00	1 3/4" x 14" (2.0E 3100) WestFraser LVL	3	3

Connector Summary					
Qty	Manuf	Product			
8	H1	IUS2.56/11.88			
4	H1	IUS2.56/11.88			
24	H1	IUS2.56/11.88			
1	H3	HGUS410			
2	H4	HUS1.81/10			
2	H5C	HUC610			



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. The supporting structure is to be specified by the building designer prior to the installation of joist(s) and/or beam(s). The building designer is responsible for the

The supporting structure is to be specified by the building designer prior to the installation of joist(s) and/or beam(s). The building designer is responsible for the bracing of the floor system and its integration into the bracing of the overall structure. All components labelled "by others" or "as per plan", and all steel beams, are not within the scope of work of this seal.

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

2nd FLOOR FRAMING



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

MODEL: 4001 ELEVATION:

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.

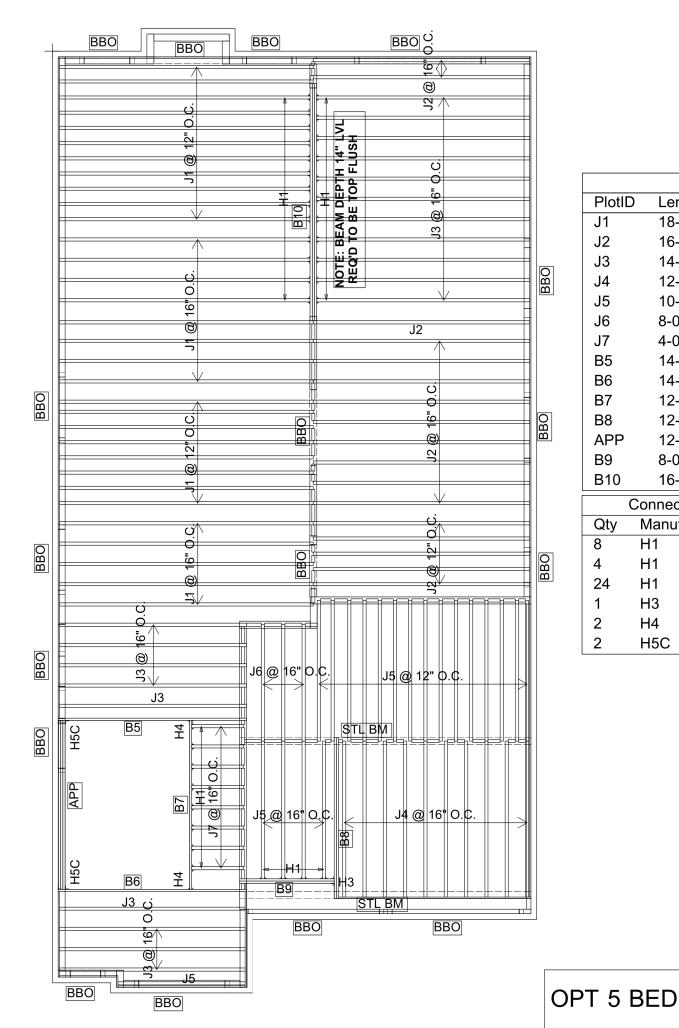
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

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:

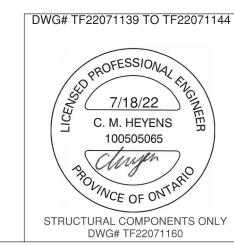
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	32
J2	16-00-00	11 7/8" NI-40x	1	17
J3	14-00-00	11 7/8" NI-40x	1	20
J4	12-00-00	11 7/8" NI-40x	1	10
J5	10-00-00	11 7/8" NI-40x	1	20
J6	8-00-00	11 7/8" NI-40x	1	3
J7	4-00-00	11 7/8" NI-40x	1	8
B5	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B7	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B8	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B9	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10	16-00-00	1 3/4" x 14" (2.0E 3100) WestFraser LVL	3	3

	Connector Summary						
Qty	Manuf	Product					
8	H1	IUS2.56/11.88					
4	H1	IUS2.56/11.88					
24	H1	IUS2.56/11.88					
1	H3	HGUS410					
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: 4001 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.

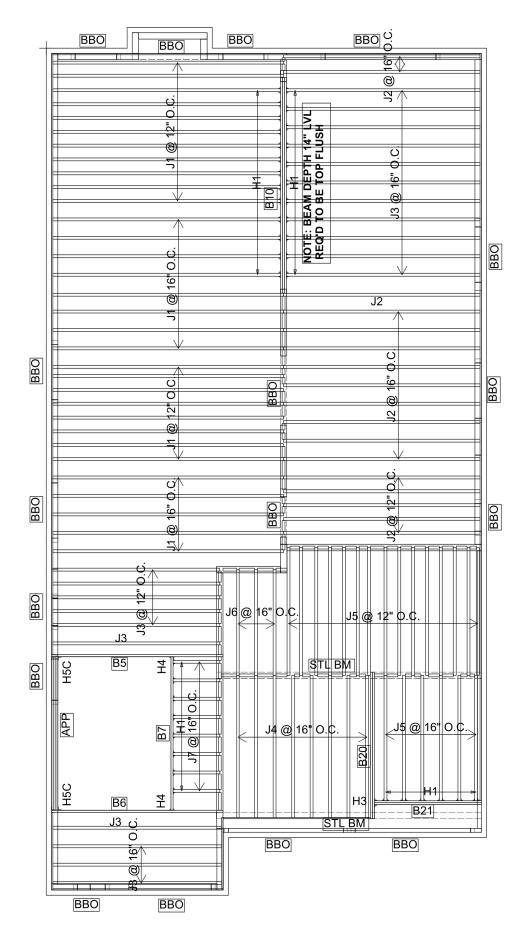
#### LOADING:

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

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

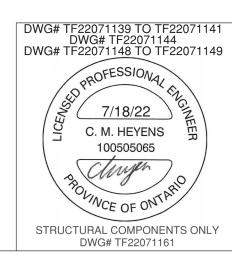
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



	Products				
PlotID	Length	Product	Plies	Net Qty	
J1	18-00-00	11 7/8" NI-40x	1	32	
J2	16-00-00	11 7/8" NI-40x	1	17	
J3	14-00-00	11 7/8" NI-40x	1	21	
J4	12-00-00	11 7/8" NI-40x	1	8	
J5	10-00-00	11 7/8" NI-40x	1	21	
J6	8-00-00	11 7/8" NI-40x	1	3	
J7	4-00-00	11 7/8" NI-40x	1	8	
B5	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B6	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B7	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1	
B20	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2	
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3	
B21	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2	
B10	16-00-00	1 3/4" x 14" (2.0E 3100) WestFraser LVL	3	3	

	Connector Summary					
Qty	Product					
8	H1	IUS2.56/11.88				
6	H1	IUS2.56/11.88				
24	H1	IUS2.56/11.88				
1	H3	HGUS410				
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: 4001 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.

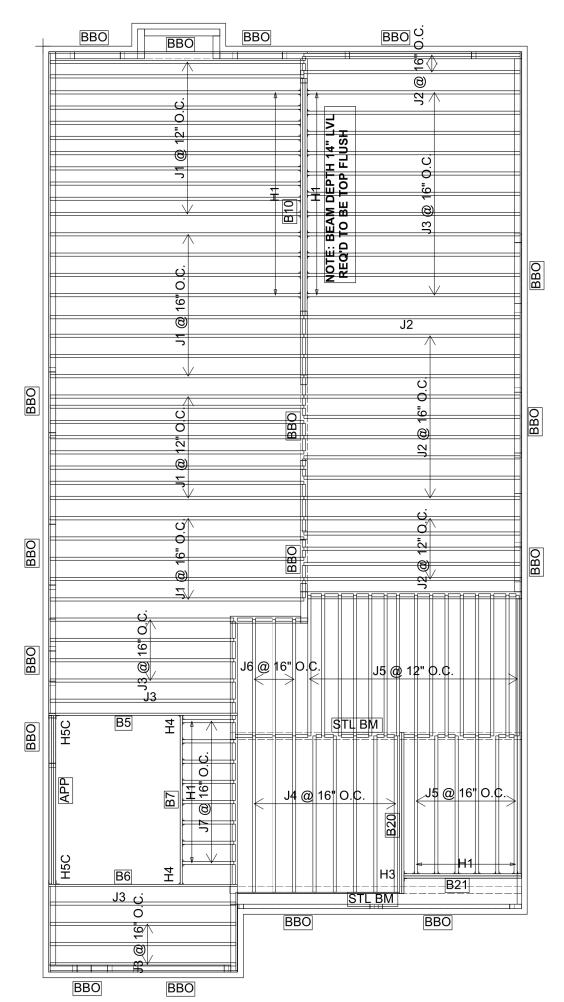
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

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:

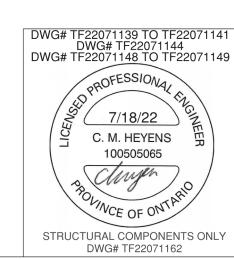
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	32
J2	16-00-00	11 7/8" NI-40x	1	17
J3	14-00-00	11 7/8" NI-40x	1	20
J4	12-00-00	11 7/8" NI-40x	1	8
J5	10-00-00	11 7/8" NI-40x	1	21
J6	8-00-00	11 7/8" NI-40x	1	3
J7	4-00-00	11 7/8" NI-40x	1	8
B5	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B7	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B20	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B21	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10	16-00-00	1 3/4" x 14" (2.0E 3100) WestFraser LVL	3	3

	Connector Summary					
Qty	Manuf	Product				
8	H1	IUS2.56/11.88				
6	H1	IUS2.56/11.88				
24	H1	IUS2.56/11.88				
1	H3	HGUS410				
2	H4	HUS1.81/10				
2	H5C	HUC610				



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.

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

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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: 4001 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.

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

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.

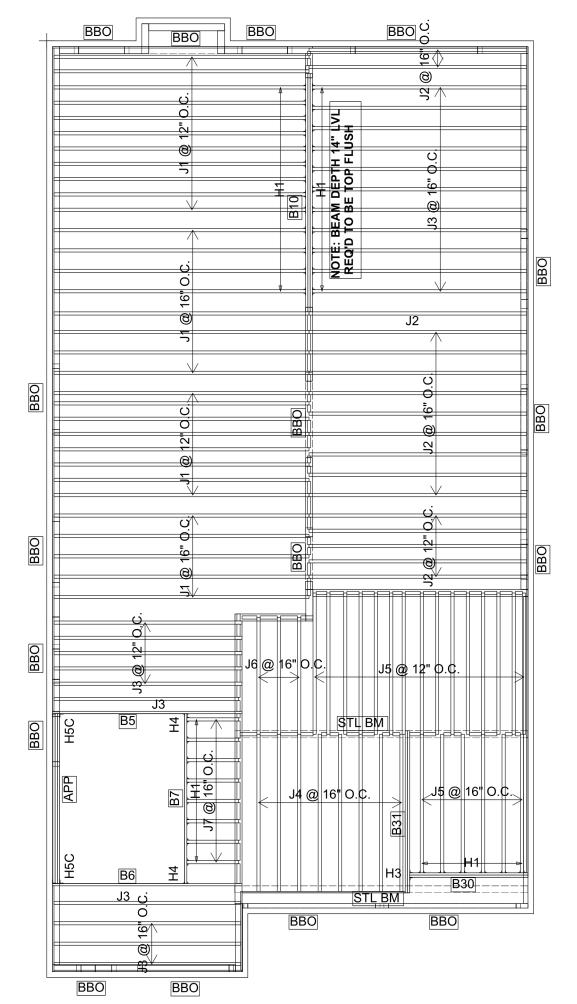
#### LOADING:

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

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

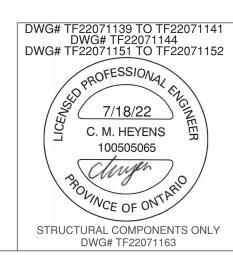
TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	32
J2	16-00-00	11 7/8" NI-40x	1	17
J3	14-00-00	11 7/8" NI-40x	1	21
J4	12-00-00	11 7/8" NI-40x	1	8
J5	10-00-00	11 7/8" NI-40x	1	21
J6	8-00-00	11 7/8" NI-40x	1	3
J7	4-00-00	11 7/8" NI-40x	1	8
B5	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B7	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B31	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B30	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10	16-00-00	1 3/4" x 14" (2.0E 3100) WestFraser LVL	3	3
	16-00-00		3	3

Connector Summary					
Qty Manuf Product		Product			
8	H1	IUS2.56/11.88			
6	H1	IUS2.56/11.88			
24	H1	IUS2.56/11.88			
1	H3	HGUS410			
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: 4001 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.

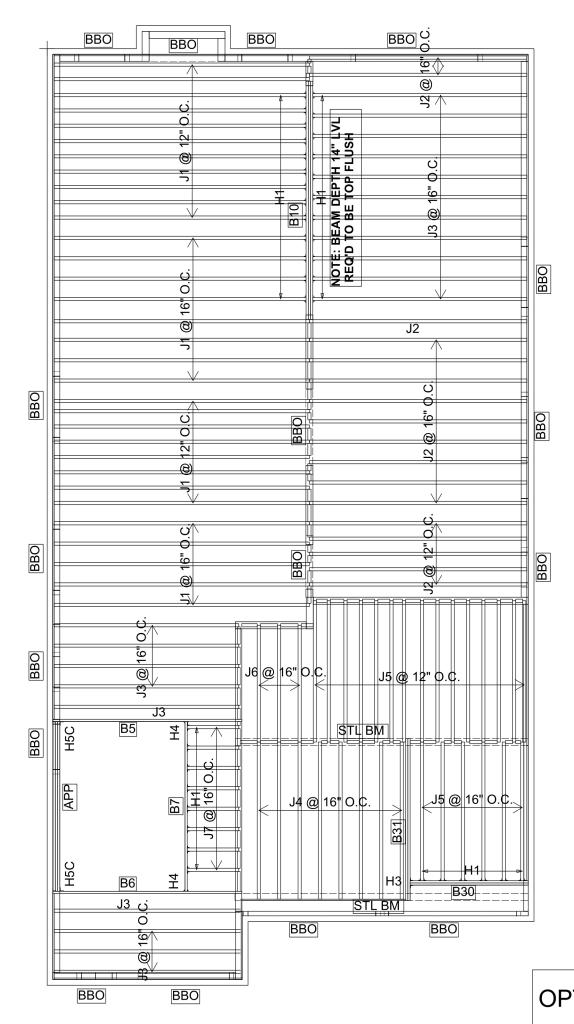
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

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:

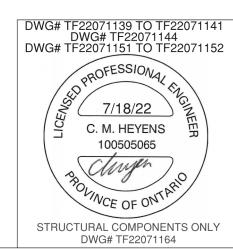
LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: +5.0 lb/ft<sup>2</sup>

JOIST LL DEFLECTION LIMIT: L/480



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	32
J2	16-00-00	11 7/8" NI-40x	1	17
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J5	10-00-00	11 7/8" NI-40x	1	21
J6	8-00-00	11 7/8" NI-40x	1	3
J7	4-00-00	11 7/8" NI-40x	1	8
B5	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B7	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B31	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B30	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10	16-00-00	1 3/4" x 14" (2.0E 3100) WestFraser LVL	3	3
Co	nnector Sum	amany		

Connector Summary					
Qty Manuf Product		Product			
8	H1	IUS2.56/11.88			
6	H1	IUS2.56/11.88			
24	H1	IUS2.56/11.88			
1	H3	HGUS410			
2	H4	HUS1.81/10			
2	H5C	HUC610			



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are not within the scope of work of this seal.

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**DATE:** 2022-07-15

OPT 5 BEDROOM 2nd FLOOR FRAMING



TAMARACK

**LUMBER INC** 

MODEL: 4001 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.

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** 

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

# NORDIC

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

**Engineered Wood Products** 

BASIC INSTALLATION **GUIDE FOR RESIDENTIAL FLOORS** 

NORDIC **U**JOIST

NORDIC **STRUCTURES** 

WEB STIFFENERS

nordic.ca

#### 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

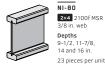
2×3 S-P-F No. 2

NORDIC I-JOIST SERIES RESIDENTIAL SERIES

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



1k



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

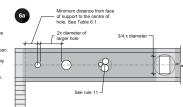
until fully fastened an

#### 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

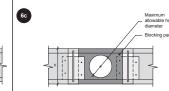
6b

Rules for Cutting Duct Chase Openings in I-joists

- he distance between the inside edge of the support and the cu uct 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

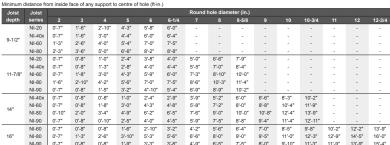
Allowable Hole Size in Lateral-restraint-only Blocking Panels

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

Simple or multiple span  Minimum distance from inside face of any support to centre of hole (ft-in.)													Simple spa Minimum di				
Joist	Joist							Round	hole diam	eter (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	

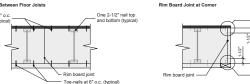
## TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

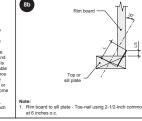
aeptn	series	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10"	-	-	-	-	-	-
0.4/01	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	-
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	-
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
	NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	-
	NI-40x	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							

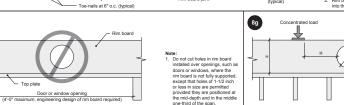
#### RIM BOARDS 8a

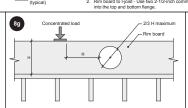
8f

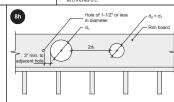




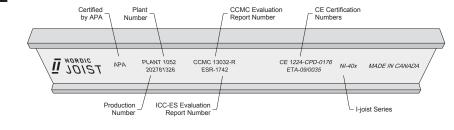






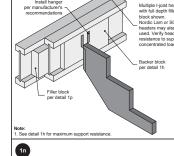


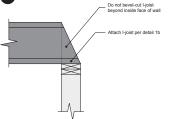
#### -JOIST MARKING

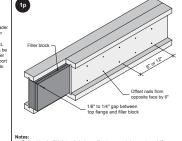


For the latest version, consult nordic.ca or contact Nordic Structures.	

construction details  $\rightarrow$ DC3







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

1s-1

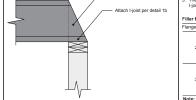
FOR ALL

# NAIL SPACING 1h

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

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

1g





ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: **4001- ELEV A STD**Level: **1ST FLOOR** 

Label: **B1 - i7582** 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 11:26

12-04-08

#### DESIGN INFORMATION

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

Amendment)

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

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 6'- 3 1/8"

#### 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:	6'- 1/2"	1.25D + 1.5L	0.94	7498 lb ft	16678 lb ft	Passed - 45%				
Factored Neg. Moment:	12'	1.25D + 1.5L + S	0.95	65 lb ft	7171 lb ft	Passed - 1%				
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.94	1531 lb	6519 lb	Passed - 23%				
Live Load (LL) Pos. Defl.:	6'- 1 15/16"	L		0.105"	L/360	Passed - L/999				
Total Load (TL) Pos. Defl.:	6'- 1 5/8"	D + L		0.239"	L/240	Passed - L/575				
SUPPORT AND REAC	SUPPORT AND REACTION INFORMATION									

ID	Input Bearing Length	Controlling Combina		Factor F Downw Reacti	ard Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.	5S + L 0.8	1621	b	8139 lb	4815 lb	Passed - 34%
2	5-08	1.25D +	1.5L 0.9	94 1912	b	9447 lb	5588 lb	Passed - 34%
SPEC	SPECIFIED LOADS							
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 4 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
Uniforn	n -0'	5'- 11 5/8"	FC1 Floor Deckii (Plan View Fill)		8 lb/ft	16 lb/ft	-	-
Uniforn	n 0'- 5 1/2"	8'- 5"	User Load	Тор	60 lb/ft	-	-	-
Uniforn	n 5'- 11 5/8"	12'- 4 1/2"	FC1 Floor Deckii (Plan View Fill)		13 lb/ft	27 lb/ft	-	-
Point	6'- 1/2"	6'- 1/2"	B3(i7597)	Front	664 lb	735 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E50(i1096)	Тор	73 lb	24 lb	57 lb	-
Point	12'- 1 13/16"	12'- 1 13/16"	3(i997)	Тор	118 lb	163 lb	-	-
UNFA	CTORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	W30(i3	4)	825 lb	521 lb	59 lb	-
2	11'- 11"	12'- 4 1/2"	W34(i5	3)	713 lb	666 lb	-2 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.



DWG # TF22071135



CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001 **BRAMPTON**  Job Name: 4001- ELEV A STD Level:

1ST FLOOR Label: B2 - i7602 Type: **Beam** 

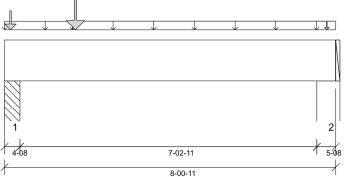
1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

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 11:26 8.5.3.233.Update5.15



SUPPORT AND REACTION INFORMATION

#### **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: 5'- 9 5/8" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3 1/2"
- 615 psi Wall @ 7'- 8 3/16"

ANALYSIS RESULTS	ANALYSIS RESULTS											
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result						
Factored Pos. Moment:	1'- 8 11/16"	1.25D + 1.5L	1.00	3533 lb ft	17672 lb ft	Passed - 20%						
Factored Neg. Moment:	0'- 3 1/2"	1.25D + 1.5L	1.00	219 lb ft	7738 lb ft	Passed - 3%						
Factored Shear:	1'- 4 3/8"	1.25D + 1.5L	1.00	2596 lb	6908 lb	Passed - 38%						
Live Load (LL) Pos. Defl.:	3'- 6 7/8"	L		0.025"	L/360	Passed - L/999						
Total Load (TL) Pos. Defl.:	3'- 6 15/16"	D + L		0.041"	L/240	Passed - L/999						

		Input Bearing Length	Controlling Combina		Factored Downwar Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
Ш	1	4-08	1.25D +	1.5L 1.00	4158 lb		8190 lb	4843 lb	Passed - 86%
Ш	2	5-08	1.25D +	1.5L 1.00	856 lb		10010 lb	5921 lb	Passed - 14%
Ш	SPECI	FIED LOAD	S						
Ш	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Ш	Self Weight	0'	8'- 11/16"	Self Weight	Тор	6 lb/ft	-	-	-
Ш	Uniform	0'	1'- 7 13/16"	FC1 Floor Deckin (Plan View Fill)	g <sub>Top</sub>	11 lb/ft	22 lb/ft	-	-
Ш	Uniform	1'- 7 13/16"	8'- 11/16"	FC1 Floor Deckin (Plan View Fill)	g <sub>Top</sub>	13 lb/ft	27 lb/ft	-	-
Ш	Point	1'- 8 11/16"	1'- 8 11/16"	B3(i7597)	Back	813 lb	1309 lb	-	-
Ш	Point	0'- 1 3/4"	0'- 1 3/4"	User Load	Тор	350 lb	700 lb	-	-
Ш	Point	7'- 10 1/8"	7'- 10 1/8"	4(i995)	Тор	19 lb	15 lb	-	-
Ш	UNFAC	CTORED RE	EACTIONS						
Ш	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
Ш	1	0'	0'- 4 1/2"	PBO1(i6	7)	1100 lb	1895 lb	-	-
	2	7'- 7 3/16"	8'- 11/16"	W35(i50	)	233 lb	337 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.



DWG # TF22071136



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON

4001

Level: 1ST FLOOR Label: B3 - i7597

Job Name: 4001- ELEV A STD

Type: **B3 - 175** 

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

WestFraser LVL

Status:

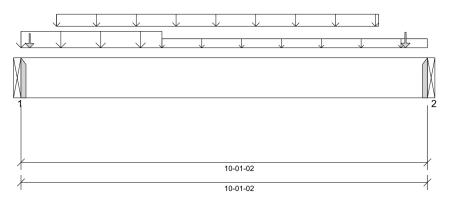
Design
Passed

07/15/2022 11:26

Illustration Not to Scale. Pitch: 0/12

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

tructure Version 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 1/2"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 10'- 1 1/8"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2 5/8"	1.25D + 1.5L	1.00	5815 lb ft	17672 lb ft	Passed - 33%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	2251 lb	6908 lb	Passed - 33%
Live Load (LL) Pos. Defl.:	4'- 10 1/8"	L		0.091"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 10 7/8"	D + L		0.162"	L/240	Passed - L/749

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	2976 lb		2976 lb	-	Passed - 100%					
2	1-08	1.25D + 1.5L	1.00	1937 lb		2730 lb	-	Passed - 71%					

ECTOR I	

ID	Part No.	Manufacturer	N	ailing Requireme	ents	Other Information or Requirement for
טו	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.

\* 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'	10'- 1 1/8"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	3'- 6"	User Load	Тор	120 lb/ft	240 lb/ft	-	-
Uniform	0'- 10 5/8"	8'- 10 5/8"	Smoothed Load	Front	62 lb/ft	123 lb/ft	-	-
Uniform	3'- 6"	10'- 1 1/8"	User Load	Тор	60 lb/ft	-	-	-
Point	0'- 2 5/8"	0'- 2 5/8"	J4(i7589)	Front	50 lb	100 lb	-	-
Point	9'- 6 5/8"	9'- 6 5/8"	J4(i7593)	Front	60 lb	120 lb	-	-
UNFAC	TORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B2(i7602)		813 lb	1309 lb	-	-
2	10'- 1 1/8"	10'- 1 1/8"	B1(i7582)		664 lb	735 lb	-	-
DESIG	NUCTES							

#### **DESIGN NOTES**

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



STRUCTURAL COMPONENT ONLY DWG # TF22071137



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: **4001- ELEV A STD**Level: **1ST FLOOR** 

Label: **B4 - i7592** Type: **Beam** 

2 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 11:26 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'- 1 1/2"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 13'- 6 13/16"

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" O/C

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



DWG # TF22071138

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 11 7/8"	1.25D + 1.5L	1.00	11125 lb ft	35345 lb ft	Passed - 31%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L + S	1.00	3503 lb	13815 lb	Passed - 25%
Live Load (LL) Pos. Defl.:	6'- 9 1/4"	L		0.162"	L/360	Passed - L/965
Total Load (TL) Pos. Defl.:	6'- 9 3/4"	D + L		0.260"	L/240	Passed - L/601

l	SUP	PORT AND	REACTION INFORM	ATION					
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	5-08	1.25D + 1.5L + S	1.00	3718 lb		20020 lb	11843 lb	Passed - 31%
l	2	1-12	1.25D + 1.5L	1.00	2901 lb		6370 lb	3767 lb	Passed - 77%
ı	00-	ALEIER I A	100						

SPECIFIED LOADS									
	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
	Self Weight	0'	13'- 7 9/16"	Self Weight	Тор	12 lb/ft	-	-	-
	Uniform	1'- 1 1/2"	4'- 7 1/2"	User Load	Top	40 lb/ft	80 lb/ft	-	-
	Uniform	9'- 7 9/16"	13'- 7 9/16"	User Load	Top	60 lb/ft	-	-	-
	Tapered	1'- 3 7/8"	11'- 11 7/8"	Smoothed Load	Front	80 To 79 lb/ft	160 To 159 lb/ft	-	-
	Point	0'- 7 7/8"	0'- 7 7/8"	J4(i7297)	Front	80 lb	159 lb	=	=
	Point	12'- 7 7/8"	12'- 7 7/8"	J4(i7587)	Front	96 lb	192 lb	-	-
	Point	0'- 2 3/4"	0'- 2 3/4"	E41(i1032)	Top	73 lb	18 lb	21 lb	-
	Point	4'- 7 1/2"	4'- 7 1/2"	User Load	Тор	240 lb	480 lb	-	-

UNFACTORED REACTIONS										
١	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)		
П	1	0'	0'- 5 1/2"	W31(i35)	999 lb	1631 lb	22 lb	-		
I	2	13'- 5 13/16"	13'- 7 9/16"	PBO1(i67)	882 lb	1200 lb	-1 lb	-		

#### **DESIGN NOTES**

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

#### PLY TO PLY CONNECTION



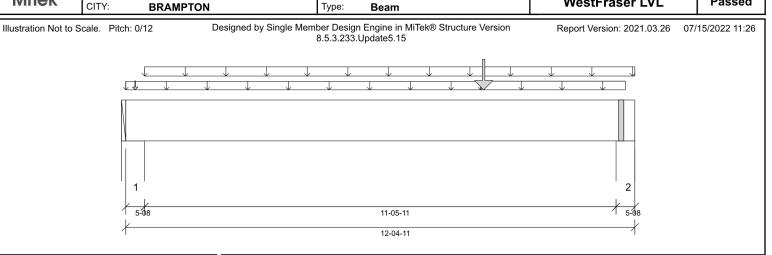
ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: **4001- ELEV A STD**Level: **2ND FLOOR** 

Label: **B5 - i7481** Type: **Beam** 

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,

#### Lateral Restraint Requirements:

TL Deflection Limit:

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' Bottom: 8'- 2 1/8"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Wall @ 12'- 3/16"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 8 1/2"	1.25D + 1.5L	0.97	7527 lb ft	17221 lb ft	Passed - 44%
Factored Shear:	10'- 11 5/16"	1.25D + 1.5L	0.97	2360 lb	6731 lb	Passed - 35%
Live Load (LL) Pos. Defl.:	6'- 8 13/16"	L		0.122"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 7 5/16"	D + L		0.242"	L/240	Passed - L/567
SUPPORT AND REAC	TION INFORM	ATION				

ı	SUP	PURT AND	REACTION IN	FURMATION					
	ID	Input Bearing Length	Controlling Lo		Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
ı	1	5-08	1.25D + 1.5S	+ L 0.84	1352 lb		8419 lb	4979 lb	Passed - 27%
١	2	5-08	1.25D + 1.5	L 0.97	2548 lb		9754 lb	5770 lb	Passed - 44%
l	SPECIFIED LOADS								
l	Тур	e Start Loc	End Loc	Source	Face I	Dead (D)	Live (L)	Snow (S)	Wind (W)

	Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
	Self Weight	0'	12'- 4 11/16"	Self Weight	Тор	6 lb/ft	-	-	-
	Uniform	-0'	8'- 7 5/8"	FC2 Floor Decking (Plan View Fill)	Тор	10 lb/ft	19 lb/ft	-	-
П	Uniform	0'- 5 1/2"	12'- 4 11/16"	User Load	Top	60 lb/ft	-	-	-
	Uniform	8'- 7 5/8"	12'- 1 15/16"	FC2 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
П	Point	8'- 8 1/2"	8'- 8 1/2"	B7(i7519)	Front	597 lb	1129 lb	-	-
	Point	0'- 2 3/4"	0'- 2 3/4"	E96(i7573)	Тор	46 lb	-	57 lb	-
П	UNFAC	TORED R	FACTIONS						

ı	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	1	0'	0'- 5 1/2"	-	664 lb	451 lb	59 lb	-
ı	++>	0'- 9/16"	0'- 9/16"	E37(i1028)	137 lb	93 lb	12 lb	-
ı	++>	0'- 2 3/16"	0'- 2 3/16"	BBO(i1049)	527 lb	358 lb	47 lb	-
ı	2	11'- 11 3/16"	12'- 4 11/16"	4(i995)	897 lb	938 lb	-2 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.



DWG # TF22071139



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: 4001- ELEV A STD

Level: **2ND FLOOR**Label: **B6 - i7288**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 11:26 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: 8'- 2 1/8"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 12'- 3/8"

Design Criteria         Location         Load Combination         LDF         Design         Limit         Result           Factored Pos. Moment:         8'- 8 1/2"         1.25D + 1.5L         1.00         3683 lb ft         17672 lb ft         Passed - 21%           Factored Shear:         10'- 11 1/2"         1.25D + 1.5L + S         1.00         1183 lb         6908 lb         Passed - 17%           Live Load (LL) Pos. Defl.:         6'- 7 3/4"         L         0.073"         L/360         Passed - L/999           Total Load (TL) Pos. Defl.:         6'- 7 9/16"         D + L         0.117"         L/240         Passed - L/999	ANALYSIS RESULTS						
Factored Shear: 10'- 11 1/2" 1.25D + 1.5L + S 1.00 1183 lb 6908 lb Passed - 17% Live Load (LL) Pos. Defl.: 6'- 7 3/4" L 0.073" L/360 Passed - L/999	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Live Load (LL) Pos. Defl.: 6'- 7 3/4" L 0.073" L/360 Passed - L/999	Factored Pos. Moment:	8'- 8 1/2"	1.25D + 1.5L	1.00	3683 lb ft	17672 lb ft	Passed - 21%
	Factored Shear:	10'- 11 1/2"	1.25D + 1.5L + S	1.00	1183 lb	6908 lb	Passed - 17%
Total Load (TL) Pos. Defl.: 6'- 7 9/16" D + L 0.117" L/240 Passed - L/999	Live Load (LL) Pos. Defl.:	6'- 7 3/4"	L		0.073"	L/360	Passed - L/999
	Total Load (TL) Pos. Defl.:	6'- 7 9/16"	D+L		0.117"	L/240	Passed - L/999

ı	SUP	PORT AND	REACTION IN	NFORMAT	ION					
	ID	Input Bearing Length	Controlling L Combinati		.DF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	5-08	1.25D + 1.5L	_+S 1	.00	782 lb		10009 lb	5921 lb	Passed - 13%
ı	2	5-05	1.25D + 1.5L	_+S 1	.00	1403 lb		9672 lb	5721 lb	Passed - 25%
ı	SPE	CIFIED LOA	DS							
١	Туре	e Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
۱	Self	٥ı	10' 4 11/16"	Solf Woigh		Ton	6 lb/ft			

Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 4 11/16"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	-0'	8'- 7 5/8"	FC2 Floor Decking (Plan View Fill)	Тор	13 lb/ft	25 lb/ft	-	-
Uniform	8'- 7 5/8"	12'- 4 11/16"	FC2 Floor Decking (Plan View Fill)	Тор	12 lb/ft	24 lb/ft	-	-
Uniform	8'- 7 5/8"	12'- 1 15/16"	FC2 Floor Decking (Plan View Fill)	Тор	15 lb/ft	29 lb/ft	-	-
Point	8'- 8 1/2"	8'- 8 1/2"	B7(i7519)	Back	281 lb	496 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E61(i2408)	Top	28 lb	-	26 lb	-
Point	12'- 2 1/4"	12'- 2 1/4"	E56(i2413)	Top	28 lb	-	26 lb	-

Ш	UNFA	2 I OKED KI	EACTIONS					
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
	1	0'	0'- 5 1/2"	E13(i828)	233 lb	316 lb	27 lb	-
	2	11'- 11 3/8"	12'- 4 11/16"	4(i995)	383 lb	592 lb	25 lb	-

#### **DESIGN NOTES**

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



STRUCTURAL COMPONENT ONLY DWG # TF22071140



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: **4001- ELEV A STD** Level: **2ND FLOOR** 

Label: **B7 - i7519**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 11:26

11-01-05

DESI	$\sim$ N $_{\rm II}$		A	$\sim$

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 9/16"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 11'- 1 5/16"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 5 1/16"	1.25D + 1.5L	1.00	4515 lb ft	17672 lb ft	Passed - 26%
Factored Shear:	10'- 1 7/16"	1.25D + 1.5L	1.00	1795 lb	6908 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	5'- 10 3/8"	L		0.095"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 10 1/4"	D + L		0.146"	L/240	Passed - L/911

IJ	SUP	PORT AND	REACTION INFORM	IATION					
	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	1095 lb		2730 lb	-	Passed - 40%
Ц	2	1-08	1.25D + 1.5L	1.00	2441 lb		2730 lb	-	Passed - 89%

	ORMATION	

ID	Part No.	Manufacturer	N	ailing Requireme	ents	Other Information or Requirement for
טו	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.

\* 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						
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 1 5/16"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	2'- 13/16"	10'- 13/16"	Smoothed Load	Front	35 lb/ft	71 lb/ft	-	-
Uniform	7'- 4 5/16"	11'- 1 5/16"	User Load	Тор	120 lb/ft	240 lb/ft	-	-
Point	1'- 4 13/16"	1'- 4 13/16"	J7(i7274)	Front	49 lb	99 lb	-	-
Point	10'- 8 13/16"	10'- 8 13/16"	J7(i7354)	Front	31 lb	63 lb	-	-
UNFAC	TORED R	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B6(i7288)		281 lb	496 lb	-	-
2	11'- 1 5/16"	11'- 1 5/16"	B5(i7481)		597 lb	1129 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

4001 BRAMPTON Job Name: 4001- ELEV A STD

**Beam** 

Level: 2ND FLOOR Label: B8 - i7585 2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL Status:

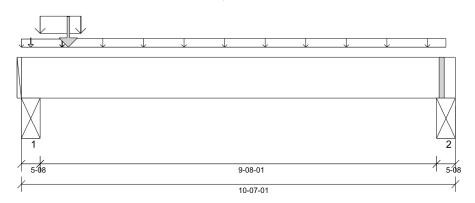
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Type:

Report Version: 2021.03.26 07/15/2022 11:26



#### 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: 8'- 10 1/16"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Beam @ 10'- 2 9/16"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 3 3/4"	1.25D + 1.5S + L	1.00	2968 lb ft	35345 lb ft	Passed - 8%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.83	2290 lb	11507 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 8 3/8"	S + 0.5L		0.016"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 9 1/16"	D + S + 0.5L		0.032"	L/240	Passed - L/999
SUPPORT AND REAC	TION INFORM	MATION				

	Bearing Length	Controlling Combina	,	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	5-08	1.25D + 1.	5S + L	1.00	4349 lb		20020 lb	11839 lb	Passed - 37%
2	5-08	1.25D + 1.	5L + S	0.97	644 lb		19431 lb	11491 lb	Passed - 6%
SPEC	IFIED LOAD	os							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 7 1/16"	Self Weig	ht	Тор	12 lb/ft	-	-	-
Uniform	-0'	1'	FC2 Floor De (Plan View		Тор	7 lb/ft	13 lb/ft	-	-
Uniform	0'- 5 1/2"	1'- 5 1/2"	E54(i241	0)	Тор	195 lb/ft	-	182 lb/ft	-
Uniform	1'	10'- 4 5/16"	FC2 Floor De (Plan View		Тор	13 lb/ft	27 lb/ft	-	-
Point	1'- 1 3/4"	1'- 1 3/4"	B9(i7586	6)	Back	1149 lb	507 lb	1094 lb	-
Point	0'- 2 3/4"	0'- 2 3/4"	E75(i443	8)	Тор	82 lb	10 lb	104 lb	-
UNFA	CTORED R	EACTIONS	5						
ID	Start Loc	End Loc	Sou	ırce		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STL BN	Л (i100	3)	1473 lb	615 lb	1304 lb	-
2	10'- 1 9/16"	10'- 7 1/16"	STL BN	Л (i100	4)	210 lb	165 lb	76 lb	-

#### **DESIGN NOTES**

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
  specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
  required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=3.500", W=3.500". LDF=1.00, Pf=3584 lb, Q'r=10920 lb, Result=32.82%.



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

#### PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" O/C

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



DWG # TF22071142



CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001 **BRAMPTON**  Job Name: 4001- ELEV A STD Level: 2ND FLOOR

Label: B9 - i7586 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 11:26

Illustration Not to Scale. Pitch: 0/12

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

> 5-08 5-09-05

> > 6-02-13

#### **DESIGN INFORMATION**

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

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360, TL Deflection Limit: L/240.

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 6'- 2 13/16"

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

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



PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 10 3/4"	1.25D + 1.5L + S	0.97	3503 lb ft	34451 lb ft	Passed - 10%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.80	1419 lb	11110 lb	Passed - 13%
Total Load (TL) Pos. Defl.:	3'- 3 9/16"	D + L + 0.5S		0.016"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION									
	D	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
Ш	1	5-08	1.25D + 1.5S + L	1.00	3781 lb		20020 lb	11842 lb	Passed - 32%
ΙL	2	1-08	1.25D + 1.5S + L	1.00	3625 lb		5460 lb	-	Passed - 66%

CONIN	ECTOD I	NEODMAT	ION
CONN	ECIURI	NFORMAT	ION

ID	Part No.	Manufacturer	Na	iling Requirem	ents	Other Information or Requirement for
טו	Fait No.	Manuacturei	Тор	Face	Member	Reinforcement Accessories
2	HGUS410		-	-	-	Connector manually specified by the user.

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

SPECI	FIED LOAD	)S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 2 13/16"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	6'- 2 13/16"	User Load	Front	28 lb/ft	-	48 lb/ft	-
Uniform	0'- 5/16"	2'- 4 9/16"	E77(i4440)	Тор	100 lb/ft	-	-	-
Uniform	0'- 2 3/4"	1'- 6 3/4"	FC2 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 4 5/16"	2'- 1 1/16"	E77(i4440)	Top	48 lb/ft	-	101 lb/ft	-
Uniform	2'- 4 9/16"	4'- 4 7/16"	E76(i4439)	Top	100 lb/ft	-	-	-
Uniform	4'- 4 7/16"	6'- 2 13/16"	E55(i2418)	Тор	100 lb/ft	-	-	-
Uniform	4'- 7 15/16"	6'- 2 13/16"	E55(i2418)	Top	48 lb/ft	-	101 lb/ft	-
Point	1'- 6 3/4"	1'- 6 3/4"	J5(i7286)	Back	125 lb	249 lb	-	-
Point	2'- 10 3/4"	2'- 10 3/4"	J5(i7515)	Back	127 lb	253 lb	-	-
Point	4'- 2 3/4"	4'- 2 3/4"	J5(i7515)	Back	127 lb	253 lb	-	-
Point	5'- 6 3/4"	5'- 6 3/4"	J5(i7355)	Back	102 lb	204 lb	-	-
Point	0'- 3 1/16"	0'- 3 1/16"	E77(i4440)	Top	42 lb	-	82 lb	-
Point	0'- 7 5/16"	0'- 7 5/16"	E77(i4440)	Тор	332 lb	-	667 lb	-
Point	2'- 3 9/16"	2'- 3 9/16"	E77(i4440)	Тор	82 lb	-	133 lb	-
Point	4'- 5 7/16"	4'- 5 7/16"	E55(i2418)	Тор	80 lb	-	127 lb	-
Point	6'- 1 5/16"	6'- 1 5/16"	E55(i2418)	Тор	332 lb	-	666 lb	-

UNFACTORED REACTIONS											
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)				
1	0'	0'- 5 1/2"	4(i995)	1234 lb	460 lb	1213 lb	-				
2	6'- 2 13/16"	6'- 2 13/16"	B8(i7585)	1149 lb	507 lb	1094 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.



BUILDER: SITE: MODEL: CITY: ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: **4001- ELEV A STD** Level: **2ND FLOOR** 

Label: **B9 - i7586** Type: **Beam** 

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

Design
Passed

#### **DESIGN NOTES**

- 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** 

4001 **BRAMPTON**  Job Name: 4001- ELEV A STD Level: 2ND FLOOR

Label: B10 - i7327 Type: **Beam** 

3 Ply Member 1 3/4" x 14" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

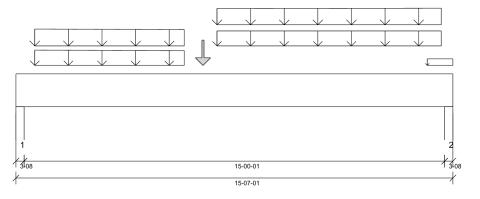
Status: Design Passed

07/15/2022 11:26

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'- 2 13/16" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Wall @ 15'- 4 9/16"

#### PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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



DWG # TF22071144

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 11 1/2"	1.25D + 1.5L	1.00	38486 lb ft	72216 lb ft	Passed - 53%
Factored Shear:	14'- 1 9/16"	1.25D + 1.5L	1.00	9927 lb	24431 lb	Passed - 41%
Live Load (LL) Pos. Defl.:	7'- 9 9/16"	L		0.315"	L/360	Passed - L/570
Total Load (TL) Pos. Defl.:	7'- 9 9/16"	D + L		0.483"	L/240	Passed - L/372

l	SUP	PORT AND	REACTION INFORM	ATION					
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	3-08	1.25D + 1.5L	1.00	9590 lb		19110 lb	11304 lb	Passed - 85%
l	2	3-08	1.25D + 1.5L	1.00	9978 lb		19110 lb	11304 lb	Passed - 88%
l	SPE	CIFIED LO	ADS						

Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	15'- 7 1/16"	Self Weight	Тор	21 lb/ft	-	-	-
Uniform	7'- 2 1/16"	15'- 2 1/16"	Smoothed Load	Front	141 lb/ft	283 lb/ft	-	-
Uniform	14'- 8 1/16"	15'- 7 1/16"	FC2 Floor Decking (Plan View Fill)	Тор	3 lb/ft	7 lb/ft	-	-
Tapered	0'- 8 1/16"	6'- 1/16"	Smoothed Load	Back	173 To 164 lb/ft	346 To 327 lb/ft	-	-
Tapered	0'- 8 1/16"	6'- 1/16"	Smoothed Load	Front	146 To 139 lb/ft	294 To 278 lb/ft	-	-
Tapered	7'- 2 1/16"	15'- 2 1/16"	Smoothed Load	Back	164 To 169 lb/ft	330 To 337 lb/ft	-	-
Point	6'- 8 1/16"	6'- 8 1/16"	J3(i7562)	Front	188 lb	377 lb	-	-
Point	6'- 8 1/16"	6'- 8 1/16"	J1(i7394)	Back	194 lb	388 lb	-	-
LINIEAG	TODED D	- A OTIONIC						

Ш	UNFA	CTORED RE	EACTIONS					
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
	1	0'	0'- 3 1/2"	7(i1001)	2368 lb	4419 lb	-	-
	2	15'- 3 9/16"	15'- 7 1/16"	8(i1002)	2460 lb	4603 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



**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001 **BRAMPTON**  Job Name: 4001- ELEV A OPT SUNKEN Level: 1ST FLOOR

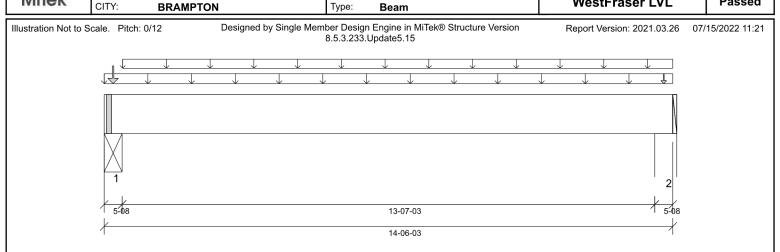
Label: B13 H - i8401

Type: **Beam** 

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:

Bottom: 13'- 7" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Wall @ 14'- 1 11/16"

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	7'- 3 5/16"	1.25D + 1.5L	0.77	2966 lb ft	13545 lb ft	Passed - 22%				
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	0.77	45 lb ft	3305 lb ft	Passed - 1%				
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.77	737 lb	5294 lb	Passed - 14%				
Live Load (LL) Pos. Defl.:	7'- 3 5/16"	L		0.035"	L/360	Passed - L/999				
Total Load (TL) Pos. Defl.:	7'- 3 1/8"	D + L		0.163"	L/240	Passed - L/998				
SUPPORT AND REAC	SUPPORT AND REACTION INFORMATION									

Factored

Factored

Factored

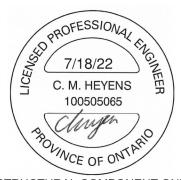
Factored

		Length			Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
ı	1	5-08	1.25D +	1.5L 0.77	1168 lb		7672 lb	4537 lb	Passed - 26%
١	2	5-08	1.4D	0.65	815 lb		6507 lb	3849 lb	Passed - 21%
١	SPECIFIED LOADS								
١	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
l	Self Weight	0'	14'- 6 3/16"	Self Weight	Тор	6 lb/ft	-	-	-
ı	Uniform	0'	14'- 6 3/16"	User Load	Тор	60 lb/ft	-	-	-
l	Uniform	0'- 5 11/16"	14'- 6 3/16"	FC1 Floor Decking (Plan View Fill)	Тор	10 lb/ft	21 lb/ft	-	-
ı	Point	0'- 2 3/4"	0'- 2 3/4"	5(i999)	Тор	72 lb	119 lb	-	-
ı	Point	14'- 3 7/16"	14'- 3 7/16"	E21(i1012)	Тор	29 lb	-	-	-
١	UNFA	CTORED RI	EACTIONS						
l	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	1	0'	0'- 5 1/2"	STL BM (i54	1)	623 lb	264 lb	-	-
١	2	14'- 11/16"	14'- 6 3/16"	W41(i60)		580 lb	146 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.



STRUCTURAL COMPONENT ONLY DWG # TF22071145



CITY:

Illustration Not to Scale. Pitch: 0/12

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001

**BRAMPTON** 

Job Name: 4001- ELEV A OPT SUNKEN

Level: 1ST FLOOR Label: B20 L - i8693 Type: **Beam** 

Designed by Single Member Design Engine in MiTek® Structure Version

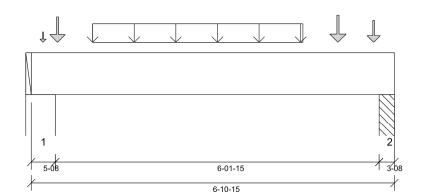
8.5.3.233.Update5.15

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

WestFraser LVL

Status: Design Passed

Report Version: 2021.03.26 07/15/2022 11:21



#### **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'- 1 1/2" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 6'- 8 7/16"

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	3'- 2"	1.25D + 1.5L	1.00	2891 lb ft	11650 lb ft	Passed - 25%				
Factored Shear:	5'- 9 15/16"	1.25D + 1.5L	1.00	1954 lb	5526 lb	Passed - 35%				
Live Load (LL) Pos. Defl.:	3'- 6 7/16"	L		0.039"	L/360	Passed - L/999				
Total Load (TL) Pos. Defl.:	3'- 6 7/16"	D + L		0.059"	L/240	Passed - L/999				
SUPPORT AND REACTION INFORMATION										

Factored

Factored

Factored

Factored

		Bearing Length	Controlling		F Downv React		Resistance of Member	Resistance of Support	Result
s۱	1	5-08	1.25D + 1	.5L 1.0	0 1999	lb	10010 lb	5921 lb	Passed - 34%
	2	2 3-08 1.25D + 1.5L 1.00 196		0 1961	lb	6370 lb	3767 lb	Passed - 52%	
١	SPECIFIED LOADS								
١	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
١	Self Weight	0'	6'- 10 15/16"	Self Weight	Тор	5 lb/ft	-	-	-
1	Uniform	1'- 2"	5'- 2"	Smoothed Load	l Front	136 lb/ft	272 lb/ft	-	-
1	Point	0'- 6"	0'- 6"	J1(i8459)	Front	125 lb	249 lb	-	-
1	Point	5'- 10"	5'- 10"	J1(i8442)	Front	137 lb	273 lb	-	-
1	Point	6'- 6 3/16"	6'- 6 3/16"	J1(i8443)	Front	100 lb	200 lb	=	=
1	Point	0'- 2 11/16"	0'- 2 11/16"	28(i7939)	Тор	28 lb	27 lb	-	-
1	UNFACTORED REACTIONS								
١	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1	0'	0'- 5 1/2"	W32(i5	1)	494 lb	922 lb	-	-
1	2	6'- 7 7/16"	6'- 10 15/16"	PBO2(i78	57)	472 lb	913 lb	-	-

#### **DESIGN NOTES**

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



STRUCTURAL COMPONENT ONLY DWG # TF22071146



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: 4001- ELEV A OPT SUNKEN

Level: 1ST FLOOR
Label: B21 L - i8095
Type: Beam

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

Report Version: 2021.03.26

Status:

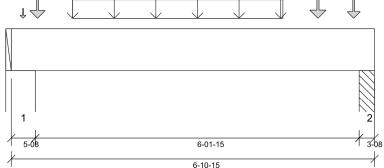
Design
Passed

07/15/2022 11:21

Illustration Not to Scale. Pitch: 0/12

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

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'- 1 1/2"

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 6'- 8 7/16"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 2"	1.25D + 1.5L	1.00	2892 lb ft	11650 lb ft	Passed - 25%
Factored Shear:	5'- 9 15/16"	1.25D + 1.5L	1.00	1954 lb	5526 lb	Passed - 35%
Live Load (LL) Pos. Defl.:	3'- 6 7/16"	L		0.039"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 6 7/16"	D + L		0.059"	L/240	Passed - L/999
CURRORT AND DEAC	TION INFORM	IATION				

SUPP	SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Combina	○		actored ownward eaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08 1.25D + 1.5L 1.00 1984 lb 3-08 1.25D + 1.5L 1.00 1961 lb		984 lb		10010 lb	5921 lb	Passed - 34%		
2			961 lb		Passed - 52%				
SPECIFIED LOADS									
Туре	Start Loc	End Loc	Source	Fa	ce D	ead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 10 15/16"	Self Weight	То	р	5 lb/ft	-	-	-
Uniform	1'- 2"	5'- 2"	Smoothed Loa	ad Ba	ck 1	36 lb/ft	272 lb/ft	-	=
Point	0'- 6"	0'- 6"	J1(i8459)	Ва	ck	125 lb	249 lb	-	-
Point	5'- 10"	5'- 10"	J1(i8442)	Ва	ck	137 lb	273 lb	-	-

ı	Point	0'- 2 11/16"	0'- 2 11/16"	28(17939)	Top 25 lb	20 lb	-	•
	UNFAC	CTORED R	EACTIONS					
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
	1	0'	0'- 5 1/2"	W32(i51)	490 lb	914 lb	-	-
l	2	6'- 7 7/16"	6'- 10 15/16"	PBO3(i7858)	472 lb	914 lb	-	_

100 lb

200 lb

#### DESIGN NOTES

6'- 6 3/16"

6'- 6 3/16"

Point

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

Back

J1(i8443)

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



STRUCTURAL COMPONENT ONLY DWG # TF22071147



CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001 **BRAMPTON**  Job Name: 4001- ELEV B STD 2ND FLOOR Level:

Label: B20 - i10069 Type: **Beam** 

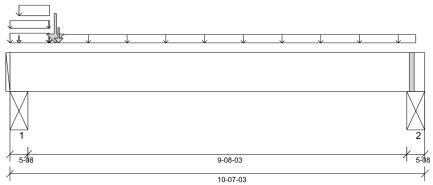
2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

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 11:43



#### **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: 8'- 10" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Beam @ 10'- 2 11/16"

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

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



l	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	1'- 2 15/16"	1.25D + 1.5S + L	0.97	2980 lb ft	34322 lb ft	Passed - 9%
l	Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.87	2579 lb	12028 lb	Passed - 21%
l	Live Load (LL) Pos. Defl.:	4'- 10 1/8"	L + 0.5S		0.016"	L/360	Passed - L/999
l	Total Load (TL) Pos. Defl.:	4'- 9 7/8"	D + L + 0.5S		0.033"	L/240	Passed - L/999
ı	CHIDDODT AND DEAC	TION INFORM	IATION				

SUFFC	JR I AND R	RI AND REACTION INFORMATION						
ID B	Input Bearing Length	Controlling Combina	- 11)⊢	Factore Downwa Reaction	ard Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.	5S + L 0.97	3964 I	b	19441 lb	11496 lb	Passed - 34%
2	5-08	1.25D + 1.	5L + S 0.96	658 lb	)	19318 lb	11424 lb	Passed - 6%
SPECII	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 7 3/16"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	1'- 3/16"	E98(i8105)	Тор	100 lb/ft	-	-	-
Uniform	0'	1'- 3/16"	FC2 Floor Decking (Plan View Fill)	Тор	5 lb/ft	11 lb/ft	-	-
Uniform	0'- 2 3/4"	1'- 3/16"	E98(i8105)	Тор	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	1'- 3/16"	10'- 4 7/16"	FC2 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
Point	1'- 1 15/16"	1'- 1 15/16"	B21(i10068)	Front	998 lb	638 lb	464 lb	-
Point	0'- 2 3/4"	0'- 2 3/4"	E98(i8105)	Тор	8 lb	-	18 lb	-

UNFA	CIORED RE	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STL BM (i1003)	1476 lb	757 lb	952 lb	-
2	10'- 1 11/16"	10'- 7 3/16"	STL BM (i1004)	215 lb	176 lb	62 lb	-

305 lb

8 lb

476 lb

#### **DESIGN NOTES**

1'- 2 15/16"

1'- 2 15/16"

Point

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

E114(i8121)

· 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.)

Ton

- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=3.500", W=3.500". LDF=0.97, Pf=2765 lb, Q'r=10920 lb, Result=25.32%.

#### PLY TO PLY CONNECTION



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON Job Name: **4001- ELEV B STD** Level: **2ND FLOOR** 

Label: **B21 - i10068** 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 11:43

Illustration Not to Scale. Pitch: 0/12

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

7-05-01 3108 7-08-09

#### **DESIGN INFORMATION**

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

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

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Wall @ 7'- 6 1/16"

#### PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

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



STRUCTURAL COMPONENT ONLY DWG # TF22071149 PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 5 1/2"	1.25D + 1.5L + S	0.97	5004 lb ft	34343 lb ft	Passed - 15%
Factored Shear:	6'- 5 3/16"	1.25D + 1.5L + S	0.97	2634 lb	13424 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	3'- 8 3/4"	L + 0.5S		0.018"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 8 3/4"	D + L + 0.5S		0.038"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION									
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	1-08	1.25D + 1.5L + S	0.97	2699 lb		5305 lb	-	Passed - 51%
l	2	3-08	1.25D + 1.5L + S	0.97	3003 lb		12379 lb	7323 lb	Passed - 41%

#### **CONNECTOR INFORMATION**

ID	Part No.	Manufacturer	Na	iling Requirem	ients	Other Information or Requirement for	
I	טו	Fait No.	Manufacture	Тор	Face	Member	Reinforcement Accessories
ı	1	HGUS/10		_	_	_	Connector manually specified by the us

\* 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.

SPECI	FIED LOAD	S						
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 8 9/16"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	7'- 8 9/16"	User Load	Front	14 lb/ft	-	24 lb/ft	-
Uniform	-0'	2'- 3 1/16"	E114(i8121)	Top	100 lb/ft	-	-	-
Uniform	-0'	1'- 11 9/16"	E114(i8121)	Top	47 lb/ft	-	100 lb/ft	-
Uniform	1'- 5 1/2"	5'- 5 1/2"	Smoothed Load	Back	95 lb/ft	190 lb/ft	-	-
Uniform	2'- 3 1/16"	6'- 3 1/16"	E115(i8122)	Тор	100 lb/ft	-	-	-
Uniform	6'- 3 1/8"	7'- 8 9/16"	E97(i8106)	Top	100 lb/ft	-	-	-
Uniform	6'- 6 9/16"	7'- 3 1/16"	E97(i8106)	Тор	47 lb/ft	-	100 lb/ft	-
Uniform	7'- 3 1/16"	7'- 8 9/16"	E97(i8106)	Top	24 lb/ft	-	50 lb/ft	-
Point	0'- 9 1/2"	0'- 9 1/2"	J5(i9960)	Back	108 lb	216 lb	-	-
Point	6'- 1 1/2"	6'- 1 1/2"	J5(i9956)	Back	121 lb	241 lb	-	-
Point	7'- 4"	7'- 4"	J5(i9935)	Back	75 lb	151 lb	-	-
Point	2'- 2 1/16"	2'- 2 1/16"	E114(i8121)	Top	143 lb	-	231 lb	-
Point	6'- 4 1/16"	6'- 4 1/16"	E97(i8106)	Top	141 lb	-	228 lb	-
Point	7'- 5 13/16"	7'- 5 13/16"	E73(i4436)	Тор	49 lb	10 lb	44 lb	-

UNFAC	CTORED RE	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B20(i10069)	998 lb	638 lb	464 lb	-
2	7'- 5 1/16"	7'- 8 9/16"	E44(i1037)	1128 lb	739 lb	514 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.



BUILDER: SITE: MODEL: CITY: ROYAL PINE HOMES FORESTSIDE ESTATES

4001 BRAMPTON •

 Job Name:
 4001- ELEV B STD

 Level:
 2ND FLOOR

 Label:
 B21 - i10068

 Type:
 Beam

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

Design
Passed

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** 

4001 **BRAMPTON**  Job Name: 4001- ELEV B STD Level: 1ST FLOOR

Label: B22 - i10062

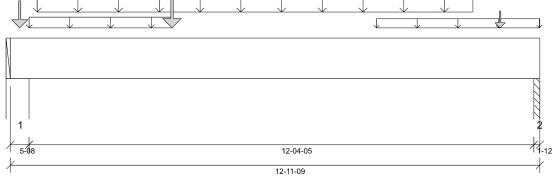
Type: **Beam** 

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

WestFraser LVL

Status: Design Passed

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 11:43 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'- 1 1/2" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 12'- 10 13/16"

PLY TO PLY CONNECTION:

4 ROWS OF 3.25" PNEUMATIC GUN

NAILS (0.120"x3.25") @ 12" O/C PLY TO PLY CONNECTION ASSUMES ANY

SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



DWG # TF22071150

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 3 7/8"	1.25D + 1.5L	1.00	9726 lb ft	35345 lb ft	Passed - 28%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L + S	1.00	3225 lb	13815 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	6'- 5 5/16"	L		0.129"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 5 13/16"	D + L		0.207"	L/240	Passed - L/715

SUP	PORT AND F	REACTION II	NFORMATIO	N				
ID	Input Bearing Length	Controlling I Combinati		Factor Downw Reacti	ard Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5I	_+S 1.00	4150	lb	20020 lb	11842 lb	Passed - 35%
2	1-12	1.25D + 1.	5L 1.00	2716	lb	6370 lb	3767 lb	Passed - 72%
SPEC	CIFIED LOA	DS						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weigh	t 0'	12'- 11 9/16"	Self Weight	Тор	12 lb/ft	-	-	-
Uniforn	n 0'- 5 1/2"	3'- 11 1/2"	User Load	Тор	40 lb/ft	80 lb/ft	-	-

Weight	O	12-11 9/16"	Self Weight	юр	12 ID/π	_	_	_
Uniform	0'- 5 1/2"	3'- 11 1/2"	User Load	Тор	40 lb/ft	80 lb/ft	-	-
Uniform	8'- 11 9/16"	12'- 11 9/16"	User Load	Top	60 lb/ft	-	-	-
Tapered	0'- 7 7/8"	11'- 3 7/8"	Smoothed Load	Front	80 lb/ft	160 To 159 lb/ft	-	-
Point	11'- 11 7/8"	11'- 11 7/8"	J4(i10074)	Front	96 lb	192 lb	=	-
Point	0'- 2 3/4"	0'- 2 3/4"	E117(i8218)	Top	315 lb	100 lb	192 lb	-
Point	3'- 11 1/2"	3'- 11 1/2"	User Load	Тор	240 lb	480 lb	-	-
UNFAC	TORED R	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)

1204 lb

830 lb

1633 lb

1120 lb

198 lb

-6 lb

#### **DESIGN NOTES**

0'- 5 1/2"

12'- 9 13/16" 12'- 11 9/16"

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

W31(i35)

PBO1(i67)

- 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

4001 BRAMPTON Job Name: **4001- ELEV C STD** Level: **2ND FLOOR** 

Label: **B31 - i10411**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

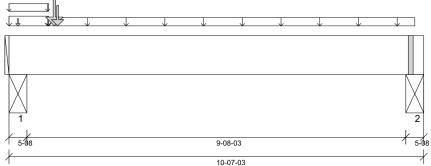
07/15/2022 13:28

Result

Illustration Not to Scale. Pitch: 0/12

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

8.5.3.233.Update5.15



Controlling Load

#### DESIGN INFORMATION

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

Amendment) logy: LSD

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: 8'- 10"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Beam @ 10'- 2 11/16"

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



DWG # TF22071151

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 2 15/16"	1.25D + 1.5S + L	1.00	3581 lb ft	35204 lb ft	Passed - 10%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.85	2764 lb	11776 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	4'- 8 1/4"	S + 0.5L		0.018"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 8 13/16"	D + S + 0.5L		0.037"	L/240	Passed - L/999
SUPPORT AND REAC	TION INFORM	IATION				
Input	ntunilium I nond	Factored	Factored	Factored	Factored	

Unlift

Resistance

Resistance

Downward

	Length	Combina	ation	Reacti	on Reaction	of Member	of Support	riodan
1	5-08	1.25D + 1.	5S + L 1.0	0 4661	lb	19940 lb	11791 lb	Passed - 40%
2	5-08	1.25D + 1.	5L + S 0.9	7 710 I	b	19419 lb	11483 lb	Passed - 6%
SPECI	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 7 3/16"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	1'- 3/16"	E98(i8105)	Тор	100 lb/ft	-	-	-
Uniform	0'	1'- 3/16"	FC2 Floor Deckir (Plan View Fill)	g Top	5 lb/ft	11 lb/ft	-	-
Uniform	0'- 2 3/4"	1'- 3/16"	E98(i8105)	Top	30 lb/ft	33 lb/ft	72 lb/ft	-
Uniform	1'- 3/16"	10'- 4 7/16"	FC2 Floor Deckir (Plan View Fill)	g Top	13 lb/ft	27 lb/ft	-	-
Point	1'- 1 15/16"	1'- 1 15/16"	B30(i10410)	Front	1017 lb	654 lb	469 lb	-
Point	0'- 2 3/4"	0'- 2 3/4"	E98(i8105)	Top	8 lb	-	18 lb	-
Point	1'- 2 15/16"	1'- 2 15/16"	E114(i8121)	Тор	466 lb	8 lb	820 lb	-
UNFAC	CTORED RE	EACTIONS	;					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STL BM (i1	003)	1645 lb	772 lb	1279 lb	-
2	10'- 1 11/16"	10'- 7 3/16"	STL BM (i1	004)	227 lb	177 lb	85 lb	-
DECIC	N NOTES							

#### **DESIGN NOTES**

ID

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 1, Required Load Area: L=3.500", W=3.500", LDF=1.00, Pf=2805 lb, Q'r=10920 lb, Result=25.69%.

#### PLY TO PLY CONNECTION



CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001 **BRAMPTON**  Job Name: 4001- ELEV C STD Level: 2ND FLOOR

Label: B30 - i10410 Type: **Beam** 

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

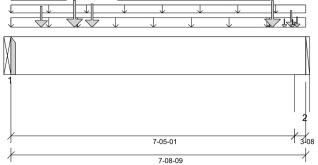
Report Version: 2021.03.26

Status: Design Passed

07/15/2022 13:28

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'- 1 1/2" Top: 0'

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Wall @ 7'- 6 1/16"

#### PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

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



STRUCTURAL COMPONENT ONLY DWG # TF22071152 PG 1/2

	ANALYSIS RESULTS							
	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	
	Factored Pos. Moment:	3'- 5 1/2"	1.25D + 1.5L + S	0.97	4814 lb ft	34230 lb ft	Passed - 14%	
	Factored Shear:	6'- 5 3/16"	1.25D + 1.5L + S	0.97	2523 lb	13379 lb	Passed - 19%	
	Live Load (LL) Pos. Defl.:	3'- 8 5/8"	L + 0.5S		0.017"	L/360	Passed - L/999	
l	Total Load (TL) Pos. Defl.:	3'- 8 5/8"	D + L + 0.5S		0.037"	L/240	Passed - L/999	

П	SUP	PORT AND	REACTION INFORM	ATION					
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
П	1	1-08	1.25D + 1.5L + S	0.97	2715 lb		5288 lb	-	Passed - 51%
П	2	3-08	1.25D + 1.5L + S	0.97	2971 lb		12338 lb	7298 lb	Passed - 41%

#### **CONNECTOR INFORMATION**

ID	Part No.	Manufacturer	Nai	ling Requirem	ents	Other Information or Requirement for
טו	Fait No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories
1	HGUS410		-	-	-	Connector manually specified by the user.

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

SPECIF	SPECIFIED LOADS											
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)				
Self Weight	0'	7'- 8 9/16"	Self Weight	Тор	12 lb/ft	-	-	-				
Uniform	0'	7'- 8 9/16"	User Load	Front	14 lb/ft	-	24 lb/ft	-				
Uniform	-0'	1'- 9"	E114(i8121)	Top	100 lb/ft	-	-	-				
Uniform	-0'	1'- 5 1/2"	E114(i8121)	Top	48 lb/ft	-	101 lb/ft	-				
Uniform	1'- 9"	6'- 9 1/8"	E115(i8122)	Top	100 lb/ft	-	-	-				
Uniform	6'- 9 1/8"	7'- 8 9/16"	E97(i8106)	Top	100 lb/ft	-	-	-				
Tapered	2'- 9 1/2"	6'- 9 1/2"	Smoothed Load	Back	97 To 90 lb/ft	194 To 180 lb/ft	-	-				
Point	0'- 9 1/2"	0'- 9 1/2"	J5(i10269)	Back	108 lb	216 lb	-	-				
Point	2'- 1 1/2"	2'- 1 1/2"	J5(i10187)	Back	127 lb	253 lb	-	-				
Point	7'- 4"	7'- 4"	J5(i10241)	Back	75 lb	151 lb	-	-				
Point	1'- 8"	1'- 8"	E114(i8121)	Тор	177 lb	-	284 lb	-				
Point	6'- 10 1/8"	6'- 10 1/8"	E97(i8106)	Тор	176 lb	-	281 lb	-				
Point	7'- 1 7/8"	7'- 1 7/8"	E97(i8106)	Тор	10 lb	-	20 lb	-				
Point	7'- 4 7/16"	7'- 4 7/16"	E97(i8106)	Тор	6 lb	-	12 lb	-				
Point	7'- 5 13/16"	7'- 5 13/16"	E73(i4436)	Top	43 lb	-	34 lb	-				

UNFAC	CTORED RE	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B31(i10411)	1017 lb	654 lb	469 lb	-
2	7'- 5 1/16"	7'- 8 9/16"	E44(i1037)	1121 lb	713 lb	495 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.



BUILDER: SITE: MODEL: CITY:

**ROYAL PINE HOMES FORESTSIDE ESTATES** 

4001 **BRAMPTON** 

Job Name: 4001- ELEV C STD 2ND FLOOR Level: Label: B30 - i10410

Type: **Beam** 

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

WestFraser LVL

Status: Design **Passed** 

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

- 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. gypsum ceiling				
Joist depth	Joist series	On centre spacing				On centre spacing				
9-1/2" 11-7/8" 14"		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
9-1/2" 11-7/8"	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'-9" 17'-6" 20'-1" 18'-7" 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"	-	
	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"	-	

		Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing				
Joist depth	Joist series									
		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"	20'-11"	-	
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 - M7.1

#### Design Criteria

Spans: Simple span

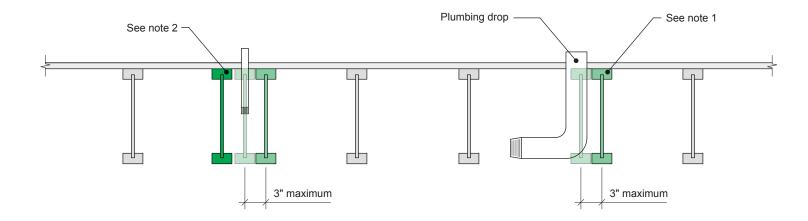
Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

#### **Maximum Floor Spans**

			В	are		1/2 in. gypsum ceiling				
Joist depth	Joist series	On centre spacing				On centre 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"	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"	
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"	
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11'	
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"	16'-9" 16' 17'-8" 16' 17'-10" 17' 18'-11" 17' 19'-3" 18' 19'-6" 18	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"	

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

- 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:

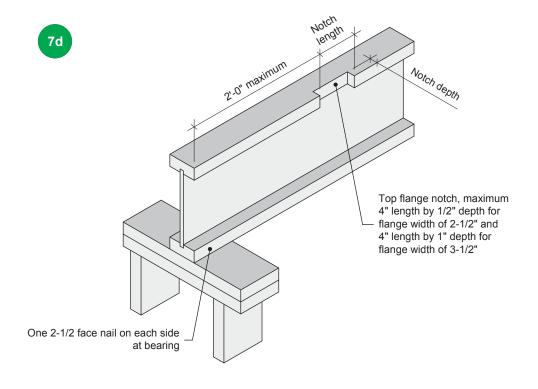
- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

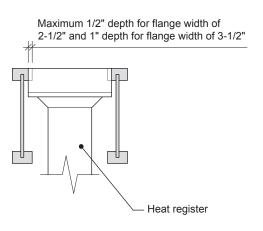
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.





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	