

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	56
J1DJ	16-00-00	11 7/8" NI-40x	2	12
J2	14-00-00	11 7/8" NI-40x	1	6
J3	8-00-00	11 7/8" NI-40x	1	2
J4	6-00-00	11 7/8" NI-40x	1	1
J5	4-00-00	11 7/8" NI-40x	1	3
B2	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B1	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B5	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B3	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
R1	158-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	44-00-00	11 7/8" NI-40x	1	1

Connector Summary		
Qty	Manuf	Product
5	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H13	HU312-2

DATE: 8/25/23

1st FLOOR FRAMING



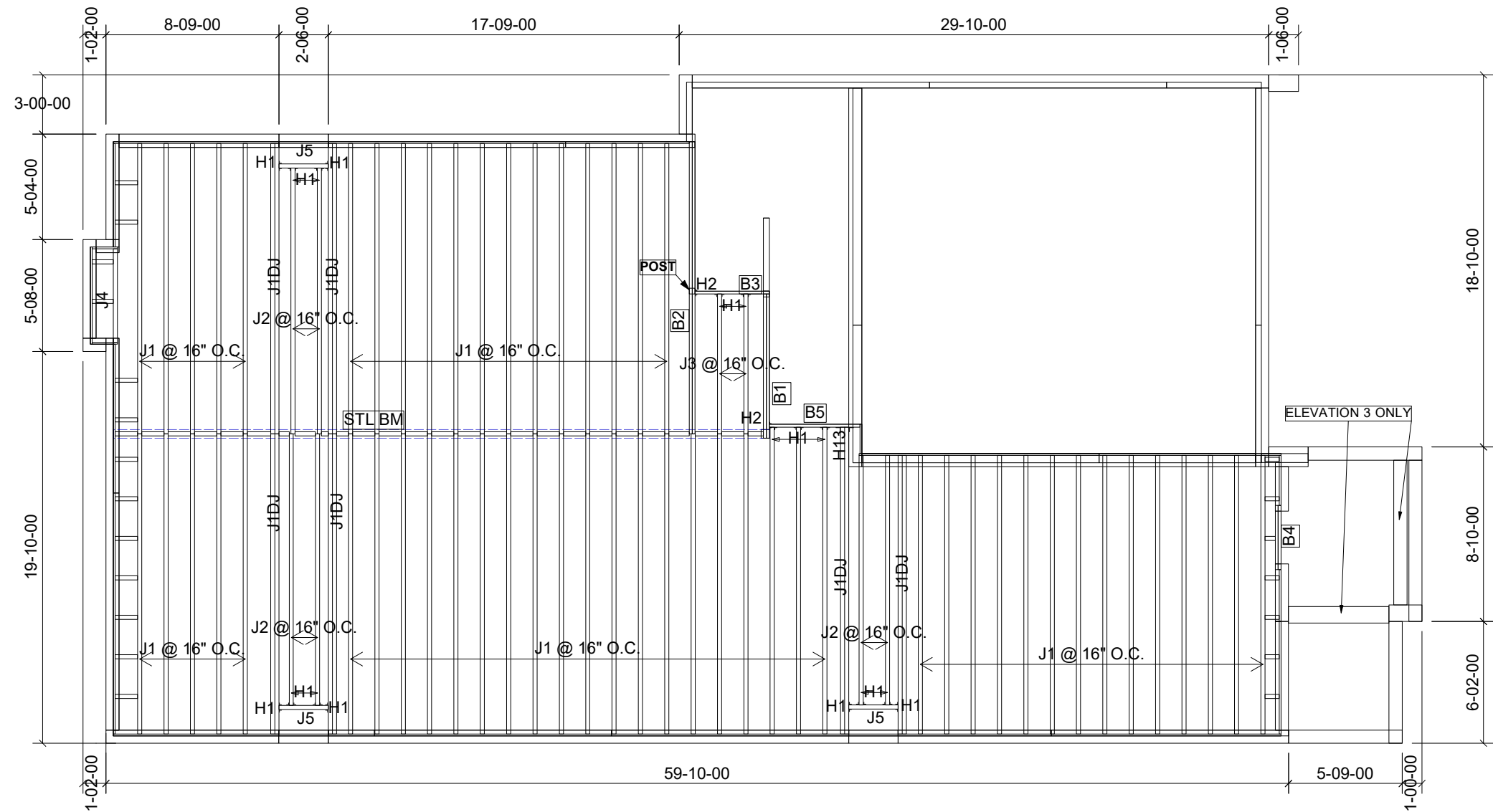
FROM PLAN DATED: 2023/07  
BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT INC  
MODEL: ROSE 5  
ELEVATION: 1  
LOT:  
CITY: RICHMOND HILL  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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  
SUBFLOOR: 3/4" GLUED AND NAILED

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	56
J1DJ	16-00-00	11 7/8" NI-40x	2	12
J2	14-00-00	11 7/8" NI-40x	1	6
J3	8-00-00	11 7/8" NI-40x	1	2
J4	6-00-00	11 7/8" NI-40x	1	1
J5	4-00-00	11 7/8" NI-40x	1	3
B2	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B1	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B5	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B3	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
R1	156-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	48-00-00	11 7/8" NI-40x	1	1

Connector Summary		
Qty	Manuf	Product
5	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H13	HU312-2

DATE: 8/25/23

1st FLOOR FRAMING



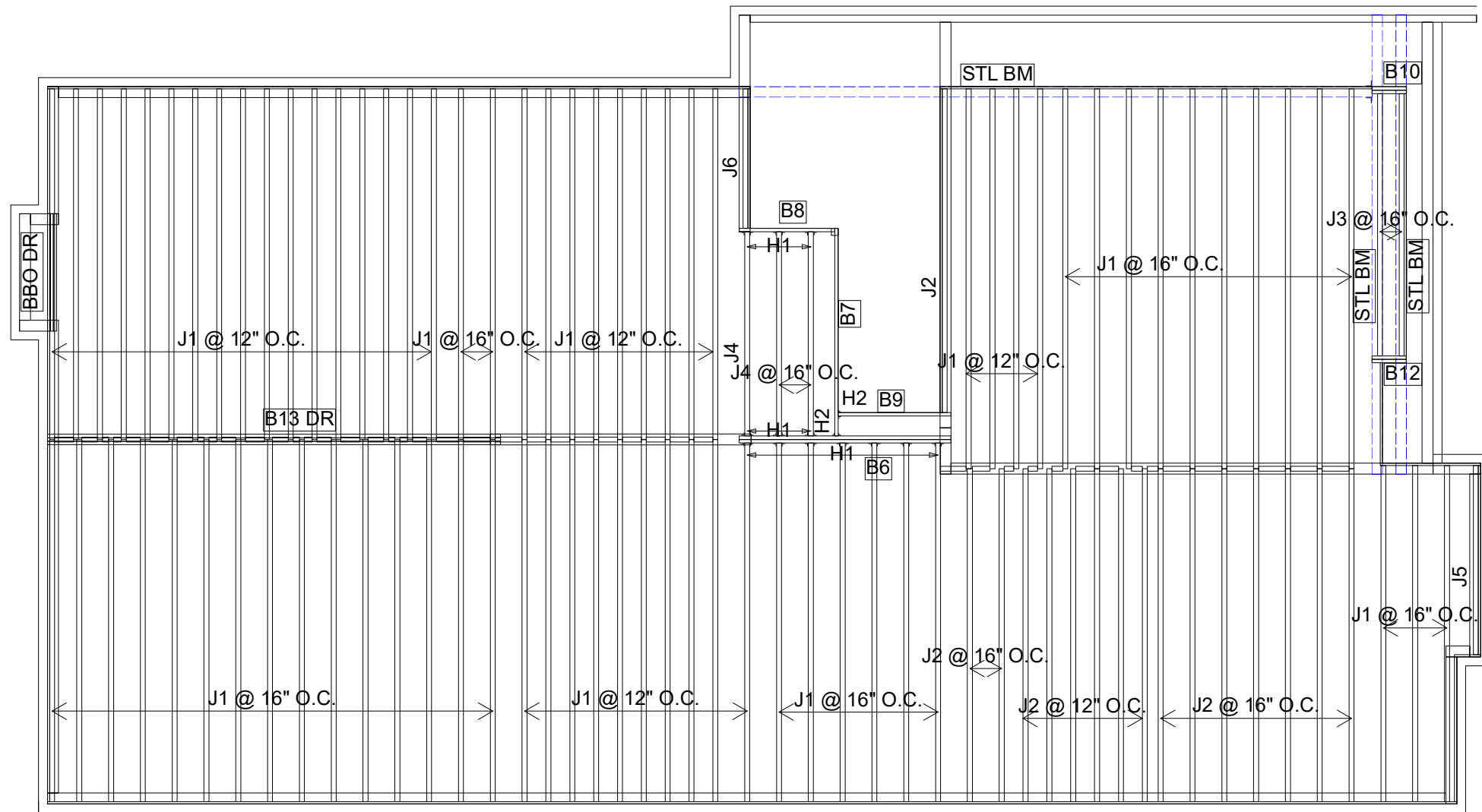
FROM PLAN DATED: 2023/07  
BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT INC  
MODEL: ROSE 5  
ELEVATION: 2,3  
LOT:  
CITY: RICHMOND HILL  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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.  
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**CERAMIC TILE** APPLICATION AS PER OBC 9.30.6.

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**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>  
JOIST LL DEFLECTION LIMIT: L/480  
SUBFLOOR: 3/4" GLUED AND NAILED

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
AND NAILED  
mabua



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	76
J2	14-00-00	11 7/8" NI-40x	1	16
J3	12-00-00	11 7/8" NI-40x	1	2
J4	10-00-00	11 7/8" NI-40x	1	3
J5	8-00-00	11 7/8" NI-40x	1	1
J6	6-00-00	11 7/8" NI-40x	1	1
B7	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B8	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B10	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B12	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13 DR	20-00-00	1 3/4" x 16" (2.0E 3100) WestFraser LVL	3	3
R1	192-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	34-00-00	11 7/8" NI-40x	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H2	HUS1.81/10

DATE: 8/25/23

2nd FLOOR FRAMING



FROM PLAN DATED: 2023/07  
BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT INC  
MODEL: ROSE 5  
ELEVATION: 1  
LOT:  
CITY: RICHMOND HILL  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
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.  
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**CERAMIC TILE** APPLICATION AS PER OBC 9.30.6.

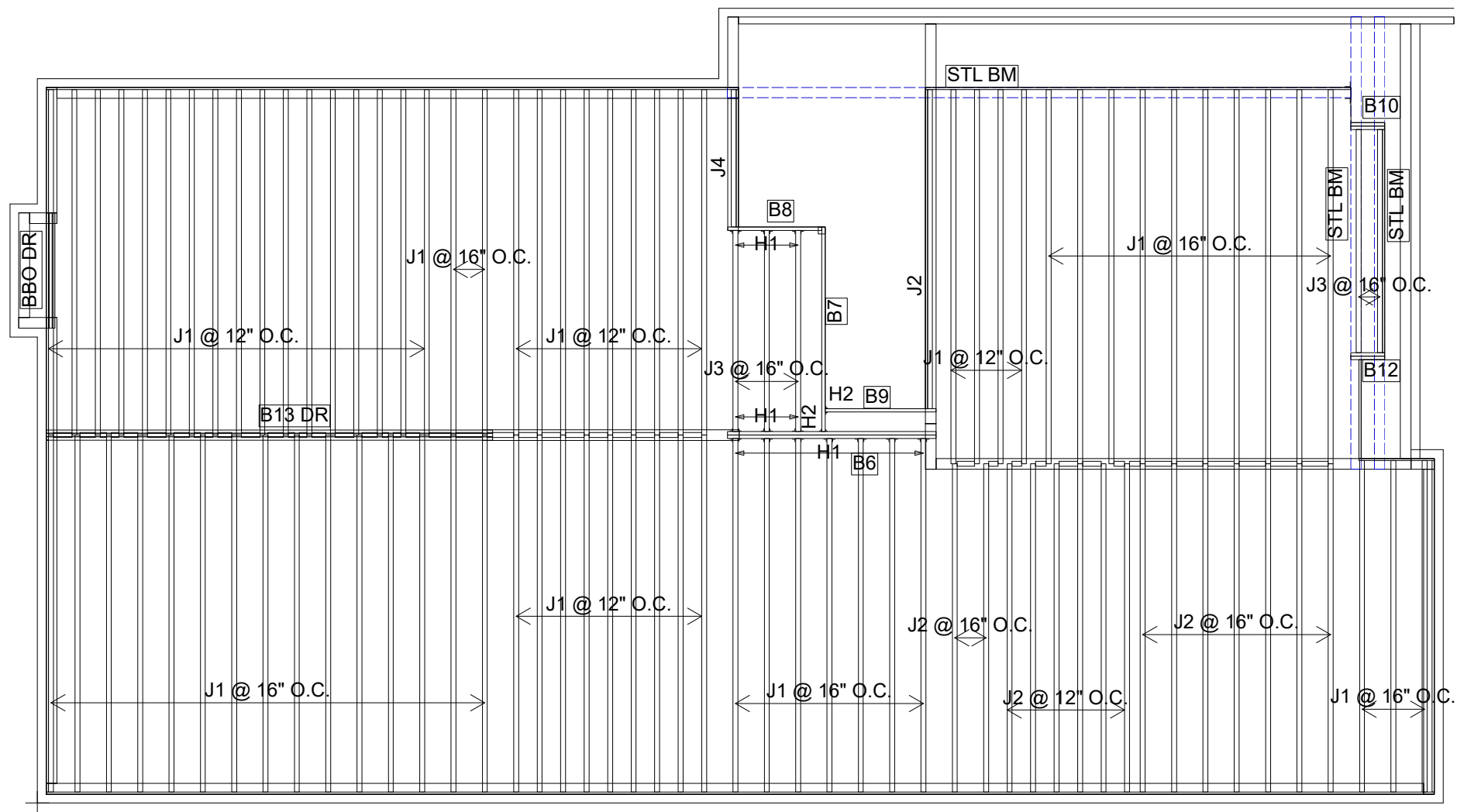
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**LOADING:**  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>

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

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
AND NAILED





Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	76
J2	14-00-00	11 7/8" NI-40x	1	16
J3	10-00-00	11 7/8" NI-40x	1	5
J4	6-00-00	11 7/8" NI-40x	1	1
B7	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B8	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B10	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B12	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13 DR	20-00-00	1 3/4" x 16" (2.0E 3100) WestFraser LVL	3	3
R1	188-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	32-00-00	11 7/8" NI-40x	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H2	HUS1.81/10

DATE: 8/25/23

2nd FLOOR FRAMING



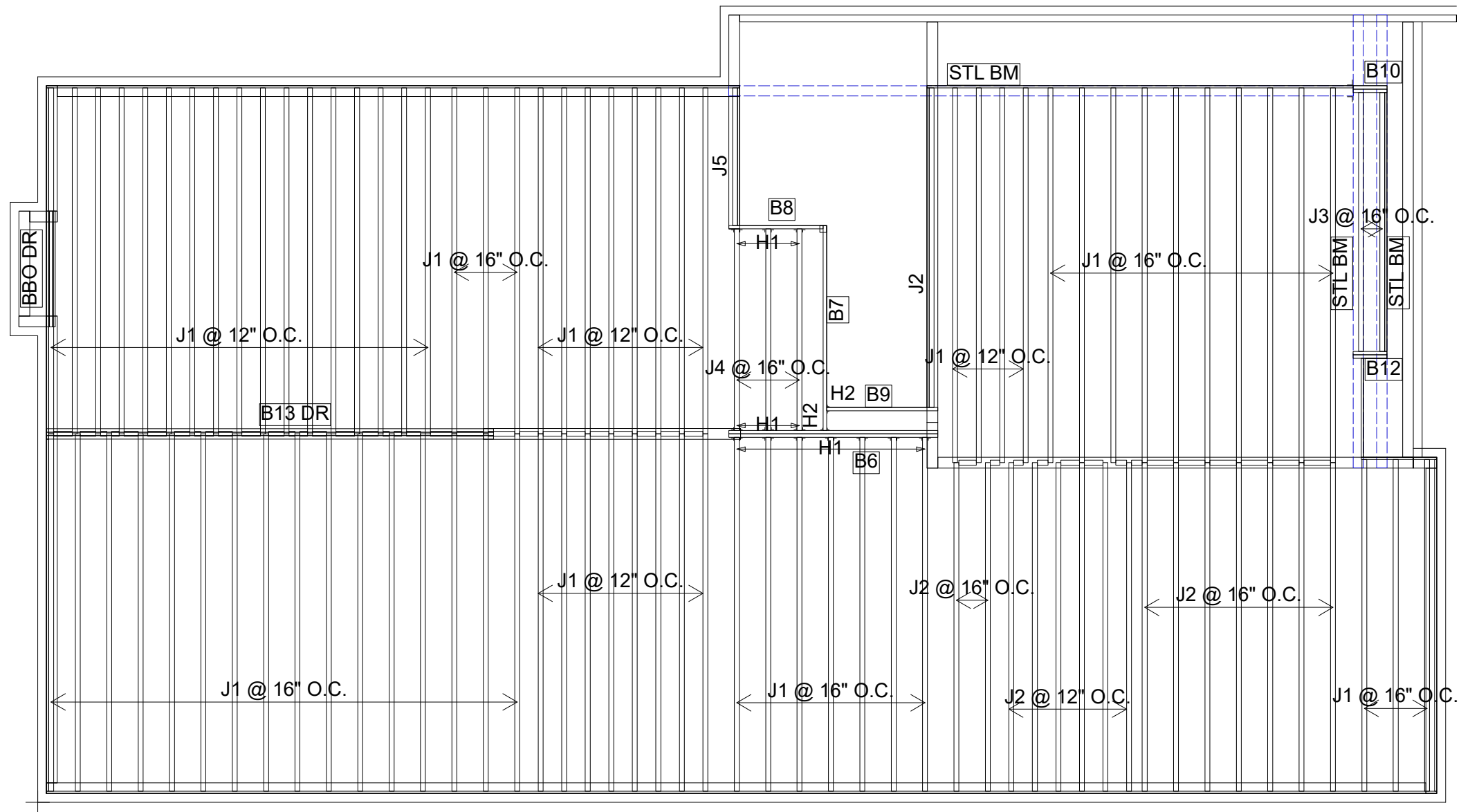
FROM PLAN DATED: 2023/07  
BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT INC  
MODEL: ROSE 5  
ELEVATION: 2  
LOT:  
CITY: RICHMOND HILL  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
REVISION:

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.  
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**LOADING:**  
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DEAD LOAD: 15.0 lb/ft<sup>2</sup>  
TILE LOAD: +5.0 lb/ft<sup>2</sup>  
JOIST LL DEFLECTION LIMIT: L/480  
SUBFLOOR: 5/8" GLUED AND NAILED

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
PAJ/CLL/ABU



FROM PLAN DATED: 2023/07  
BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT INC  
MODEL: ROSE 5  
ELEVATION: 3  
LOT:  
CITY: RICHMOND HILL  
SALESMAN: RICK DICIANO  
DESIGNER: AJ  
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. 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**.  
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TILE LOAD: +5.0 lb/ft<sup>2</sup>  
JOIST LL DEFLECTION LIMIT: L/480  
SUBFLOOR: 5/8" GLUED AND NAIL

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	76
J2	14-00-00	11 7/8" NI-40x	1	16
J3	12-00-00	11 7/8" NI-40x	1	2
J4	10-00-00	11 7/8" NI-40x	1	3
J5	6-00-00	11 7/8" NI-40x	1	1
B7	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B8	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B10	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B12	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13 DR	20-00-00	1 3/4" x 16" (2.0E 3100) WestFraser LVL	3	3
R1	190-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	32-00-00	11 7/8" NI-40x	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H2	HUS1.81/10

DATE: 8/25/23

## 2nd FLOOR FRAMING

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
AND NAI







BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **1ST FLR FRAMING**  
Label: **B1 - i2526**  
Type: **Beam**

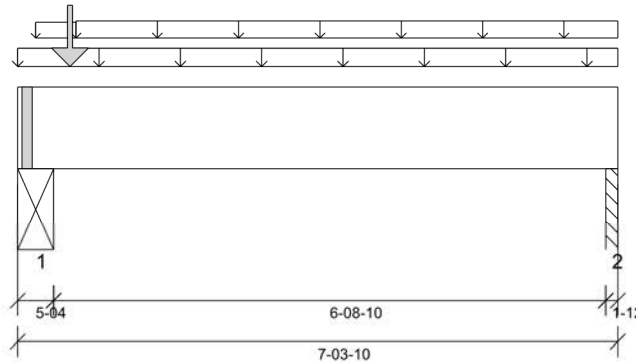
**2 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 6'- 7 1/8"

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 11 7/16"	1.25D + 1.5L	1.00	1287 lb ft	35345 lb ft	Passed - 4%
Factored Shear:	1'- 5 1/8"	1.25D + 1.5L	1.00	3125 lb	13815 lb	Passed - 23%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-04	1.25D + 1.5L	1.00	3295 lb		19110 lb	11300 lb	Passed - 29%
2	1-12	1.4D	0.65	452 lb		4140 lb	2448 lb	Passed - 18%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 3 5/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	7'- 3 5/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 2 5/8"	0'- 8 1/2"	FC1 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 8 1/2"	7'- 3 5/8"	FC1 Floor Decking (Plan View Fill)	Top	12 lb/ft	24 lb/ft	-	-
Point	0'- 7 5/8"	0'- 7 5/8"	B5(i2513)	Front	693 lb	1363 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STL BM(i48)	1004 lb	1439 lb	-	-
2	7'- 1 7/8"	7'- 3 5/8"	PBO1(i52)	294 lb	86 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=3.500", W=3.500". LDF=1.00, Pf=2911 lb, Qr=10617 lb, Result=27.42%.

#### PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY  
DWG # TF23080658

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

RECEIVED  
Per: joshua.nabua





BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **1ST FLR FRAMING**  
Label: **B2 - I2500**  
Type: **Beam**

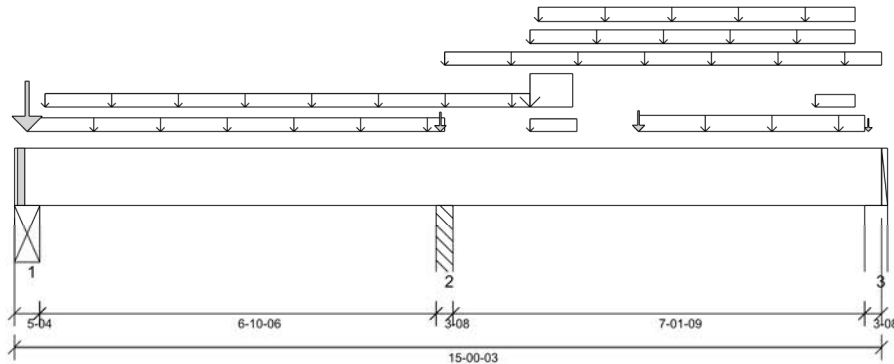
**2 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 3 5/16"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/4"
- 615 psi Column @ 7'- 5 3/8"
- 615 psi Wall @ 14'- 9 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.

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	11'- 7/16"	1.25D + 1.5L	0.86	4751 lb ft	30409 lb ft	Passed - 16%
Factored Neg. Moment:	7'- 5 3/8"	1.25D + 1.5L	0.86	3627 lb ft	28680 lb ft	Passed - 13%
Factored Shear:	8'- 7"	1.25D + 1.5L	0.86	3330 lb	11886 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	11'- 2 11/16"	L		0.017"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	11'- 3 7/16"	D + L		0.032"	L/240	Passed - L/999
Total Load (TL) Neg. Defl.:	4'- 8 5/16"	D + L		0.011"	L/240	Passed - L/999

### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-04	1.25D + 1.5L	0.92	5237 lb		17584 lb	10398 lb	Passed - 50%
2	3-08	1.25D + 1.5L	1.00	5520 lb		12740 lb	7534 lb	Passed - 73%
3	3-08	1.25D + 1.5L	0.86	2508 lb		10961 lb	6484 lb	Passed - 39%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	15'- 3/16"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'- 2 5/8"	7'- 5 3/8"	FC1 Floor Decking (Plan View Fill)	Top	27 lb/ft	53 lb/ft	-	-
Uniform	0'- 6 5/16"	8'- 11 1/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	7'- 5 3/8"	15'- 3/16"	FC1 Floor Decking (Plan View Fill)	Top	14 lb/ft	29 lb/ft	-	-
Uniform	8'- 11 1/8"	14'- 6 11/16"	7(i573)	Top	81 lb/ft	-	-	-
Uniform	8'- 11 1/8"	9'- 8 7/8"	7(i573)	Top	1 lb/ft	2 lb/ft	-	-
Uniform	8'- 11 1/8"	9'- 8"	7(i573)	Top	500 lb/ft	940 lb/ft	-	-
Uniform	9'- 7/8"	14'- 6 11/16"	7(i573)	Top	82 lb/ft	33 lb/ft	-	-
Uniform	10'- 9 11/16"	14'- 8 11/16"	User Load	Top	80 lb/ft	160 lb/ft	-	-
Uniform	13'- 10 7/16"	14'- 6 11/16"	7(i573)	Top	0 lb/ft	0 lb/ft	-	-
Point	7'- 4 1/2"	7'- 4 1/2"	B3(i2532)	Front	205 lb	390 lb	-	-
Point	0'- 2 5/8"	0'- 2 5/8"	6(i572)	Top	1171 lb	2145 lb	-	-
Point	10'- 9 11/16"	10'- 9 11/16"	User Load	Top	240 lb	480 lb	-	-
Point	14'- 9 7/16"	14'- 9 7/16"	E6(i378)	Top	29 lb	15 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STL BM(i48)	1391 lb	2447/-177 lb	-	-
2	7'- 3 5/8"	7'- 7 1/8"	PBO2(i55)	1898 lb	1942 lb	-	-
3	14'- 8 11/16"	15'- 3/16"	W8(i20)	930 lb	925 lb	-	-

### DESIGN NOTES


- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY  
DWG # TF23080659 PG 1/2

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
Per: joshua.nabua



	<b>BUILDER:</b> GREENPARK HOMES <b>SITE:</b> TRINI GROUP DEVELOPMENT... <b>MODEL:</b> ROSE 5 <b>CITY:</b> RICHMOND HILL	<b>Job Name:</b> ROSE 5 <b>Level:</b> 1ST FLR FRAMING <b>Label:</b> B2 - i2500 <b>Type:</b> Beam	<b>2 Ply Member</b> <b>1 3/4" x 11 7/8" (2.0E 3100)</b> <b>WestFraser LVL</b>	<b>Status:</b> <b>Design Passed</b>
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- Bearing capacity of member at support 1, 2, 3 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=1.500", W=3.500". LDF=0.92, Pf=4681 lb, Q'r=5460 lb, Result=85.74%.

#### PLY TO PLY CONNECTION

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



CITY OF RICHMOND HILL  
 BUILDING DIVISION

05/01/2024

**RECEIVED**  
 Per: joshua.nabua



BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT...  
MODEL: ROSE 5  
CITY: RICHMOND HILL

Job Name: ROSE 5  
Level: 1ST FLR FRAMING  
Label: B3 - i2532  
Type: Beam

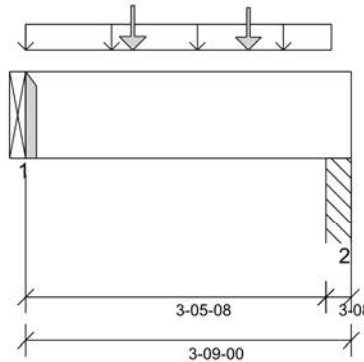
1 Ply Member  
1 3/4" x 11 7/8" (2.0E 3100)  
WestFraser LVL

Status:  
Design  
Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 1'- 1 9/16"

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 7 1/2"	1.25D + 1.5L	1.00	860 lb ft	17672 lb ft	Passed - 5%
Factored Shear:	2'- 5 5/8"	1.25D + 1.5L	1.00	609 lb	6908 lb	Passed - 9%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	843 lb		2730 lb	-	Passed - 31%
2	3-08	1.25D + 1.5L	1.00	887 lb		6370 lb	3767 lb	Passed - 24%

#### CONNECTOR INFORMATION

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

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

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 9"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	3'- 6 1/4"	User Load	Top	60 lb/ft	120 lb/ft	-	-
Point	1'- 2 13/16"	1'- 2 13/16"	J3(i2530)	Front	98 lb	196 lb	-	-
Point	2'- 6 13/16"	2'- 6 13/16"	J3(i2557)	Front	91 lb	182 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B2(i2500)	205 lb	390 lb	-	-
2	3'- 5 1/2"	3'- 9"	PBO1(i52)	217 lb	411 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY  
DWG # TF23080660

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

RECEIVED  
Per: joshua.nabua





BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **1ST FLR FRAMING**  
Label: **B4 - i2584**  
Type: **Beam**

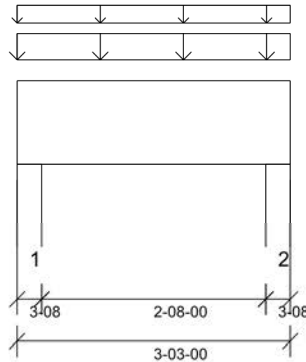
**2 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 3'- 3"

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 7 1/2"	1.25D + 1.5L	0.74	332 lb ft	26243 lb ft	Passed - 1%
Factored Shear:	1'- 11 5/8"	1.25D + 1.5L	0.74	116 lb	10258 lb	Passed - 1%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	0.74	549 lb		9459 lb	5595 lb	Passed - 10%
2	3-08	1.25D + 1.5L	0.74	549 lb		9459 lb	5595 lb	Passed - 10%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 3"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	-0'	3'- 3"	E11(i385)	Top	172 lb/ft	32 lb/ft	-	-
Uniform	-0'	3'- 3"	FC1 Floor Decking (Plan View Fill)	Top	14 lb/ft	28 lb/ft	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	W22(i43)	321 lb	98 lb	-	-
2	2'- 11 1/2"	3'- 3"	W20(i40)	321 lb	98 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

#### PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY  
DWG # TF23080661

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

RECEIVED  
Per: joshua.nabua



BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **1ST FLR FRAMING**  
Label: **B5 - i2513**  
Type: **Beam**

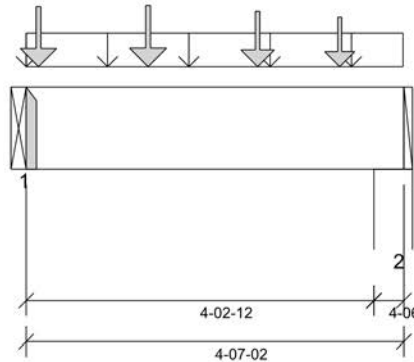
**1 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

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

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 2 1/16"	1.25D + 1.5L	1.00	2668 lb ft	17672 lb ft	Passed - 15%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	2369 lb	6908 lb	Passed - 34%
Total Load (TL) Pos. Defl.:	2'- 1 15/16"	D + L		0.014"	L/240	Passed - L/999

### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-09	1.25D + 1.5L	1.00	2881 lb		2881 lb	-	Passed - 100%
2	4-06	1.25D + 1.5L	1.00	2690 lb		7963 lb	4710 lb	Passed - 57%

### CONNECTOR INFORMATION

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

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

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 7 1/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	4'- 7"	User Load	Top	120 lb/ft	240 lb/ft	-	-
Point	0'- 1 13/16"	0'- 1 13/16"	J1(i2561)	Front	204 lb	409 lb	-	-
Point	1'- 5 13/16"	1'- 5 13/16"	J1(i2573)	Front	209 lb	419 lb	-	-
Point	2'- 9 13/16"	2'- 9 13/16"	J1(i2507)	Front	183 lb	366 lb	-	-
Point	3'- 9 3/4"	3'- 9 3/4"	J1DJ(i2554)	Front	156 lb	312 lb	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B1(i2526)	693 lb	1363 lb	-	-
2	4'- 2 3/4"	4'- 7 1/8"	W26(i47)	636 lb	1243 lb	-	-

### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.



STRUCTURAL COMPONENT ONLY  
DWG # TF23080662

CITY OF RICHMOND HILL  
BUILDING DIVISION  
05/01/2024  
RECEIVED  
Per: joshua.nabua





BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **2ND FLR FRAMING**  
Label: **B13 DR - i2313**  
Type: **Beam**

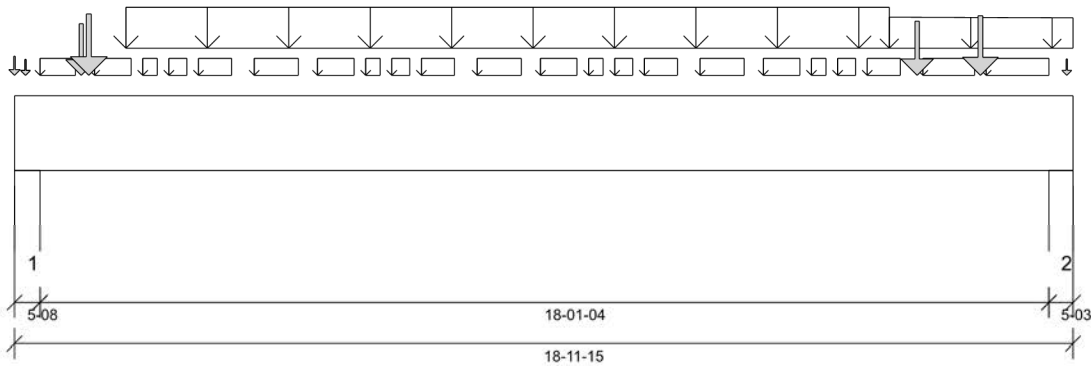
**3 Ply Member**  
**1 3/4" x 16" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

Top: 1'- 2 3/4" Bottom: 18'- 6 7/16"

#### Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 4 1/2"
- 812 psi Wall @ 18'- 7 3/4"

**PLY TO PLY CONNECTION:**  
**5 ROWS OF 3.25" PNEUMATIC GUN**  
**NAILS (0.120"x3.25") @ 12" O/C**  
NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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



STRUCTURAL COMPONENT ONLY  
DWG # TF23080663 PG 1/2

### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	9'- 4"	1.25D + 1.5L	1.00	56827 lb ft	93360 lb ft	Passed - 61%
Factored Shear:	17'- 2 3/4"	1.25D + 1.5L	1.00	11381 lb	27922 lb	Passed - 41%
Live Load (LL) Pos. Defl.:	9'- 6 1/8"	L		0.425"	L/360	Passed - L/510
Total Load (TL) Pos. Defl.:	9'- 6 1/8"	D + L		0.698"	L/240	Passed - L/311
Permanent Deflection:	9'- 6 1/8"			-	L/360	Passed - L/820

### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	12084 lb		30020 lb	23438 lb	Passed - 52%
2	5-03	1.25D + 1.5L	1.00	13355 lb		28389 lb	22166 lb	Passed - 60%

### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	18'- 11 15/16"	Self Weight	Top	24 lb/ft	-	-	-
Uniform	0'- 5 1/2"	1'- 1 1/8"	Bk1(i2336)	Top	60 lb/ft	-	-	-
Uniform	1'- 5 1/4"	2'- 1 1/8"	Bk1(i2315)	Top	60 lb/ft	-	-	-
Uniform	2'	15'- 8 3/8"	Smoothed Load	Top	330 lb/ft	616 lb/ft	-	-
Uniform	2'- 3 5/8"	2'- 6 3/4"	Bk1(i2322)	Top	60 lb/ft	-	-	-
Uniform	2'- 9 1/4"	3'- 1 1/8"	Bk1(i2314)	Top	60 lb/ft	-	-	-
Uniform	3'- 3 5/8"	3'- 10 3/4"	Bk1(i2330)	Top	60 lb/ft	-	-	-
Uniform	4'- 3 5/8"	5'- 1 1/8"	Bk1(i2324)	Top	60 lb/ft	-	-	-
Uniform	5'- 5 1/4"	6'- 1 1/8"	Bk1(i2331)	Top	60 lb/ft	-	-	-
Uniform	6'- 3 5/8"	6'- 6 3/4"	Bk1(i2335)	Top	60 lb/ft	-	-	-
Uniform	6'- 9 1/4"	7'- 1 1/8"	Bk1(i2334)	Top	60 lb/ft	-	-	-
Uniform	7'- 3 5/8"	7'- 10 3/4"	Bk1(i2328)	Top	60 lb/ft	-	-	-
Uniform	8'- 3 5/8"	9'- 1 1/8"	Bk1(i2321)	Top	60 lb/ft	-	-	-
Uniform	9'- 5 1/4"	10'- 1 1/8"	Bk1(i2319)	Top	60 lb/ft	-	-	-
Uniform	10'- 3 5/8"	10'- 6 3/4"	Bk1(i2325)	Top	60 lb/ft	-	-	-
Uniform	10'- 9 1/4"	11'- 1 1/8"	Bk1(i2323)	Top	60 lb/ft	-	-	-
Uniform	11'- 3 5/8"	11'- 10 3/4"	Bk1(i2318)	Top	60 lb/ft	-	-	-
Uniform	12'- 3 5/8"	13'- 1 1/8"	Bk1(i2316)	Top	60 lb/ft	-	-	-
Uniform	13'- 5 1/4"	14'- 1 1/8"	Bk1(i2320)	Top	60 lb/ft	-	-	-
Uniform	14'- 3 5/8"	14'- 6 3/4"	Bk1(i2317)	Top	60 lb/ft	-	-	-
Uniform	14'- 9 1/4"	15'- 1 1/8"	Bk1(i2333)	Top	60 lb/ft	-	-	-
Uniform	15'- 3 5/8"	15'- 10 3/4"	Bk1(i2332)	Top	60 lb/ft	-	-	-
Uniform	16'- 3 5/8"	17'- 2 3/4"	Bk1(i2326)	Top	60 lb/ft	-	-	-
Uniform	17'- 5 1/4"	18'- 6 3/4"	Bk1(i2327)	Top	60 lb/ft	-	-	-
Tapered	15'- 8 3/8"	18'- 11 15/16"	Smoothed Load	Top	201 To 189 lb/ft	380 To 368 lb/ft	-	-
Point	0'	0'	R1(i1574)	Top	46 lb	2 lb	-	-
Point	0'- 2 3/8"	0'- 2 3/8"	J1(i1628)	Top	4 lb	6 lb	-	-
Point	0'- 2 3/8"	0'- 2 3/8"	J1(i1545)	Top	3 lb	5 lb	-	-
Point	1'- 2 3/8"	1'- 2 3/8"	J1(i1716)	Top	156 lb	291 lb	-	-
Point	1'- 4"	1'- 4"	J1(i1626)	Top	196 lb	371 lb	-	-
Point	16'- 2 3/8"	16'- 2 3/8"	J1(i2102)	Top	168 lb	311 lb	-	-
Point	17'- 4"	17'- 4"	J1(i1579)	Top	186 lb	359 lb	-	-
Point	18'- 10 5/8"	18'- 10 5/8"	Bk1(i2329)	Top	14 lb	-	-	-

### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E1(i375)	3465 lb	5285 lb	-	-
2	18'- 6 3/4"	18'- 11 15/16"	6(i572)	3662 lb	5735 lb	-	-

### DESIGN NOTES

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

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

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Per: joshua.nabua



BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **2ND FLR FRAMING**  
Label: **B13 DR - i2313**  
Type: **Beam**

**3 Ply Member**  
**1 3/4" x 16" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design  
Passed**

#### DESIGN NOTES

- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

#### PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY  
DWG # TF23080663 PG 2/2

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

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BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **2ND FLR FRAMING**  
Label: **B6 - i2379**  
Type: **Beam**

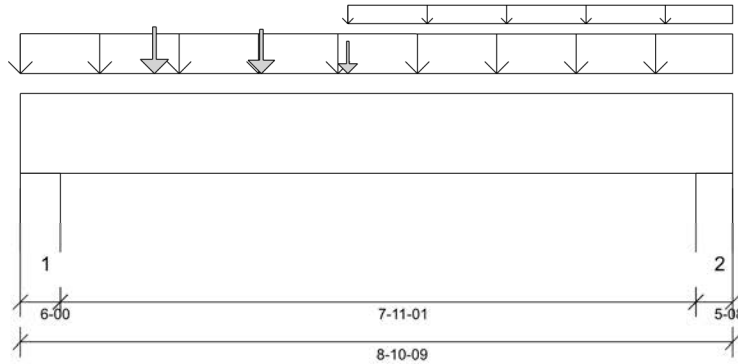
**2 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 5"
- 615 psi Wall @ 8'- 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 # TF23080664

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 4 1/16"	1.25D + 1.5L	1.00	7270 lb ft	35345 lb ft	Passed - 21%
Factored Shear:	7'- 5 3/16"	1.25D + 1.5L	1.00	3492 lb	13815 lb	Passed - 25%
Live Load (LL) Pos. Defl.:	4'- 5"	L		0.041"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 5"	D + L		0.063"	L/240	Passed - L/999

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	6-00	1.25D + 1.5L	1.00	4655 lb		21743 lb	12862 lb	Passed - 36%
2	5-08	1.25D + 1.5L	1.00	3663 lb		20020 lb	11842 lb	Passed - 31%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 10 9/16"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	4'- 1"	8'- 10 9/16"	FC2 Floor Decking (Plan View Fill)	Top	24 lb/ft	49 lb/ft	-	-
Tapered	0'	8'- 10 9/16"	Smoothed Load	Top	173 To 170 lb/ft	345 To 340 lb/ft	-	-
Point	1'- 8 1/16"	1'- 8 1/16"	J4(i1458)	Back	118 lb	236 lb	-	-
Point	3'- 1/16"	3'- 1/16"	J4(i1652)	Back	109 lb	218 lb	-	-
Point	4'- 1"	4'- 1"	B7(i2388)	Back	89 lb	105 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 6"	6(i572)	1147 lb	2145 lb	-	-
2	8'- 5 1/16"	8'- 10 9/16"	4(i568)	912 lb	1684 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
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- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

#### PLY TO PLY CONNECTION

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

**CITY OF RICHMOND HILL**  
**BUILDING DIVISION**

**05/01/2024**

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Per: joshua.nabua



BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT...  
MODEL: ROSE 5  
CITY: RICHMOND HILL

Job Name: ROSE 5  
Level: 2ND FLR FRAMING  
Label: B7 - i2388  
Type: Beam

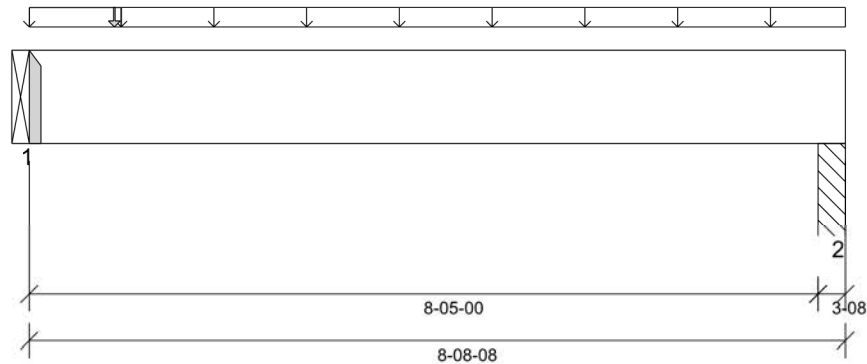
1 Ply Member  
1 3/4" x 11 7/8" (2.0E 3100)  
WestFraser LVL

Status:  
Design  
Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 7"

#### Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Column @ 8'- 6"

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2 3/8"	1.25D + 1.5L	1.00	520 lb ft	17672 lb ft	Passed - 3%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	209 lb	6908 lb	Passed - 3%
Total Load (TL) Pos. Defl.:	4'- 2 13/16"	D + L		0.010"	L/240	Passed - L/999

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	269 lb		2730 lb	-	Passed - 10%
2	3-08	1.25D + 1.5L	1.00	254 lb		6370 lb	3767 lb	Passed - 7%

#### CONNECTOR INFORMATION

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

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

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 8 1/2"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	0'- 11 3/4"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	22 lb/ft	-	-
Uniform	0'- 11 3/4"	8'- 8 1/2"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	23 lb/ft	-	-
Point	0'- 10 7/8"	0'- 10 7/8"	B9(i2350)	Front	16 lb	6 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B6(i2379)	89 lb	105 lb	-	-
2	8'- 5"	8'- 8 1/2"	PBO4(i578)	79 lb	103 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY  
DWG # TF23080665

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

RECEIVED  
Per: joshua.nabua





BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT...  
MODEL: ROSE 5  
CITY: RICHMOND HILL

Job Name: ROSE 5  
Level: 2ND FLR FRAMING  
Label: B8 - i2413  
Type: Beam

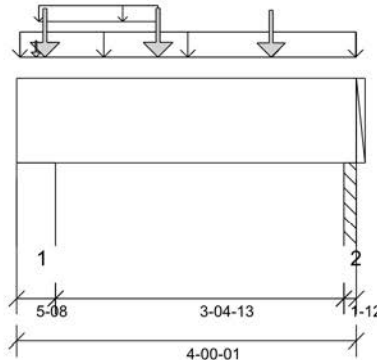
1 Ply Member  
1 3/4" x 11 7/8" (2.0E 3100)  
WestFraser LVL

Status:  
Design  
Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 3'- 11 5/16"

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 11 11/16"	1.25D + 1.5L	1.00	947 lb ft	17672 lb ft	Passed - 5%
Factored Shear:	2'- 10 7/16"	1.25D + 1.5L	1.00	702 lb	6908 lb	Passed - 10%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08	1.25D + 1.5L	1.00	1519 lb		10010 lb	5921 lb	Passed - 26%
2	1'-12	1.25D + 1.5L	1.00	1000 lb		3185 lb	1883 lb	Passed - 53%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 1/16"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 7/16"	4'- 1/16"	User Load	Top	60 lb/ft	120 lb/ft	-	-
Uniform	0'- 3 1/8"	1'- 8"	FC2 Floor Decking (Plan View Fill)	Top	2 lb/ft	3 lb/ft	-	-
Point	0'- 4"	0'- 4"	J4(i2397)	Front	116 lb	232 lb	-	-
Point	1'- 8"	1'- 8"	J4(i1458)	Front	117 lb	234 lb	-	-
Point	3'	3'	J4(i1652)	Front	110 lb	220 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	User Load	Top	9 lb	-	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	7(i573)	370 lb	695 lb	-	-
2	3'- 10 5/16"	4'- 1/16"	PBO4(i578)	246 lb	471 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY  
DWG # TF23080666

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

RECEIVED  
Per: joshua.nabua



BUILDER: GREENPARK HOMES  
SITE: TRINI GROUP DEVELOPMENT...  
MODEL: ROSE 5  
CITY: RICHMOND HILL

Job Name: ROSE 5  
Level: 2ND FLR FRAMING  
Label: B9 - i2350  
Type: Beam

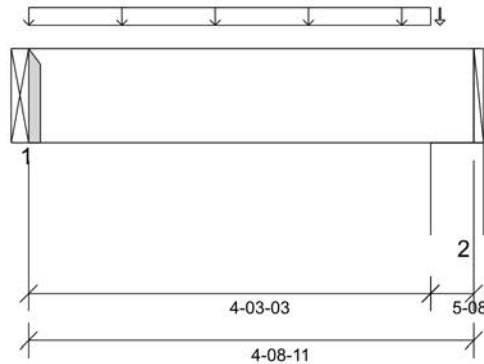
1 Ply Member  
1 3/4" x 11 7/8" (2.0E 3100)  
WestFraser LVL

Status:  
Design  
Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240,

#### Lateral Restraint Requirements:

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

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

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 2"	1.25D + 1.5L	0.79	32 lb ft	13991 lb ft	Passed - 0%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	0.79	16 lb	5469 lb	Passed - 0%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	0.79	30 lb		2161 lb	-	Passed - 1%
2	5-08	1.25D + 1.5L	0.79	33 lb		7925 lb	4688 lb	Passed - 1%

#### CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HUS1.81/10	-	-	-	-	Connector manually specified by the user.
* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.						

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 8 11/16"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	4'- 3 3/16"	FC2 Floor Decking (Plan View Fill)	Top	2 lb/ft	3 lb/ft	-	-
Point	4'- 4 3/8"	4'- 4 3/8"	FC2 Floor Decking (Plan View Fill)	Top	0 lb	1 lb	-	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B7(i2388)	16 lb	6 lb	-	-
2	4'- 3 3/16"	4'- 8 11/16"	3(i567)	19 lb	7 lb	-	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
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- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY  
DWG # TF23080667

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

RECEIVED  
Per: joshua.nabua





BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **2ND FLR FRAMING**  
Label: **B10 - i2349**  
Type: **Beam**

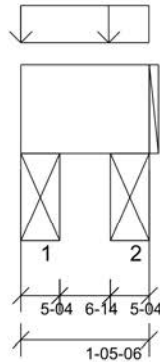
**2 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

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

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 0'- 6 7/8"

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 8 11/16"	1.25D + 1.5S	0.98	3 lb ft	34661 lb ft	Passed - 0%
Factored Shear:	1'- 5 1/8"	1.25D + 1.5S	0.98	243 lb	13548 lb	Passed - 2%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-04	1.25D + 1.5S	0.98	384 lb		18740 lb	11082 lb	Passed - 3%
2	5'-04	1.25D + 1.5S	0.98	381 lb		18740 lb	11082 lb	Passed - 3%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 5 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	-0'	1'- 5 5/16"	E19(i804)	Top	190 lb/ft	-	185 lb/ft	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STL BM(i580)	146 lb	-	134 lb	-
2	1'- 1/8"	1'- 5 3/8"	STL BM(i581)	145 lb	-	133 lb	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

#### PLY TO PLY CONNECTION

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

#### PLY TO PLY CONNECTION:

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

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



STRUCTURAL COMPONENT ONLY  
DWG # TF23080668

CITY OF RICHMOND HILL  
BUILDING DIVISION

05/01/2024

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BUILDER: **GREENPARK HOMES**  
SITE: **TRINI GROUP DEVELOPMENT...**  
MODEL: **ROSE 5**  
CITY: **RICHMOND HILL**

Job Name: **ROSE 5**  
Level: **2ND FLR FRAMING**  
Label: **B12 - i2346**  
Type: **Beam**

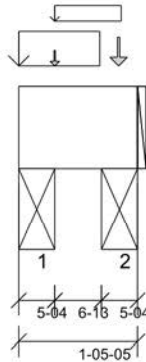
**2 Ply Member**  
**1 3/4" x 11 7/8" (2.0E 3100)**  
**WestFraser LVL**

Status:  
**Design  
Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version  
8.6.3.353.Update13.13

Report Version: 2021.03.26 08/25/2023 10:00



#### DESIGN INFORMATION

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

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

#### Lateral Restraint Requirements:

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

Top: 0' Bottom: 0'- 6 13/16"

#### Factored Resistance of Support Material:

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

#### ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 8 15/16"	1.25D + 1.5L	0.65	3 lb ft	22974 lb ft	Passed - 0%
Factored Shear:	1'- 5 1/8"	1.25D + 1.5L + S	0.85	58 lb	11729 lb	Passed - 0%

#### SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-04	1.25D + 1.5S + L	0.99	410 lb		18937 lb	11198 lb	Passed - 4%
2	5'-04	1.25D + 1.5S + L	0.99	344 lb		18937 lb	11198 lb	Passed - 3%

#### SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 5 5/16"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	0'- 11 13/16"	E21(i803)	Top	190 lb/ft	-	185 lb/ft	-
Uniform	0'- 5 1/4"	1'- 2 15/16"	FC2 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Point	0'- 5 1/4"	0'- 5 1/4"	FC2 Floor Decking (Plan View Fill)	Top	1 lb	3 lb	-	-
Point	1'- 2 9/16"	1'- 2 9/16"	E20(i805)	Top	68 lb	-	79 lb	-

#### UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STL BM(i580)	153 lb	5 lb	138 lb	-
2	1'- 1/16"	1'- 5 5/16"	STL BM(i581)	127 lb	2 lb	127 lb	-

#### DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

#### PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY  
DWG # TF23080669

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BUILDING DIVISION

05/01/2024

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### Maximum Floor Spans – S2.1

#### Design Criteria

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

#### Maximum Floor Spans

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

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

#### Notes:

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

## Maximum Floor Spans – S4.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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



### Maximum Floor Spans – S6.1

#### Design Criteria

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

#### Maximum Floor Spans

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

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

#### Notes:

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

## Maximum Floor Spans – S7.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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



### Maximum Floor Spans – M2.1

#### Design Criteria

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

#### Maximum Floor Spans

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

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

#### Notes:

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

## Maximum Floor Spans – M4.1

### Design Criteria

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

### Maximum Floor Spans

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

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

#### Notes:

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



## Maximum Floor Spans – M6.1

### Design Criteria

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

### Maximum Floor Spans

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

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

### Notes:

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

## Maximum Floor Spans – M7.1

### Design Criteria

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

### Maximum Floor Spans

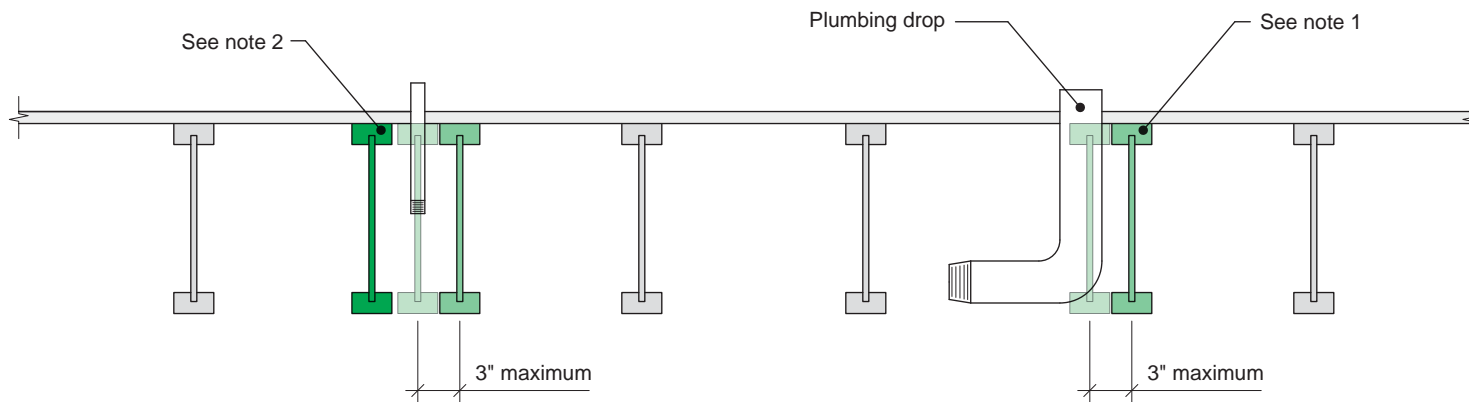
Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"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

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

### Notes:

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

7c



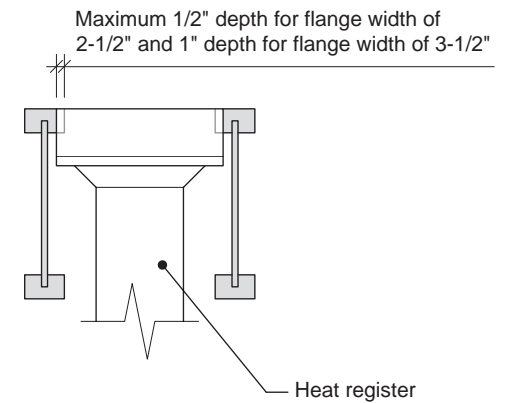
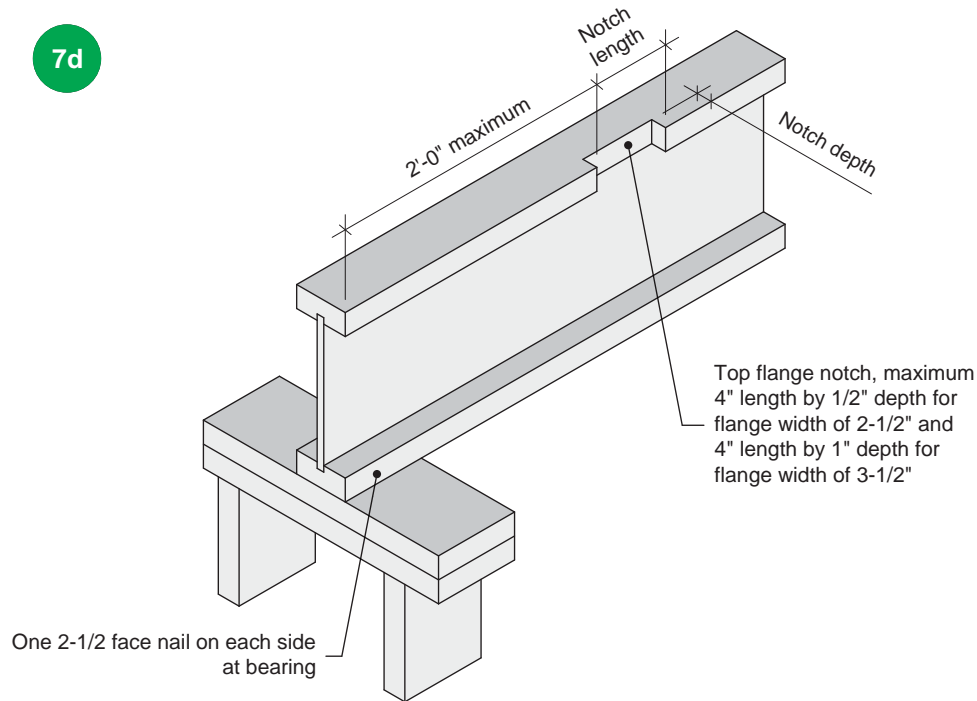
**Notes:**

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

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



7d



**Notes:**

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

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