

Products												
PlotID	Length	Product	Plies	Net Qty								
J1	20-00-00	11 7/8" NI-40x	1	14								
J2	18-00-00	11 7/8" NI-40x	1	11								
J2DJ	18-00-00	11 7/8" NI-40x	2	4								
J3	16-00-00	11 7/8" NI-40x	1	23								
J3DJ	16-00-00	11 7/8" NI-40x	2	4								
J4	14-00-00	11 7/8" NI-40x	1	2								
J5	10-00-00	11 7/8" NI-40x	1	2								
J6	8-00-00	11 7/8" NI-40x	1	2								
J7	6-00-00	11 7/8" NI-40x	1	4								
J8	4-00-00	11 7/8" NI-40x	1	2								
J9	2-00-00	11 7/8" NI-40x	1	2								
B2	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B3	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B4	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1								
B1	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B5	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
R1	146-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1								
Bk1	30-00-00	11 7/8" NI-40x	1	1								

	Connecto	r Summary
Qty	Manuf	Product
17	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
1	H4	HGUS410

1st FLOOR FRAMING



FROM PLAN DATED: 2023/07 BUILDER: GREENPARK HOMES

SITE: TRINI GROUP DEVELOPMENT INC.

MODEL: ROSE 2 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:

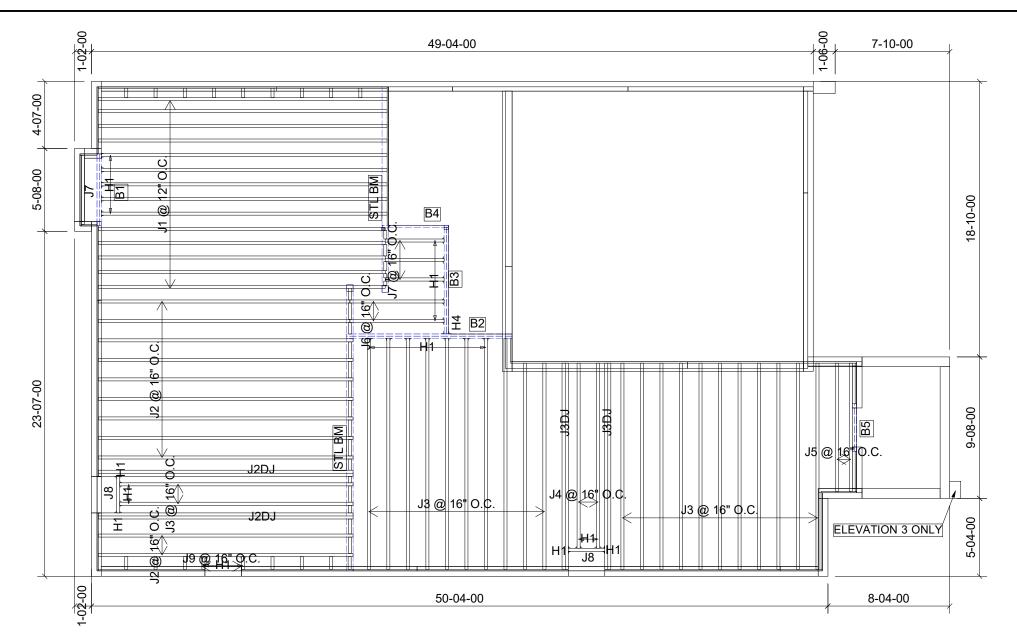
LIVE LOAD: 40.0 b/ft²CITY OF RICHMOND HILL DEAD LOAD: 15.0 lb/ft² BUILDING DIVISION

TILE LOAD: +5.0 lb/t05/01/2024

JOIST LL DEFLECTION LIMIT: L/480

RECEIVED

SUBFLOOR: 3/4" GLUED AND NAILED abua



Products												
PlotID	Length	Product	Plies	Net Qty								
J1	20-00-00	11 7/8" NI-40x	1	14								
J2	18-00-00	11 7/8" NI-40x	1	11								
J2DJ	18-00-00	11 7/8" NI-40x	2	4								
J3	16-00-00	11 7/8" NI-40x	1	23								
J3DJ	16-00-00	11 7/8" NI-40x	2	4								
J4	14-00-00	11 7/8" NI-40x	1	2								
J5	10-00-00	11 7/8" NI-40x	1	2								
J6	8-00-00	11 7/8" NI-40x	1	2								
J7	6-00-00	11 7/8" NI-40x	1	4								
J8	4-00-00	11 7/8" NI-40x	1	2								
J9	2-00-00	11 7/8" NI-40x	1	2								
B2	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B3	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B4	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1								
B1	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B5	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
R1	146-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1								
Bk1	30-00-00	11 7/8" NI-40x	1	1								

	Connecto	r Summary
Qty	Manuf	Product
17	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
1	H4	HGUS410

1st FLOOR FRAMING



FROM PLAN DATED: 2023/07 BUILDER: GREENPARK HOMES

SITE: TRINI GROUP DEVELOPMENT INC.

MODEL: ROSE 2 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.

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.

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.

FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 6 AND TABLES 6.1/6.2.

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:

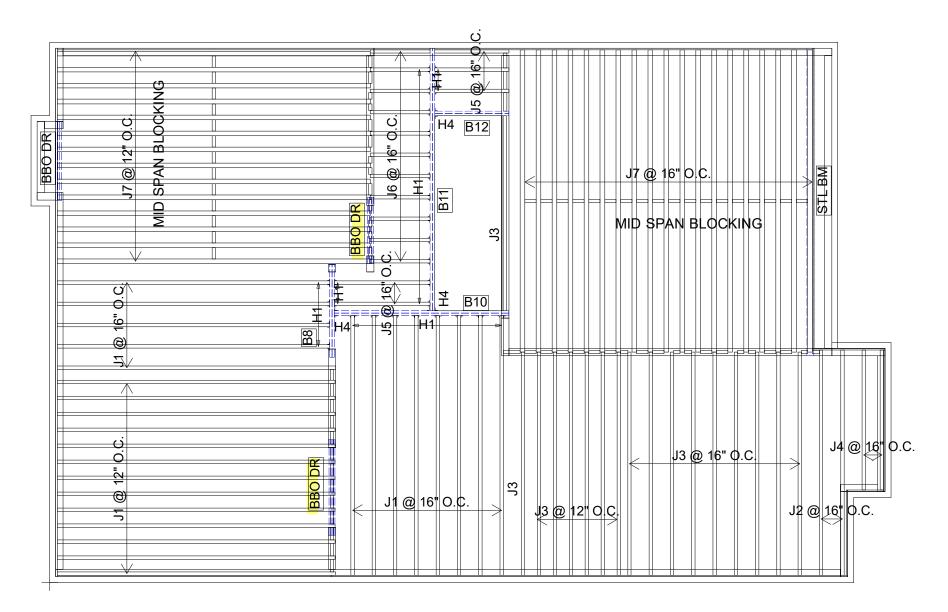
LIVE LOAD: 40.0 b/ft²CITY OF RICHMOND HILL DEAD LOAD: 15.0 lb/ft² BUILDING DIVISION

TILE LOAD: +5.0 lb/t05/01/2024

JOIST LL DEFLECTION LIMIT: L/480

RECEIVED

SUBFLOOR: 3/4" GLUED AND NAILED abua



Products											
PlotID	Length	Product	Plies	Net Qty							
J1	18-00-00	11 7/8" NI-40x	1	26							
J2	16-00-00	11 7/8" NI-40x	1	2							
J3	14-00-00	11 7/8" NI-40x	1	17							
J4	10-00-00	11 7/8" NI-40x	1	2							
J5	6-00-00	11 7/8" NI-40x	1	5							
J6	4-00-00	11 7/8" NI-40x	1	11							
J7	20-00-00	11 7/8" NI-80	1	33							
B11	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2							
B10	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2							
B12	6-00-00	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	2	2							
R1	182-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1							
Bk1	56-00-00	11 7/8" NI-40x	1	1							

	Connecto	r Summary
Qty	Manuf	Product
28	H1	IUS2.56/11.88
3	H4	HGUS410

2nd FLOOR FRAMING



FROM PLAN DATED: 2023/07 BUILDER: GREENPARK HOMES

SITE: TRINI GROUP DEVELOPMENT INC.

MODEL: ROSE 2 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

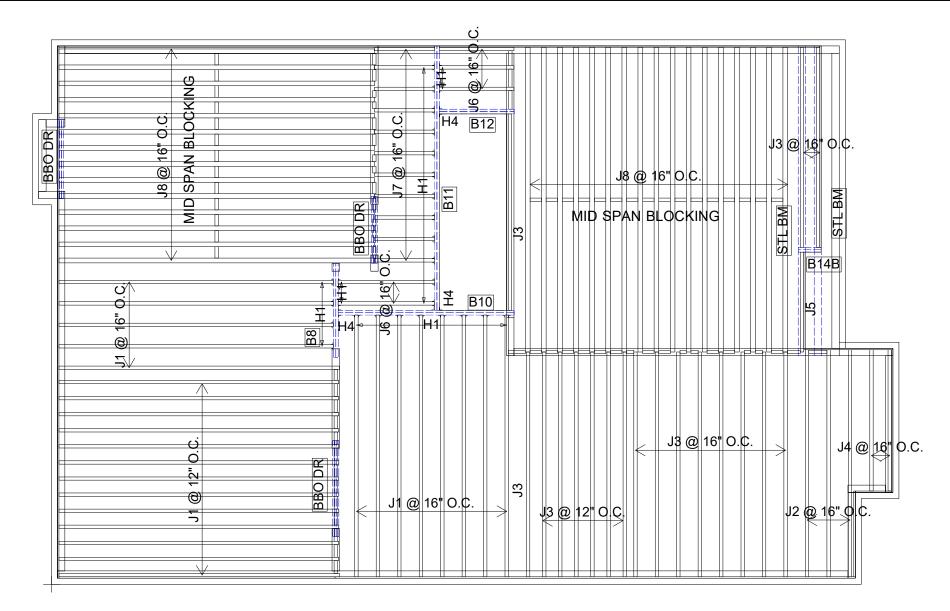
LOADING:

LIVE LOAD: 40.0 b/ft²CITY OF RICHMOND HILL DEAD LOAD: 15.0 lb/ft² BUILDING DIVISION TILE LOAD: +5.0 lb/ft³5/01/2024

JOIST LL DEFLECTION LIMIT: L/480

RECEIVED

SUBFLOOR: 5/8" GLUED AND NAILED abua



Products												
PlotID	Length	Product	Plies	Net Qty								
J1	18-00-00	11 7/8" NI-40x	1	26								
J2	16-00-00	11 7/8" NI-40x	1	3								
J3	14-00-00	11 7/8" NI-40x	1	18								
J4	10-00-00	11 7/8" NI-40x	1	2								
J5	8-00-00	11 7/8" NI-40x	1	1								
J6	6-00-00	11 7/8" NI-40x	1	5								
J7	4-00-00	11 7/8" NI-40x	1	11								
J8	20-00-00	11 7/8" NI-80	1	31								
B11	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B10	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
B12	6-00-00	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	2	2								
B14B	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2								
R1	184-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1								
Bk1	56-00-00	11 7/8" NI-40x	1	1								

	Connecto	r Summary
Qty	Manuf	Product
28	H1	IUS2.56/11.88
3	H4	HGUS410

2nd FLOOR FRAMING



FROM PLAN DATED: 2023/07 BUILDER: GREENPARK HOMES

SITE: TRINI GROUP DEVELOPMENT INC.

MODEL: ROSE 2 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.

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.

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

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.

OF **3.5"** IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

LOADING:

LIVE LOAD: 40.0 b/ft²CITY OF RICHMOND HILL DEAD LOAD: 15.0 lb/ft² BUILDING DIVISION TILE LOAD: +5.0 lb/ft³5/01/2024

JOIST LL DEFLECTION LIMIT: L/480

RECEIVED

SUBFLOOR: 5/8" GLUED AND NAILED abua

NORDIC

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

Engineered Wood Products

BASIC INSTALLATION **GUIDE FOR RESIDENTIAL FLOORS**

NORDIC **"**JOIST

NORDIC

WEB STIFFENERS

nordic.ca

1g

INSTALLING NORDIC I-JOISTS

- Except for cutting to length, I-joist flanges should never be cut, drilled or notched
- Concentrated loads should only be applied to the top surface of the top flance. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
- I-joists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of 15 percent or greater, such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with

- I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (cripple blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
- using a single I-joist is 3,300 plf, and 6,600 plf if double I-joists are used.
- Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5,
- Nails installed in flange face or edge shall be spaced in accordance with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).

1b

- B. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
- 4. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735.

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

NORDIC I-JOIST SERIES RESIDENTIAL SERIES

2x3 S-P-F No. 2

NI-60 2x3 1950f MSR 3/8 in. web 2×3 2100f MSR 33 pieces per unit 33 pieces per unit

1d

1k



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

SAFETY AND CONSTRUCTION PRECAUTIONS

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

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

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

or temporary sheathing must be applied to prevent I-joist rollover or buckling. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2-inch nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.

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

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

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

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

ring wall is planned at that location, blocking will be required at the interior

Avoid Accidents by Following these Important Guidelines

of I-ioists at the end of the bay.

rim board, or cross-bridging.

Never install a damaged I-joist



RIM BOARDS Width 1-1/8 in. APA Rim Board Plus

Do not walk on I-jois until fully fastened an

Never stack building

braced, or serious

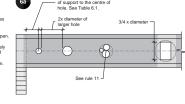
2x4 2400f MSR 7/16 in. web

WEB HOLES AND OPENINGS

WEB HOLES IN I-JOISTS

- Rules for Cutting Holes in I-Joists

- materials over unsheathed I-joists Once sheathed, do no overstress I-joist with

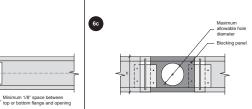


DUCT CHASE OPENINGS

- ules for Cutting Duct Chase Openings in I-joists he distance between the inside edge of the support and the uct chase opening shall be in compliance with the requireme
- I-joist top and bottom flanges must never be cut, notched or otherwise mi
- The maximum depth of a duct chase opening that can be cut into an i-joist web shall equal the clear distance between the flanges of the i-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the opening and the adjacent i-joist flange. The top and bottom flanges of an I-joist blocking panel must never be cut

HOLES IN BLOCKING PANELS

um Allowable Hole Size in Lateral-restraint-only Blocking Panel



I-joist or rim board blocking depth (in.)	Maximum allowable hole diameter (in.) (a)
9-1/2	6-1/4
11-7/8	7-3/4
14	9-1/4
16	10-1/2
Maniana allamakia kala diamatania	blacking and a second state of the blacking and a

TABLE 6.1 - LOCATION OF WEB HOLES

Minimum o	Minimum distance from inside face of any support to centre of hole (ft-in.)																
Joist	Joist		Round hole diameter (in.)														
depth	series						6-1/4			8-5/8		10	10-3/4			12-3/4	
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"		-		-		-	-	-		
9-1/2"	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"	-	-	-	-	-	-	-	-	-	
9-1/2	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"				-		-	-	-	-	
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	-	
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-		-	-	-		
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	-	
11-7/8"	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-		-	-	-	-	
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-	
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4"-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-	
	NI-40x	0'-7"	0'-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-	
14"	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-	
144	NI-80	0'-10"	2'-0"	3'-4"	4'-9"	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8"	12'-4"	13'-9"	-	-	-	
	NI-90	0'-7"	0'-8"	0'-10"	2'-5"	4'-0"	4'-5"	5'-9"	7'-5"	8'-8"	9'-4"	11'-4"	12'-11"	-	-	-	
	NI-60	0'-7"	0'-8"	0'-8"	1'-6"	2'-10"	3'-2"	4'-2"	5'-6"	6'-4"	7'-0"	8'-5"	9'-8"	10'-2"	12'-2"	13'-9"	
16"	NI-80	0'-7"	1'-3"	2'-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9'-0"	9'-5"	11'-0"	12'-3"	12'-9"	14'-5"	16'-0"	
	All OO	01.71	01.01	01.01	41.01	01.01	01.01	41.01	01.51	71.51	01.01	01.401	441.01	441.05	401.01	4 (1) 41	

TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

8-5/8

n c	istance fro	stance from inside face of any support to centre of hole (ft-in.)													Minimum distance from inside face of any support to cer						e of oper		
	Joist	Round hole diameter (in.)														Joist	Joist				Duct c	hase len	
	series						6-1/4			8-5/8		10	10-3/4			12-3/4	depth	series		10			16
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-		-	-	-	-	-	-		NI-20	4'-1"	4'-5"	4'-10"	-	-
	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"		-		-	-	-		-		0.4/01	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"
	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"		-		-	-	-		-		9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"		-		-		-		-			NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"
П	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-		NI-20	5'-9"	6'-2"	6'-6"	-	-
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-		-		-			NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"
	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"						-	11-7/8"	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"

6b

	NI-90	0'-7"	0'-8"	0'-10"	2'-5"	4'-0"	4'-5"	5'-9"	7'-5"	8'-8"	9'-4"	11'-4"	12'-11"				
•	NI-80	0'-10"	2'-0"	3'-4"	4'-9"	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8"	12'-4"	13'-9"	-	-	-	
4*	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-		-	
	NI-40x	0'-7"	0'-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-	
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4"-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-	
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-	
1-7/8"	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-	-	-	-	-	-	
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	-	
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-	
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	-	
	NI-60	1-3	2-6	4'-0'	5-4	7-0	7-5	-	-	-	-	-	-	-	-	-	

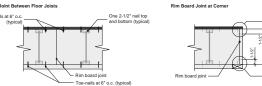
11-3	11-9	13-9	13-4	
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d = 15 ps	sf			
under to	ital load			

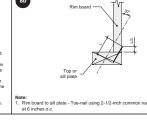
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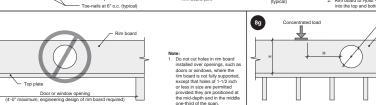
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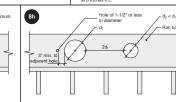
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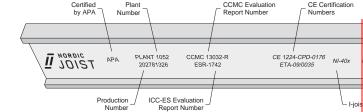








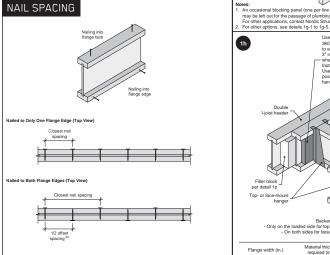
-JOIST MARKING



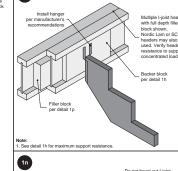
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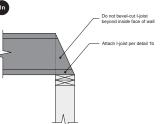
CITY OF RICHMOND HIL BUILDING DIVISION

Per: joshua.nabua



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





2-1/8 to 2-1/4 x 6 2x6 + 5/8" or 3/4" shi 2-1/8 to 2-1/4 x 8 2x8 + 5/8" or 3/4" shi 2-1/8 to 2-1/4 x 10 2x10 + 5/8" or 3/4" shi

 \rightarrow DC3

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





CITY:

GREENPARK HOMES

TRINI GROUP DEVELOPMENT...

MODEL: ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING

Label: B8 - i2440 Type: Beam 2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

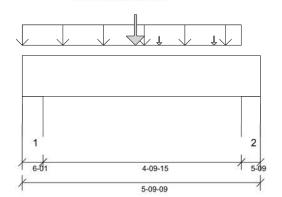
Status: Design

08/25/2023 09:18

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



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 1/16"
- 615 psi Wall @ 5'- 5"

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" O/C

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



STRUCTURAL COMPONENT ONLY DWG # TF23080631

ANALYSIS RESULTS											
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	2'- 9 1/16"	1.25D + 1.5L	1.00	8481 lb ft	35345 lb ft	Passed - 24%					
Factored Shear:	1'- 5 15/16"	1.25D + 1.5L	1.00	4817 lb	13815 lb	Passed - 35%					
Live Load (LL) Pos. Defl.:	2'- 10 3/4"	L		0.016"	L/360	Passed - L/999					
Total Load (TL) Pos. Defl.:	2'- 10 3/4"	D + L		0.025"	L/240	Passed - L/999					

SUF	PPORT AND	REACTION INFORM	NOITAN					
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	6-01	1.25D + 1.5L	1.00	4839 lb		22131 lb	13091 lb	Passed - 37%
2	5-09	1.25D + 1.5L	1.00	4428 lb		20260 lb	11984 lb	Passed - 37%
000	COLUMN 1 O							

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 9 9/16"	Self Weight	Тор	12 lb/ft	840		-
Uniform	0,	5'- 4"	Smoothed Load	Back	170 lb/ft	341 lb/ft	¥3	2
Point	2'- 9 1/16"	2'- 9 1/16"	B10(i2307)	Front	1181 lb	2152 lb	-	9
Point	3'- 4"	3'- 4"	J5(i2214)	Front	60 lb	120 lb	*	-
Point	4'- 8"	4'- 8"	J5(i2221)	Front	84 lb	168 lb	-	2
UNFAC	TORED R	EACTIONS	10		20000			
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 6 1/16"	7(i306)		1213 lb	2247 lb		8
2	5'- 4"	5'- 9 9/16"	6(i305)		1089 lb	2013 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.
- ullet 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



CITY:

GREENPARK HOMES

TRINI GROUP DEVELOPMENT...

MODEL: ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING

Label: B10 - i2307 Type: Beam

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

Report Version: 2021.03.26

Status:

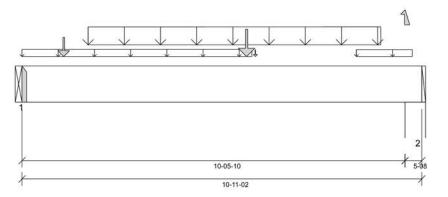
Design Passed

08/25/2023 09:18

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version

8.6.3.353.Update13.13



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Wall @ 10'- 6 5/8"

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 # TF23080632 PG 1/2

ANALYSIS RESULTS	ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	6'- 1 11/16"	1.25D + 1.5L	1.00	15252 lb ft	35345 lb ft	Passed - 43%					
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	4660 lb	13815 lb	Passed - 34%					
Live Load (LL) Pos. Defl.:	5'- 4 1/16"	L		0.140"	L/360	Passed - L/900					
Total Load (TL) Pos. Defl.:	5'- 4 1/16"	D+L		0.217"	L/240	Passed - L/578					

SUF	PPORT AND	REACTION INFORM	NOITAN					
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	4703 lb		5460 lb	0.71	Passed - 86%
2	5-08	1.25D + 1.5L	1.00	4340 lb		20020 lb	11843 lb	Passed - 37%

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ID.	ID Part No. Manufacture	Manufacturer	Na	iling Requiren	ents	Other Information or Requirement for
טו	Part No.	ivianulacturer	Тор	Face	Member	Reinforcement Accessories
4	HOUGAAA					Connector manually appointed by the up

* 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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	10'- 11 1/8"	Self Weight	Тор	12 lb/ft	5.28	<u>.</u>	-
Uniform	0*	6'- 3 7/16"	FC2 Floor Decking (Plan View Fill)	Тор	6 lb/ft	12 lb/ft	=:	
Uniform	9'- 1 11/16"	10'- 8"	FC2 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	73	
Tapered	1'- 9 11/16"	9'- 9 11/16"	Smoothed Load	Front	163 To 165 lb/ft	326 To 329 lb/ft	8	-
Point	1'- 1 11/16"	1'- 1 11/16"	J1(i2477)	Front	301 lb	603 lb	+1	-
Point	10'- 5 11/16"	10'- 5 11/16"	J1(i2485)	Front	-185 lb	-414 lb	2	~
Point	6'- 1 11/16"	6'- 1 11/16"	B11(i2400)	Back	563 lb	922 lb		-
Point	6'- 4 9/16"	6'- 4 9/16"	FC2 Floor Decking (Plan View Fill)	Тор	1 lb	1 lb	2	3

UNFACTORED REACTIONS											
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)				
1	0,	0,	B8(i2440)	1181 lb	2152 lb	-					
2	10'- 5 5/8"	10'- 11 1/8"	1(i301)	980 lb	2076/-414 lb	51					

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 alloady | 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



BUILDER: SITE: MODEL:

CITY:

GREENPARK HOMES TRINI GROUP DEVELOPMENT...

ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING Label: B10 - i2307

Type: Beam 2 Ply Member

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

Status: Design **Passed**

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



GREENPARK HOMES TRINI GROUP DEVELOPMENT...

MODEL: ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING

Label: B11 - i2400

Type: Beam

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

Status: Design Passed

CITY: Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 08/25/2023 09:18 8.6.3.353.Update13.13 Î

> 15-11-11 16-05-03

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Wall @ 16'- 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.



STRUCTURAL COMPONENT ONLY DWG # TF23080633 PG 1/2

ANALYSIS RESULTS											
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	9'- 9 3/16"	1.25D + 1.5L	1.00	9313 lb ft	35345 lb ft	Passed - 26%					
Factored Shear:	14'- 11 13/16"	1.25D + 1.5L	1.00	2872 lb	13815 lb	Passed - 21%					
Live Load (LL) Pos. Defl.:	8'- 4 1/8"	L		0.204"	L/360	Passed - L/940					
Total Load (TL) Pos. Defl.:	8'- 3 15/16"	D+L		0.327"	L/240	Passed - L/586					

SUF	PPORT AND	REACTION INFORM	NOITAN					
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	2073 lb		5460 lb	17.1	Passed - 38%
2	5-08	1.25D + 1.5L	1.00	2929 lb		20025 lb	11845 lb	Passed - 25%

CONI	IECTOR!	NEODMA	TION
CONI	NECIOR	INFORMA	NUN

ID	Part No.	Manufacturer	Na	iling Requirem	ents	Other Information or Requirement for
l ID	Fait No.	Manuacturer	Тор	Face	Member	Reinforcement Accessories
1	HGUS410			2	21	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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	16'- 5 3/16"	Self Weight	Тор	12 lb/ft	5 2 3	₽	-
Uniform	11'- 1 3/16"	13'- 9 3/16"	FC2 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	*:	*
Tapered	2'- 5 3/16"	14'- 5 3/16"	Smoothed Load	Back	43 To 39 lb/ft	85 To 78 lb/ft	+0	*
Point	12'- 4 1/4"	12'- 4 1/4"	B12(i1902)	Front	309 lb	567 lb	20	2
Point	13'- 9 3/16"	13'- 9 3/16"	J5(i2195)	Front	64 lb	128 lb	*:	
Point	15'- 1 3/16"	15'- 1 3/16"	J5(i2252)	Front	58 lb	116 lb	•	*
Point	0'- 5 3/16"	0'- 5 3/16"	J5(i2214)	Back	63 lb	126 lb	23	-
Point	1'- 9 3/16"	1'- 9 3/16"	J5(i2221)	Back	88 lb	175 lb	8	
Point	15'- 1 3/16"	15'- 1 3/16"	J6(i2273)	Back	48 lb	96 lb	*:	-
Point	16'- 2 7/16"	16'- 2 7/16"	E15(i2275)	Top	29 lb	100	20	-

UNFACTORED REACTIONS												
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)					
1	0,	0'	B10(i2307)	563 lb	922 lb	-	-					
2	15'- 11 11/16"	16'- 5 3/16"	E7(i272)	791 lb	1284 lb	*6	-					

- 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 lo 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. In<mark>s</mark>tallation 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

Per: joshua.nabua



BUILDER: G SITE: T

MODEL:

CITY:

GREENPARK HOMES
TRINI GROUP DEVELOPMENT...

ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING Label: B11 - i2400

Type: Beam

2 Ply Member

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

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



BUILDER: SITE: MODEL:

CITY:

GREENPARK HOMES

TRINI GROUP DEVELOPMENT...

ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING

Label: B12 - i1902 Type: Beam

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

WestFraser LVL

Report Version: 2021.03.26

Status:

Design Passed

08/25/2023 09:18

Illustration Not to Scale. Pitch: 0/12

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

4-02-04

4-07-12

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 4'- 2 1/4"

Factored Resistance of Support Material:

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

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" O/C

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



STRUCTURAL COMPONENT ONLY DWG # TF23080634

ANALYSIS RESULTS	ANALYSIS RESULTS											
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result						
Factored Pos. Moment:	2'- 1 5/8"	1.25D + 1.5L	1.00	1344 lb ft	35345 lb ft	Passed - 4%						
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	676 lb	13815 lb	Passed - 5%						

П	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				
П	1	1-08	1.25D + 1.5L	1.00	1261 lb		5460 lb	647	Passed - 23%				
I	2	5-08	1.25D + 1.5L	1.00	1222 lb		20020 lb	11843 lb	Passed - 10%				

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for
IU	Fait No.	Manuacturei	Тор	Face	Member	Reinforcement Accessories
1	HGUS410		-	2	-	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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 7 3/4"	Self Weight	Тор	12 lb/ft	155	7)	
Jniform	0,	4'- 2 1/4"	User Load	Тор	120 lb/ft	240 lb/ft		
Jniform	-0"	4'- 2 1/4"	FC2 Floor Decking (Plan View Fill)	Тор	16 lb/ft	31 lb/ft	=	9
Point	4'- 3 7/16"	4'- 3 7/16"	FC2 Floor Decking (Plan View Fill)	Тор	1 lb	1 lb	≌:	4
JNFAC	TORED R	EACTIONS	5					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B11(i2400)		309 lb	567 lb	2:	2
2	4'- 2 1/4"	4'- 7 3/4"	1(i301)		314 lb	569 lb	9	2

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 manufacture is a installation instruction. Loads assumed to be distributed equally to each ply.

05/01/2024



GREENPARK HOMES

TRINI GROUP DEVELOPMENT...

MODEL: ROSE 2 CITY:

RICHMOND HILL

1ST FLR FRAMING Level: Label: B1 - i2306

Type: Beam

Job Name: ROSE 2

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

Report Version: 2021.03.26

Status:

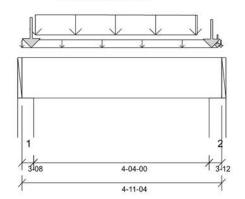
Design Passed

08/25/2023 09:18

Passed - 68%

Illustration Not to Scale. Pitch: 0/12

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



1.25D + 1.5L + S

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

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

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" O/C

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



ANA	ALYSIS RESUL	.TS						
	Design Criteria	Location	Load	Combination	LDF	Design	Limit	Result
Facto	red Pos. Moment	: 2'- 10"	1.25	D + 1.5L + S	1.00	2190 lb ft	35345 lb ft	Passed - 6%
Facto	red Shear:	1'- 3 3/8"	1.25	D + 1.5L + S	1.00	1780 lb	13815 lb	Passed - 13%
SUF	PPORT AND RI	EACTION INFOR	MATION					77-75-75-75-75-75-75-75-75-75-75-75-75-7
ID	Input Bearing	Controlling Load Combination	LDF	Factored Downward	Factored Uplift	Factored Resistance		Result

Reaction

of Member

12740 lb

of Support

7536 lb

Reaction

5154 lb

1.00

2	3-12	1.25D + 1	.5L + S 1.00	5474	lb	13650 lb	8074 lb	Passed - 68%
SPECI	FIED LOAD	os						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	4'- 11 1/4"	Self Weight	Тор	12 lb/ft	•	-	-
Uniform	0'	4'- 10"	FC1 Floor Decking (Plan View Fill)	Тор	3 lb/ft	7 lb/ft	*:	¥
Tapered	0'- 4"	4'- 4"	Smoothed Load	Front	200 To 194 lb/ft	399 To 387 lb/ft	*	*
Point	4'- 10"	4'- 10"	J1(i2421)	Front	213 lb	391 lb	21	2
Point	0'- 2 3/4"	0'- 2 3/4"	E1(i265)	Тор	1036 lb	1146 lb	322 lb	
Point	4'- 8 1/4"	4'- 8 1/4"	E4(i262)	Тор	954 lb	838 lb	477 lb	*
Point	4'- 11"	4'- 11"	E5(i271)	Тор	8 lb	9 lb	25	2
UNFA	CTORED R	EACTIONS	5 /4					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0*	0'- 3 1/2"	W3(i16)		1539 lb	2049 lb	337 lb	-
2	4'- 7 1/2"	4'- 11 1/4"	W6(i11)		1536 lb	1942 lb	462 lb	-

DESIGN NOTES

Length

3-08

- 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=1.500", W=3.500". LDF=1.00, Pf=3336 lb, Q'r=5460 lb, Result=61.10%. At support 2. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=2927 lb, Q'r=5460 lb, Result=53.60%.

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 HILL installation instruction. Loads assumed to be distributed equally to each ply installation instruction. Loads assumed to be distributed equally to each ply.

BUILDING DIVISION

05/01/2024



BUILDER: SITE: MODEL:

GREENPARK HOMES

TRINI GROUP DEVELOPMENT...

ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 1ST FLR FRAMING

Label: B2 - i2491 Type: Beam

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

Status:

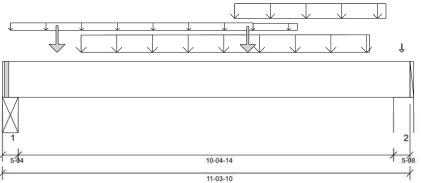
Design Passed

08/25/2023 09:18

CITY: Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version

Report Version: 2021.03.26 8.6.3.353.Update13.13



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

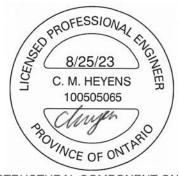
Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/4"
- 615 psi Wall @ 10'- 11 1/8"

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 # TF23080636

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 9 11/16"	1.25D + 1.5L	1.00	15584 lb ft	35345 lb ft	Passed - 44%
Factored Shear:	9'- 10 1/4"	1.25D + 1.5L	1.00	5232 lb	13815 lb	Passed - 38%
Live Load (LL) Pos. Defl.:	5'- 9 1/8"	L		0.142"	L/360	Passed - L/876
Total Load (TL) Pos. Defl.:	5'- 9 1/4"	D + L		0.228"	L/240	Passed - L/547

П	SUPPORT AND REACTION INFORMATION											
	ID	Input Controlling Load D Bearing Combination		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result			
I	1	5-04	1.25D + 1.5L	1.00	4698 lb		19110 lb	11301 lb	Passed - 42%			
l	2	5-08	1.25D + 1.5L	1.00	5772 lb		20020 lb	11843 lb	Passed - 49%			

SPECIFIED LOADS										
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)		
Self Weight	0'	11'- 3 5/8"	Self Weight	Тор	12 lb/ft	100				
Uniform	0'- 2 5/8"	6'- 11 7/16"	FC1 Floor Decking (Plan View Fill)	Тор	10 lb/ft	21 lb/ft	*	•		
Uniform	6'- 5 1/4"	10'- 7 5/8"	User Load	Top	120 lb/ft	240 lb/ft	-			
Uniform	6'- 11 7/16"	8'- 2 3/16"	FC1 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	-		
Tapered	2'- 2 3/16"	10'- 2 3/16"	Smoothed Load	Front	159 To 162 lb/ft	317 To 325 lb/ft	-			
Point	1'- 6 3/16"	1'- 6 3/16"	J3(i2447)	Front	279 lb	557 lb	*8	*		
Point	6'- 9 11/16"	6'- 9 11/16"	B3(i2492)	Back	438 lb	361 lb	52	0		
Point	11'- 7/8"	11'- 7/8"	2(i302)	Тор	24 lb	60 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(i46)	1214 lb	2100 lb	*	*			
2	10'- 10 1/8"	11'- 3 5/8"	W23(i43)	1522 lb	2600 lb	2	2			

DESIGN NOTES

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

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:

GREENPARK HOMES

TRINI GROUP DEVELOPMENT... MODEL:

ROSE 2

RICHMOND HILL

Job Name: ROSE 2

1ST FLR FRAMING Level:

Label: B3 - i2492 Type: Beam

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

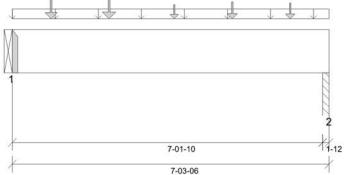
Status: Design Passed

08/25/2023 09:18

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



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 1'- 3 1/2"

Factored Resistance of Support Material:

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

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.



STRUCTURAL COMPONENT ONLY DWG # TF23080637

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	3'- 8 11/16"	1.25D + 1.5L	0.94	1861 lb ft	33375 lb ft	Passed - 6%				
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	0.94	1005 lb	13045 lb	Passed - 8%				
Total Load (TL) Pos. Defl.:	3'- 6 13/16"	D + L		0.014"	L/240	Passed - L/999				

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	0.94	1094 lb		5156 lb	9 = 2	Passed - 21%
2	1-12	1.25D + 1.5L	0.94	963 lb		6015 lb	3557 lb	Passed - 27%

CONIN	ECTOR	INFOR	MATION
CONN	ECIUR	INFOR	MATION

I ID	ID Port No Monuface		Na	iling Requiren	nents	Other Information or Requirement for
טו	Part No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories
1	HGUS/10			- 35	21	Connector manually enecified 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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 3 3/8"	Self Weight	Тор	12 lb/ft			-
Uniform	0,	7'- 3 3/8"	User Load	Тор	60 lb/ft		-	9
Point	0'- 10 11/16"	0'- 10 11/16"	J6(i1246)	Back	82 lb	163 lb		
Point	2'- 2 11/16"	2'- 2 11/16"	J6(i1242)	Back	95 lb	191 lb	20	-
Point	3'- 8 11/16"	3'- 8 11/16"	J7(i2296)	Back	40 lb	82 lb	2	8
Point	5'- 11/16"	5'- 11/16"	J7(i1199)	Back	60 lb	119 lb	5	-
Point	6'- 4 11/16"	6'- 4 11/16"	J7(i1204)	Back	53 lb	105 lb	₩:	2

			()					
Point	6'- 4 11/16"	6'- 4 11/16"	J7(i1204)	Back	53 lb	105 lb	₩:	2
UNFA	CTORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0,	0,	B2(i2491)		438 lb	361 lb		-
2	7'- 1 5/8"	7'- 3 3/8"	PBO1(i55)		415 lb	299 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 pn/this beam categories 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 manufacturers installation instruction. Loads assumed to be distributed equally to each ply.



GREENPARK HOMES BUILDER: SITE:

TRINI GROUP DEVELOPMENT...

MODEL: ROSE 2 CITY:

RICHMOND HILL

Job Name: ROSE 2

1ST FLR FRAMING Level:

Label: B4 - i2377 Type: Beam

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

Report Version: 2021.03.26

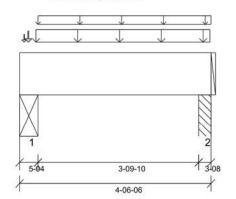
Status: Design

Passed

08/25/2023 09:18

Illustration Not to Scale. Pitch: 0/12

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



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 3'- 9 5/8"

Factored Resistance of Support Material:

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

[Design Criteria	Loc	ation	Load	Combinatio	n LDF	Design	Limit	Result
Factore	d Pos. Moment:	2'- 4	3/16"	1.2	25D + 1.5L	1.00	593 lb ft	17672 lb ft	Passed - 3%
Factore	d Shear:	1'- 5	5 1/8"	1.2	25D + 1.5L	1.00	282 lb	6908 lb	Passed - 4%
SUPF	ORT AND RE	ACTION	INFORM	MATION					
ID	Input Bearing Length	Controlling		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	5-04	1.25D +	1.5L	1.00	705 lb		9555 lb	5650 lb	Passed - 12%
2	3-08	1.25D +	1.5L	1.00	663 lb		6370 lb	3767 lb	Passed - 18%
SPEC	IFIED LOADS	5							
Туре	Start Loc	End Loc	Sour	ce	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	4'- 6 3/8"	Self W	/eight	Тор	6 lb/ft	•	8	9
Uniform	0'- 4 5/8"	4'- 6 1/16"	User	Load	Тор	60 lb/ft	120 lb/ft	2	2
Uniform	0'- 5 1/4"	4'- 6 3/8"	FC1 Floor (Plan Vi	ew Fill)	Тор	10 lb/ft	21 lb/ft	29	9
Point	0'- 1 5/16"	0'- 1 5/16"	FC1 Floor (Plan Vi		Тор	0 lb	1 lb	*	*
Point	0'- 2 1/2"	0'- 2 1/2"	4(i3	03)	Тор	32 lb	41 lb	-	-
UNFA	CTORED RE	ACTIONS	le .						
ID	Start Loc	End Loc		Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0,	0'- 5 1/4"	S	ΓL BM(i47)		187 lb	321 lb	-	-
2	4'- 2 7/8"	4'- 6 3/8"	F	BO1(i55)		162 lb	300 lb	ŧ;	
DECL	CN NOTES								

DESIGN NOTES

ANALYSIS RESULTS

- · 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 # TF23080638

CITY OF RICHMOND HILL **BUILDING DIVISION**

05/01/2024



TRINI GROUP DEVELOPMENT...

GREENPARK HOMES

MODEL: ROSE 2 CITY:

RICHMOND HILL

Job Name: ROSE 2 Level: 1ST FLR FRAMING Label: B5 - i2419

Type: Beam 2 Ply Member

Report Version: 2021.03.26

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

Status: Design Passed

08/25/2023 09:18

Illustration Not to Scale. Pitch: 0/12

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

> 2-08-00 3-03-00

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 3'- 3"

Factored Resistance of Support Material:

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

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

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



ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	1'- 7 1/2"	1.25D + 1.5L + S	0.69	434 lb ft	24494 lb ft	Passed - 2%				
Factored Shear:	1'- 3 3/8"	1.25D + 1.5L + S	0.69	152 lb	9574 lb	Passed - 2%				

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 + S	0.69	718 lb		8829 lb	5222 lb	Passed - 14%
2	3-08	1.25D + 1.5L + S	0.69	718 lb		8829 lb	5222 lb	Passed - 14%

SPECIF	SPECIFIED LOADS											
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)				
Self Weight	0,	3'- 3"	Self Weight	Тор	12 lb/ft	•	-	-				
Uniform	0,	3'- 3"	E10(i270)	Тор	250 lb/ft	31 lb/ft	52 lb/ft	2				
Uniform	0,	3'- 3"	FC1 Floor Decking	Тор	4 lb/ft	8 lb/ft		2				

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	W22(i42)	432 lb	63 lb	85 lb	2
2	2'- 11 1/2"	3'- 3"	W29(i58)	432 lb	63 lb	85 lb	

- 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.

> CITY OF RICHMOND HILL **BUILDING DIVISION**

> > 05/01/2024



BUILDER: SITE: MODEL:

CITY:

GREENPARK HOMES

TRINI GROUP DEVELOPMENT...

ROSE 2

RICHMOND HILL

Job Name: ROSE 2

Level: 2ND FLR FRAMING

Type: Beam

Label: B14B - i1991

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

Report Version: 2021.03.26

Status: Design Passed

08-17-2023 15:48

Illustration Not to Scale. Pitch: 0/12

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

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 0'- 6 11/16"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/4"
- 615 psi Beam @ 1'- 15/16"

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

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



STRUCTURAL COMPONENT ONLY DWG # TF23080640

ANALYSIS RESULTS							
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result	Ī
Factored Pos. Moment:	0'- 8 7/8"	1.25D + 1.5L	0.65	2 lb ft	22974 lb ft	Passed - 0%	
Factored Shear:	1'- 5 1/8"	1.25D + 1.5L + S	0.85	56 lb	11793 lb	Passed - 0%	

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	1.00	412 lb		19061 lb	11272 lb	Passed - 4%
2	5-04	1.25D + 1.5S + L	1.00	362 lb		19061 lb	11272 lb	Passed - 3%

SPECIF	-IED LUAL	JS						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	1'- 5 3/16"	Self Weight	Тор	12 lb/ft	•	-	3
Uniform	0,	0'- 11 11/16"	E17(i1506)	Тор	192 lb/ft	120	190 lb/ft	2
Uniform	0'- 2 7/8"	1'- 2 13/16"	FC2 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	÷
Point	1'- 2 7/16"	1'- 2 7/16"	E16(i1501)	Top	71 lb	120	87 lb	2

Point	1-27/16"	1-27/16"	E16(I1501)	юр	/1 ID		87 ID	-
UNFA	CTORED RE	ACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STL BM(i1374)	153 lb	3 lb	141 lb	
2	0'- 11 15/16"	1'- 5 3/16"	STL BM(i308)		129 lb	2 lb	135 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.

> CITY OF RICHMOND HILL **BUILDING DIVISION**

> > 05/01/2024



Maximum Floor Spans - S2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 15 psf

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

Sheathing: 5/8 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

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

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

05/01/2024



Maximum Floor Spans - S4.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 15 psf

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

Sheathing: 3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			В	are			1/2 in. gy _l	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	15'-2"
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-2"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10
14	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

05/01/2024



Maximum Floor Spans - S6.1

Design Criteria

Spans: Simple span

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

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

Sheathing: 5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

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

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

05/01/2024



Maximum Floor Spans - S7.1

Design Criteria

Spans: Simple span

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

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

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

Maximum Floor Spans

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

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

05/01/2024



Maximum Floor Spans - M2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

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

Sheathing: 5/8 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			В	are			1/2 in. gyr	osum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-	
0.4/0"	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-	
9-1/2"	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-	
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-	
	NI-20	17'-0"	16'-0"	15'-6"	=	17'-6"	16'-7"	16'-0"	-	
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-	
11-7/8"	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-	
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-	
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-	
	NI-40x	20'-1"	18'-8"	17'-10"	=	20'-10"	19'-4"	18'-6"	-	
14"	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-	
14	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-	
	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	-	
	NI-60	22'-4"	20'-8"	19'-9"	=	23'-1"	21'-5"	20'-6"	-	
16"	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-	
	NI-90	24'-5"	22'-6"	21'-6"	-	25'-1"	23'-2"	22'-2"	-	

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

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Maximum Floor Spans - M4.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

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

Sheathing: 3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			В	are			1/2 in. gy _l	osum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"	
0.4/0"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11'	
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"	
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"	
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"	
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"	
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"	
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"	
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"	
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"	
4.4"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10'	
14"	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"	
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"	
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"	
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10'	
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"	

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

05/01/2024



Maximum Floor Spans - M6.1

Design Criteria

Spans: Simple span

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

Maximum Floor Spans

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

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

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.

CITY OF RICHMOND HILL BUILDING DIVISION

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Maximum Floor Spans - M7.1

Design Criteria

Spans: Simple span

Loads: Live load = 40 psf and dead load = 20 psf

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

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

Maximum Floor Spans

			В	are			1/2 in. gyr	osum ceiling		
Joist depth	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"	
0.4/0"	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11	
9-1/2"	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"	
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"	
	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"	
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11	
11-7/8"	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"	
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11	
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"	
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"	
4.4"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"	
14"	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11	
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"	
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"	
16"	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"	
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"	

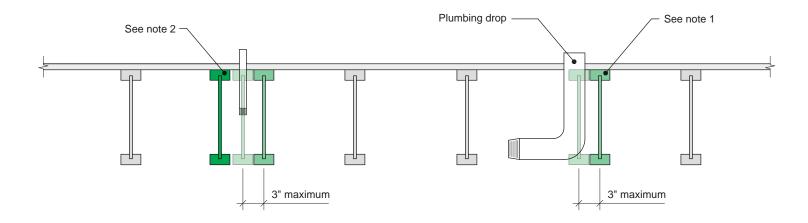
		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	an blocking an	d 1/2 in. gypsui	m ceiling	
Joist depth	Joist series		On cent	re spacing		On centre spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"	
9-1/2"	NI-40x	18'-7"	17'-2"	16'-3"	14'-11"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

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.

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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.

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NORDIC STRUCTURES

nordic.ca



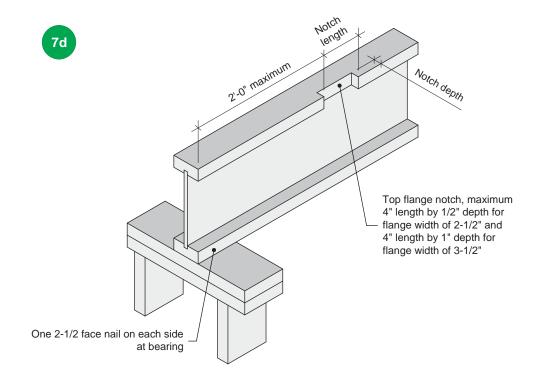
Allowance for Piping

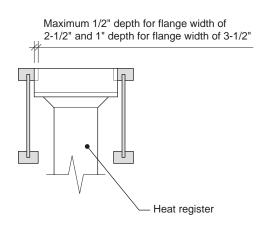
CATEGORY

Openings for Vertical Elements

SCALE

-





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.

TITLE

4. For other applications, contact Nordic Structures.

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

NORDIC STRUCTURES



Notch in I-joist for Heat Register

SCALE

U5/U1/2024

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Openings for Vertical Elements