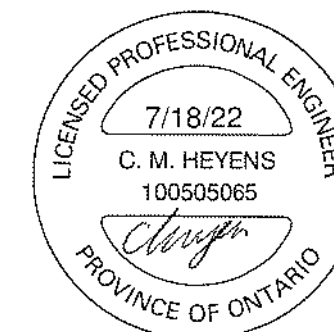


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	22
J1DJ	18-00-00	11 7/8" NI-40x	2	6
J2	16-00-00	11 7/8" NI-40x	1	20
J2DJ	16-00-00	11 7/8" NI-40x	2	4
J3	14-00-00	11 7/8" NI-40x	1	8
J3DJ	14-00-00	11 7/8" NI-40x	2	4
J4	12-00-00	11 7/8" NI-40x	1	10
J5	6-00-00	11 7/8" NI-40x	1	8
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B4	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B1	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B2	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B3	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B5	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
7	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
13	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
1	H3	HUS1.81/10
1	H3	HUS1.81/10

DWG# TF22071225 TO TF22071230



STRUCTURAL COMPONENTS ONLY
DWG# TF22071259

**THIS IS A FLOOR COMPONENT
PLACEMENT PLAN ONLY.**

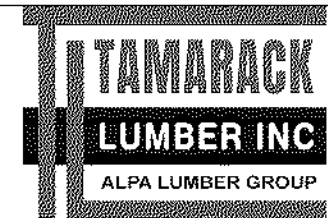
The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified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

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

DATE: 2022-07-15

1st FLOOR FRAMING



FROM PLAN DATED: JANUARY 12 2021

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: 4502 CORNER

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO

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. 1-JOIST BLOCKING ALONG BEARING
AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES
4/5 FOR REINFORCEMENT REQUIREMENTS.**

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

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

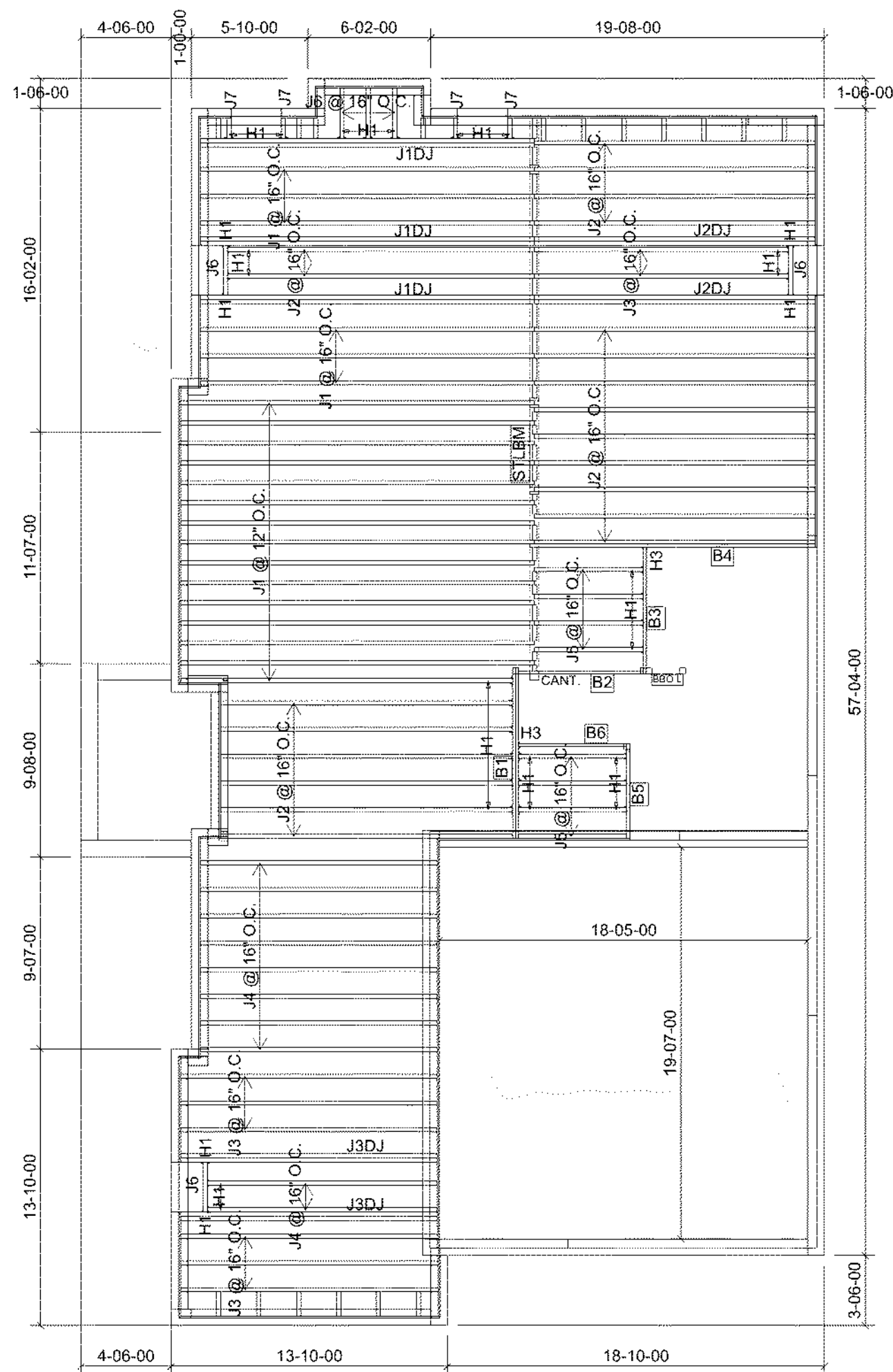
ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

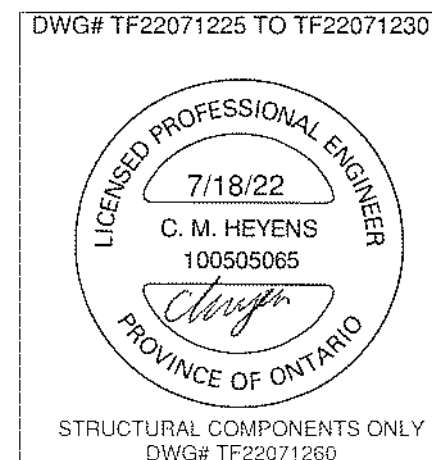
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²TILE LOAD: +5.0 lb/ft²JOIST LL DEFLECTION LIMIT: $L/480$

SUBFLOOR: 3/4" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	21
J1DJ	18-00-00	11 7/8" NI-40x	2	6
J2	16-00-00	11 7/8" NI-40x	1	21
J2DJ	16-00-00	11 7/8" NI-40x	2	4
J3	14-00-00	11 7/8" NI-40x	1	8
J3DJ	14-00-00	11 7/8" NI-40x	2	4
J4	12-00-00	11 7/8" NI-40x	1	10
J5	6-00-00	11 7/8" NI-40x	1	8
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B4	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B1	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B2	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B3	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B5	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1



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

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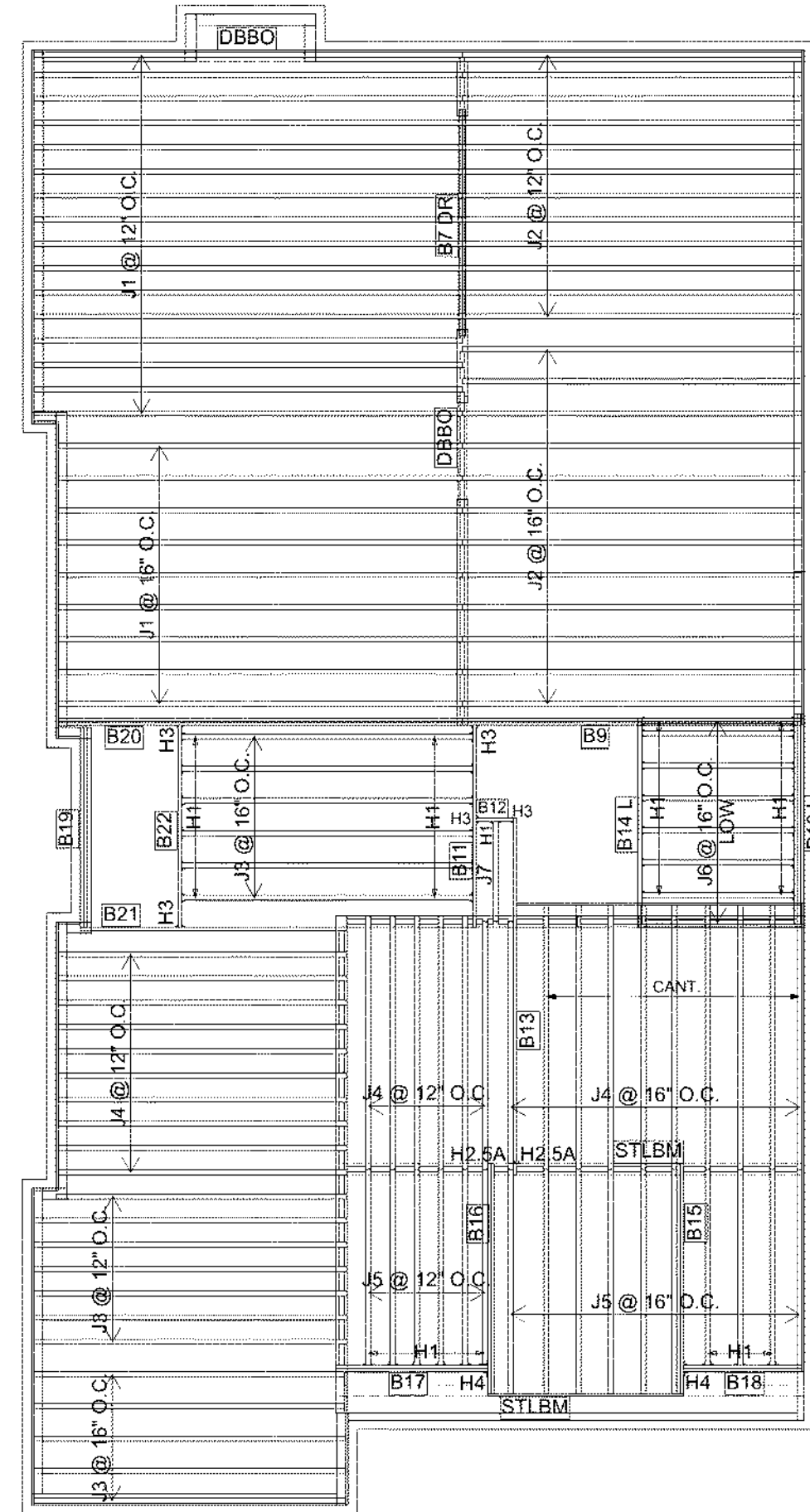
The building designer must review and approve this plan to ascertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

1st FLOOR FRAMING

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. 1-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.

LOADING:
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: +5.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	25
J2	16-00-00	11 7/8" NI-40x	1	24
J3	14-00-00	11 7/8" NI-40x	1	18
J4	12-00-00	11 7/8" NI-40x	1	26
J5	10-00-00	11 7/8" NI-40x	1	16
J6	8-00-00	11 7/8" NI-40x	1	8
J7	6-00-00	11 7/8" NI-40x	1	1
B20	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B21	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B11	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B14 L	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B22	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B15	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B16	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B19	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B7 DR	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10 L	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B17	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B18	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B12	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
20	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
7	H1	IUS2.56/11.88
2	N/A	H2.5A
3	H3	HUS1.81/10
2	H3	HUS1.81/10
2	H4	HGUS410

DWG# TF22071231 TO TF22071245



STRUCTURAL COMPONENTS ONLY
DWG# TF22071261

THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

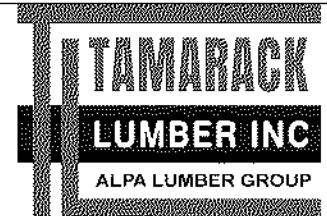
The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified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

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

DATE: 2022-07-15

2nd FLOOR FRAMING



FROM PLAN DATED: JANUARY 12 2021

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: 4502 CORNER

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO

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. 1-JOIST BLOCKING ALONG BEARING
AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES
4/5 FOR REINFORCEMENT REQUIREMENTS.

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

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

ALL BEAM HANGER FASTENERS INSTALLED INTO
THE SUPPORTING MEMBER MUST BE A MINIMUM
OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED
BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

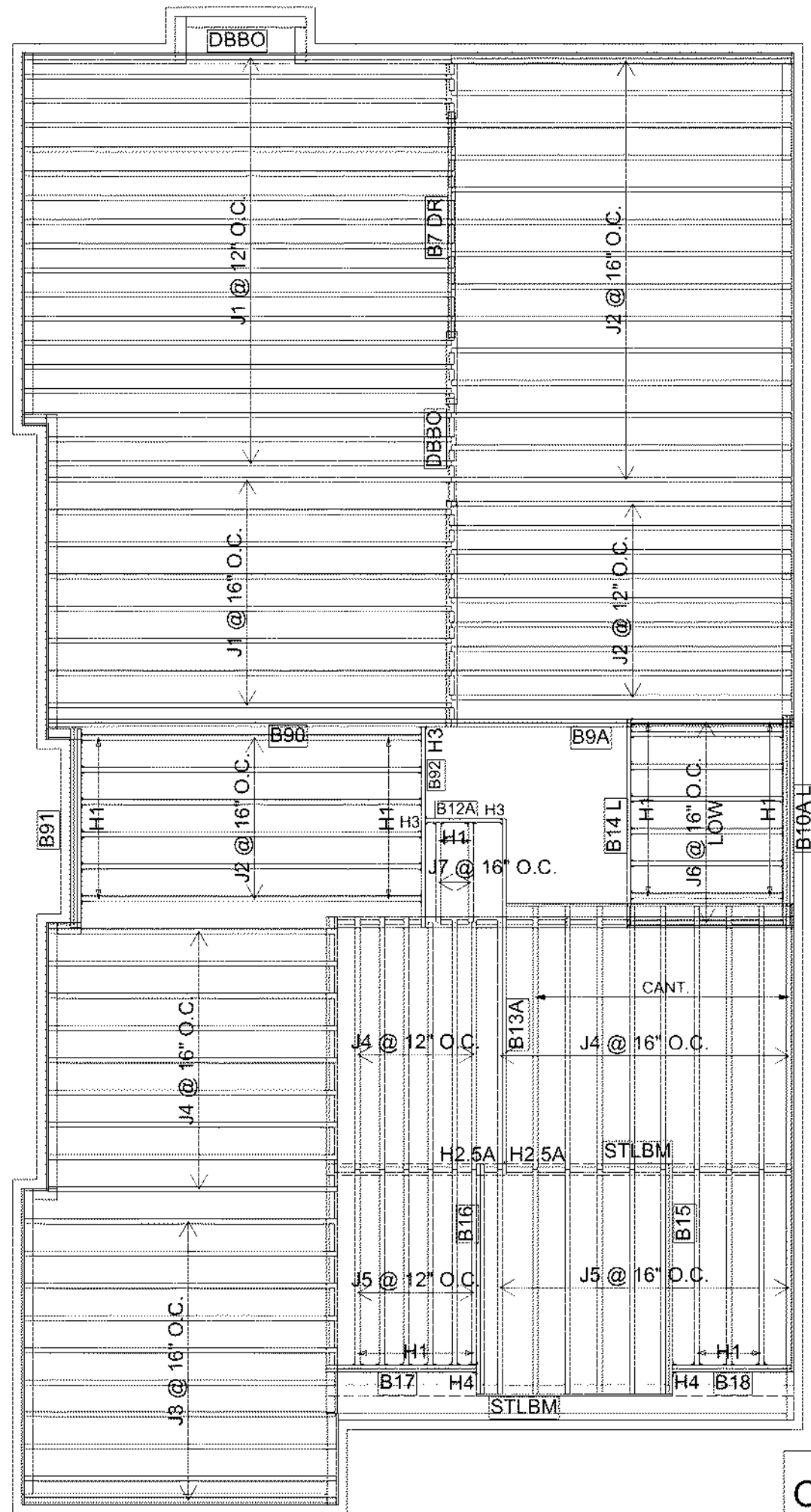
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED



OPT 5 BED

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	29
J3	14-00-00	11 7/8" NI-40x	1	10
J4	12-00-00	11 7/8" NI-40x	1	25
J5	10-00-00	11 7/8" NI-40x	1	16
J6	8-00-00	11 7/8" NI-40x	1	8
J7	6-00-00	11 7/8" NI-40x	1	2
B90	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13A	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9A	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B14 L	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B92	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B15	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B16	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B7 DR	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10A L	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B91	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B17	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B18	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B12A	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary

Qty	Manuf	Product
15	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
13	H1	IUS2.56/11.88
2	N/A	H2.5A
2	H3	HUS1.81/10
1	H3	HUS1.81/10
2	H4	HGUS410

DWG# TF22071231

DWG# TF22071237 TO TF22071241

DWG# TF22071246 TO TF22071252



STRUCTURAL COMPONENTS ONLY
DWG# TF22071262

THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

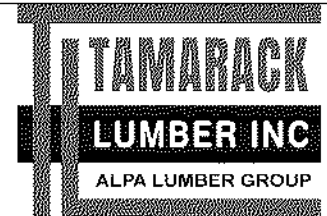
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DATE: 2022-07-15

2nd FLOOR FRAMING



FROM PLAN DATED: JANUARY 12 2021

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: 4502 CORNER

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO

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. 1-JOIST BLOCKING ALONG BEARING
AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES
4/5 FOR REINFORCEMENT REQUIREMENTS.

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

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

ALL **BEAM HANGER FASTENERS** INSTALLED INTO
THE **SUPPORTING MEMBER** MUST BE A MINIMUM
OF **3.5"** IN LENGTH UNLESS OTHERWISE SPECIFIED
BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

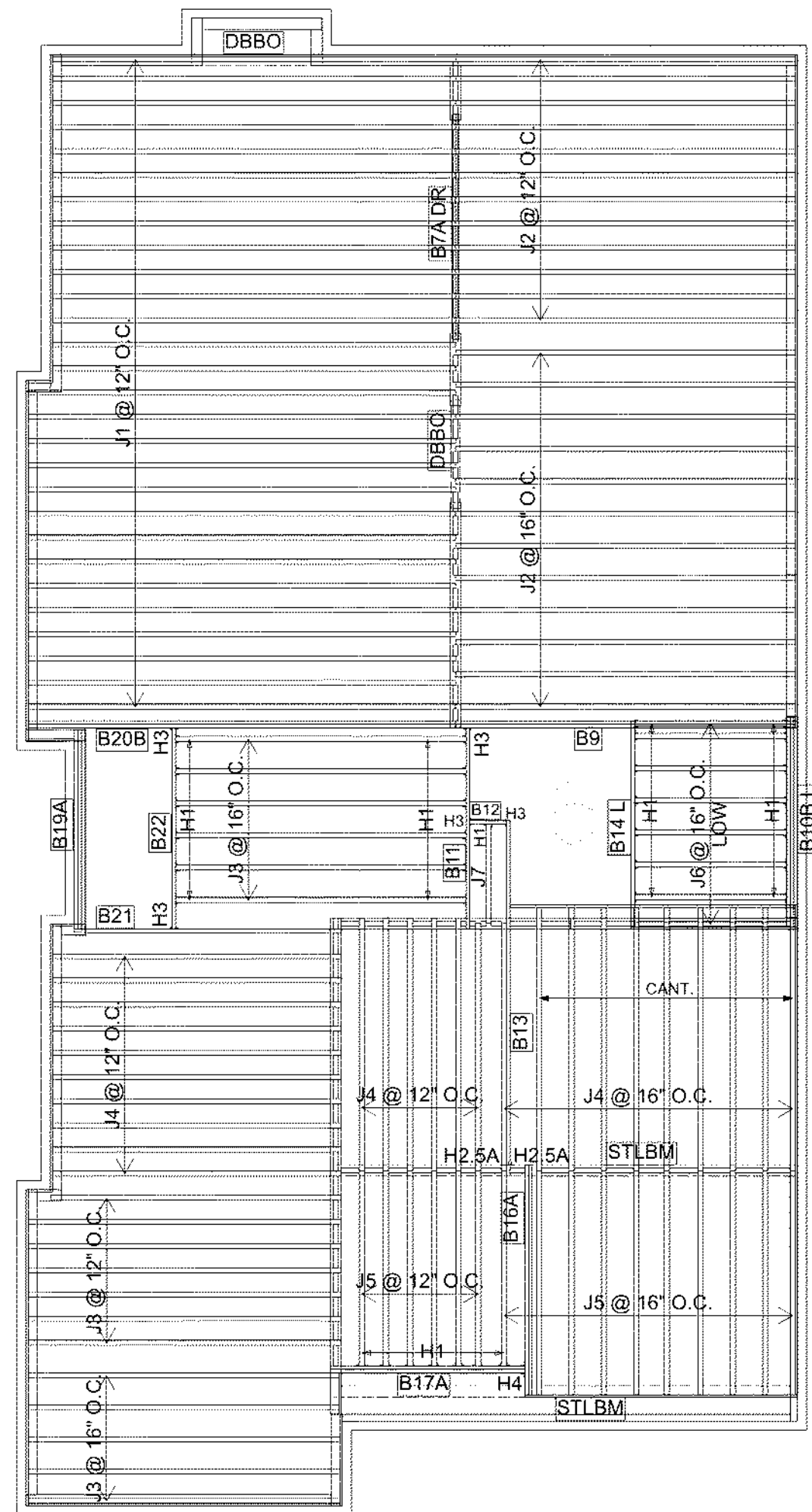
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	28
J2	16-00-00	11 7/8" NI-40x	1	24
J3	14-00-00	11 7/8" NI-40x	1	18
J4	12-00-00	11 7/8" NI-40x	1	26
J5	10-00-00	11 7/8" NI-40x	1	16
J6	8-00-00	11 7/8" NI-40x	1	8
J7	6-00-00	11 7/8" NI-40x	1	1
B20B	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B21	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B11	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B14 L	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B22	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B16A	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B17A	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B7A DR	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B10B L	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B19A	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	3	3
B12	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary		
Qty	Manuf	Product
20	H1	IUS2.56/11.88
7	H1	IUS2.56/11.88
7	H1	IUS2.56/11.88
2	N/A	H2.5A
3	H3	HUS1.81/10
2	H3	HUS1.81/10
1	H4	HGUS410

DWG# TF22071232
 DWG# TF22071234 TO TF22071237
 DWG# TF22071244 TO TF22071245
 DWG# TF22071253 TO TF22071258



STRUCTURAL COMPONENTS ONLY
 DWG# TF22071263

THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

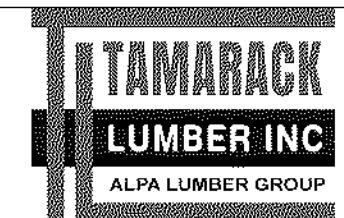
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The building designer must review and approve this plan to ascertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

DATE: 2022-07-15

2nd FLOOR FRAMING



FROM PLAN DATED: JANUARY 12 2021

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: 4502 CORNER

ELEVATION: B,C

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO

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. 1-JOIST BLOCKING ALONG BEARING
 AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES
 4/5 FOR REINFORCEMENT REQUIREMENTS.

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

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

ALL BEAM HANGER FASTENERS INSTALLED INTO
 THE SUPPORTING MEMBER MUST BE A MINIMUM
 OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED
 BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

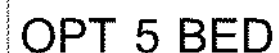
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED



2nd FLOOR FRAMING

DATE: 2022-07-15

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

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

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

SUBFLOOR: 5/8" GLUED AND NAILED

NORDIC

INSTALLATION GUIDE NORDIC JOIST

NS-G133 
ENGLISH
VERSION
2020-10-01

Engineered Wood Products

BASIC INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



NORDIC
STRUCTURES

nordic.ca

INSTALLING NORDIC I-JOISTS

1. Installation of Nordic I-joists shall be as shown in details 1.
2. Except for cutting to length, I-joist flanges should never be cut, drilled or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
5. I-joists must be protected from the weather prior to installation.
6. 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 concrete or masonry.
7. End bearing length must be at least 1-3/4 inch. For multiple-span joists, intermediate bearing length must be at least 3-1/2 inches.
8. Ends of floor joists shall be restrained to prevent rollover. Use rim board or I-joist blocking panels.
9. 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.
10. For I-joists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the maximum vertical load using a single I-joist is 3,300 plf, and 6,000 plf if double I-joists are used.
11. 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.
12. 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).
13. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
14. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see [APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735](#).

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

SAFETY AND CONSTRUCTION PRECAUTIONS

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

Avoid Accidents by Following these Important Guidelines:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
 2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, 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.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
 3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
 4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
 5. Never install a damaged I-joist.
- 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 guidelines carefully.



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



Never stack building materials over unsheathed I-joists. Once sheathed, do not overstress I-joist with concentrated loads from building materials.

NORDIC I-JOIST SERIES

RESIDENTIAL SERIES

NI-20
2x3 S-P-F No. 2
3/8 in. web
Depths
9-1/2 and 11-7/8 in.
33 pieces per unit

NI-40x
2x3 1950F MSR
3/8 in. web
Depths
9-1/2, 11-7/8 and 14 in.
33 pieces per unit

NI-60
2x3 2100F MSR
3/8 in. web
Depths
9-1/2, 11-7/8, 14 and 16 in.
33 pieces per unit

NI-80
2x4 2100F MSR
3/8 in. web
Depths
9-1/2, 11-7/8, 14 and 16 in.
23 pieces per unit

NI-90
2x4 2400F MSR
3/8 in. web
Depths
11-7/8, 14 and 16 in.
23 pieces per unit

RIM BOARDS
Width Length
1-1/8 in. 16 ft
Depths
9-1/2 to 16 in.
APA Rim Board Plus

WEB STIFFENERS

2 Concentrated Load (Load Stiffener)

Tight joint, no gap

End Bearing (Bearing Stiffener)

Gap

Tight joint, no gap

Flange width 2-1/2" or 3-1/2"

Approx. 2"

1/8"-1/4" Gap

Four 2-1/2" nails, 3" nails required for I-joists with 3-1/2" flange width

No gap

Stiffener Size Requirements

Flange width (in.)	Web stiffener size each side of web (in.)
2-1/2	1 x 2-5/16 Minimum width
3-1/2	1-1/2 x 2-5/16 Minimum width

NAIL SPACING

Nailing into flange face

Nailing into flange edge

Nailed to Only One Flange Edge (Top View)

Closest nail spacing

Nailed to Both Flange Edges (Top View)

Closest nail spacing

1/2 offset spacing ⁽¹⁾

Recommended Closest Nail Spacing for Fastening Sheathing to I-joist Flanges to Minimize Splitting

Fastener size (diameter x length)	Flange face nailing ⁽²⁾			Flange edge nailing ⁽³⁾		
	End distance (in.)	Nail spacing (in.)	End distance (in.)	Nail spacing (in.)	Nail spacing (in.)	
0.128" or smaller in diameter, and 3-1/4" or shorter in length	2	2	2	2	4	
Greater than 0.128" up to 0.148" in diameter, and 3-1/4" or shorter in length	2	3	2	3	6	

⁽¹⁾ If more than one row is required, offset rows a minimum of 1/2 inch and stagger.

⁽²⁾ Closest nail spacing measured from one flange edge. Nails on opposite flange edge must be offset one-half the minimum spacing.

⁽³⁾ Backer blocks must be long enough to permit required nailing without splitting.

1a

Nordic I-joist blocking panel

2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for floor sheathing)

Attach I-joist to top plate per detail 1b

1b

Rim board

One 2-1/2" nail at top and bottom flange

Attach rim board to top plate using 2-1/2" toe-nails at 6" o.c.

One 2-1/2" face nail at each side at bearing

Note:

1. To avoid splitting flange, start nails at least 1-1/2 inch from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

1g

Load-bearing wall above shall align vertically with the wall below. Other conditions, such as offset bearing walls, are not covered by this detail.

Blocking panel required over all interior supports under load-bearing walls or when floor joists are not continuous over support. The NBC requires blocking at load-bearing and non-load-bearing walls constructed with required braced wall panels (shearwalls).

Joist attachment per detail 1b

2-1/2" nails at 6" o.c. to top plate

Nordic I-joist blocking panel per detail 1a

Notes:

1. An occasional blocking panel (one per line of blocking) may be left out for the passage of plumbing or ventilation ducts. For other applications, contact Nordic Structures.

2. For other options, see details 1g-1 to 1g-5.

1h

Use backer block if hanger load exceeds 360 lbf. Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Clinch. Install backer block tight to top flange. Use twelve 3" nails, clinched when possible. Maximum resistance for hanger for this detail = 1,620 lbf.

Double I-joist header

Filler block per detail 1p

Top- or face-mount hanger

Backer block required: - Only on the loaded side for top-mount hangers - On both sides for face-mount hangers

Flange width (in.)	Material thickness required (in.) ⁽¹⁾	Minimum depth (in.) ⁽²⁾
2-1/2	1	5-1/2
3-1/2	1-1/2	7-1/4

⁽¹⁾ Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-Q325 Standard.

⁽²⁾ For face-mount hangers use net joist depth minus 3-1/4 inches for joists with 1-1/2-inch-thick flanges.

Notes:

1. Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

2. For hanger resistance, see manufacturer's recommendations.

3. Verify double I-joist resistance to support concentrated loads.

4. Backer blocks must be long enough to permit required nailing without splitting.

1d

Nordic I-joist or rim board blocking panel per detail 1a

Squash block, 1/16" longer than the I-joist depth

Attach squash block to top and bottom flange with one 2-1/2" nail at each location

1e

Transfer load from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above. Stagger nails to avoid splitting.

1j

Top- or face-mount hanger installed per manufacturer's recommendations

Notes:

1. Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

2. For nailing schedules for Nordic I-joist or SCL beams, see the manufacturer's recommendations.

1k

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

Top-mount hanger installed per manufacturer's recommendations

1l

Install hanger per manufacturer's recommendations

Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify header resistance to support concentrated loads.

Backer block per detail 1h

Filler block per detail 1p

Note:

1. See detail 1h for maximum support resistance.

1m

Do not bevel-cut I-joist beyond inside face of wall

Attach I-joist per detail 1b

Notes:

1. Blocking required at bearing for lateral support, not shown for clarity.

1p

Filler block

Offset nails from opposite face by 6"

1/8" to 1/4" gap between top flange and filler block

Notes:

1. Support back of I-joist web during nailing to prevent damage to web/flange connection.

2. Leave a 1/8-inch to 1/4-inch gap between top of filler block and bottom of top I-joist flange.

3. Filler block is required between joists for full length of span.

4. For flange width of 2-1/2 inches, nail joists together with two rows of 3-inch nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist (total of four nails per foot). For flange width of 3-1/2 inches, use two rows of 3-inch nails at 6 inches o.c. on each side of the double I-joist (total of eight nails per foot).

5. The maximum factored load may be applied to one side of the double I-joist using this detail is 860 dBf.

Filler Block Requirements for Double I-joist Construction

Flange width (in.)	Net depth (in.)	Filler block size (in.)	Example
2-1/2	9-1/2	2-1/8 to 2-1/4 x 6	2x8 x 5/8" or 3/4" sheathing
	11-7/8	2-1/8 to 2-1/4 x 8	2x8 x 5/8" or 3/4" sheathing
	14	2-1/8 to 2-1/4 x 10	2x10 x 5/8" or 3/4" sheathing
3-1/2	9-1/2	3 x 6	2 x 2x6
	11-7/8	3 x 8	2 x 2x6
	14	3 x 10	2 x 2x10

Note:

1. The height of the filler block may be different from that specified in the table, as long as it allows nailing and respects the required gap.

1r-1

Blocking panel

Two 2-1/2" nails from joist web to lumber piece

Two 2-1/2" nails from blocking panel web to lumber piece

Notes:

1. This detail may be used to reduce floor vibration.

2. Blocking panels may be of any I-joist series. Nails attaching lumber piece to I-joist web should be driven from the web side and clinched on the lumber side.

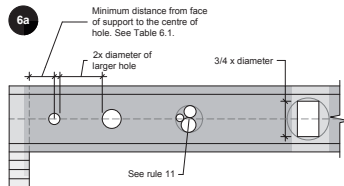
3. One occasional blocking panel may be left out for the passage of plumbing or ventilation ducts. Otherwise, a hole of not more than 2/3 of the lesser dimension of the blocking depth or length may be drilled in the blocking panel.

WEB HOLES AND OPENINGS

WEB HOLES IN I-JOISTS

Rules for Cutting Holes in I-Joists

1. The distance between the inside edge of the support and the centreline of any hole shall be in compliance with the requirements of Table 6.1.
2. I-joist top and bottom flanges must never be cut, notched or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. The maximum size hole 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.
5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole - or twice the length of the longest side of the longest rectangular hole - and each hole must be sized and located in compliance with the requirements of Table 6.1.
7. Holes measuring 1-1/2 inch or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
8. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
9. All holes shall be cut in accordance with the restrictions listed above and as illustrated in detail 6a.
10. Limit three maximum-size holes per span.
11. A group of round holes at approximately the same location shall be permitted if it meets the requirements for a single round hole circumscribed around them.

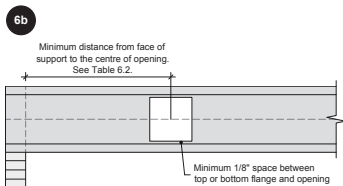


- Notes:**
1. Never drill, cut or notch the flange, or over-cut the web.
 2. Holes in web should be cut with a sharp saw.
 3. For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch-diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

DUCT CHASE OPENINGS

Rules for Cutting Duct Chase Openings in I-joists

1. The distance between the inside edge of the support and the centreline of a duct chase opening shall be in compliance with the requirements of Table 6.2.
2. I-joist top and bottom flanges must never be cut, notched or otherwise modified.
3. 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.
4. All openings shall be cut in accordance with the restrictions listed above and as illustrated in detail 6b.
5. Limit one maximum-size duct chase opening per span.

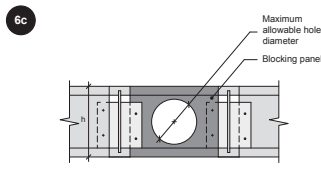


- Notes:**
1. Never drill, cut or notch the flange, or over-cut the web.
 2. Holes in web should be cut with a sharp saw.
 3. Avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch-diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

HOLES IN BLOCKING PANELS

Maximum Allowable Hole Size in Lateral-restraint-only Blocking Panels

1. The maximum allowable hole size for a lateral-restraint-only blocking panel is 2/3 of the lesser dimension of the blocking's depth or length. Assuming the blocking panel is longer than its height (or depth), the table aside applies. For other applications, contact Nordic Structures.
2. Holes cut into the blocking panels are subject to the following limitations:
 - The top and bottom flanges of an I-joist blocking panel must never be cut, notched or otherwise modified.
 - Field-cut holes must be centred in the blocking horizontally.
 - While round holes are preferred, rectangle holes may be used provided the corners are not over cut. Slightly rounding corners or pre-drilling corners with a 1-inch-diameter bit is recommended.
- All holes must be cut in a workman-like manner in accordance with the limitations listed above.



I-joist or rim board blocking depth (in.)	Maximum allowable hole diameter (in.) ⁽¹⁾
9-1/2	6-1/4
11-7/8	7-3/4
14	9-3/4
16	10-1/2

⁽¹⁾ Maximum allowable hole diameter in blocking panel, where the blocking panel is longer than its height.

TABLE 6.1 - LOCATION OF WEB HOLES

Simple or multiple span		Minimum distance from inside face of any support to centre of hole (ft.-in.)															
Joist depth	Joist series	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4	
9-1/2"	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-	-	-	-	-	-	-	-	-
	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"	-	-	-	-	-	-	-	-	-	-
	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"	-	-	-	-	-	-	-	-	-	-
11-7/8"	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-8"	7'-9"	-	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-2"	8'-4"	-	-	-	-	-	-	-
	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	6'-10"	10'-0"	-	-	-	-	-	-	-
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-	-
14"	NI-20	0'-7"	0'-8"	1'-5"	3'-2"	4'-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-	-	-
	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-	-
	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"	-	-	-	-
16"	NI-20	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-40x	0'-7"	0'-8"	0'-8"	1'-6"	2'-10"	3'-2"	4'-2"	5'-8"	6'-4"	7'-0"	8'-5"	9'-8"	10'-2"	12'-2"	13'-9"	-
	NI-60	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"	-
	NI-80	0'-7"	0'-8"	0'-8"	1'-9"	3'-3"	3'-8"	4'-9"	6'-5"	7'-5"	8'-0"	9'-10"	11'-3"	11'-9"	13'-6"	15'-4"	-

- Notes:**
1. Tabulated values are applicable to residential floor construction meeting the above design criteria.
 2. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

Design Criteria

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

TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

Simple span		Minimum distance from inside face of any support to centre of opening (ft.-in.)															
Joist depth	Joist series	Duct chase length (in.)															
		8	10	12	14	16	18	20	22	24							
9-1/2"	NI-20	4'-1"	4'-5"	4'-10"	-	-	-	-	-	-	-	-	-	-	-	-	-
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	-	-	-	-	-	-	-	-
	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	-	-	-	-	-	-	-	-
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"	-	-	-	-	-	-	-
11-7/8"	NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	-	-	-	-	-	-	-	-
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	-	-	-	-	-	-	-	-	-
	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	-	-	-	-	-	-	-	-	-
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8"	-	-	-	-	-	-	-
14"	NI-20	6'-8"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	11'-2"	-	-	-	-	-	-	-
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11'-2"	-	-	-	-	-	-	-	-	-
	NI-60	8'-9"	9'-3"	9'-8"	10'-11"	10'-6"	11'-1"	11'-6"	-	-	-	-	-	-	-	-	-
	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-6"	-	-	-	-	-	-	-
16"	NI-20	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"	11'-5"	11'-10"	12'-4"	12'-11"	-	-	-	-	-	-	-
	NI-40x	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	-	-	-	-	-	-	-	-	-
	NI-60	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-0"	-	-	-	-	-	-	-
	NI-80	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-4"	-	-	-	-	-	-	-



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 1ST FLR FRAMING
Label: B1 - i5866
Type: Beam

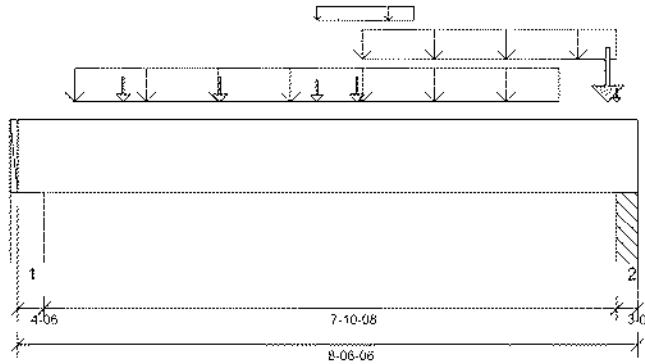
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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'- 3 3/8"
- 615 psi Column @ 8'- 3 7/8"

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 # TF22071225

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 4 7/16"	1.25D + 1.5L + S	1.00	8431 lb ft	35345 lb ft	Passed - 24%
Factored Shear:	7'- 3"	1.25D + 1.5L	1.00	4323 lb	13815 lb	Passed - 31%
Live Load (LL) Pos. Defl.:	4'- 4 3/16"	L + 0.5S		0.046"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 4 1/4"	D + L + 0.5S		0.073"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D + 1.5L + S	1.00	3434 lb		15925 lb	9420 lb	Passed - 36%
2	3-08	1.25D + 1.5L + S	1.00	4930 lb		12740 lb	7534 lb	Passed - 65%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 6 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	4'- 1 3/8"	5'- 5 3/8"	FC1 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	4'- 8 7/8"	8'- 2 7/8"	User Load	Top	120 lb/ft	240 lb/ft	-	-
Tapered	0'- 9 3/8"	7'- 5 3/8"	Smoothed Load	Back	145 To 149 lb/ft	291 To 298 lb/ft	-	-
Point	1'- 5 3/8"	1'- 5 3/8"	J5(i5358)	Front	76 lb	152 lb	-	-
Point	2'- 9 3/8"	2'- 9 3/8"	J5(i5358)	Front	76 lb	152 lb	-	-
Point	4'- 1 3/8"	4'- 1 3/8"	J5(i5420)	Front	55 lb	110 lb	-	-
Point	4'- 8"	4'- 8"	B6(i5389)	Front	192 lb	33 lb	-	-
Point	8'- 1 3/8"	8'- 1 3/8"	J2(i5869)	Back	288 lb	435 lb	84 lb	-
Point	8'- 2 7/8"	8'- 2 7/8"	FC1 Floor Decking (Plan View Fill)	Top	0 lb	1 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	W33(i32)	891 lb	1523 lb	-	-
2	8'- 2 7/8"	8'- 6 3/8"	PBO3(i71)	1302 lb	2169 lb	84 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 1ST FLR FRAMING
Label: B2 - i5865
Type: Beam

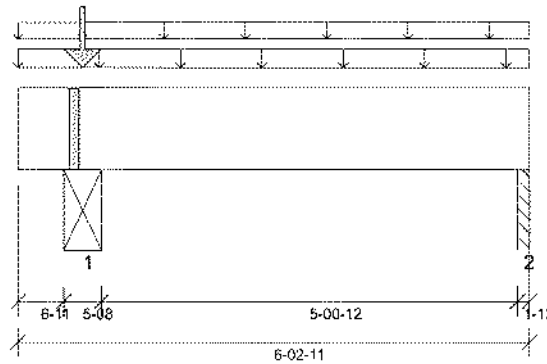
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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/180,

TL Deflection Limit: L/120.

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: 5'- 2 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 9 7/16"
- 615 psi Column @ 6'- 1 15/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 6 1/8"	1.25D + 1.5L	0.65	469 lb ft	11487 lb ft	Passed - 4%
Factored Shear:	5'- 1 1/16"	1.25D + 1.5L	0.65	211 lb	4490 lb	Passed - 5%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	0.93	2238 lb		9273 lb	5483 lb	Passed - 41%
2	1-12	1.25D + 1.5L	0.65	370 lb		2070 lb	1224 lb	Passed - 30%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 2 11/16"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	6'- 2 11/16"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'	0'- 9 7/16"	FC1 Floor Decking (Plan View Fill)	Top	7 lb/ft	14 lb/ft	-	-
Uniform	0'- 9 7/16"	6'- 2 11/16"	FC1 Floor Decking (Plan View Fill)	Top	12 lb/ft	24 lb/ft	-	-
Point	0'- 9 7/16"	0'- 9 7/16"	5(l60)	Top	641 lb	655 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'- 6 11/16"	1'- 3/16"	STLBM(i62)	912 lb	732 lb	-	-
2	6'- 15/16"	6'- 2 11/16"	PBO4(i72)	212 lb	70-1 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071226



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 1ST FLR FRAMING
Label: B3 - i5794
Type: Beam

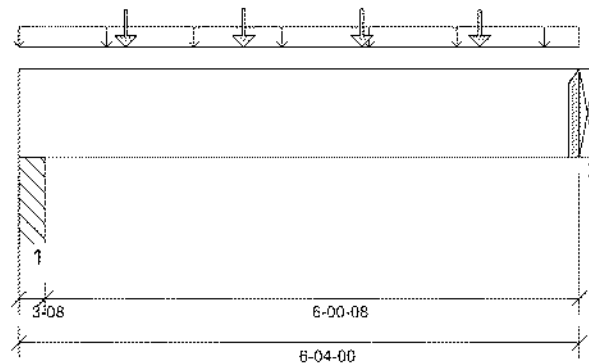
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Beam @ 6'- 4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 5 1/4"	1.25D + 1.5L	0.96	1460 lb ft	16908 lb ft	Passed - 9%
Factored Shear:	5'- 4 1/8"	1.25D + 1.5L	0.96	773 lb	6609 lb	Passed - 12%
Total Load (TL) Pos. Defl.:	3'- 3 1/4"	D + L		0.015"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	0.96	894 lb		6095 lb	3604 lb	Passed - 25%
2	1-08	1.25D + 1.5L	0.96	855 lb		2612 lb	-	Passed - 33%

CONNECTOR INFORMATION

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

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	6'- 4"	User Load	Top	60 lb/ft	-	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	J5(i5722)	Back	69 lb	139 lb	-	-
Point	2'- 6 1/2"	2'- 6 1/2"	J5(i5746)	Back	74 lb	149 lb	-	-
Point	3'- 10 1/2"	3'- 10 1/2"	J5(i5763)	Back	74 lb	149 lb	-	-
Point	5'- 2 1/2"	5'- 2 1/2"	J5(i5734)	Back	71 lb	141 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	FBO4(i72)	362 lb	294 lb	-	-
2	6'- 4"	6'- 4"	B4(i5704)	343 lb	284 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071227



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 1ST FLR FRAMING
Label: B4 - i5704
Type: Beam

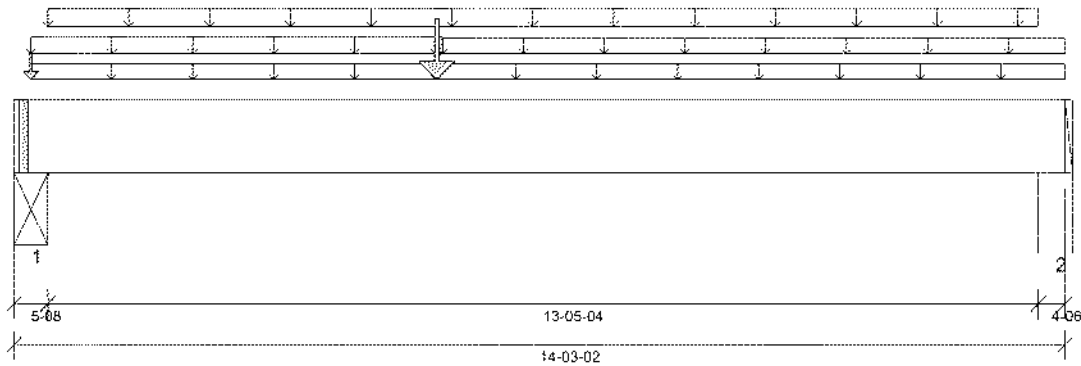
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 0' Bottom: 8'- 1"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Wall @ 13'- 11 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 8 7/8"	1.25D + 1.5L	0.81	5282 lb ft	14329 lb ft	Passed - 37%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	0.81	31 lb ft	5553 lb ft	Passed - 1%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.81	1217 lb	5601 lb	Passed - 22%
Live Load (LL) Pos. Defl.:	6'- 9 1/4"	L		0.073"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 11 1/4"	D + L		0.252"	L/240	Passed - L/639
Permanent Deflection:	7'- 1/16"			-	L/360	Passed - L/926

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	0.81	1581 lb		8116 lb	4800 lb	Passed - 33%
2	4-06	1.4D	0.65	860 lb		5176 lb	3062 lb	Passed - 28%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 3 1/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 2 3/4"	14'- 3 1/8"	FC1 Floor Decking (Plan View F1B)	Top	2 lb/ft	3 lb/ft	-	-
Uniform	0'- 2 3/4"	5'- 9 3/4"	FC1 Floor Decking (Plan View F1B)	Top	12 lb/ft	24 lb/ft	-	-
Uniform	0'- 5 1/2"	13'- 10 3/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	5'- 9 3/4"	14'- 3 1/8"	FC1 Floor Decking (Plan View F1B)	Top	2 lb/ft	3 lb/ft	-	-
Point	5'- 8 7/8"	5'- 8 7/8"	B3(i5794)	Front	343 lb	284 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	5(i60)	Top	57 lb	91 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STLBM(i62)	779 lb	403 lb	-	-
2	13'- 10 3/4"	14'- 3 1/8"	W19(i15)	616 lb	181 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071228



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 1ST FLR FRAMING
Label: B5 - i5864
Type: Beam

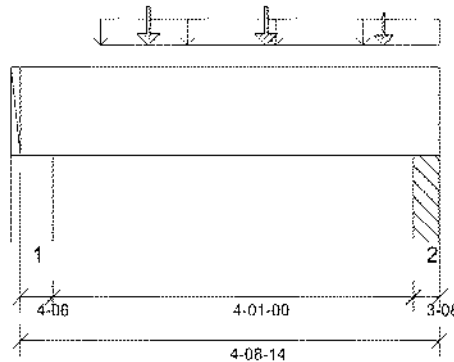
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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'- 3 3/8"
- 615 psi Column @ 4'- 6 3/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 8 7/16"	1.25D + 1.5L	1.00	1096 lb ft	17672 lb ft	Passed - 6%
Factored Shear:	3'- 5 1/2"	1.25D + 1.5L	1.00	936 lb	6908 lb	Passed - 14%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D + 1.5L	1.00	801 lb		7962 lb	4710 lb	Passed - 17%
2	3-08	1.25D + 1.5L	1.00	1094 lb		6370 lb	3767 lb	Passed - 29%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 8 7/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 10 7/8"	4'- 8 7/8"	User Load	Front	60 lb/ft	120 lb/ft	-	-
Point	1'- 5 3/8"	1'- 5 3/8"	J5(i5358)	Back	76 lb	152 lb	-	-
Point	2'- 9 3/8"	2'- 9 3/8"	J5(i5358)	Back	76 lb	152 lb	-	-
Point	4'- 1 3/8"	4'- 1 3/8"	J5(i5420)	Back	56 lb	111 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	W33(i32)	199 lb	369 lb	-	-
2	4'- 5 3/8"	4'- 8 7/8"	PBO2(i70)	267 lb	506 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071229



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 1ST FLR FRAMING
Label: B6 - i5389
Type: Beam

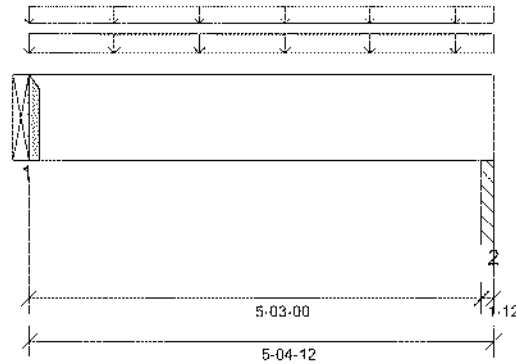
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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: 5'- 4 3/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Column @ 5'- 4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 8"	1.25D + 1.5L	0.65	387 lb ft	11487 lb ft	Passed - 3%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	0.65	183 lb	4490 lb	Passed - 4%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	0.65	290 lb		1774 lb	-	Passed - 16%
2	1-12	1.25D + 1.5L	0.65	301 lb		2069 lb	1223 lb	Passed - 25%

CONNECTOR INFORMATION

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 4 3/4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	5'- 4 3/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'	5'- 4 3/4"	FC1 Floor Decking (Plan View File)	Top	6 lb/ft	12 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B1(i5866)	192 lb	33 lb	-	-
2	5'- 3"	5'- 4 3/4"	PBO2(i70)	196 lb	36 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071230



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B7 DR - 15585
Type: Beam

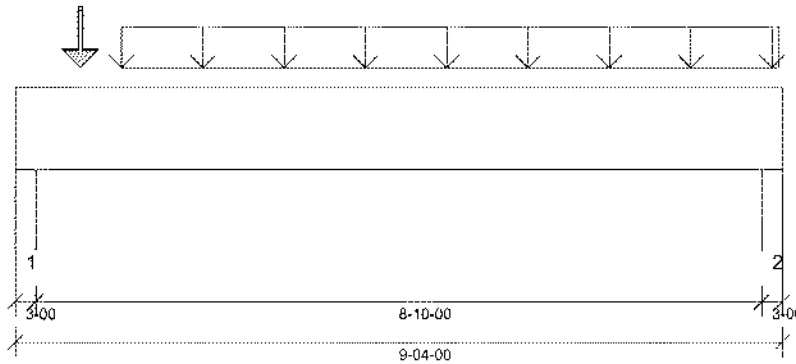
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 0'- 10 3/4" Bottom: 9'- 4"

Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 2"
- 812 psi Wall @ 9'- 2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 9 1/2"	1.25D + 1.5L	1.00	13778 lb ft	35345 lb ft	Passed - 39%
Factored Shear:	1'- 2 7/8"	1.25D + 1.5L	1.00	5309 lb	13815 lb	Passed - 38%
Live Load (LL) Pos. Defl.:	4'- 8"	L		0.098"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 8"	D + L		0.149"	L/240	Passed - L/712

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Upward Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3'-00	1.25D + 1.5L	1.00	5973 lb		10920 lb	8526 lb	Passed - 70%
2	3'-00	1.25D + 1.5L	1.00	6221 lb		10920 lb	8526 lb	Passed - 73%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 4"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	1'- 3 1/2"	9'- 3 1/2"	Smoothed Load	Top	313 lb/ft	625 lb/ft	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J1(4362)	Top	175 lb	349 lb	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J2(15548)	Top	161 lb	322 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3"	4(I59)	1446 lb	2777 lb	-	-
2	9'- 1"	9'- 4"	3(I58)	1504 lb	2894 lb	-	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071231



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B9 - i5718
Type: Beam

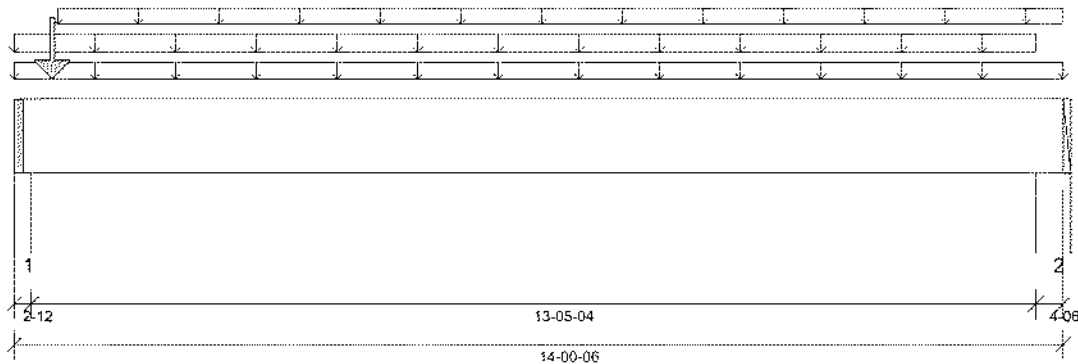
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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: 13'- 5 3/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/4"
- 615 psi Wall @ 13'- 9"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 9 5/16"	1.4D	0.65	2789 lb ft	22974 lb ft	Passed - 12%
Factored Shear:	1'- 2 5/8"	1.25D + 1.5L	0.94	2834 lb	13037 lb	Passed - 22%
Live Load (LL) Pos. Defl.:	6'- 7 5/8"	L		0.024"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 9 15/16"	D + L		0.095"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-12	1.25D + 1.5L	0.94	2989 lb		9446 lb	5586 lb	Passed - 53%
2	4-06	1.4D	0.65	804 lb		10351 lb	6123 lb	Passed - 13%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	14'- 3/8"	FC3 Floor Decking (Plan View Fill)	Top	7 lb/ft	15 lb/ft	-	-
Uniform	0'	13'- 8"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 7"	14'- 3/8"	FC3 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Point	0'- 6 1/8"	0'- 6 1/8"	B11(i5713)	Front	519 lb	986 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	5(i60)	1068 lb	1093 lb	-	-
2	13'- 8"	14'- 3/8"	10(i109)	579 lb	178 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=3.500", W=3.500". LDF=0.94, P_f=2255 lb, Q_r=7583 lb, Result=29.73%.

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071232



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B10 L - i5809
Type: Beam

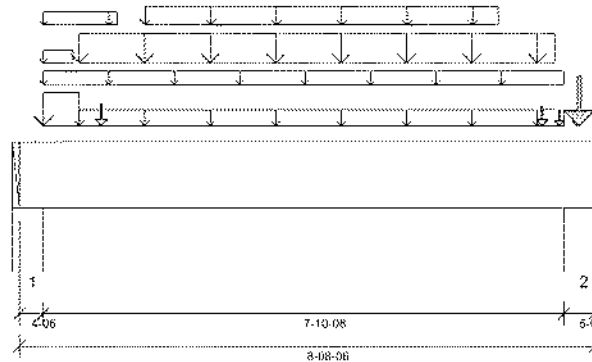
3 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 8'- 3 7/8"

PLY TO PLY CONNECTION:

4 ROWS OF 3.25" PNEUMATIC GUN
NAILS (0.120"x3.25") @ 12" O/C
NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2 9/16"	1.25D + 1.5S + L	0.98	10170 lb ft	51705 lb ft	Passed - 20%
Factored Shear:	7'- 3"	1.25D + 1.5S + L	0.98	4007 lb	20210 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 3 9/16"	S + 0.5L		0.030"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 3 1/2"	D + S + 0.5L		0.059"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4'-06	1.25D + 1.5S + L	0.98	4956 lb		23296 lb	13781 lb	Passed - 36%
2	5'-08	1.25D + 1.5S + L	0.98	6492 lb		29287 lb	17324 lb	Passed - 37%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 8 3/8"	Self Weight	Top	18 lb/ft	-	-	-
Uniform	0'- 4 3/8"	8'- 2 7/8"	E47(i1221)	Top	37 lb/ft	-	-	-
Uniform	0'- 4 3/8"	1'- 5 3/4"	E47(i1221)	Top	20 lb/ft	9 lb/ft	-	-
Uniform	0'- 4 3/8"	0'- 10 7/8"	E47(i1221)	Top	313 lb/ft	4 lb/ft	380 lb/ft	-
Uniform	0'- 4 3/8"	0'- 9 3/4"	E47(i1221)	Top	5 lb/ft	4 lb/ft	-	-
Uniform	0'- 10 7/8"	8'- 2 7/8"	E47(i1221)	Top	113 lb/ft	-	-	-
Uniform	0'- 10 7/8"	8'- 1 1/8"	E47(i1221)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	1'- 10 7/8"	7'- 2 7/8"	Smoothed Load	Back	72 lb/ft	143 lb/ft	-	-
Point	1'- 2 7/8"	1'- 2 7/8"	J6(i4596)	Back	88 lb	177 lb	-	-
Point	7'- 10 7/8"	7'- 10 7/8"	J6(i4601)	Back	70 lb	140 lb	-	-
Point	8'- 5 1/8"	8'- 5 1/8"	J6(i5745)	Back	49 lb	53 lb	-	-
Point	8'- 2"	8'- 2"	E47(i1221)	Top	31 lb	-	57 lb	-
Point	8'- 5 5/8"	8'- 5 5/8"	10(i109)	Top	710 lb	170 lb	180 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	7(i94)	1770 lb	532 lb	1505 lb	-
2	8'- 2 7/8"	8'- 8 3/8"	6(i61)	2526 lb	785 lb	1669 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071233



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B11 - i5713
Type: Beam

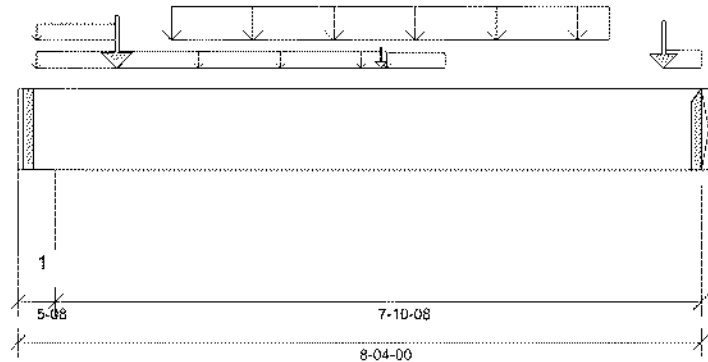
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10 1/2"	1.25D + 1.5L	1.00	4459 lb ft	17672 lb ft	Passed - 25%
Factored Shear:	7'- 4 1/8"	1.25D + 1.5L	1.00	1596 lb	6908 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	4'- 4 1/8"	L		0.049"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 4 1/8"	D + L		0.075"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08	1.25D + 1.5L	1.00	2092 lb		10010 lb	5921 lb	Passed - 35%
2	1'-08	1.25D + 1.5L	1.00	2126 lb		2730 lb	-	Passed - 78%

CONNECTOR INFORMATION

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

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 2 3/4"	4'- 6"	FC3 Floor Decking (Plan View Filt)	Top	9 lb/ft	17 lb/ft	-	-
Uniform	0'- 2 3/4"	1'- 2 1/2"	FC3 Floor Decking (Plan View Filt)	Top	8 lb/ft	15 lb/ft	-	-
Uniform	4'- 6"	5'- 2 1/2"	FC3 Floor Decking (Plan View Filt)	Top	2 lb/ft	3 lb/ft	-	-
Uniform	7'- 10 1/2"	8'- 4"	FC3 Floor Decking (Plan View Filt)	Top	15 lb/ft	31 lb/ft	-	-
Tapered	1'- 10 1/2"	7'- 2 1/2"	Smoothed Load	Back	122 To 123 lb/ft	243 To 247 lb/ft	-	-
Point	4'- 5 1/8"	4'- 5 1/8"	B12(i5724)	Front	24 lb	38 lb	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	J3(i5702)	Back	136 lb	272 lb	-	-
Point	7'- 10 1/2"	7'- 10 1/2"	J3(i4549)	Back	116 lb	232 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	2(i56)	512 lb	967 lb	-	-
2	8'- 4"	8'- 4"	B9(i5718)	519 lb	966 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071234



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B12 - i5724
Type: Beam

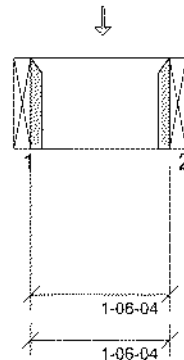
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 0'- 8 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 1'- 6 1/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 9 1/2"	1.25D + 1.5L	1.00	66 lb ft	17672 lb ft	Passed - 0%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	86 lb		2730 lb	-	Passed - 3%
2	1-08	1.25D + 1.5L	1.00	93 lb		2730 lb	-	Passed - 3%

CONNECTOR INFORMATION

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

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 6 1/4"	Self Weight	Top	6 lb/ft	-	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J7(i5716)	Front	40 lb	79 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B11(i5713)	24 lb	38 lb	-	-
2	1'- 6 1/4"	1'- 6 1/4"	B13(i5860)	25 lb	41 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071235



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B13 - i5860
Type: Beam

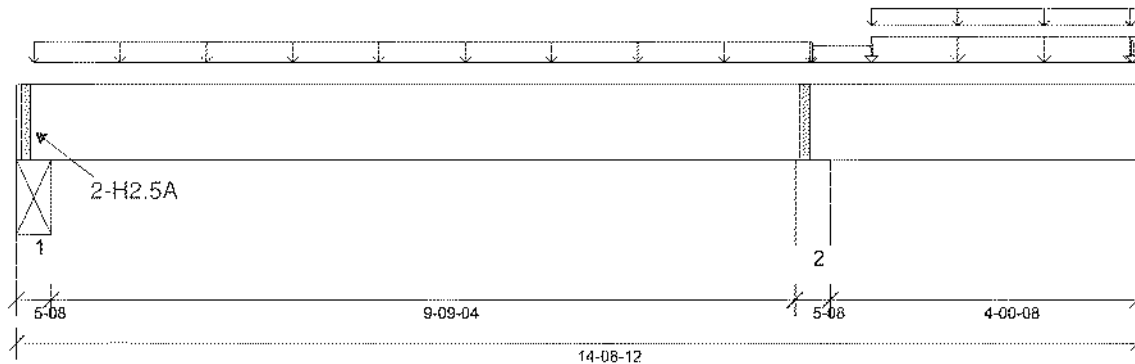
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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/180,

TL Deflection Limit: L/120.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 9'- 9 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Wall @ 10'- 5 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 6 7/8"	1.25D + 1.5L	0.95	1007 lb ft	16824 lb ft	Passed - 6%
Factored Neg. Moment:	10'- 5 1/2"	1.25D + 1.5L	0.96	3031 lb ft	4594 lb ft	Passed - 66%
Factored Shear:	11'- 8 1/8"	1.25D + 1.5L	0.96	989 lb	6600 lb	Passed - 15%
Live Load (LL) Pos. Defl.:	14'- 8 3/4"	L		0.096"	L/180	Passed - L/506
Live Load (LL) Neg. Defl.:	6'- 2 3/8"	L		0.033"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	14'- 8 3/4"	D + L		0.129"	L/120	Passed - L/374
Total Load (TL) Neg. Defl.:	6'- 6 7/16"	D + L		0.037"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	0.95	499 lb		9529 lb	5635 lb	Passed - 9%
1	5-08	0.9D + 1.5L	0.96		-127 lb	-	-	
2	5-08	1.25D + 1.5L	1.00	2069 lb		10010 lb	5921 lb	Passed - 35%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 8 3/4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 2 3/4"	10'- 5 1/2"	FC3 Floor Decking (Plan View File)	Top	25 lb/ft	50 lb/ft	-	-
Uniform	10'- 5 1/2"	11'- 2 3/4"	FC3 Floor Decking (Plan View File)	Top	2 lb/ft	3 lb/ft	-	-
Uniform	11'- 2 3/4"	14'- 8 3/4"	FC3 Floor Decking (Plan View File)	Top	59 lb/ft	117 lb/ft	-	-
Uniform	11'- 2 3/4"	14'- 8 3/4"	FC3 Floor Decking (Plan View File)	Top	9 lb/ft	18 lb/ft	-	-
Point	14'- 7 7/8"	14'- 7 7/8"	B12(i5724)	Back	25 lb	41 lb	-	-
Point	11'- 2 3/4"	11'- 2 3/4"	FC3 Floor Decking (Plan View File)	Top	37 lb	9 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STLBM(i106)	83 lb	258/136 lb	-	-
2	10'- 2 3/4"	10'- 8 1/4"	2(i56)	560 lb	916 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071236



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B14 L - i5828
Type: Beam

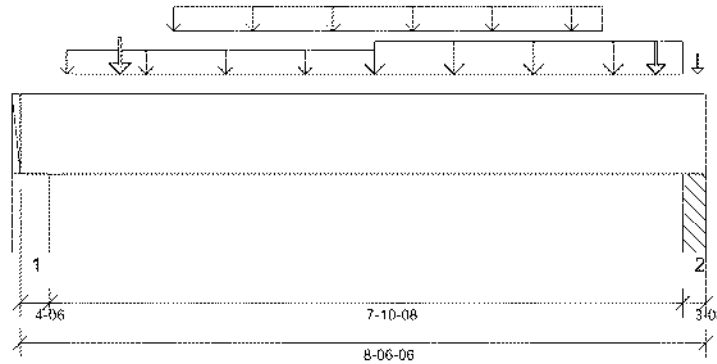
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



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'- 3 3/8"
- 615 psi Column @ 8'- 3 7/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 8 1/16"	1.25D + 1.5L	1.00	5355 lb ft	17672 lb ft	Passed - 30%
Factored Shear:	7'- 3"	1.25D + 1.5L	1.00	2711 lb	6908 lb	Passed - 39%
Live Load (LL) Pos. Defl.:	4'- 4 3/8"	L		0.061"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 4 3/8"	D + L		0.093"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D + 1.5L	1.00	2242 lb		7962 lb	4710 lb	Passed - 48%
2	3-08	1.25D + 1.5L	1.00	2956 lb		6370 lb	3767 lb	Passed - 78%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 6 3/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 6 7/8"	4'- 4 7/8"	User Load	Top	60 lb/ft	120 lb/ft	-	-
Uniform	1'- 10 7/8"	7'- 2 7/8"	Smoothed Load	Front	66 lb/ft	132 lb/ft	-	-
Uniform	4'- 4 7/8"	8'- 2 7/8"	User Load	Back	120 lb/ft	240 lb/ft	-	-
Point	1'- 2 7/8"	1'- 2 7/8"	J6(i4596)	Front	81 lb	163 lb	-	-
Point	7'- 10 7/8"	7'- 10 7/8"	J6(i4601)	Front	64 lb	129 lb	-	-
Point	8'- 5 1/8"	8'- 5 1/8"	J6(i5745)	Front	21 lb	41 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	7(i94)	546 lb	1042 lb	-	-
2	8'- 2 7/8"	8'- 6 3/8"	PBO7(i120)	712 lb	1375 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071237



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B15 - i5837
Type: Beam

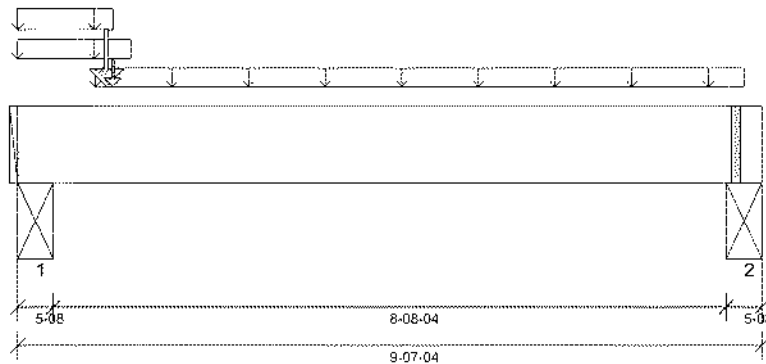
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 10 1/4"

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 5 5/8"	1.25D + 1.5L + S	0.96	2121 lb ft	34057 lb ft	Passed - 6%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.90	1632 lb	12405 lb	Passed - 13%
Live Load (LL) Pos. Defl.:	4'- 7 1/8"	L + 0.5S		0.012"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 6 1/2"	D + L + 0.5S		0.023"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08"	1.25D + 1.5S + L	0.94	2512 lb		18791 lb	11112 lb	Passed - 23%
2	5'-08"	1.25D + 1.5L	0.90	717 lb		17976 lb	10630 lb	Passed - 7%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 7 1/4"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	1'- 5 1/2"	E25(i79)	Top	100 lb/ft	-	-	-
Uniform	0'	1'- 2 3/4"	E25(i79)	Top	54 lb/ft	-	93 lb/ft	-
Uniform	1'	9'- 4 1/2"	FC3 Floor Decking (Plan View F1b)	Top	27 lb/ft	53 lb/ft	-	-
Point	1'- 1 3/4"	1'- 1 3/4"	B18(i5800)	Front	564 lb	331 lb	229 lb	-
Point	1'- 2 3/4"	1'- 2 3/4"	E25(i79)	Top	131 lb	-	206 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STLBM(i107)	1012 lb	515 lb	517 lb	-
2	9'- 1 3/4"	9'- 7 1/4"	STLBM(i106)	233 lb	263 lb	33 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071238



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B16 - i5817
Type: Beam

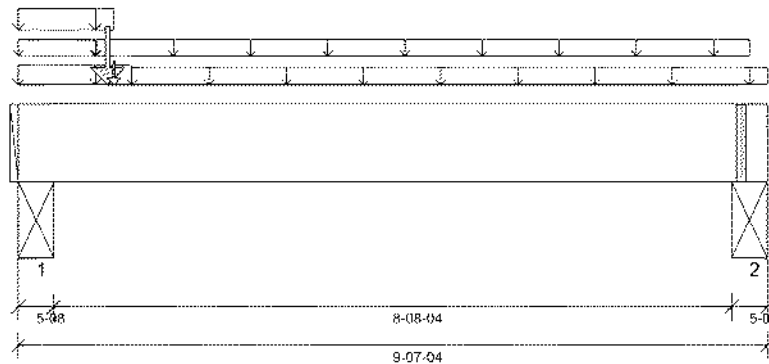
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 10 1/4"

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 2 3/8"	1.25D + 1.5L + S	0.88	2447 lb ft	30928 lb ft	Passed - 8%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	0.80	2109 lb	11010 lb	Passed - 19%
Total Load (TL) Pos. Defl.:	4'- 6 1/4"	D + L + 0.5S		0.027"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08	1.25D + 1.5S + L	0.86	3053 lb		17309 lb	10236 lb	Passed - 30%
2	5'-08	1.4D	0.65	666 lb		13013 lb	7695 lb	Passed - 9%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 7 1/4"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	1'- 5 1/2"	E27(i75)	Top	100 lb/ft	-	-	-
Uniform	0'	1'- 2 3/4"	E27(i75)	Top	54 lb/ft	-	93 lb/ft	-
Uniform	0'	1'	FC3 Floor Decking (Plan View Fill)	Top	10 lb/ft	19 lb/ft	-	-
Uniform	1'	9'- 4 1/2"	FC3 Floor Decking (Plan View Fill)	Top	11 lb/ft	21 lb/ft	-	-
Uniform	1'- 5 1/2"	9'- 7 1/4"	User Load	Top	60 lb/ft	-	-	-
Point	1'- 1 3/4"	1'- 1 3/4"	B17(i5862)	Back	749 lb	507 lb	289 lb	-
Point	1'- 2 3/4"	1'- 2 3/4"	E27(i75)	Top	131 lb	-	206 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STLBM(i107)	1335 lb	573 lb	572 lb	-
2	9'- 1 3/4"	9'- 7 1/4"	STLBM(i106)	458 lb	131 lb	37 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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

PLY TO PLY CONNECTION:

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

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071239



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B17 - i5862
Type: Beam

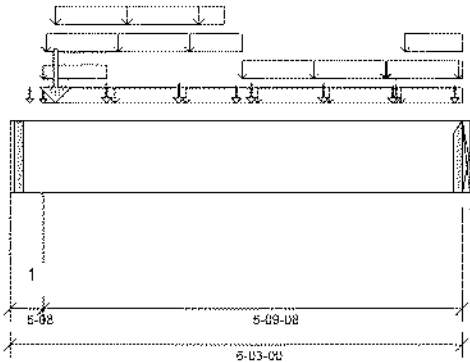
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 2 1/4"	1.25D + 1.5L + S	0.97	3115 lb ft	34201 lb ft	Passed - 9%
Factored Shear:	5'- 3 1/8"	1.25D + 1.5L + S	0.97	1100 lb	13368 lb	Passed - 8%
Total Load (TL) Pos. Defl.:	3'- 3 1/4"	D + L + 0.5S		0.014"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5S + L	1.00	4153 lb		20020 lb	11843 lb	Passed - 35%
2	1-08	1.25D + 1.5L + S	0.97	2058 lb		5283 lb	-	Passed - 39%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements	Other Information or Requirement for Reinforcement Accessories
2	HGUS410		Top Face Member	Connector manually specified by the user.

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 3"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'- 5 1/2"	6'- 3"	User Load	Front	15 lb/ft	-	23 lb/ft	-
Uniform	0'- 5 1/2"	1'- 4"	FC3 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 6"	3'- 2 1/2"	E48(i1420)	Top	100 lb/ft	-	-	-
Uniform	0'- 7 1/2"	2'- 11 1/2"	E48(i1420)	Top	33 lb/ft	-	75 lb/ft	-
Uniform	3'- 2 1/2"	5'- 2 1/2"	E49(i1421)	Top	100 lb/ft	-	-	-
Uniform	5'- 2 1/2"	6'- 3"	E28(i90)	Top	100 lb/ft	-	-	-
Uniform	5'- 5 1/2"	6'- 3"	E28(i90)	Top	33 lb/ft	-	75 lb/ft	-
Point	1'- 4"	1'- 4"	J5(i4647)	Back	88 lb	176 lb	-	-
Point	2'- 4"	2'- 4"	J5(i4545)	Back	85 lb	170 lb	-	-
Point	3'- 4"	3'- 4"	J5(i4545)	Back	85 lb	170 lb	-	-
Point	4'- 4"	4'- 4"	J5(i4545)	Back	85 lb	170 lb	-	-
Point	5'- 4"	5'- 4"	J5(i4324)	Back	77 lb	154 lb	-	-
Point	6'- 1 3/4"	6'- 1 3/4"	J5(i5863)	Back	45 lb	91 lb	-	-
Point	0'- 3 1/4"	0'- 3 1/4"	E29(i77)	Top	49 lb	-	35 lb	-
Point	0'- 5 1/2"	0'- 5 1/2"	FC3 Floor Decking (Plan View Fill)	Top	1 lb	2 lb	-	-
Point	0'- 7 9/16"	0'- 7 9/16"	E48(i1420)	Top	809 lb	-	1128 lb	-
Point	3'- 1 1/2"	3'- 1 1/2"	E48(i1420)	Top	61 lb	-	95 lb	-
Point	5'- 3 1/2"	5'- 3 1/2"	E28(i90)	Top	59 lb	-	92 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	1(i55)	1338 lb	432 lb	1430 lb	-
2	6'- 3"	6'- 3"	B16(i5817)	749 lb	507 lb	289 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



STRUCTURAL COMPONENT ONLY
DWG # TF22071240 PG 1/2



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B17 - i5862
Type: Beam

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

Status:
Design
Passed

DESIGN NOTES

- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- User loads assume a bearing length of 3.5" in determining member capacity for loads near supports.
- 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=2561 lb, Q'r=5460 lb, Result=46.91%.

PLY TO PLY CONNECTION

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





BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B18 - i5800
Type: Beam

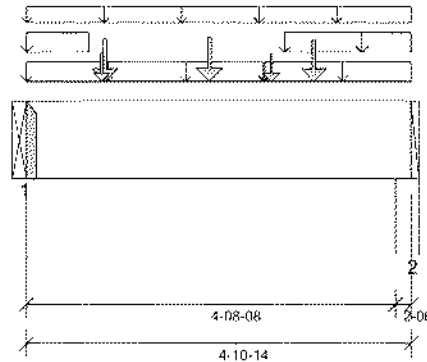
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

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DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

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 # TF22071241 PG 1/2

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 4"	1.25D + 1.5L + S	0.94	1875 lb ft	33383 lb ft	Passed - 6%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L + S	0.94	1302 lb	13049 lb	Passed - 10%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L + S	0.94	1450 lb		5157 lb	-	Passed - 28%
2	2-06	1.25D + 1.5L + S	0.94	1438 lb		8165 lb	4830 lb	Passed - 30%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements	Other Information or Requirement for Reinforcement Accessories
1	HGUS410		Top Face Member	Connector manually specified by the user.

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 10 7/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	4'- 10 7/8"	User Load	Front	15 lb/ft	-	23 lb/ft	-
Uniform	-0'	1'- 1/2"	E50(i1422)	Top	100 lb/ft	-	-	-
Uniform	-0'	0'- 9 1/2"	E50(i1422)	Top	33 lb/ft	-	75 lb/ft	-
Uniform	1'- 1/2"	3'- 1/2"	E51(i1423)	Top	100 lb/ft	-	-	-
Uniform	3'- 1/2"	4'- 10 7/8"	E24(i87)	Top	100 lb/ft	-	-	-
Uniform	3'- 3 1/2"	4'- 10 7/8"	E24(i87)	Top	33 lb/ft	-	75 lb/ft	-
Point	1'	1'	J5(i5824)	Back	106 lb	211 lb	-	-
Point	2'- 4"	2'- 4"	J5(i4643)	Back	114 lb	227 lb	-	-
Point	3'- 8"	3'- 8"	J5(i4711)	Back	105 lb	210 lb	-	-
Point	0'- 11 1/2"	0'- 11 1/2"	E50(i1422)	Top	61 lb	-	95 lb	-
Point	3'- 1 1/2"	3'- 1 1/2"	E24(i87)	Top	59 lb	-	92 lb	-


UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B15(i5837)	564 lb	331 lb	229 lb	-
2	4'- 8 1/2"	4'- 10 7/8"	E20(i53)	584 lb	317 lb	252 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

	BUILDER: ROYAL PINE HOMES SITE: FORESTSIDE ESTATES MODEL: 4502 CORNER CITY: BRAMPTON	Job Name: 4502 CORNER EL A Level: 2ND FLR FRAMING Label: B18 - I5800 Type: Beam	2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

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





BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B19 - i5868
Type: Beam

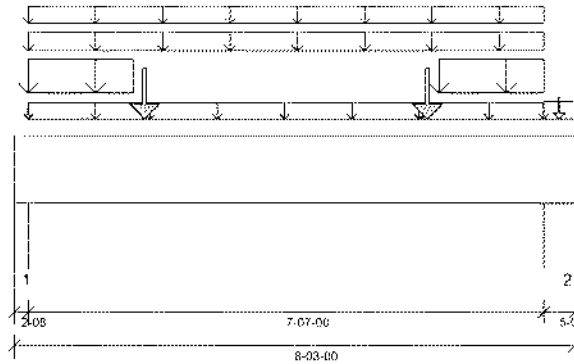
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in Mitek® Structure Version
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THIS BEAM HAS BEEN DESIGNED
FOR GRAVITY LOADS ONLY

DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 7"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 1/2"
- 615 psi Wall @ 7'- 10 1/2"

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

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 11 11/16"	1.25D + 1.5S + L	1.00	8383 lb ft	35345 lb ft	Passed - 24%
Factored Shear:	6'- 9 5/8"	1.25D + 1.5S + L	1.00	3831 lb	13815 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	3'- 11 15/16"	S + 0.5L		0.039"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 15/16"	D + S + 0.5L		0.072"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2'-08	1.25D + 1.5S + L	1.00	5165 lb		9100 lb	5383 lb	Passed - 96%
2	5'-08	1.25D + 1.5S + L	1.00	5677 lb		20020 lb	11843 lb	Passed - 48%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 3"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'- 2 1/2"	7'- 9 1/2"	User Load	Top	70 lb/ft	-	106 lb/ft	-
Uniform	0'- 2 1/2"	7'- 9 1/2"	FC3 Floor Decking (Plan View Fill)	Top	41 lb/ft	82 lb/ft	-	-
Uniform	0'- 2 1/2"	2'	E35(i82)	Top	100 lb/ft	-	-	-
Uniform	0'- 2 1/2"	1'- 9"	E35(i82)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	2'	6'	E52(i1424)	Top	100 lb/ft	-	-	-
Uniform	6'	7'- 9 1/2"	E53(i1425)	Top	100 lb/ft	-	-	-
Uniform	6'- 3"	7'- 9 1/2"	E53(i1425)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	7'- 9 1/2"	8'- 3"	FC3 Floor Decking (Plan View Fill)	Top	44 lb/ft	88 lb/ft	-	-
Point	0'- 2 1/2"	0'- 2 1/2"	FC3 Floor Decking (Plan View Fill)	Top	1 lb	3 lb	-	-
Point	1'- 11"	1'- 11"	E35(i82)	Top	504 lb	-	859 lb	-
Point	6'- 1"	6'- 1"	E53(i1425)	Top	500 lb	-	851 lb	-
Point	8'- 1/4"	8'- 1/4"	E36(i73)	Top	141 lb	-	174 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 1/2"	E4(i46)	1643 lb	315 lb	1808 lb	-
2	7'- 9 1/2"	8'- 3"	E6(i43)	1865 lb	352 lb	2052 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071242



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B20 - i5726
Type: Beam

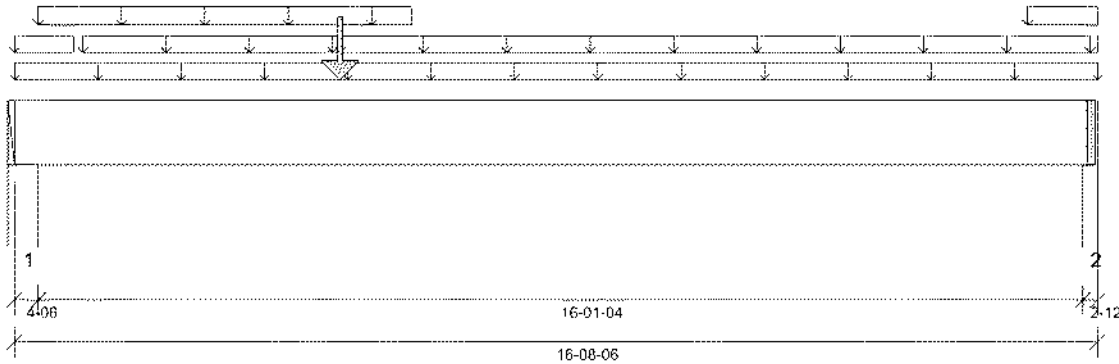
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 0' Bottom: 11'- 4 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 16'- 6 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.

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 1/4"	1.25D + 1.5L	1.00	12261 lb ft	35345 lb ft	Passed - 35%
Factored Shear:	1'- 4 1/4"	1.25D + 1.5L	1.00	2770 lb	13815 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	7'- 8 7/8"	L		0.212"	L/360	Passed - L/912
Total Load (TL) Pos. Defl.:	7'- 9 1/8"	D + L		0.370"	L/240	Passed - L/522

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Upward Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D + 1.5L	1.00	2944 lb		15925 lb	9420 lb	Passed - 31%
2	2-12	1.25D + 1.5L	1.00	1568 lb		10010 lb	5921 lb	Passed - 26%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 8 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	16'- 8 3/8"	FC3 Floor Decking (Plan View File)	Top	7 lb/ft	15 lb/ft	-	-
Uniform	0'	0'- 10 7/8"	FC3 Floor Decking (Plan View File)	Top	7 lb/ft	14 lb/ft	-	-
Uniform	0'- 4 3/8"	6'- 1 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	1'- 5/8"	5'- 1/4"	FC3 Floor Decking (Plan View File)	Top	5 lb/ft	9 lb/ft	-	-
Uniform	5'- 1/4"	16'- 8 3/8"	FC3 Floor Decking (Plan View File)	Top	6 lb/ft	12 lb/ft	-	-
Uniform	16'- 7 3/8"	16'- 8 3/8"	User Load	Top	60 lb/ft	-	-	-
Point	5'- 1/4"	5'- 1/4"	B22(i5789)	Front	683 lb	1315 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E7(i37)	976 lb	1149 lb	-	-
2	16'- 5 5/8"	16'- 8 3/8"	5(i60)	532 lb	602 lb	-	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071243



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B21 - i5786
Type: Beam

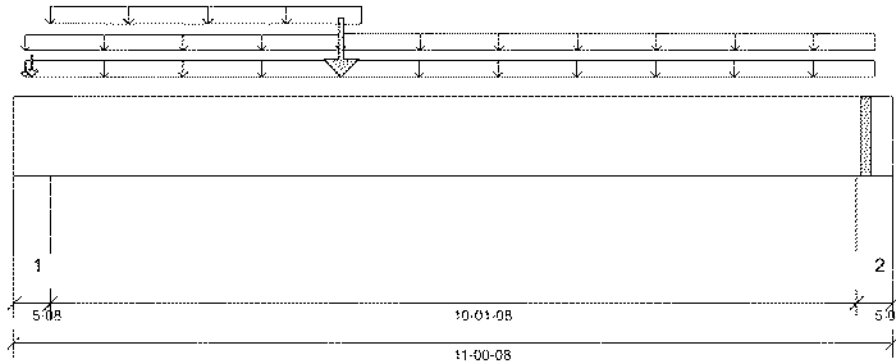
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Lateral Restraint Requirements:

Both ends of the member and the outer supports
must be laterally restrained. Top and bottom edges
of the member must be fully restrained or have the
following maximum unbraced length:
Top: 0' Bottom: 6'- 4 3/4"

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 1 3/8"	1.25D + 1.5L	1.00	7600 lb ft	17672 lb ft	Passed - 43%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5S + L	0.94	67 lb ft	7018 lb ft	Passed - 1%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L + S	1.00	2163 lb	6908 lb	Passed - 31%
Live Load (LL) Pos. Defl.:	5'- 2 5/8"	L		0.111"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 2 1/2"	D + L		0.182"	L/240	Passed - L/668

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08	1.25D + 1.5L + S	1.00	2693 lb		10010 lb	5921 lb	Passed - 45%
2	5'-08	1.25D + 1.5L	1.00	1527 lb		10010 lb	5921 lb	Passed - 26%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 1/2"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 1 3/4"	10'- 9 3/4"	FC3 Floor Decking (Plan View Fill)	Top	11 lb/ft	21 lb/ft	-	-
Uniform	0'- 1 3/4"	4'- 1 3/8"	FC3 Floor Decking (Plan View Fill)	Top	6 lb/ft	11 lb/ft	-	-
Uniform	0'- 5 1/2"	4'- 4 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	4'- 1 3/8"	10'- 9 3/4"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	26 lb/ft	-	-
Point	4'- 1 3/8"	4'- 1 3/8"	B22(i5789)	Back	618 lb	1185 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	FC3 Floor Decking (Plan View Fill)	Top	1 lb	3 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E34(i89)	Top	141 lb	-	174 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E4(i46)	869 lb	963 lb	180 lb	-
2	10'- 7"	11'- 1/2"	1(i55)	412 lb	665 lb	-6 lb	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071244



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A
Level: 2ND FLR FRAMING
Label: B22 - i5789
Type: Beam

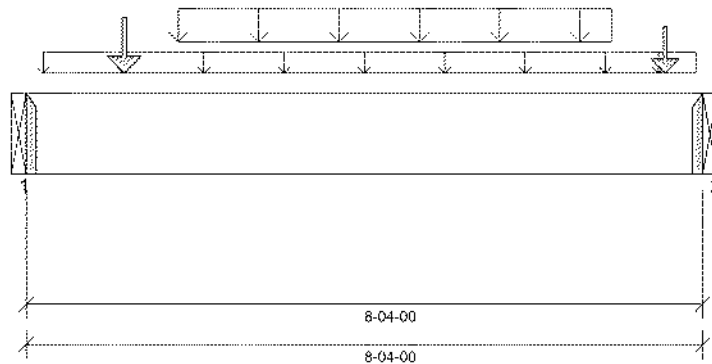
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:42



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10 1/2"	1.25D + 1.5L	1.00	6048 lb ft	17672 lb ft	Passed - 34%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	2415 lb	6908 lb	Passed - 35%
Live Load (LL) Pos. Defl.:	4'- 2"	L		0.073"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 2"	D + L		0.112"	L/240	Passed - L/896

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	2559 lb		2730 lb	-	Passed - 94%
2	1-09	1.25D + 1.5L	1.00	2816 lb		2816 lb	-	Passed - 100%

CONNECTOR INFORMATION

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

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 2 1/2"	7'- 9 1/2"	FC3 Floor Decking (Plan View File)	Top	41 lb/ft	82 lb/ft	-	-
Uniform	1'- 10 1/2"	7'- 2 1/2"	Smoothed Load	Front	122 lb/ft	244 lb/ft	-	-
Uniform	7'- 9 1/2"	8'- 3"	FC3 Floor Decking (Plan View File)	Top	40 lb/ft	79 lb/ft	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	J3(15702)	Front	151 lb	303 lb	-	-
Point	7'- 10 1/2"	7'- 10 1/2"	J3(14549)	Front	118 lb	236 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B21(15786)	618 lb	1185 lb	-	-
2	8'- 4"	8'- 4"	B20(15726)	683 lb	1315 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071245



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B9A - i6434
Type: Beam

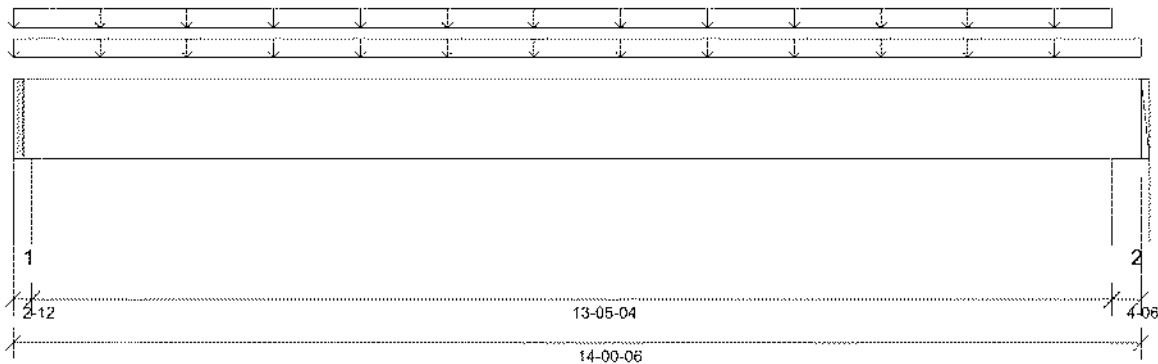
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:43



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 13'- 9 5/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/4"
- 615 psi Wall @ 13'- 9"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 11 3/8"	1.25D + 1.5L	0.74	3262 lb ft	25979 lb ft	Passed - 13%
Factored Shear:	12'- 8 1/8"	1.25D + 1.5L	0.74	809 lb	10155 lb	Passed - 8%
Live Load (LL) Pos. Defl.:	6'- 11 3/8"	L		0.020"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 11 3/8"	D + L		0.088"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-12	1.25D + 1.5L	0.74	980 lb		7357 lb	4352 lb	Passed - 23%
2	4-06	1.25D + 1.5L	0.74	977 lb		11705 lb	6924 lb	Passed - 14%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	14'- 3/8"	FC3 Floor Decking (Plan View File)	Top	12 lb/ft	24 lb/ft	-	-
Uniform	0'	13'- 8"	User Load	Top	60 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	5(i60)	580 lb	168 lb	-	-
2	13'- 8"	14'- 3/8"	10(i109)	576 lb	173 lb	-	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071246



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B10A L - i6901
Type: Beam

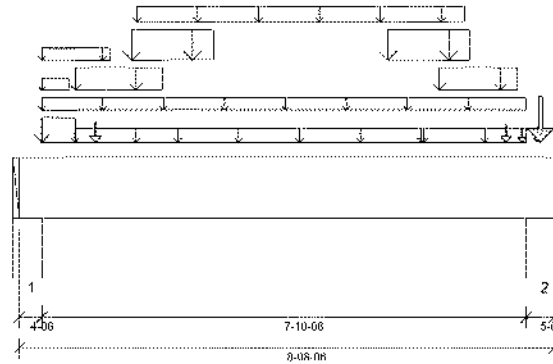
3 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:43



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 8'- 3 7/8"

PLY TO PLY CONNECTION:

4 ROWS OF 3.25" PNEUMATIC GUN
NAILS (0.120"x3.25") @ 12" O/C
NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10 7/8"	1.25D + 1.5S + L	0.97	8698 lb ft	51392 lb ft	Passed - 17%
Factored Shear:	7'- 3"	1.25D + 1.5S + L	0.97	3979 lb	20088 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 2 15/16"	S + 0.5L		0.025"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 3 1/16"	D + S + 0.5L		0.053"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D + 1.5S + L	0.97	5031 lb		23155 lb	13697 lb	Passed - 37%
2	5-08	1.25D + 1.5S + L	0.97	6558 lb		29109 lb	17219 lb	Passed - 38%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 8 3/8"	Self Weight	Top	18 lb/ft	-	-	-
Uniform	0'- 4 3/8"	8'- 2 7/8"	E47(i1221)	Top	37 lb/ft	-	-	-
Uniform	0'- 4 3/8"	1'- 5 3/4"	E47(j1221)	Top	20 lb/ft	9 lb/ft	-	-
Uniform	0'- 4 3/8"	0'- 10 7/8"	E47(i1221)	Top	313 lb/ft	4 lb/ft	380 lb/ft	-
Uniform	0'- 4 3/8"	0'- 9 3/4"	E47(j1221)	Top	5 lb/ft	4 lb/ft	-	-
Uniform	0'- 10 7/8"	2'- 6 7/8"	E47(i1221)	Top	113 lb/ft	-	-	-
Uniform	0'- 10 7/8"	2'- 3 7/8"	E47(j1221)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	1'- 9 7/8"	3'- 1 7/8"	E47(i1221)	Top	378 lb/ft	-	644 lb/ft	-
Uniform	1'- 10 7/8"	7'- 2 7/8"	Smoothed Load	Back	72 lb/ft	143 lb/ft	-	-
Uniform	2'- 6 7/8"	6'- 6 7/8"	E47(i1221)	Top	126 lb/ft	-	-	-
Uniform	5'- 11 7/8"	7'- 3 7/8"	E47(j1221)	Top	375 lb/ft	-	638 lb/ft	-
Uniform	6'- 6 7/8"	8'- 2 7/8"	E47(i1221)	Top	113 lb/ft	-	-	-
Uniform	6'- 9 7/8"	8'- 1 1/8"	E47(j1221)	Top	208 lb/ft	-	380 lb/ft	-
Point	1'- 2 7/8"	1'- 2 7/8"	J6(i6301)	Back	88 lb	177 lb	-	-
Point	7'- 10 7/8"	7'- 10 7/8"	J6(i6085)	Back	70 lb	140 lb	-	-
Point	8'- 5 1/8"	8'- 5 1/8"	J6(i6513)	Back	49 lb	53 lb	-	-
Point	8'- 2"	8'- 2"	E47(j1221)	Top	31 lb	-	57 lb	-
Point	8'- 5 5/8"	8'- 5 5/8"	10(i109)	Top	707 lb	165 lb	180 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	7(i94)	1817 lb	526 lb	1501 lb	-
2	8'- 2 7/8"	8'- 8 3/8"	6(i61)	2595 lb	786 lb	1673 lb	-

DESIGN NOTES

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

PLY TO PLY CONNECTION



STRUCTURAL COMPONENT ONLY
DWG # TF22071247 PG 1/2

MII Mitek	BUILDER: ROYAL PINE HOMES SITE: FORESTSIDE ESTATES MODEL: 4502 CORNER CITY: BRAMPTON	Job Name: 4502 CORNER EL A OPT. 5 BED Level: 2ND FLR FRAMING Label: B10A L - i6901 Type: Beam	3 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

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





BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B92 - i6942
Type: Beam

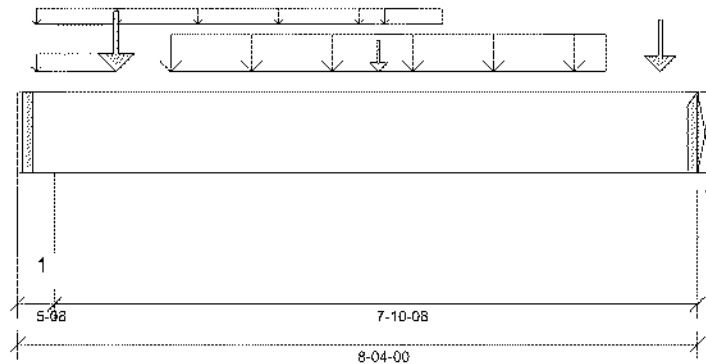
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:43



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 9/16"	1.25D + 1.5L	1.00	5441 lb ft	17672 lb ft	Passed - 31%
Factored Shear:	7'- 4 1/8"	1.25D + 1.5L	1.00	1935 lb	6908 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	4'- 4 1/8"	L		0.060"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 4 1/8"	D + L		0.091"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08	1.25D + 1.5L	1.00	2540 lb		10010 lb	5921 lb	Passed - 43%
2	1'-08	1.25D + 1.5L	1.00	2535 lb		2730 lb	-	Passed - 93%

CONNECTOR INFORMATION

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

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 2 3/4"	4'- 6"	FC3 Floor Decking (Plan View Fill)	Top	6 lb/ft	12 lb/ft	-	-
Uniform	0'- 2 3/4"	1'- 2 1/2"	FC3 Floor Decking (Plan View Fill)	Top	14 lb/ft	29 lb/ft	-	-
Uniform	4'- 6"	5'- 2 1/2"	FC3 Floor Decking (Plan View Fill)	Top	2 lb/ft	3 lb/ft	-	-
Tapered	1'- 10 1/2"	7'- 2 1/2"	Smoothed Load	Back	142 To 144 lb/ft	285 To 288 lb/ft	-	-
Point	4'- 5 1/8"	4'- 5 1/8"	B12A(i6941)	Front	69 lb	119 lb	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	J2(i6931)	Back	172 lb	345 lb	-	-
Point	7'- 10 1/2"	7'- 10 1/2"	J2(i6775)	Back	140 lb	279 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	2(i56)	617 lb	1177 lb	-	-
2	8'- 4"	8'- 4"	B90(i6842)	617 lb	1178 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071248



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B12A - i6941
Type: Beam

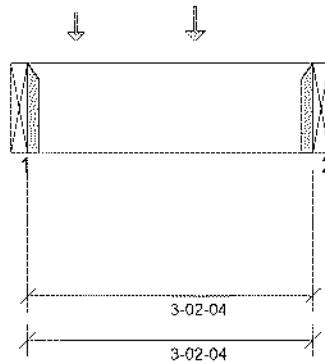
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:43



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 10 1/2"	1.25D + 1.5L	1.00	248 lb ft	17672 lb ft	Passed - 1%
Factored Shear:	2'- 2 3/8"	1.25D + 1.5L	1.00	186 lb	6908 lb	Passed - 3%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	265 lb	-	2730 lb	-	Passed - 10%
2	1-08	1.25D + 1.5L	1.00	193 lb	-	2730 lb	-	Passed - 7%

CONNECTOR INFORMATION

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

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 2 1/4"	Self Weight	Top	6 lb/ft	-	-	-
Point	0'- 6 1/2"	0'- 6 1/2"	J7(i6893)	Front	42 lb	83 lb	-	-
Point	1'- 10 1/2"	1'- 10 1/2"	J7(i6934)	Front	61 lb	121 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B92(i6942)	69 lb	119 lb	-	-
2	3'- 2 1/4"	3'- 2 1/4"	B13A(i6882)	52 lb	85 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071249



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B13A - i6882
Type: Beam

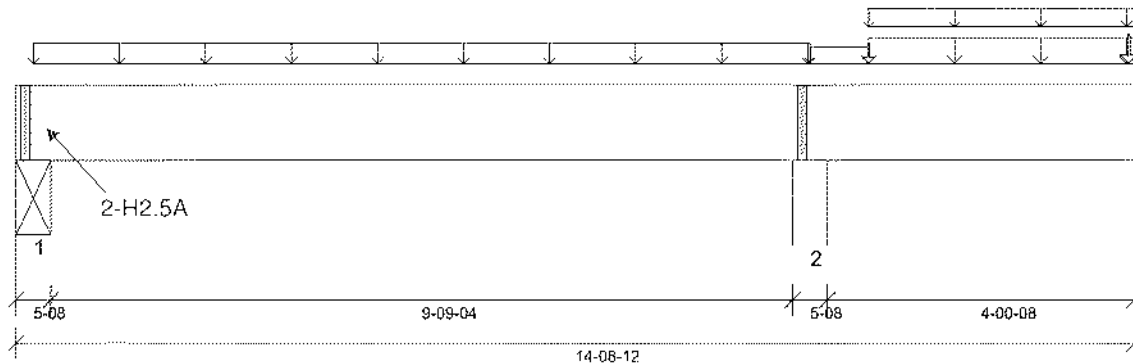
1 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:43



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/180,

TL Deflection Limit: L/120.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 9'- 9 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/2"
- 615 psi Wall @ 10'- 5 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 7 3/16"	0.9D + 1.5L	0.94	923 lb ft	16540 lb ft	Passed - 6%
Factored Neg. Moment:	10'- 5 1/2"	1.25D + 1.5L	0.97	3690 lb ft	4594 lb ft	Passed - 80%
Factored Shear:	11'- 8 1/8"	1.25D + 1.5L	0.97	1172 lb	6724 lb	Passed - 17%
Live Load (LL) Pos. Defl.:	14'- 8 3/4"	L		0.117"	L/180	Passed - L/413
Live Load (LL) Neg. Defl.:	6'- 2 3/8"	L		0.040"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	14'- 8 3/4"	D + L		0.163"	L/120	Passed - L/296
Total Load (TL) Neg. Defl.:	6'- 5 1/2"	D + L		0.048"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	0.94	478 lb		9369 lb	5540 lb	Passed - 9%
1	5-08	0.9D + 1.5L	0.97		-186 lb	-	-	
2	5-08	1.25D + 1.5L	1.00	2329 lb		10010 lb	5921 lb	Passed - 39%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 8 3/4"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 2 3/4"	10'- 5 1/2"	FC3 Floor Decking (Plan View Filt)	Top	25 lb/ft	50 lb/ft	-	-
Uniform	10'- 5 1/2"	11'- 2 3/4"	FC3 Floor Decking (Plan View Filt)	Top	2 lb/ft	3 lb/ft	-	-
Uniform	11'- 2 3/4"	14'- 8 3/4"	FC3 Floor Decking (Plan View Filt)	Top	59 lb/ft	118 lb/ft	-	-
Uniform	11'- 2 3/4"	14'- 8 3/4"	FC3 Floor Decking (Plan View Filt)	Top	15 lb/ft	29 lb/ft	-	-
Point	14'- 7 7/8"	14'- 7 7/8"	B12A(i6941)	Back	52 lb	85 lb	-	-
Point	11'- 2 3/4"	11'- 2 3/4"	FC3 Floor Decking (Plan View Filt)	Top	37 lb	9 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	STLBM(i106)	66 lb	258/-166 lb	-	-
2	10'- 2 3/4"	10'- 8 1/4"	2(i156)	627 lb	1037 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071250



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B91 - i6953
Type: Beam

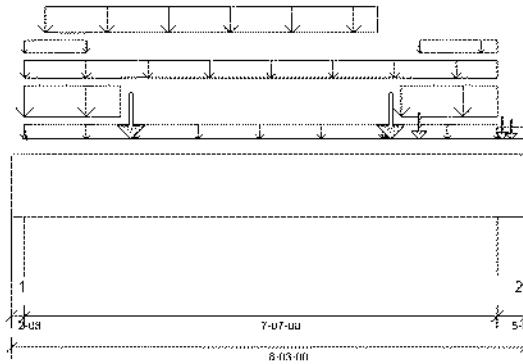
3 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:43



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 1/2"
- 615 psi Wall @ 7'- 10 1/2"

PLY TO PLY CONNECTION:

4 ROWS OF 3.25" PNEUMATIC GUN
NAILS (0.120"x3.25") @ 12" O/C
NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10 1/2"	1.25D + 1.5S + L	1.00	11125 lb ft	53017 lb ft	Passed - 21%
Factored Shear:	1'- 2 3/8"	1.25D + 1.5S + L	1.00	5135 lb	20723 lb	Passed - 25%
Live Load (LL) Pos. Defl.:	3'- 11 15/16"	S + 0.5L		0.032"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 15/16"	D + S + 0.5L		0.061"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2'-08"	1.25D + 1.5S + L	1.00	6368 lb		13650 lb	8074 lb	Passed - 79%
2	5'-08"	1.25D + 1.5S + L	1.00	7183 lb		30030 lb	17764 lb	Passed - 40%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 3"	Self Weight	Top	18 lb/ft	-	-	-
Uniform	0'- 2 1/2"	7'- 9 1/2"	User Load	Top	70 lb/ft	-	106 lb/ft	-
Uniform	0'- 2 1/2"	2'	E73(i5423)	Top	100 lb/ft	-	-	-
Uniform	0'- 2 1/2"	1'- 9"	E73(i5423)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	0'- 2 1/2"	1'- 2 1/2"	FC3 Floor Decking (Plan View Fill)	Top	4 lb/ft	9 lb/ft	-	-
Uniform	2'	6'	E74(i5438)	Top	100 lb/ft	-	-	-
Uniform	6'	7'- 9 1/2"	E75(i5432)	Top	100 lb/ft	-	-	-
Uniform	6'- 3"	7'- 9 1/2"	E75(i5432)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	6'- 6 1/2"	7'- 9 1/2"	FC3 Floor Decking (Plan View Fill)	Top	4 lb/ft	9 lb/ft	-	-
Uniform	7'- 9 1/2"	8'- 3"	FC3 Floor Decking (Plan View Fill)	Top	7 lb/ft	13 lb/ft	-	-
Tapered	0'- 6 1/2"	5'- 10 1/2"	Smoothed Load	Front	148 To 151 lb/ft	295 To 302 lb/ft	-	-
Point	6'- 6 1/2"	6'- 6 1/2"	J2(i6787)	Front	197 lb	394 lb	-	-
Point	7'- 10 1/2"	7'- 10 1/2"	J2(i6775)	Front	143 lb	282 lb	-	-
Point	0'- 2 1/2"	0'- 2 1/2"	FC3 Floor Decking (Plan View Fill)	Top	1 lb	2 lb	-	-
Point	1'- 11"	1'- 11"	E73(i5423)	Top	504 lb	-	859 lb	-
Point	6'- 1"	6'- 1"	E75(i5432)	Top	500 lb	-	851 lb	-
Point	8'- 1/4"	8'- 1/4"	E76(i5426)	Top	139 lb	-	174 lb	-


UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 1/2"	E4(i46)	2057 lb	1036 lb	1843 lb	-
2	7'- 9 1/2"	8'- 3"	E6(i43)	2315 lb	1260 lb	2017 lb	-

DESIGN NOTES

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



	BUILDER: ROYAL PINE HOMES SITE: FORESTSIDE ESTATES MODEL: 4502 CORNER CITY: BRAMPTON	Job Name: 4502 CORNER EL A OPT. 5 BED Level: 2ND FLR FRAMING Label: B91 - i6953 Type: Beam	3 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	Status: Design Passed
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PLY TO PLY CONNECTION

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





BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL A OPT. 5 BED
Level: 2ND FLR FRAMING
Label: B90 - i6842
Type: Beam

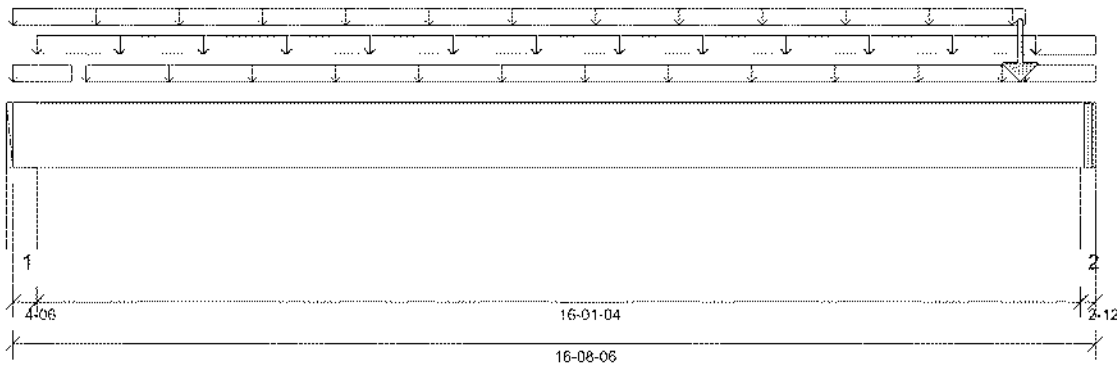
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:44



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: 15'- 1 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 16'- 6 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 # TF22071252

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 10 3/8"	1.4D	0.65	4390 lb ft	22974 lb ft	Passed - 19%
Factored Shear:	15'- 5 3/4"	1.25D + 1.5L	0.95	3415 lb	13155 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	8'- 11 3/8"	L		0.080"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 8 1/8"	D + L		0.240"	L/240	Passed - L/804

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4'-06"	1.4D	0.65	1027 lb		10351 lb	6123 lb	Passed - 17%
2	2'-12"	1.25D + 1.5L	0.95	3572 lb		9531 lb	5638 lb	Passed - 63%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 8 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	15'- 7 3/8"	FC3 Floor Decking (Plan View Fill)	Top	7 lb/ft	15 lb/ft	-	-
Uniform	0'	0'- 10 7/8"	FC3 Floor Decking (Plan View Fill)	Top	7 lb/ft	14 lb/ft	-	-
Uniform	0'- 4 3/8"	16'- 6 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	1'- 1 1/2"	15'- 7 3/8"	FC3 Floor Decking (Plan View Fill)	Top	6 lb/ft	12 lb/ft	-	-
Uniform	15'- 7 3/8"	16'- 8 3/8"	FC3 Floor Decking (Plan View Fill)	Top	9 lb/ft	18 lb/ft	-	-
Point	15'- 6 1/2"	15'- 6 1/2"	B92(i6942)	Front	617 lb	1176 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E7(i37)	731 lb	294 lb	-	-
2	16'- 5 5/8"	16'- 8 3/8"	5(i60)	1282 lb	1321 lb	-	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B7A DR - i8939
Type: Beam

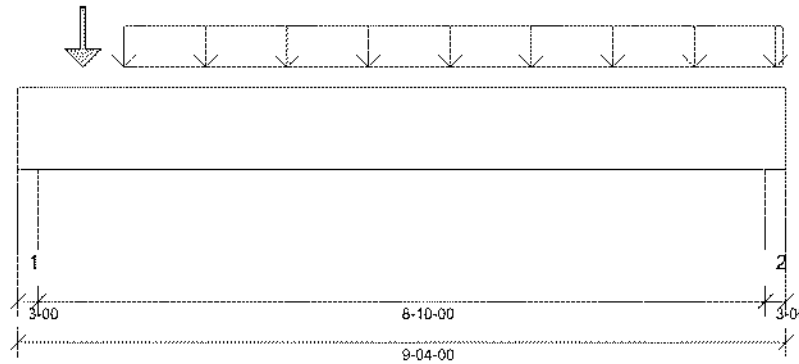
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:46



DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 0'- 10 3/4" Bottom: 9'- 4"

Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 2"
- 812 psi Wall @ 9'- 2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 9 1/2"	1.25D + 1.5L	1.00	13343 lb ft	35345 lb ft	Passed - 38%
Factored Shear:	1'- 2 7/8"	1.25D + 1.5L	1.00	5142 lb	13815 lb	Passed - 37%
Live Load (LL) Pos. Defl.:	4'- 8"	L		0.095"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 8"	D + L		0.144"	L/240	Passed - L/735

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Upward Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3'-00"	1.25D + 1.5L	1.00	5787 lb		10920 lb	8526 lb	Passed - 68%
2	3'-00"	1.25D + 1.5L	1.00	6025 lb		10920 lb	8526 lb	Passed - 71%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 4"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	1'- 3 1/2"	9'- 3 1/2"	Smoothed Load	Top	303 lb/ft	605 lb/ft	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J1(i9268)	Top	165 lb	329 lb	-	-
Point	0'- 9 1/2"	0'- 9 1/2"	J2(i9228)	Top	161 lb	322 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3"	4(i59)	1402 lb	2690 lb	-	-
2	9'- 1"	9'- 4"	3(i58)	1458 lb	2801 lb	-	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071253



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B10B L - i9307
Type: Beam

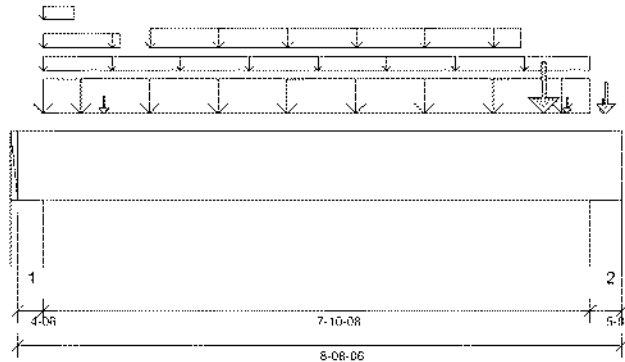
3 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:46



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

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 8'- 3 7/8"

PLY TO PLY CONNECTION:

4 ROWS OF 3.25" PNEUMATIC GUN
NAILS (0.120"x3.25") @ 12" O/C
NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 5 13/16"	1.25D + 1.5S + L	1.00	11306 lb ft	53017 lb ft	Passed - 21%
Factored Shear:	7'- 3"	1.25D + 1.5S + L	1.00	5743 lb	20723 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	4'- 4 9/16"	S + 0.5L		0.035"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 4 5/16"	D + S + 0.5L		0.066"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4'-06	1.25D + 1.5S + L	1.00	5235 lb		23867 lb	14130 lb	Passed - 37%
2	5'-08	1.25D + 1.5S + L	1.00	9162 lb		30030 lb	17764 lb	Passed - 52%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 8 3/8"	Self Weight	Top	18 lb/ft	-	-	-
Uniform	0'- 4 3/8"	8'- 2 7/8"	E47(i1221)	Top	37 lb/ft	-	-	-
Uniform	0'- 4 3/8"	1'- 5 3/4"	E47(i1221)	Top	20 lb/ft	9 lb/ft	-	-
Uniform	0'- 4 3/8"	0'- 10 7/8"	E47(i1221)	Top	313 lb/ft	4 lb/ft	380 lb/ft	-
Uniform	0'- 4 3/8"	0'- 9 3/4"	E47(i1221)	Top	5 lb/ft	4 lb/ft	-	-
Uniform	0'- 10 7/8"	8'- 2 7/8"	E47(i1221)	Top	321 lb/ft	-	380 lb/ft	-
Uniform	1'- 10 7/8"	7'- 2 7/8"	Smoothed Load	Back	72 lb/ft	143 lb/ft	-	-
Point	1'- 2 7/8"	1'- 2 7/8"	J6(i9007)	Back	88 lb	177 lb	-	-
Point	7'- 10 7/8"	7'- 10 7/8"	J6(i9328)	Back	70 lb	140 lb	-	-
Point	8'- 5 1/8"	8'- 5 1/8"	J6(i9577)	Back	49 lb	53 lb	-	-
Point	7'- 6 7/8"	7'- 6 7/8"	E47(i1221)	Top	747 lb	-	1371 lb	-
Point	8'- 5 5/8"	8'- 5 5/8"	10(i109)	Top	701 lb	170 lb	163 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	7(i94)	1834 lb	532 lb	1624 lb	-
2	8'- 2 7/8"	8'- 8 3/8"	6(i61)	3198 lb	785 lb	2903 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=1.500", W=5.250". LDF=1.00, Pf=3061 lb, Qr=8190 lb, Result=37.37%.

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071254



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B16A - I9071
Type: Beam

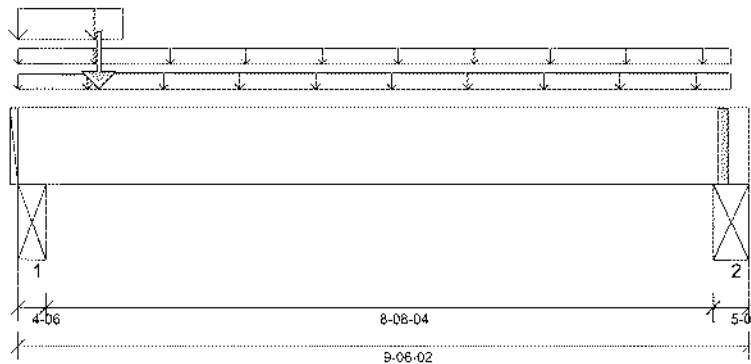
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:46



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 10 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 3 3/8"
- 615 psi Beam @ 9'- 1 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 2 1/16"	1.25D + 1.5S + L	0.98	2697 lb ft	34466 lb ft	Passed - 8%
Factored Shear:	1'- 4 1/4"	1.25D + 1.5L	0.86	2372 lb	11845 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 3 9/16"	L + 0.5S		0.012"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 3 5/16"	D + L + 0.5S		0.024"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4'-06"	1.25D + 1.5S + L	0.98	3865 lb		15527 lb	9182 lb	Passed - 42%
2	5'-08"	1.25D + 1.5L + S	0.96	652 lb		19235 lb	11374 lb	Passed - 6%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 6 1/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	9'- 3 3/8"	FC3 Floor Decking (Plan View Fill)	Top	4 lb/ft	9 lb/ft	-	-
Uniform	0'	1'- 4 3/8"	E27(I75)	Top	183 lb/ft	-	163 lb/ft	-
Uniform	0'	0'- 10 7/8"	FC3 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 10 7/8"	9'- 3 3/8"	FC3 Floor Decking (Plan View Fill)	Top	10 lb/ft	20 lb/ft	-	-
Point	1'- 5/8"	1'- 5/8"	B17A(I9622)	Back	1151 lb	593 lb	817 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	STLBM(I107)	1428 lb	679 lb	972 lb	-
2	9'- 5/8"	9'- 6 1/8"	STLBM(I106)	215 lb	173 lb	68 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=3.500", W=3.500". LDF=0.98, Pf=3340 lb, Qr=9554 lb, Result=34.96%.

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071255



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B17A - i9622
Type: Beam

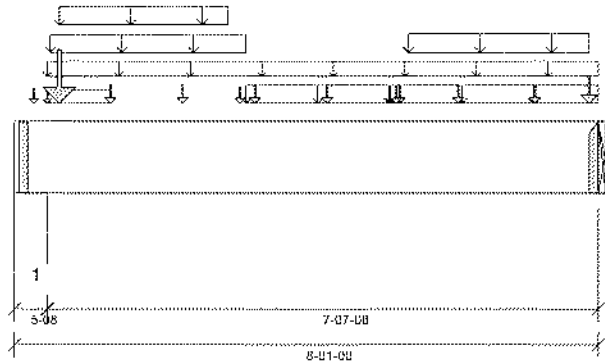
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:46



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 0'- 10 1/4"

Factored Resistance of Support Material:

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

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 # TF22071256 PG 1/2

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 4"	1.25D + 1.5L + S	0.97	5232 lb ft	34281 lb ft	Passed - 15%
Factored Shear:	7'- 1 1/8"	1.25D + 1.5L + S	0.97	1829 lb	13399 lb	Passed - 14%
Live Load (LL) Pos. Defl.:	4'- 2 1/2"	L + 0.5S		0.020"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 2 1/2"	D + L + 0.5S		0.042"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5'-08	1.25D + 1.5S + L	1.00	4931 lb		20020 lb	11843 lb	Passed - 42%
2	1'-08	1.25D + 1.5S + L	1.00	3321 lb		5460 lb	-	Passed - 61%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements	Other Information or Requirement for Reinforcement Accessories
2	HGUS410	-	Top Face Member	Connector manually specified by the user.

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

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 1"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'- 5 1/2"	8'- 1"	User Load	Front	15 lb/ft	-	23 lb/ft	-
Uniform	0'- 5 1/2"	1'- 4"	FC3 Floor Decking (Plan View Fill)	Top	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 6"	3'- 2 1/2"	E48(i1420)	Top	100 lb/ft	-	-	-
Uniform	0'- 7 1/2"	2'- 11 1/2"	E48(i1420)	Top	35 lb/ft	-	78 lb/ft	-
Uniform	3'- 2 1/2"	5'- 2 1/2"	E49(i1421)	Top	100 lb/ft	-	-	-
Uniform	5'- 2 1/2"	8'- 1"	E28(i90)	Top	100 lb/ft	-	-	-
Uniform	5'- 5 1/2"	7'- 11 1/2"	E28(i90)	Top	35 lb/ft	-	78 lb/ft	-
Point	1'- 4"	1'- 4"	J5(i9630)	Back	88 lb	176 lb	-	-
Point	2'- 4"	2'- 4"	J5(i9122)	Back	85 lb	170 lb	-	-
Point	3'- 4"	3'- 4"	J5(i9642)	Back	85 lb	170 lb	-	-
Point	4'- 4"	4'- 4"	J5(i9529)	Back	85 lb	170 lb	-	-
Point	5'- 4"	5'- 4"	J5(i9305)	Back	77 lb	154 lb	-	-
Point	6'- 1 3/4"	6'- 1 3/4"	J5(i9118)	Back	80 lb	160 lb	-	-
Point	7'- 2 1/2"	7'- 2 1/2"	J5(i9184)	Back	89 lb	177 lb	-	-
Point	0'- 3 1/4"	0'- 3 1/4"	E29(i77)	Top	57 lb	-	54 lb	-
Point	0'- 5 1/2"	0'- 5 1/2"	FC3 Floor Decking (Plan View Fill)	Top	1 lb	2 lb	-	-
Point	0'- 7 1/2"	0'- 7 1/2"	E48(i1420)	Top	622 lb	-	1180 lb	-
Point	3'- 1 1/2"	3'- 1 1/2"	E48(i1420)	Top	63 lb	-	99 lb	-
Point	5'- 3 1/2"	5'- 3 1/2"	E28(i90)	Top	62 lb	-	96 lb	-
Point	7'- 11 1/2"	7'- 11 1/2"	E28(i90)	Top	214 lb	-	436 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	1(i55)	1599 lb	591 lb	1603 lb	-
2	8'- 1"	8'- 1"	B16A(i9071)	1151 lb	593 lb	817 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B17A - I9622
Type: Beam

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

Status:
Design
Passed

DESIGN NOTES

- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- User loads assume a bearing length of 3.5" in determining member capacity for loads near supports.
- 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=2620 lb, Qr=5460 lb, Result=47.99%.

PLY TO PLY CONNECTION

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





BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B19A - i9838
Type: Beam

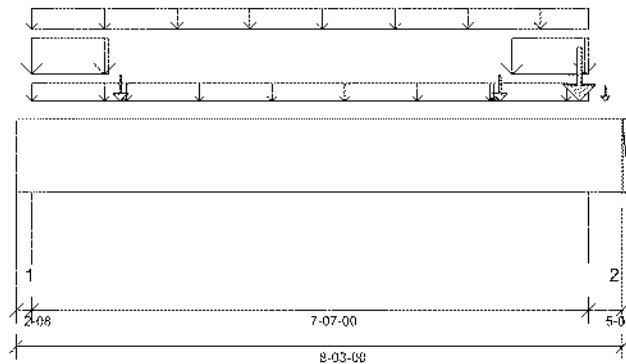
3 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:46



THIS BEAM HAS BEEN DESIGNED
FOR GRAVITY LOADS ONLY

DESIGN INFORMATION

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

Lateral Restraint Requirements:

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

Top: 7'- 7" Bottom: 7'- 7"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 1/2"
- 615 psi Wall @ 7'- 10 1/2"

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

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 6 1/16"	1.25D + 1.5S	1.00	7340 lb ft	53017 lb ft	Passed - 14%
Factored Shear:	6'- 9 5/8"	1.25D + 1.5S	1.00	4268 lb	20723 lb	Passed - 21%
Live Load (LL) Pos. Defl.:	4'- 1"	S		0.023"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 13/16"	D + S		0.044"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2'-08"	1.25D + 1.5S	1.00	4909 lb		13650 lb	8074 lb	Passed - 61%
2	5'-08"	1.25D + 1.5S	1.00	12787 lb		30030 lb	17764 lb	Passed - 72%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 3"	Self Weight	Top	18 lb/ft	-	-	-
Uniform	0'- 2 1/2"	7'- 9 1/2"	User Load	Top	70 lb/ft	-	106 lb/ft	-
Uniform	0'- 2 1/2"	1'- 6"	E35(i82)	Top	101 lb/ft	-	-	-
Uniform	0'- 2 1/2"	1'- 3"	E35(i82)	Top	208 lb/ft	-	380 lb/ft	-
Uniform	1'- 6"	6'- 6"	E52(i1424)	Top	101 lb/ft	-	-	-
Uniform	6'- 6"	7'- 9 1/2"	E53(i1425)	Top	101 lb/ft	-	-	-
Uniform	6'- 9"	7'- 9 1/2"	E53(i1425)	Top	208 lb/ft	-	380 lb/ft	-
Point	1'- 5"	1'- 5"	E35(i82)	Top	615 lb	-	1048 lb	-
Point	6'- 7"	6'- 7"	E53(i1425)	Top	612 lb	-	1042 lb	-
Point	7'- 8"	7'- 8"	E53(i1425)	Top	1921 lb	-	3633 lb	-
Point	8'- 1/4"	8'- 1/4"	E36(i73)	Top	139 lb	-	174 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 1/2"	E4(i46)	1518 lb	-	1805 lb	-
2	7'- 9 1/2"	8'- 3"	E6(i43)	3647 lb	-	5688 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- User loads assume a bearing length of 3.5" in determining member capacity for loads near supports.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2, Required Load Area: L=1.500", W=5.250". LDF=1.00, P=7851 lb, Q=8190 lb, Result=95.86%.

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071257



BUILDER: ROYAL PINE HOMES
SITE: FORESTSIDE ESTATES
MODEL: 4502 CORNER
CITY: BRAMPTON

Job Name: 4502 CORNER EL B,C
Level: 2ND FLR FRAMING
Label: B20B - i9848
Type: Beam

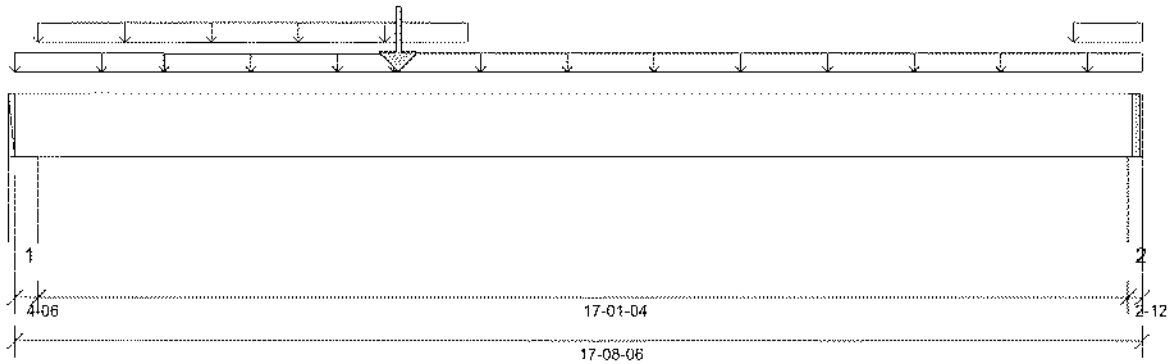
2 Ply Member
1 3/4" x 11 7/8" (2.0E 3100)
WestFraser LVL

Status:
Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 15:46



DESIGN INFORMATION

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

Design Methodology: LSD

Service Condition: Dry

LL Deflection Limit: L/360,

TL Deflection Limit: L/240.

Lateral Restraint Requirements:

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

Top: 0' Bottom: 11'- 4 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 17'- 6 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 1/4"	1.25D + 1.5L	1.00	11481 lb ft	35345 lb ft	Passed - 32%
Factored Shear:	1'- 4 1/4"	1.25D + 1.5L	1.00	2244 lb	13815 lb	Passed - 16%
Live Load (LL) Pos. Defl.:	8'- 4 1/8"	L		0.218"	L/360	Passed - L/941
Total Load (TL) Pos. Defl.:	8'- 4 1/8"	D + L		0.399"	L/240	Passed - L/513

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D + 1.5L	1.00	2425 lb		15925 lb	9420 lb	Passed - 26%
2	2-12	1.25D + 1.5L	1.00	1500 lb		10010 lb	5921 lb	Passed - 25%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 8 3/8"	Self Weight	Top	12 lb/ft	-	-	-
Uniform	0'	2'- 4 1/8"	FC3 Floor Decking (Plan View Fil)	Top	14 lb/ft	28 lb/ft	-	-
Uniform	0'- 4 3/8"	7'- 1 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	2'- 4 1/8"	5'- 11 3/8"	FC3 Floor Decking (Plan View Fil)	Top	9 lb/ft	18 lb/ft	-	-
Uniform	5'- 11 3/8"	17'- 8 3/8"	FC3 Floor Decking (Plan View Fil)	Top	13 lb/ft	27 lb/ft	-	-
Uniform	16'- 7 3/8"	17'- 8 3/8"	User Load	Top	60 lb/ft	-	-	-
Point	6'- 1/4"	6'- 1/4"	B22(i9049)	Front	517 lb	989 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E7(i37)	888 lb	883 lb	-	-
2	17'- 5 5/8"	17'- 8 3/8"	5(i60)	531 lb	551 lb	-	-

DESIGN NOTES

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

PLY TO PLY CONNECTION

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



STRUCTURAL COMPONENT ONLY
DWG # TF22071258

Maximum Floor Spans – S2.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – S4.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – S6.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – S7.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – M2.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – M4.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – M6.1

Design Criteria

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

Maximum Floor Spans

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

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

Notes:

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

Maximum Floor Spans – M7.1

Design Criteria

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

Maximum Floor Spans

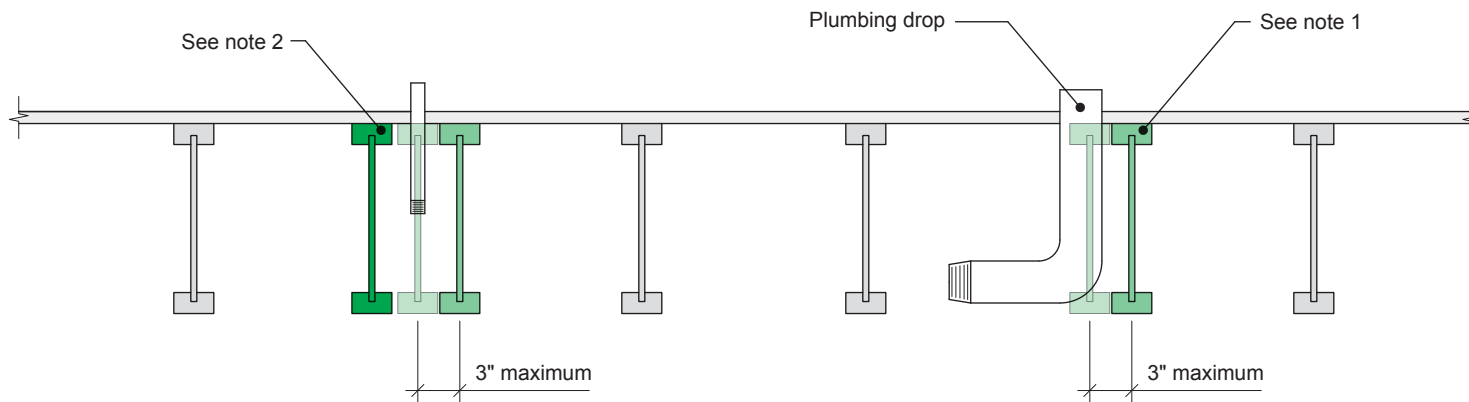
Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"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

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

Notes:

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

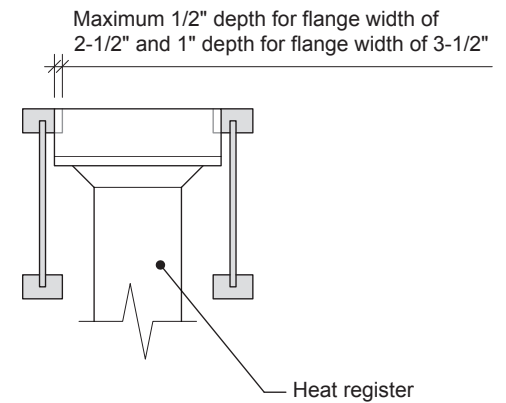
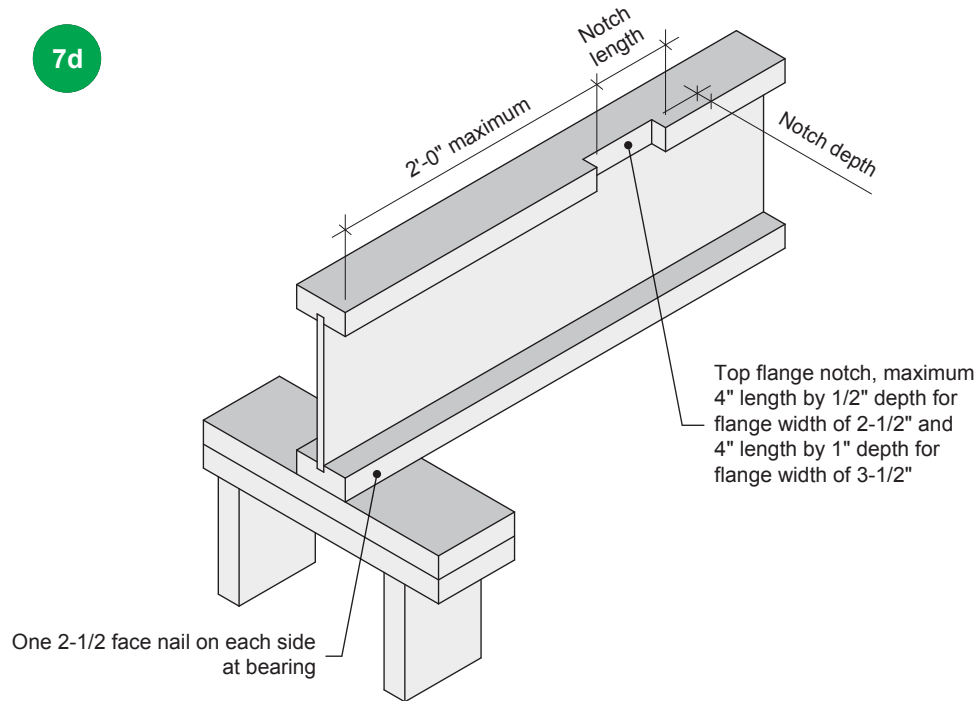
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**Notes:**

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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Notes:

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

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