

## **Engineering Note Page (ENP-2)**

REVISION 2009-10-09

**Please read all notes prior to installation of the component**

### **DESIGN INFORMATION**

This building component is certified as an individual component for the loads and conditions shown on the calculation and drawing page.

The responsibility of the undersigned engineer is only limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the NASCOR floor joists and LVL beams based on placement as shown on the layout. The loads applied are limited to the gravity effects of the specified loads. The structural integrity of the building and the effect of wind, uplift, seismic, lateral or other forces, calculation of adequate support and anchorage of components, as well as the dimensions and design loads used to calculate components are the responsibility of the overall building designer.

Floor joists and OSB rim board are designed to carry uniformly distributed loads only. Point loads should be transferred through the floor cavity with squash blocks. Structural elements such as walls, posts, connectors, and squash blocks are the responsibility of the overall building designer.

The undersigned engineer disclaims any responsibility for damages as a result of being furnished faulty or incorrect information, specifications and/or designs.

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <http://www.nascor.ca>.

### **CODE**

This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

### **COMPONENT**

1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
4. Pass-thru squash block framing is required at all point loads over bearings.

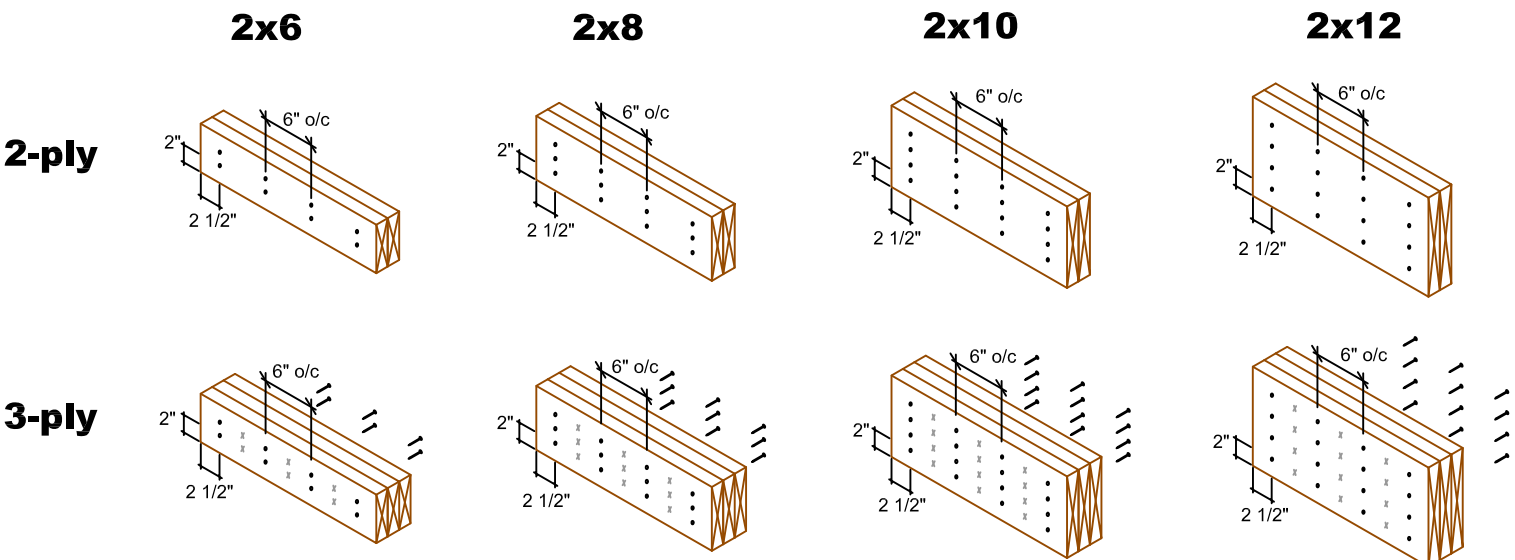
### **HANDLING AND INSTALLATION**

Do not drill any hole, cut or notch a certified building component without a written pre-authorization.

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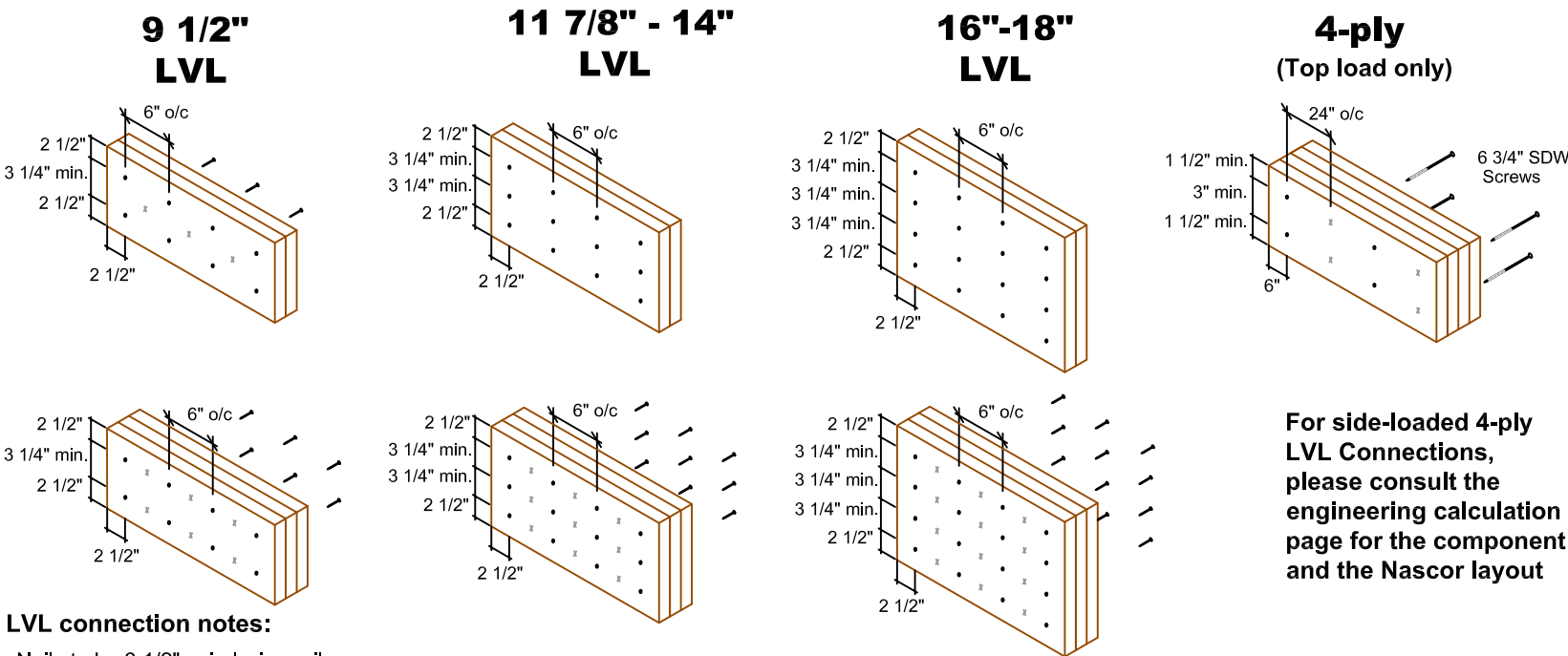
# MULTIPLE MEMBER CONNECTIONS

## Conventional Connections (for uniform distributed loads)



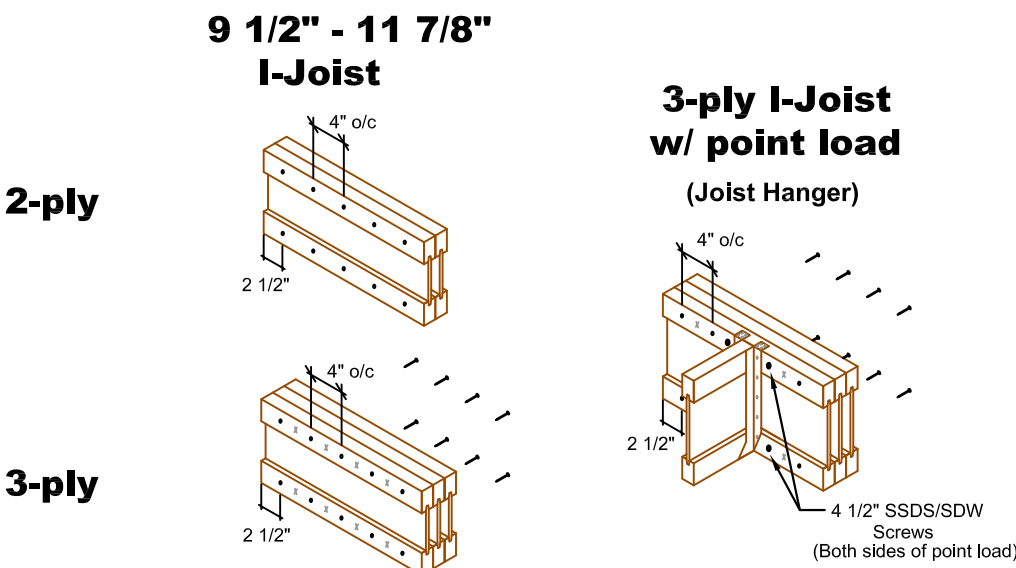
- Conventional connection notes:**
- Nails to be 3" 10d spiral wire nails.
  - Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail driven from the opposite side.

## LVL Connections (for uniform distributed loads)



- LVL connection notes:**
- Nails to be 3 1/2" spiral wire nails.
  - Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
  - Minimum 3 1/4" spacing between rows.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail or screw driven from the opposite side.

## Vertical I-Joist Connections (for uniform distributed loads)



- Vertical I-Joist connection notes:**
- Nails to be 3" spiral wire nails.
  - Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail driven from the opposite side.

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**MULTI -PLY  
CONNECTION  
DETAILS**

Date: November 30, 2016

Scale: NTS

KOTT  
3228 Moodie Drive  
Ottawa, ON  
K2H 7V1  
Ph: 613-838-2775  
Fx: 613-838-4751

----- Floor Framing Material -----			
Type	Qty.	Product	Length
J1	5	NJH12	18' 0"
J2	10	NJH12	16' 0"
J3	17	NJH12	14' 0"
J4	5	NJH12	12' 0"
J5	12	NJH12	10' 0"
J6	3	NJH12	6' 0"
J7	13	NJH12	2' 0"
J8	17	NJ60H12	18' 0"
G1	1	1 3/4x11 7/8 West Fraser 2.0E-	4' 0"
G2	1	NJH12	2' 0"
G3	1	NJH12	2' 0"
G4	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"
G5	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"
G6	1	NJH12	2' 0"
G7	1	NJH12	2' 0"
G8	2	NJ12	4' 0"
G10	2	NJ12	20' 0"
G11	1	NJ12	10' 0"
G12	2	NJ12	14' 0"
G13	2	NJ12	14' 0"
R1	14	11 7/8" RIMBOARD	12' 0"

HATCH AREA INDICATED REPRESENTS  
CERAMIC TILED FLOOR WITH AN  
ADDITIONAL DEAD LOAD OF 5.00 PSF

Refer to Multiple Member Connection  
Detail to ply to ply nailing or bolting  
requirements.

PASS-THRU FRAMING SQUASH BLOCK  
IS REQUIRED AT ALL POINT LOADS  
OVER BEARINGS.

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DESIGN ASSUMPTIONS  
=====

Loads:(un-factored)  
T/C Live: 40 psf B/C Live: 0 psf  
T/C Dead: 15 psf B/C Dead: 0 psf  
Load Case: Live  
Deflection Criteria:  
L/480 Live L/360 Total  
Building Code: OBC-2012 (Limit States Design)  
Building Type: Residential  
Importance Category: Normal (Part 9)  
Design assumes top edge continuously braced,  
and bottom edge unbraced.  
Joist Design Includes CCMC Vibration Check  
Subfloor: 3/4" OSB Glued and Nailed  
Ceiling: (None)  
Blocking: (None)

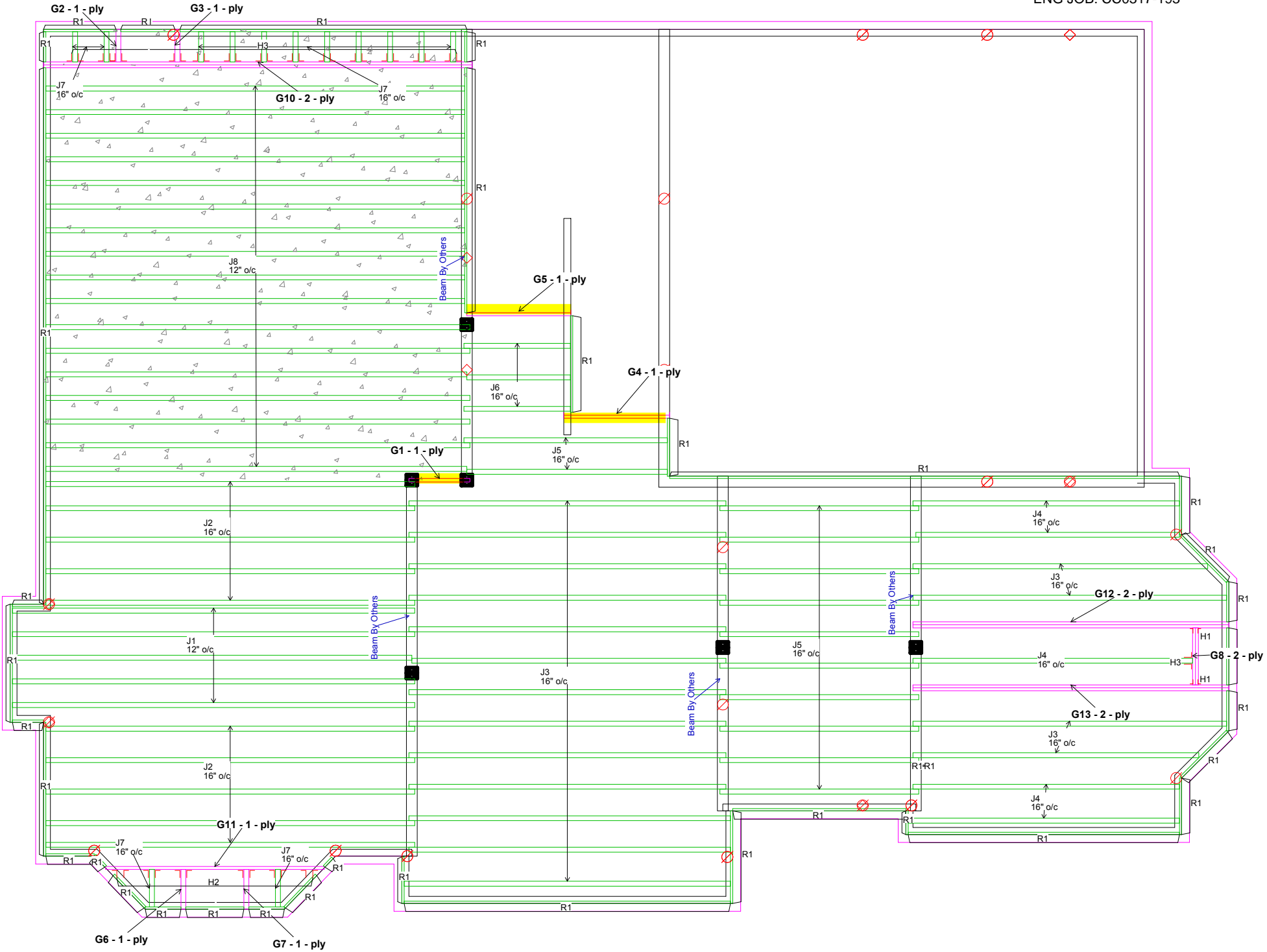
All Loads are UN-FACTORED Loads

- NOTES:
1. Framers to verify dimensions on the architectural drawings.
  2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
  3. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
  4. Install single-ply flush window header along inside face of rimboard/rimjoist.
  5. Refer to Nascor specifier guide for installation details.
  6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
  7. Load transfer blocks to be installed under all point loads.
  8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

----- Connector List -----

ID#	Qty	Model Number
H1	2	LT2-151188
H2	6	LT251188
H3	14	LT251188

Rim parallel to joists: 1-1/8" rimboard with  
2"x4" block (1/16" longer than rim depth) @ 16" o/c.  
All other components and structural elements supporting  
the floor system such as beams, walls, columns and  
foundation walls and footings including anchorage of  
components and bracing for lateral stability are the  
responsibility of others.



**TOWN OF MILTON**  
PLANNING AND DEVELOPMENT  
JUNIPER 12F MODEL

**BUILDING: REVIEWED**  
**SCOTT SHERRIFFS**    **APR 11, 2017**  
PLANS EXAMINER    DATE

Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relieves the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province of Ontario, By-laws of the Region of Halton and Town of Milton

FIRST FLOOR FRAMING

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Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca

Project Tag:

JUNIPER 12 EL 2

GREEN PARK HOMES  
LECCO RIDGE  
MILTON, ON

SALESMAN: RM

Time: 03:07 PM  
DATE: 11/04/16  
Designer: SB  
Not Scaled  
License Name:  
KEYMARK ENTERPRISES, INC.

**Member Data****Description:** CalcG1**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 5.9 PLF

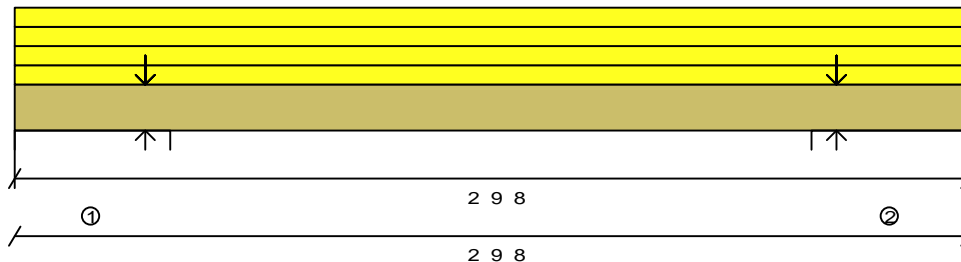
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Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	2' 9.50"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 9.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 9.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 9.50"		53		60		Live
Point (LBS)	Top	0' 4.63"			0		32		Live
Point (LBS)	Top	0' 4.63"			70		26		Live
Point (LBS)	Top	0' 4.63"			149		56		Live
Point (LBS)	Top	0' 4.63"			307		134		Live
Point (LBS)	Top	2' 4.88"			0		32		Live
Point (LBS)	Top	2' 4.88"			210		101		Live
Point (LBS)	Top	2' 4.88"			249		102		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	1378#	--
2	2' 9.500"	Wall	N/A	N/A	1.500"	1263#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	633#	343#
2	567#	330#

Design spans  
2' 0.250"**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	141.1#	17693.1#	0%	1.4'	Total Load 1.25D+1.5L
Shear	6.#	6908.#	0%	1.5'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.0674"	L/999+	1.4'	Total Load D+L
LL Deflection	0.0010"	0.0505"	L/999+	1.4'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: TL Deflection

**Pass-Thru Framing Squash Block is  
required at all point loads over bearings****Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements****READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.****RECEIVED  
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JUNIPER 12F  
BUILDING DIVISION**

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\*\*Passing is defined as when the member, floor joist, beam or girder shown on this drawing meets applicable design criteria for Loads, Loading Conditions, and Spans listed on this sheet. The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's specifications.

SB  
Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca

**Member Data****Description:** CalcG2**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

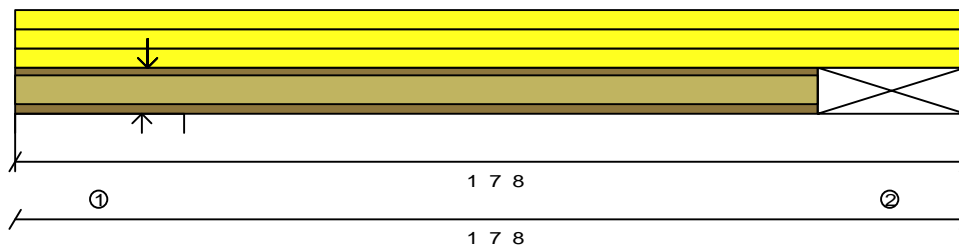
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Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	1' 7.50"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		27		10		Live
Point (LBS)	Top	0' 2.75"			32		10		Snow
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			29		76		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	292#	--
2	1' 7.500"	Girder	N/A	N/A	N/A	45#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	49#	32#	162#
2	21#	0#	12#

Design spans

1' 1.875"

**Product: NJH12 1 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Lateral support is required at each bearing.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	13.1#	5390.1#	0%	0.8'	Total Load 1.25D+1.5L
End Reaction	292.1#	1735.1#	16%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.0010"	0.0385"	L/999+	0.8'	Total Load D+L
LL Deflection	0.0010"	0.0289"	L/999+	0.8'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Shear cannot be calculated because member's length is less than 2d.

Web stiffener and minimum bearing length requirements at hangared connections depend on the connection style and are not included in this design.

**READ ALL NOTES ON THIS PAGE AND ON THE  
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required at all point loads over bearings****Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements****RECEIVED  
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SB  
Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca



**Member Data****Description:** CalcG3**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

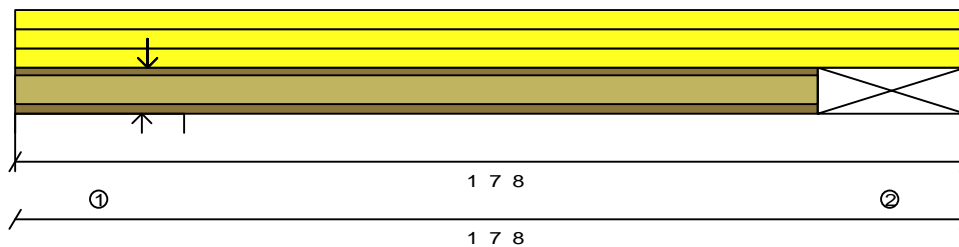
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Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	1' 7.50"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			29		76		Live
Point (LBS)	Top	0' 2.75"			140		140		Live
Point (LBS)	Top	0' 2.75"			321		0		Snow

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	941#	--
2	1' 7.500"	Girder	N/A	N/A	N/A	45#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	189#	321#	292#
2	21#	0#	12#

Design spans  
1' 1.875"**Product: NJH12 1 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Lateral support is required at each bearing.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	13.9#	5390.9#	0%	0.8'	Total Load 1.25D+1.5L
End Reaction	941.9#	1735.9#	54%	0'	Total Load 1.25D+1.00*1.5S+0.5L
TL Deflection	0.0010"	0.0385"	L/999+	0.8'	Total Load D+L
LL Deflection	0.0010"	0.0289"	L/999+	0.8'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Shear cannot be calculated because member's length is less than 2d.

Web stiffener and minimum bearing length requirements at hanged connections depend on the connection style and are not included in this design.

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14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca

**Member Data****Description:** CalcG4**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

Member Weight: 5.9 PLF

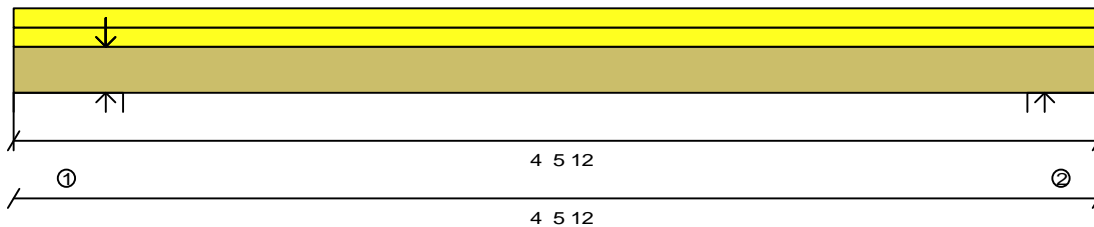
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Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 5.75"		240		90		Live
Point (LBS)	Top	0' 4.63"			0		32		Live
Point (LBS)	Top	0' 4.63"			134		51		Live
Point (LBS)	Top	0' 4.63"			186		72		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	1706#	--
2	4' 5.750"	Wall	N/A	N/A	1.500"	1031#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	836#	361#
2	517#	205#

Design spans

3' 10.500"

**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply****PASSES DESIGN CHECKS**Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	999. #	17693. #	5%	2.32'	Total Load 1.25D+1.5L
Shear	505. #	6908. #	7%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.0077"	0.1292"	L/999+	2.32'	Total Load D+L
LL Deflection	0.0055"	0.0969"	L/999+	2.32'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"  
Control: Shear**RECEIVED**  
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BUILDING DIVISION**24 MAR 2017****READ ALL NOTES ON THIS PAGE AND ON THE  
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Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca

**Member Data****Description:** CalcG5

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 5.9 PLF

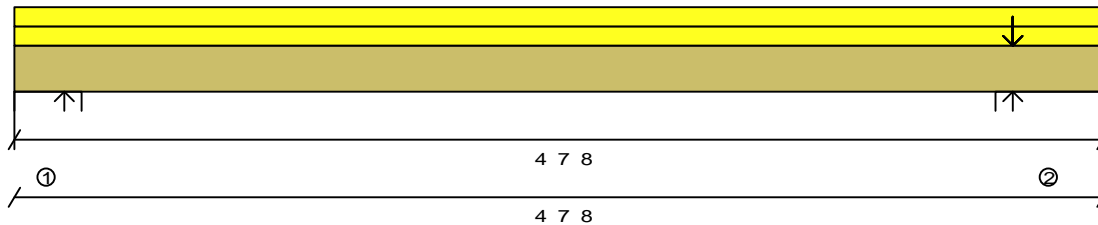
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 7.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 7.50"		40		15		Live
Point (LBS)	Top	4' 2.88"			0		32		Live
Point (LBS)	Top	4' 2.88"			0		32		Live
Point (LBS)	Top	4' 2.88"			65		25		Live
Point (LBS)	Top	4' 2.88"			65		25		Live
Point (LBS)	Top	4' 2.88"			287		108		Live
Point (LBS)	Top	4' 2.88"			287		108		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	279#	--
2	4' 7.500"	Wall	N/A	N/A	1.500"	1748#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	134#	62#
2	838#	393#

Design spans

4' 0.250"

**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	280. #	17693. #	1%	2.23'	Total Load 1.25D+1.5L
Shear	142. #	6908. #	2%	3.44'	Total Load 1.25D+1.5L
TL Deflection	0.0023"	0.1340"	L/999+	2.23'	Total Load D+L
LL Deflection	0.0015"	0.1005"	L/999+	2.23'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: Shear

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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's specifications.

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**Member Data****Description:** CalcG6**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

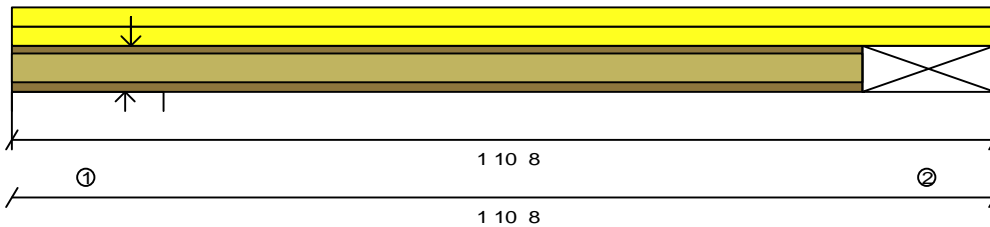
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 10.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 10.50"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	155#	--
2	1' 10.500"	Girder	N/A	N/A	N/A	74#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	38#	79#
2	38#	14#

Design spans

1' 4.875"

**Product: NJH12 1 ply**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

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**PASSES DESIGN CHECKS****Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	26.7#	5390.7#	0%	0.92'	Total Load 1.25D+1.5L
End Reaction	155.7#	1735.7#	8%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.0469"	L/999+	0.92'	Total Load D+L
LL Deflection	0.0010"	0.0352"	L/999+	0.92'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Shear cannot be calculated because member's length is less than 2d.

Web stiffener and minimum bearing length requirements at hangared connections depend on the connection style and are not included in this design.

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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
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**Member Data****Description:** CalcG7**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

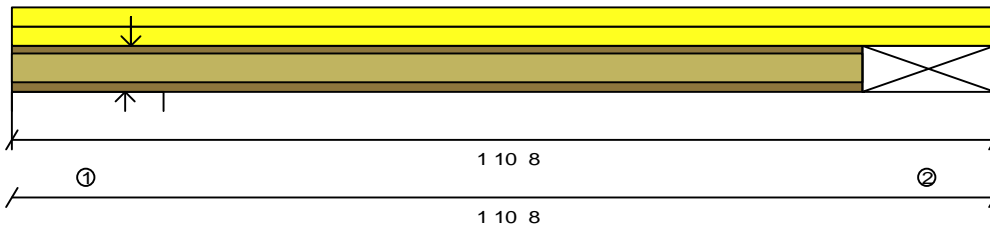
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 10.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 10.50"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	155#	--
2	1' 10.500"	Girder	N/A	N/A	N/A	74#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	38#	79#
2	38#	14#

Design spans

1' 4.875"

**Product: NJH12 1 ply**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

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**PASSES DESIGN CHECKS****Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	26.7#	5390.7#	0%	0.92'	Total Load 1.25D+1.5L
End Reaction	155.7#	1735.7#	8%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.0469"	L/999+	0.92'	Total Load D+L
LL Deflection	0.0010"	0.0352"	L/999+	0.92'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Shear cannot be calculated because member's length is less than 2d.

Web stiffener and minimum bearing length requirements at hangared connections depend on the connection style and are not included in this design.

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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements



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## Member Data

**Description:** CalcG8

Comments:

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: D:\SAUMIL\GR

Importance Category: Normal (Part 9)

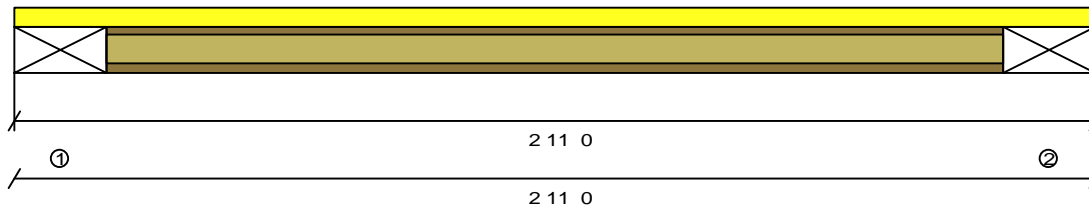
Application: Floor

Building Code: OBC-2012

0.720" max. LL

## Other Loads

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	2' 11.00"		237		89		Live



## Bearings and Factored Reactions

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	563#	--
2	2' 11.000"	Girder	N/A	N/A	N/A	563#	--

## Maximum Unfactored Load Case Reactions

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	286#	107#
2	286#	107#

Design spans  
2' 5.000"

**Product: NJ12 2 ply**

**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

## Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	340. #	9020. #	3%	1.46'	Total Load 1.25D+1.5L
Shear	563. #	3400. #	16%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0025"	0.0806"	L/999+	1.46'	Total Load D+L
LL Deflection	0.0018"	0.0604"	L/999+	1.46'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Shear

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Web stiffener and minimum bearing length requirements at hangared connections depend on the connection style and are not included in this design.

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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Member Data****Description: CalcG10**

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

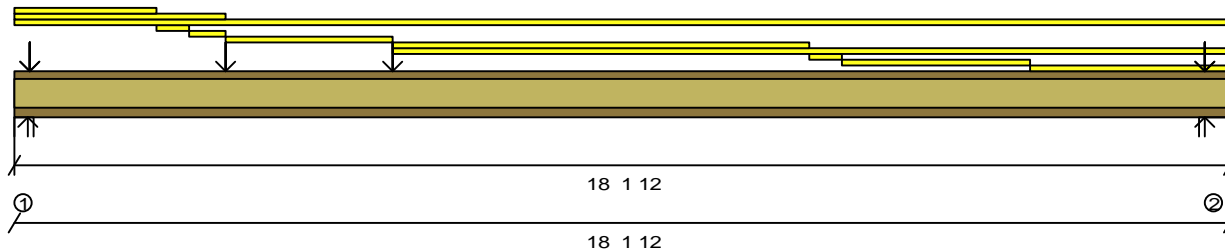
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	2' 1.69"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	3' 2.00"		30		15		Live
Additional Uniform (PLF)	Top	0' 0.00"	18' 1.75"		0		7		Live
Replacement Uniform (PLF)	Top	2' 1.69"	2' 7.50"		27		10		Live
Replacement Uniform (PLF)	Top	2' 7.50"	3' 2.00"		27		10		Live
Replacement Uniform (PLF)	Top	3' 2.00"	5' 8.00"		9		3		Live
Replacement Uniform (PLF)	Top	5' 8.00"	11' 10.50"		27		10		Live
Replacement Uniform (PLF)	Top	5' 8.00"	18' 1.75"		30		15		Live
Replacement Uniform (PLF)	Top	11' 10.50"	12' 4.31"		27		10		Live
Replacement Uniform (PLF)	Top	12' 4.31"	15' 2.00"		27		10		Live
Replacement Uniform (PLF)	Top	15' 2.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			49		65		Snow
Point (LBS)	Top	0' 2.75"			308		194		Live
Point (LBS)	Top	3' 2.00"			0		11		Live
Point (LBS)	Top	5' 8.00"			0		11		Live
Point (LBS)	Top	17' 9.13"			0		32		Live
Point (LBS)	Top	17' 9.13"			420		158		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	1735#	--
2	18' 1.750"	Wall	N/A	N/A	1.500"	1908#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	714#	49#	511#
2	889#	0#	460#

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Design spans

17' 6.500"

**Product: NJ12 2 ply**

NOTE: Web stiffeners are required at point loads > 0#.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

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**PASSES DESIGN CHECKS**

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4329. #	9020. #	47%	8.99'	Total Load 1.25D+1.5L
Shear	1040. #	3400. #	30%	18.15'	Total Load 1.25D+1.5L
End Reaction	1908. #	4100. #	46%	18.15'	Total Load 1.25D+1.5L
TL Deflection	0.3632"	0.5847"	L/579	8.99'	Total Load D+L
LL Deflection	0.2271"	0.4385"	L/926	8.99'	Total Load L

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(Actual is factored load effects, Limit is design resistance)

Control: TL Deflection

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Manufacturer's installation guide MUST be consulted to determine if web stiffeners are required at point loads

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**Member Data****Description:** CalcG11

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

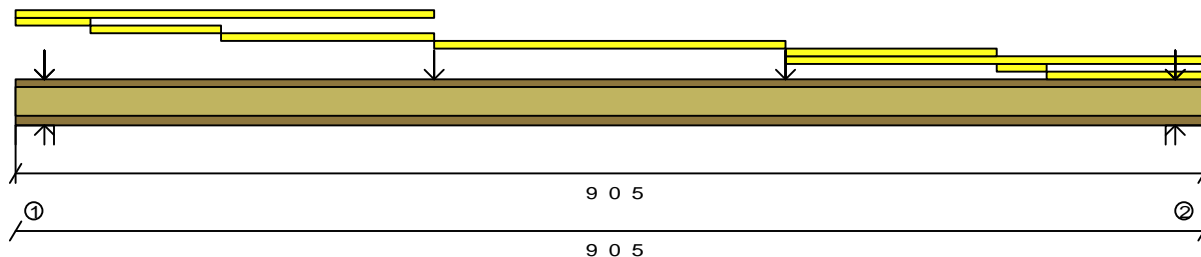
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	3' 2.19"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	0' 6.88"		10		121		Live
Replacement Uniform (PLF)	Top	0' 6.88"	1' 6.88"		25		41		Live
Replacement Uniform (PLF)	Top	1' 6.88"	3' 2.19"		35		13		Live
Replacement Uniform (PLF)	Top	3' 2.19"	5' 10.19"		9		3		Live
Replacement Uniform (PLF)	Top	5' 10.19"	7' 5.44"		35		13		Live
Replacement Uniform (PLF)	Top	5' 10.19"	9' 0.31"		27		10		Live
Replacement Uniform (PLF)	Top	7' 5.44"	7' 9.88"		31		36		Live
Replacement Uniform (PLF)	Top	7' 9.88"	9' 0.31"		17		52		Live
Point (LBS)	Top	0' 2.63"			0		74		Live
Point (LBS)	Top	0' 2.63"			0		90		Live
Point (LBS)	Top	3' 2.19"			0		12		Live
Point (LBS)	Top	5' 10.19"			0		12		Live
Point (LBS)	Top	8' 9.69"			0		74		Live
Point (LBS)	Top	8' 9.69"			0		90		Live

**Bearings and Factored Reactions**

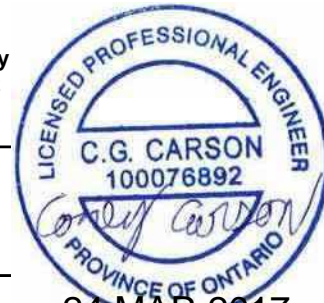
	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	656#	--
2	9' 0.312"	Wall	N/A	N/A	1.500"	633#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	175#	314#
2	175#	296#

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Design spans  
8' 7.062"

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**Product: NJ12 1 ply**

**NOTE:** Web stiffeners are required at point loads > 0#.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

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**PASSES DESIGN CHECKS**

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	684. #	4510. #	15%	4.51'	Total Load 1.25D+1.5L
Shear	451. #	1700. #	26%	0'	Total Load 1.25D+1.5L
End Reaction	656. #	2050. #	32%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0367"	0.2863"	L/999+	4.51'	Total Load D+L
LL Deflection	0.0228"	0.2147"	L/999+	4.51'	Total Load L

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(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Manufacturer's installation guide MUST be consulted to determine if web stiffeners are required at point loads

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**Member Data****Description:** CalcG12**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

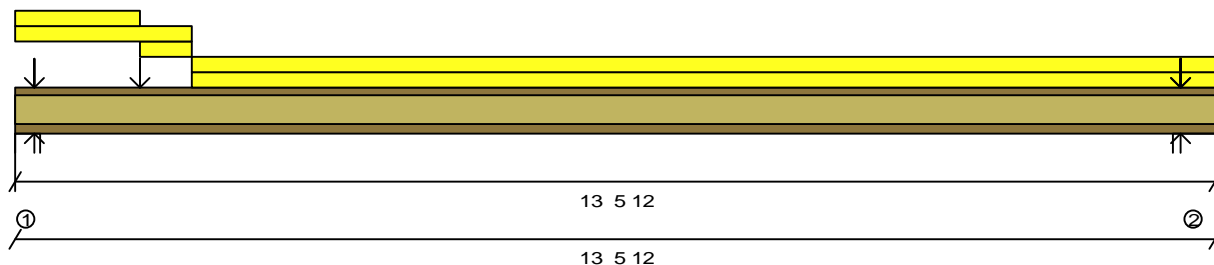
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 0.00"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	2' 0.00"		27		10		Live
Replacement Uniform (PLF)	Top	2' 0.00"	13' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	2' 0.00"	13' 5.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	1' 5.00"			316		137		Live
Point (LBS)	Top	13' 1.13"			261		163		Live
Point (LBS)	Top	13' 1.13"			345		130		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	1302#	--
2	13' 5.750"	Wall	N/A	N/A	1.500"	2009#	--

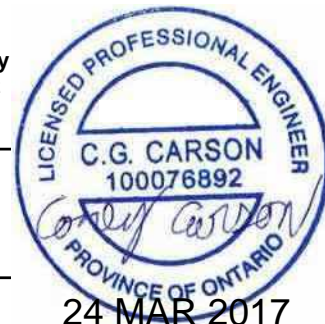
**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	609#	310#
2	978#	433#

Design spans

12' 10.500"

**Product: NJ12 2 ply**

**NOTE:** Web stiffeners are required at point loads > 0#.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

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**PASSES DESIGN CHECKS**

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	2565. #	9020. #	28%	6.01'	Total Load 1.25D+1.5L
Shear	1221. #	3400. #	35%	0'	Total Load 1.25D+1.5L
End Reaction	2009. #	4100. #	49%	13.48'	Total Load 1.25D+1.5L
TL Deflection	0.1248"	0.4292"	L/999+	6.66'	Total Load D+L
LL Deflection	0.0901"	0.3219"	L/999+	6.66'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Manufacturer's installation guide MUST be consulted to determine if web stiffeners are required at point loads

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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## Member Data

**Description:** CalcG13

**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

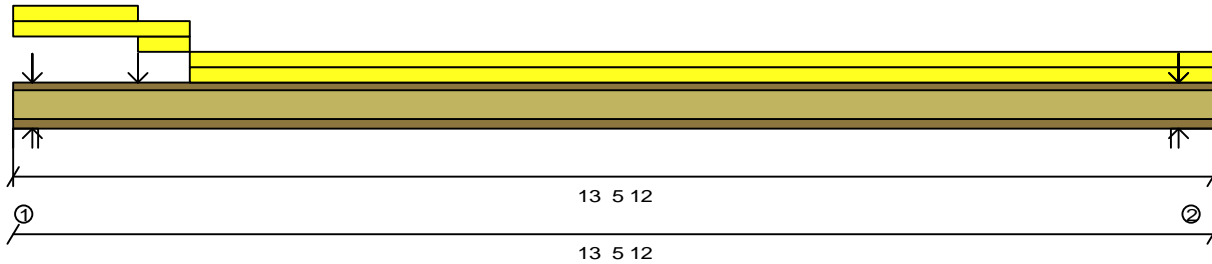
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

## Other Loads

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 0.00"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	2' 0.00"		27		10		Live
Replacement Uniform (PLF)	Top	2' 0.00"	13' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	2' 0.00"	13' 5.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	1' 5.00"			316		137		Live
Point (LBS)	Top	13' 1.13"			261		163		Live
Point (LBS)	Top	13' 1.13"			345		130		Live



## Bearings and Factored Reactions

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	1302#	--
2	13' 5.750"	Wall	N/A	N/A	1.500"	2009#	--

## Maximum Unfactored Load Case Reactions

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	609#	310#
2	978#	433#

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Design spans  
12' 10.500"

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**Product: NJ12 2 ply**

**PASSES DESIGN CHECKS**

**NOTE:** Web stiffeners are required at point loads > 0#.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

## Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	2565. #	9020. #	28%	6.01'	Total Load 1.25D+1.5L
Shear	1221. #	3400. #	35%	0'	Total Load 1.25D+1.5L
End Reaction	2009. #	4100. #	49%	13.48'	Total Load 1.25D+1.5L
TL Deflection	0.1248"	0.4292"	L/999+	6.66'	Total Load D+L
LL Deflection	0.0901"	0.3219"	L/999+	6.66'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Max End React.

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Manufacturer's installation guide MUST be consulted to determine if web stiffeners are required at point loads

Type	Qty.	Product	Length
J1	9	NJH12	18' 0"
J2	15	NJH12	16' 0"
J3	22	NJH12	14' 0"
J4	11	NJH12	12' 0"
J5	19	NJH12	10' 0"
J6	3	NJH12	6' 0"
J7	19	NJ60H12	18' 0"
G1	2	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"
G2	2	1 3/4x11 7/8 West Fraser 2.0E-	10' 0"
G3	2	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"
G4	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"
G5	2	1 3/4x11 7/8 West Fraser 2.0E-	10' 0"
R1	14	11 7/8" RIMBOARD	12' 0"

PACKING 2 2X10 SPRUCE KD 16' 0"

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DESIGN ASSUMPTIONS

Loads:(un-factored)  
T/C Live: 40 psf B/C Live: 0 psf  
T/C Dead: 15 psf B/C Dead: 0 psf  
Load Case: Live  
Deflection Criteria:  
L/480 Live L/360 Total  
Building Code: OBC-2012 (Limit States Design)  
Building Type: Residential  
Importance Category: Normal (Part 9)  
Design assumes top edge continuously braced,  
and bottom edge unbraced.  
Joist Design Includes CCMC Vibration Check  
Subfloor: 5/8" OSB Glued and Nailed  
Ceiling: 1/2" gypsum  
Blocking: (None)

All Loads are UN-FACTORED Loads

- NOTES:
1. Framers to verify dimensions on the architectural drawings.
  2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
  3. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
  4. Install single-ply flush window header along inside face of rimboard/rimjoist.
  5. Refer to Nascor specifier guide for installation details.
  6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
  7. Load transfer blocks to be installed under all point loads.
  8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c.  
All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



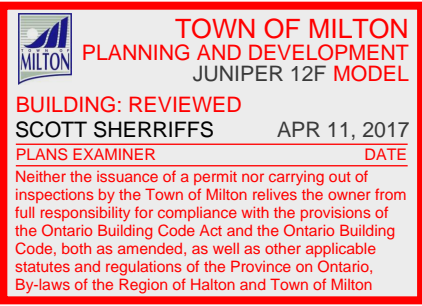
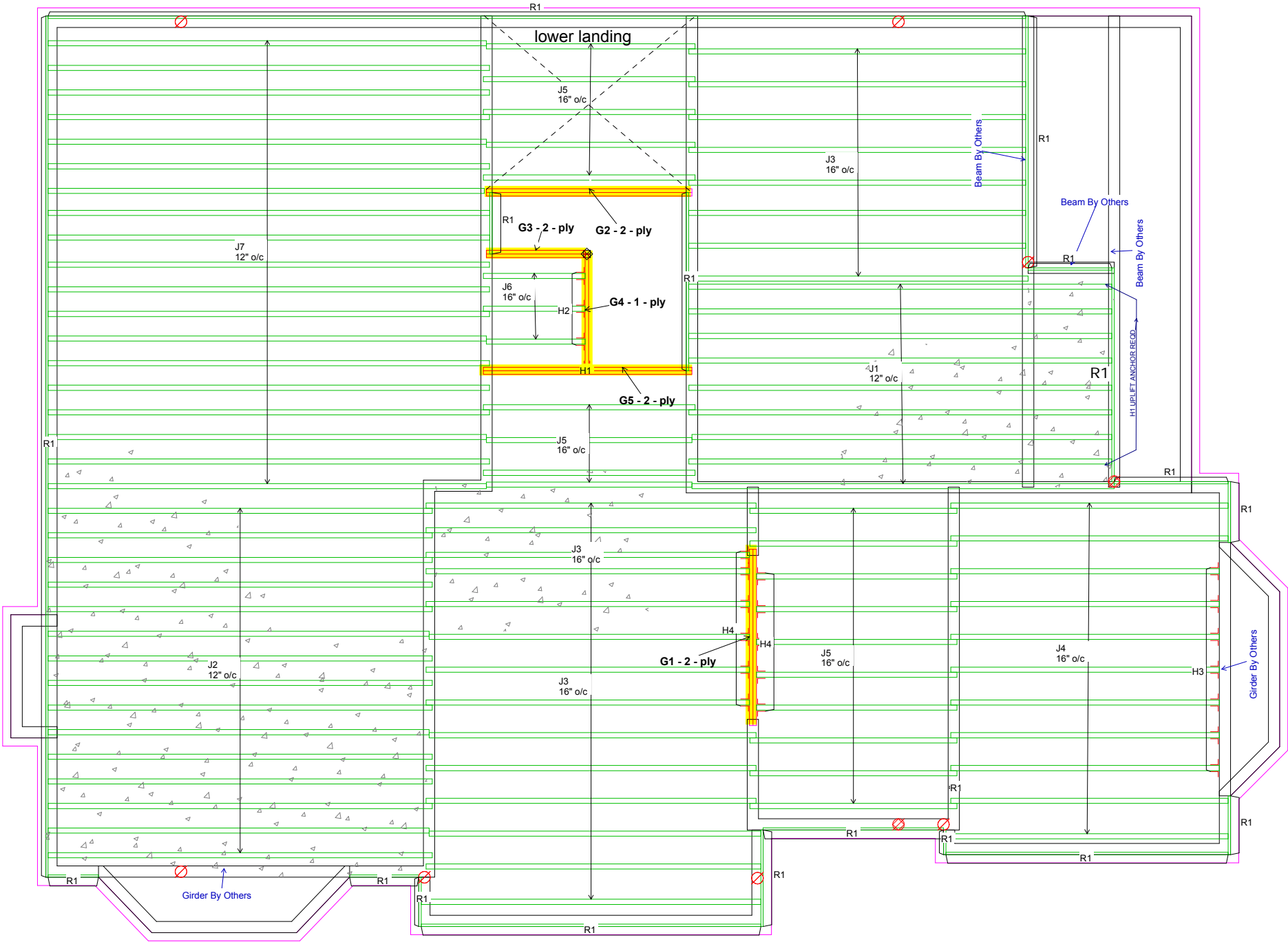
HATCH AREA INDICATED REPRESENTS CERAMIC TILED FLOOR WITH AN ADDITIONAL DEAD LOAD OF 5.00 PSF

PASS-THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Connector List

ID#	Qty	Model Number
H1	1	HUS1.81/10
H2	3	LT251188
H3	7	LF2511
H4	11	LT251188
H1	9	UPLIFT ANCHOR



SECOND FLOOR FRAMING



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Project Tag:

JUNIPER 12 EL 2

GREEN PARK HOMES  
LECCO RIDGE  
MILTON, ON

SALESMAN: RM

Time: 03:53 PM  
DATE: 11/03/16  
Designer: SB  
Not Scaled  
License Name:  
KEYMARK ENTERPRISES, INC.



**Member Data****Description:** CalcG1**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

Member Weight: 11.8 PLF

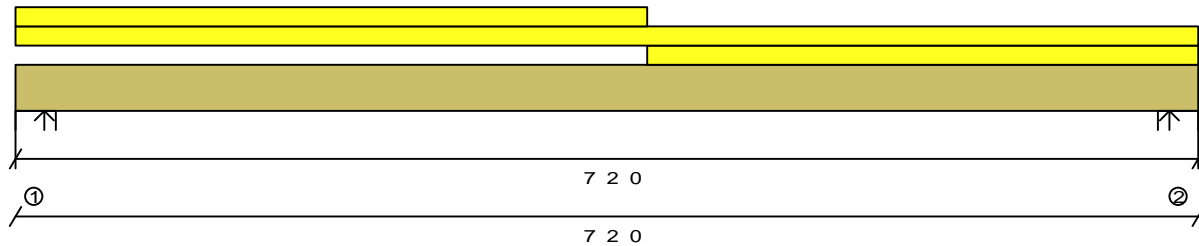
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	3' 10.00"		263		99		Live
Replacement Uniform (PLF)	Top	0' 0.00"	7' 2.00"		163		61		Live
Replacement Uniform (PLF)	Top	3' 10.00"	7' 2.00"		263		114		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	2925#	--
2	7' 2.000"	Wall	N/A	N/A	1.500"	2957#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	1453#	596#
2	1453#	622#

Design spans  
6' 9.750"**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Compression edge maximum unbraced length calculation is based on ply width.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	5006.1#	35386.1#	14%	3.58'	Total Load 1.25D+1.5L
Shear	2093.1#	13815.1#	15%	6.31'	Total Load 1.25D+1.5L
TL Deflection	0.0398"	0.2271"	L/999+	3.58'	Total Load D+L
LL Deflection	0.0280"	0.1703"	L/999+	3.58'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: TL Deflection

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Member Data****Description: CalcG2**

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 11.8 PLF

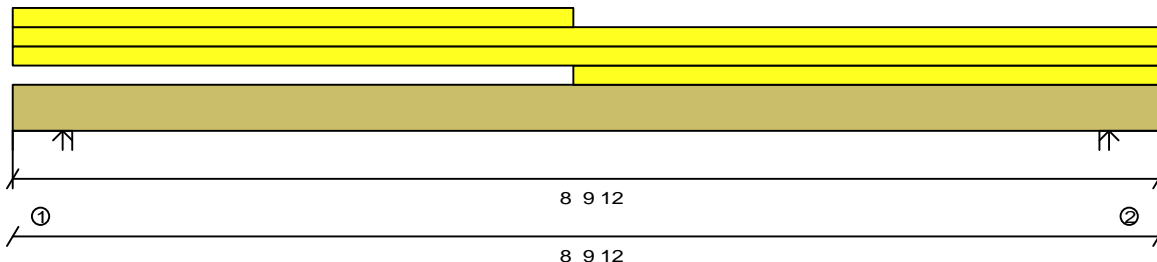
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 3.75"		80		30		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 9.75"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 9.75"		27		10		Live
Replacement Uniform (PLF)	Top	4' 3.75"	8' 9.75"		160		60		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	1140#	--
2	8' 9.750"	Wall	N/A	N/A	1.500"	1456#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	549#	253#
2	710#	314#

Design spans

8' 0.500"

**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	2653. #	35386. #	7%	4.81'	Total Load 1.25D+1.5L
Shear	1061. #	13815. #	7%	7.62'	Total Load 1.25D+1.5L
TL Deflection	0.0270"	0.2681"	L/999+	4.41'	Total Load D+L
LL Deflection	0.0186"	0.2010"	L/999+	4.41'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: TL Deflection

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

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Detail for ply to ply nailing or bolting  
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## Member Data

**Description:** CalcG3

Comments:

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: D:\SAUMIL\GR

Importance Category: Normal (Part 9)

Application: Floor

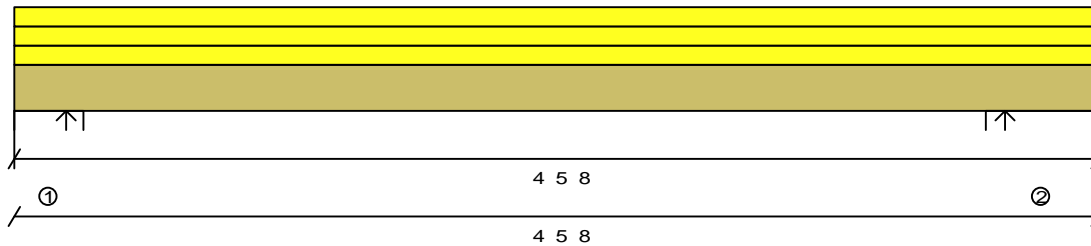
Building Code: OBC-2012

0.720" max. LL

Member Weight: 11.8 PLF

## Other Loads

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 5.50"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 5.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 5.50"		80		30		Live



## Bearings and Factored Reactions

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	467#	--
2	4' 5.500"	Wall	N/A	N/A	1.500"	467#	--

## Maximum Unfactored Load Case Reactions

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	223#	106#
2	223#	106#

Design spans  
3' 10.250"

**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**

**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Compression edge maximum unbraced length calculation is based on ply width.

## Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	450.1#	35386.1#	1%	2.15'	Total Load 1.25D+1.5L
Shear	227.1#	13815.1#	1%	3.11'	Total Load 1.25D+1.5L
TL Deflection	0.0017"	0.1285"	L/999+	2.15'	Total Load D+L
LL Deflection	0.0012"	0.0964"	L/999+	2.15'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: Shear

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

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**Member Data****Description:** CalcG4**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

Member Weight: 5.9 PLF

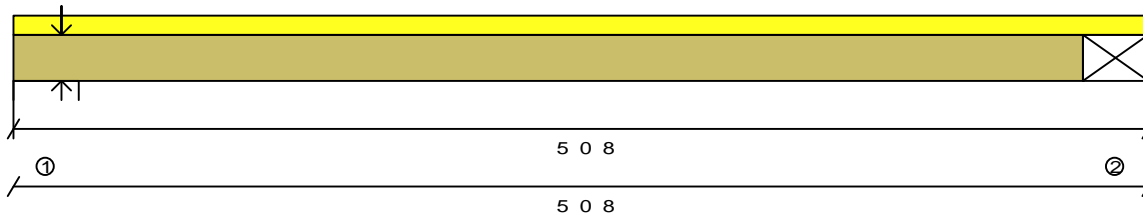
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	5' 0.50"		82		31		Live
Point (LBS)	Top	0' 2.63"			64		24		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	507#	--
2	5' 0.500"	Girder	N/A	N/A	N/A	381#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	249#	107#
2	185#	83#

Design spans  
4' 6.375"**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply****PASSES DESIGN CHECKS**Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	432. #	17693. #	2%	2.48'	Total Load 1.25D+1.5L
Shear	215. #	6908. #	3%	0.23'	Total Load 1.25D+1.5L
TL Deflection	0.0040"	0.1510"	L/999+	2.48'	Total Load D+L
LL Deflection	0.0027"	0.1133"	L/999+	2.48'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: Shear

Minimum bearing length requirements at hungared connections depend on the connection style and are not included in this design.

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Detail for ply to ply nailing or bolting  
requirements**

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**Member Data****Description: CalcG5**

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 11.8 PLF

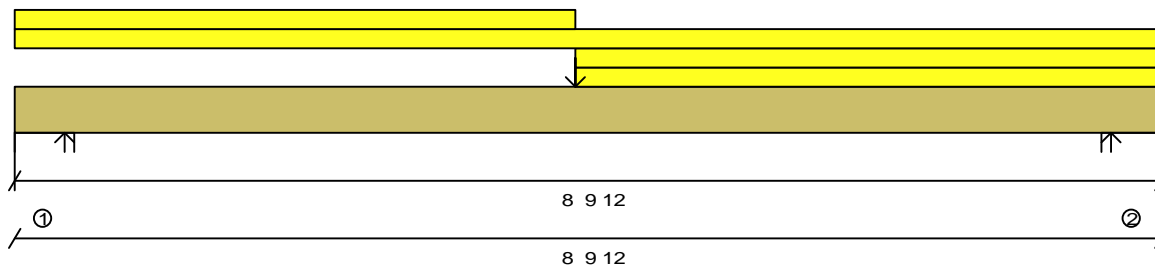
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 3.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 9.75"		27		10		Live
Replacement Uniform (PLF)	Top	4' 3.75"	8' 9.75"		9		3		Live
Replacement Uniform (PLF)	Top	4' 3.75"	8' 9.75"		160		60		Live
Point (LBS)	Top	4' 3.75"			194		106		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	993#	--
2	8' 9.750"	Wall	N/A	N/A	1.500"	1546#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	463#	238#
2	745#	343#

Design spans

8' 0.500"

**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	2983.1#	35386.1#	8%	4.41'	Total Load 1.25D+1.5L
Shear	1150.1#	13815.1#	8%	7.62'	Total Load 1.25D+1.5L
TL Deflection	0.0292"	0.2681"	L/999+	4.41'	Total Load D+L
LL Deflection	0.0197"	0.2010"	L/999+	4.41'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: TL Deflection

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

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24 MAR 2017

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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\*\*Passing is defined as when the member, floor joist, beam or girder shown on this drawing meets applicable design criteria for Loads, Loading Conditions, and Spans listed on this sheet.  
The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's specifications.

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