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# **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 <u>only</u> 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 <a href="http://www.nascor.ca">http://www.nascor.ca</a>.

# 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.

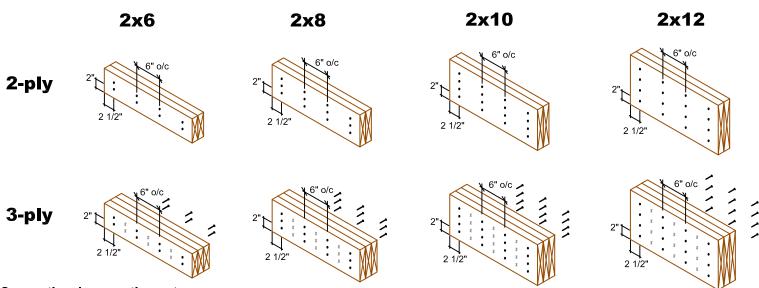
# **HANDLING AND INSTALLATION**

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

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# **MULTIPLE MEMBER CONNECTIONS**

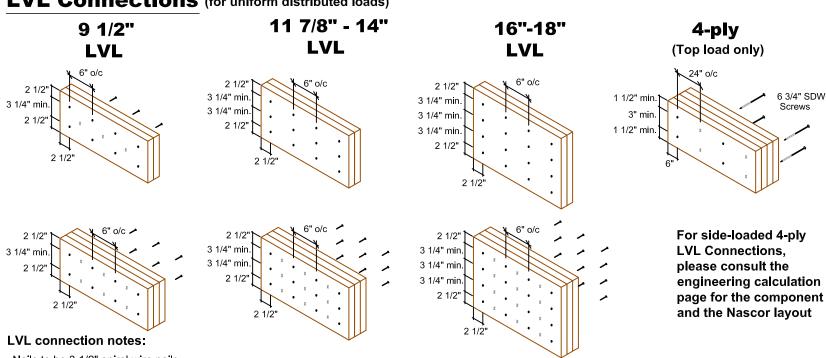
# Conventional Connections (for uniform distributed loads)



# **Conventional connection notes:**

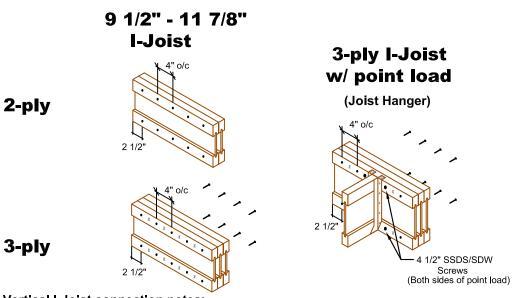
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

# LVL Connections (for uniform distributed loads)



- -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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Date: November 30, 2016 Scale: NTS

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

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- Framer to verify dimensions on the architectural drawings.
   Double joist only require filler/backer ply when supporting
- another member using a face-mounted hanger.
  Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation details.
- 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.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

#### **DESIGN ASSUMPTIONS** ============

Floor Loads:

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)

Reported Reactions are UN-FACTORED Loads

SB: SQUASH BLOCK ON BOTH SIDES OF GIRDER ( CUT 1/16" LONGER THAN JOISTS DEPTH) 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.** 

> H1 6 LT2-151188 H2 7 LT251188 H3 6 LT351188

Model Number

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

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.

# G7 - 2 - ply G2 - 1 - ply G4 - 2 - ply G11 2 - pl G3 - 2 | ply

# FIRST FLOOR FRAMING

**RECEIVED** TOWN OF MILTON MAR 29, 2017 JUNIPER 7 **BUILDING DIVISION** 

JUNIPER 7 MODE **BUILDING: REVIEWED** SCOTT SHERRIFFS sponsibility for compliance with the provisions of Ontario Building Code Act and the Ontario Building de, both as amended, as well as other applicable

es and regulations of the Province on Ontario

**TOWN OF MILTON** 

NASCOR

Nascor by KOTT 14 Anderson Blvd. Uxbridge, ON.

www.nascor.ca

Project Tag:

JUNIPER 7 EL - 1

**GREEN PARK HOMES LECCO RIDGE** MILTON,ON

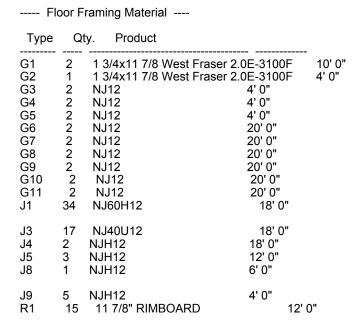
Time: 2:41:57 PM DATE: 10/28/2016 Designer: SB Not Scaled License Name:

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ENG JOB: CC0317-177-R1

SALESMAN: RM

KEYMARK ENTERPRISES, INC.



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- 1. Framer to verify dimensions on the architectural drawings.
- 2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- 4. Install single-ply flush window header along inside face of rimboard/rimjoist.
- 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.

## **DESIGN ASSUMPTIONS** ==============

Floor Loads:

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)

Reported Reactions are UN-FACTORED Loads

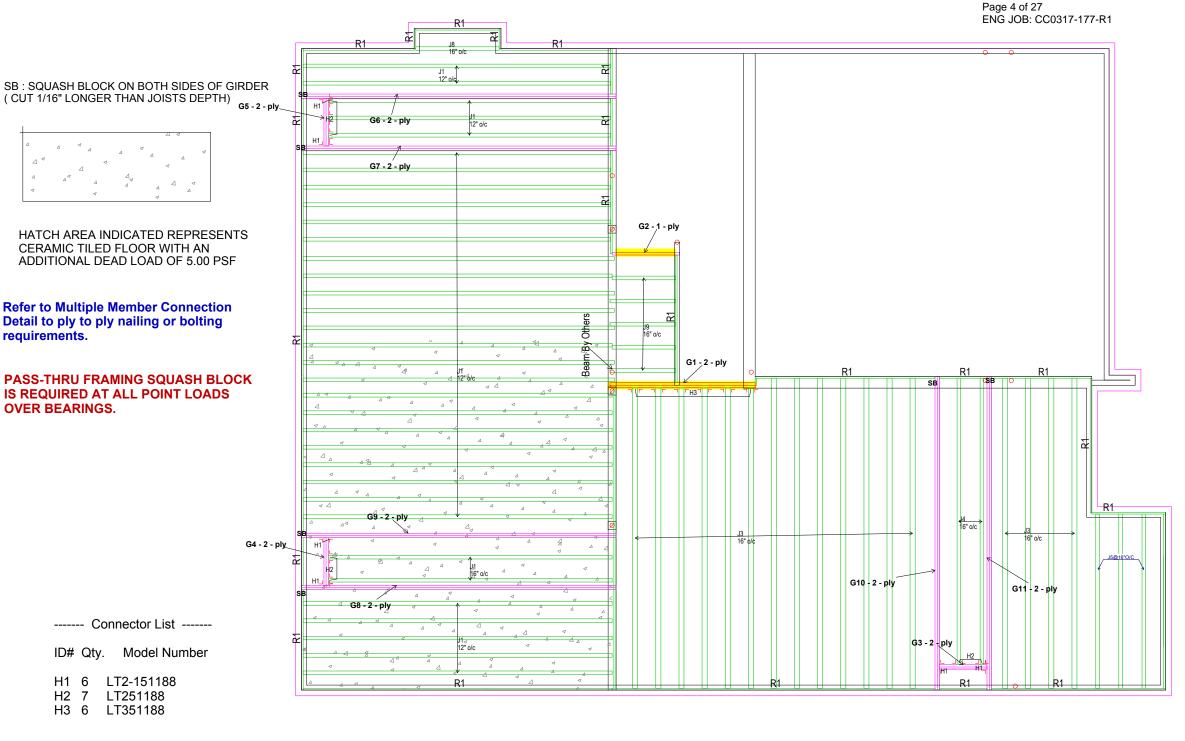
ADDITIONAL DEAD LOAD OF 5.00 PSF **Refer to Multiple Member Connection** Detail to ply to ply nailing or bolting requirements. **PASS-THRU FRAMING SQUASH BLOCK** IS REQUIRED AT ALL POINT LOADS **OVER BEARINGS.** ----- Connector List -----ID# Qty. H1 6 H2 7 LT251188 H3 6 LT351188

CERAMIC TILED FLOOR WITH AN

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.

Model Number

LT2-151188



# FIRST FLOOR FRAMING

RECEIVED **FOWN OF MILTON** MAR 29, 2017 JUNIPER 7 **BUILDING DIVISION** 

PLANNING AND DEVELOPMEN JUNIPER 7 MODE **BUILDING: REVIEWED** SCOTT SHERRIFFS ctions by the Town of Milton relives the owner fro responsibility for compliance with the provisions of ode, both as amended, as well as other applicable ulations of the Province on Or

aws of the Region of Halton and Town of Mil

TOWN OF MILTON

NASCOR

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

Project Tag:

**JUNIPER 7 EL - 2 - 3** 

**GREEN PARK HOMES LECCO RIDGE** MILTON,ON

Time: 2:41:57 PM DATE: 10/28/2016 Designer: SB Not Scaled License Name:

KEYMARK ENTERPRISES, INC.

**SALESMAN: RM** 

KOTT CS Beam 2016.1.1.1

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**Member Data Description: G1** 

kmBeamEngine 4.13.16.1 Materials Database 1547

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: G1 05.kyb

Importance Category: Normal (Part 9)

Application: Floor

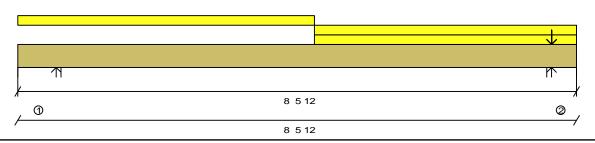
Building Code: OBC-2012

0.720" max. LL

Member Weight: 11.8 PLF

Other	
CITHER	I Nane

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 6.00"		592		222		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		352		132		Live
Point (LBS)	Top	8' 1.13"			19		7		Live
Point (LBS)	Top	8' 1.13"			20		7		Live
Point (LBS)	Top	8' 1.13"			21		8		Live
Point (LBS)	Top	8' 1.13"			0		32		Live
Point (LBS)	Top	8' 1.13"			0		32		Live
Point (LBS)	Top	8' 1.13"			287		108		Live
Point (LBS)	Top	8' 1.13"			287		108		Live



Innut

Min

# **Bearings and Factored Reactions**

	Location	Туре	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Wall	SPF Plate (614psi)	8.000"	1.887"	4062#	·
2	8' 5.750"	Wall	SPF Plate (614psi)	5.500"	1.522"	4604#	

Maximum Unfactored Load Case Reactions Used for applying point loads (or line loads) to carrying member

Live Dead 2035# 807# 2269# 960#

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.

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Gravity



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

NOTE: Pass-thru framing is required at point loads over bearings. 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.

# 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**

Design spans

7 6.000"

	Actual	Limit	Capacity	Location	Loading
Positive Moment	6991.'#	35386.'#	19%	3.97'	Total Load 1.25D+1.5L
Shear	2895.#	16135.#	17%	0.6'	Total Load 1.25D+1.5L
Max. Reaction	3276.#	11838.#	27%	8.48'	Total Load 1.25D+1.5L
TL Deflection	0.0636"	0.2500"	L/999+	4.34'	Total Load D+L
LL Deflection	0.0455"	0.1875"	L/999+	4.34'	Total Load L

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**Member Data** 

**Description: CalcG2** Comments:

Standard Load:

Live Load: 0 PLF 0 PLF Dead Load:

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

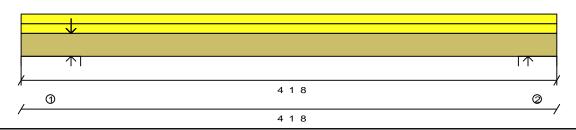
Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.9 PLF

Other Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		40		15		Live
Point (LBS)	Top	0' 4.63"			9		4		Live
Point (LBS)	Top	0' 4.63"			0		32		Live
Point (LBS)	Top	0' 4.63"			0		32		Live
Point (LBS)	Top	0' 4.63"			50		19		Live
Point (LBS)	Top	0' 4.63"			60		22		Live
Point (LBS)	Top	0' 4.63"			287		108		Live
Point (LBS)	Top	0' 4.63"			287		108		Live



Bearings and	I Factored	Reactions
--------------	------------	-----------

	Location	Туре	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/Ā	1.500"	1689#	·
2	4' 1.500"	Wall	N/A	N/A	1.500"	244#	

**Maximum Unfactored Load Case Reactions** 

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

810# 379# 117# 54#

Design spans 3 6.250"

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PASSES DESIGN CHECKS

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

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	215.'#	17693.'#	1%	2.15'	Total Load 1.25D+1.5L
Shear	107.#	6908.#	1%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.0015"	0.1174"	L/999+	2.15'	Total Load D+L
LL Deflection	0.0010"	0.0880"	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

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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**Member Data** 

**Description: CalcG3** Comments:

Standard Load: Live Load: 0 PLF Dead Load: 0 PLF 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) Replacement Uniform (PLF)

Building Type: Residential

Side

**Begin** 0' 0.00'

End 3' 3.00"

Trib. Width

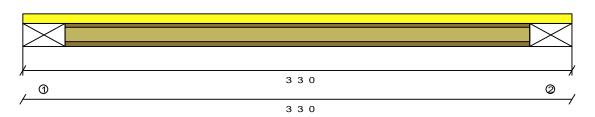
Other Start 335

End

Dead Start 126

End

Category Live



# Bearings and Factored Reactions

				Input	Min	Gravity	Gravity	
	Location	Type	Material	Length	Required	Reaction	Uplift	
1	0' 0.000"	Girder	N/A	N/Ā	N/A	907#		
2	3' 3.000"	Girder	N/A	N/A	N/A	907#		

# **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	461#	173#
2	461#	173#

Design spans

2 9.000"

**Product: NJ12** 2 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	623.'#	9020.'#	6%	1.62'	Total Load 1.25D+1.5L
Shear	907.#	3400.#	26%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0049"	0.0917"	L/999+	1.62'	Total Load D+L
LL Deflection	0.0036"	0.0688"	L/999+	1.62'	Total Load L

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

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.

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

Nascor by KOTT 14 Anderson Blvd. www.nascor.ca

C.G. CARSON IN 100076892

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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. Uxbridge, ON.

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**Member Data** 

**Description: CalcG4** Comments:

Standard Load:

Live Load: 0 PLF Dead Load: 0 PLF 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) Replacement Uniform (PLF)

Building Type: Residential

Side

**Begin** 0' 0.00'

End 3' 3.00"

Trib. Width

Other Start 330

End

Dead Start 165

End

Category Live

3 3 0 0

# Bearings and Factored Reactions

	Location	Туре	Material	input Length	Min Required	Gravity Reaction	Gravity Uplift	
1	0' 0.000"	Girder	N/A	N/Ā	Ň/A	964#	·	
2	3' 3.000"	Girder	N/A	N/A	N/A	964#		

# **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	454#	227#
2	454#	227#

Design spans 2 9.000"

> **Product: NJ12** 2 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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**Limit States Design** 

	Actual	Limit	Capacity	Location	Loading
Positive Moment	663.'#	9020.'#	7%	1.62'	Total Load 1.25D+1.5L
Shear	964.#	3400.#	28%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0053"	0.0917"	L/999+	1.62'	Total Load D+L
LL Deflection	0.0035"	0.0688"	L/999+	1.62'	Total Load L

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

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.

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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Nascor by KOTT 14 Anderson Blvd.

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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. Uxbridge, ON. www.nascor.ca

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**Member Data** 

**Description: CalcG5** Comments:

Standard Load:

Live Load: 0 PLF Dead Load: 0 PLF 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) Replacement Uniform (PLF)

Building Type: Residential

Side

**Begin** 0' 0.00'

End 3' 3.00"

Trib. Width

Other Start 330

End

Dead Start 124

End

Category Live

,		,
_	3 3 0	0
<b>,</b>	3 3 0	,

# **Bearings and Factored Reactions**

				Input	Min	Gravity	Gravity
	Location	Type	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Girder	N/A	N/Ā	Ň/A	893#	·
2	3' 3.000"	Girder	N/A	N/A	N/A	893#	

# **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	454#	170#
2	454#	170#

Design spans

2 9.000"

**Product:** NJ12 2 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.

RECEIVED TOWN OF MILTON MAR 29, 2017 JUNIPER 7 **BUILDING DIVISION**  **PASSES DESIGN CHECKS** 

# **Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	614.'#	9020.'#	6%	1.62'	Total Load 1.25D+1.5L
Shear	893.#	3400.#	26%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0048"	0.0917"	L/999+	1.62'	Total Load D+L
LL Deflection	0.0035"	0.0688"	L/999+	1.62'	Total Load L

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

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.

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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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. Uxbridge, ON.

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ENG JOB: CC0317-177-R1

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**Member Data** 

**Description: CalcG6** 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)

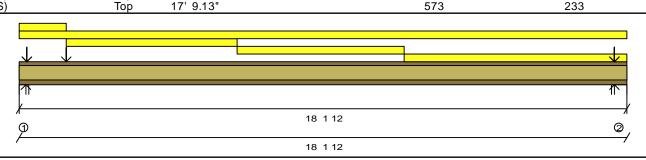
Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Тор	0' 0.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Тор	1' 5.00"	6' 6.00"		27		10		Live
Replacement Uniform (PLF)	Тор	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Тор	11' 6.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			365		0		Snow
Point (LBS)	Top	0' 2.75"			445		332		Live
Point (LBS)	Top	1' 5.00"			495		207		Live
Point (LBS)	Top	17' 9.13"			0		65		Live
Point (LBS)	Top	17' 9.13"			232		68		Live
Point (LBS)	Top	17' 9.13"			573		233		Live



# **Bearings and Factored Reactions**

	Location	Туре	Material	input Length	iviin Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	3159#	
2	18' 1.750"	Wall	N/A	N/A	1.500"	2653#	
Ma	ximum Unfacto	ored Load Cas	e Reactions	READ ALL NOTES ON THIS PAGE		\r	

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

Snow Live Dead 1354# 365# 757# 1306# 0#

IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

OR OFESSIONAL ENGINEERS OF THE PROPERTY OF THE 100076892

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	4644.'#	9020.'#	51%	8.11'	Total Load 1.25D+1.5L
Shear	1813.#	3400.#	53%	0'	Total Load 1.25D+1.5L
End Reaction	3159.#	4100.#	77%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.3950"	0.5847"	L/532	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	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

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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.

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ENG JOB: CC0317-177-R1

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**Member Data** 

**Description: CalcG7** 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

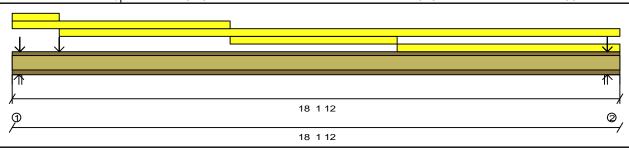
Building Code: OBC-2012

0.720" max. LL

Gravity

Other	Loads
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Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Тор	0' 0.00"	6' 6.00"		27		10		Live
Replacement Uniform (PLF)	Тор	1' 5.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Тор	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			378		0		Snow
Point (LBS)	Top	0' 2.75"			451		337		Live
Point (LBS)	Top	1' 5.00"			495		207		Live
Point (LBS)	Top	17' 9.13"			0		65		Live
Point (LBS)	Top	17' 9.13"			232		68		Live
Point (LBS)	Top	17' 9.13"			573		233		Live



# **Bearings and Factored Reactions**

	Location	Туре	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Wall	N/A	N/Ā	1.500"	3181#	/
2	18' 1.750"	Wall	N/A	N/A	1.500"	2653#	/
						_	

**Maximum Unfactored Load Case Reactions** 

Used for applying point loads (or line loads) to carrying members Snow Live 1359# 378# 1306#

Dead 762# 0# 555#

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.

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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	4644.'#	9020.'#	51%	8.11'	Total Load 1.25D+1.5L
Shear	1813.#	3400.#	53%	0'	Total Load 1.25D+1.5L
End Reaction	3181.#	4100.#	77%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.3950"	0.5847"	L/532	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	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

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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)

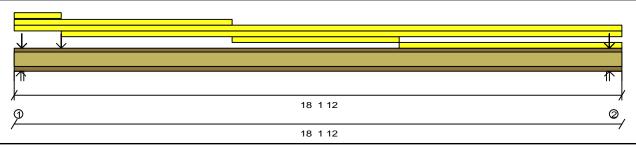
Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	6' 6.00"		27		10		Live
Additional Uniform (PLF)	Top	0' 0.00"	18' 1.75"		0		7		Live
Replacement Uniform (PLF)	Top	1' 5.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			378		0		Snow
Point (LBS)	Top	0' 2.75"			451		371		Live
Point (LBS)	Top	1' 5.00"			495		269		Live
Point (LBS)	Top	17' 9.13"			43		16		Live
Point (LBS)	Top	17' 9.13"			0		65		Live
Point (LBS)	Top	17' 9.13"			573		259		Live



# **Bearings and Factored Reactions**

	Location	Туре	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
ı	Location	iype	IVIALEI IAI	Lengin	Nequireu	Neaction	Opini
1	0' 0.000"	Wall	N/A	N/A	1.500"	3368#	
2	18' 1.750"	Wall	N/A	N/A	1.500"	2415#	
	•	•			<u>,                                      </u>		

**Maximum Unfactored Load Case Reactions** 

Used for applying point loads (or line loads) to carrying member Dead Live Snow

1359# 378# 912# 1117# 0# 591#

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.



Design spans 17' 6.500"

#### NJ12 2 ply **Product:**

NOTE: Web stiffeners are required at point loads > 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

Emmi Glatos Boolgii					
_	Actual	Limit	Capacity	Location	Loading
Positive Moment	5012.'#	9020.'#	55%	8.11'	Total Load 1.25D+1.5L
Shear	1958.#	3400.#	57%	0'	Total Load 1.25D+1.5L
End Reaction	3368.#	4100.#	82%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.4309"	0.5847"	L/488	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	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 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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Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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C.G. CARSON
100076892

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**Member Data** 

**Description: CalcG9** 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)

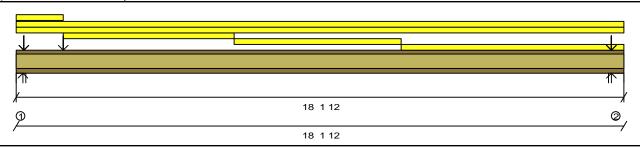
Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Additional Uniform (PLF)	Top	0' 0.00"	18' 1.75"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	6' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			378		0		Snow
Point (LBS)	Top	0' 2.75"			451		371		Live
Point (LBS)	Top	1' 5.00"			495		269		Live
Point (LBS)	Top	17' 9.13"			43		16		Live
Point (LBS)	Top	17' 9.13"			0		65		Live
Point (LBS)	Top	17' 9.13"			573		259		Live



# **Bearings and Factored Reactions**

	Location	Туре	Material	Input Lenath	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	3368#	
2	18' 1.750"	Wall	N/A	N/A	1.500"	2415#	

## **Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying memb Live Snow

Dead 1359# 378# 912# 1117# 0# 591#

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C.G. CARSON 100076892 100076892

Design spans 17' 6.500"

#### NJ12 2 ply **Product:**

NOTE: Web stiffeners are required at point loads > 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

014100 20019					
_	Actual	Limit	Capacity	Location	Loading
Positive Moment	5012.'#	9020.'#	55%	8.11'	Total Load 1.25D+1.5L
Shear	1958.#	3400.#	57%	0'	Total Load 1.25D+1.5L
End Reaction	3368.#	4100.#	82%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.4309"	0.5847"	L/488	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	Total Load L

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

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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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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PROFESSIONAL ENGINEER C.G. CARSON IN 100076892

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Member Data

**Description: CalcG10** 

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)

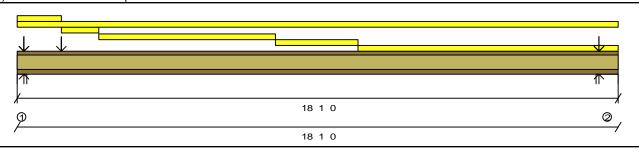
Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 4.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	1' 4.00"	2' 5.69"		27		10		Live
Replacement Uniform (PLF)	Top	2' 5.69"	7' 9.31"		27		10		Live
Replacement Uniform (PLF)	Top	7' 9.31"	10' 3.00"		27		10		Live
Replacement Uniform (PLF)	Top	10' 3.00"	18' 1.00"		27		10		Live
Point (LBS)	Top	0' 2.75"			32		0		Snow
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			286		182		Live
Point (LBS)	Top	1' 4.00"			503		209		Live
Point (LBS)	Top	17' 5.88"			43		16		Live
Point (LBS)	Top	17' 5.88"			0		65		Live
Point (LBS)	Тор	17' 5.88"			571		214		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"	2572#	
2	18' 1.000"	Wall	N/A	N/A	1.500"	2261#	

**Maximum Unfactored Load Case Reactions** 

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

Live Snow De

	Live	Snow	Dead
1	1197#	32#	608#
2	1106#	0#	481#

2 1106# 0#
Design spans

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C.G. CARSON 100076892

23 MAR 2017

17' 3.250"

# 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	4486.'#	9020.'#	49%	7.99'	Total Load 1.25D+1.5L
Shear	1819.#	3400.#	53%	0'	Total Load 1.25D+1.5L
End Reaction	2572.#	4100.#	62%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.3707"	0.5757"	L/559	8.85'	Total Load D+L
LL Deflection	0.2684"	0.4318"	L/772	8.85'	Total Load L

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

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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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: CalcG11** 

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)

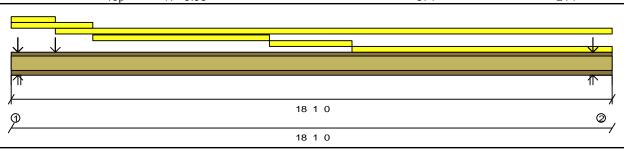
Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other L	.oads
---------	-------

ı	Туре				Trib.	Other		Dead		
ı	(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
ı	Replacement Uniform (PLF)	Top	0' 0.00"	1' 4.00"		9		3		Live
ı	Replacement Uniform (PLF)	Top	0' 0.00"	2' 5.69"		27		10		Live
ı	Replacement Uniform (PLF)	Top	1' 4.00"	18' 1.00"		27		10		Live
ı	Replacement Uniform (PLF)	Top	2' 5.69"	7' 9.31"		27		10		Live
ı	Replacement Uniform (PLF)	Top	7' 9.31"	10' 3.00"		27		10		Live
ı	Replacement Uniform (PLF)	Top	10' 3.00"	18' 1.00"		27		10		Live
ı	Point (LBS)	Top	0' 2.75"			32		0		Snow
ı	Point (LBS)	Top	0' 2.75"			0		65		Live
ı	Point (LBS)	Top	0' 2.75"			286		182		Live
ı	Point (LBS)	Top	1' 4.00"			503		209		Live
ı	Point (LBS)	Top	17' 5.88"			43		16		Live
1	Point (LBS)	Top	17' 5.88"			0		65		Live
1	Point (LBS)	Top	17' 5.88"			571		214		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"	2572#	·
2	18' 1.000"	Wall	N/A	N/A	1.500"	2261#	

## **Maximum Unfactored Load Case Reactions**

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

	Live	Snow	Dead
1	1197#	32#	608#
2	1106#	0#	481#

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.



Design spans 17' 3.250"

#### NJ12 2 ply **Product:**

NOTE: Web stiffeners are required at point loads > 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

014100 20019					
_	Actual	Limit	Capacity	Location	Loading
Positive Moment	4486.'#	9020.'#	49%	7.99'	Total Load 1.25D+1.5L
Shear	1819.#	3400.#	53%	0'	Total Load 1.25D+1.5L
End Reaction	2572.#	4100.#	62%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.3707"	0.5757"	L/559	8.85'	Total Load D+L
LL Deflection	0.2684"	0.4318"	L/772	8.85'	Total Load L

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

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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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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PROFESSIONAL ENGINEER C.G. CARSON IN 100076892

#### Qty. Product Type Length NJH12 16' 0" 14' 0" NJH12 J3 12' 0" NJH12 8 NJH12 10'0" J5 1 NJH12 8' 0" 5 NJH12 4' 0" 8 NJ40U12 20' 0" J9 3 NJ60H12 20' 0" 52 NJ60H12 18' 0" 1 1 3/4x11 7/8 West Fraser 2.0E- 8' 0" G1 G2 1 1 3/4x11 7/8 West Fraser 2.0E- 4' 0" G3 1 1 3/4x11 7/8 West Fraser 2.0E- 10' 0" G4 2 1 3/4x11 7/8 West Fraser 2.0E- 10' 0" 1 1 3/4x11 7/8 West Fraser 2.0E- 6' 0" G5 17 11 7/8" RIMBOARD

----- Floor Framing Material ------

----- Miscellaneous Materials ------

Type	Qty.	Product	Length
XXX	1	NJH12	12' 0"
XXX	1	NJ60H12	4' 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. Framer to verify dimensions on the architectural drawings.
- 2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation details.
- 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.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.



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.** 

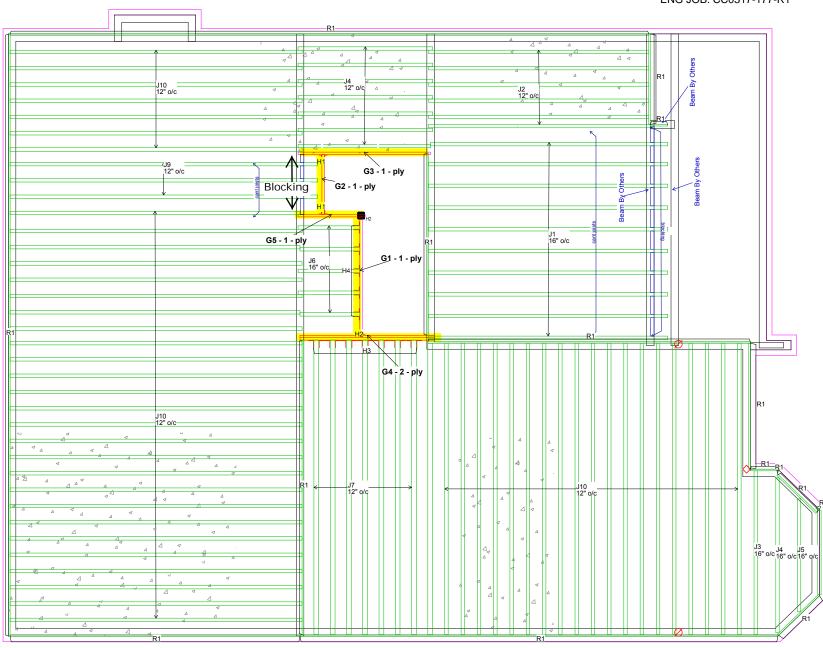
**Refer to Multiple Member Connection** Detail to ply to ply nailing or bolting requirements.



ID#	Qty	Model Number

2 HUS1.81/10 H2 1 HUS1.81/10 7 Н3 LT351188 H4 5 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.



# **SECOND FLOOR FRAMING**

TOWN OF MILTON PLANNING AND DEVELOPMEN JUNIPER 7 MODEL BUILDING: REVIEWED SCOTT SHERRIFFS APR 11, 2017

tions by the Town of Milton relives the owner from ponsibility for compliance with the provisions of ario Building Code Act and the Ontario Building ode, both as amended, as well as other applicable ws of the Region of Halton and Town of Milto

**RECEIVED** MAR 29, 2017 JUNIPER 7 BUILDING DIVISION



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Project Tag:

14 Anderson Blvd.

Uxbridge, ON. www.nascor.ca JUNIPER 7 EL - 1

**GREEN PARK HOMES LECCO RIDGE** MILTON,ON

Time: 07:54 AM DATE: 10/31/16 Designer: SB Not Scaled

**SALESMAN: RM** 

License Name: KEYMARK ENTERPRISES, INC.

Type Qty. Product 10 NJH12 16' 0" 6 NJH12 14' 0" 12' 0" J3 3 NJH12 10'0" 7 NJH12 4' 0" 5 NJH12 J7 8 NJ40U12 20' 0" J9 3 NJ60H12 20' 0" J10 52 NJ60H12 18' 0" 1 1 3/4x11 7/8 West Fraser 2.0E- 8' 0" G1 1 1 3/4x11 7/8 West Fraser 2.0E- 4' 0" G2 G3 1 1 3/4x11 7/8 West Fraser 2.0E- 10' 0" 2 1 3/4x11 7/8 West Fraser 2.0E- 10' 0" G5 1 1 3/4x11 7/8 West Fraser 2.0E- 6' 0" R1 17 11 7/8" RIMBOARD ----- Miscellaneous Materials ------

----- Floor Framing Material ------

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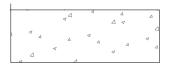
# DESIGN ASSUMPTIONS

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. Framer 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.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- 5. Refer to Nascor specifier guide for installation details.
- 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.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.



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

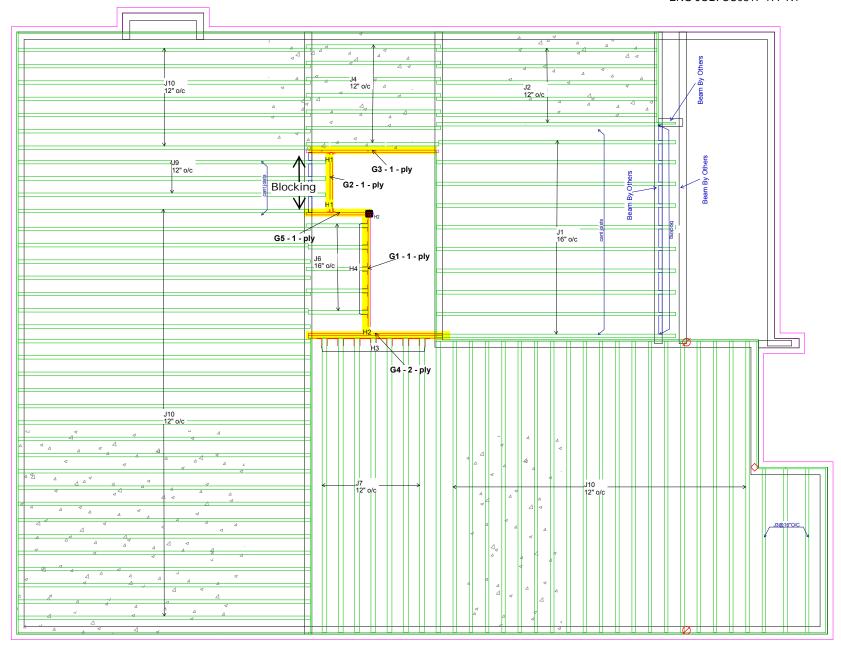
PASS-THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

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

--- Connector List ---

ID# Qty Model Number

H1 2 HUS1.81/10 H2 1 HUS1.81/10 H3 7 LT351188 H4 5 LT251188



# SECOND FLOOR FRAMING

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 7 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 relives 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

es and regulations of the Province on Ontari

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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.

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Project Tag:

JUNIPER 7 EL - 2

GREEN PARK HOMES
LECCO RIDGE

MILTON,ON

Time: 07:54 AM DATE: 10/31/16

DATE: 10/31/16 Designer: SB Not Scaled License Name:

KEYMARK ENTERPRISES, INC.

SALESMAN: RM

----- Floor Framing Material ------

Туре	Qty.	Product	Length
J1	16 N	JH12	16' 0"
J3 J4	3 NJ 7 NJ		12' 0" 10' 0"
J6 J7 J9 J10 G1 G2 G3 G4 G5 R1	3 NJ 52 N 1 13 1 13 2 13 1 13	40U12 60H12 J60H12 3/4x11 7/8 W6 3/4x11 7/8 W6 3/4x11 7/8 W6	4' 0" 20' 0" 20' 0" 18' 0" est Fraser 2.0E- 8' 0" est Fraser 2.0E- 4' 0" est Fraser 2.0E- 10' 0 est Fraser 2.0E- 10' 0 est Fraser 2.0E- 6' 0" ARD 12' 0"
	Mi	scellaneous N	Materials
Type	Qty.	Product	Length

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**DESIGN ASSUMPTIONS** =================

NJ60H12

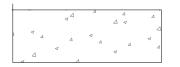
Loads:(un-factored) T/C Live: 40 psf B/C Live: 0 psf T/C Dead: 15 psf B/C Dead: 0 psf Load Case: Live **Deflection Criteria:** L/480 Live L/360 Total Building Code: OBC-2012 (Limit States Design Building Type: Residential Importance Category: Normal (Part 9) Design assumes top edge continuously braced, 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:

XXX

- 1. Framer to verify dimensions on the architectural drawings.
- 2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation details.
- 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.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.



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.** 

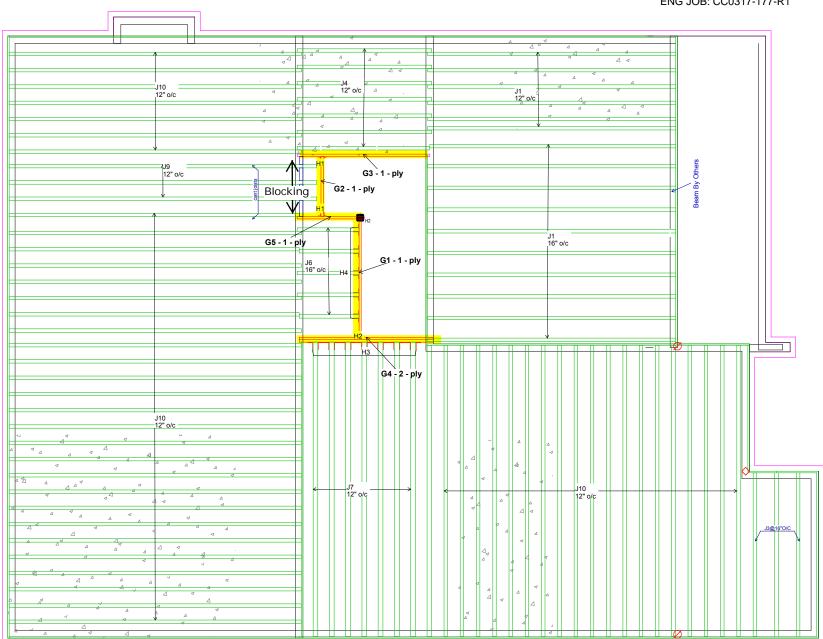
**Refer to Multiple Member Connection** Detail to ply to ply nailing or bolting requirements.

--- Connector List ---

ID# Qty Model Number HUS1.81/10

1 HUS1.81/10 H2 Н3 7 LT351188 5 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.



# SECOND FLOOR FRAMING

TOWN OF MILTON PLANNING AND DEVELOPMENT JUNIPER 7 MODE **BUILDING: REVIEWED** SCOTT SHERRIFFS ther the issuance of a permit nor carrying out of pections by the Town of Milton relives the owner fro sponsibility for compliance with the provisions of e Ontario Building Code Act and the Ontario Building de, both as amended, as well as other applicable es and regulations of the Province on Ontario

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Project Tag:

JUNIPER 7 EL - 3

**GREEN PARK HOMES LECCO RIDGE** MILTON,ON

Time: 07:54 AM DATE: 10/31/16

Designer: SB Not Scaled License Name: KEYMARK ENTERPRISES, INC.

SALESMAN: RM

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**Member Data** 

**Description: CalcG1** 

Comments:

Dead Load:

Standard Load: Live Load: 0 PLF

Building Type: Residential

0 PLF

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: 5.9 PLF

Other Loads

Type (Description) Replacement Uniform (PLF)

Side Top

**Begin** 0' 0.00'

End 7' 9.50"

Trib. Width Other Start 75

End

Dead Start

28

End

Category Live

,		<u> </u>
, <sup>(1)</sup>	7 9 8	Ø /
	7 9 8	

# Bearings and Factored Reactions

				input	win	Gravity	Gravity
	Location	Type	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	564#	
2	7' 9.500"	Wall	N/A	N/A	1.500"	564#	

# **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	273#	124#
2	273#	124#

Design spans

7' 3.375"

**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	1027.'#	17693.'#	5%	3.93'	Total Load 1.25D+1.5L
Shear	411.#	6908.#	5%	0.3'	Total Load 1.25D+1.5L
TL Deflection	0.0181"	0.2427"	L/999+	3.93'	Total Load D+L
LL Deflection	0.0125"	0.1820"	L/999+	3.93'	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

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

**RECEIVED** TOWN OF MILTON MAR 29, 2017 JUNIPER 7 **BUILDING DIVISION** 

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.

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C.G. CARSON IN 100076892

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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. Uxbridge, ON. www.nascor.ca

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**Member Data** 

**Description: CalcG2** Comments:

Standard Load: Live Load: 0 PLF 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: 5.9 PLF

Other Loads

Dead Load:

Type (Description) Replacement Uniform (PLF)

Building Type: Residential

0 PLF

Side

**Begin** 0' 0.00'

End 3' 11.75"

Trib. Width

Other Start 240

End

Dead Start 90

End

Category Live

3 11 12 3 11 12

# Bearings and Factored Reactions

	Location	Type	Material	input Length	win Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	885#	
2	3' 11.750"	Girder	N/A	N/A	N/A	885#	

# **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	443#	177#
2	443#	177#

Design spans

3' 8.250"

**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	816.'#	17693.'#	4%	1.99'	Total Load 1.25D+1.5L
Shear	410.#	6908.#	5%	2.91'	Total Load 1.25D+1.5L
TL Deflection	0.0060"	0.1229"	L/999+	1.99'	Total Load D+L
LL Deflection	0.0043"	0.0922"	L/999+	1.99'	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"

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

**RECEIVED** TOWN OF MILTON MAR 29, 2017 JUNIPER 7 **BUILDING DIVISION** 

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.

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C.G. CARSON IN 100076892

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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. Uxbridge, ON. www.nascor.ca

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**Member Data** 

**Description: CalcG3** Comments:

Standard Load: Live Load:

0 PLF 0 PLF Dead Load:

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

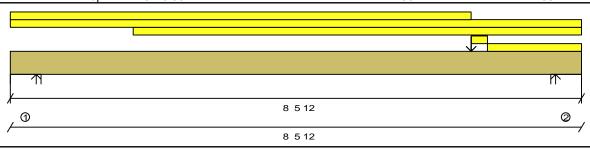
Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.9 PLF

Other Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	6' 10.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 5.75"		27		10		Live
Additional Uniform (PLF)	Top	1' 10.00"	8' 5.75"		0		7		Live
Replacement Uniform (PLF)	Top	6' 10.00"	7' 1.00"		9		3		Live
Replacement Uniform (PLF)	Top	7' 1.00"	8' 5.75"		27		10		Live
Point (LBS)	Top	6' 10.00"			192		72		Live
Point (LBS)	Top	6' 10.00"			460		199		Live



Bearings and Factored Reactions
---------------------------------

	_	_		Input	Min	Gravity	Gravity
l	Location	Type	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	537#	
2	8' 5.750"	Wall	N/A	N/A	1.500"	1464#	

1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply

# **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	245#	136#
2	699#	332#

Design spans

7' 8.500"

**Product:** 

**PASSES DESIGN CHECKS** 

PROFESSIONAL ENGINEER C.G. CARSON IN 100076892

100076892

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	1751.'#	17693.'#	9%	6.82'	Total Load 1.25D+1.5L
Shear	1345.#	6908.#	19%	7.32'	Total Load 1.25D+1.5L
TL Deflection	0.0313"	0.2569"	L/999+	4.62'	Total Load D+L
LL Deflection	0.0206"	0.1927"	L/999+	4.62'	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

Pass-Thru Framing Squash Block is

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

required at all point loads over bearings

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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.

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**Member Data Description: CalcG4** 

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

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 6.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 6.00"		367		137		Live
Replacement Uniform (PLF)	Top	4' 6.00"	5' 6.75"		367		137		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	5' 6.75"	8' 5.75"		367		137		Live
Point (LBS)	Top	4' 6.00"			281		158		Live



# **Bearings and Factored Reactions**

	Location	Туре	Material	Input Length	win Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	3225#	·
2	8' 5.750"	Wall	N/A	N/A	1.500"	3334#	

## **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	1593#	668#
2	1647#	691#

Design spans 7' 8.500"

# PASSES DESIGN CHECKS

C.G. CARSON

100076892

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

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	6884.'#	35386.'#	19%	4.5'	Total Load 1.25D+1.5L
Shear	2553.#	13815.#	18%	7.32'	Total Load 1.25D+1.5L
TL Deflection	0.0642"	0.2569"	L/999+	4.24'	Total Load D+L
LL Deflection	0.0450"	0.1927"	L/999+	4.24'	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

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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**Member Data** 

**Description: CalcG5** 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

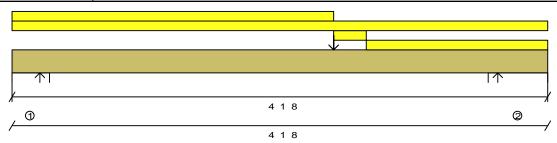
Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.9 PLF

041	1
Other	Loads

Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	2' 5.75"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		27		10		Live
Replacement Uniform (PLF)	Top	2' 5.75"	2' 8.75"		9		3		Live
Replacement Uniform (PLF)	Top	2' 8.75"	4' 1.50"		27		10		Live
Point (LBS)	Top	2' 5.75"			192		72		Live
Point (LBS)	Top	2' 5.75"			460		199		Live



# **Bearings and Factored Reactions**

				Input	Min	Gravity	Gravity
	Location	Type	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Wall	N/A	N/Ā	1.500"	613#	
2	4' 1.500"	Wall	N/A	N/A	1.500"	1012#	

## **Maximum Unfactored Load Case Reactions**

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

	Live	Dead
1	299#	132#
2	497#	214#

Design spans 3' 6.250"

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

# **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	1188.'#	17693.'#	6%	2.48'	Total Load 1.25D+1.5L
Shear	901.#	6908.#	13%	2.86'	Total Load 1.25D+1.5L
TL Deflection	0.0068"	0.1174"	L/999+	2.16'	Total Load D+L
LL Deflection	0.0048"	0.0880"	L/999+	2.16'	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

**BUILDING DIVISION** 

C.G. CARSON IN 100076892

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.

READ ALL NOTES ON THIS PAGE AND ON THE

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