

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.

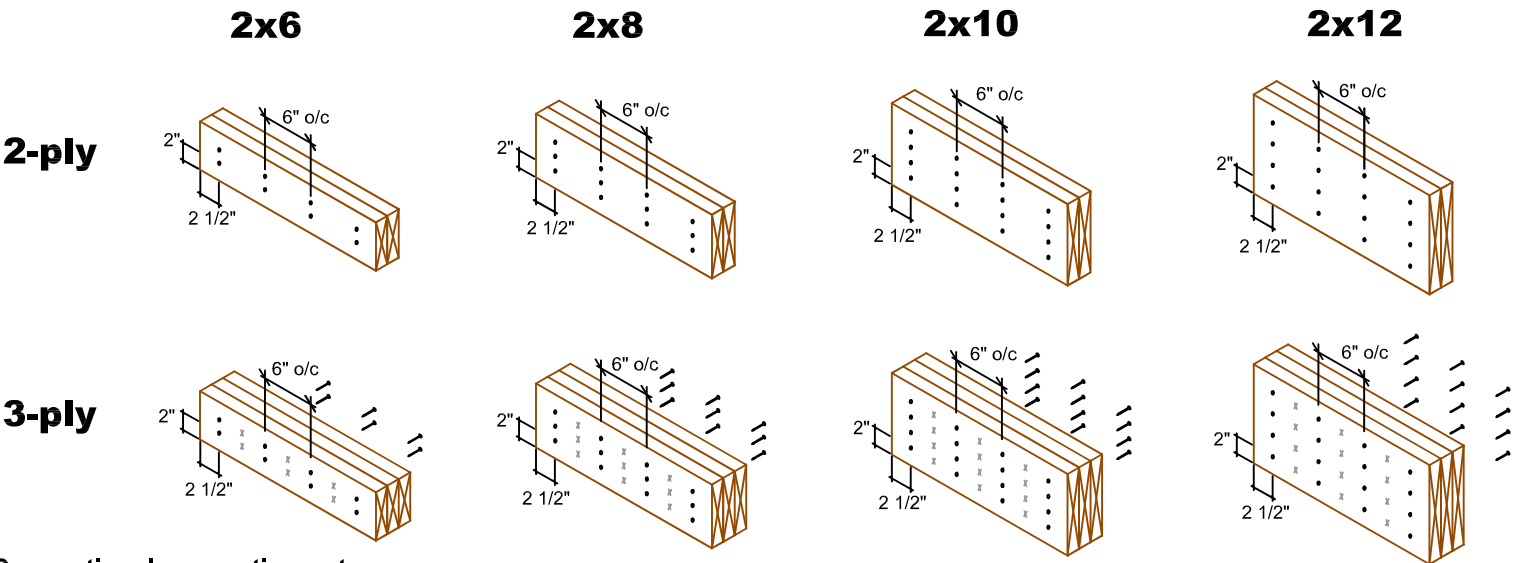
HANDLING AND INSTALLATION

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

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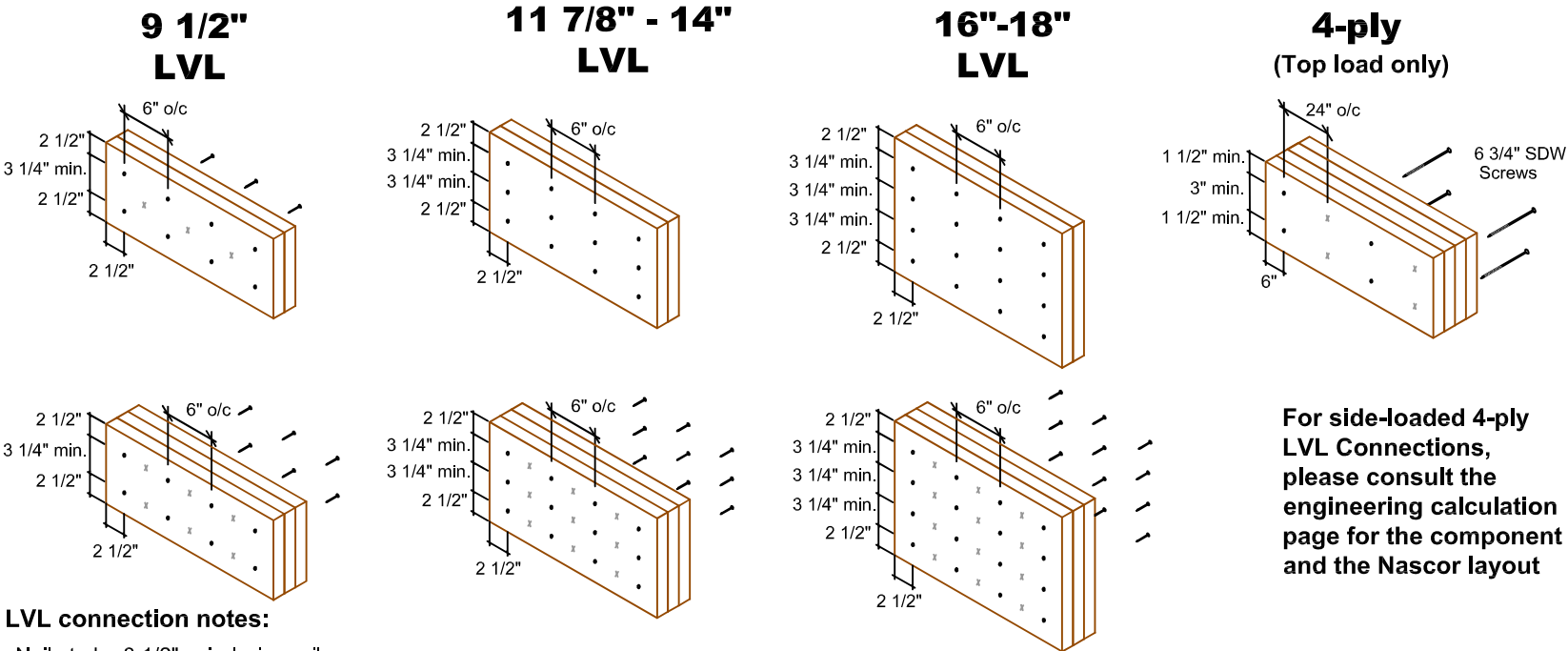
MULTIPLE MEMBER CONNECTIONS

Conventional Connections (for uniform distributed loads)



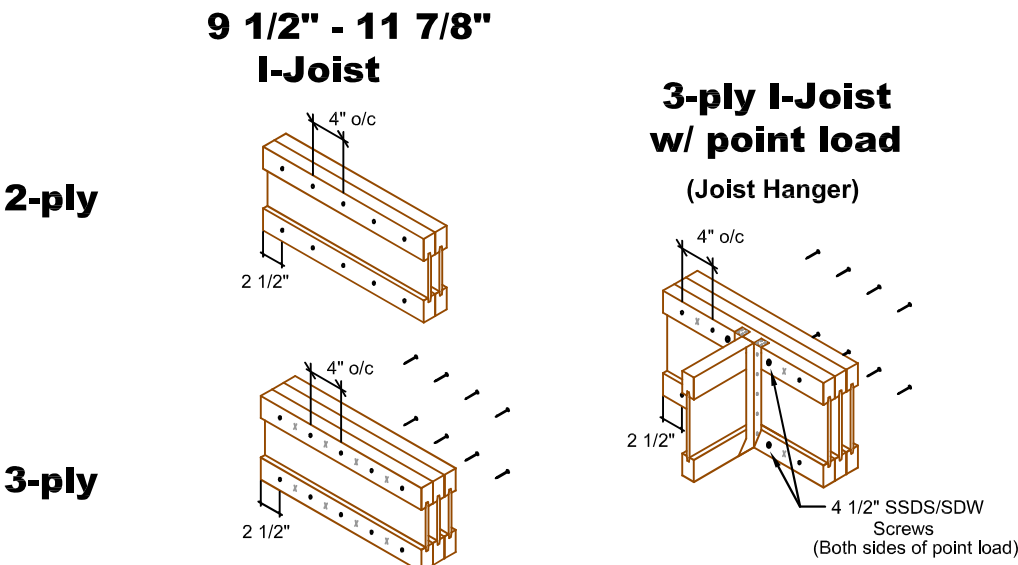
- Conventional connection notes:**
- Nails to be 3" 10d spiral wire nails.
 - Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
 - Number of rows and spacing as per details shown, unless noted otherwise.
 - "X" represents nail 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	15	NJ40U12	20' 0"
J2	16	NJ40U12	18' 0"
J3	1	NJH12	14' 0"
J4	3	NJH12	10' 0"
J5	1	NJH12	6' 0"
J6	1	NJH12	2' 0"
J7	13	NJ60H12	18' 0"
G1	2	1-3/4 x 11-7/8 2.0E Global LVL	20' 0"
G2	2	NJ12	4' 0"
G3	2	NJ12	4' 0"
G4	1	1-3/4 x 11-7/8 2.0E Global LVL	6' 0"
G5	2	NJ12	2' 0"
G6	2	NJ12	2' 0"
G7	2	1-3/4 x 11-7/8 2.0E Global LVL	6' 0"
G8	2	NJ12	20' 0"
G9	2	NJ12	20' 0"
G10	2	NJ12	20' 0"
G11	2	NJ12	20' 0"
G12	2	NJ12	20' 0"
G13	2	1-3/4 x 11-7/8 2.0E Global LVL	20' 0"
R1	12	11 7/8" RIMBOARD	12' 0"

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HATCH AREA REPRESENTS
CERAMIC TILED FLOOR WITH AN
ADDITIONAL DEAD LOAD OF 5 PSF



The framing shown on this layout may deviate from the architectural drawing.
Project engineer to review and approve the deviation prior to construction.

Architectural Drawing Info:
REGION DESIGN INC.
8700 Dufferin St., Concord, ON
Date: Rev.2; Apr.2017
Project Number: 02-10-107
Model: Lot 150 (Juniper 6 El2)

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.

Rim parallel to joists: 1-1/8" rimboard with
2"x4" block (1/16" longer than rim depth @ 16"o/c.
Rim perpendicular to joists: 1-1/8" rimboard with
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.

SB: SQUASH BLOCKS

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

ID#	Qty	Model Number
H1	6	LT2-151188
H2	1	HUS1.81/10
H3	9	LT351188
H4	5	LT251188
	2	H3

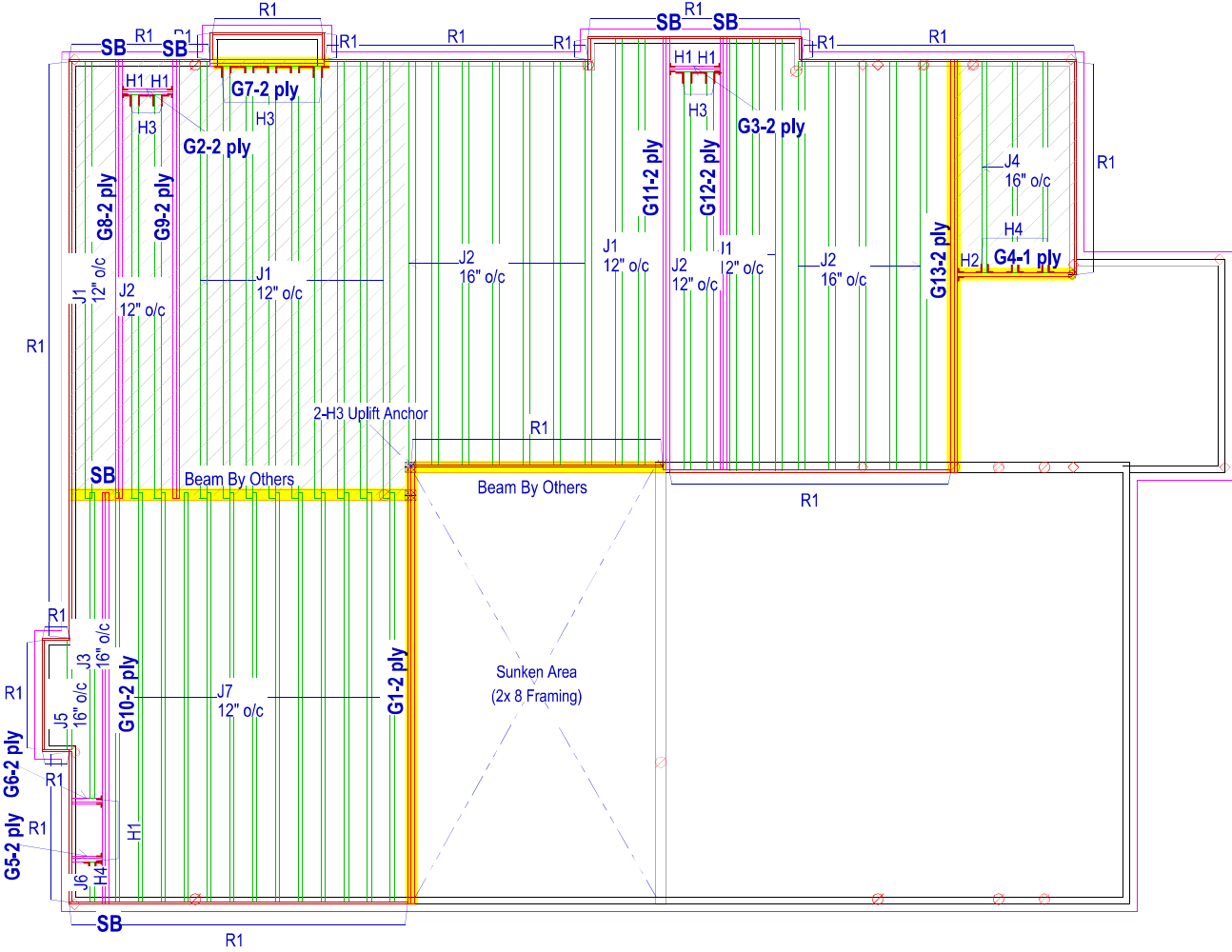
DESIGN ASSUMPTIONS
=====

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.



FIRST FLOOR FRAMING



TOWN OF MILTON
PLANNING AND DEVELOPMENT
BUILDING PERMIT: 17-7102

BUILDING: REVIEWED
SCOTT SHERRIFFS JUN 12, 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

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

Project Tag:

MILTON, ONT.

GREENPARK HOMES
LECCO RIDGE
LOT 150 (JUNIPER 6 EL2)



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: 10.1 PLF

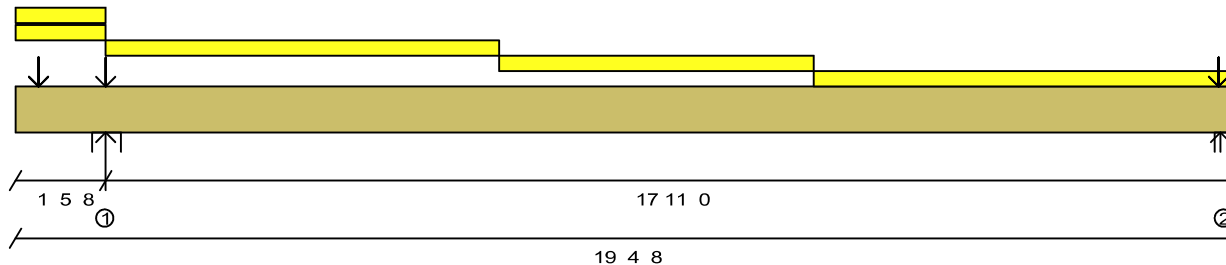
Filename: S:\CUSTOMERS

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' 5.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.50"		53		60		Live
Replacement Uniform (PLF)	Top	1' 5.50"	7' 8.50"		27		10		Live
Replacement Uniform (PLF)	Top	7' 8.50"	12' 8.50"		27		10		Live
Replacement Uniform (PLF)	Top	12' 8.50"	19' 4.50"		27		10		Live
Point (LBS)	Top	0' 4.63"			0		81		Live
Point (LBS)	Top	0' 4.63"			714		284		Live
Point (LBS)	Top	0' 4.63"			766		287		Live
Point (LBS)	Top	1' 5.50"			848		364		Live
Point (LBS)	Top	19' 1.75"			0		162		Live
Point (LBS)	Top	19' 1.75"			909		0		Snow
Point (LBS)	Top	19' 1.75"			1112		826		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	1' 5.500"	Wall	N/A	N/A	1.500"	2548#	--
2	19' 4.500"	Wall	N/A	N/A	1.500"	3930#	--

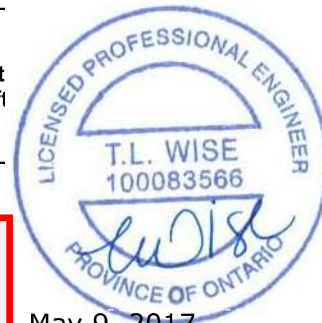
Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	1172#	0#	631#
2	1348#	909#	1163#

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

1' 0.875" (left cant) 17' 8.375"

Product: 1-3/4 x 11-7/8 2.0E Global LVL 2 ply**PASSES DESIGN CHECKS****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.****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	2521. #	37634. #	6%	10.31'	Even Spans 1.25D+1.5L
Negative Moment	127. #	37634. #	0%	1.46'	Total Load 1.25D+1.5L
Negative Unbrcd	127. #	34945. #	0%	1.46'	Cants Only 1.25D+1.5L
Shear	519. #	13217. #	3%	1.47'	Total Load 1.25D+1.5L
TL Deflection	0.1041"	0.5899"	L/999+	10.31'	Even Spans D+L
LL Deflection	0.0603"	0.4424"	L/999+	10.31'	Even Spans L
TL Defl., Lt.	-0.0200"	0.2000"	2L/999+	0'	Even Spans D+L
LL Defl., Lt.	-0.0117"	0.2000"	2L/999+	0'	Even Spans L

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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.

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



Member Data**Description: CalcG2**

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: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads**Type**

(Description)

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

2' 9.00"

Trib.
WidthOther
Start

353

End

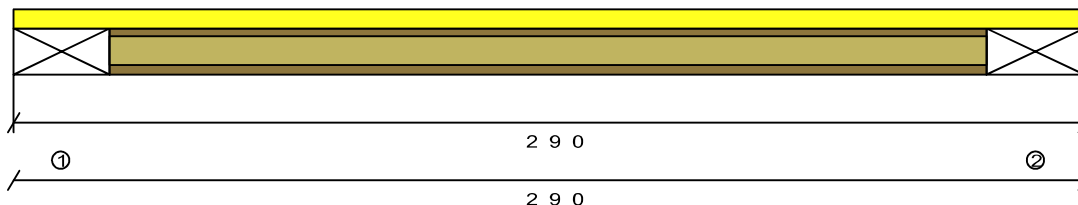
Dead
Start

177

End

Category

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	845#	--
2	2' 9.000"	Girder	N/A	N/A	N/A	845#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	398#	199#
2	398#	199#

Design spans

2' 3.000"

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	475.#	9020.#	5%	1.38'	Total Load 1.25D+1.5L
Shear	845.#	3400.#	24%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0035"	0.0750"	L/999+	1.38'	Total Load D+L
LL Deflection	0.0023"	0.0563"	L/999+	1.38'	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

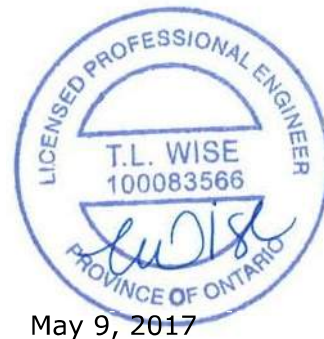
Web stiffener and minimum bearing length requirements at hungared connections depend on the connection style and are not included in this design.

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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Uxbridge, ON.
www.nascor.ca



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

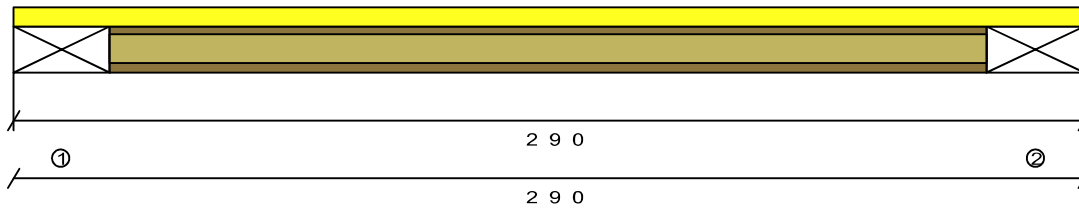
Filename: S:\CUSTOMERS

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' 9.00"		349		131		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	772#	--
2	2' 9.000"	Girder	N/A	N/A	N/A	772#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	392#	147#
2	392#	147#

Design spans
2' 3.000"**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	434. #	9020. #	4%	1.38'	Total Load 1.25D+1.5L
Shear	772. #	3400. #	22%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0031"	0.0750"	L/999+	1.38'	Total Load D+L
LL Deflection	0.0023"	0.0563"	L/999+	1.38'	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 hanged 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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Uxbridge, ON.
www.nascor.ca



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

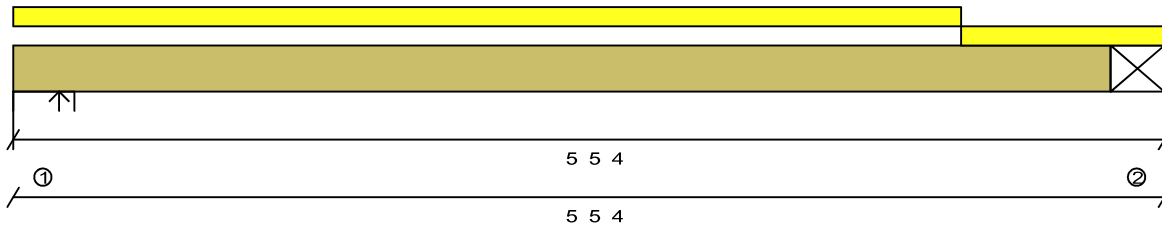
Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)**Application:** Floor**Building Code:** OBC-2012

0.720" max. LL

Member Weight: 5.0 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' 5.75"		188		94		Live
Replacement Uniform (PLF)	Top	4' 5.75"	5' 5.25"		188		94		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"	1010#	--
2	5' 5.250"	Girder	N/A	N/A	N/A	1010#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	468#	246#
2	468#	246#

Design spans
4' 11.625"**Product:** 1-3/4 x 11-7/8 2.0E Global LVL 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	1254. #	18817. #	6%	2.7'	Total Load 1.25D+1.5L
Shear	608. #	6608. #	9%	4.44'	Total Load 1.25D+1.5L
TL Deflection	0.0081"	0.1656"	L/999+	2.7'	Total Load D+L
LL Deflection	0.0053"	0.1242"	L/999+	2.7'	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 hanged connections depend on the connection style and are not included in this design.

**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
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May 9, 2017

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

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: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads**Type**

(Description)

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

1' 8.50"

Trib.
WidthOther
Start

40

End

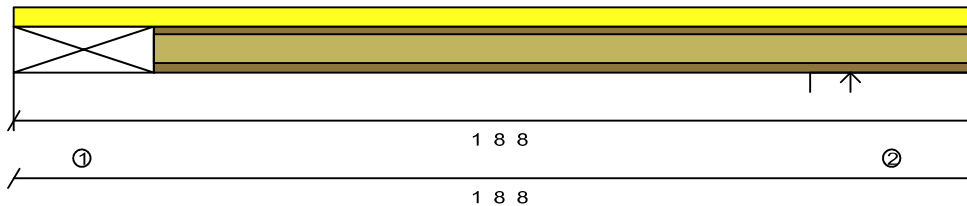
Dead
Start

15

End

Category

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	49#	--
2	1' 8.500"	Wall	N/A	N/A	1.500"	49#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	25#	9#
2	25#	9#

Design spans

1' 2.875"

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	15.#	9020.#	0%	0.87'	Total Load 1.25D+1.5L
End Reaction	49.#	4100.#	1%	1.71'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.0413"	L/999+	0.87'	Total Load D+L
LL Deflection	0.0010"	0.0310"	L/999+	0.87'	Total Load L

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

Control: Shear

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

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

Web stiffener and minimum bearing length requirements at hanged 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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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
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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: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Other Loads**Type**

(Description)

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

1' 8.50"

Trib.
WidthOther
Start

268

End

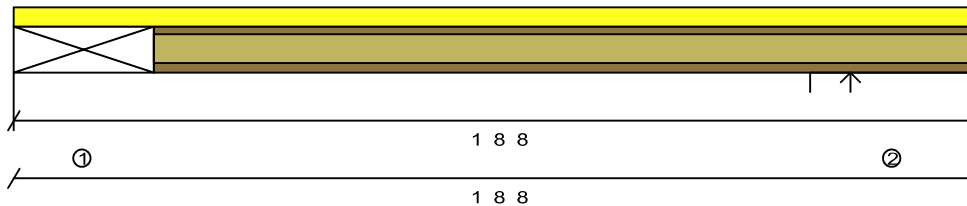
Dead
Start

101

End

Category

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	327#	--
2	1' 8.500"	Wall	N/A	N/A	1.500"	327#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	166#	62#
2	166#	62#

Design spans

1' 2.875"

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	101.#	9020.#	1%	0.87'	Total Load 1.25D+1.5L
End Reaction	327.#	4100.#	7%	1.71'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.0413"	L/999+	0.87'	Total Load D+L
LL Deflection	0.0010"	0.0310"	L/999+	0.87'	Total Load L

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

Control: Shear

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

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

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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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
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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

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

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 10.1 PLF

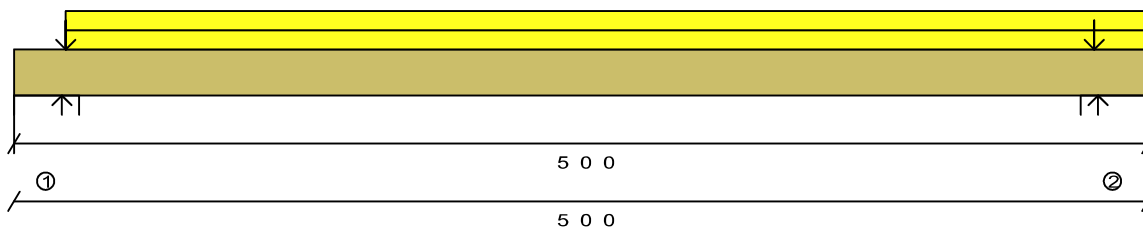
Filename: S:\CUSTOMERS

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' 2.75"	5' 0.00"		455		0		Snow
Replacement Uniform (PLF)	Top	0' 2.75"	5' 0.00"		961		694		Live
Point (LBS)	Top	0' 2.75"			0		69		Live
Point (LBS)	Top	4' 9.25"			0		69		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1.969"	5876#	--
2	5' 0.000"	Wall	N/A	N/A	1.978"	5902#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	2183#	1034#	1668#
2	2193#	1038#	1675#

Design spans

4' 6.750"



May 9, 2017

Product: 1-3/4 x 11-7/8 2.0E Global LVL 2 ply**PASSES DESIGN CHECKS****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.****Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	6633. #	37634. #	17%	2.5'	Total Load 1.25D+1.5L+1.00*0.5S
Shear	3293. #	13217. #	24%	0.23'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.0189"	0.1521"	L/999+	2.5'	Total Load D+L+0.5S
LL Deflection	0.0119"	0.1141"	L/999+	2.5'	Total Load L+0.5S

(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

Point loads over bearings are NOT included in the Design calculations, but ARE included in the Reaction table

**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
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Member Data**Description:** CalcG8**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

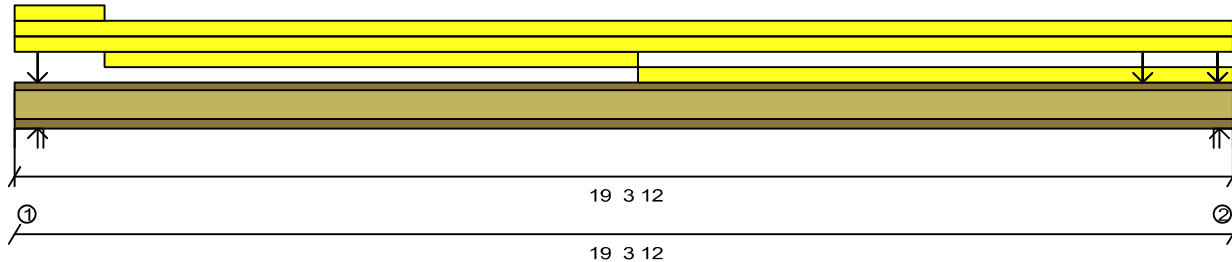
Filename: S:\CUSTOMERS

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' 5.50"		27		10		Live
Additional Uniform (PLF)	Top	0' 0.00"	19' 3.75"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	19' 3.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.50"	9' 10.75"		27		10		Live
Replacement Uniform (PLF)	Top	9' 10.75"	19' 3.75"		27		10		Live
Point (LBS)	Top	0' 4.63"			447		198		Live
Point (LBS)	Top	17' 10.75"			442		238		Live
Point (LBS)	Top	19' 1.00"			0		162		Live
Point (LBS)	Top	19' 1.00"			172		0		Snow
Point (LBS)	Top	19' 1.00"			763		500		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"	2040#	--
2	19' 3.750"	Wall	N/A	N/A	1,500"	4018#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	974#	0#	463#
2	1676#	172#	1135#

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Design spans
18' 8.500"

May 9, 2017

Product: NJ12 2 ply**PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.
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.
Lateral support is required at each bearing.

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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	5542. #	9020. #	61%	9.91'	Total Load 1.25D+1.5L
Shear	1959. #	3400. #	57%	19.31'	Total Load 1.25D+1.5L
End Reaction	1959. #	4100. #	47%	19.31'	Total Load 1.25D+1.5L
TL Deflection	0.5364"	0.6236"	L/418	9.9'	Total Load D+L
LL Deflection	0.3565"	0.4677"	L/629	9.9'	Total Load L

(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

Point loads over bearings are NOT included in the Design calculations, but ARE included in the Reaction table

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

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Member Data**Description:** CalcG9**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

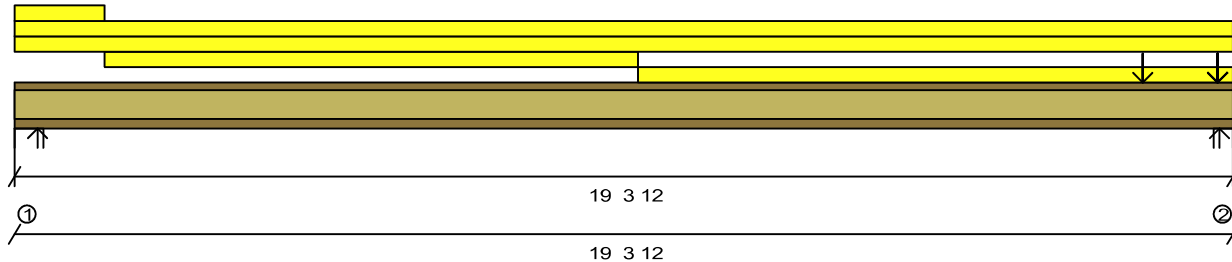
Filename: S:\CUSTOMERS

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' 5.50"		27		10		Live
Additional Uniform (PLF)	Top	0' 0.00"	19' 3.75"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	19' 3.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.50"	9' 10.75"		27		10		Live
Replacement Uniform (PLF)	Top	9' 10.75"	19' 3.75"		27		10		Live
Point (LBS)	Top	17' 10.75"			442		238		Live
Point (LBS)	Top	19' 1.00"			72		0		Snow
Point (LBS)	Top	19' 1.00"			76		0		Snow
Point (LBS)	Top	19' 1.00"			0		121		Live
Point (LBS)	Top	19' 1.00"			97		70		Live
Point (LBS)	Top	19' 1.00"			318		208		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"	1122#	--
2	19' 3.750"	Wall	N/A	N/A	1.500"	3155#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	527#	0#	265#
2	1327#	147#	873#

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Design spans
18' 8.500"**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.
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.
Lateral support is required at each bearing.

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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	5542.7#	9020.7#	61%	9.91'	Total Load 1.25D+1.5L
Shear	1959.7#	3400.7#	57%	19.31'	Total Load 1.25D+1.5L
End Reaction	1959.7#	4100.7#	47%	19.31'	Total Load 1.25D+1.5L
TL Deflection	0.5364"	0.6236"	L/418	9.9'	Total Load D+L
LL Deflection	0.3565"	0.4677"	L/629	9.9'	Total Load L

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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

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Importance Category: Normal (Part 9)

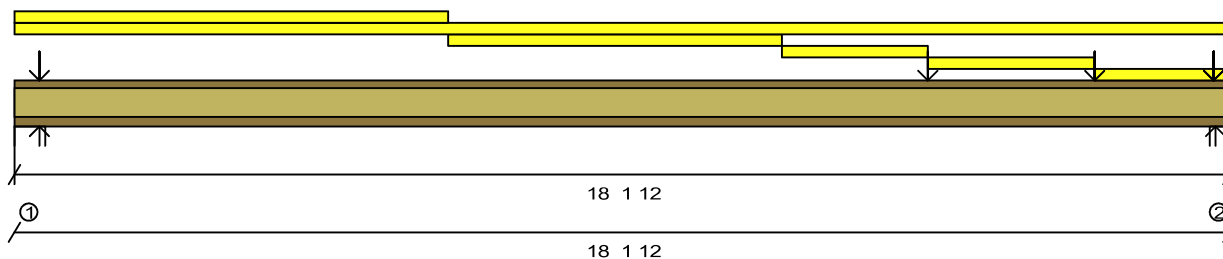
Application: Floor

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"	6' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	6' 5.75"	11' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	11' 5.75"	13' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	13' 7.75"	16' 1.75"		9		3		Live
Replacement Uniform (PLF)	Top	16' 1.75"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 4.63"			1310		581		Live
Point (LBS)	Top	13' 7.75"			212		91		Live
Point (LBS)	Top	16' 1.75"			32		23		Live
Point (LBS)	Top	17' 11.00"			0		290		Live
Point (LBS)	Top	17' 11.00"			308		0		Snow
Point (LBS)	Top	17' 11.00"			1284		981		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"	3711#	--
2	18' 1.750"	Wall	N/A	N/A	1,500"	4912#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	1826#	0#	778#
2	1904#	308#	1522#

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Design spans
17' 6.500"

May 9, 2017

Product: NJ12 2 ply**PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.
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.
Lateral support is required at each bearing.

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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4944.#	9020.#	54%	10.03'	Total Load 1.25D+1.5L
Shear	1244.#	3400.#	36%	18.15'	Total Load 1.25D+1.5L
End Reaction	1244.#	4100.#	30%	18.15'	Total Load 1.25D+1.5L
TL Deflection	0.4162"	0.5847"	L/505	9.16'	Total Load D+L
LL Deflection	0.2994"	0.4385"	L/703	9.16'	Total Load L

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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

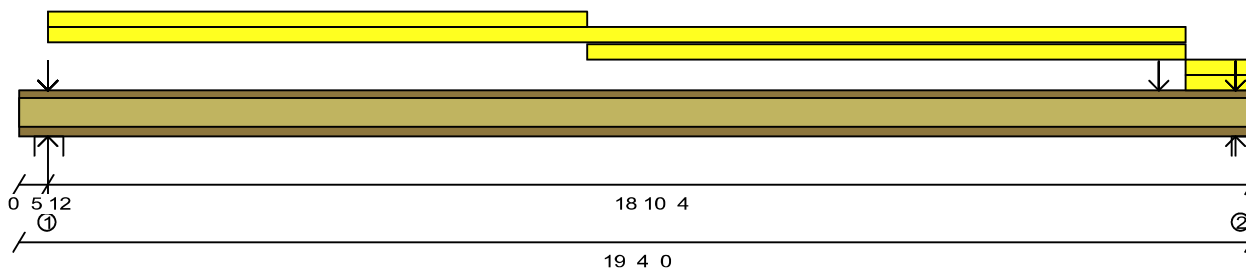
Filename: S:\CUSTOMERS

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' 5.75"	8' 11.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 5.75"	18' 4.00"		27		10		Live
Replacement Uniform (PLF)	Top	8' 11.00"	18' 4.00"		27		10		Live
Replacement Uniform (PLF)	Top	18' 4.00"	19' 4.00"		27		10		Live
Replacement Uniform (PLF)	Top	18' 4.00"	19' 4.00"		27		10		Live
Point (LBS)	Top	0' 5.75"			0		81		Live
Point (LBS)	Top	0' 5.75"			0		81		Live
Point (LBS)	Top	0' 5.75"			295		133		Live
Point (LBS)	Top	0' 5.75"			517		220		Live
Point (LBS)	Top	0' 5.75"			754		283		Live
Point (LBS)	Top	0' 5.75"			754		283		Live
Point (LBS)	Top	17' 11.00"			436		181		Live
Point (LBS)	Top	19' 1.25"			0		162		Live
Point (LBS)	Top	19' 1.25"			186		0		Snow
Point (LBS)	Top	19' 1.25"			754		501		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 5.750"	Wall	N/A	N/A	1.500"	5865#	--
2	19' 4.000"	Wall	N/A	N/A	1.500"	3855#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	2845#	0#	1278#
2	1659#	186#	1019#

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Design spans

0' 3.625" (left cant)

18' 7.625"

May 9, 2017

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.
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.
Lateral support is required at each bearing.

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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	5092. #	9020. #	56%	10.73'	Total Load 1.25D+1.5L
Shear	1802. #	3400. #	52%	19.33'	Total Load 1.25D+1.5L
Cant. Shear, Lt	0. #	3400. #	0%	N/A	Total Load 1.25D+1.5L
End Reaction	1802. #	4100. #	43%	19.33'	Total Load 1.25D+1.5L
TL Deflection	0.4840"	0.6212"	L/462	9.8'	Total Load D+L

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	Actual	Limit	Capacity	Location	Loading
LL Deflection	0.3508"	0.4659"	L/637	9.8'	Total Load L
TL Defl., Lt.	-0.0230"	0.2000"	2L/314	0'	Total Load D+L
LL Defl., Lt.	-0.0167"	0.2000"	2L/434	0'	Total Load L

(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
Left cantilever allowable shear is for joist only
Point loads over bearings are NOT included in the Design calculations, but ARE included in the Reaction table
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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14 Anderson Blvd.
Uxbridge, ON.
www.nascor.ca



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

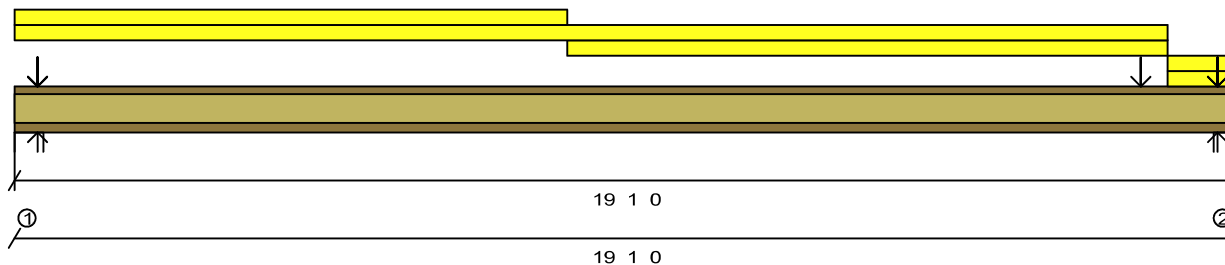
Filename: S:\CUSTOMERS

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"	8' 8.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	8' 8.00"	18' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	18' 1.00"	19' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	18' 1.00"	19' 1.00"		27		10		Live
Point (LBS)	Top	0' 4.63"			0		162		Live
Point (LBS)	Top	0' 4.63"			1033		440		Live
Point (LBS)	Top	0' 4.63"			1508		566		Live
Point (LBS)	Top	17' 8.00"			436		181		Live
Point (LBS)	Top	18' 10.25"			0		162		Live
Point (LBS)	Top	18' 10.25"			186		0		Snow
Point (LBS)	Top	18' 10.25"			754		501		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"	6299#	--
2	19' 1.000"	Wall	N/A	N/A	1.500"	3846#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	3063#	0#	1364#
2	1655#	186#	1017#

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Design spans
18' 5.750"

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May 9, 2017

Product: NJ12 2 ply**PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.
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.
Lateral support is required at each bearing.

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	5017.#	9020.#	55%	10.55'	Total Load 1.25D+1.5L
Shear	1793.#	3400.#	52%	19.08'	Total Load 1.25D+1.5L
End Reaction	1793.#	4100.#	43%	19.08'	Total Load 1.25D+1.5L
TL Deflection	0.4694"	0.6160"	L/472	9.63'	Total Load D+L
LL Deflection	0.3402"	0.4620"	L/651	9.63'	Total Load L

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Member Data**Description: CalcG13**

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: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

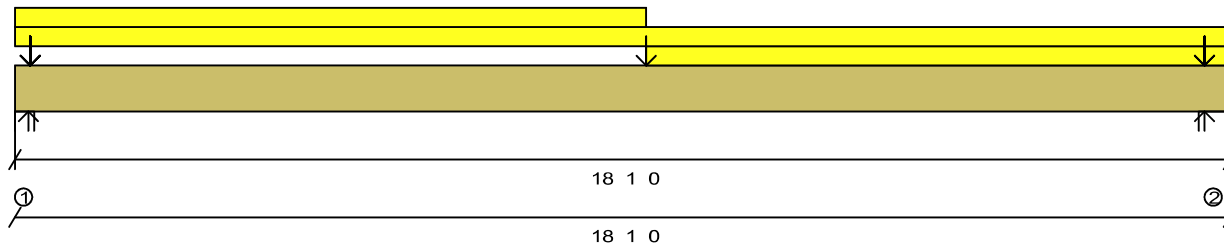
Building Code: OBC-2012

0.720" max. LL

Member Weight: 10.1 PLF

Other Loads

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	9' 5.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	9' 5.00"	18' 1.00"		120		45		Live
Point (LBS)	Top	0' 2.75"			14		4		Snow
Point (LBS)	Top	0' 2.75"			0		324		Live
Point (LBS)	Top	0' 2.75"			0		324		Live
Point (LBS)	Top	0' 2.75"			224		224		Live
Point (LBS)	Top	0' 2.75"			514		0		Snow
Point (LBS)	Top	9' 5.00"			487		279		Live
Point (LBS)	Top	17' 8.38"			0		81		Live
Point (LBS)	Top	17' 8.38"			613		396		Live
Point (LBS)	Top	17' 8.38"			1085		407		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"	3594#	--
2	18' 1.000"	Wall	N/A	N/A	1.500"	6410#	--

Maximum Unfactored Load Case Reactions

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

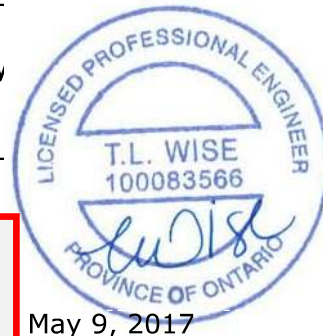
	Live	Snow	Dead
1	1103#	528#	1340#
2	3010#	0#	1515#

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May 9, 2017

Design spans
17' 5.750"

Product: 1-3/4 x 11-7/8 2.0E Global LVL 2 ply

PASSES DESIGN CHECKS

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.

**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	12498. #	37634. #	33%	9.42'	Total Load 1.25D+1.5L
Shear	2459. #	13217. #	18%	16.82'	Total Load 1.25D+1.5L
TL Deflection	0.4561"	0.5826"	L/459	9.41'	Total Load D+L
LL Deflection	0.3022"	0.4370"	L/694	9.41'	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

Point loads over bearings are NOT included in the Design calculations, but ARE included in the Reaction table

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

Type	Qty.	Product	Length
J1	2	NJH12	18' 0"
J2	11	NJH12	14' 0"
J3	34	NJ60U12	20' 0"
J4	5	NJH12	16' 0"
J5	25	NJ60H12	18' 0"
G2	2	1-3/4 x 11-7/8 2.0E Global LVL	6' 0"
G3	2	1-3/4 x 11-7/8 2.0E Global LVL	4' 0"
G6	2	1-3/4 x 11-7/8 2.0E Global LVL	18' 0"
G7	2	1-3/4 x 11-7/8 2.0E Global LVL	18' 0"
G8	3	1-3/4 x 11-7/8 2.0E Global LVL	18' 0"
R1	12	11 7/8" RIMBOARD	12' 0"

----- Beam & Ledger Material -----

Type	Qty.	Product	Length
B1	3	1-3/4 x 11-7/8 2.0E Global LVL	12' 0"

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

Type	Qty.	Product	Length
XXX	1	NJH12	4' 0"

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

ID#	Qty	Model Number
H1	2	HGUS410
H1A	1	HUC412
H2	13	LT251188
H3	2	MIU2.56/11

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
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

HATCH AREA REPRESENTS
CERAMIC TILED FLOOR WITH AN
ADDITIONAL DEAD LOAD OF 5 PSF

The framing shown on this layout may deviate from the architectural drawing.
Project engineer to review and approve the deviation prior to construction.



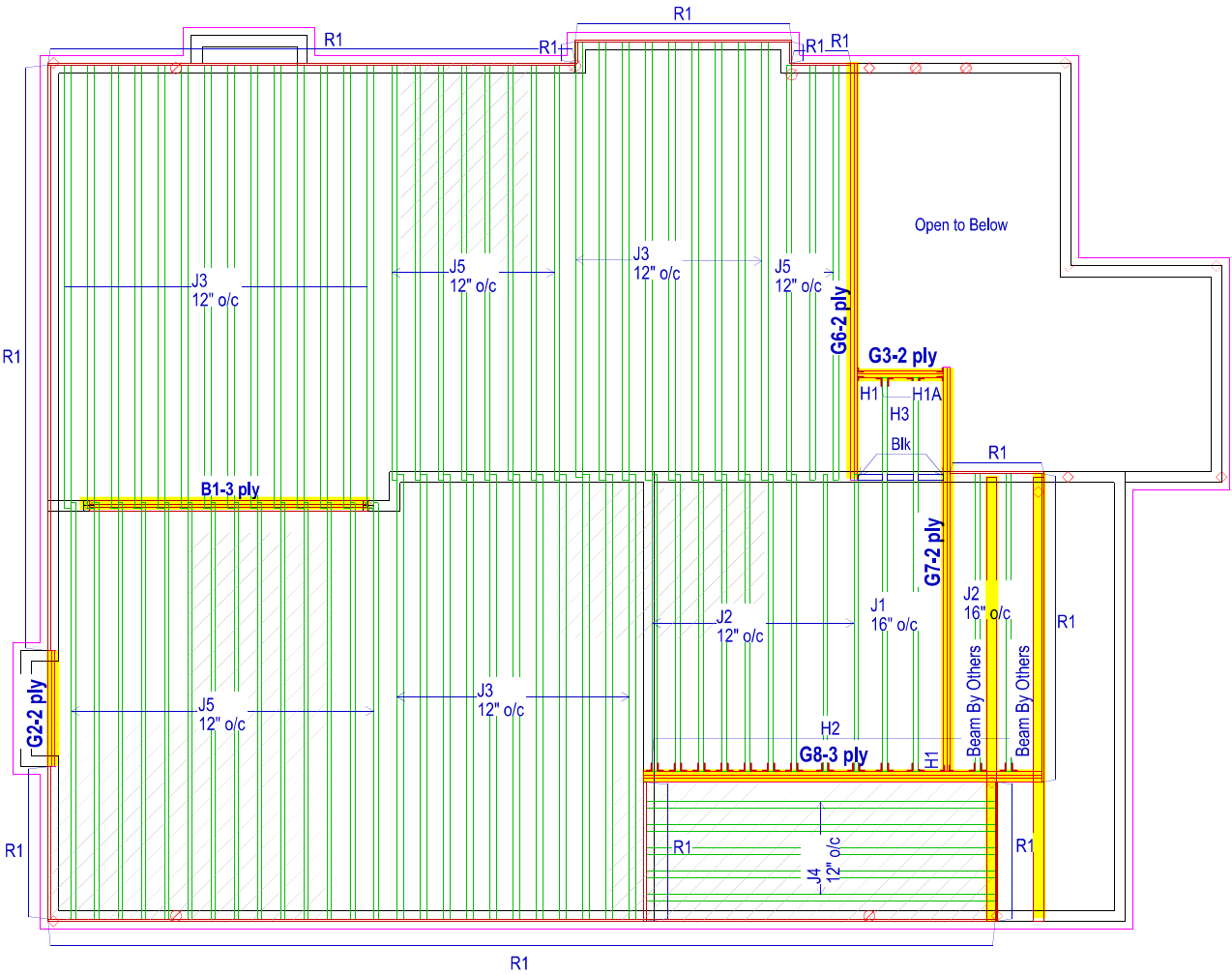
Architectural Drawing Info:
REGION DESIGN INC.
8700 Dufferin St., Concord, ON
Date: Rev.2; Apl.2017
Project Number: 02-10-07
Model: Lot 150 (Juniper 6 EI2)

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.

Rim parallel to joists: 1-1/8" rimboard with
2"x4" block (1/16" longer than rim depth @ 16"o/c.
Rim perpendicular to joists: 1-1/8" rimboard with
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.

- 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.



SECOND FLOOR FRAMING



TOWN OF MILTON
PLANNING AND DEVELOPMENT
BUILDING PERMIT: 17-7102

BUILDING: REVIEWED
SCOTT SHERRIFFS JUN 12, 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

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Project Tag:

MILTON, ONT.

GREENPARK HOMES
LECCO RIDGE
LOT 150 (JUNIPER 6 EL2)

Customer#: Salesman#:RM

Time: 09:59 AM
Date: 05/08/17
Designer: RCO
Scale: 1/8" = 1'
License Name:
KEYMARK ENTERPRISES, INC.



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: 10.1 PLF

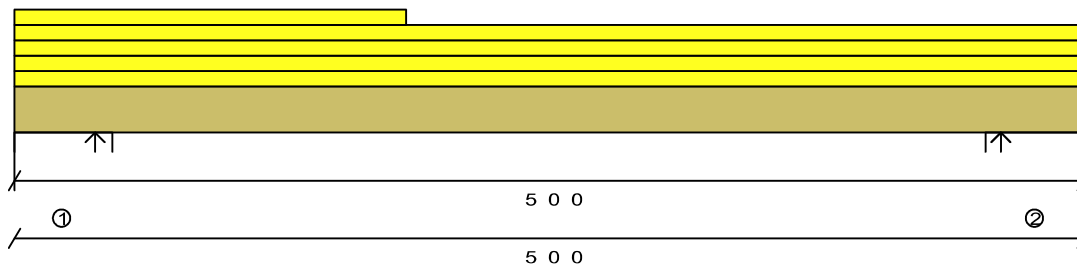
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal

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

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	1' 10.00"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	5' 0.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	5' 0.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	5' 0.00"		95		0		Snow
Replacement Uniform (PLF)	Top	0' 0.00"	5' 0.00"		41		122		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"	779#	--
2	5' 0.000"	Wall	N/A	N/A	1,500"	771#	--

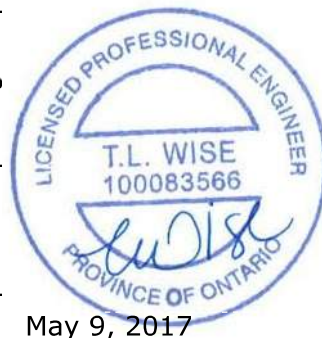
Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	163#	201#	316#
2	163#	201#	310#

Design spans

4' 2.750"

**Product: 1-3/4 x 11-7/8 2.0E Global LVL 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	817.#	37634.#	2%	2.5'	Total Load 1.25D+1.00*1.5S+0.5L
Shear	411.#	13217.#	3%	3.77'	Total Load 1.25D+1.00*1.5S+0.5L
TL Deflection	0.0020"	0.1410"	L/999+	2.5'	Total Load D+0.90*S+0.5L
LL Deflection	0.0010"	0.1057"	L/999+	2.5'	Total Load 0.90*S+0.5L

(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

READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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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:** 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: S:\CUSTOMERS

Importance Category: Normal**Application:** Floor**Building Code:** OBC-2012

0.720" max. LL

Member Weight: 10.1 PLF**Other Loads****Type****(Description)**

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

4' 3.50"

**Trib.
Width****Other**

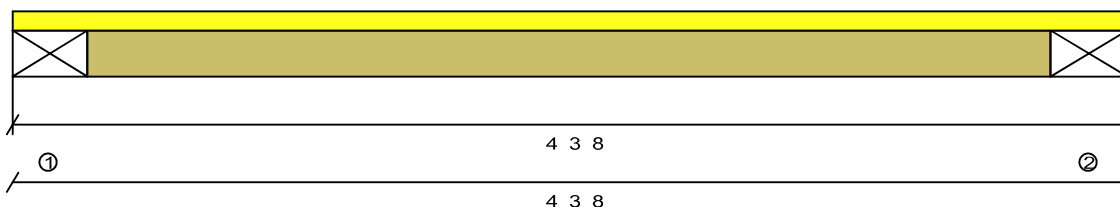
-140

End**Dead**

-21

End**Category**

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	26#	-414#
2	4' 3.500"	Girder	N/A	N/A	N/A	26#	-414#

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	-258#	-20#
2	-258#	-20#

Design spans

3' 8.500"

**Product:** 1-3/4 x 11-7/8 2.0E Global LVL 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Review gravity uplift reaction force of 415lbs at bearing 1 and ensure that the structure can resist appropriately.

Review gravity uplift reaction force of 415lbs at bearing 2 and ensure that the structure can resist appropriately.

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

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	25. #	24462. #	0%	2.15'	Total Load 1.4D
Negative Moment	385. #	37634. #	1%	2.15'	Total Load 1.25D+1.5L
Negative Unbrcd	385. #	24245. #	1%	2.15'	Total Load 1.25D+1.5L
Shear	194. #	13217. #	1%	0.3'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.1236"	L/999+	2.15'	Total Load D+L
LL Deflection	0.0010"	0.0927"	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: Negative Unbrcd

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

Minimum bearing length requirements at hanged 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:** 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

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

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 10.1 PLF

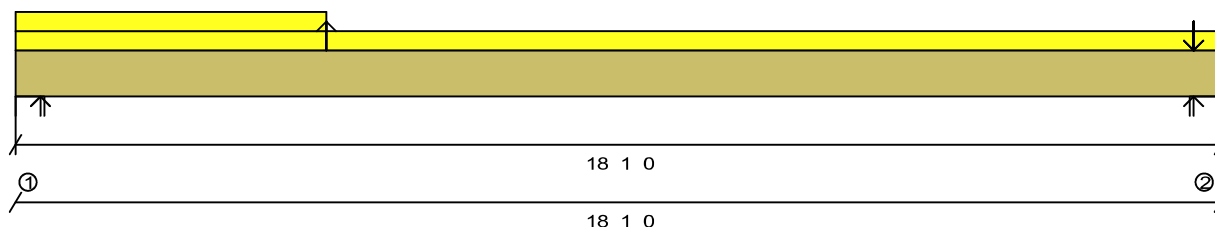
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal

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

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 8.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.00"		27		10		Live
Point (LBS)	Top	4' 8.00"			-280		-15		Live
Point (LBS)	Top	17' 8.38"			0		162		Live
Point (LBS)	Top	17' 8.38"			373		373		Live
Point (LBS)	Top	17' 8.38"			858		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"	761#	-245#
2	18' 1.000"	Wall	N/A	N/A	1.500"	2489#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	331#	0#	212#
2	618#	858#	714#

Design spans

17' 3.750"



May 9, 2017

Product: 1-3/4 x 11-7/8 2.0E Global LVL 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	2681.7#	37634.7#	7%	9.04'	Total Load 1.25D+1.5L
Negative Moment	1139.7#	37634.7#	3%	4.67'	Total Load 0.9D+1.5L
Negative Unbrcd	1139.7#	5193.7#	21%	4.67'	Total Load 0.9D+1.5L
Shear	644.7#	13217.7#	4%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.1075"	0.5771"	L/999+	9.04'	Total Load D+L
LL Deflection	0.0629"	0.4328"	L/999+	9.04'	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: Negative Unbrcd

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

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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Uxbridge, ON.
www.nascor.ca

CS Beam 2016.1.1.1
kmBeamEngine 4.13.16.1
Materials Database 1547

Member Data**Description: G7**

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: 10.1 PLF

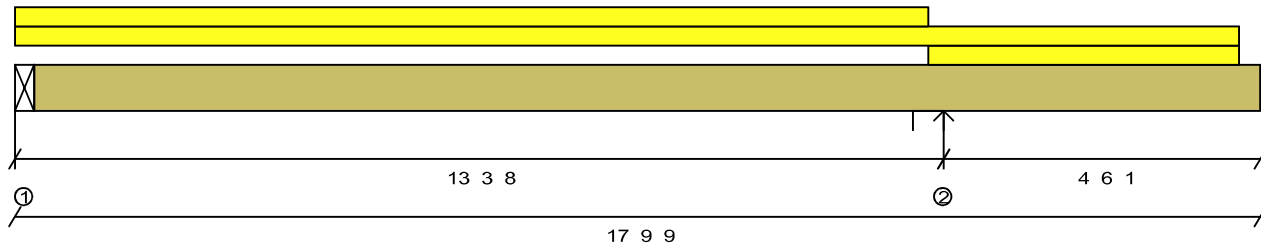
Filename: G7_10.kyb

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"	13' 0.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	17' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	13' 0.75"	17' 6.00"		120		45		Live

**Bearings and Factored Reactions**

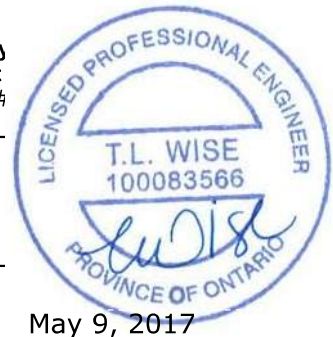
	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	SPF Plate (614psi)	N/A	N/A	708#	-14#
2	13' 3.500"	Wall	SPF Plate (614psi)	5.500"	1.500"	2285#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	347#	150#
2	1085#	526#

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

13' 0.000"

4' 6.062" (right cant)

May 9, 2017

Product: 1-3/4 x 11-7/8 2.0E Global LVL 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.

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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	2131.##	37634.##	5%	6.14'	Odd Spans 1.25D+1.5L
Negative Moment	2685.##	37634.##	7%	13.29'	Total Load 1.25D+1.5L
Negative Unbrd	2479.##	5139.##	48%	13.29'	Cants Only 0.9D+1.5L
Shear	974.##	13217.##	7%	13.3'	Total Load 1.25D+1.5L
Max. Reaction	2285.##	11838.##	19%	13.29'	Total Load 1.25D+1.5L
TL Deflection	0.0439"	0.4333"	L/999+	6.79'	Odd Spans D+L
LL Deflection	0.0351"	0.3250"	L/999+	6.79'	Odd Spans L
TL Defl., Rt.	0.0595"	0.3004"	2L/999+	17.8'	Cants Only D+L
LL Defl., Rt.	0.0560"	0.2253"	2L/999+	17.8'	Cants Only 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: Negative Unbrd

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

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

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

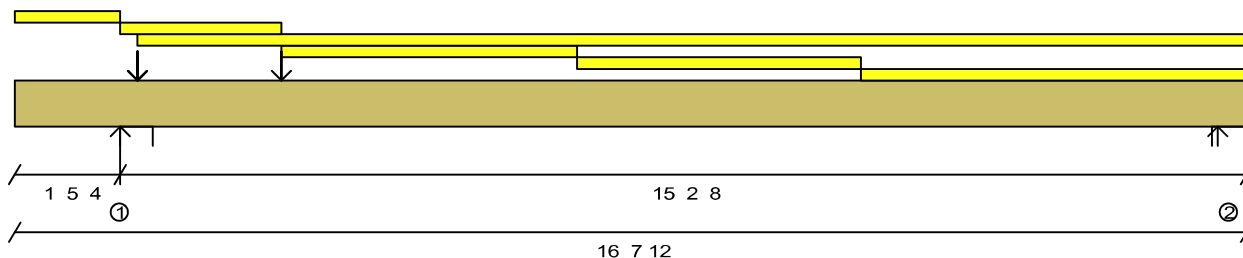
Filename: S:\CUSTOMERS

Importance Category: Normal**Application:** Floor**Building Code:** OBC-2012

0.720" max. LL

Member Weight: 15.1 PLF**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.25"		258		178		Live
Replacement Uniform (PLF)	Top	1' 5.25"	3' 7.25"		258		97		Live
Replacement Uniform (PLF)	Top	1' 8.00"	16' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	3' 7.25"	7' 7.25"		210		78		Live
Replacement Uniform (PLF)	Top	7' 7.25"	11' 5.25"		258		97		Live
Replacement Uniform (PLF)	Top	11' 5.25"	16' 7.75"		258		106		Live
Point (LBS)	Top	1' 8.00"			73		0		Snow
Point (LBS)	Top	1' 8.00"			32		94		Live
Point (LBS)	Top	3' 7.25"			90		56		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	1' 5.250"	Wall	N/A	N/A	1.500"	5345#	--
2	16' 7.750"	Wall	N/A	N/A	1.500"	4251#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	2466#	73#	1288#
2	2071#	0#	915#

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IN THE DESIGN OF THIS COMPONENT.

Design spans

1' 5.250" (left cant)

14' 9.875"

May 9, 2017

Product: 1-3/4 x 11-7/8 2.0E Global LVL 3 ply

Design assumes continuous lateral bracing along the top chord.
Design assumes no lateral bracing along the bottom chord.

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PASSES DESIGN CHECKS**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	15296.##	58709.##	26%	8.85'	Even Spans 1.25D+1.5L
Negative Moment	650.##	58709.##	1%	1.44'	Total Load 1.25D+1.5L
Negative Unbrcd	650.##	58709.##	1%	1.44'	Total Load 1.25D+1.5L
Shear	3677.##	19825.##	18%	1.45'	Total Load 1.25D+1.5L
TL Deflection	0.2894"	0.4941"	L/614	8.85'	Even Spans D+L
LL Deflection	0.2030"	0.3706"	L/876	8.85'	Even Spans L
TL Defl., Lt.	-0.0888"	0.2000"	2L/388	0'	Even Spans D+L
LL Defl., Lt.	-0.0629"	0.2000"	2L/548	0'	Even Spans 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

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
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www.nascor.ca



Member Data**Description:** CalcB1**Comments:**

Member Type: Beam

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: 15.1 PLF

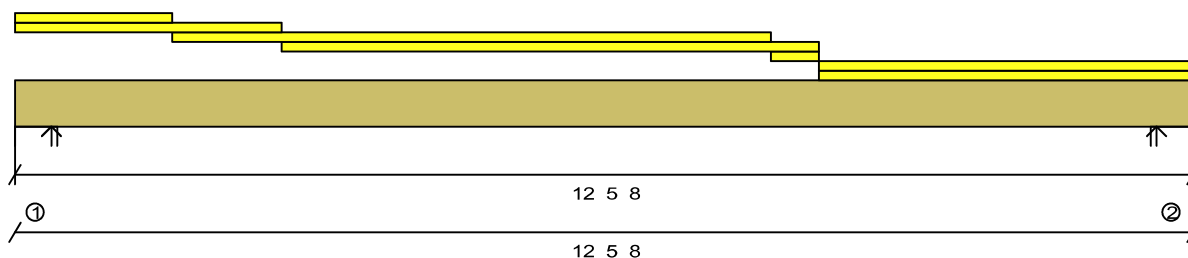
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal

Other Loads

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 8.00"		358		134		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 10.00"		382		143		Live
Replacement Uniform (PLF)	Top	1' 8.00"	8' 0.00"		358		174		Live
Replacement Uniform (PLF)	Top	2' 10.00"	8' 6.00"		382		143		Live
Replacement Uniform (PLF)	Top	8' 0.00"	8' 6.00"		358		144		Live
Replacement Uniform (PLF)	Top	8' 6.00"	12' 5.50"		358		144		Live
Replacement Uniform (PLF)	Top	8' 6.00"	12' 5.50"		382		143		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	2.001"	8825#	--
2	12' 5.500"	Wall	N/A	N/A	1.992"	8784#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	4324#	1871#
2	4324#	1838#

Design spans
11' 8.250"

May 9, 2017

Product: 1-3/4 x 11-7/8 2.0E Global LVL 3 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	25863.##	58709.##	44%	6.23'	Total Load 1.25D+1.5L
Shear	7364.##	19825.##	37%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.3045"	0.3896"	L/460	6.23'	Total Load D+L
LL Deflection	0.2120"	0.2922"	L/661	6.23'	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: TL Deflection

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

**Pass-Thru Framing Squash Block is
required at all point loads over bearings****READ ALL NOTES ON THIS PAGE AND ON THE
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