Building Code NBCC 2010 / OBC

Design Method

Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

**Thickness** 

Fastener Vibration

Deck

Deflection Girder

Floor

Loads

Live

Dead

LSD

2012

40

15

480

360

480

360

360

240

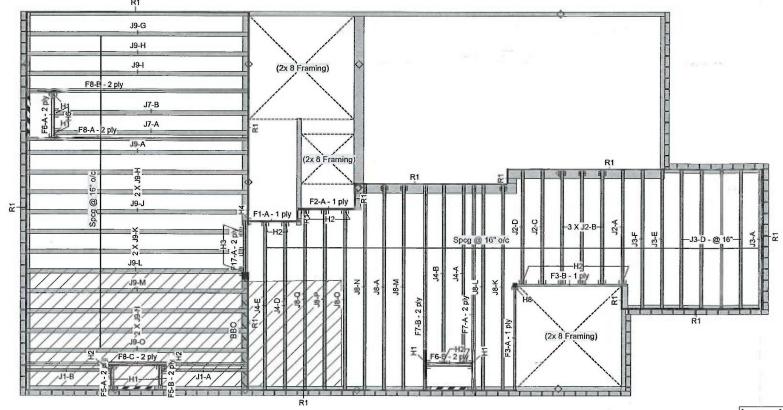
480

360

3/4 Nailed & Glued

SPF Plywood

#### Ground Floor



Legend 0



Load from Above Wall Opening Norbord Rimboard Plus 1.125 X 9.5 NJ 9.5 NJ60U 9.5 **NJH 9.5** Forex 2.0E-3000Fb LVL 1.75 X 9.5

- 1. OEC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R
- 3. LVL CCMC -14056-R
- 4. CAN/CSA-O86-09
- 5. CCMC -12787-R APA PR-L310(C)

### THIS CERTIFICATION IS TO CONFIRM THAT:

- 1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.
- 2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

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.



REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

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

NETTE MARY FRE

CITY OF BRAMPTON BUILDING DIVISION REVIEWED JAN 08 2019

Ground Floor LVL/LSL (Flush) Width Depth | Qty | Plies | Pcs | Length Label Description 8-0-0 F3 Forex 1.75 9.5 2 2.0E-3000Fb LVL Layout Name F2 Forex 1.75 1 6-0-0 2.0E-3000Fb LVL HEMLOCK 4-1 & 4-2 F17 Forex 1.75 9.5 2 4-0-0 Design Method 2.0E-3000Fb LVL LSD F1 Forex 1.75 95 4-0-0 2.0E-3000Fb LVL Description MINNISALE HOMES Joist (Flush) BRAMPTON, ONT. Label Description Width Depth | Qty | Plies | Pcs | Length Revised F8 NJ 1.5 9.5 3 2 6 16-0-0 F7 NJ 1.5 9.5 4 14-0-0 August 13, 2018 F6 NJ 1.5 9.5 2 4-0-0 Builder F5 NJ 1.5 2 2-0-0 9.5 2 4 GREENPARK J9 NJ60U 3.5 9.5 14 16-0-0 Sales Rep J7 NJ60U 3.5 14-0-0 9.5 2 RM 14-0-0 J8 NJH 2.5 9.5 8 J4 NJH 2.5 9.5 12-0-0 Designer J3 NJH 2.5 9.5 7 10-0-0 RCO J2 NJH 2.5 9.5 6 8-0-0 Shipping J1 NJH 2.5 9.5 6-0-0 Project Rim Board Builder's Project Pcs Length Label Description Width Depth Qty Plies **Kott Lumber Company** Norbord Rimboard Plus 1.125 X 9.5 13 1.125 9.5 14 Anderson Blvd

Hanger

Hanger					Beam/Girder	Supported Member	Stouffville, Ontario Canada
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	L4A 7X4
H1	6	LT2-159			4 10dx1 1/2	2 10dx1 1/2	905-642-4400
H2	15	LT259			4 10dx1 1/2	2 10dx1 1/2	Job Path
Н3	3	LT359			4 10d	2 10dx1 1/2	D:\Users\rochavillo\WORK FROM
H4	1	HUCQ1.81/9- SDS					HOME\GREENPARK\MINNISALE HOMES\HEMLOCK 4\HEMLOCK 4-1
H6	2	MIT49.5			4 10dx1 1/2	4 10dx1 1/2	\FLOOR\REV\HEMLOCK 4-1.isl
H8	1	L90					Ground Floor

- 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-load bearing walls.
- 4. Install single-ply flush window header along inside face of rimboard/rimjoist.

  5. Refer to Nascor specifier guide for installation works.
- 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.
- . Load transfer blocks to be installed under all point loads. 3. It shall be the framer's responsibility that floor joists and beams are
- fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an addtional dead load

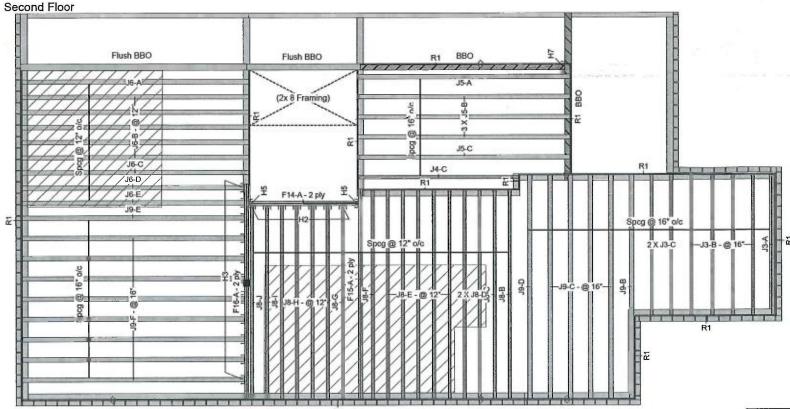
The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction

ARCHITECTURAL DRAWINGS:

VA3 DESIGN 255 Consumers Rd., Suite 120, Toronto, ON Date: Rev.6; July 23,2018 Project No: 18012 Model: Hemlock 4

All work shall conform to the Ontario Building Code O. Reg. 332/12 as amended

> Engineered floor joists shall be installed in accordance with the supplier's layout and specifications forming part of the permit drawings.



Legend

Load from Above Norbord Rimboard Plus 1.125 X 9.5 NJ40U 9.5 NJ60U 9.5 NJH 9.5 Forex 2.0E-3000Fb LVL 1.75 X 9.5

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R
- 3. LVL CCMC -14056-R
- 4. CAN/CSA-O86-09
- 5. CCMC -12787-R APA PR-L310(C)

### THIS CERTIFICATION IS TO CONFIRM THAT:

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- 2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

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REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

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

Second								ı
LVL/LS	L (Flush)							1
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	ı
F16	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	16-0-0	ļ
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0	]
F14	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0	
I Joist (	Flush)		10					ŀ
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	1
J6	NJ40U	3.5	9.5			9	16-0-0	1
J5	NJ40U	3.5	9.5			5	14-0-0	1
19	NJ60U	3.5	9.5			15	16-0-0	1
J8	NJH	2.5	9.5			17	14-0-0	1
J4	NJH	2.5	9.5			1	12-0-0	1
J3	NJH	2.5	9.5			7	10-0-0	
Rim Bo	ard							ŀ
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	1
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			13	12	]

## Hanger

					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H2	7	LT259			4 10dx1 1/2	2 10dx1 1/2
НЗ	11	LT359			4 10d	2 10dx1 1/2
H5	2	HGUS410			46 16d	16 16d
H7	1	Unknown				

#### NOTES:

- 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-load bearing walls.
- . Install single-ply flush window header along inside face of rimboard/rimjoist.
  5. Refer to Nascor specifier guide for installation works.
  6. Squash blocks recommended to be installed at end bearing on
- all first level joists which support loading from above exceeding
- 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.

Refer to Multiple Member Connection Detail to ply to ply nailing or

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load

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

#### ARCHITECTURAL DRAWINGS:

VA3 DESIGN 255 Consumers Rd., Suite 120, Toronto, ON Date: Rev.2; May 18,2018 Project No: 18012 Model: Hemlock 4

	MACCOD
gth	NASCOR
-0-0	
-0-0	Layout Name
-0-0	HEMLOCK 4-1 & 4-2
-0-0	Design Method
	Revised
gth	August 13, 2018
-0-0	
0-0	Description
-0-0 -0-0	MINNISALE HOMES BRAMPTON, ONT.
-0-0	Builder
-0-0	GREENPARK
	Sales Rep
igth	RM
12	
	Designer RCO
ed	Shipping
ər	Project
rs	Builder's Project
1/2	Kott Lumber Company
1/2	
i	14 Anderson Blvd Stouffville, Ontario
	Canada
Т	L4A 7X4
	905-642-4400
	Job Path
	D:\Users\rochavillo\WORK FROM HOME\GREENPARK\MINNISALE
	HOMES\HEMLOCK 4\HEMLOCK 4-1
	\FLOOR\REV\HEMLOCK 4-1.isl
	Second Floor
	Design Method LSD
	Building Code NBCC 2010 / OBC 2012
	Floor
	Loads
	Live 40

15 Dead Deflection Joist 480 LL Span L/ 360 TL Span L/

480 LL Cant 2L/ TL Cant 2L/ 360 Deflection Girder 360 LL Span L/ TL Span L/ 240 480 LL Cant 2L/ 360 TL Cant 2L/

Decking SPF Plywood Deck Thickness Nailed & Glued Fastener

Vibration

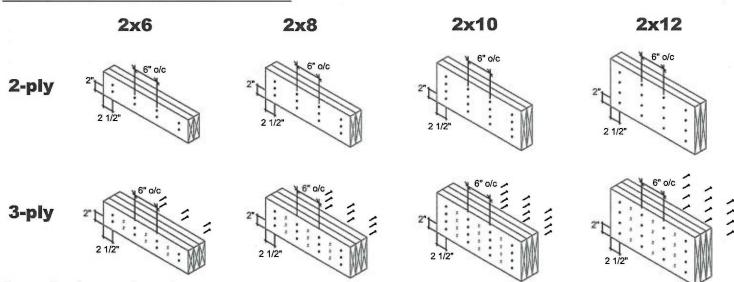


# TIPLE MEMBER CONNECTIONS

GREENPARK-MINNISALE HOMES-MODEL HEMLOCK 4-1 & 4-2

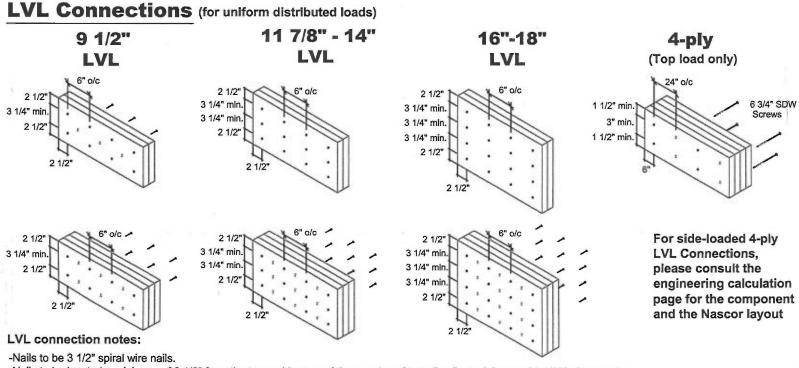
EL. 1 - LOT 35L

## Conventional Connections (for uniform distributed loads)



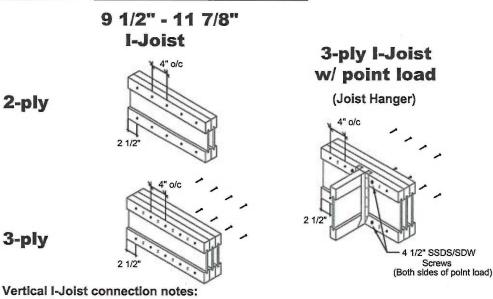
## Conventional connection notes:

- -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.



- -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)



- -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.

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

GREENPARK-MINNISALE HOMES-MODEL HEMLOCK 4-1 & 4-2

REVISION 2009-10-09

OCK 4-1 & 4-2 -EL. 1-LOT 35

## 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.



## **MULTIPLE MEMBER CONNECTIONS**

GREENPARK-MINNISALE HOMES MODEL HEMLOCK 4-1 & 4-2

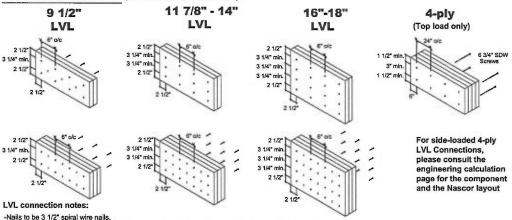
### Conventional Connections (for uniform distributed loads)

2x6 2x8 2x12 2-ply 3-ply

#### Conventional connection notes:

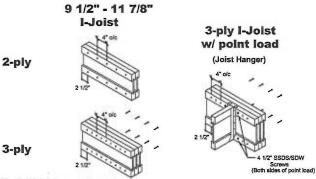
- -Nails to be 3" 10d spiral wire nails
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
   "X" represents nall driven from the opposite side.

#### 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 other "X" represents nail driven from the opposite side.

MULTI -PLY CONNECTION DETAILS

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



Client:

**GREENPARK** 

Project: Address:

2012

8/13/2018

Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

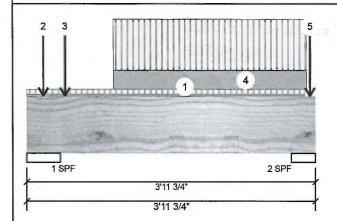
Date:

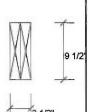
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor





Wind

Туре:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance: Normal		Vibration:	Not Checked
General Load			

**Unfactored Reactions UNPATTERNED Ib (Uplift)** Dead Brg Live Snow

1	3366	1381	0	0
2	1027	414	0	0

#### **Bearings and Factored Reactions** Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 5.500" 1726 / 5049 6775 L 1.25D+1.5L 2-SPF 4.000" 24% 517 / 1541 2059 L 1.25D+1.5L

**Analysis Results** 

Floor Live:

Dead:

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	831 ft-lb	2'1 1/16"	22724 ft-lb	0.037 (4%)	1.25D+1.5L	L
Unbraced	831 ft-lb	2'1 1/16"	22724 ft-lb	0.037 (4%)	1.25D+1.5L	L
Shear	1816 lb	1'2 1/4"	9277 lb	0.196 (20%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/32006)	2' 13/16"	0.110 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/12992)	2' 7/8"	0.110 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.004 (L/9241)	2' 7/8"	0.166 (L/240)	0.030 (3%)	D+L	L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



#### **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size; beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.

40 PSF

15 PSF

- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-10-0	(Span)1-4-2	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Тор	1074 lb	2663 lb	0 lb	0 lb	C2
3	Point	0-6-5		Far Face	173 lb	386 lb	0 lb	0 lb	J9
4	Part. Uniform	1-2-5 to 3-10-5		Far Face	109 PLF	290 PLF	0 PLF	0 PLF	

Continued on page 2...

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrol.

Handling & Installation

LVL beams must not be cut or drilled
 Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code

approvals
Demaged Beams must not be used
Demaged Beams must not be used
Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

For flat roofs provide proper drainage to pre ponding

Manufacturer Info APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





Page 2 of 2

isDesign"

Client:

Project:

GREENPARK

Address:

Date: 8/13/2018

Designer: RCO

Job Name: HEMLOCK 4-1

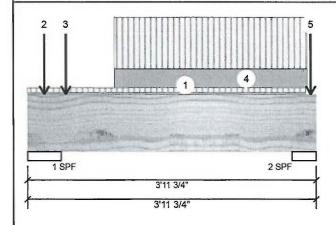
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



.Continued from page 1

ID Load Type 5 Point Self Weight Location Trib Width 3-10-14

Side Near Face

Dead 188 lb

Live 468 lb

Snow 0 lb Wind Comments 0 lb F1

8 PLF

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL

POINT LOADS OVER BEARINGS

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criterias and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled

2. Reffer to manufacturer's product information regarding installation requirements, multi-byt fastening details, beam strength values, and code approvals

3. Damagad Beams must not be used

4. Design assumes top edge is laterally restrained

5. Provide laterel support at bearing points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





Client:

GREENPARK Project:

Address:

8/13/2018 Date:

**RCO** Designer:

Job Name: HEMLOCK 4-1

Project #:

Forex 2.0E-3000Fb LVL

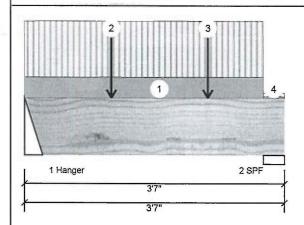
1.750" X 9.500" - PASSED

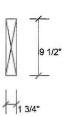
Brg

1

2

Level: Ground Floor





Wind

0

0

Type:	Girder
Plies:	1
Moisture Condition	: Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal
General Load	
Floor Live:	40 PSF
Dead:	15 PSF

Application:	Floor (Residential)
Design Method:	LSD
<b>Building Code:</b>	NBCC 2010 / OBC 2012
Load Sharing:	No
Deck:	Not Checked
Vibration:	Not Checked

	Bearings	s and Fac	tored l	Reactions				_
Ì	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	-
	1 - Hanger	3.000"	36%	353 / 1052	1405	L	1.25D+1.5L	
	2-SPF	3.500"	36%	348 / 1027	1374	L	1.25D+1.5L	

Unfactored Reactions UNPATTERNED Ib (Uplift)

Dead

283

278

Snow

0

0

Live

701

684

Analysis Actual Location Allowed Capacity Comb. Moment 1147 ft-lb 1'8 7/16" 11362 ft-lb 0.101 (10%) 1.25D+1.5L L 1147 ft-lb Unbraced 1'8 7/16" 9778 ft-lb 0.117 (12%) 1.25D+1.5L L 1015 lb 2'6 3/4" 4638 lb 0.219 (22%) 1.25D+1.5L L Shear Perm Defl in. 0.003 1'9 1/16" 0.106 (L/360) 0.030 (3%) D Uniform (L/11424)LL Defl inch 0.008 (L/4633) 1'9 1/16" 0.106 (L/360) 0.080 (8%) L L TL Defl inch 0.012 (L/3296) 1'9 1/16" 0.158 (L/240) 0.070 (7%) D+L L

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

REFER TO MULTIPLE MEMBER TO MEMBER Design Notes CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. 1 Fill all hanger nailing holes.

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

3	top braced at bearings.
	Dalling beared of boards or

2 Girders are designed to be supported on the bottom edge only.

4 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-3-8		Тор	90 PLF	240 PLF	0 PLF	0 PLF	
2	Point	1-2-6		Near Face	123 lb	292 lb	0 lb	0 lb	J4
3	Point	2-6-6		Near Face	126 lb	299 lb	0 lb	0 lb	J4
4	Tie-In	3-3-8 to 3-7-0	(Span)0-10-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended

### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosi

Handling & Installation

- andling & Installation
  LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, muttl-ply
  festening details, beam strength values, and code
  approvals
  Demaged Beams must not be used
  Design assumes top adge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Forex

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400







Client:

**GREENPARK** 

Project: Address:

Date: 8/13/2018

Designer: RCO

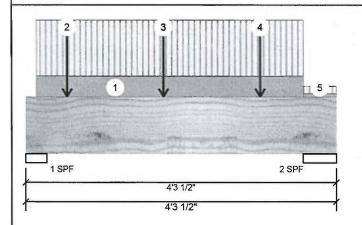
Job Name: HEMLOCK 4-1

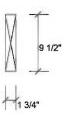
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor





Member Infor	ember Information					Unfactored Reactions UNPATTERNED Ib (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind			
Plies:	1	Design Method:	LSD	1	970	391	0	0			
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	881	350	0	0			
Deflection LL:	360	Load Sharing:	No	_							
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal	Vibration:	Not Checked								
General Load						an annual					
Floor Live:	40 PSF			Bearings :	and Fact	ored Reactions					
Dead:	15 PSF			Bearing L	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.			
				1-SPF 3	3.500"	52% 489 / 1456	1945 L	1.25D+1.5L			
				2-SPF 5	5.500"	30% 437 / 1322	1759 L	1.25D+1.5L			

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1695 ft-lb	1'10 7/8"	11362 ft-lb	0.149 (15%)	1.25D+1.5L	L
Unbraced	1695 ft-lb	1'10 7/8"	9238 ft-lb	0.184 (18%)	1.25D+1.5L	L
Shear	1527 lb	1' 1/4"	4638 lb	0.329 (33%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/7995)	1'11 1/4"	0.122 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.014 (L/3200)	1'11 7/16"	0.122 (L/360)	0.110 (11%)	L	L
TL Defl inch	0.019 (L/2285)	1'11 7/16"	0.183 (L/240)	0.110 (11%)	D+L	L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Top braced at bearings.
- 3 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-1-12 to 3-10-0		Тор	90 PLF	240 PLF	0 PLF	0 PLF	
2	Point	0-6-14		Near Face	128 lb	307 lb	0 lb	0 lb	J8
3	Point	1-10-14		Near Face	134 lb	322 lb	0 lb	0 lb	J8
4	Point	3-2-14		Near Face	125 lb	322 lb	0 lb	0 lb	J8
5	Tie-In	3-10-0 to 4-3-8	(Span)1-8-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component besed on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to make the component suitability of the Intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

Handling & Installation

1. LVL beams must not be out or drilled

2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

3. Damaged Beams must not be used

4. Design essumes top edge is laterally restrained

5. Provide lateral support at bearing points to avoid lateral displacement and rotation

Manufacturer Info Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400



Client:

GREENPARK

Project:

Address:

Date: 8/13/2018

**RCO** 

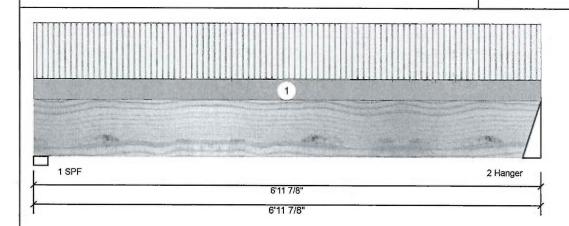
Designer: Job Name: HEMLOCK 4-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor



Member Information

MEHIDEL IIIIOIII	lation	
Type:	Girder	-
Plies:	1	
Moisture Condition:	Dry	
Deflection LL:	360	
Deflection TL:	240	
Importance:	Normal	
General Load		

40 PSF 15 PSF

Application: Floor (Residential) LSD Design Method: **Building Code:** NBCC 2010 / OBC 2012

Load Sharing: No Deck: Not Checked Vibration: Not Checked **Unfactored Reactions UNPATTERNED Ib (Uplift)** 

Brg	Live	Dead	Snow	Wind
1	57	35	0	0
2	58	35	0	0

Cap. React D/L lb

43 / 86

44 / 87

**Analysis Results** 

Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	206 ft-lb	3'5 5/8"	11362 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	206 ft-lb	3'5 5/8"	5592 ft-lb	0.037 (4%)	1.25D+1.5L	L
Shear	94 lb	6' 1/8"	4638 lb	0.020 (2%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/37066)	3'5 5/8"	0.222 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.004 (L/22480)	3'5 5/8"	0.222 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.006 (L/13993)	3'5 5/8"	0.333 (L/240)	0.020 (2%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS **CALCULATION SUMMARY PAGE AS IT** CONTAINS SPECIFICATIONS AND CRITERIA

5%

3%

**Bearings and Factored Reactions** 

Bearing Length

3 0000"

1 - SPF 2.375"

2 -

Hanger

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

USED IN THE DESIGN OF THIS COMPONENT.

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



Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Total Ld. Case

129 L

131 L

**Design Notes** 

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-11-14	(Span)0-9-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the displace returns and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended and return to world the dimensions and loads. Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or cor

Handling & Installation

- Idincling & Installation

  I VI beams must not be cut or drilled

  Refer to manufacturer's product information regarding installation requirements, mutil-tyl festerining details, beam strength values, and code approvals

  Demaged Beams must not be used

  Design essumes top edge is laterally restrained

  Fortvide lateral support at bearing points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400





Client:

Project:

GREENPARK

Address:

Date: 8/13/2018

Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

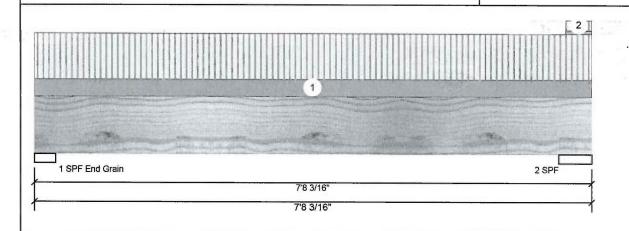
2

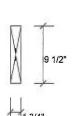
Bearing Length

1 - SPF 3.500"

2-SPF 5.500"

End Grain Level: Ground Floor





0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Ω

Total Ld. Case

1137 L

1210 L

Member Information Girder Plies: Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal General Load Floor Live: 40 PSF Dead: 15 PSF

Application: Floor (Residential) Design Method: LSD **Building Code:** NBCC 2010 / OBC 2012

Load Sharing: Deck:

Vibration:

Not Checked Not Checked

Unfactored Reactions UNPATTERNED Ib (Uplift)								
 Brg	Live	Dead	Snow	Wind				
1	567	229	0	0				

604

Bearings and Factored Reactions	

286 / 851

304 / 907

Cap. React D/L lb

243

## **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1884 ft-lb	3'9 1/8"	11362 ft-lb	0.166 (17%)	1.25D+1.5L	L
Unbraced	1884 ft-lb	3'9 1/8"	5281 ft-lb	0.357 (36%)	1.25D+1.5L	L
Shear	1064 lb	1' 1/4"	4638 lb	0.229 (23%)	1.25D+1.5L	L
Perm Defl in.	0.016 (L/5227)	3'9 1/8"	0.235 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.040 (L/2105)	3'9 1/8"	0.235 (L/360)	0.170 (17%)	L	L
TL Defl inch	0.056 (L/1501)	3'9 1/8"	0.353 (L/240)	0.160 (16%)	D+L	L

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

25%

20%



#### Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Top braced at bearings.

J DOMONI	braced at bearings.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 7-8-3		Far Face	57 PLF	151 PLF	0 PLF	0 PLF	
2	Tie-In	7-3-13 to 7-8-3	(Span)1-7-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the dasign critaria and loadings shown, it is the responsibility of the customer and/or the contractor to consume the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or cor

chemicals

- LVL beams must not be cut or drilled

  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  fastening details, beam strength values, and code
  approvals.
- tastering details, beam strength values, and code approvals.

  Damaged Beams must not be used.

  Design assumes top edge is laterally restrained.

  Provide lateral support at bearing points to avoid lateral displacement and rotation.

This design is valid until 7/10/2021

Forex APA: PR-L318

Manufacturer Info

Kott Lumber Company 14 Anderson Blvd, Ontario L4A 7X4 905-642-4400



Client:

Project: Address: GREENPARK

Date: 8/13/2018

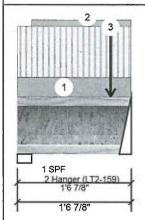
RCO Designer:

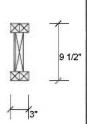
Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor





Wind

0

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Total Ld. Case

137 L

283 L

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 201
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
		110	

	Unfactore	ed Reactions	UNPATTER	NED lb (Uplift)
	Brg	Live	Dead	Snow
	1	65	31	0
12	2	134	66	0

Bearings and Factored Reactions

Bearing Length

2.000"

1 - SPF 2.375"

2 -

Hanger

Location	Allowed	Capacity	Comb.	Case	
1' 1/16"	7340 ft-lb	0.007 (1%)	1.25D+1.5L	L	
1' 1/16"	6912 ft-lb	0.008 (1%)	1.25D+1.5L	L	
1'5 5/8"	3080 lb	0.087 (9%)	1.25D+1.5L	L	
0	999.000 (L/0)	0.000 (0%)			
11 3/4"	0.044 (L/360)	0.010 (1%)	L	L	
11 11/16"	0.067 (L/240)	0.010 (1%)	D+L	L	

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

Cap. React D/L lb

39 / 98

82 / 201

5%

11%

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



Design Notes

Analysis

Moment

Unbraced

Shear

1 Fill all hanger nailing holes.

Perm Defl in. 0.000 (L/999)

LL Defl inch 0.000

TL Defl inch 0.000

Actual 52 ft-lb

52 ft-lb

268 lb

(L/55254)

(L/37041)

- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.

Snow Wind Commen
0 PSF 0 PSF
0 PLF 0 PLF
0 lb 0 lb J1

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown, it is the responsibility of the customer and/or the contractor to ensure the component suitability of the lineades application, and to wrift the dimensions and loads.

### Lumber

Dry service conditions, unless noted otherwise
 Usist not to be treated with fire retardant or corrosive

#### chemicals

- andling & Installation.

  Loist flanges must not be cut or drilled.
  Refer to latest copy of the Loist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-phy festening details and handling/erection details.

  Demaged Loists must not be used.
  Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

This design is valid until 7/10/2021

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load es shown Minimum point load bearing length>= 3.5 inches
 For fact roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





Client: GREENPARK Project:

Address:

8/13/2018 Date: Designer:

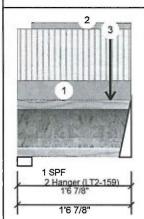
RCO

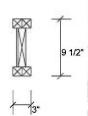
Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor





Member Information					
Girder					
2					
Dry					
360					
240	70.0				
Normal					
	Girder 2 Dry 360 240				

40 PSF

15 PSF

Application: Floor (Residential) Design Method: LSD Building Code:

Load Sharing: Deck:

Vibration:

NBCC 2010 / OBC 2012 Not Checked

Not Checked

Brg Live Dead Snow Wind 1 65 0 0 2 133 66 0 0

Unfactored Reactions UNPATTERNED lb (Uplift)

**Analysis Results** Analysis Location Allowed Capacity Comb. Case 52 ft-lb 1' 1/16" 7340 ft-lb 0.007 (1%) 1.25D+1.5L L Moment 52 ft-lb 1' 1/16" 6912 ft-lb Unbraced 0.008 (1%) 1.25D+1.5L L 267 lb 1'5 5/8" 3080 lb 0.087 (9%) 1.25D+1.5L L Shear Perm Defl in. 0.000 (L/999) 0 999.000 (L/0) 0.000 (0%) LL Defl inch 0.000 11 11/16" 0.044 (L/360) 0.010 (1%) L (L/55512)TL Defl inch 0.000 11 11/16" 0.067 (L/240) 0.010 (1%) D+L L (L/37157)

Bearing Length Cap. React D/L lb Total Ld. Case Ld Comb 1-SPF 2.375" 5% 39 / 98 136 I 1.25D+1.5L 2 -2.000" 11% 82 / 199 281 I 1.25D+1.5L Hanger

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

**Bearings and Factored Reactions** 

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



Design Notes

Floor Live:

Dead:

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-7 to 1-6-14		Тор	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-3-7		Near Face	47 lb	96 lb	0 lb	0 lb	J1

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the dimensions and loading.

### Lumber

#### chemicals

Handling & Installation

- andling & installation

  Loist flanges must not be cut or drilled
  Refer to latest copy of the Lloist product information
  details for framing details, stiffener tables, web hote
  chart, bridging details, multi-phy fastening details and
  handling/erection details

  Damaged Loists must not be used

  Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing lengther 3.5 inches
 For flat roofs provide proper drainage to prevent

This design is valid until 7/10/2021

Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





Client:

Project:

GREENPARK

Address:

Brg

1

2

Hanger

2 -Hanger 8/13/2018

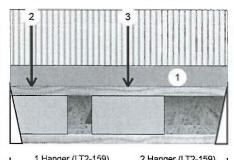
Designer: RCO Job Name: HEMLOCK 4-1

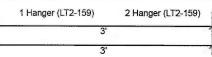
Project #:

Date:

2-Ply - PASSED 9.500"

Level: Ground Floor







Wind

0

0

1.25D+1.5L

1.25D+1.5L

Type:		Girder	Application:	Floor (Residential)
	Plies:	2	Design Method:	LSD
	Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
	Deflection LL:	360	Load Sharing:	No
	Deflection TL:	240	Deck:	Not Checked
	Importance:	Normal	Vibration:	Not Checked
	General Load			
	Floor Live:	40 PSF		
	Dead:	15 PSF		

Unfactored	Reactions UI	<b>VPATTE</b>	RNED Ib	(Uplift)

Dead

159

100

Snow

0

0

838 L

523 L

Comments

0 lb J7

0 lb

Live

426

266

2.000"

2.000"

Bearings and Fac	tored Reactions			
Bearing Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.

199 / 639

125 / 399

## **Analysis Results**

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	598 ft-lb	1'7 9/16"	7340 ft-lb	0.081 (8%)	1.25D+1.5L	L
Unbraced	598 ft-lb	1'7 9/16"	4678 ft-lb	0.128 (13%)	1.25D+1.5L	L
Shear	831 lb	1 1/4"	3080 lb	0.270 (27%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/19712)	1'7 9/16"	0.093 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/7401)	17 9/16"	0.093 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.006 (L/5381)	1'7 9/16"	0.140 (L/240)	0.040 (4%)	D+L	L

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

32%

20%

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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

0 lb

0 lb



### Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.

**Point** 

Point

	nge braced at bearings. flange braced at bearings.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Tie-In	0-0-0 to 3-0-0	(Span)1-8-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF

Near Face

Near Face

2

3

Celculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 Uses not to be treated with fire retardant or corresive

Handling & Installation

0-3-9

1-7-9

- Handling & Installation

  1. IJoist flanges must not be cut or drilled

  2. Refer to latest copy of the IJoist product information
  details for framing details, stifferen tables, web hole
  chart, bridging details, multi-ply festening details and
  handling/eraction details

  3. Damaged lobists must not be used

  4. Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.

84 lb

136 lb

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
 For flat roofs provide proper drainage to prevent ponding

225 lb

362 lb

Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario 14A7X4





Client: **GREENPARK** 

Project: Address:

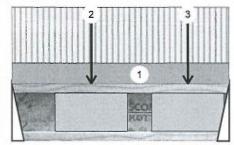
8/13/2018 Date:

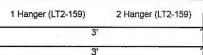
RCO Designer:

Job Name: HEMLOCK 4-1

Project #:

NJ 9.500" 2-Ply - PASSED Level: Ground Floor







Member Info	rmation	67	
Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		

Unfactored Reactions UNPATTERNED Ib (Uplift)									
Live	Dead	Snow	Wind						
283	106	0	0						
353	132	0	0						
	Live 283	Live Dead 283 106	Live Dead Snow 283 106 0						

Analysis Res	sults					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	510 ft-lb	1'1 1/8"	7340 ft-lb	0.070 (7%)	1.25D+1.5L	L
Unbraced	510 ft-lb	1'1 1/8"	4678 ft-lb	0.109 (11%)	1.25D+1.5L	L
Shear	687 lb	2'10 3/4"	3080 lb	0.223 (22%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/23045)	1'1 3/8"	0.093 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.004 (L/8640)	1'1 3/8"	0.093 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.005 (L/6284)	1'1 3/8"	0.140 (L/240)	0.040 (4%)	D+L	L

**Bearings and Factored Reactions** Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb 2.000" 21% 133 / 424 557 L 1.25D+1.5L Hanger 2.000" 27% 165 / 529 694 L 1.25D+1.5L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

Manufacturer Info

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

Hanger



Design Notes

Dead:

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.

15 PSF

- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In 0	0-0-0 to 3-0-0	(Span)1-8-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-1-2		Far Face	111 lb	296 lb	0 lb	0 lb	J4
3	Point	2-5-2		Far Face	88 lb	235 lb	0 Ib	0 lb	J4

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the dimensions and loaded.

#### Lumber

Dry service conditions, unless noted otherwise
 Uoist not to be treated with fire retardant or corrosive

#### chemicals

Handling & Installation

- Andling & Installation

  I Joist flanges must not be cut or drilled

  Refer to latest copy of the Joist product information details for framing details, utilifener tables, web hole chart, bridging details, multiply fastering details and handling/erection details

  Demaged Loists must not be used

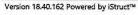
  Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent populars.

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400







Client:

GREENPARK

Project:

Address:

Date: 8/13/2018

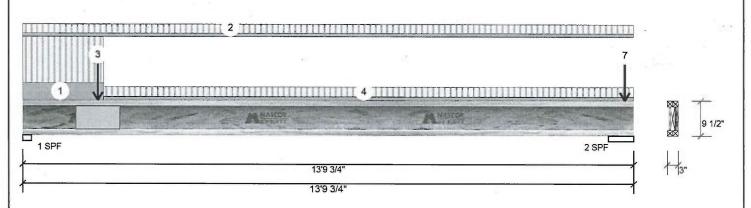
Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor



Member Info	rmation	4,000	40,400 (40,400 F)		Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	W	Wind
Plies:	2	Design Method:	LSD	1	578		216		0	0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	423		219		0	0
Deflection LL:	360	Load Sharing:	No	_					-	-
Deflection TL:	240	Deck:	Not Checked	1						
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fact	ored F	leactions			
Dead:	15 PSF	y		Bearing I	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF 2	2.375"	42%	270 / 867	1137	L	1.25D+1.5L
				2-SPF 6	6.875"	29%	273 / 634	907	L	1.25D+1.5L

### **Analysis Results**

Design Notes

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1835 ft-lb	4'11 5/16"	7340 ft-lb	0.250 (25%)	1.25D+1.5L	L
Unbraced	1835 ft-lb	4'11 5/16"	1848 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	1116 lb	1 5/8"	3080 lb	0.362 (36%)	1.25D+1.5L	L
Perm Defl in.	0.043 (L/3654)	6'3 1/2"	0.439 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.115 (L/1369)	6'3 1/2"	0.439 (L/360)	0.260 (26%)	L	L
TL Defl inch	0.159 (L/996)	6'3 1/2"	0.658 (L/240)	0.240 (24%)	D+L	L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



2 Multiple plies must be fastened together as per manufacturer's details.

3 Top loads must be supported equally by all plies.

4 Top flange must be laterally braced at a maximum of 4'10" o.c.

1 Girders are designed to be supported on the bottom edge only.

5 Bottom flange braced at bearings.

	manige bracke at boating	94.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 1-9-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Tie-In	0-0-0 to 13-9-12	(Span)0-7-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Point	1-8-6		Far Face	132 lb	353 lb	0 lb	0 lb	F6	
4	Tie-In	1-9-14 to 13-9-12	(Span)0-8-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
5	Point	13-7-6		Тор	1 lb	3 lb	0 lb	0 lb	J8	
6	Point	13-7-6		Тор	76 lb	183 lb	0 lb	0 lb	J8	
7	Point	13-7-6		Тор	53 lb	0 lb	0 lb	0 lb	Wall Self Weight	

### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to consure the component suitability of the intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 Uoist not to be treated with fire retardant or corrosive

landling & Installation.

Lioist flanges must not be cut or drilled.
Refer to latest copy of the Lioist product information details for framing details, stiffener tables, web hole-thart, bridging details, multi-hyp frastening details and handling/eraction details.

Demaged Loists must not be used.
Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

 Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point toad bearing length>= 3.5 inches
 For flat roofs provide proper drainage to prevent ponding 7.

Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario L4A 7X4 905-642-4400





Client:

Project: Address:

GREENPARK

Date: 8/13/2018

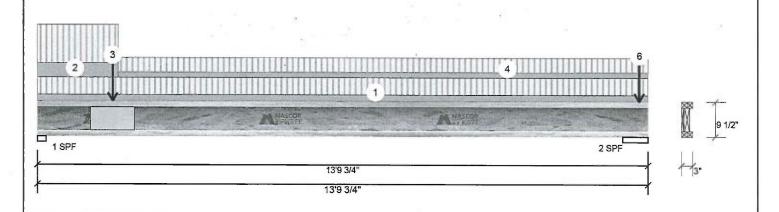
Designer: **RCO** 

Job Name: HEMLOCK 4-1

Project #:

NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Infor	mation			Unfacto	red React	tions U	NPATTERNI	ED lb (U	Jplift)	
Туре:	Girder	 Application:	Floor (Residential)	Brg	Live		Dead	Snow		Wind
Plies:	2	Design Method:	LSD	1	677		254	0		0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	783		414	0		0
Deflection LL:	360	Load Sharing:	No	-						
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored l	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total I	Ld. Case	Ld. Comb.
				1-SPF	2.375"	50%	317 / 1016	1334	L	1.25D+1.5L
				2-SPF	6.875"	55%	518 / 1175	1693	L	1.25D+1.5L

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2794 ft-lb	6' 1/16"	7340 ft-lb	0.381 (38%)	1.25D+1.5L	L
Unbraced	2794 ft-lb	6' 1/16"	2827 ft-lb	0.988 (99%)	1.25D+1.5L	L
Shear	1308 lb	1 5/8"	3080 lb	0.425 (42%)	1.25D+1.5L	L
Perm Defl in.	0.066 (L/2383)	6'6 1/16"	0.439 (L/360)	0.150 (15%)	D	Uniform
LL Defl inch	0.177 (L/893)	6'6 1/16"	0.439 (L/360)	0.400 (40%)	L	L
TL Defl inch	0.243 (L/650)	6'6 1/16"	0.658 (L/240)	0.370 (37%)	D+L	L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 3'11" o.c.

5 Bottom flange	braced at bearings.					TOMY COMBO OF ER BEATHIOG.					
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	-	
1	Tie-in	0-0-0 to 13-9-12	(Span)1-5-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF			
2	Tie-In	0-0-0 to 1-9-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF			
3	Point	1-8-6		Near Face	106 lb	283 lb	0 Њ	0 lb	F6		
4	Tie-In	1-9-14 to 13-9-12	(Span)1-2-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF			
5	Point	13-7-6		Тор	151 lb	367 lb	0 lb	0 lb	J8		
6	Point	13-7-6		Тор	107 lb	0 lb	0 lb	0 lb	Wall Self Weight		

Celculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

## Lumber

Dry service conditions, unless noted otherwise
 Upoist not to be treated with fire retardant or corrosive

ATIONING & INSTAURATION

Julist flanges must not be cut or drilled
Refer to letest copy of the Joist product information
details for framing cleatias, stiffiant rables, web note
chart, bridging details, multi-ply fastening details and
hamdling/erection details
Demaged Loists must not be used
Design assumes top flange to be laterally restrained
by attached sheathing or as specified in engineering
notes.

- Provide lateral support at bearing points to avoid lateral dispiscement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length=3.5 inches
   For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario L4A 7X4 905-642-4400



Client:

Project:

GREENPARK

Address:

Date: 8/13/2018

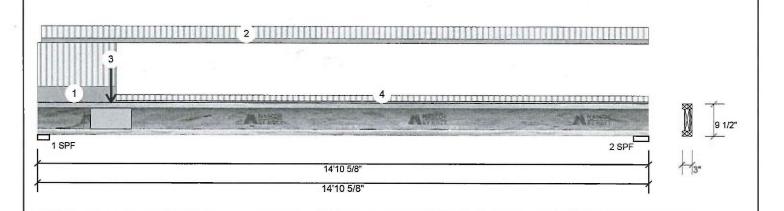
RCO Designer:

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor



neitibei iiiioi	mation	1100,000,000		Ulliactur	eu neaci	TIOLIZ O	MENTIERM	in la	puit	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	,	Wind
Plies:	2	Design Method:	LSD	1	678		254	0		0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	251		94	0	i	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF	1 1		Bearings	and Fac	tored F	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF	3.500"	45%	317 / 1017	1334	L	1.25D+1.5L
		l		2-SPF	4.375"	16%	118 / 377	495	L	1.25D+1.5L

#### **Analysis Results**

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2185 ft-lb	5'5 1/2"	7340 ft-lb	0.298 (30%)	1.25D+1.5L	L
Unbraced	2185 ft-lb	5'5 1/2"	2202 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	1300 lb	2 3/4"	3080 lb	0.422 (42%)	1.25D+1.5L	L
Perm Defl in.	0.060 (L/2850)	6'11 3/8"	0.478 (L/360)	0.130 (13%)	D	Uniform
LL Defl inch	0.161 (L/1067)	6'11 5/16"	0.478 (L/360)	0.340 (34%)	L	L
TL Defl inch	0.222 (L/776)	6'11 5/16"	0.718 (L/240)	0.310 (31%)	D+L	L

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

Unfactored Reactions UNPATTERNED Ib (Unlift)

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'6" o.c.
- 5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-11-0	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 14-10-10	(Span) 0-10-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-9-8		Far Face	159 lb	426 lb	0 lb	0 lb	F6
4	Tie-In	1-11-0 to 14-10-10	(Span)0-5-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

Calculated Structured Designs is responsible only of the structural adequacy of this component based on his dealon critieria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 Uplish not to be treated with fire retardant or corrosive

Handling & Installation

- andfling & Installation

  Liost flanges must not be cut or drilled

  Rafer to latest copy of the Lioist product information details for framing details, stitiener tables, web hole-chart, bridging details, multi-phy fastering details and handling/erection details

  Demaged Loists must not be used

  Design assumes top flange to be laterally restrained by attached sheatfling or as specified in engineering notes.

- Provide lateral support at beering points to evoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing lengther 3.5 Inches
   For flat roofs provide proper drainage to prevent

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400







Client:

Project:

GREENPARK

Address:

8/13/2018 Date:

Designer: RCO

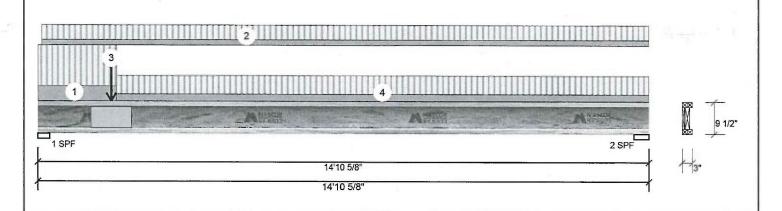
Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500" F8-B

Level: Ground Floor

Unfactored Reactions UNPATTERNED In (Unlift)



member mior	mation			Offiactore	a React	IOIIS O	MENTIFICIAL	rn in (	Opinio	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	V	Wind
Plies:	2	Design Method:	LSD	1	694		260		0	0
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	431		162		0	0
Deflection LL:	360	Load Sharing:	No	_						
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored	Reactions			
Dead:	15 PSF			Bearing L	ength	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF 3	3.500"	46%	325 / 1040	1366	L	1.25D+1.5L
				2-SPF 4	1.375"	28%	202 / 647	849	L	1.25D+1.5L
Inalysis Post	the contract of the contract o									

#### Analysis Results

**Design Notes** 

Member Information

,	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
.)	Moment	3182 ft-lb	6'9 9/16"	7340 ft-lb	0.434 (43%)	1.25D+1.5L	L
1	Unbraced	3182 ft-lb	6'9 9/16"	3222 ft-lb	0.988 (99%)	1.25D+1.5L	L
1	Shear	1330 lb	2 3/4"	3080 lb	0.432 (43%)	1.25D+1.5L	L
1	Perm Defl in.	0.088 (L/1948)	7'2 5/8"	0.478 (L/360)	0.180 (18%)	D	Uniform
	LL Defl inch	0.236 (L/731)	7'2 5/8"	0.478 (L/360)	0.490 (49%)	L	L
	TL Defl inch	0.324 (L/531)	7'2 5/8"	0.718 (L/240)	0.450 (45%)	D+L	L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



4 Top flange must be laterally braced at a maximum of 3'8" o.c.

3 Top loads must be supported equally by all plies.

1 Girders are designed to be supported on the bottom edge only.

2 Multiple plies must be fastened together as per manufacturer's details.

5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-11-0	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 14-10-10	(Span)1-2-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-9-8		Near Face	100 lb	266 lb	0 lb	0 lb	F6
4	Tie-In	1-11-0 to 14-10-10	(Span)1-5-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown, it is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the different loads.

### Lumber

Dry service conditions, unless noted otherwise
 Upist not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

- Handling & Installation

  1. Julist flanges must not be cut or drilled

  2. Refer to latest copy of the Julist product information details for framing details, stiffener tables, web hote chart, bridging details, multi-ply fastening details and handling/eraction details

  3. Damaged buists must not be used

  4. Design assumes top flange to be laterally restrained by attached shealthing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
 For that roofs provide proper drainage to prevent ponding.

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario L4A 7X4 905-642-4400







Client: **GREENPARK** 

Project: Address:

8/13/2018 Date:

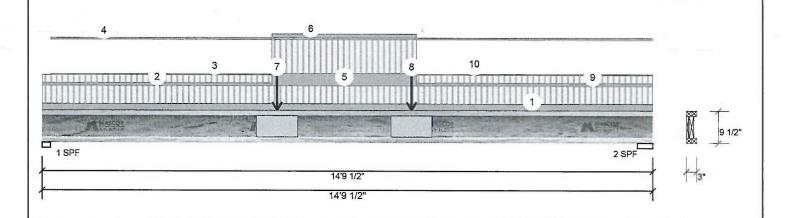
Designer: **RCO** 

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor



Member Inform	nation		I make the	Unfactore	ed Reacti	ions UN	PATTERN	ED Ib (	Uplift)	of the same
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	,	Wind
Plies:	2	Design Method:	LSD	1	375		183	(	)	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	380		186	(	)	0
Deflection LL:	360	Load Sharing:	No	-						
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load									1,	
Floor Live:	40 PSF			Bearings	and Fact	ored Re	actions			
Dead:	15 PSF			Bearing L	ength	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF 2	2.375"	29%	229 / 562	791	L	1.25D+1.5L
1.55				2-SPF 4	4.500"	26%	233 / 570	803	L	1.25D+1.5L

Analysis Results

**Design Notes** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3635 ft-lb	7'3 5/8"	7340 ft-lb	0.495 (50%)	1.25D+1.5L	L
Unbraced	3635 ft-lb	7'3 5/8"	3660 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	785 lb	14'5 3/4"	3080 lb	0.255 (25%)	1.25D+1.5L	L
Perm Defl in.	0.117 (L/1477)	7'3 3/4"	0.478 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.238 (L/725)	7'3 3/4"	0.478 (L/360)	0.500 (50%)	L	L
TL Defl inch	0.354 (L/486)	7'3 3/4"	0.717 (L/240)	0.490 (49%)	D+L	L

1 Girders are designed to be supported on the bottom edge only.

4 Top flange must be laterally braced at a maximum of 3'4" o.c.

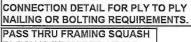
3 Top loads must be supported equally by all plies.

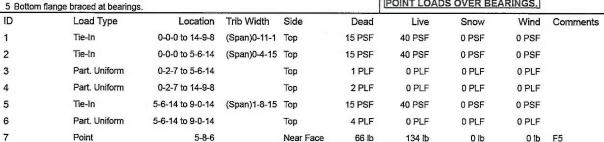
2 Multiple plies must be fastened together as per manufacturer's details.

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.





Continued on page 2...

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown, it is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and lo-Lumber

Dry service conditions, unless noted otherwise
 Upoist not to be treated with fire retardant or corresive

Handling & Installation

Handling & Installation

1. Lioist flanges must not be cut or drilled

2. Refer to latest copy of the Lioist product information details for framing details, either tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details

3. Damaged Loists must not be used

4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length=3.5 inches
 To for flat roots provide proper drainage to prevent

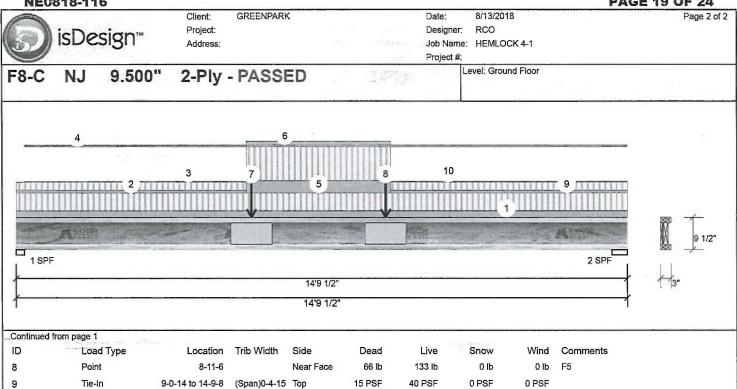
Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400

REOFESSIONAL N







1 PLF

Тор

0 PLF

0 PLF

0 PLF

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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

#### Notes

10

Part. Uniform

9-0-14 to 14-9-8

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criterie and leadings shown. It is the "Amdlling & Installation 1. Julist flanges must not be cut responsibility of the customer and/or the contractor to ensure the component suitability of the infeating design of the contractor to ensure the component suitability of the infeating design of the contractor to ensure the component suitability of the infeating design of the contractor to ensure the component suitability of the infeating design of the contractor to ensure the component suitability of the infeating design of the contractor to ensure the component suitability of the infeating design of the contractor to ensure th

#### Lumber

Dry service conditions, unless noted otherwise
 Uoist not to be treated with fire retardant or corrosive

#### chemicals

- Handling & Installation

  1. Joist flanges must not be cut or drilled

  2. Rafer to latest copy of the Jloist product information details for framing details, etilizent tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details

  3. Damaged bloists must not be used

  4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
 Ter fat roofs provide proper drainage to prevent ponding

Nascor by Kott

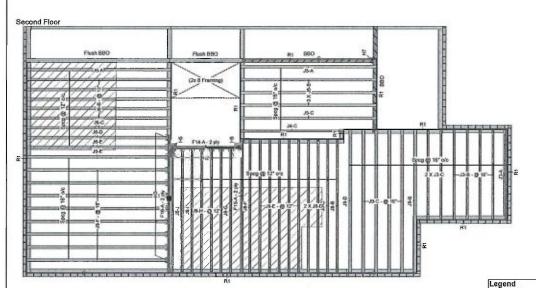
Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400



This design is valid until 7/10/2021

Manufacturer Info





1. OBC 2012 O.Reg 332/12 as amended

Load from Above

NJ40U 9.5 NJ60U 9.5

NJH 9.5

Norbord Rimboard Plus 1.125 X 9.5

Forex 2.0E-3000Fb LVL 1.75 X 9.5

Wall

2. Naspor CCMC - 13535-R

3. LVL CCMC -14056-R

4. CAN/CSA-086-09

5. CCMC -12787-R APA PR-L310(C)

THIS CERTIFICATION IS TO CONFIRM THAT:

1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.

2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

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.



REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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

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

Label	Description	Width	Depth	Qly	Plies	Pcs	Length
F16	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	16-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F14	Forex 2.0E-3000Fb LVL	1,75	9.5	1	2	2	8-0-0
Joist (	(Flush)						
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J6	NJ40U	3.5	9.5			9	16-0-0
J5	N340U	3.5	9.5			5	14-0-0
J9	NJ60U	3.5	9.5			15	16-0-0
J8	HUM	25	9.5			17	14-0-0
J4	NJH	2.5	9.5			1	12-0-0
J3	NJH	2.5	9.5			7	10-0-0
Rim Bo	ard						
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
RI	Norbord Rimboard Plus 1,125 X 9.5	1.125	9.5			13	12

						Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H2	7	LT259			4 10dx1 1/2	2 10dx1 1/2
H3	11	LT359			4 10d	2 10dx1 1/2
H5	2	HGUS410			46 16d	16 16d
H7	1:	Unknown Hanger				
						-

Ream/Girder Supp

#### NOTES:

- 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\* of under parallel non-load bearing walls.
   Install Single-ply flush window header along inside face of
- rimboard/rimjoist.
  5. Refer to Nascor specifier guide for installation works.
  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.

  Load transfer blocks to be installed under all point loads.
- b. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or

Rim parallel to joists: 1-1/8° rimboard with 2°x 4° block (1/16° longer than rim depth. @16° look. All other components and structural elements supporting the foor system such as beams, wells, columns, and foundation walls and footings including anchorage of components and bracing for lateral slability are the responsibility of Others.

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 and structural drawings. Project Engineer to review and approve the deviation prior to construction.

ARCHITECTURAL DRAWINGS:

VA3 DESIGN 255 Consumers Rd., Suite 120, Toronto, ON Date: Rev.2; May 18,2018 Project No: 18012 Model: Hernlock 4

ength	Revised August 13, 2018
14-0-0 16-0-0	Description MINNISALE HOMES
14-0-0	BRAMPTON, ONT.
12-0-0 10-0-0	Builder GREENPARK
ength	Sales Rep RM
12	Designer RCO
orted ober oners x1 1/2	Shipping Project Builder's Project
x1 1/2 x1 1/2 16d	Kott Lumber Company 14 Anderson Blvd Stouffville, Ontario Capada

**PAGE 20 OF 24** 

Layout Name HEMLOCK 4-1 & 4-2 Design Method

146 7X4 905-642-4400 Job Path D:\Users\rochavitio\WORK FROM

HOME GREENDARK MINNISALE HOMESHEMLOCK 4HEMLOCK 4 VFLOORIREVHEMLOCK 4-1.isl

Second Floor Design Method LSD Building Code NBCC 2010 / OBC 2012 Floor Loads 40 Live 15 Dead Deflection Joist

LL Span L/ TL Span L/ LL Cant 2L/ TI Cant 21/ Deflection Girder LL Span L/ TL Span L/ LL Cant 2L/ TI Cant 21/ Decking

480

360

480

360

360

240

480

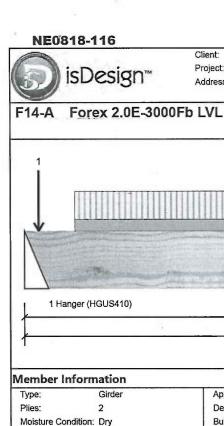
360

SPF Plywood Deck Thickness 5/8\* Fastener Nailed & Glued Vibration Gypsum 1/2\* Celling:

KOTT

sion 18.40.162 Powered by iStruct"

This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them



Client: GREENPARK

Address:

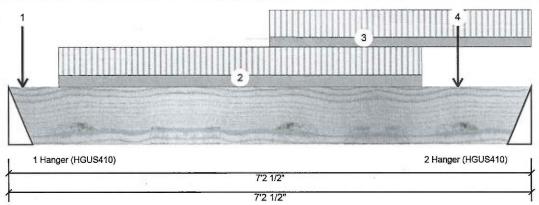
Project:

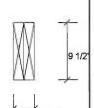
Date: 8/13/2018

Designer: **RCO** 

Job Name: HEMLOCK 4-1

1.750" X 9.500" 2-Ply - PASSED Level: Second Floor





Wind

Moisture Condition: Dry Deflection LL: 360 240 Deflection TL: Importance: Normal General Load

40 PSF

15 PSF

Application: Design Method: Building Code:

Load Sharing:

Deck:

Vibration:

Floor (Residential) LSD NBCC 2010 / OBC 2012 Brg

Not Checked Not Checked Unfactored Reactions UNPATTERNED Ib (Uplift)

1	1103	473	0	0
2	1457	610	0	0

Dead

Snow

Analysis Results

Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4254 ft-lb	4' 1/8"	22724 ft-lb	0.187 (19%)	1.25D+1.5L	L
Unbraced	4254 ft-lb	4' 1/8"	21846 ft-lb	0.195 (19%)	1.25D+1.5L	L
Shear	2622 lb	6'1 3/4"	9277 lb	0.283 (28%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/4697)	3'9"	0.222 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.040 (L/1997)	3'9 3/16"	0.222 (L/360)	0.180 (18%)	L	L
TL Defl inch	0.057 (L/1401)	3'9 1/8"	0.333 (L/240)	0.170 (17%)	D+L	L

Bearings and Factored Reactions

Live

Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	22%	591 / 1655	2246	L	1.25D+1.5L
2 - Hanger	4.000"	28%	763 / 2185	2949	L	1.25D+1.5L

READ ALL NOTES ON THIS PAGE AND ON **ENGINEERING NOTE PAGE ENP-2. THIS** NOTE PAGE IS AN INTEGRAL PART OF THIS

CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS

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



**Design Notes** 

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-2-6		Near Face	63 lb	169 lb	0 lb	0 lb	J8
2	Part. Uniform	0-8-6 to 5-8-6		Near Face	105 PLF	251 PLF	0 PLF	0 PLF	
3	Part. Uniform	3-7-4 to 7-2-8		Тор	90 PLF	240 PLF	0 PLF	0 PLF	
4	Point	6-2-6		Near Face	116 lb	271 lb	0 lb	0 lb	J8
	Self Weight				8 PLF				

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to varify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

- ATIONING & Instantation
  LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  fastening details, beam strength values, and code
  approvals
  Demaged Beams must not be used
- Design assumes top edge is laterally restrained Provide lateral support at bearing points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 APA: PR-L318 905-642-4400



Client:

Project: Address: GREENPARK

Date: 8/13/2018

Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

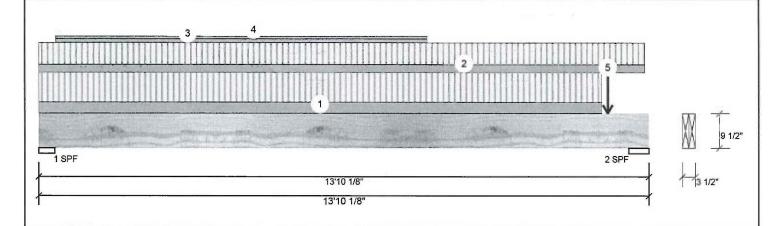
Forex 2.0E-3000Fb LVL F15-A

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor

Unfactored Reactions UNPATTERNED Ib (Unlift)



WICHIDEL HITOI	macion			Omactore	a neaci	IOIIS O	MAILERM	D in (opinit)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	334		209	0	0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	1651		747	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF	100		Bearings a	and Fac	tored I	Reactions		
Dead:	15 PSF			Bearing L	ength	Cap.	React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 4	.375"	8%	261 / 501	761 L	1.25D+1.5L
				2-SPF 5	5.500"	29%	934 / 2476	3410 L	1.25D+1.5L
Amplymia Decul	4								

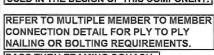
#### Analysis Results

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2858 ft-lb	8' 15/16"	22724 ft-lb	0.126 (13%)	1.25D+1.5L	L
Unbraced	2858 ft-lb	8' 15/16"	19311 ft-lb	0.148 (15%)	1.25D+1.5L	L
Shear	3357 lb	12'7 7/8"	9277 lb	0.362 (36%)	1.25D+1.5L	L
Perm Defl in	n. 0.050 (L/3160)	7'1 1/4"	0.438 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.087 (L/1811)	7'2 7/8"	0.438 (L/360)	0.200 (20%)	L	L
TL Defl inch	0.137 (L/1151)	7'2 5/16"	0.657 (L/240)	0.210 (21%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON **ENGINEERING NOTE PAGE ENP-2. THIS** NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE 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.





**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width.

ı	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
ı	1	Tie-In	0-0-0 to 12-9-4	(Span)1-1-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
ı	2	Tie-In	0-0-0 to 13-9-0	(Span)0-10-2	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
I	3	Part. Uniform	0-4-9 to 8-9-13		Тор	3 PLF	0 PLF	0 PLF	0 PLF	
I	4	Part. Uniform	0-4-9 to 8-9-13		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
I	. 5	Point	12-11-0		Far Face	610 lb	1457 lb	dl 0	0 lb	F14
l		Self Weight				8 PLF				

Celculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component soliability of the intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corres

chemicals

Handling & Installation

- and ling & Installation.

  LVL beams must not be out or drilled.
  Refer to manufacturer's product information regarding installation requirements, multi-pip feathening details, beam strength values, and code approvals.

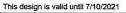
  Demaged Beams must not be used.
  Design assumes top adge is laterally restrained.
  Provide lateral support at bearing points to avoid lateral displecement and rotation.

Forex APA: PR-L318

Manufacturer Info

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400







Client:

Project: Address: GREENPARK

8/13/2018 Date:

Designer: **RCO** 

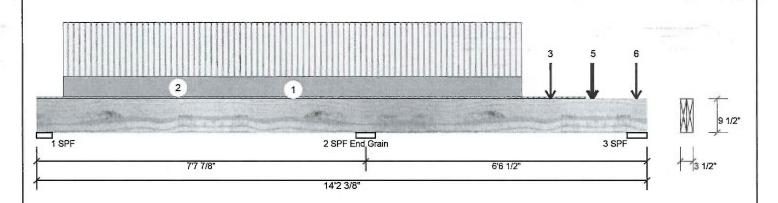
Job Name: HEMLOCK 4-1

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Member Infor	mation			Unfacto	red React	tions U	NPA
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dea
Plies:	2	Design Method:	LSD	1	746		30
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	2663		107
Deflection LL:	360	Load Sharing:	No	3	1644		70
Deflection TL:	240	Deck:	Not Checked		10.15		
Importance:	Normal	Vibration:	Not Checked				
General Load							
Floor Live:	40 PSF	- 0		Bearing:	s and Fac	tored l	React
Dead:	15 PSF			Bearing	Length	Сар.	Read
				1-SPF	4.375"	17%	369
					E E001	0001	4000

Ana	lysis	Results	

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3841 ft-lb	7'7 7/8"	22724 ft-lb	0.169 (17%)	1.25D+1.5L	LL
Unbraced	-3841 ft-lb	7'7 7/8"	22724 ft-lb	0.169 (17%)	1.25D+1.5L	LL
Pos Moment	3116 ft-lb	11'11 7/16"	22724 ft-lb	0.137 (14%)	1.25D+1.5L	_L
Unbraced	3116 ft-lb	11'11 7/16"	22724 ft-lb	0.137 (14%)	1.25D+1.5L	_L
Shear	3612 lb	13' 1/8"	9277 lb	0.389 (39%)	1.25D+1.5L	_L
Perm Defl in.	0.010 (L/9038)	3'7"	0.245 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.034 (L/2632)	3'9 11/16"	0.245 (L/360)	0.140 (14%)	L	L_
TL Defl inch	0.043 (L/2040)	3'9 1/8"	0.368 (L/240)	0.120 (12%)	D+L	L_

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width.

Unfactored	Reactions	UNPATTERNED	lb (Uplift)
Bra	Live	Dead	Snow

Brg	Live	Dead	Snow	Wind
1	746	302	0	0
2	2663	1074	0	0
3	1644	700	0	0

#### tions

Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	17%	369 / 1266	1635	L_	1.25D+1.5L
2 - SPF End Grain	5.500"	38%	1360 / 4048	5408	LL	1.25D+1.5L
3-SPF	5.500"	30%	865 / 2699	3563	L	1.25D+1.5L

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

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS

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



ID Trib Width Load Type Location Side Dead Live Snow Wind Comments Tie-In 0-0-0 to 12-9-4 (Span)0-4-2 Тор 15 PSF 40 PSF 0 PSF 0 PSF 2 Part, Uniform 0-7-7 to 11-3-7 Far Face 107 PLF 286 PLF 0 PLF 0 PLF 3 Point 11-11-7 125 lb 334 lb Far Face 0 lb 0 lb J9 12-11-0 Near Face 473 lb 1103 lb 0 lb 0 lb F14 4

Far Face

Continued on page 2...

5

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the dimensions and loads.

Point

#### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

12-11-7

LVL bearns must not be cut or drilled
Refer to manufacturer's product information
regarding installation requirements, multi-ply
fastening details, beam strength values, and code

fastening usuana, approvais approvais Damaged Beams must not be used Design assumes top edge is laterally restrained Provide lateral support at bearing points to avoid lateral displacement and rotation

116 lb

For flat roofs provide proper drainage to pre-ponding

Manufacturer Info Forex APA: PR-L318

0 lb

0 lb J6

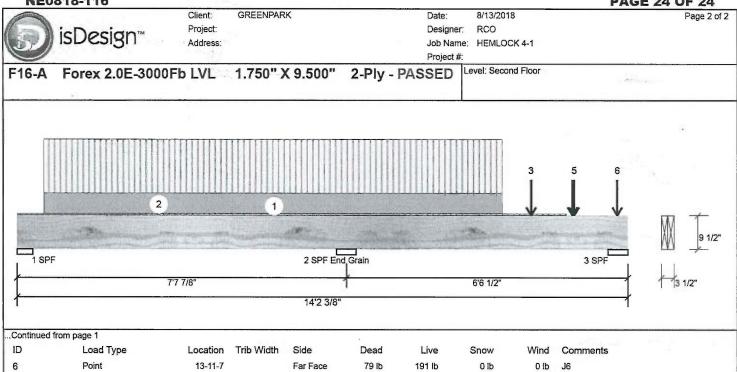
> Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400



This design is valid until 7/10/2021

286 lb

Self Weight



8 PLF

Notes Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads. Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

Handling & Installation

1. LVL beams must not be cut or drilled

2. Refer to manufacturer's product information regarding installation requirements, multi-ply festening details, beam structurements, and code approvals

3. Damaged Beams must not be used

4. Design assumes top edge is laterally restrained

5. Provide lateral support at bearing points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info Forex APA: PR-L318

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