Engineering Note Page (ENP-2)

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

REVISION 2009-10-09



Please read all notes prior to installation of the component

DESIGN INFORMATION

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

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

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

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

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

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at 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 preauthorization.

19-440 012-000-00PK KOTT

isDesign

Client: Project: Address: **GREENPARK**

Date:

8/13/2018

Page 1 of 2

Designer:

RCO Job Name: HEMLOCK 4-1

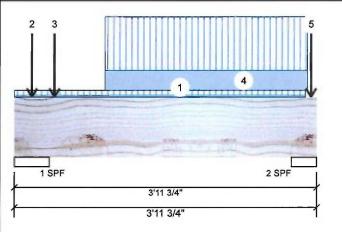
Project #:

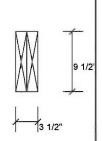
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor





145-1

Туре:	Girder	
Plies:	2	

Moisture Condition: Dry Deflection LL: Deflection TL: 240

15 PSF

Importance: Normal General Load Floor Live: 40 PSF

Member Information

Application:

Floor (Residential)

Design Method: **Building Code:**

NBCC 2010 / OBC 2012

Load Sharing:

Deck: Not Checked Not Checked Vibration:

Unfactored	Reactions	UNPATTERNED	lb	(Uplift)

Brg	Live	Dead	Snow	vvina
1	3366	1381	0	0
2	1027	414	0	0

Bearings and Factored Reactions

- 1								
ĺ	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
ł	1 - SPF	5.500"	62%	1726 / 5049	6775	L	1.25D+1.5L	
4	2 - SPF	4.000"	24%	517 / 1541	2059	L	1.25D+1.5L	

Analysis Results

Dead:

Alluly 313 Ites	analysis results							
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.
- 5 Top braced at bearings.

	slenderness ratio based	on full section width.						
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	
1	Tie-In	0-0-0 to 3-10-0	(Span)1-4-2	Тор	15 PSF	40 PSF	0 PSF	

Comments Wind 0 PSF Point 0-2-12 1074 lb 2663 lb 0 lb 0 lb C2 Top Point 0-6-5 Far Face 173 lb 386 lb 0 lb 0 lb J9 Part. Uniform 1-2-5 to 3-10-5 Far Face 109 PLF 290 PLF 0 PLF 0 PLF

Continued on page 2...

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

- andling & Installation
 LVL beams must not be cut or drilled
 Refer to manufacturer's product information
 regarding installation requirements, multi-pil
 fastening details, beam strength values, and code
 approvals
 Damaged Beams must not be used
 Design assumes too adge is laterally restrained
 Provide lateral-support at beaning points to avoid
 lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent

Manufacturer Info Forex

APA: PR-L318

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







Client: Project:

Address:

GREENPARK

Date:

8/13/2018

Page 2 of 2

RCO Designer:

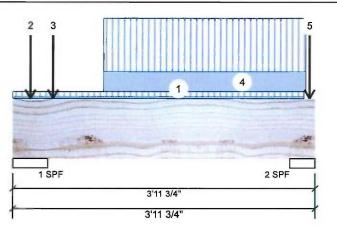
Job Name: HEMLOCK 4-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



..Continued from page 1

5

ID Load Type

Point

Self Weight

3-10-14

Location Trib Width

Side Near Face Dead 188 lb

Live 468 lb Snow 0 lb

Wind Comments F1

0 lb

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.

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 atherwise
 LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

- andling & 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
 Damaged Beams must not be used
 Design assumes top adge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

APA: PR-L318







Client:

Address:

GREENPARK Project:

Date:

8/13/2018

Page 1 of 1

Designer: RCO

Job Name:

Project #:

HEMLOCK 4-1

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED Level: Ground Floor

Bra

1

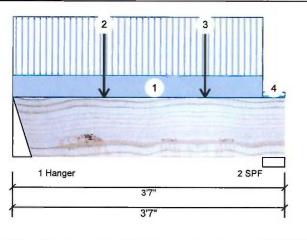
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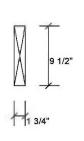
1 -Hanger 2 - SPF 3.500"

Uniform

L

L





Wind

0

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Type:	Girder		Applicat	tion: Fle	oor (Residenti	al)	- 1
Plies:	1		Design	Method: LS	SD		
Moisture Con	idition: Dry		Building	Code: NE	BCC 2010 / O	BC 2012	
Deflection LL	: 360		Load Sh	naring: No			
Deflection TL	.: 240		Deck:	No	ot Checked		
Importance:	Normal		Vibration	n: No	t Checked		
General Load	i						-
Floor Live:	40 PSF						J
Dead:	15 PSF						
Analysis Re	esults						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	
Moment	1147 ft-lb	1'8 7/16"	11362 ft-lb	0.101 (10%)	1.25D+1.5L	L	
Unbraced	1147 ft-lb	1'8 7/16"	9778 ft-lb	0.117 (12%)	1.25D+1.5L	L	
							- 1

2'6 3/4" 4638 lb

1'9 1/16" 0.106 (L/360) 0.030 (3%) D

1'9 1/16" 0.106 (L/360) 0.080 (8%) L

1'9 1/16" 0.158 (L/240) 0.070 (7%) D+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

36%

36%

Unfactored Reactions UNPATTERNED lb (Uplift)

701

684

Bearings and Factored Reactions

Bearing Length 3.000"

Dead

283

278

Cap. React D/L lb

353 / 1052

348 / 1027

Snow

0

0

Total Ld. Case

1405 L

1374 L

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

POFESSIONAL	
18 18 N	
N THE WARDS	
N.A. EL-MASKI S	. ;
CXChar Fryay	u
Aug 18, 2018	
Aug 18, 2018	

Perm Defl in. 0.003

Design Notes

Shear

Member Information

1 Fill all hanger nailing holes.

TL Defl inch 0.012 (L/3296)

1015 lb

(L/11424) LL Defl inch 0.008 (L/4633)

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

4 Rottom braced at bearing

4 BOUDIN DIS	aceu at bearings.					I OHAL FOYD	O O VER DE	AIXIIIOO.	
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				

0.219 (22%) 1.25D+1.5L L

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

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 annovals.

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

Forex APA: PR-L318

Manufacturer Info







Client:

GREENPARK

Project: Address:

Date:

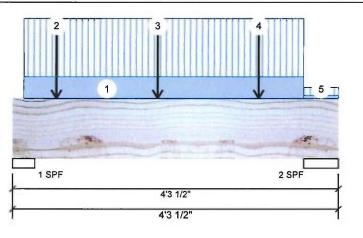
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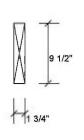
RCO Designer:

Job Name: Project #:

1.750" X 9.500" - PASSED Level: Ground Floor Forex 2.0E-3000Fb LVL

HEMLOCK 4-1





	mioimation	
Type:	Girder	
Plies:	1	

Member Information

Moisture Condition: Dry Deflection LL: Deflection TL:

Importance: Normal General Load Floor Live: 40 PSF 15 PSF Dead:

Application:

Design Method: LSD **Building Code:** NBCC 2010 / OBC 2012

Load Sharing: Not Checked

Floor (Residential)

Deck: Vibration: Not Checked

Unfactored Reactions UNPATTERNED Ib (Uplift)

Live	Dead	Snow	Wind	
970	391	0	0	
881	350	0	0	
	970	970 391	970 391 0	970 391 0 0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF	3.500"	52%	489 / 1456	1945	L	1.25D+1.5L	
2 - SPF	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 **QUIRED AT ALL**



Design Notes

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

		BLOCK IS REQ POINT LOADS		
Side	Dead	Live		

3 Bottom bra	aced at bearings.					POINT LOAD	S OVER BE	ARINGS.	
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 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

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
 Damaged Beams must not be used
 Design assumes too 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

Manufacturer Info

Forex APA: PR-L318

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







MEU0 10-110 Date:

isDesign^a

Client: Project: Address:

GREENPARK

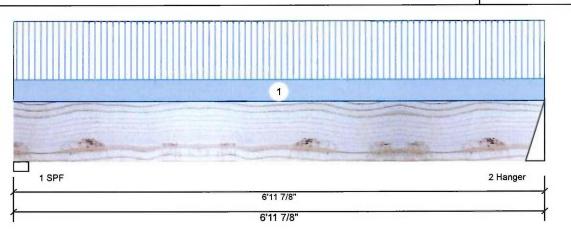
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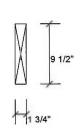
Designer: RCO Job Name: HEMLOCK 4-1

Project #:

1.750" X 9.500" - PASSED Forex 2.0E-3000Fb LVL

evel: Ground Floor





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Page 1 of 1

Member Info	rmation						
Type:	Girder		Applicat	ion: F	loor (Residenti	al)	٦
Plies:	1		Design I	Method: L	.SD		-
Moisture Condition	on: Dry		Building	Code: N	NBCC 2010 / O	BC 2012	1
Deflection LL:	360		Load Sh	naring: N	10		1
Deflection TL:	240		Deck:	1	lot Checked		1
Importance:	Normal		Vibration	n: N	lot Checked		1
General Load							ŀ
Floor Live:	40 PSF						1
Dead:	15 PSF						
Analysis Resu	its			-			
Analysis A	ctual	Location	Allowed	Capacity	Comb.	Case	1
Moment 2	06 ft-lb	3'5 5/8"	11362 ft-lb	0.018 (2%)	1.25D+1.5L	L	1
Unbraced 2	06 ft-lb	3'5 5/8"	5592 ft-lb	0.037 (4%)	1.25D+1.5L	L	1
Shear 9	4 lb	6' 1/8"	4638 lb	0.020 (2%)	1,25D+1.5L	L	-

Unfactored Reactions UNPATTERNED Ib (Uplift)								
Brg	Live	Dead	Snow	Wind				
1	57	35	0	0				
2	58	35	0	0				

Bearings and Factored Reactions Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.375" 5% 43 / 86 129 L 1.25D+1.5L 1.25D+1.5L 3% 44 / 87 131 L 2 -3.000" Hanger

Shear 6' 1/8" 4638 lb Perm Defl in. 0.002 3'5 5/8" 0.222 (L/360) 0.010 (1%) D Uniform (L/37066) L LL Defl inch 0.004 3'5 5/8" 0.222 (L/360) 0.020 (2%) L (L/22480) TL Defl inch 0.006 3'5 5/8" 0.333 (L/240) 0.020 (2%) D+L L (L/13993)

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 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	
	Salf Majaht				4 DI E				

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

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

papprovisis

Damaged 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

Manufacturer Info APA: PR-L318

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









Client:

Address:

Project:

GREENPARK

Date:

8/13/2018 RCO

Page 1 of 1

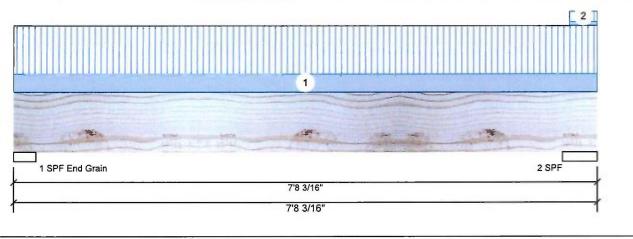
Designer:

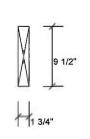
Job Name: HEMLOCK 4-1

Project #

1.750" X 9.500" - PASSED Forex 2.0E-3000Fb LVL

Level: Ground Floor





Type:	Girder		Applica	tion:	Floor (F	kesident	ıal)	- [1
Plies:	1		Design	Method:	LSD			-
Moisture Condition	Dry		Building	Code:	NBCC:	2010 / O	BC 2012	١
Deflection LL:	360		Load Si	haring:	No			1
Deflection TL:	240		Deck:		Not Ch	ecked		-
Importance:	Normal		Vibratio	n:	Not Ch	ecked		1
General Load								-
Floor Live:	40 PSF							
Dead:	15 PSF							
Analysis Result	S							1
Analysis Act	ual	Location	Allowed	Capac	ity Cor	nb.	Case	7

Brg	Live	Dead	Snow	Wind	
1	567	229	0	0	
2	604	243	0	0	

Unfactored Reactions UNPATTERNED Ib (Uplift)

Bearings and Factored Reactions Cap. React D/L lb Total Ld. Case Ld. Comb. Bearing Length 1-SPF 3.500" 25% 286 / 851 1137 L 1.25D+1.5L End Grain 1.25D+1.5L 2 - SPF 5.500" 20% 304 / 907 1210 L

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

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.



Design Notes

ID 1 2

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

Member Information

3 Bottom braced at bearings

OIII DI	acca at bearings.								
	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Part. Uniform	0-0-0 to 7-8-3		Far Face	57 PLF	151 PLF	0 PLF	0 PLF	
	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 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

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

Damaged Beams must not be used

Design assumes top edge is laterally restrained

Provide Tateral 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







Client:

GREENPARK

Project:

Date:

8/13/2018

RCO Designer:

Page 1 of 1

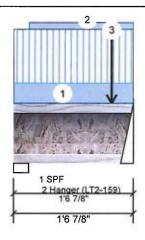
Address:

Job Name: HEMLOCK 4-1

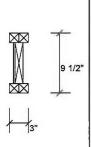
Project #:

2-Ply - PASSED 9.500" NJ

Level: Ground Floor



Member Information



Wind

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

0

Total Ld. Case

137 L

283 L

Type:	Girder		Application:	Floor (Residential)	Brg	Live		Dead
Plies:	2		Design Method:	LSD	1	65		31
Moisture Cor	ndition: Dry		Building Code:	NBCC 2010 / OBC 2012	2	134		66
Deflection LL	L: 360		Load Sharing:	No				
Deflection TL	L: 240		Deck:	Not Checked				
Importance:	Normal		Vibration:	Not Checked				
General Load	d							
Floor Live:	40 PSF				Bearings	and Fac	tored R	leactions
Dead:	15 PSF				Bearing	Length	Cap.	React D/L lb
					1 - SPF	2.375"	5%	39 / 98
					2-	2.000"	11%	82 / 201
Analysis R	esults				Hanger			
Analysis	Actual	Location	Allowed Capac	city Comb. Case				

1' 1/16" 7340 ft-lb

1' 1/16" 6912 ft-lb

0 999.000 (L/0) 0.000 (0%)

11 3/4" 0.044 (L/360) 0.010 (1%) L

11 11/16" 0.067 (L/240) 0.010 (1%) D+L

1'5 5/8" 3080 lb

READ ALL NOTES ON THIS PAGE AND C	N
ENGINEERING NOTE PAGE ENP-2. THIS	
NOTE PAGE IS AN INTEGRAL PART OF T	THIS
CALCULATION SUMMARY PAGE AS IT	
CONTAINS SPECIFICATIONS AND CRITE	RIA

Unfactored Reactions UNPATTERNED lb (Uplift)

39 / 98

Live

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.



Design Notes

TL Defl inch

Moment

Shear

Unbraced

1 Fill all hanger nailing holes.

Perm Defl in. 0.000 (L/999)

LL Defl inch 0.000

- 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,

52 ft-lb

52 ft-lb

268 lb

(L/55254)0.000

(L/37041)

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	0-2-6 to 1-6-14		Тор	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-3-7		Far Face	47 lb	97 lb	0 lb	0 lb	J1

0.007 (1%) 1.25D+1.5L L

0.008 (1%) 1.25D+1.5L L 0.087 (9%) 1.25D+1.5L L

L

L

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
 Upist not to be treated with fire retardant or corrosive

Handling & Installation

- Andling & Installation
 Lioist flanges must not be cut or drilled
 Refer to latest copy of the Lioist product information
 details for framing details, sutifiener tables, web hole
 chart, bridging details, multi-phy fastening details and
 handling/erection details
 Damaged Lioists 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 ponding

Manufacturer Info Nascor by Kott







Client:

GREENPARK

Project: Address: Date:

8/13/2018

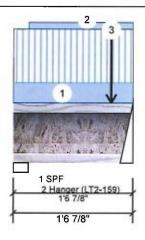
Designer: RCO

Job Name: Project #:

2-Ply - PASSED NJ 9.500"

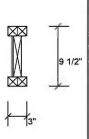
Level: Ground Floor

HEMLOCK 4-1



Member Information

Girder



Plies:	2	Design Method:	LSD	1	6
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	13
Deflection LL:	360	Load Sharing:	No	100	
Deflection TL:	240	Deck:	Not Checked		
Importance:	Normal	Vibration:	Not Checked		
General Load					_
Floor Live:	40 PSF			Bearings	s and Fa
Dead:	15 PSF			Bearing	Length
				1 - SPF	2.375"
				2-	2.000"
Analysis Resu	Hanger				

Application:

Brg	Live	Dead	Snow	Wind	
1	65	31	0	0	
2	133	66	0	0	
Rearings	and Factore	d Reactions			

39 / 98

82 / 199

Cap. React D/L lb

5%

11%

Unfactored Reactions UNPATTERNED Ib (Uplift)

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

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



Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Total Ld. Case

136 L

281 L

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 flange braced at bearings

6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	•
ID.	Load Type	Location	THE VIGUI	Side	Dead	LIVE	SHOW	vviila	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	

Floor (Residential)

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—
 Upost not to be treated with fire retardant or corrosive

Handling & Installation

- andling & Installation

 Loist flanges must not be cut or drilled
 Refer to latest copy of the IJoist product information
 details for framing details, stiffener tables, web hole
 chart, bridging details, multi-py fastening details and
 handling/erection details
 Damaged IJoist must not be used
 Design assumes top flange to be laterally restrained
 by attached sheathing or as specified in engineering
 notes.

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

This design is valid until 7/10/2021

Manufacturer Info Nascor by Kott







Client:

GREENPARK

Project: Address: Date:

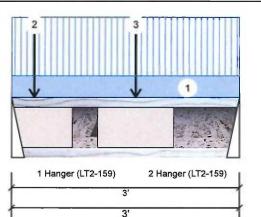
8/13/2018 RCO

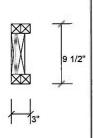
Designer: Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor





1	em	ber	Infor	mati	on

Type: Girder Plies: 2 Moisture Condition: Dry Deflection LL: Deflection TL: 240 Importance: Normal General Load Floor Live: 40 PSF

15 PSF

Deck:

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

Not Checked Vibration: Not Checked

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	426	159	0	0
2	266	100	0	0

Bearings and Factored Reactions

Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	32%	199 / 639	838	L	1.25D+1.5L
2 - Hanger	2.000"	20%	125 / 399	523	L	1.25D+1.5L

Analysis Results

Dead:

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

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 flange braced at 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.

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.



6 Bottom flange braced at bearings Location

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-8-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-9		Near Face	84 lb	225 lb	0 lb	0 lb	J7
3	Point	1-7-9		Near Face	136 lb	362 lb	0 lb	0 lb	J7

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 atherwise
 IJoist not to be treated with fire retardant or corrosive

Handling & Installation

- IAINGLINING & INSTALLATION

 I Moist flanges must not be cut or drilled

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

 Damaged Lloists must not be used

 Design assumes too 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 ponding

This design is valid until 7/10/2021

Manufacturer Info Nascor by Kott





Client:

GREENPARK

Project: Address: Date:

8/13/2018

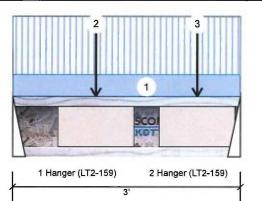
Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor



3'

9 1/2"

Member	Inform	ation

Type: Girder Plies: 2 Moisture Condition: Dry Deflection LL: Deflection TL: 240 Importance: Normal General Load

40 PSF

15 PSF

Application: Design Method: **Building Code:**

Floor (Residential) LSD

NBCC 2010 / OBC 2012

Load Sharing: Not Checked Deck: Vibration: Not Checked

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	VVina
1	283	106	0	0
2	353	132	0	0

Analysis Results

Floor Live:

Dead:

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	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.	
	1 - Hanger	2.000"	21%	133 / 424	557	L	1.25D+1.5L	
	2 - Hanger	2.000"	27%	165 / 529	694	L .	1.25D+1.5L	
П								

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

O BULUIII IIa	inge braced at bearings.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	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 lb	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 loads. Lumber

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

Handling & Installation

- nativating & installation

 1. IJoist flanges must not be cut or drilled

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

 3. Damaged Lioists must not be used

 4. Design assumes top flange to be laterally restrained by strached 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 ponding

Manufacturer Info Nascor by Kott





isDesign

Client:

GREENPARK

Project: Address:

Date:

8/13/2018

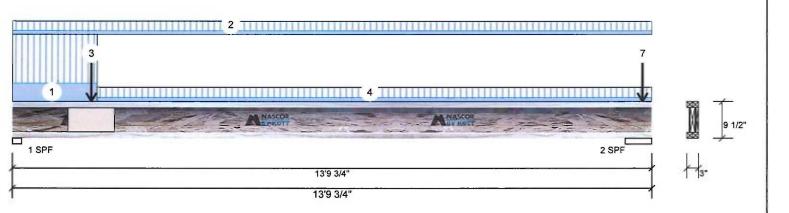
RCO Designer:

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED 9,500" NJ

Level: Ground Floor



Member In	formation			Unfactored Reactions UNPATTERNED Ib (Uplift)						
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	2	Design Method:	LSD	1	578	216	0	0		
Moisture Cond	dition: Dry	Building Code:	NBCC 2010 / OBC 2012	2	423	219	0	0		
Deflection LL:	360	Load Sharing:	No	122						
Deflection TI:	240	Deck:	Not Checked							

Not Checked

Bearings and Factored Reactions

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.375" 42% 270 / 867 1137 L 1.25D+1.5L 29% 273 / 634 907 L 1.25D+1.5L 2 - SPF 6.875"

Analysis Results

Design Notes

Importance:

General Load

Floor Live:

Dead:

Normal

40 PSF

15 PSF

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

Vibration:

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

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

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

EL-MASRI

OPROFESSIONAL

PAGE 14 UF 24

Page 1 of 1

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.
5 Rottom flange braced at bearings

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

5 Bottom fl	lange braced at bearing	S.				I OINT LOAD	OUTLIVEL	4141100.		
D	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	dl 0	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 ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

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

Handling & Installation

- andling & Installation

 Loist flanges must not be cut or drilled

 Refer to latest copy of the IJoist product information

 details for framing details, stiffener tables, web hole

 chart, bridging details, mutti-ply fasterning details and

 handling/erection details

 Damaged IJoists must not be used

 Design assumes too 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 ponding.

This design is valid until 7/10/2021

Manufacturer Info Nascor by Kott





isDesign™

Project: Address: GREENPARK

Client:

Date:

8/13/2018

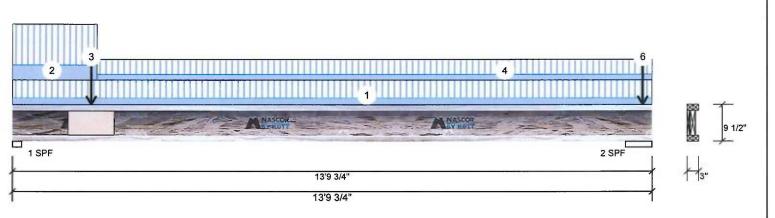
RCO Designer:

HEMLOCK 4-1 Job Name:

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor



lember Inform	nation			Unfactore	ed React	ions Ul	NPATTERNE	D lb (Uplif	t)
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	677		254	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	783		414	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
mportance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings a	and Fact	ored R	leactions		
Dead:	15 PSF			Bearing L	ength	Cap.	React D/L lb	Total Ld. C	ase Ld. Comb.
				1-SPF 2	.375"	50%	317 / 1016	1334 L	1.25D+1.5L
				2-SPF 6	3.875"	55%	518 / 1175	1693 L	1.25D+1.5L

Case

Uniform

L

Analysis Results Analysis Actual Location Allowed Capacity Comb. 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 0.425 (42%) 1.25D+1.5L L Shear 1308 lb 1 5/8" 3080 lb Perm Defl in. 0.066 (L/2383) 6'6 1/16" 0.439 (L/360) 0.150 (15%) D

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

LL Defl inch 0.177 (L/893)

TL Defl inch 0.243 (L/650)

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 Rottom flance braced at hearings

L	5 Bottom nange	braced at bearings.									
I	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 lb	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	
l	6	Point	13-7-6		Тор	107 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 ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

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

Handling & Installation

andling & Installation
Loist flanges must not be cut or drilled
Refer to latest copy of the Lioist product information
details for framing details, sufferier tables, web hole
chart, bridging details, multi-phy fastening details and
handling/erection details
Damaged bloists must not be used
Design assumes top flange to be laterally restrained
by attached sneathing or as specified in engineering
notes.

6'6 1/16" 0.439 (L/360) 0.400 (40%) L

6'6 1/16" 0.658 (L/240) 0.370 (37%) D+L

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 roots provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott

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



QOFESSIONA

Client: Project: Address: **GREENPARK**

Date:

8/13/2018

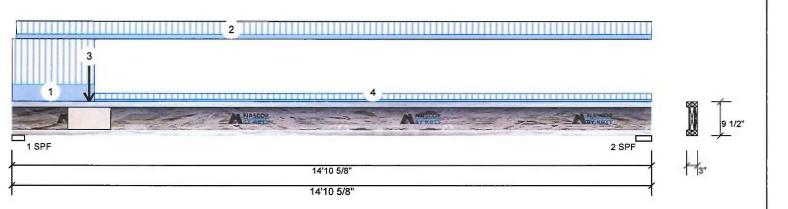
Designer: **RCO**

HEMLOCK 4-1 Job Name:

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor



Member Information Unfactored Reactions UNPATTERNED Ib (Uplift) Girden Type: Application: Floor (Residential) Live Dead Plies: 2 Design Method: LSD 254 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 2 251 94 Load Sharing: Deflection LL: 360 Deflection TL: Not Checked

Not Checked

Bearings and Factored Reactions

Snow

0

0

Wind

0

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 2 - SPF 4.375" 16% 118 / 377 495 L 1.25D+1.5L

Analysis Results

Design Notes

Importance:

Floor Live:

Dead:

General Load

Normal

40 PSF 15 PSF

tildiy 515 Ites	, ai C					
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

Vibration:

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. EL-MASRI

PROFESSIONAL

Page 1 of 1

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.

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.

o Dottoili liai	ige braced at bearin	igo.							
1D	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	

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
 Upost not to be treated with fire retardant or corrosive

Handling & Installation

- Handling & Installation

 1. Usist flanges must not be cut or drilled

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

 3. Damaged Lioists must not be used

 4. Design assumes too 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 ponding

This design is valid until 7/10/2021

Manufacturer Info Nascor by Kott







Client:

GREENPARK

Project: Address:

8/13/2018

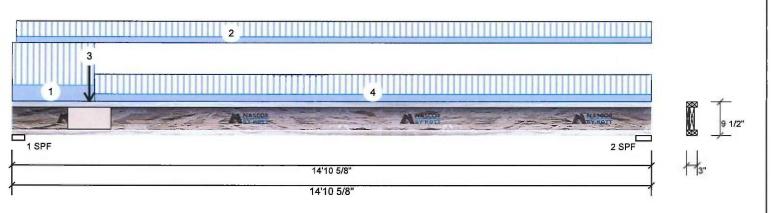
Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor



Member Inforn	nation			Unfactore	d Reacti	ons UNPATTERN	ED lb (Uplift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	694	260	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	431	162	0	0
Deflection LL:	360	Load Sharing:	No	-				
Deflection TL:	240	Deck:	Not Checked	17				
Importance;	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings a	nd Fact	ored Reactions		
Dead:	15 PSF			Bearing Le	ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 3.	.500"	46% 325 / 1040	1366 L	1.25D+1.5L

Analysis Results

Design Notes

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
Unbraced	3182 ft-lb	6'9 9/16"	3222 ft-lb	0.988 (99%)	1.25D+1.5L	L
Shear	1330 lb	2 3/4"	3080 lb	0.432 (43%)	1.25D+1.5L	L
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.

28%

202 / 647

849 L

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 - SPF 4.375"



1.25D+1.5L

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 3'8" o.c.

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

5 Bottom flange braced at bearings.

	3	,							
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	

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
 Usist not to be treated with fire retardant or corrosive

Handling & Installation

- Handling & Installation

 1. Lioist flanges must not be out or drilled

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

 3. Darmaged Lioists must not be used

 4. Design assumes too 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 ponding

Manufacturer Info Nascor by Kott

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





MENO 10-110 PAGE 10 UF 24 Client: Page 1 of 2

sDesign"

NJ

9.500"

Project: Address:

GREENPARK

Date:

8/13/2018

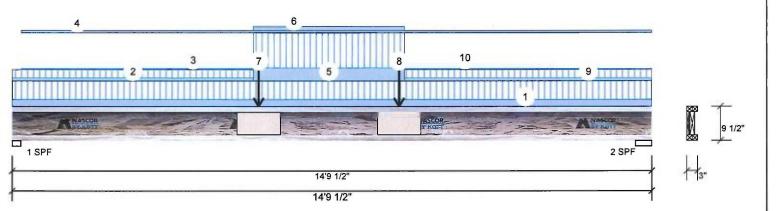
Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED

Level: Ground Floor



Member Information					Unfactored Reactions UNPATTERNED Ib (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	Wind		
Plies:	2	Design Method:	LSD	1	375		183	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	380		186	0	О		
Deflection LL:	360	Load Sharing:	No	100							
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal	Vibration:	Not Checked								
General Load											
Floor Live:	40 PSF			Bearings	and Fac	tored I	Reactions				
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total Ld. Case	Ld. Comb.		
				1 - SPF	2.375"	29%	229 / 562	791 L	1.25D+1.5L		

Uniform

L

2 - SPF 4.500"

Analysis Results Analysis Actual Moment 3635 ft-lb

Perm Defl in. 0.117 (L/1477)

LL Defl inch 0.238 (L/725)

Location Allowed 7'3 5/8" 7340 ft-lb 3635 ft-lb 7'3 5/8" 3660 ft-lb 785 lb 14'5 3/4" 3080 lb

Capacity Comb. Case 0.495 (50%) 1.25D+1.5L L 0.993 (99%) 1.25D+1.5L L 0.255 (25%) 1.25D+1.5L L

7'3 3/4" 0.478 (L/360) 0.240 (24%) D 7'3 3/4" 0.478 (L/360) 0.500 (50%) 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.

26%

233 / 570

803 L

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

TL Defl inch 0.354 (L/486) 7'3 3/4" 0.717 (L/240) 0.490 (49%) D+L **Design Notes** 1 Girders are designed to be supported on the bottom edge only.

Unbraced

- 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 3'4" o.c.

5 Bottom flange braced at bearings.

Load Type ID Location Trib Width Side Dead Live Wind Comments Snow Tie-In 0-0-0 to 14-9-8 (Span)0-11-1 Top 15 PSF 40 PSF 0 PSF 0 PSF 1 0-0-0 to 5-6-14 (Span)0-4-15 Top 15 PSF 40 PSF 0 PSF 0 PSF 2 Tie-In Part, Uniform 0-2-7 to 5-6-14 1 PLF 0 PLF 0 PLF 0 PLF Top Part. Uniform 0-2-7 to 14-9-8 Top 2 PLF 0 PLF 0 PLF 0 PLF 0 PSF Tie-In 5-6-14 to 9-0-14 (Span)1-8-15 Top **15 PSF** 40 PSF 0 PSF 0 PLF Part. Uniform 5-6-14 to 9-0-14 Top 4 PLF 0 PLF 0 PLF Point 5-8-6 Near Face 66 lb 134 lb 0 lb 0 lb F5

Continued on page 2...

Lumber

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.

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

chemicals

Handling & Installation

Libit flanges must not be cut or drilled.

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

Damaged bloists must not be used.

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

5. Provide lateral support at bearing points to avoid

lateral displacement and rotation

6. Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches

7. 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



1.25D+1.5L

& OPROFESSIONAL

EL-MASRI



PAGE 15 UF 24 MEA0 10-110 Page 2 of 2

isDesign™

Client: Project: Address:

GREENPARK

8/13/2018

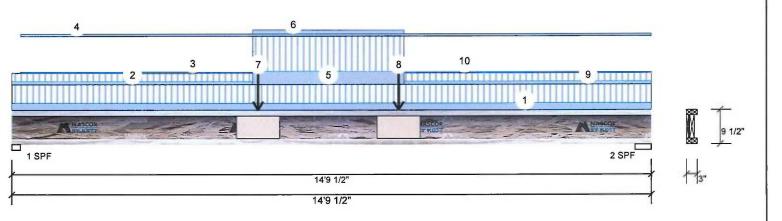
Date: Designer: RÇO

Job Name: HEMLOCK 4-1

Project #:

2-Ply - PASSED NJ 9.500" F8-C

Level: Ground Floor



..Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	8-11-6		Near Face	66 lb	133 lb	0 lb	0 lb	F5
9	Tie-In	9-0-14 to 14-9-8	(Span)0-4-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	9-0-14 to 14-9-8		Тор	1 PLF	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

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.

Dry service conditions unless noted otherwise .
 Joist not to be treated with fire retardant or corrosive.

Handling & Installation

- 1. Libist flanges must not be cut or drilled
 2. Refer to latest copy of the Libist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
 3. Damaged Libists 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
 For flat roofs provide proper drainage to prevent ponding

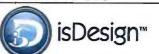
This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott







Client:

Address:

GREENPARK

Project:

Date:

8/13/2018

Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

Forex 2.0E-3000Fb LVL

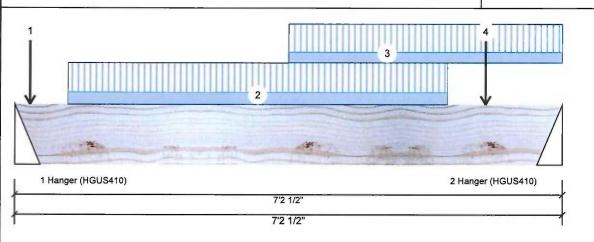
1.750" X 9.500"

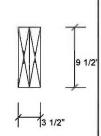
2-Ply - PASSED

2

Hanger

Level: Second Floor





0

EL-MASRI

Type:	Girder		Applicati	ion:	Floor (Resider	ntial)
Plies:	2		Design N	Method:	LSD	
Moisture Co	ndition: Dry		Building	Code:	NBCC 2010 /	OBC 2012
Deflection L	L: 360		Load Sh	aring:	No	
Deflection T	L: 240		Deck:		Not Checked	
Importance:	Normal		Vibration	1:	Not Checked	
General Loa	ıd					
Floor Live:	40 PSF					
Dead:	15 PSF					
Analysis R	esults					
Analysis	Actual	Location	Allowed	Capaci	ty Comb.	Case
Managari	4054 # Ib	41 4 /0"	22724 # Ib	0 407 /	100/) 4 050 4 51	

Brg	Live	Dead	Snow	Wind
1	1103	473	0	0

610

Unfactored Reactions UNPATTERNED Ib (Uplift)

1457

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

Moment 4254 ft-lb 4' 1/8" 22724 ft-lb 0.187 (19%) 1.25D+1.5L L 4254 ft-lb 4' 1/8" 21846 ft-lb 0.195 (19%) 1.25D+1.5L L Unbraced 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

3'9 1/8" 0.333 (L/240) 0.170 (17%) D+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

1 Fill all hanger nailing holes.

TL Defl inch 0.057 (L/1401)

Member Information

- 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

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

7 Lateral slende	erness ratio based on fu	II 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 verify the dimensions and loads.

Lumber

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

chemicals

- LYL 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
 Damaged Beams must not be used
 - 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
- 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





MENO 10-110 FAUE 22 UF 24

sDesign

Client: Project:

Address:

GREENPARK

Date:

8/13/2018

Page 1 of 1

Designer: RCO

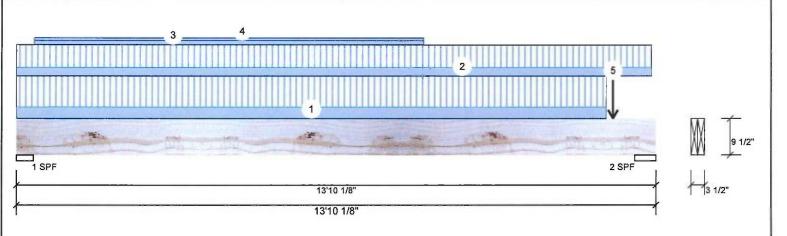
Job Name: HEMLOCK 4-1 Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Member Information

Type:

Plies:

Deflection LL:

Deflection TL:

Importance:

Girder 2 Moisture Condition: Dry

360 240 Normal

General Load Floor Live: 40 PSF Dead: **15 PSF**

Application: Floor (Residential)

Design Method:

NBCC 2010 / OBC 2012 **Building Code:**

Load Sharing: No Not Checked Deck:

Not Checked Vibration:

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	vvina
1	334	209	0	0
2	1651	747	0	0

Bearings and Factored Reactions

ſ	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
l	1 - SPF	4.375"	8%	261 / 501	761	L	1.25D+1.5L
ł	2 - SPF	5.500"	29%	934 / 2476	3410	L	1.25D+1.5L

Analysis Results

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 2858 ft-lb 0.148 (15%) 1.25D+1.5L L Unbraced 8' 15/16" 19311 ft-lb Shear 3357 lb 12'7 7/8" 9277 lb 0.362 (36%) 1.25D+1.5L L Perm Defl in. 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 7'2 5/16" 0.657 (L/240) 0.210 (21%) D+L TL Defl inch 0.137 (L/1151)

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 braced at bearings.
- 5 Bottom braced at bearings.
- based on full asstice width

0 Late	iai sienueiness rauo baseu on	iuli sectioni widin.
ID	Load Type	Location
1	Tie-In	0-0-0 to 12-9-4

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

Lumber

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.

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

chemicals

Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info Forex

APA: PR-L318





Wind

0

0

0

Ld. Comb.

1.25D+1.5L 1.25D+1.5L

1.25D+1.5L

EL-MASRI

3563 _L

Page 1 of 2



Client:

Address:

GREENPARK

Project:

8/13/2018

RCO

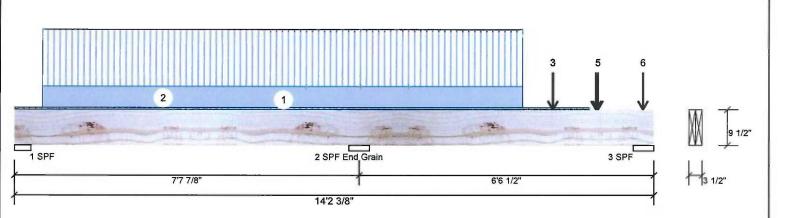
Designer: Job Name: HEMLOCK 4-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Inform	nation			Unfactor	ed Reacti	ions U	NPATTERN	ED lb ((Uplift)
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Sno	w
Plies:	2	Design Method:	LSD	1	746		302		0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	2663		1074		0
Deflection LL:	360	Load Sharing:	No	3	1644		700		0
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked	1					
General Load									
Floor Live:	40 PSF			Bearings	and Fact	ored I	Reactions		
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case
				1 - SPF	4.375"	17%	369 / 1266	1635	L_
Analysis Result				2 - SPF End	5.500"	38%	1360 / 4048	5408	LL
Analysis Act	ual Loc	ation Allowed Canac	ity Comb Case	Grain					

Analysis	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.

١	
	REFER TO MULTIPLE MEMBER TO MEMBER
	CONNECTION DETAIL FOR PLY TO PLY
1	NAILING OR BOLTING REQUIREMENTS.
	REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH

30%

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.

865 / 2699

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

3-SPF 5.500"

6 Lateral sle	enderness ratio based o	on full section width.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	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		Far Face	125 lb	334 lb	0 lb	0 lb	J9
4	Point	12-11-0		Near Face	473 lb	1103 lb	0 lb	0 lb	F14
5	Point	12-11-7		Far Face	116 lb	286 lb	0 lb	0 lb	J6

Continued on page 2...

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design critoria 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

Handling & Installation

- andling & 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
 Damaged Beams must not be used
 Design assumes top edge is laterally restrained
 Provider lateral support air 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





MENO 10-110 **PAUE 24 UF 24** Client: GREENPARK 8/13/2018 Page 2 of 2 Date: Project: RCO Designer: isDesign" Job Name: HEMLOCK 4-1 Address: Project #: 1.750" X 9.500" 2-Ply - PASSED Forex 2.0E-3000Fb LVL Level: Second Floor 2 1 3 SPF 2 SPF End Grain 1 SPF 7'7 7/8" 6'6 1/2" 14'2 3/8" .Continued from page 1 ID Load Type Location Trib Width Side Dead Live Snow Wind Comments Point 13-11-7 Far Face 79 lb 191 lb 0 lb 0 lb J6 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

landling & 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
Damaged Beams must not be used
Design assumes top adge is laterally restrained
Frovide lateral support at beaming points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Forex APA: PR-L318

Manufacturer Info





Layout Name

Design Method

Description

Revised

Builder

RM

RCO

Shipping

Canada

L4A 7X4

Job Path

905-642-4400

Ground Floor

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

Builder's Project

14 Anderson Blvd Stouffville, Ontario

Kott Lumber Company

D:\Users\rochavillo\WORK FROM

HOME\GREENPARK\MINNISALE

Building Code NBCC 2010 / OBC

2012

40

15

480

360

480

360

360

240

480

360

SPF Piywood

Nailed & Glued

HOMES\HEMLOCK 4\HEMLOCK 4 \FLOOR\REV\HEMLOCK 4-1.isl

Project

12-0-0 Designer

LSD

HEMLOCK 4-1 & 4-2

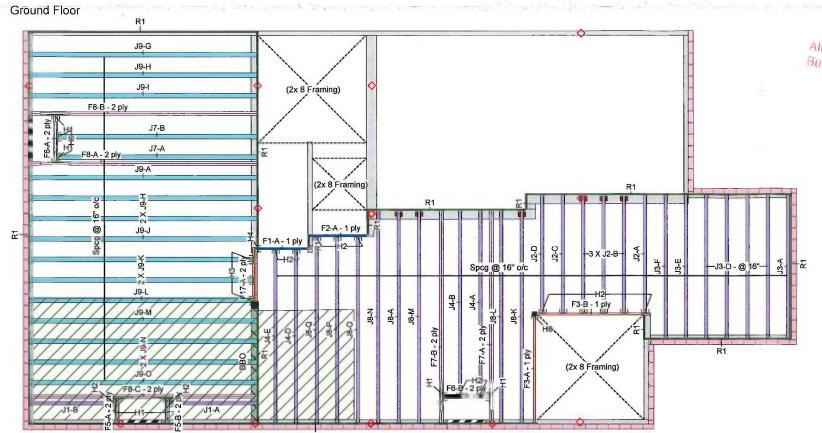
MINNISALE HOMES

BRAMPTON, ONT.

August 13, 2018

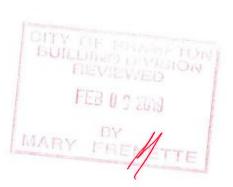
GREENPARK

Sales Rep



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

> Engineered floor joists shall be install in accordance with the supplier's layou specifications forming part of the permit dray



Legend

Load from Above Wall Wall Opening Norbord Rimboard Plus 1.125 X 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:

- 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.

LVL/LS Label	L (Flush) Description	Width	Do	pth	_	ty	Plies	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	+	9.5	· ·	ity	1 1103	2	8-0-0
F2	Forex 2.0E-3000Fb LVL	1.75		9.5				1	6-0-0
F17	Forex 2.0E-3000Fb LVL	1.75	19	9.5		1	2	2	4-0-0
F1	Forex 2.0E-3000Fb LVL	1.75		9.5				1	4-0-0
I Joist ((Flush)								
Label	Description	Width	De	pth	Q	ty	Plies	Pcs	Length
F8	NJ	1.5		9.5	;	3	2	6	16-0-0
F7	NJ	1.5		9.5	:	2	2	4	14-0-0
F6	NJ	1.5		9.5	- :	2	2	4	4-0-0
F5	NJ	1.5		9.5		2	2	4	2-0-0
J9	NJ60U	3.5		9.5				14	16-0-0
and J7	NJ60U	3.5		9.5				2	14-0-0
78, J8	NJH	2.5		9.5				8	14-0-0
J4	NJH	2.5		9.5				4	12-0-0
J3	NJH	2.5		9.5				7	10-0-0
J2	NJH	2.5		9.5				6	8-0-0
J1	NJH	2.5		9.5				2	6-0-0
Rim Bo	ard								
Label	Description	Width	De	pth	Q	ty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125		9.5				13	12
Hange						Bea	ım/Girder		oported ember
Label	Pcs Descriptio	n S	kew	Slop	ре	fa	steners	fas	teners
Н1	6 IT2 150					4.4	0dv1 1/2	2 10dv1 1/2	

ember teners H1 6 LT2-159 2 10dx1 1/2 4 10dx1 1/2 H2 15 LT259 4 10dx1 1/2 2 10dx1 1/2 НЗ 3 LT359 4 10d 2 10dx1 1/2 HUCQ1.81/9-2 MIT49.5 H6 4 10dx1 1/2 4 10dx1 1/2 H8 1 L90

NOTES:

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

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

ARCHITECTURAL DRAWINGS:

VA3 DESIGN

255 Consumers Rd., Suite 120, Toronto, ON

Date: Rev.6; July 23,2018 Project No: 18012 Model: Hemlock 4

LOT 382 19-440012-000-00 RR



All work shall centerm 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.

Load from Above

Wall

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)

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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.

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.

LOT38Z

				_						PAGE ZU UF Z4			
Second													
LVL/LS			147 10	LD	- n T		l pr	-	1	NASCOF			
	Descr	iption	Width	-	pth	Qt	_	Pcs	Lengtl	HADCOL			
F16	Forex 2.0E-3	000Fb LVL	1.75		9.5	1	2	2	16-0-0				
F15	Forex	000Fb LVL	1.75		9.5	1	2	2	14-0-6	Layout Name HEMLOCK 4-1 & 4-2			
F14	Forex	000Fb LVL	1.75		9.5	1	2	2	8-0-6	Design Method			
Joist (Flush)									LSD			
	Descr		Width	De	pth	Qt	v Plies	Pcs	Length	Revised			
J6	NJ40U		3.5		9.5			9	16-0-0	- A.,1 40 0040			
J5	NJ40U		3.5	9	9.5			5	14-0-0				
J9	NJ60U		3.5		9.5			15	16-0-0	MINNISALE HOMES			
J8	NJH		2.5		9.5			17	14-0-0	BRAMPTON, ONT.			
J4	NJH		2.5		9.5			1	12-0-0	Builder			
J3	NJH		2.5		9.5			7	10-0-0	GREENPARK			
Rim Bo										Sales Rep			
	Descr		Width	-	pth	Qt	Plies	Pcs	Length	¹ RM			
R1		d Rimboard	1.125		9.5			13	12	Designer			
Jangas		125 X 9.5				_				RCO			
Hanger						-	Doom/Cirdo		pported	1777			
						1	Beam/Girde		ipportea 1ember	Shipping			
Label	Pcs	Description	n 9	Skew	Slop	10	fasteners		steners	Project Project			
H2	7	LT259	,	DICTO	City	,,,	4 10dx1 1/2		0dx1 1/2	Builder's Project			
H3	11	LT359	-	-		+	4 10d		0dx1 1/2	Kott Lumber Company			
H5	2	HGUS410				_	46 16d	_	16 16d				
H7	1	Unknown								Stouffville, Ontario			
		Hanger	1							Canada			
NOTES:										L4A 7X4			
		· ·								905-642-4400			
		rify dimensio nly require fil							- 1				
		per using a fa					nung			Job Path			
3. Install 4. Install rimboa	2x4 blo single-p ard/rimjo	cking @ 24" oly flush wind	o/c unde low head	er para der alc	allel no ong ins	n-loa ide fa		lls.		D:\Users\rochavillo\WORK FROM HOME\GREENPARK\MINNISALE HOMES\HEMLOCK 4\HEMLOCK 4 \FLOOR\REV\HEMLOCK 4-1.isl			
		s recommen								Second Floor			
		ists which su	ipport lo	ading	from a	bove	exceeding			Design Method LSD			
		r or roof.	installes	unda	ممال مم	حا فجا				Building Code NBCC 2010 / OBC			
		blocks to be framer's resi					aus. and beams ar	e	i	2012			
		er the hange						•		Floor			
										Loads			
		Member Co	nnection	Deta	i to ply	to pl	y nailing or			Live 40			
oolting re	quirem	ents.								Dead 15			
Rim para	llel to jo	ists: 1-1/8" r	imboard	with 2	"x 4" b	lock	(1/16" longer	than		Deflection Joist			
im depth	n @ 16"	o/c). All other	er comp	onents	and s	tructu	iral elements		1	LL Span L/ 480			
		oor system s								TL Span L/ 360			
		and footings Il stability are					omponents ar	nd		LL Cant 2L/ 480			
aoing l	- iutoic	. Judnity ale	163	CHISIL	anty UI	2016	10.			TL Cant 2L/ 360			
		sents ceram	ic tiled f	oor w	ith an a	addtic	nal dead load	Ė		Deflection Girder			
f 5 PSF										LL Span L/ 360			
he fram	ina eho	un on this la	vout mo	, devi-	ate from	n the	architectural			TL Span L/ 240			
							approve the		n prior	LL Cant 2L/ 480			
o constr							FF 10 E.O		F	TL Cant 2L/ 360			
	_									D L:			

ARCHITECTURAL DRAWINGS:

VA3 DESIGN 255 Consumers Rd., Suite 120, Toronto, ON

Date: Rev.2; May 18,2018 Project No: 18012 Model: Hemlock 4

KOTT

Decking

Thickness

Fastener

Vibration

Ceiling:

SPF Plywood

Nailed & Glued

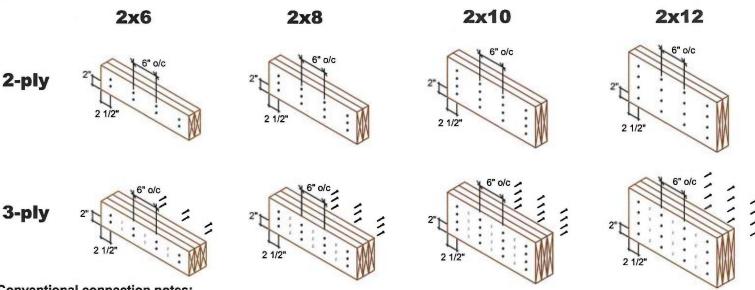
Gypsum 1/2"

Deck

MULTIPLE MEMBER CONNECTIONS

MODEL HEMLOCK 4-1 & 4-2

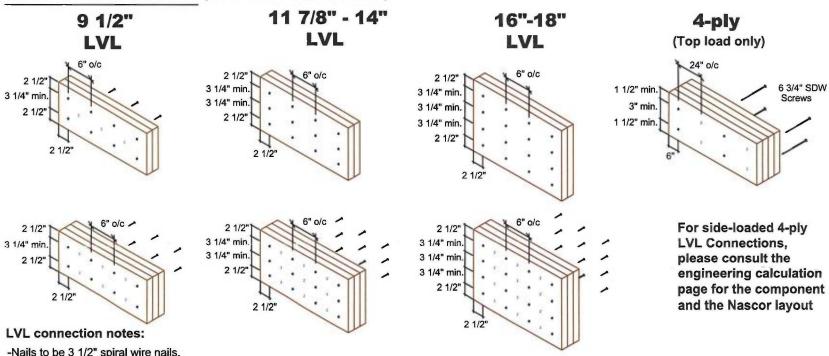
Conventional Connections (for uniform distributed loads)



Conventional connection notes:

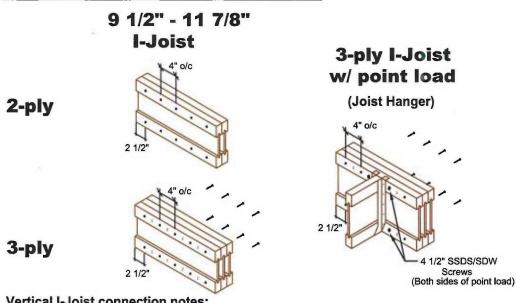
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

LVL Connections (for uniform distributed loads)



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

Vertical I-Joist Connections (for uniform distributed loads)



Vertical I-Joist connection notes:

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



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