

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

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

REVISION 2009-10-09

LOT 38L

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

### **DESIGN INFORMATION**

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

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

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

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

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

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

### **CODE**

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

### **COMPONENT**

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

### **HANDLING AND INSTALLATION**

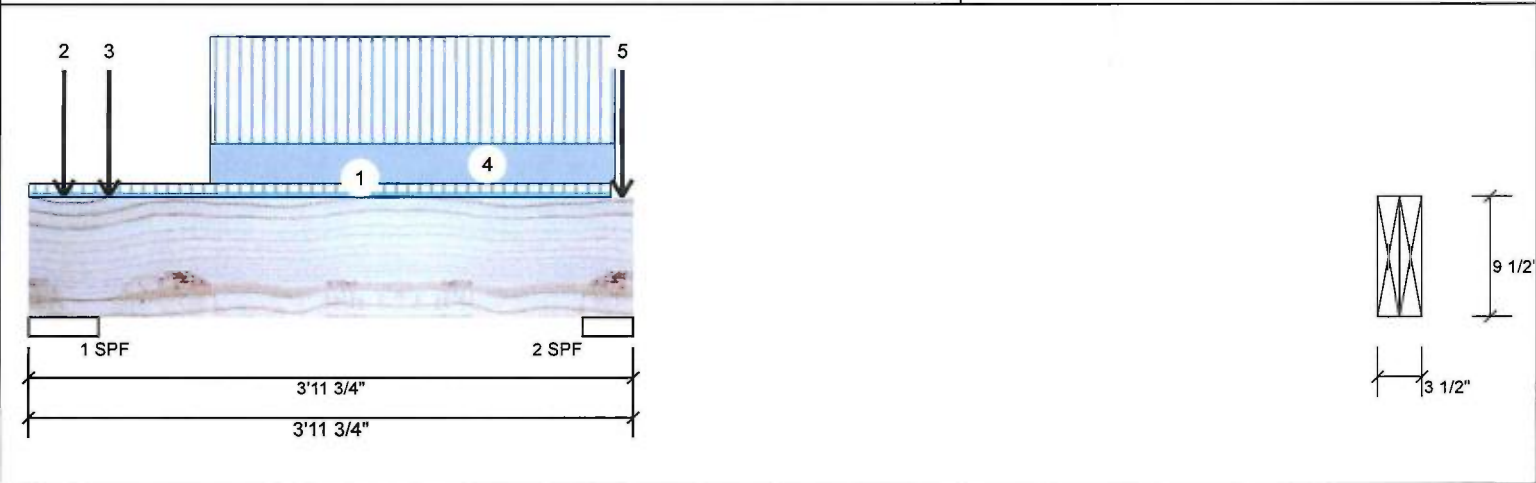
Do not drill any hole, cut or notch a certified building component without a written pre-authorization.

19-440 012-000-000





F17-A	Forex 2.0E-3000Fb LVL	1.750" X 9.500"	2-Ply - PASSED	Level: Ground Floor
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Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	2	Design Method:	LSD	1	3366	1381	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	1027	414	0	0		
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked	<b>Bearings and Factored Reactions</b>						
General Load										
Floor Live:	40 PSF									
Dead:	15 PSF									
				Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	5.500"	62%	1726 / 5049	6775	L	1.25D+1.5L
				2 - SPF	4.000"	24%	517 / 1541	2059	L	1.25D+1.5L

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

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. 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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	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 application, and to verify the dimensions and loads.

Lumber

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

Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained  
 5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company

14 Anderson Blvd, Ontario

Canada

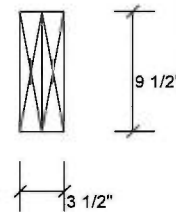
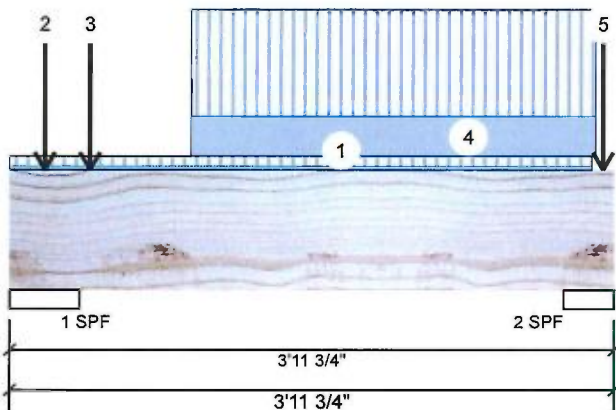
L4A 7X4

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	3-10-14		Near Face	188 lb	468 lb	0 lb	0 lb	F1
	Self Weight				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

1. Dry service conditions unless noted otherwise.  
2. 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 lateral support at bearing points to avoid lateral displacement and rotation

6. 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



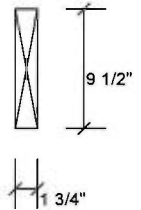
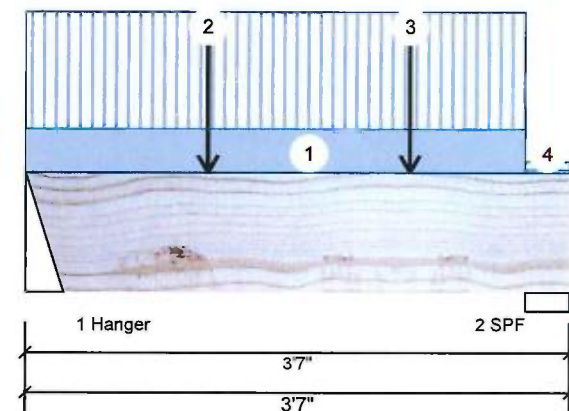
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F1-A	Forex 2.0E-3000Fb LVL	1.750" X 9.500" - PASSED	Level: Ground Floor
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## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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 UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	701	283	0	0
2	684	278	0	0

## Bearings and Factored Reactions

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

## Analysis Results

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
Shear	1015 lb	2'6 3/4"	4638 lb	0.219 (22%)	1.25D+1.5L	L
Perm Defl in.	0.003 (L/11424)	1'9 1/16"	0.106 (L/360)	0.030 (3%)	D	Uniform
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  
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	Part. Uniform	0-0-0 to 3-3-8		Top	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	Top	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**

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

## chemicals

## Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. 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

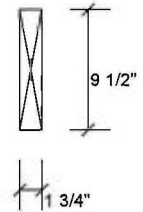
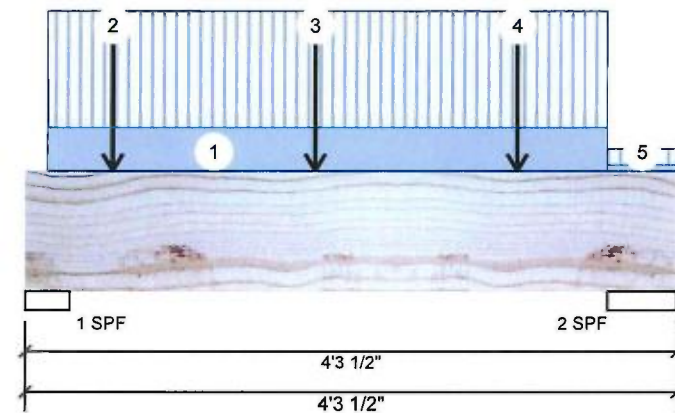
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**NASCOR**





F2-A	Forex 2.0E-3000Fb LVL	1.750" X 9.500" - PASSED	Level: Ground Floor
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## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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 UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	970	391	0	0
2	881	350	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  
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		Top	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	Top	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**

1. Dry service conditions. Unless noted otherwise.
2. LVL not to be treated with fire retardant or corrosive

## chemicals

## Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. 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



This design is valid until 7/10/2021







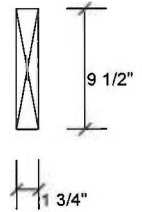
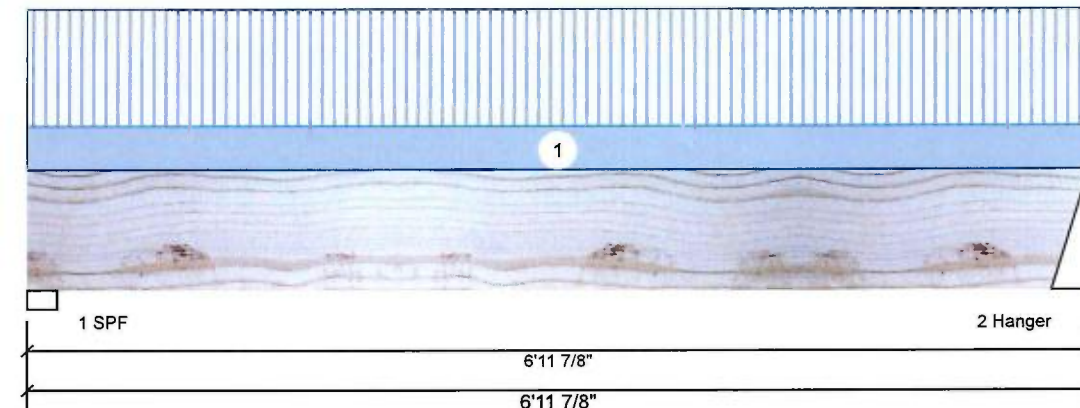
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Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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 UNPATTERNED lb (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
2 - Hanger	3.000"	3%	44 / 87	131	L	1.25D+1.5L

## Analysis Results

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

## 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.

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	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

## Notes

Calculated Structural 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

1. Dry service conditions; unless noted otherwise.
2. LVL not to be treated with fire retardant or corrosive chemicals

## chemicals

## Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. 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



This design is valid until 7/10/2021







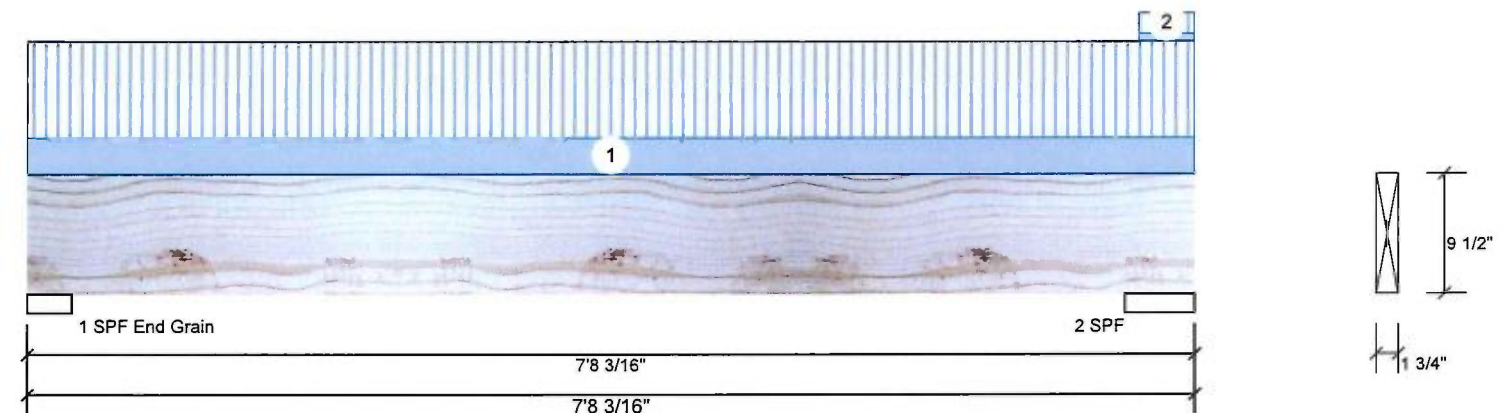
isDesign™

Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

F3-B	Forex 2.0E-3000Fb LVL	1.750" X 9.500" - PASSED	Level: Ground Floor
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## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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 UNPATTERNED Ib (Uplift)

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

## Bearings and Factored Reactions

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

## 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

## Design Notes

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

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



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	Top	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.**

## Notes

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**Lumber**

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

## chemicals

## Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. 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

**NASCOR**

This design is valid until 7/10/2021







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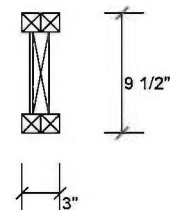
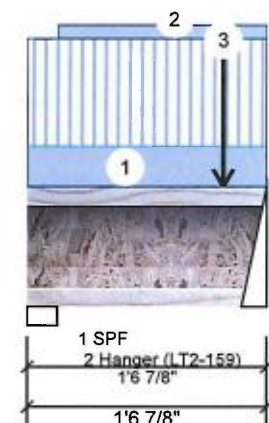
Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

**F5-A NJ 9.500" 2-Ply - PASSED**

Level: Ground Floor



## Member Information

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 UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	65	31	0	0
2	134	66	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	5%	39 / 98	137	L	1.25D+1.5L
2 - Hanger	2.000"	11%	82 / 201	283	L	1.25D+1.5L

## 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	268 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/55254)	11 3/4"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.000 (L/37041)	11 11/16"	0.067 (L/240)	0.010 (1%)	D+L	L

**READ ALL NOTES ON THIS PAGE AND ON  
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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.

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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 1-6-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-3-7		Far Face	47 lb	97 lb	0 lb	0 lb	J1

## 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**

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

## chemicals.

## Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. 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  $\geq 3.5$  inches
7. 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

This design is valid until 7/10/2021

# NASCOR







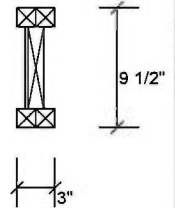
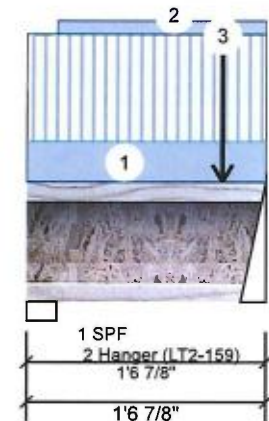
Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

**F5-B NJ 9.500" 2-Ply - PASSED**

Level: Ground Floor



### Member Information

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 UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	65	31	0	0
2	133	66	0	0

### Bearings and Factored Reactions

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

### 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.**



### 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
1	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-7 to 1-6-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-3-7		Near Face	47 lb	96 lb	0 lb	0 lb	J1

### Notes

Calculated Structural 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

1. Dry service conditions, unless noted otherwise.
2. Ljoist not to be treated with fire retardant or corrosive chemicals

### Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. 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 ponding

### Manufacturer Info

Nascor by Kott

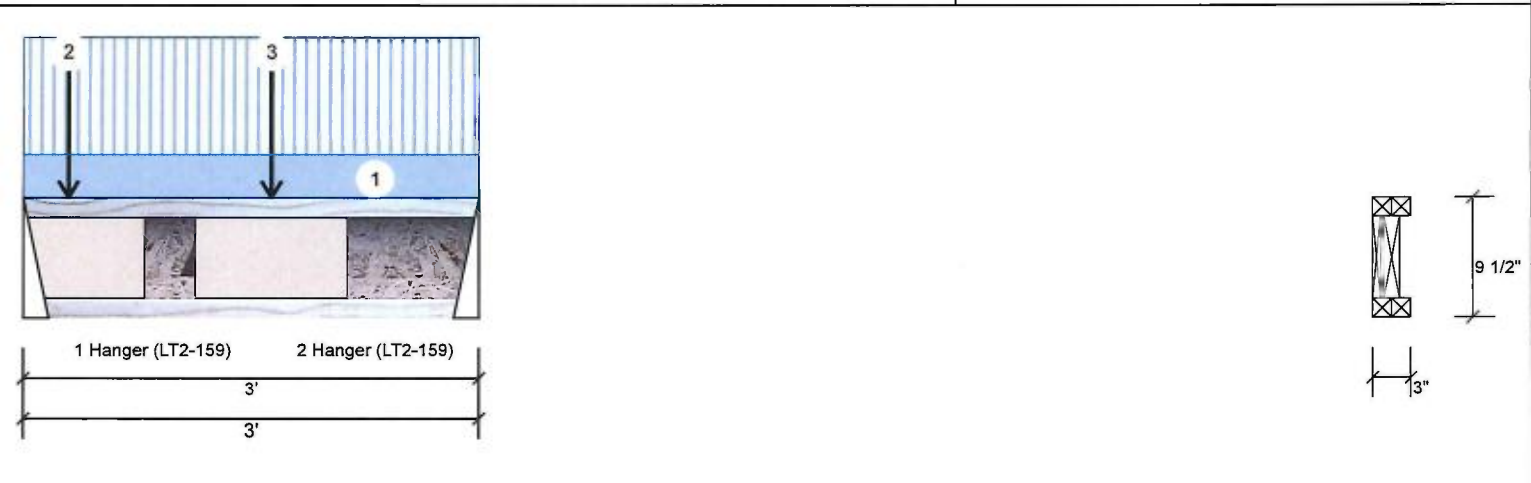
Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400



This design is valid until 7/10/2021









Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind	
Plies:	2	Design Method:	LSD	1	426	159	0	0	
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	266	100	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 Factored Reactions							
Dead:	15 PSF			Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - Hanger	2.000"	32% 199 / 639	838	L	1.25D+1.5L

Analysis Results							Bearings and Factored Reactions		
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	Bearing	Length	Cap. React D/L lb
Moment	598 ft-lb	1'7 9/16"	7340 ft-lb	0.081 (8%)	1.25D+1.5L	L	1 - Hanger	2.000"	32% 199 / 639
Unbraced	598 ft-lb	1'7 9/16"	4678 ft-lb	0.128 (13%)	1.25D+1.5L	L	2 - Hanger	2.000"	20% 125 / 399
Shear	831 lb	1 1/4"	3080 lb	0.270 (27%)	1.25D+1.5L	L			
Perm Defl in. (L/19712)	0.002	1'7 9/16"	0.093 (L/360)	0.020 (2%)	D	Uniform			
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		<div> <div>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.</div> <div>REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.</div> <div>PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.</div> </div>		<div>  </div>	
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 3-0-0	(Span)1-8-15	Top	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		<div> <div>chemicals</div> <div>Handling &amp; Installation</div> </div>		<div> <div>Manufacturer Info</div> <div>Nascor by Kott</div> </div>	
Calculated Structural 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.		1. Ljoist flanges must not be cut or drilled 2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details. 3. Damaged Ljoists must not be used 4. 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 ponding	
<b>Lumber</b> 1. Dry service conditions, unless noted otherwise 2. Ljoist not to be treated with fire retardant or corrosive		This design is valid until 7/10/2021		Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400 	





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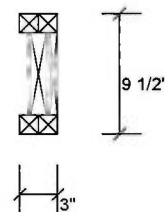
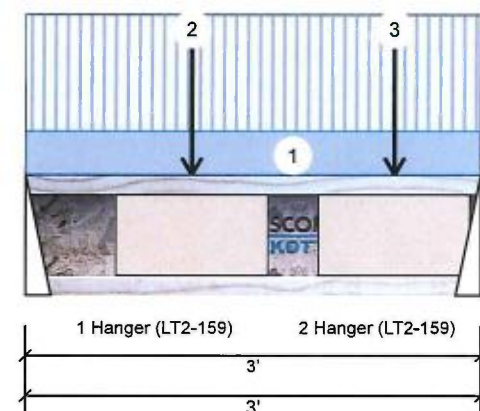
Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

**F6-B NJ 9.500" 2-Ply - PASSED**

Level: Ground Floor



## Member Information

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 UNPATTERNED Ib (Uplift)

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

## Bearings and Factored Reactions

Bearing	Length	Cap.	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

## Analysis Results

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

## 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.

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

1. Dry service conditions, unless noted otherwise
2. Moist not to be treated with fire retardant or corrosive

## chemicals

## Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. 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  $\geq 3.5$  inches
7. 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

**NASCOR**

This design is valid until 7/10/2021







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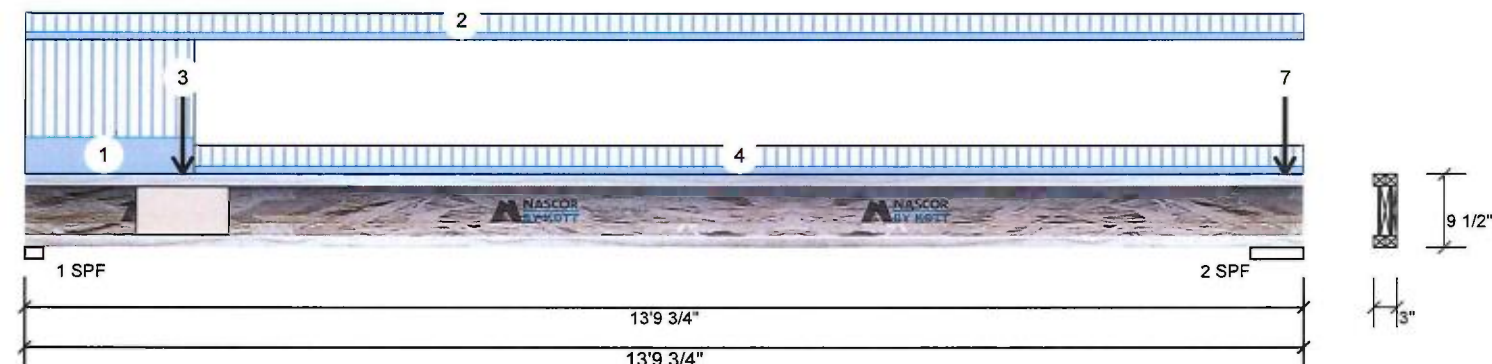
Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

**F7-A NJ 9.500" 2-Ply - PASSED**

Level: Ground Floor



## Member Information

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 UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	578	216	0	0
2	423	219	0	0

### 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
2 - SPF	6.875"	29%	273 / 634	907	L	1.25D+1.5L

## Analysis Results

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.**



## 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 4'10" o.c.
- 5 Bottom flange braced at bearings.

**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	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-9-12	(Span)0-7-10	Top	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	13-7-6		Top	1 lb	3 lb	0 lb	0 lb	J8
6	Point	13-7-6		Top	76 lb	183 lb	0 lb	0 lb	J8
7	Point	13-7-6		Top	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

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

## chemicals

## Handling & Installation

- Joist flanges must not be cut or drilled
- Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Joists 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  $\geq 3.5$  inches
7. 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

**NASCOR**

This design is valid until 7/10/2021







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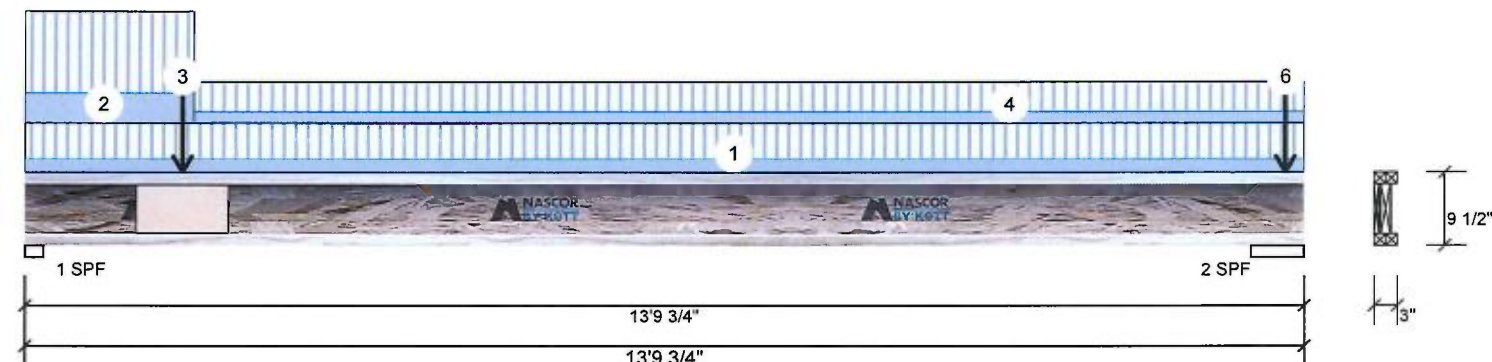
Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

**F7-B NJ 9.500" 2-Ply - PASSED**

Level: Ground Floor



## Member Information

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 UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	677	254	0	0
2	783	414	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	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.**



## 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.

**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	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-14	(Span)3-3-0	Top	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	13-7-6		Top	151 lb	367 lb	0 lb	0 lb	J8
6	Point	13-7-6		Top	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

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

## chemicals

## Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. 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  $\geq 3.5$  inches
7. 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

This design is valid until 7/10/2021

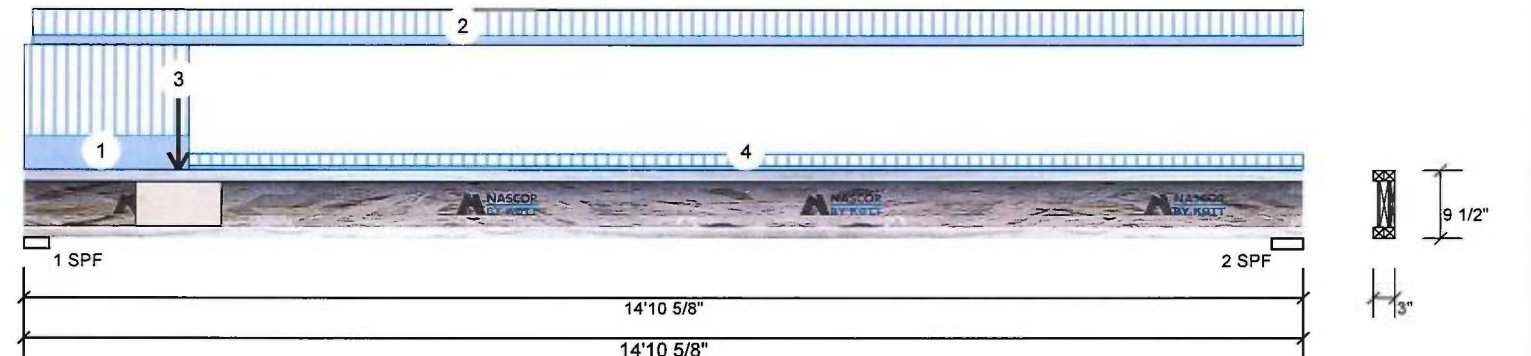
# NASCOR






F8-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)									
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind					
Plies:	2	Design Method:	LSD	1	678	254	0	0					
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	251	94	0	0					
Deflection LL:	360	Load Sharing:	No										
Deflection TL:	240	Deck:	Not Checked										
Importance:	Normal	Vibration:	Not Checked	<b>Bearings and Factored Reactions</b>									
General Load													
Floor Live:	40 PSF												
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				
				2 - SPF	4.375"	16% 118 / 377	495	L	1.25D+1.5L				

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

Design Notes		<div>REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.</div> <div>PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.</div> <div></div>
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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 14-10-10	(Span)0-10-15	Top	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes	chemicals	5. Provide lateral support at bearing points to avoid lateral displacement and rotation	Manufacturer Info	Kott Lumber Company
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.	<b>Handling &amp; Installation</b> 1. Joist flanges must not be cut or drilled 2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details 3. Damaged Joists must not be used 4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.	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 ponding	Nascor by Kott	14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400
<b>Lumber</b> 1. Dry service conditions, unless noted otherwise 2. Joist not to be treated with fire retardant or corrosive		This design is valid until 7/10/2021		<b>NASCOR</b>

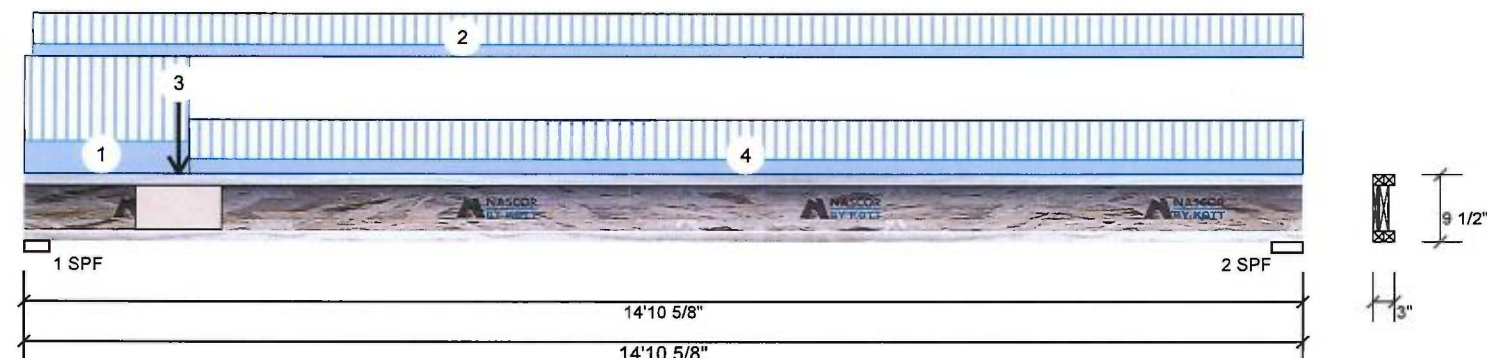






F8-B	NJ	9.500"	2-Ply - PASSED
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Level: Ground Floor



## Member Information

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 UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	694	260	0	0
2	431	162	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	46%	325 / 1040	1366	L	1.25D+1.5L
2 - SPF	4.375"	28%	202 / 647	849	L	1.25D+1.5L

## Analysis Results

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.**

## 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 3'8" o.c.
- 5 Bottom flange braced at bearings.

**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	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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 14-10-10	(Span)1-2-1	Top	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	Top	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**

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

## chemicals

## Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. 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  $\geq 3.5$  inches
7. 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

This design is valid until 7/10/2021

**NASCOR**







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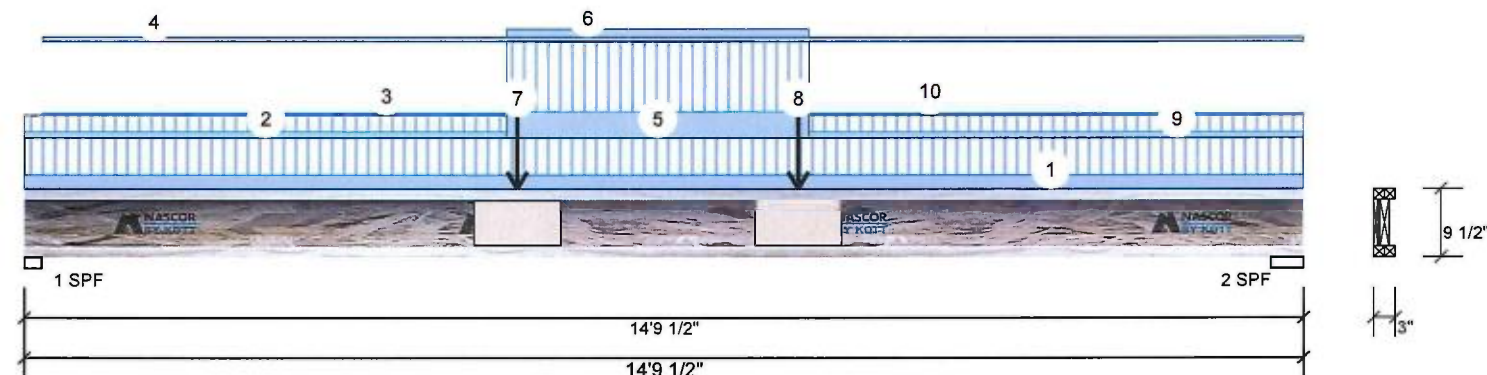
Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 2

F8-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



## Member Information

Type: Girder  
Plies: 2  
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: No  
Deck: Not Checked  
Vibration: Not Checked

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	375	183	0	0
2	380	186	0	0

## Bearings and Factored Reactions

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
2 - SPF	4.500"	26%	233 / 570	803	L	1.25D+1.5L

## Analysis Results

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

## 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 3'4" o.c.
- 5 Bottom 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.



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

Continued on page 2...

## Notes

Calculated Structural 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

- 1 Dry service conditions, unless noted otherwise
- 2 Joist not to be treated with fire retardant or corrosive chemicals

## chemicals

## Handling &amp; Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. 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 ponding

## Manufacturer Info

Nascor by Kott

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

**NASCOR**

This design is valid until 7/10/2021







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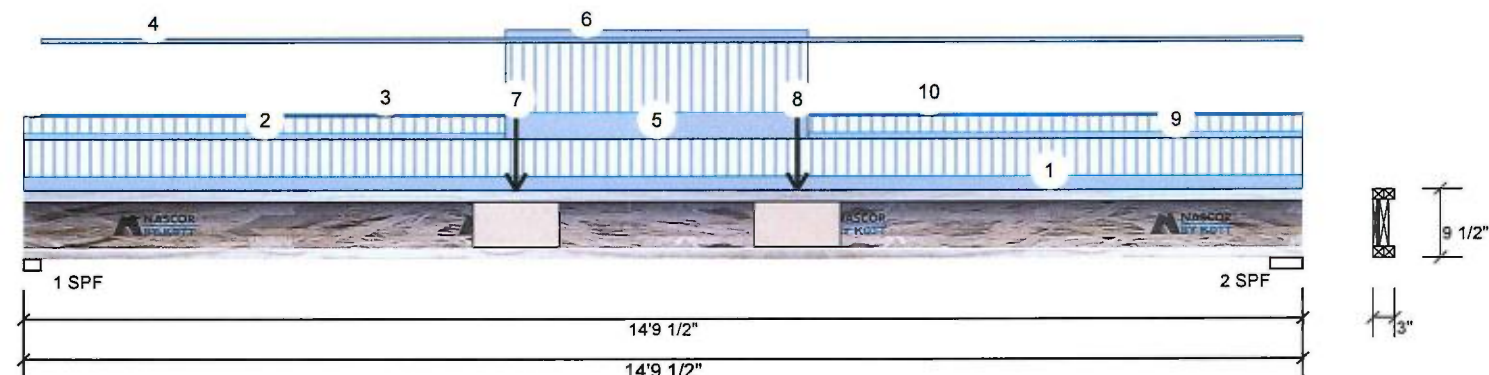
Client: GREENPARK  
 Project:  
 Address:

Date: 8/13/2018  
 Designer: RCO  
 Job Name: HEMLOCK 4-1  
 Project #:

Page 2 of 2

F8-C NJ 9.500" 2-Ply - PASSED

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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	9-0-14 to 14-9-8		Top	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.

## Lumber

1. Dry service conditions. Unless noted otherwise.
2. Joist not to be treated with fire retardant or corrosive chemicals.

## chemicals

## Handling &amp; Installation

1. Joist flanges must not be cut or drilled.
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details.
3. Damaged Joists must not be used.
4. 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 ponding.

## Manufacturer Info

Nascor by Kott

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

**NASCOR**





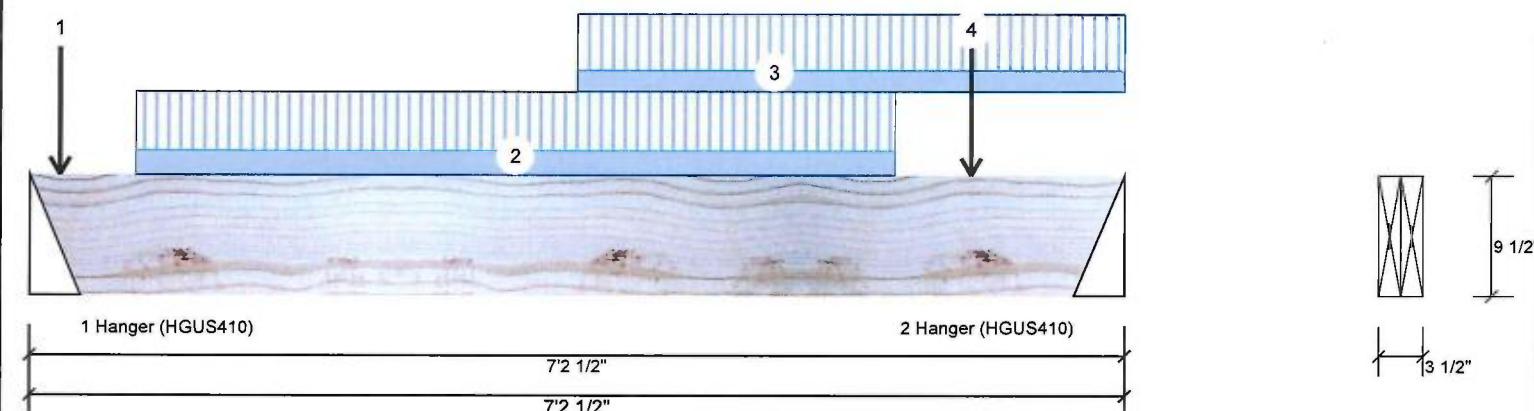


Client: GREENPARK  
Project:  
Address:

Date: 8/13/2018  
Designer: RCO  
Job Name: HEMLOCK 4-1  
Project #:

Page 1 of 1

F14-A	Forex 2.0E-3000Fb LVL	1.750" X 9.500"	2-Ply - PASSED	Level: Second Floor
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### Member Information

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 UNPATTERNED 1b (Uplift)

Brg	Live	Dead	Snow	Wind
1	1103	473	0	0
2	1457	610	0	0

### 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 - Hanger	4.000"	28%	763 / 2185	2949	L	1.25D+1.5L

## Analysis Results

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

## 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.

**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	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		Top	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				

## 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

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

## chemicals

## Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

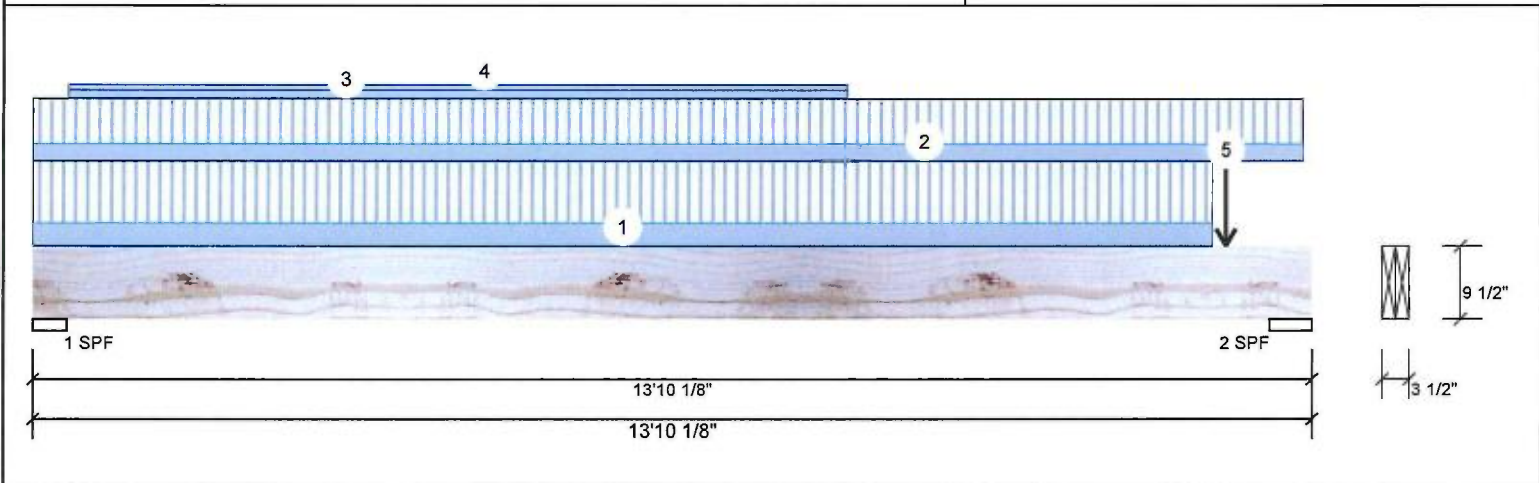
Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400

# NASCOR

This design is valid until 7/10/2021







Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)									
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind					
Plies:	2	Design Method:	LSD	1	334	209	0	0					
Moisture Condition:	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	<b>Bearings and Factored Reactions</b>									
General Load													
Floor Live:	40 PSF												
Dead:	15 PSF												
				Bearing	Length	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	5.500"	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
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.	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

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

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	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-9-0	(Span)0-10-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-4-9 to 8-9-13		Top	3 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-4-9 to 8-9-13		Top	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				

Notes			Manufacturer Info	
chemicals Calculated Structural 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.			Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400	
Lumber 1. Dry service conditions, unless noted otherwise. 2. LVL not to be treated with fire retardant or corrosive			Forex APA: PR-L318	
Handling & Installation 1. LVL beams must not be cut 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 assumes top edge is laterally restrained 5. Provide lateral support at bearing points to avoid lateral displacement and rotation			This design is valid until 7/10/2021	



isDesign™

Client: GREENPARK

Date: 8/13/2018

Page 1 of 2

Project: RCO

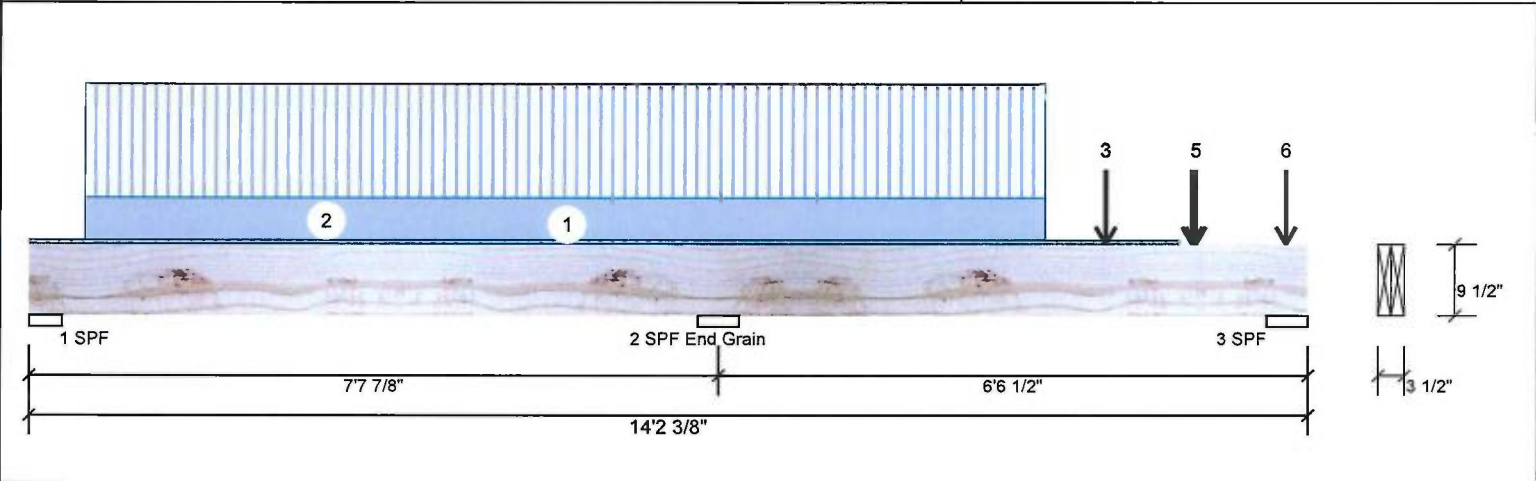
Designer: RCO

Job Name: HEMLOCK 4-1

Project #:

Address:

F16-AForex 2.0E-3000Fb LVL1.750" X 9.500"2-Ply - PASSEDPassedLevel: Second Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind	
Plies:	2	Design Method:	LSD	1	746	302	0	0	
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	2663	1074	0	0	
Deflection LL:	360	Load Sharing:	No	3	1644	700	0	0	
Deflection TL:	240	Deck:	Not Checked	Bearings and Factored Reactions					
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF								
Dead:	15 PSF			Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.	
				1 - SPF	4.375"	17% 369 / 1266	1635 L_	1.25D+1.5L	
				2 - SPF	5.500"	38% 1269 / 4818	5108 L_	1.25D+1.5L	

Analysis Results							Bearings and Factored Reactions		
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	Bearing	Length	Cap. React D/L lb
Neg Moment	-3841 ft-lb	7'7 7/8"	22724 ft-lb	0.169 (17%)	1.25D+1.5L	LL	1 - SPF	4.375"	17% 369 / 1266
Unbraced	-3841 ft-lb	7'7 7/8"	22724 ft-lb	0.169 (17%)	1.25D+1.5L	LL	2 - SPF	5.500"	38% 1360 / 4048
Pos Moment	3116 ft-lb	11'11 7/16"	22724 ft-lb	0.137 (14%)	1.25D+1.5L	LL	End Grain		
Unbraced	3116 ft-lb	11'11 7/16"	22724 ft-lb	0.137 (14%)	1.25D+1.5L	LL	3 - SPF	5.500"	30% 865 / 2699
Shear	3612 lb	13' 1/8"	9277 lb	0.389 (39%)	1.25D+1.5L	LL			
Perm Defl in.	0.010 (L/9038)	37"	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				
TL Defl inch	0.043 (L/2040)	3'9 1/8"	0.368 (L/240)	0.120 (12%)	D+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.

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.

LICENSED PROFESSIONAL ENGINEER

N.A. EL-MASRI

Aug 18, 2018

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	Top	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...

Notes

Calculated Structural 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

1. Dry service conditions, unless noted otherwise.

2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut 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 assumes top edge is laterally restrained

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

6. 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

This design is valid until 7/10/2021

NASCOR





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/13/2018

Designer: RCO

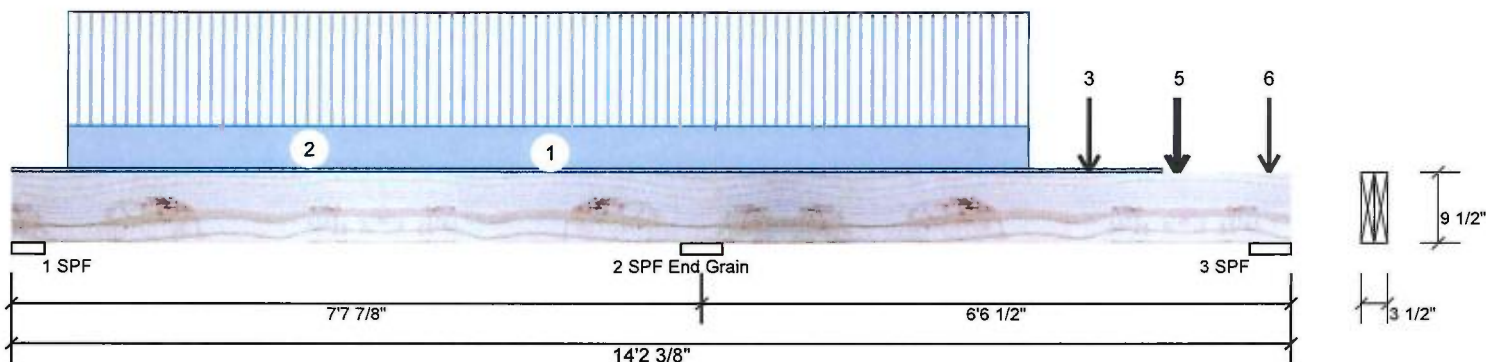
Job Name: HEMLOCK 4-1

Project #:

Page 2 of 2

**F16-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	13-11-7		Far Face	79 lb	191 lb	0 lb	0 lb	J6
	Self Weight				8 PLF				

**Notes**

Calculated Structural 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**

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

**chemicals****Handling & Installation**

1. LVL beams must not be cut 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 assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. 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

**NASCOR**

This design is valid until 7/10/2021

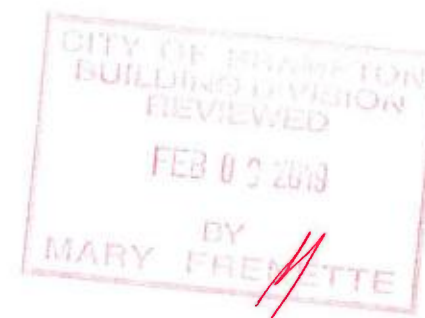












[illegible]

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
	Wall
	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. 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)


 N.A. EL-MASRI  
 Aug 18, 2018

**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.**

Ground Floor							
LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			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	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	Depth	Qty	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
J7	NJ60U	3.5	9.5			2	14-0-0
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 Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
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	
H1	6	LT2-159			4 10dx1 1/2	2 10dx1 1/2	
H2	15	LT259			4 10dx1 1/2	2 10dx1 1/2	
H3	3	LT359			4 10d	2 10dx1 1/2	
H4	1	HUCQ1.81/9-SDS					
H6	2	MIT49.5			4 10dx1 1/2	4 10dx1 1/2	
H8	1	L90					

**NOTES:**

1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a double-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.
6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

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

# NASCOR

**Job Path**  
D:\Users\rochavillo\WORK FROM HOME\GREENPARK\MINNISALE HOMES\HEMLOCK 4\HEMLOCK 4-1\FLOOR\REV\HEMLOCK 4-1.isl

### Ground Floor

Design Method	LSD
Building Code	NBCC 2010 / OBC 2012

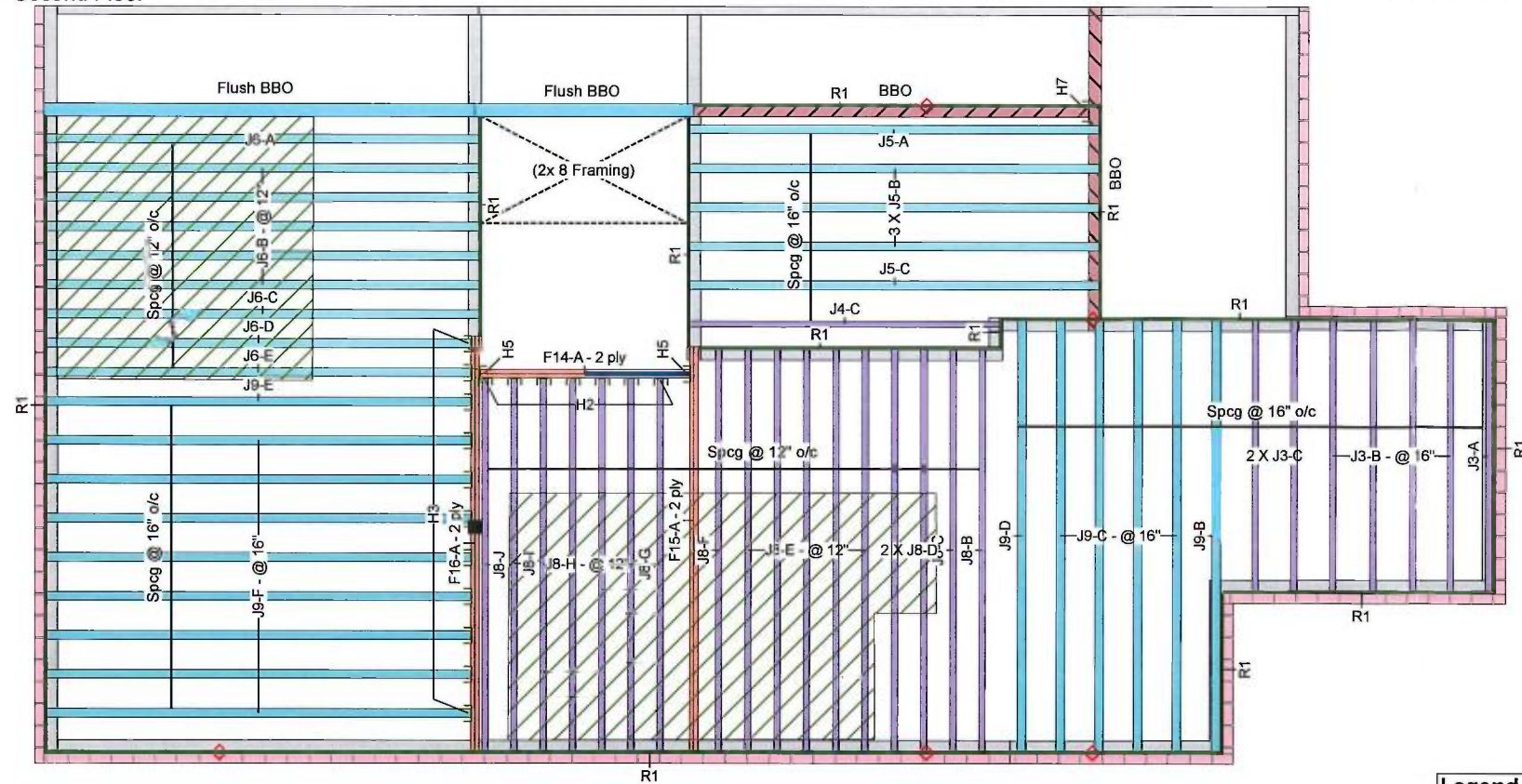
<b>Floor</b>	
<b>Loads</b>	
Live	40
Dead	15
<b>Deflection Joist</b>	
LL Span L/	480
TL Span L/	360
LL Cant 2L/	480
TL Cant 2L/	360
<b>Deflection Girder</b>	
LL Span L/	360
TL Span L/	240
LL Cant 2L/	480
TL Cant 2L/	360
<b>Decking</b>	
Deck	SPF Plywood
Thickness	3/4"
Fastener	Nailed & Glued
<b>Vibration</b>	

Lot 382  
19-4400/2,000.00 RR





## Second Floor



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
	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)

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.

## 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.



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.

Lot 382

Second Floor  
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	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	Plies	Pcs	Length
J6	NJ40U	3.5	9.5			9	16-0-0
J5	NJ40U	3.5	9.5			5	14-0-0
J9	NJ60U	3.5	9.5			15	16-0-0
J8	NJH	2.5	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 Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
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
H3	11	LT359			4 10d	2 10dx1 1/2
H5	2	HGUS410			46 16d	16 16d
H7	1	Unknown Hanger				

## NOTES:

1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24" o/c under parallel non-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.
6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

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 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: Hemlock 4

**NASCOR**

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

Revised  
August 13, 2018

Description  
MINNISALE HOMES  
BRAMPTON, ONT.

Builder  
GREENPARK

Sales Rep  
RM

Designer  
RCO

Shipping

Project

Builder's Project

**Kott Lumber Company**

14 Anderson Blvd  
Stouffville, Ontario  
Canada  
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  
Dead 15

## Deflection Joist

LL Span L/ 480  
TL Span L/ 360  
LL Cant 2L/ 480  
TL Cant 2L/ 360

## Deflection Girder

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

## Decking

Deck SPF Plywood  
Thickness 5/8"  
Fastener Nailed & Glued  
Vibration  
Ceiling: Gypsum 1/2"

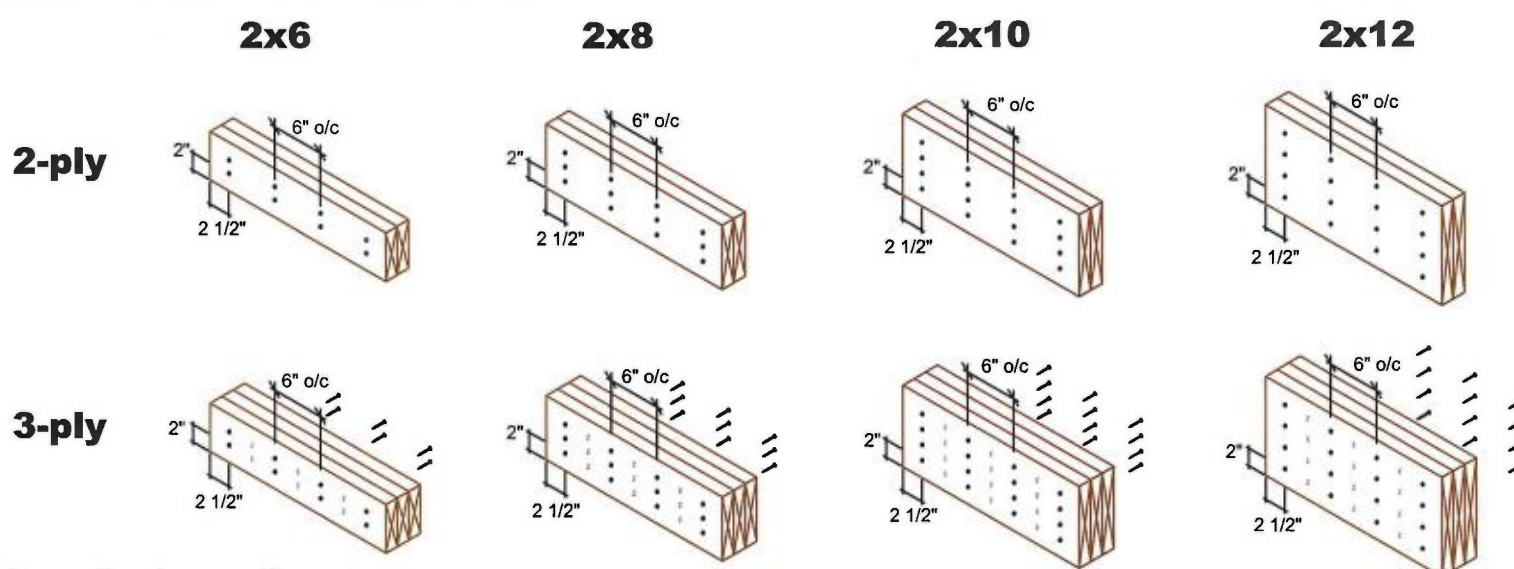
**KOTT**



# MULTIPLE MEMBER CONNECTIONS

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

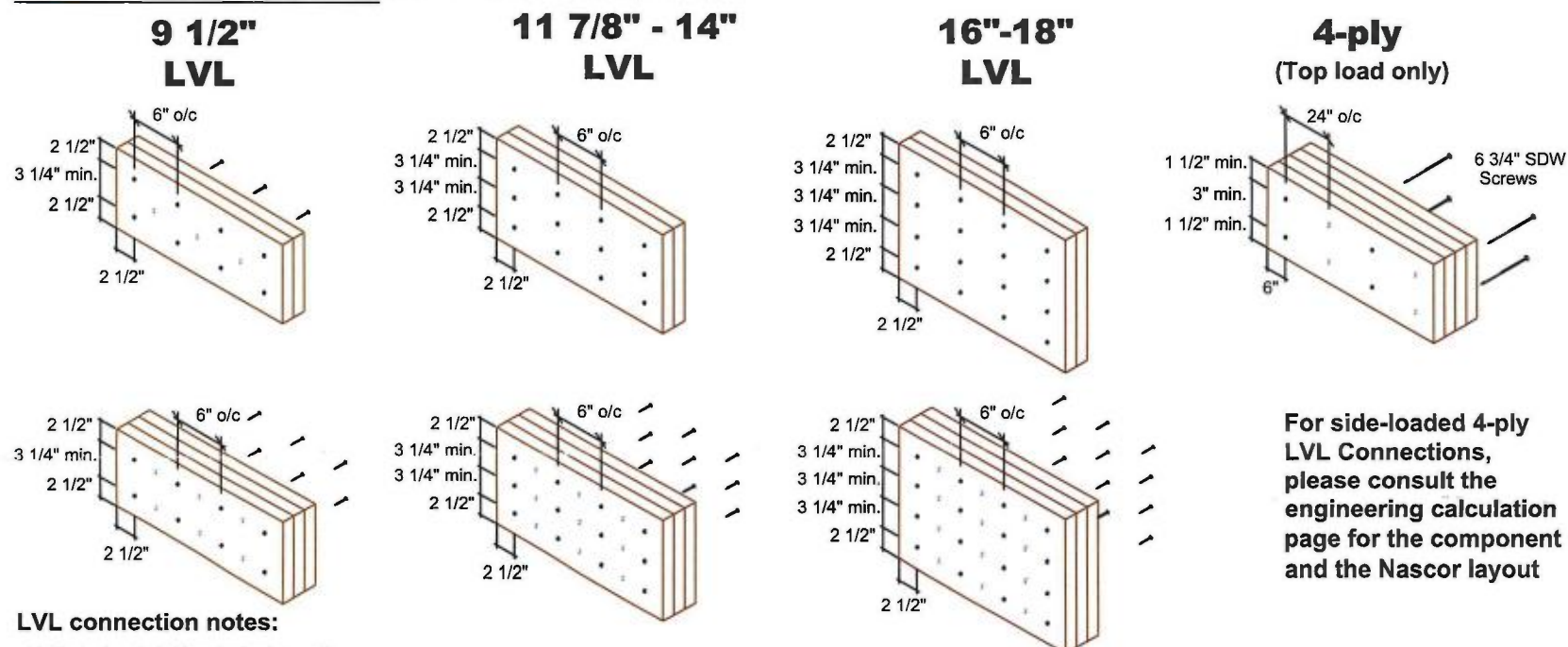
## Conventional Connections (for uniform distributed loads)



### 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.

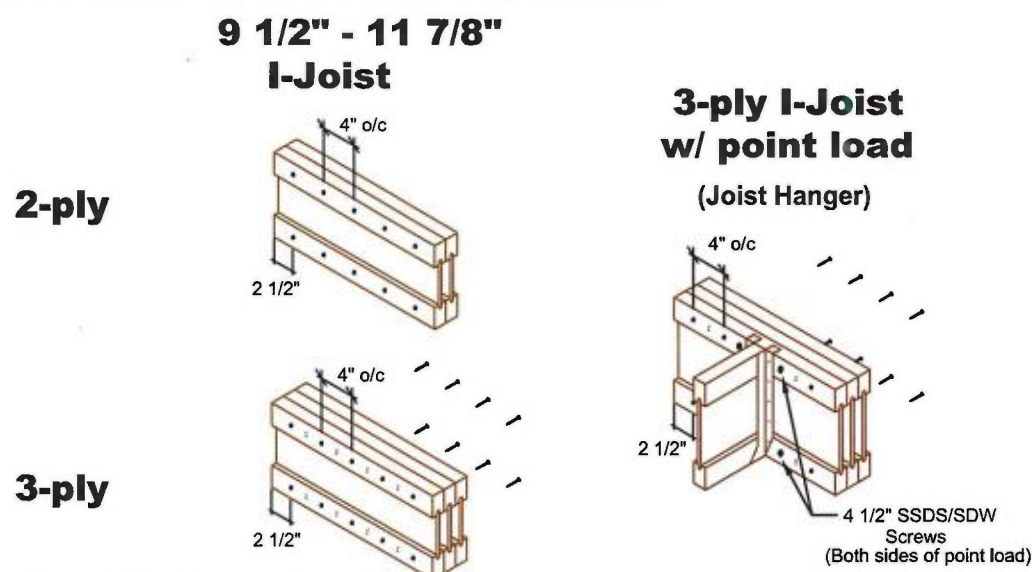
## LVL Connections (for uniform distributed loads)



### LVL connection notes:

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

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



### Vertical I-Joist connection notes:

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

**MULTI-PLY  
CONNECTION  
DETAILS**

Date: November 30, 2016

Scale: NTS

**KOTT**

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