

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

Engineering Note Page (ENP-2)

REVISION 2009-10-09

Lot 38R

Please read all notes prior to installation of the component

DESIGN INFORMATION

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

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

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

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

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

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

CODE

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

COMPONENT

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

HANDLING AND INSTALLATION

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

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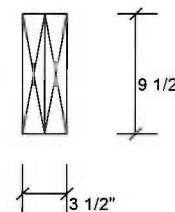
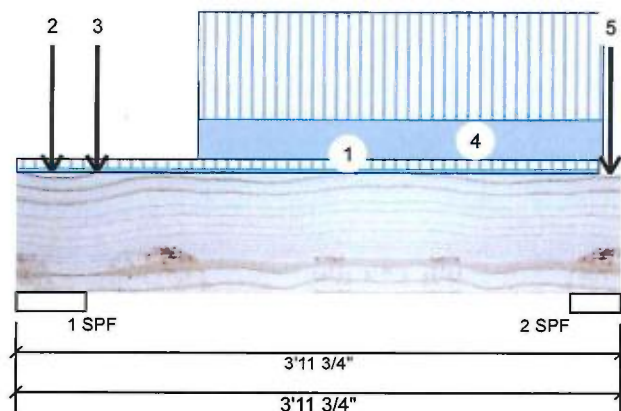



Client: GREENPARK
Project:
Address:

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

Page 1 of 2

F17-A Forex 2.0E-3000Fb LVL 1.750" X 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	3366	1381	0	0
2	1027	414	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	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.

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 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

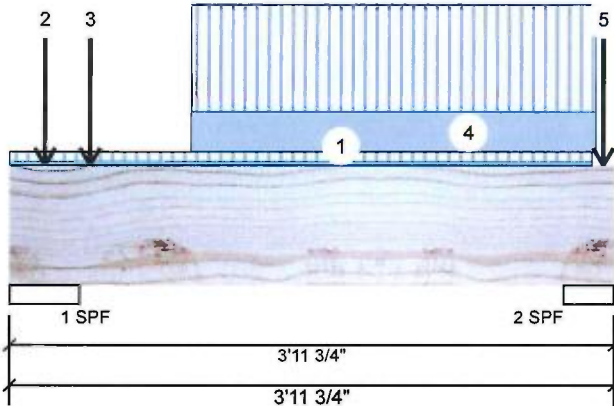
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021



F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor



...Continued from page 1

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 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

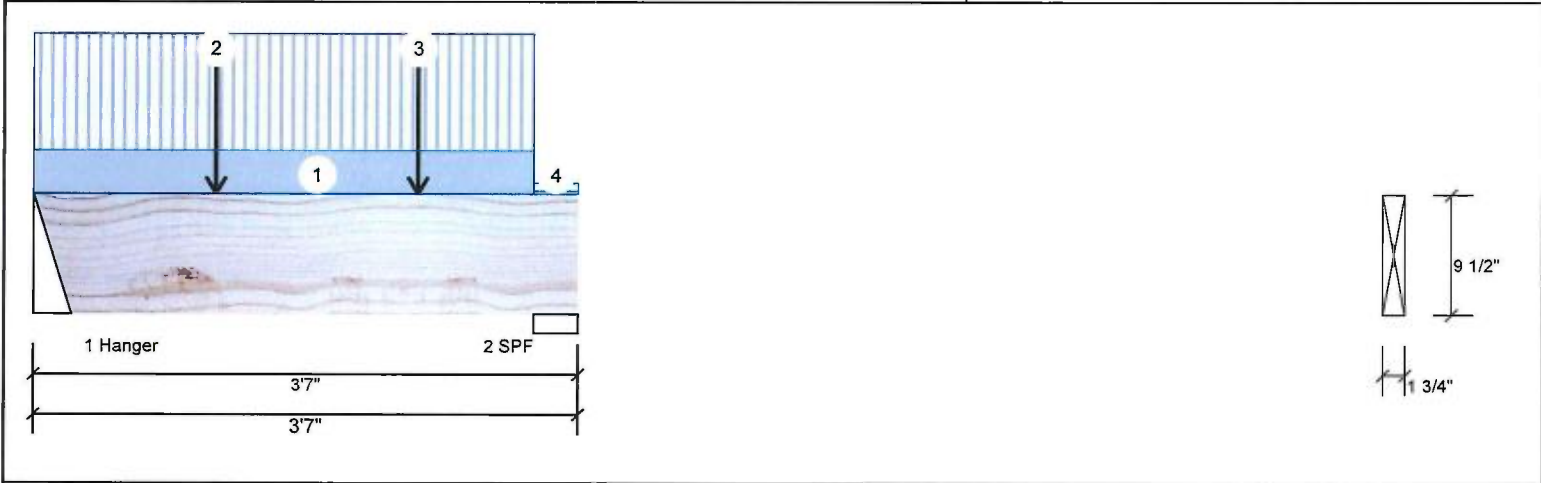


This design is valid until 7/10/2021



F1-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	1	Design Method:	LSD	1	701	283	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	684	278	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	3.000"	36%	353 / 1052	1405	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	1147 ft-lb	1'8 7/16"	11362 ft-lb	0.101 (10%)	1.25D+1.5L	L	1 -	3.000"	36% 353 / 1052
Unbraced	1147 ft-lb	1'8 7/16"	9778 ft-lb	0.117 (12%)	1.25D+1.5L	L	Hanger		1405 L
Shear	1015 lb	2'6 3/4"	4638 lb	0.219 (22%)	1.25D+1.5L	L	2 - SPF	3.500"	36% 348 / 1027
Perm Defl in.	0.003 (L/11424)	1'9 1/16"	0.106 (L/360)	0.030 (3%)	D	Uniform			1374 L
LL Defl inch	0.008 (L/4633)	1'9 1/16"	0.106 (L/360)	0.080 (8%)	L	L			1.25D+1.5L
TL Defl inch	0.012 (L/3296)	1'9 1/16"	0.158 (L/240)	0.070 (7%)	D+L	L			

Design Notes				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.	
1	Fill all hanger nailing holes.			REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.	
2	Girders are designed to be supported on the bottom edge only.				
3	Top braced at bearings.			PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER 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			Manufacturer Info	
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.			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	
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			This design is valid until 7/10/2021	



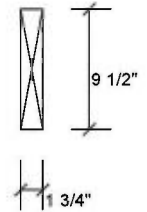
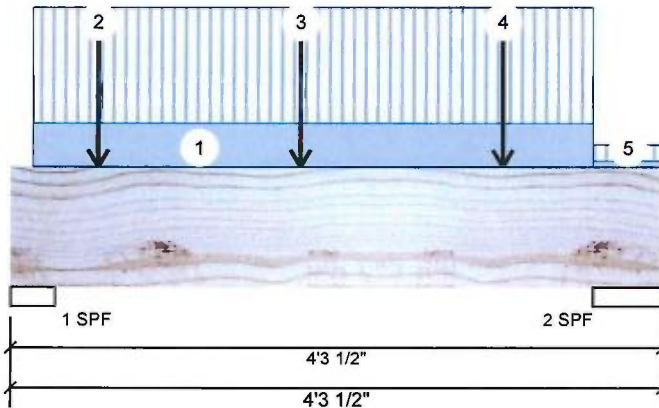
Client: GREENPARK
Project:
Address:

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

Page 1 of 1

F2-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	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

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

- 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 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

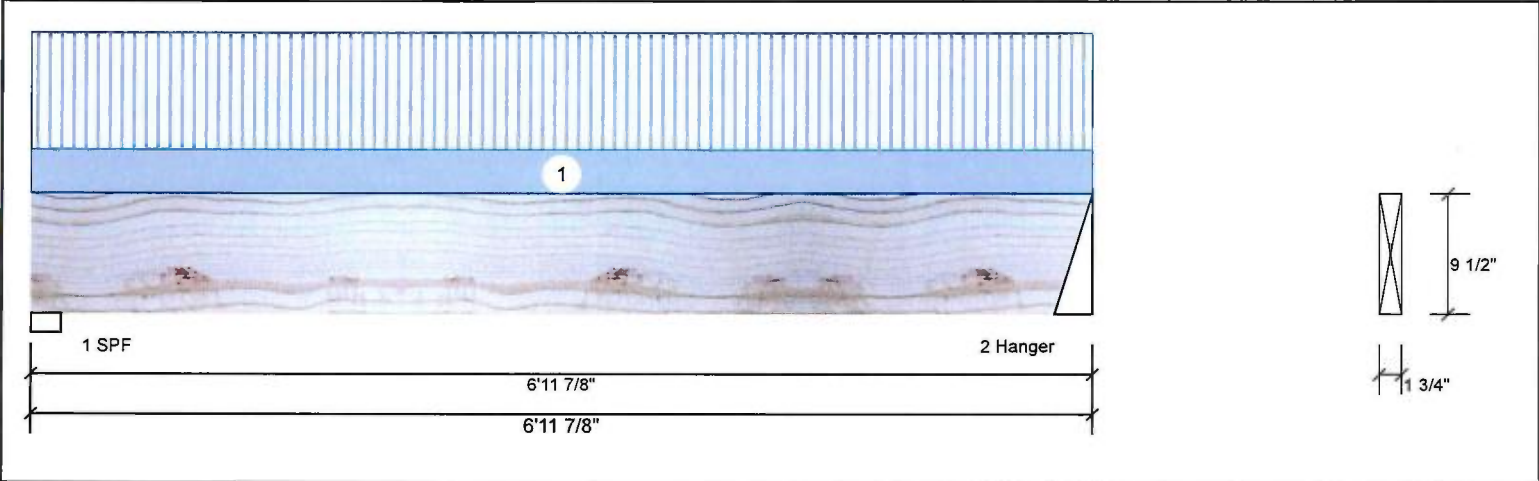


This design is valid until 7/10/2021



F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	1	Design Method:	LSD	1	57	35	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	58	35	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									
Dead:	15 PSF									
				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	2.375"	2%	44 / 87	121	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	Total	Ld. Case Ld. Comb.
Moment	206 ft-lb	3'5 5/8"	11362 ft-lb	0.018 (2%)	1.25D+1.5L	L	1 - SPF	2.375"	5% 43 / 86	129 L	1.25D+1.5L
Unbraced	206 ft-lb	3'5 5/8"	5592 ft-lb	0.037 (4%)	1.25D+1.5L	L	2 - Hanger	3.000"	3% 44 / 87	131 L	1.25D+1.5L
Shear	94 lb	6' 1/8"	4638 lb	0.020 (2%)	1.25D+1.5L	L					
Perm Defl in. (L/37066)	0.002	3'5 5/8"	0.222 (L/360)	0.010 (1%)	D	Uniform					
LL Defl inch (L/22480)	0.004	3'5 5/8"	0.222 (L/360)	0.020 (2%)	L	L					
TL Defl inch (L/13993)	0.006	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.									
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 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.

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

Version 18.40.162 Powered by iStruct™

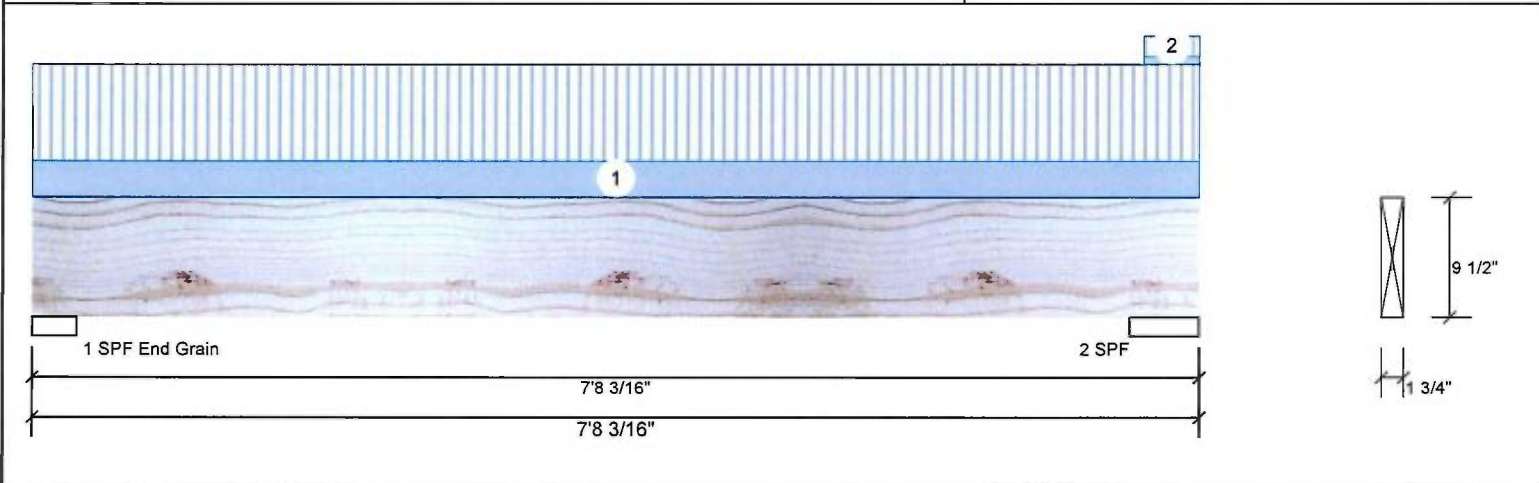


This design is valid until 7/10/2021



F3-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	1	Design Method:	LSD	1	567	229	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	604	243	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 - SPF	3.500"	25%	286 / 851	1137	L	1.25D+1.5L
				End						

Analysis Results							Bearings and Factored Reactions			
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	Bearing	Length	Cap. React D/L lb	Total Ld. Case Ld. Comb.
Moment	1884 ft-lb	3'9 1/8"	11362 ft-lb	0.166 (17%)	1.25D+1.5L	L	1 - SPF End Grain	3.500"	25% 286 / 851	1137 L 1.25D+1.5L
Unbraced	1884 ft-lb	3'9 1/8"	5281 ft-lb	0.357 (36%)	1.25D+1.5L	L	2 - SPF	5.500"	20% 304 / 907	1210 L 1.25D+1.5L
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.			

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.



isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/13/2018

Designer: RCO

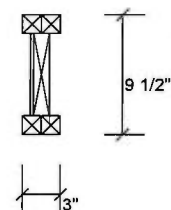
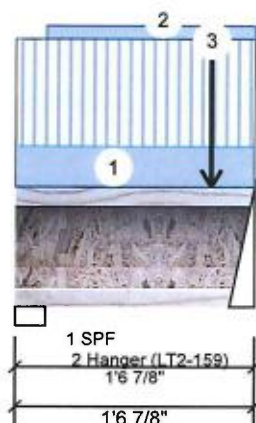
Job Name: HEMLOCK 4-1

Project #:

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F5-A	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	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
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	0-2-6 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. Do not 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 ≥ 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

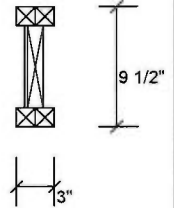
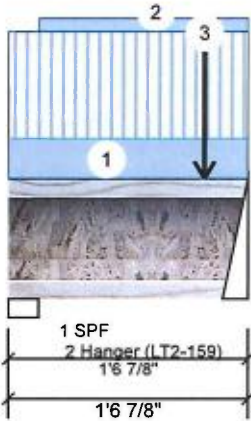
NASCOR

This design is valid until 7/10/2021



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

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

- Dry service conditions, unless noted otherwise.
- 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.

- 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

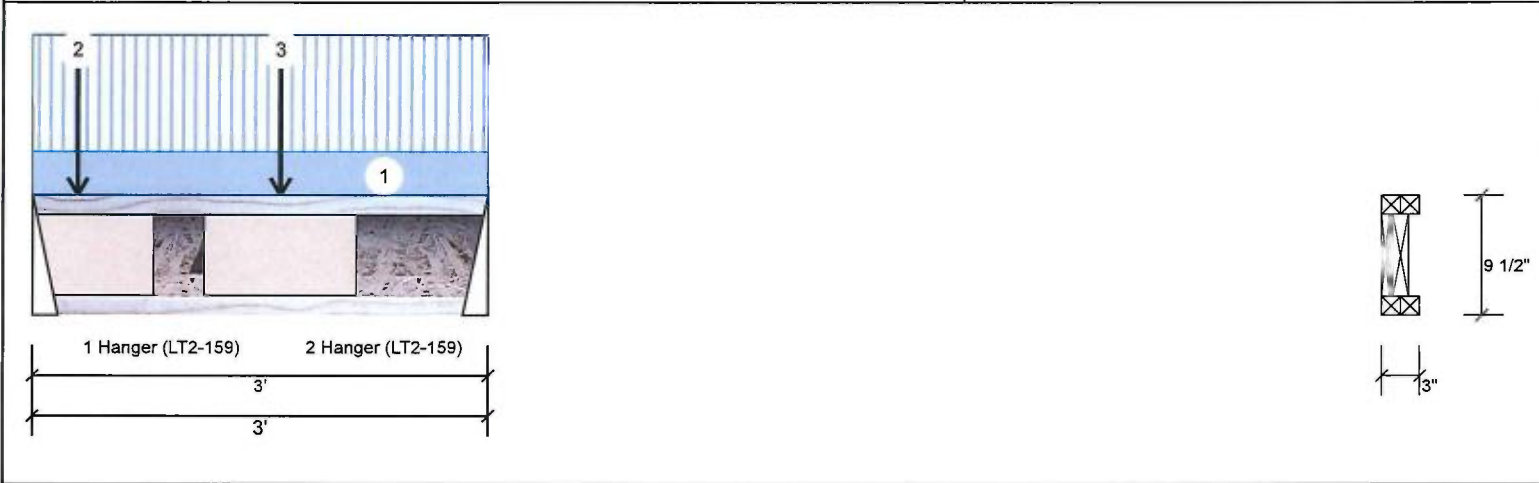
NASCOR

This design is valid until 7/10/2021



F6-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	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									
Dead:	15 PSF									
				Bearings and Factored Reactions						
				Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	2.000"	32%	199 / 639	838	L	1.25D+1.5L
				Hanger						

Analysis Results							Bearings and Factored Reactions			
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	Bearing	Length	Cap. React D/L lb	Total Ld. Case Ld. Comb.
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	838 L 1.25D+1.5L
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	523 L 1.25D+1.5L
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

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 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 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

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. 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



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isDesign™

Client: GREENPARK
 Project:
 Address:

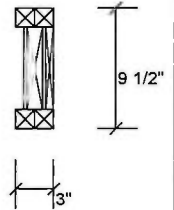
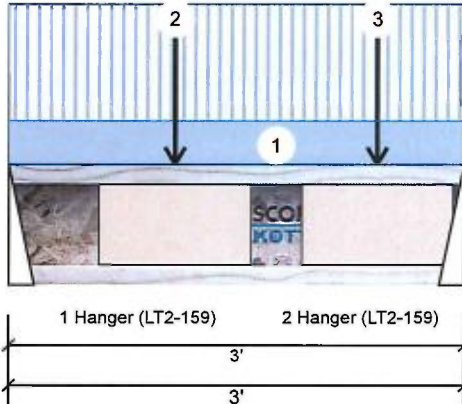
Date: 8/13/2018
 Designer: RCO
 Job Name: HEMLOCK 4-1
 Project #:

PAGE 13 OF 24

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 lb (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. (L/23045)	0.001	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 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 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 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

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 >= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

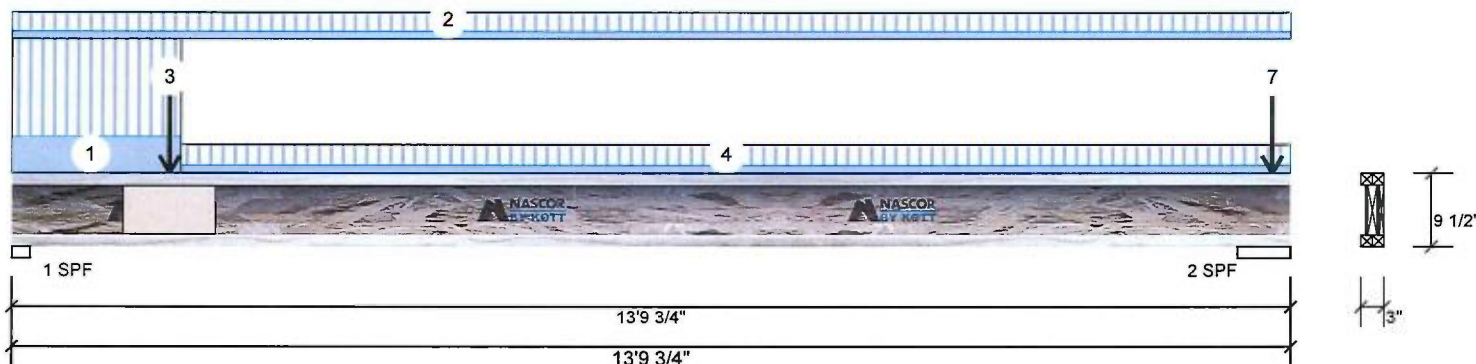
Kott Lumber Company
 14 Anderson Blvd, Ontario
 Canada
 L4A 7X4
 905-642-4400

NASCOR

This design is valid until 7/10/2021



Level: Ground Floor



Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plyes:	2	Design Method:	LSD	1	578	216	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	423	219	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							
Dead:	15 PSF							

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	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

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CALCULATION SUMMARY PAGE AS IT
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USED IN THE DESIGN OF THIS COMPONENT.**



- 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

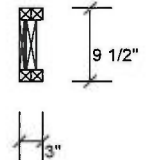
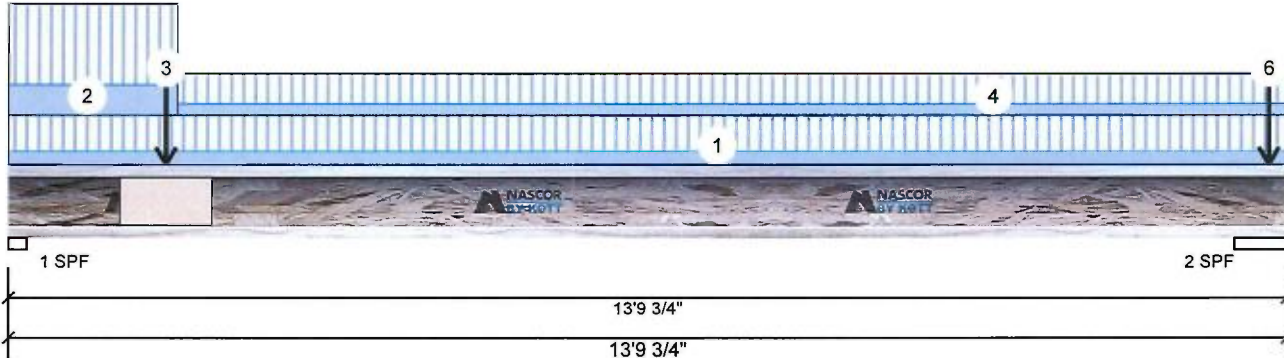
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

This design is valid until 7/10/2021

NASCOR

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 lb (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	
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

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

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

Handling & Installation

- Ljoist flanges must not be cut or drilled.
- 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.
- Damaged Ljoists 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

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

NASCOR

This design is valid until 7/10/2021





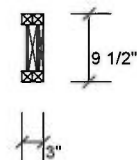
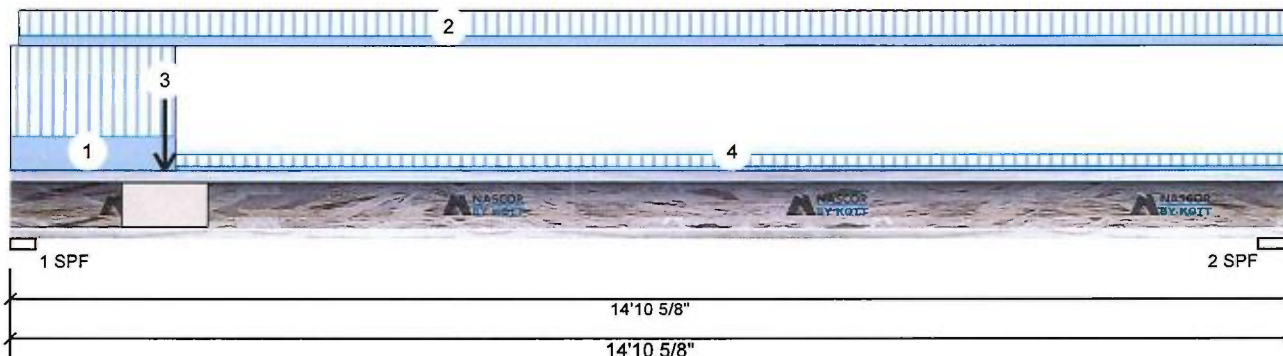
Client: GREENPARK
Project:
Address:

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

Page 1 of 1

F8-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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	678	254	0	0
2	251	94	0	0

Bearings and Factored Reactions

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

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	
TL Defl inch	0.222 (L/776)	6'11 5/16"	0.718 (L/240)	0.310 (31%)	D+L	L

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

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

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

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
- Ljoist not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

- Ljoist flanges must not be cut or drilled
- 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
- Damaged Ljoists 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

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

NASCOR

This design is valid until 7/10/2021





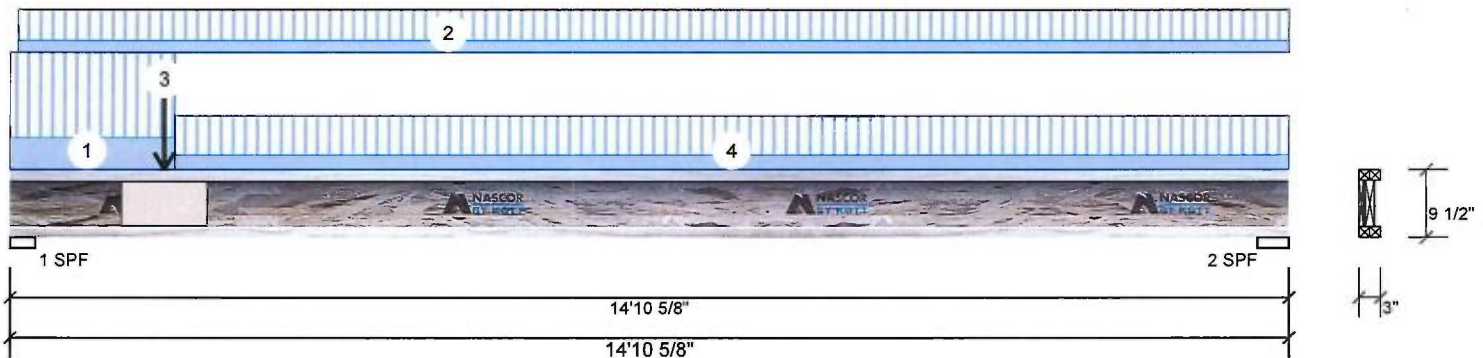
Client: GREENPARK
Project:
Address:

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

Page 1 of 1

F8-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	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. Must not 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 ≥ 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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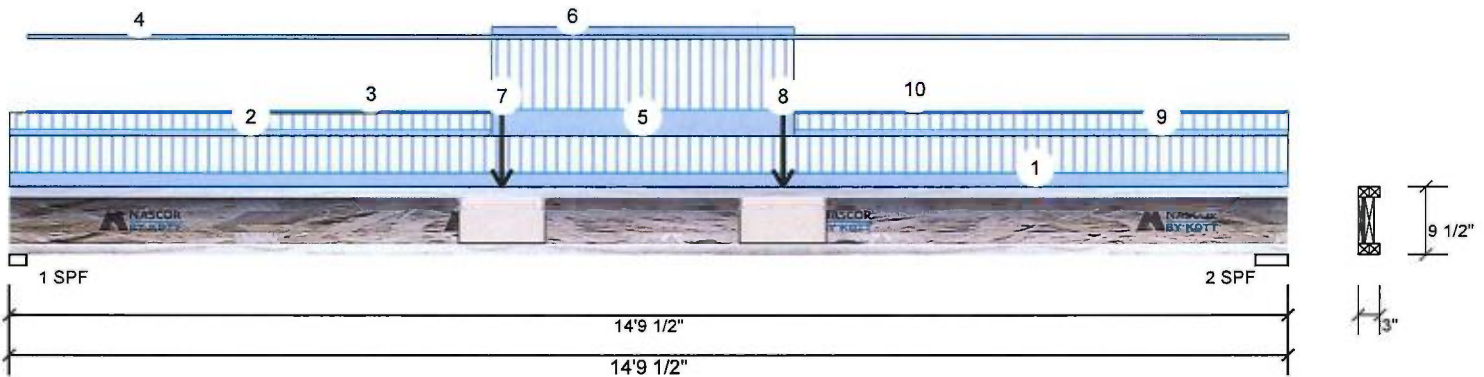
Client: GREENPARK
Project:
Address:

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	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	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

**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 3'4" 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 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 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 ≥ 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

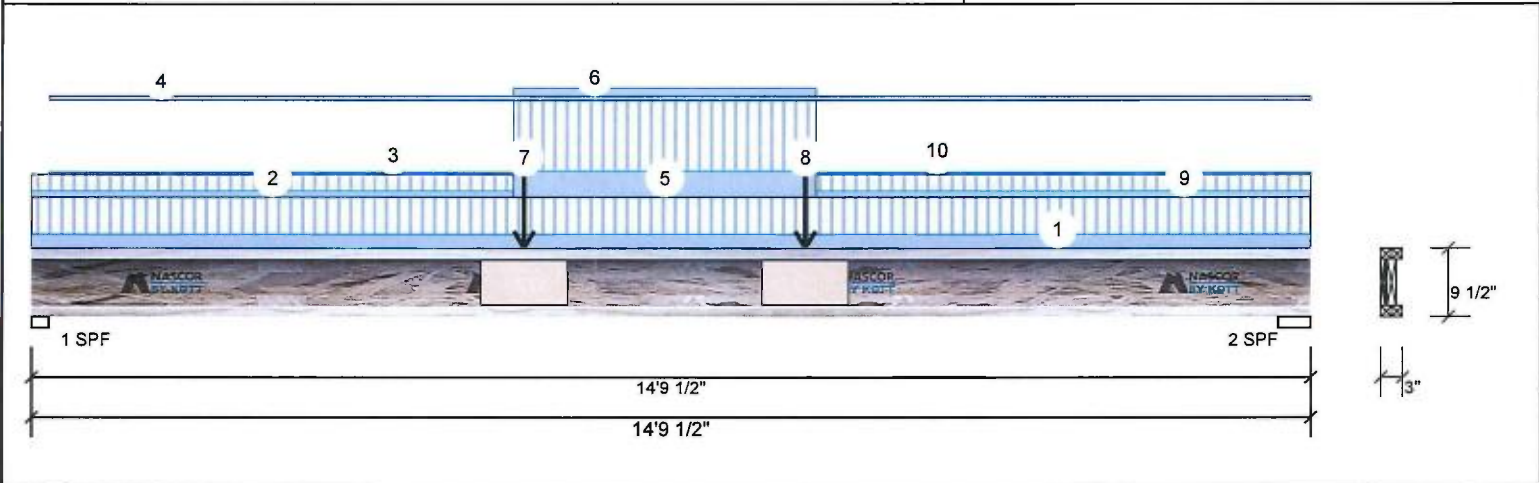
This design is valid until 7/10/2021

NASCOR



F8-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

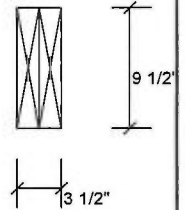
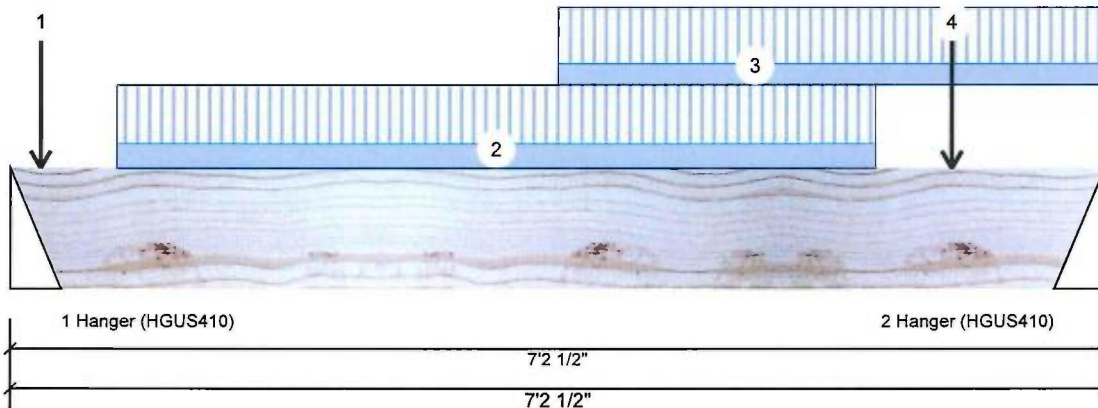
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	8-11-6		Near Face	66 lb	133 lb	0 lb	0 lb	F5
9	Tie-In	9-0-14 to 14-9-8	(Span)0-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	9-0-14 to 14-9-8		Top	1 PLF	0 PLF	0 PLF	0 PLF	

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.

<div>Notes</div> <div>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.</div> <div>Lumber</div> <div>1. Dry service conditions, unless noted otherwise.</div> <div>2. Joist not to be treated with fire retardant or corrosive chemicals</div>	<div>Handling & Installation</div> <div>1. Joist flanges must not be cut or drilled</div> <div>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</div> <div>3. Damaged Joists must not be used</div> <div>4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.</div>	<div>5. Provide lateral support at bearing points to avoid lateral displacement and rotation</div> <div>6. Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches</div> <div>7. For flat roofs provide proper drainage to prevent ponding</div>	<div>Manufacturer Info</div> <div>Nascor by Kott</div>	<div>Kott Lumber Company</div> <div>14 Anderson Blvd, Ontario</div> <div>Canada</div> <div>L4A 7X4</div> <div>905-642-4400</div>
			<div>This design is valid until 7/10/2021</div>	<div>NASCOR</div>

F14-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second 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	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.

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 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

NASCOR

This design is valid until 7/10/2021



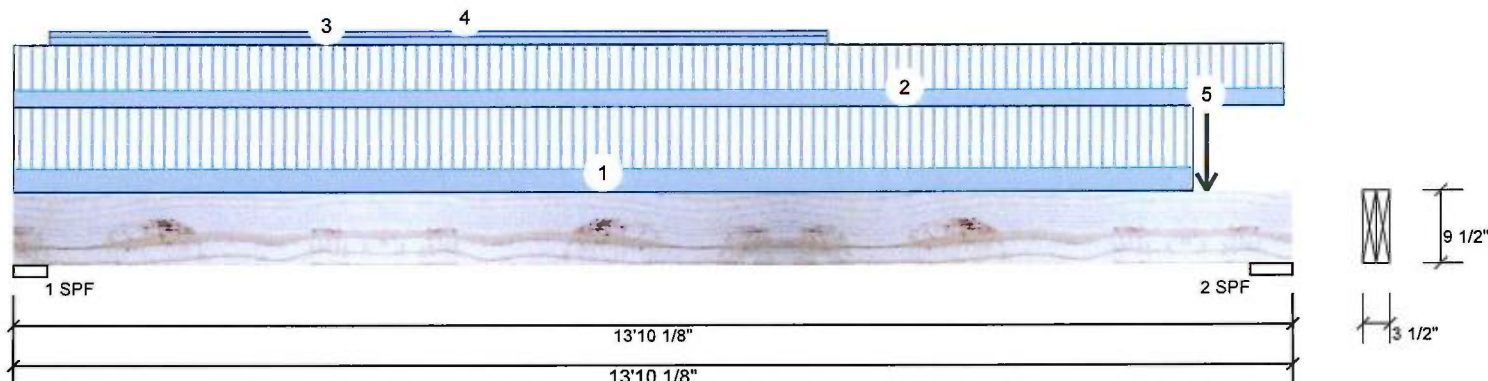


Client: GREENPARK
Project:
Address:

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

Page 1 of 1

F15-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second 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	334	209	0	0
2	1651	747	0	0

Bearings and Factored Reactions

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 in.	0.087 (L/1811)	7'2 7/8"	0.438 (L/360)	0.200 (20%)	L	
TL Defl in.	0.137 (L/1151)	7'2 5/16"	0.657 (L/240)	0.210 (21%)	D+L	L

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





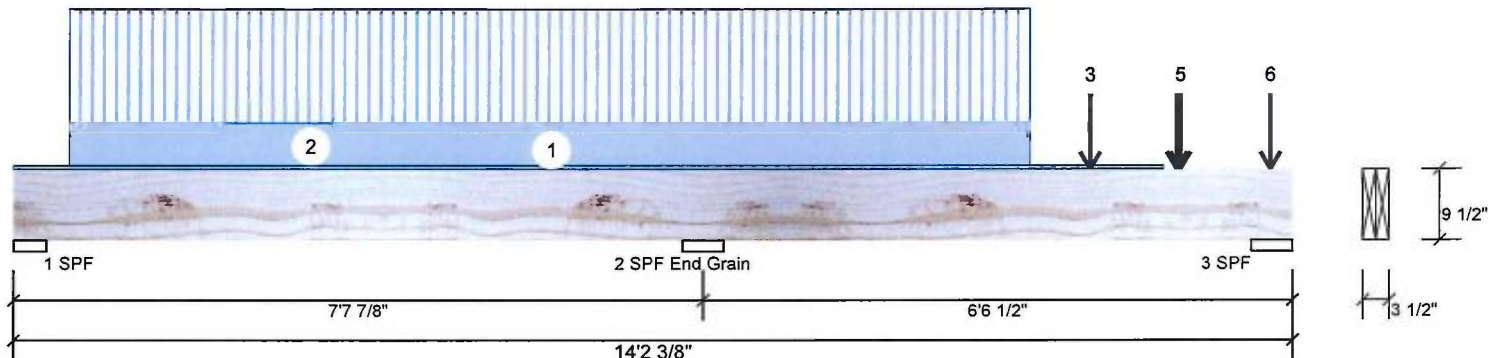


Client: GREENPARK
Project:
Address:

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

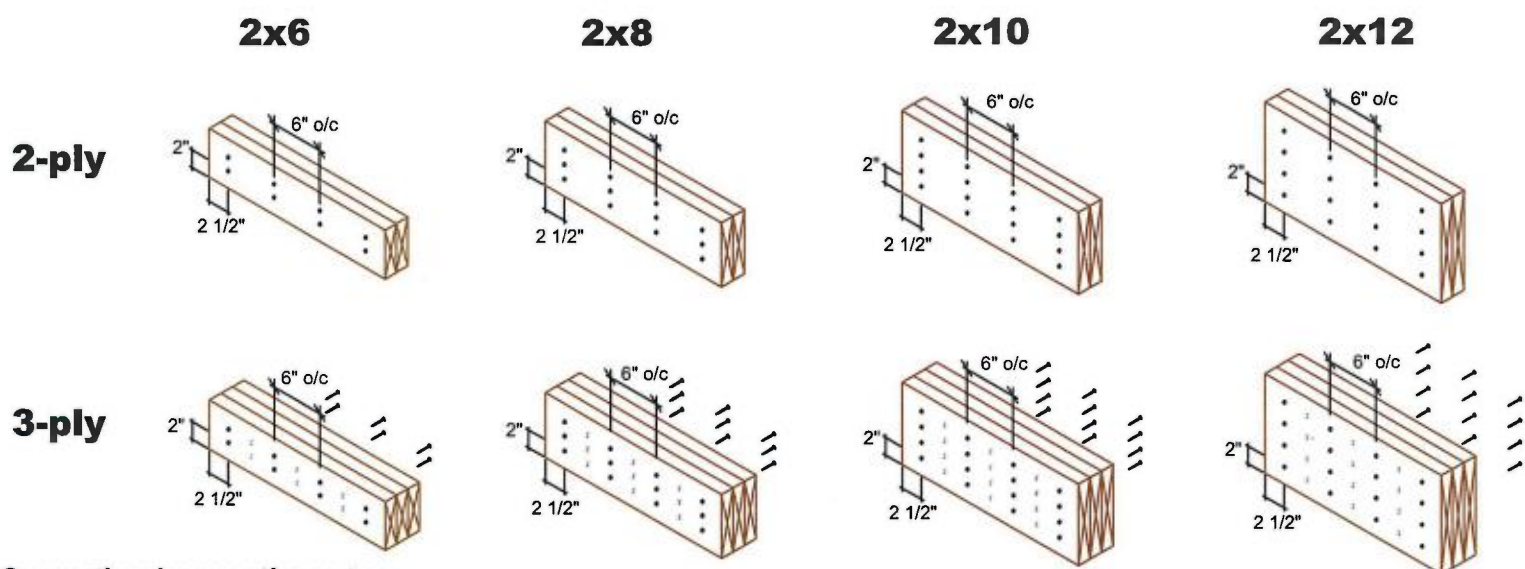
This design is valid until 7/10/2021



MULTIPLE MEMBER CONNECTIONS

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

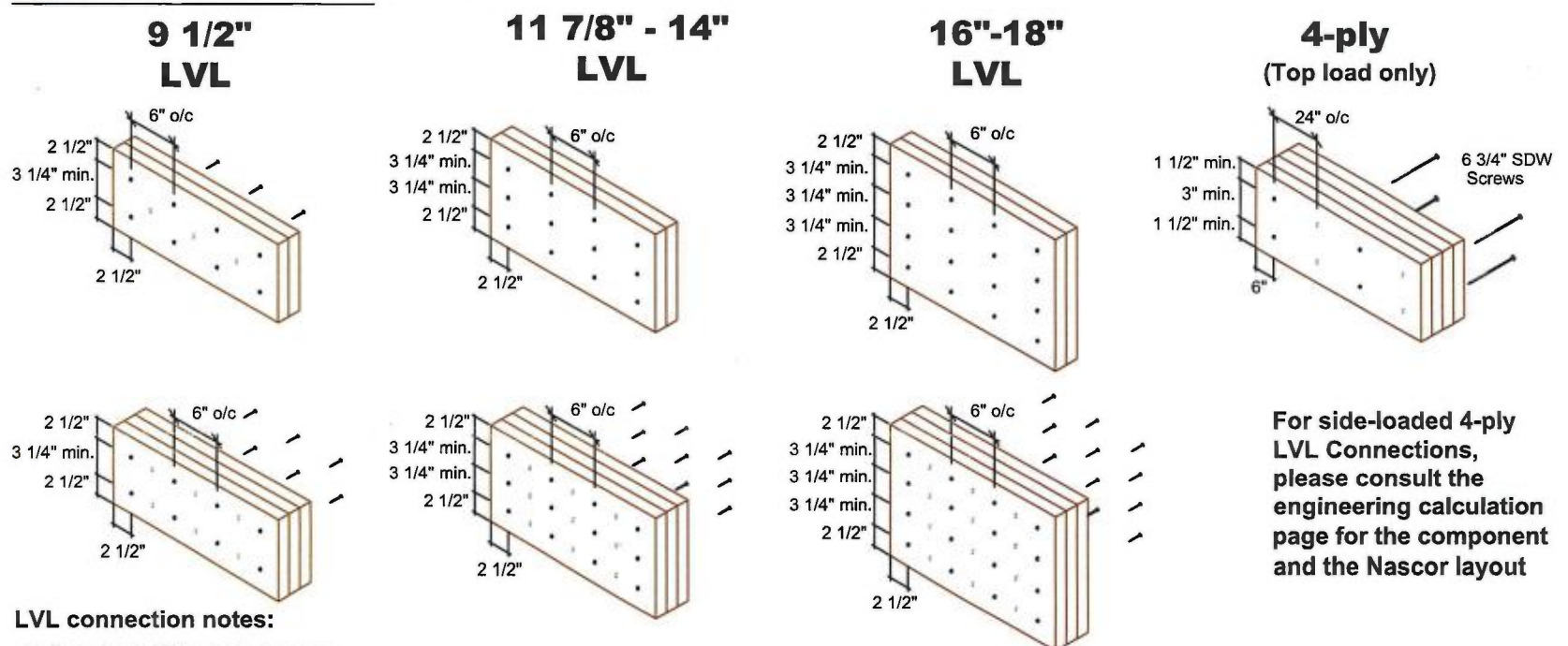
Conventional Connections (for uniform distributed loads)



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)

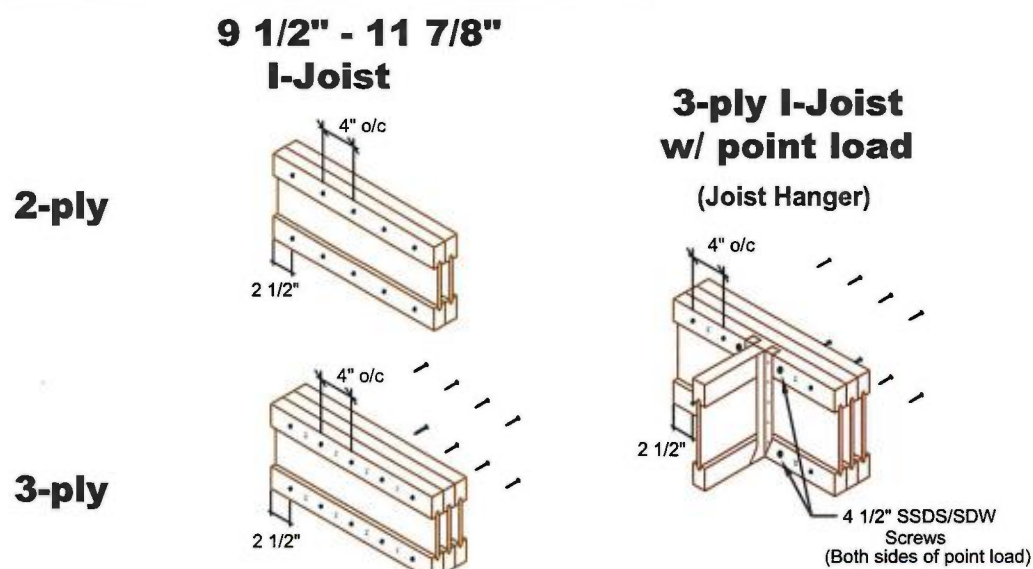


LVL connection notes:

- 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.

For side-loaded 4-ply
LVL Connections,
please consult the
engineering calculation
page for the component
and the Nascor layout

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**

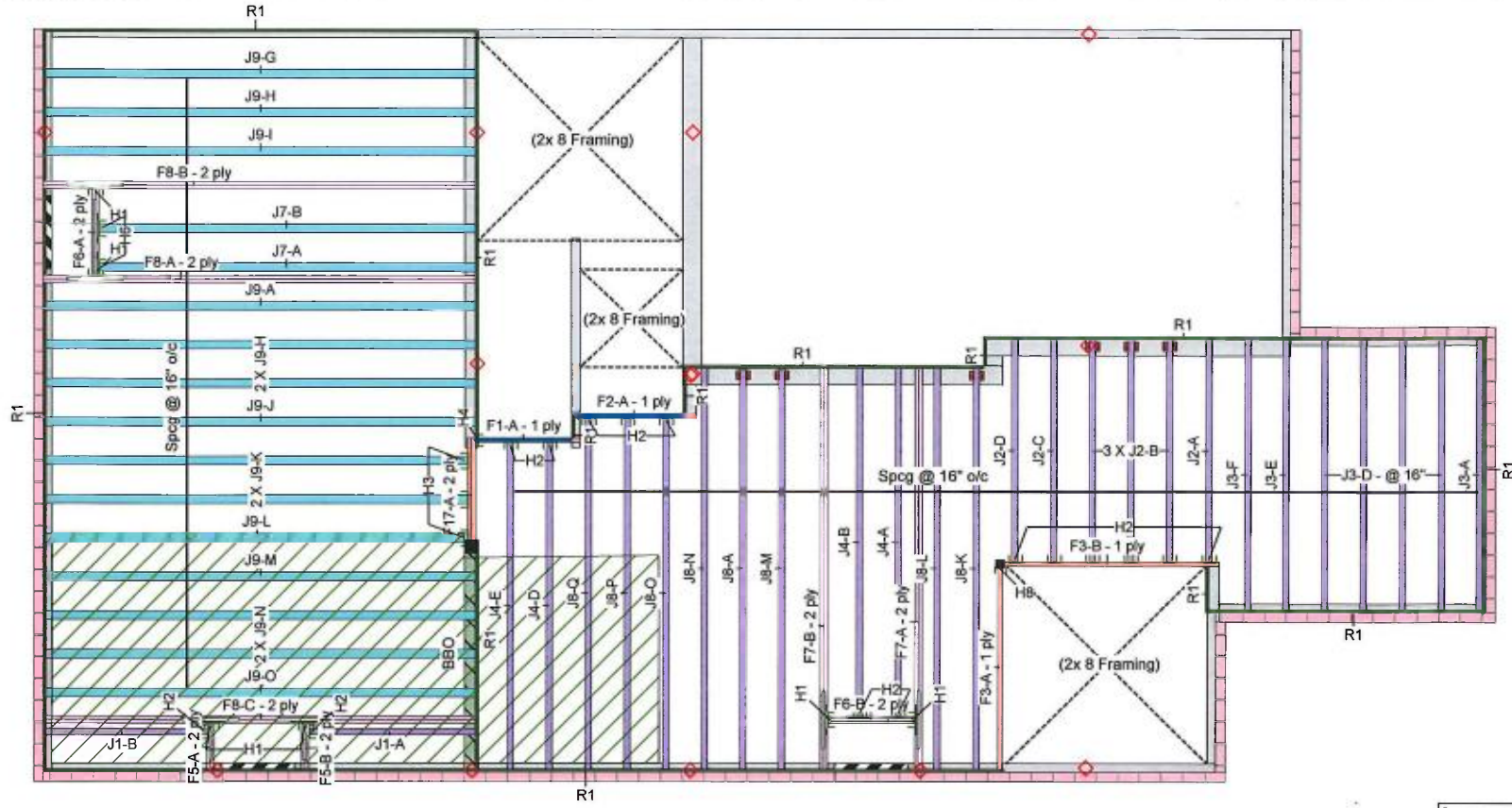
Date: November 30, 2016

Scale: NTS



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

Ground Floor



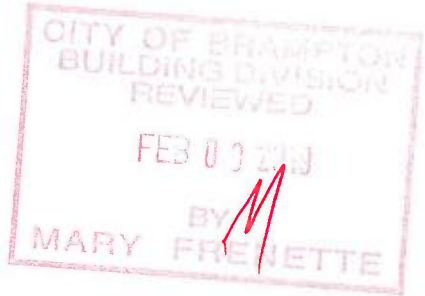
All work shall conform to the Ontario Building Code O. Reg. 332/12 as amended

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
- 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)



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.

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.

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

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
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 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.6; July 23,2018
Project No: 18012
Model: Hemlock 4

NASCOR

Layout Name
HEMLOCK 4-1 & 4-2

Design Method
LSD

Description
MINNISALE HOMES
BRAMPTON, ONT.

Revised
August 13, 2018

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.isi

Ground Floor

Design Method
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 3/4"

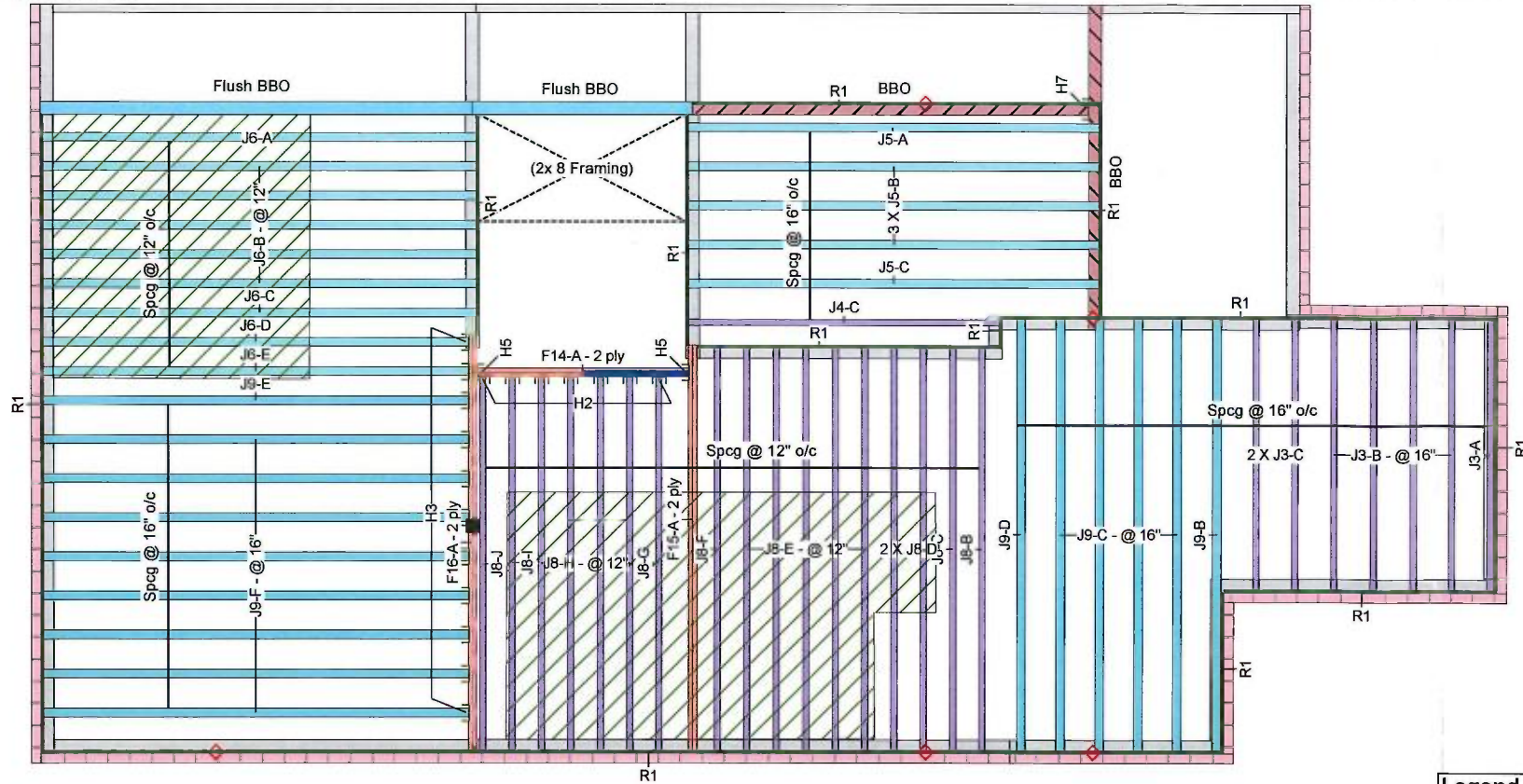
Fastener Nailed & Glued

Vibration

19-440024.000.00 RR
Lot 38R



Second Floor



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)

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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

I 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

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
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:

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Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF

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ARCHITECTURAL DRAWINGS:

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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"

Lot 38R

