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

**REVISION 2009-10-09** 

GREENPARK HOMES-MINISALE-MILLWOOD 3 EL 2-BRAMPTON-ON

### 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 <a href="http://www.nascor.ca">http://www.nascor.ca</a>.

### CODE

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

### **COMPONENT**

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

### HANDLING AND INSTALLATION

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



# TIPLE MEMBER CONNECTIONS

GREENPARK HOMES-MINISALE-MILLWOOD 3 EL 2-BRAMPTON-ON

### Conventional Connections (for uniform distributed loads)

2x6

2x8

2x12

2-ply







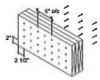


3-ply









### Conventional connection notes:

-Nails to be 3" 10d spiral wire nails.
-Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.

11 7/8" - 14"

-Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nall driven from the opposite side.

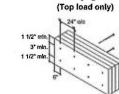
### LVL Connections (for uniform distributed loads)

LVL

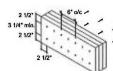


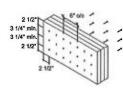


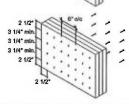




4-ply







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

### LVL connection notes:

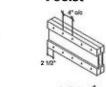
-Nails to be 3 1/2" spiral wire nails.
-Nails to be located a minimum of 2 1/2" from the top and bottom of the member, Start all nails a minimum of 2 1/2" in from ends.

-\*Nation to be received a finding between rows.
-Number of rows and spacing as per details shown, unless noted otherwise.
-\*X\* represents nail or screw driven from the opposite side.

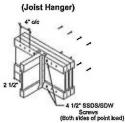
### Vertical I-Joist Connections (for uniform distributed loads)

9 1/2" - 11 7/8"

**I-Joist** 



3-ply I-Joist w/ point load



3-ply

2-ply

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.

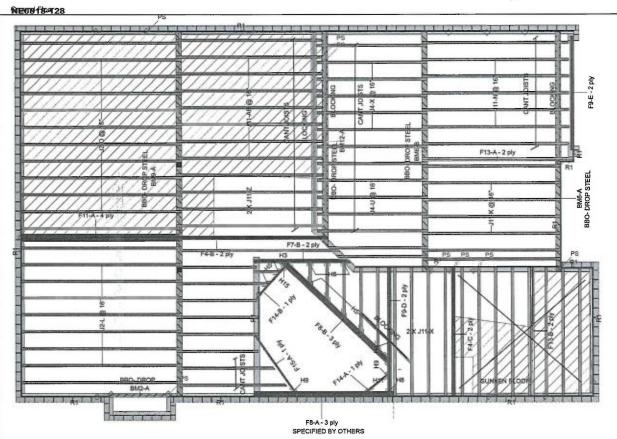
-Number of rows and spacing as per details shown, unless noted otherwise.

- "X" represents nail driven from the opposite side.

MULTI -PLY CONNECTION DETAILS

Date: November 30, 2016

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







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

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

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

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.

Width Depth Qty Plies Pcs Length Label Description F11 2 DE-3000Eb I VI Layout Name MILLWOOD 3 EL-2 2.0E-3000Fb LV 12-0-1.75 2 Design Method 2.0E-3000Fb LVL F9 1.75 10-0-0 2.0E-3000Fb LVL 8-0-0 Forex 2.0E-3000Fb LVL 1.75 9.5 2 F15 1.75 9.5 6-0-0 Forex 2.0E-3000Fb LVL 4-0-4 2.0E-3000Fb LVL **Joist** Width Depth Qty Piles Pcs Length
1.5 9.5 2 2 4 12-0-0 Label Description 1.5 9.5 2 F13 NJ 22 14-0-0 Designer J2 NJH J11 NJH 2.5 9.5 2.5 9.5 38 12-0-0 13 10-0-0 Shipping J4 NJH J3 NJH 2.5 9.5 2.5 9.5

J7 NJH J1 NJH 2.5 9.5 2.5 9.5 1 2-0-0 Rim Board Label Description Width Depth Oty Plies Pcs Length R1 Norbord Rimboard 1.125 Plus 1.125 X 9.5 9.5 Blocking

25 9.5

Label Description Width Depth | Qty | Plies | Pcs | Length BLK1 NJH 2.5 9.5 LinFt Varies 39-0-0 Hanger

					Beam/Girder	Member
Label	Pcs	Description	Skew	Slope	fasteners	fastoners
НЗ	1	HGUS5.50/10	Right			
H4	1	HGUS5.50/10	Left			
H5	7	SUR2.56/9 (Min)	Right		14 16d	2 10dx1 1/2
H6	3	LT259			4 10d	2 10dx1 1/2
HB	1	HGUS410			46 16d	16 16d
H9	2	LSSUI25-R	Var	Var	9 10d	7-10dx1 1/2
H11	1	LSSUI25-L	Var	Var	9 10d	7 10dx1 1/2
H15	1	HUS1.81/10			30 16d	10 16d

### NOTES:

Ground Floor

JB NJH

VL/LSL

- Framer to verify dimensions on the architectural drawings Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
  Install 2x4 blocking @ 24" orc under parallel non-loadbearing walls.

- Install single-ply flush window header along inside face of nmboard/nmjoist Refer to Nascor specifier guide for installation details. Squash blocks recommended to be installed at end bearing on all first level
- joists which support loading from above exceeding two sevels 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 boiling

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than nm depth) @ 16" o/c.
All other components and structural elements supporting the floor system such as beams, walls, columns and oundation walls and footings including anchorage of components and bracing for lateral stability are the

Hatch area represents ceramic tiled floor with an additional dead load

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

LSD Description GREENPARK HOMES MINISALE, BRAMPTON ON Created June 27, 2018 Builder Sales Rep RM SB 10 8-0-0 Project 2 6-0-0 Builder's Project Kott Lumber Company 14 Anderson Blvd Stoutfville Ontario Canada L4A 7X4 905-642-4400 Ground Floor LSD esign Method Building Code ! NBCC 2010 / OBC Loads Live 40 Dead 15 Deflection Joist LL Span LJ 480 TL Span L/ 360 LL Cant 2L/ 480 TL Cant 2L/ 360 30 16d 10 16d Deflection Girder LL Span L/ 360 TL Span L/ 240

LL Cant 2L/

TL Cant 2L/

Decking

Thickness

Fastener

Vibration

Deck

480

360

OSB

3/4

Nailed & Glued

**PAGE 3 OF 40** 



JOISTS SPACING 16"O/C

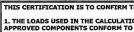












2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO

LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.

4. CAN/CSA-086-09 5. CCMC -12787-R APA PR-L310(C) Version 18.40.162 Powered by (Struct)

2. Nascor CCMC - 13535-R

3. LVL CCMC -12904-R

Project # 18012 Model: Millwood 3

Date: JUN 29, 2018 REV 4

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



Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

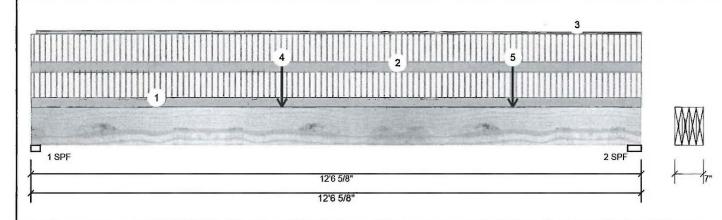
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

4-Ply - PASSED

Level: Ground Floor



Member Infor	mation			Unfactor	ed Reacti	ons U	NPATTERN	ED lb	(Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Sno	w	_
Plies:	4	Design Method:	LSD	1	2242		1112	4	18	
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	5577		2617	19	33	
Deflection LL:	360	Load Sharing:	Yes	1						
Deflection TL:	240	Deck:	Not Checked	1						
Importance:	Normal	Vibration:	Not Checked							
General Load										_
Floor Live:	40 PSF			Bearings	and Facto	ored I	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	,
				1 - SPF 2	2.375"	47%	1390 / 3387	4777	L	
Analysis Resul	ts			2-SPF :	3.375"	81%	3271 / 8462	11733	L	
Analysis Ad	ctual Loc	ation Allowed Capaci	ity Comb. Case							_

28195 ft-lb 9'10 7/8" 47266 ft-lb 0.597 (60%) 1.25D+1.5L L Moment +0.58 Unbraced 28195 ft-lb 9'10 7/8" 47266 ft-lb 0.597 (60%) 1.25D+1.5L L +0.58 0.628 (63%) 1.25D+1.5L L Shear 11651 lb 11'6 1/2" 18554 lb +0.5S6'8 3/16" 0.407 (L/360) 0.410 (41%) D Uniform Perm Defl in. 0.166 (L/879) LL Defl inch 0.354 (L/413) 6'8 5/8" 0.407 (L/360) 0.870 (87%) L+0.5S L TL Defl inch 0.521 (L/281) 6'8 1/2" 0.610 (L/240) 0.850 (85%) D+L+0.5S

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.



Wind 0 0

Ld. Comb. 1.25D+1.5L +0.58 1.25D+1.5L +0.5S

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.

Comments	(	Wind	Snow	Live	Dead	Side	Trib Width	Location	Load Type	ID
		0 PSF	0 PSF	40 PSF	15 PSF	Тор	(Span)0-8-13	0-0-0 to 12-6-10	Tie-In	1
		0 PSF	0 PSF	40 PSF	15 PSF	Тор	(Span)0-9-11	0-0-0 to 12-6-10	Tie-In	2
		0 PLF	0 PLF	0 PLF	2 PLF	Тор		0-1-6	Tapered Start	3
		0 PLF	0 PLF	0 PLF	1 PLF			12-6-10	End	
C3	(	0 lb	0 lb	1466 lb	677 lb	Тор		5-1-14	Point	4
(	(	0 PLF	0 PLF	0 PLF	1 PLF			12-6-10	End	3

Continued on page 2...

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

### Lumber

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

chemicals

Handling & Installation

- IANGIIING & Installation
  LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-pt
  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 905-642-4400



9 1/2"



Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

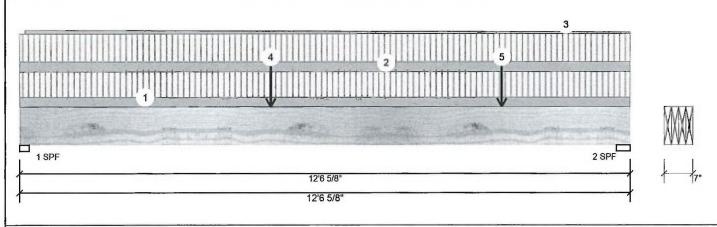
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

4-Ply - PASSED

Level: Ground Floor



..Continued from page 1

ID Load Type 5 Point Self Weight 9-10-14

Location Trib Width

Side Тор

Dead 2697 lb 15 PLF

Live 5966 lb Snow 241 lb Wind Comments

0 lb C4

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

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

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

Lumber

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

Handling & Installation

Handling & Installation

1. U/L 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

Manufacturer Info

APA: PR-L318







Client:

Project:

Address:

8/15/2018 Date:

Designer: SB

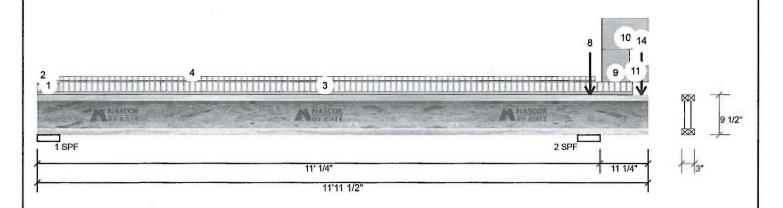
Job Name: MILLWOOD 3 EL-2

Project #:

9.500" NJ

2-Ply - PASSED

Level: Ground Floor



Member Info	rmation			Unfacto	red React	tions U	NPATTERNI	ED lb (	(Uplift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	W	Wind
Plies:	2	Design Method:	LSD	1	191		65		0	0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	380		429	17	7	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored F	Reactions			
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	5.250"	12%	81 / 288	369	L_	1.25D+1.5L
Analysis Resu	lts			2-SPF	5.250"	27%	536 / 658	1194	LL	1.25D+1.5L +0.5S

**Analysis Results** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-100 ft-lb	11' 1/4"	4771 ft-lb	0.021 (2%)	1.4D	Uniform
Unbraced	-100 ft-lb	11' 1/4"	4681 ft-lb	0.021 (2%)	1.4D	Uniform
Pos Moment	892 ft-lb	5'5 9/16"	7340 ft-lb	0.122 (12%)	1.25D+1.5L	L_
Unbraced	892 ft-lb	5'5 9/16"	897 ft-lb	0.995 (99%)	1.25D+1.5L	L_
Shear	369 lb	10'9 5/8"	3080 lb	0.120 (12%)	1.25D+1.5L	LL
Perm Defl in.	0.011 (L/10978)	5'4 13/16"	0.348 (᠘360)	0.030 (3%)	D	Uniform
LL Defl inch	0.038 (L/3265)	5'7 1/16"	0.348 (L/360)	0.110 (11%)	L+0.5S	L_
TL Defl inch	0.050 (L/2517)	5'6 9/16"	0.521 (L/240)	0.100 (10%)	D+L+0.5S	L_
LL Cant	-0.010 (2L/2352)	Rt Cant	0.200 (2L/480)	0.048 (5%)	L+0.5S	L_
TL Cant	-0.011 (2L/2084)	Rt Cant	0.300 (2L/360)	0.036 (4%)	D+L+0.5S	L_

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

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

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



### **Design Notes**

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

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 inlended application, and to verify the dimensions and loads. Lumber

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

Handling & Installation

Handling & Installation

1. Julist flarges must not be cut or drilled

2. Refer to latest copy of the Lioist product information details for framing details, stiffener lables, web hole chart, bridging details, multiply fostering details and handling/eraction details

3. Damaged Lobists must not be used

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

Provide lateral support at bearing points to avoid lateral displacement and rolation.
 Web stiffeness for point load as shown Minimum point load bearing length>= 3.5 inches
 For flat roots provide proper drainage to prevent ponding.

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4





Client:

Project: Address:

8/15/2018 Date

Designer: SB

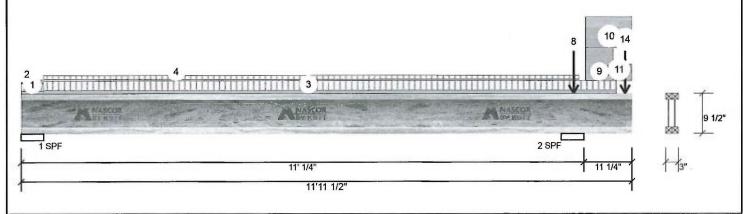
Job Name: MILLWOOD 3 EL-2

Project #:

9.500"

2-Ply - PASSED

Level: Ground Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)1-0-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-3-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 11-7-14	(Span)1-2-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-5-4 to 10-11-2	(Span)0-6-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5 .	Point	10-9-14		Тор	29 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	10-9-14		Тор	159 lb	159 lb	177 lb	0 lb	F2 F2
7	Point	10-9-14		Тор	5 lb	10 lb	0 lb	0 lb	J4
8	Point	10-9-14		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
9	Part. Uniform	11-0-10 to 11-7-2		Тор	88 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	11-0-10 to 11-11-8		Тор	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	11-7-2 to 11-11-8		Тор	44 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
12	Point	11-9-14		Тор	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
13	Point	11-9-14		Тор	2 lb	5 lb	0 lb	0 lb	J4
14	Point	11-9-14		Тор	4 lb	0 lb	0 lb	0 lb	Wall Self Weight

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

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

Calculated Shuchired 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
 Use to be treated with fire retardant or corrosive

- chemicals

  Handling & Installation

  1. Uloist flanges must not be cut or drilled
  2. Refer to latest copy of the Libest product information
  details for framing details, stiffener tables, web noise
  chart. bridging details, multi-ply testening details and
  handling/eraction details
  3. Damaged Libest must not be used
  4. Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.

Manufacturer Info

Nascor by Kott







Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

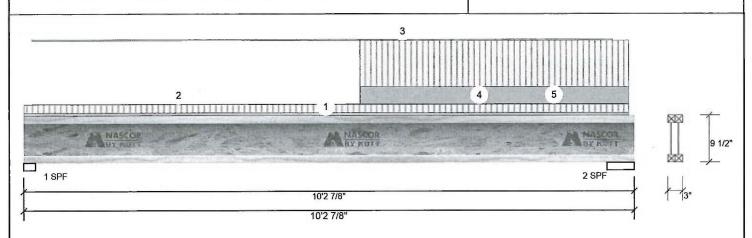
Project #:

NJ F13-B

9.500"

2-Ply - PASSED

Level: Ground Floor



Member Info	rmation			Unfactor	ed Reac	tions U	NPATTERNI	ED lb (l	Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	,	Wind
Plies:	2	Design Method:	LSD	1	216		100	C	)	0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	542		221	C	)	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored R	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	2.375"	17%	125 / 324	449	L	1.25D+1.5L
				2-SPF	5.500"	35%	276 / 813	1089	L	1.25D+1.5L

**Analysis Results** 

	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	1785 ft-lb	6'3 1/2"	7340 ft-lb	0.243 (24%)	1.25D+1.5L	L
	Unbraced	1785 ft-lb	6'3 1/2"	1795 ft-lb	0.994 (99%)	1.25D+1.5L	L
ŀ	Shear	1005 lb	9'10 1/8"	3080 lb	0.326 (33%)	1.25D+1.5L	L
ŀ	Perm Defl in.	0.025 (L/4665)	5'5 3/8"	0.324 (L/360)	0.080 (8%)	D	Uniform
l	LL Defl inch	0.058 (L/2005)	5'6 3/8"	0.324 (L/360)	0.180 (18%)	L	L
ŀ	TL Defl inch	0.083 (L/1403)	5'6 1/16"	0.485 (L/240)	0.170 (17%)	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 4'11" 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 10-1-12	(Span)1-0-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-10 to 5-4-14		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-1-11 to 9-10-8		Тор	3 PLF	0 PLF	0 PLF	0 PLF	
4	Tapered Start	5-4-14		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
	End	9-10-11			0 PLF	0 PLF	0 PLF	0 PLF	
5	Part. Uniform	5-7-12 to 10-1-12		Тор	45 PLF	120 PLF	0 PLF	0 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.

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

chemicals

Handling & Installation

tandling & Installation

I. Joist flanges must not be cut or drifted

Refer to latest copy of the Joist product information
details for framing details, stiffener tables, web hole
teart, bridging details, must help to faste and
handling/erection details

Demaged Joists must not be used

I. 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 fat roofs provide proper drainage to prevent ponding.

Manufacturer Info

Nascor by Kott

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





Client:

Project: Address: Date:

8/15/2018 SB

Page 1 of 1

Designer:

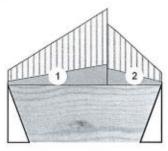
Job Name: MILLWOOD 3 EL-2

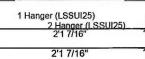
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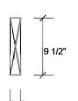
Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor







Ld. Comb.

Member Info	rmation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 DSE	1	

	Unfactored Reactions UNPATTERNED Ib (Uplift)							
	Brg	Live	Dead	Snow	Wind			
	1	16	10	0	0			
2	2	17	11	0	0			

Cap. React D/L lb

Analysis Res	sults					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16 ft-lb	1'1 1/8"	11362 ft-lb	0.001 (0%)	1.25D+1.5L	L
Unbraced	16 ft-lb	1'1 1/8"	10925 ft-lb	0.001 (0%)	1.25D+1.5L	L
Shear	4 lb	1' 1/4"	4638 lb	0.001 (0%)	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/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

3.500" 1% 13 / 24 36 L 1.25D+1.5L Hanger 1% 13/26 39 L 1.25D+1.5L 3.500" Hanger READ ALL NOTES ON THIS PAGE AND ON SOPROFESSIONAL

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.

A. EL-MASRL REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY

Total Ld. Case

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. NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

**Bearings and Factored Reactions** 

Bearing Length

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-8	(Span)0-3-4 to 1-4-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	1-4-8 to 2-1-7	(Span)1-1-10 to 0-2-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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

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

Handling & Installation

- Handling & Installation

  1. LVL beams must not be cut or drilled

  2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastering details, beam streight 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

Manufacturer Info APA: PR-L318







Client:

Project: Address:

8/15/2018 Date:

Designer: SB

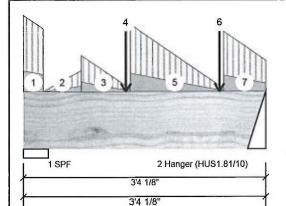
Job Name: MILLWOOD 3 EL-2

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor



Wind 0

0

0

Member Infori	nation		
Туре:	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		

Unfact	ored Reaction	S UNPATTER	NED lb (Uplift)	
Brg 1	Live	Dead	Snow	
1 1	29 (-48)	(-1)	0	

12

48 (-31)

2

Hanger

Bearing:	earings and Factored Reactions									
Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.				
1 - SPF	4.125"	1%	-1 / 43	42 (-73)	L	0.9D+1.5L				
2 -	3.000"	2%	15/71	86 (-36)	L	1.25D+1.5L				

### **Analysis Results**

Γ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Neg Moment	-66 ft-lb	1'5"	7840 ft-lb	0.008 (1%)	1.25D+1.5L	L
l	Unbraced	-94 ft-lb	1'5"	10055 ft-lb	0.009 (1%)	1.25D+1.5L	L
	Pos Moment	33 ft-lb	2'4 1/16"	11362 ft-lb	0.003 (0%)	1.25D+1.5L	L
	Unbraced	33 ft-lb	2'4 1/16"	10055 ft-lb	0.003 (0%)	1.25D+1.5L	L
	Shear	64 lb	1' 7/8"	3200 lb	0.020 (2%)	1.25D+1.5L	L
	Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
	LL Defl inch	0.001 (L/55396)	1'5"	0.096 (L/360)	0.010 (1%)	L	L
ı	TI Deflinch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

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 Tie-down connection required at bearing 1 for uplift 73 lb (Combination 1.25D+1.5L, Load
- 4 Tie-down connection required at bearing 2 for uplift 36 lb (Combination 0.9D+1.5L, Load
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.

Load Type Trib Width Side Dead Live Wind Comments ID Location Snow 0-0-0 to 0-3-4 (Span)1-8-8 15 PSF 40 PSF 0 PSF 0 PSF 1 to 1-4-14

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. If is the responsibility of the customer and/or the contractor to ensure the component suitability of the inlended application, and to verify the dimensions and loads.

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

Handling & Installation

- Articuming or installation of the control of the co
- 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







Client:

Project: Address:

8/15/2018 Date:

SB Designer:

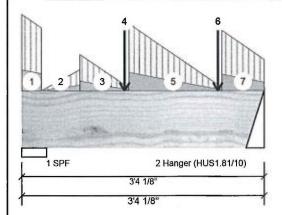
Job Name: MILLWOOD 3 EL-2

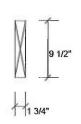
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor





.Continued	from page 1							-	
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
2	Tie-In	0-3-4 to 0-9-11	(Span)0-0-0 to 0-5-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-9-11 to 1-5-11	(Span)0-9-12 to 0-0-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	1-5-0		Far Face	-30 lb	-79 lb	0 lb	0 lb	J3
5	Tie-In	1-5-11 to 2-9-2	(Span)1-6-1 to 0-0-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	2-8-7		Far Face	10 lb	27 lb	0 fb	0 lb	J7
7	Tie-In	2-9-2 to 3-4-2	(Span)1-4-3 to 0-8-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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

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

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

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

Handling & Installation

- Handiling & Installation

  1. tVL 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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA: PR-L318







Client:

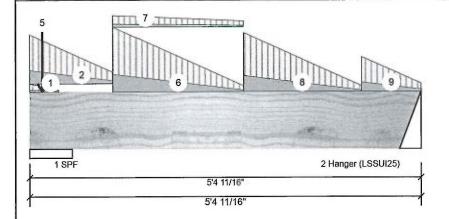
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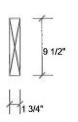
8/15/2018 SB

Designer: Job Name: MILLWOOD 3 EL-2

Project #:

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





Wind

Member Information							
Туре:	Girder	Application:	Floor (Residential)				
Plies:	1	Design Method:	LSD				
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012				
Deflection LL:	360	Load Sharing:	No				
Deflection TL:	240	Deck:	Not Checked				
Importance:	Normal	Vibration:	Not Checked				
General Load							
Floor Live:	40 PSF						
Dead:	15 PSF						

Unfacto	red Reaction	S UNPATTERN	IED Ib (Uplift)
Bra	Live	Dead	Snow

1	98	110	0	0
2	65	34	0	0

Analysis Res	ults					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	182 ft-lb	2'8 7/8"	11362 ft-lb	0.016 (2%)	1.25D+1.5L	L
Unbraced	182 ft-lb	2'8 7/8"	7969 ft-lb	0.023 (2%)	1.25D+1.5L	L
Shear	116 lb	1'3 13/16"	4638 lb	0.025 (3%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/58254)	2'9 11/16"	0.154 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/28735)	2'9 1/2"	0.154 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.003	2'9 9/16"	0.232 (L/240)	0.010 (1%)	D+L	L

**Bearings and Factored Reactions** 

Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	7.063"	4%	137 / 147	285	L	1.25D+1.5L
2 - Hanger	3.500"	3%	42/97	139	L	1.25D+1.5L

**Design Notes** 

1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.

2 Fill all hanger nailing holes.

(L/19243)

- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top 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.



5 Bottom	braced at bearings.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-13	(Span)0-4-4 to 0-0-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-1-12	(Span)2-1-11 to 0-6-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-2		Тор	15 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	0-2-2		Тор	33 lb	0 lb	0 lb	0 lb	Wall Self Weight

Continued on page 2...

Notes

Notes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown is the responsibility of the customer that contractor to ensure the component substitity of the Intended Annictation, and to verify the dimensions and loads. Lumber

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

Handling & Installation

Harituling & installation

1. UV, beams must not be cut or drilled

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

3. 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





Client:

Project: Address:

8/15/2018 Date:

Designer: SB

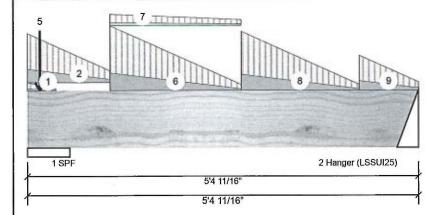
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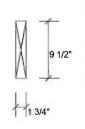
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor





Continued f	rom page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	0-2-2		Тор	14 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Tie-In	1-1-12 to 2-11-7	(Span)2-9-15 to 0-3-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
7	Tie-In	1-1-12 to 2-11-7	(Span)0-6-1 to 0-3-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	2-11-7 to 4-6-15	(Span)2-6-15 to 0-3-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
9	Tie-In	4-6-15 to 5-4-11	(Span)1-6-4 to 0-4-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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

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

### 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 nitended application, and to verify the dimensions and loads. Lumber

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

chemicals

Handling & Installation

Handling & Installation

1. LVL beams must not be cut or drilled

2. Refer to manufacturer's product information regarding installation requirements, multi-ply 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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex

APA: PR-L318

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





Client:

Project: Address:

8/15/2018 Date:

Designer: SB

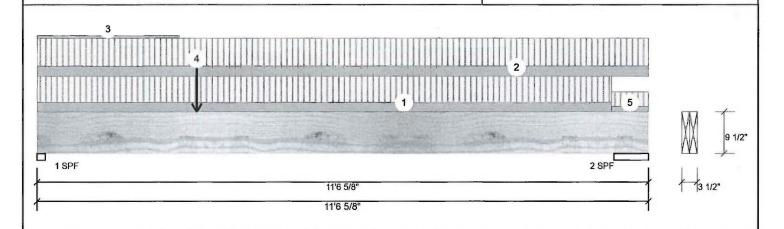
Job Name: MILLWOOD 3 EL-2

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



mation			Unfactored Reactions UNPATTERNED Ib (Uplift)						
Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow		Wind
2	Design Method:	LSD	1	1658		698	0		0
n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	761		343	0		0
360	Load Sharing:	No							
240	Deck:	Not Checked	1						
Normal	Vibration:	Not Checked	1						
40 PSF			Bearings	and Fac	tored l	Reactions			
15 PSF			Bearing	Length	Сар.	React D/L lb	Total L	d. Case	Ld. Comb.
			1 - SPF	1.875"	83%	873 / 2487	3360 L		1.25D+1.5L
			2-SPF	7.778"	9%	428 / 1142	1570 L		1.25D+1.5L
	2 n: Dry 360 240 Normal	Girder  2 Design Method: Building Code: Load Sharing: Deck: Normal  40 PSF 15 PSF	Girder Application: Floor (Residential)  Design Method: LSD Building Code: NBCC 2010 / OBC 2012  Load Sharing: No Deck: Not Checked  Normal Vibration: Not Checked  40 PSF 15 PSF	Girder Application: Floor (Residential)  2 Design Method: LSD  1 Dry Building Code: NBCC 2010 / OBC 2012  360 Load Sharing: No 240 Deck: Not Checked  Normal Vibration: Not Checked  40 PSF  15 PSF  Bearing: Bearing: 1 - SPF 2 - SPF	Application: Floor (Residential)   Brg   Live	Application: Floor (Residential)   Brg   Live	Application: Floor (Residential)   Brg   Live   Dead	Application: Floor (Residential)   Brg   Live   Dead   Snow	Application: Floor (Residential)   Brg   Live   Dead   Snow

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9428 ft-lb	3' 1/4"	22724 ft-lb	0.415 (41%)	1.25D+1.5L	L
Unbraced	9428 ft-lb	3' 1/4"	20390 ft-lb	0.462 (46%)	1.25D+1.5L	L
Shear	3281 lb	10 5/8"	9277 lb	0.354 (35%)	1.25D+1.5L	L
Perm Defl in.	0.073 (L/1789)	4'11 1/16"	0.362 (L/360)	0.200 (20%)	D	Uniform
LL Defl inch	0.172 (L/756)	4'10 9/16"	0.362 (L/360)	0.480 (48%)	L	L
TL Defl inch	0.245 (L/532)	4'10 3/4"	0.544 (L/240)	0.450 (45%)	D+L	L

**Design Notes** 

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

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 10-10-4	(Span)0-11-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 11-6-10	(Span)1-0-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 2-8-4		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
4	Point	3-0-4		Тор	780 lb	1973 lb	0 lb	0 lb	C5
5	Tie-In	10-10-4 to 11-6-10	(Span)0-6-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	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 confractor to ensure the component suitability of the intended application, and loads and loads.

### Lumber

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pty fastening defails, beam strength values, and code
- fastening uerons, seamment 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 APA: PR-L318

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







Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

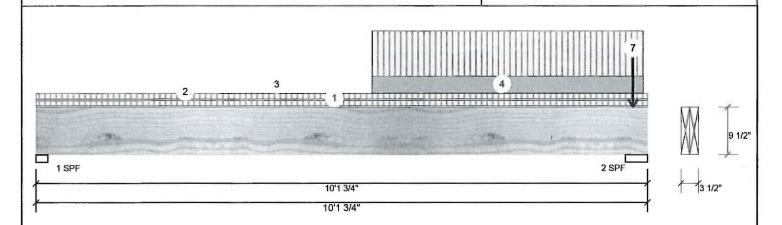
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



vlember Info	mation			Unfacto	red Reac	tions U	NPATTERN	ED lb (	Uplift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	V	Wind
Plies:	2	Design Method:	LSD	1	246		132	(	0	0
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	691		355	(	0	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored	Reactions			
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF	2.375"	10%	165 / 368	533	L	1.25D+1.5L
			****	2-SPF	4.375"	16%	443 / 1036	1480	L	1.25D+1.5L

**Analysis Results** 

	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	1990 ft-lb	6'2 5/16"	22724 ft-lb	0.088 (9%)	1.25D+1.5L	L
ľ	Unbraced	1990 ft-lb	6'2 5/16"	20862 ft-lb	0.095 (10%)	1.25D+1.5L	L
	Shear	853 lb	9' 5/8"	9277 lb	0.092 (9%)	1.25D+1.5L	L
	Perm Defl in.	0.016 (L/7264)	5'3 3/4"	0.324 (L/360)	0.050 (5%)	D	Uniform
	LL Defl inch	0.033 (L/3498)	5'4 15/16"	0.324 (L/360)	0.100 (10%)	L	L
ŀ	TL Defl inch	0.049 (L/2361)	5'4 9/16"	0.485 (L/240)	0.100 (10%)	D+L	L

**Design Notes** 

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam
- 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.

LINIDATTEDNIED II (II 1964)

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.



Trib Width Live ID Load Type Location Side Dead Snow Wind Comments 15 PSF 40 PSF 0 PSF Tie-In 0-0-0 to 10-1-12 (Span)0-7-9 Top 0 PSF 0-0-0 to 10-1-12 40 PSF 15 PSF 0 PSF 0 PSF 2 Tie-In (Span)0-8-7 Top Part, Uniform 1 PLF 0 PLF 0 PLF 0 PLF 3 3-0-8 to 6-2-8 Top 4 Part. Uniform 5-6-14 to 10-0-14 Top 45 PLF 120 PLF 0 PLF 0 PLF 5 **Point** 9-10-14 Top 24 lb 64 lb 0 lb 0 lb J11

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

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

Handling & Installation

- Harifulling & Installation

  1. UVL 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
- Design assumes top edge is laterally restrained Provide lateral support at bearing points to avoid lateral displacement and rotation

This design is valid until 7/10/2021

Manufacturer Info APA: PR-L318





Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

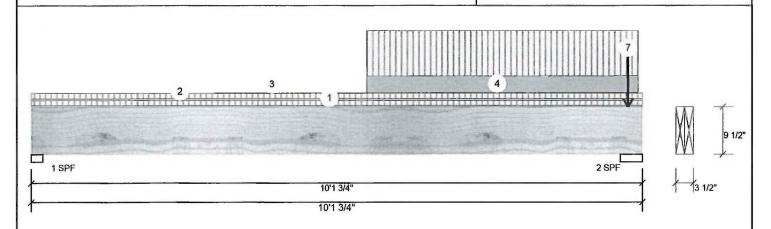
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



ı	Continued from p	page 1							
ı	ID	Load Type	Location Trib Width	Side	Dead	Live	Snow	Wind	Comments
I	6	Point	9-10-14	Тор	23 lb	62 lb	0 lb	0 lb	J11
I	7	Point	9-10-14	Тор	55 lb	0 lb	0 lb	0 lb	Wall Self Weight
١		Self Weight			8 PLF				
1									

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

Handling & Installation

Handling & Installation

1. LVL beams must not be 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

For flat roofs provide proper drainage to prevent bonding

Manufacturer Info

APA: PR-L318

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





Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

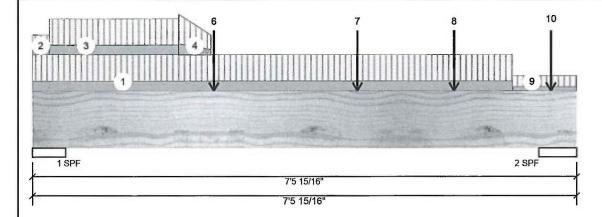
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



Floor (Residential)

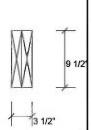
NBCC 2010 / OBC 2012

LSD

No

Not Checked

Not Checked



Mem	ber	Info	rn	nation

-	Туре:	Girder
	Plies:	2
	Moisture Condition:	Dry
	Deflection LL:	360
	Deflection TL:	240
	Importance:	Normal
	General Load	
	Floor Live:	40 PSF
	Dead:	15 PSF

### **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind	
1	2144 (-21)	922	0	0	
2	1185 (-10)	515	0	0	

### **Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	37%	1153 / 3216	4369	L	1.25D+1.5L
2-SPF	6.188"	18%	643 / 1778	2421	L	1.25D+1.5L

**Analysis Results** 

Actual	Location	Allowed	Capacity	Comb.	Case
8989 ft-lb	2'6 1/16"	22724 ft-lb	0.396 (40%)	1.25D+1.5L	L
8989 ft-lb	2'6 1/16"	21851 ft-lb	0.411 (41%)	1.25D+1.5L	L
4281 lb	1'2 1/4"	9277 lb	0.462 (46%)	1.25D+1.5L	L
0.029 (L/2726)	3'2 3/8"	0.222 (L/360)	0.130 (13%)	D	Uniform
0.068 (L/1168)	3'2 1/4"	0.222 (L/360)	0.310 (31%)	L	L
0.098 (L/818)	3'2 1/4"	0.332 (L/240)	0.290 (29%)	D+L	L
	8989 ft-lb 8989 ft-lb 4281 lb 0.029 (L/2726) 0.068 (L/1168)	8989 ft-lb 2'6 1/16" 8989 ft-lb 2'6 1/16" 4281 lb 1'2 1/4" 0.029 (L/2726) 3'2 3/8" 0.068 (L/1168) 3'2 1/4"	8989 ft-lb 2'6 1/16" 22724 ft-lb 8989 ft-lb 2'6 1/16" 21851 ft-lb 4281 lb 1'2 1/4" 9277 lb 0.029 (L/2726) 3'2 3/8" 0.222 (L/360) 0.068 (L/1168) 3'2 1/4" 0.222 (L/360)	8989 ft-lb 2'6 1/16" 22724 ft-lb 0.396 (40%) 8989 ft-lb 2'6 1/16" 21851 ft-lb 0.411 (41%) 4281 lb 1'2 1/4" 9277 lb 0.462 (46%) 0.029 (L/2726) 3'2 3/8" 0.222 (L/360) 0.130 (13%) 0.068 (L/1168) 3'2 1/4" 0.222 (L/360) 0.310 (31%)	8989 ft-lb       2'6 1/16"       22724 ft-lb       0.396 (40%) 1.25D+1.5L         8989 ft-lb       2'6 1/16"       21851 ft-lb       0.411 (41%) 1.25D+1.5L         4281 lb       1'2 1/4"       9277 lb       0.462 (46%) 1.25D+1.5L         0.029 (L/2726)       3'2 3/8"       0.222 (L/360)       0.130 (13%) D         0.068 (L/1168)       3'2 1/4"       0.222 (L/360)       0.310 (31%) L

Application:

Design Method:

**Building Code:** 

Load Sharing:

Deck:

Vibration:

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

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

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



**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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-7-8	(Span)0-10-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-12	(Span)0-5-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-12 to 2-0-4	(Span)0-10-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	-
4	Tie-In	2-0-4 to 2-5-9	(Span)0-11-9 to 0-5-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	2-6-1		Near Face	1239 lb	2953 lb	0 lb	0 lb	F8
6	Point	2-6-1		Near Face	0 lb	-31 lb	0 lb	0 lb	F8
Continued o	n page 2								

attructural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads. Lumber

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

Handling & Installation

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

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

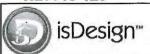
For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

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







Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

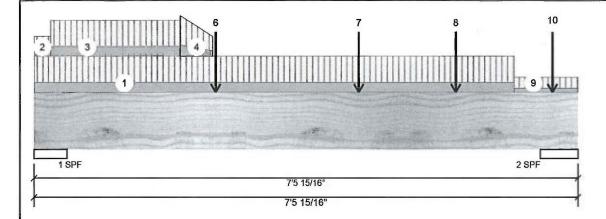
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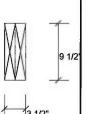
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor





Page 2 of 2

..Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	4-5-12		Near Face	16 lb	44 lb	0 lb	0 lb	J1
8	Point	5-9-12		Near Face	28 lb	75 lb	0 lb	0 lb	J7
9	Tie-In	6-7-8 to 7-5-15	(Span)0-4-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
10	Point	7-1-12		Near Face	37 lb	99 lb	0 lb	0 lb	J8
100	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

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### Lumber

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

Handling & Installation

Handling & Installation

1. IVI. 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

 For flat roofs provide proper drainage to prevent ponding Manufacturer Info

APA: PR-L318







Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

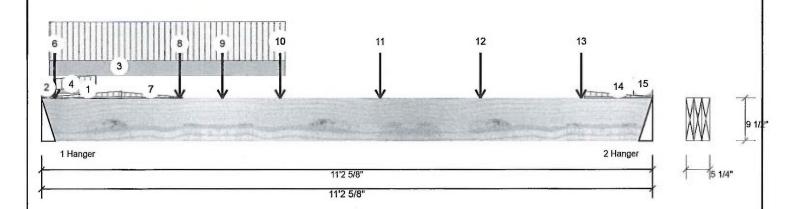
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

3-Ply - PASSED

Level: Ground Floor



Viember Info	rmation			Unfacto	red React	ions U	INPATTERN	FD IP	(Upii
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Sno	w
Plies:	3	Design Method:	LSD	1	2953 (-31)		1239		0
Moisture Conditi	ion: Dry	Building Code:	NBCC 2010 / OBC 2012	2	1654		714		0
Deflection LL:	360	Load Sharing:	Yes						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearing	s and Fac	tored	Reactions		
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. (
				1 - Hanger	3.000"	51%	1549 / 4430	5979	L

Comb.

Case

L

Analysis Re	Analysis Results										
Analysis	Actual	Location	Allowed	Capacity							
Moment	15477 ft-lb	3'4"	35449 ft-lb	0.437 (44							
Unbraced	15477 ft-lb	3'4"	35449 ft-lb	0.437 (44							

4%) 1.25D+1.5L L 0.437 (44%) 1.25D+1.5L L 11 3/4" 13915 lb 0.384 (38%) 1.25D+1.5L L 5'1 1/4" 0.362 (L/360) 0.240 (24%) D Uniform L

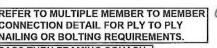
Perm Defl in. 0.085 (L/1529) LL Defl inch 0.199 (L/654) 5'1" 0.362 (L/360) 0.550 (55%) L TL Defl inch 0.284 (L/458) 5'1 1/8" 0.542 (L/240) 0.520 (52%) D+L READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS **CALCULATION SUMMARY PAGE AS IT** CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

29%

892 / 2481

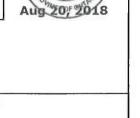
REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



3.000"

Hanger



Wind 0 0

Ld. Comb. 1.25D+1.5L

1.25D+1.5L

SPROFESSIONAL

N.A. EL-MASRI

Case

3373 L

## **Design Notes**

Shear

1 Fill all hanger nailing holes.

5341 lb

- 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.

/ 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 1-5-11	(Span)0-2-7 to 1-7-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-3	(Span)0-11-11 to 0-9-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-1-10 to 4-5-13		Тор	90 PLF	240 PLF	0 PLF	0 PLF	
4	Tie-In	0-2-10 to 1-0-0	(Span)3-2-2	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

### Notes

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### Lumber

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

Handling & Installation

- landling & Installation
  LVI beams must not be cut or drilled
  Refer to manufacturer's product information regarding installation requirements, mutil-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

Manufacturer Info APA: PR-L318

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



isDesign™

Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

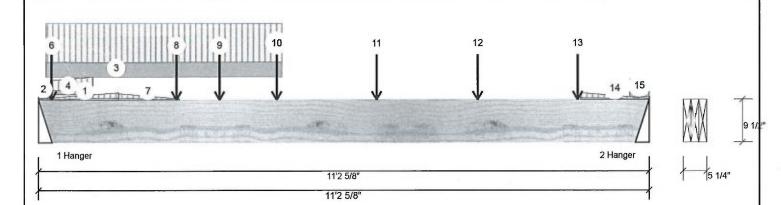
Project #:

Forex 2.0E-3000Fb LVL F8-B

1.750" X 9.500"

3-Ply - PASSED

Level: Ground Floor



.Continued fro	om page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	0-2-14		Near Face	12 lb	48 lb	0 lb	0 lb	F14
6	Point	0-2-14		Near Face	0 lb	-31 lb	0 lb	0 lb	F14
7	Tie-In	1-5-11 to 2-7-3	(Span)1-4-13 to 0-2-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
8	Point	2-6-8		Far Face	14 lb	38 lb	0 lb	0 lb	J1
9	Point	3-4-0		Тор	1013 lb	2424 lb	0 lb	0 lb	C6
10	Point	4-4-10		Far Face	27 lb	71 lb	0 lb	0 lb	J7
11	Point	6-2-11		Far Face	39 lb	105 lb	0 lb	0 lb	J8
12	Point	8-0-13		Far Face	113 lb	303 lb	0 lb	0 lb	J8
13	Point	9-10-14		Far Face	158 lb	422 lb	0 lb	0 lb	J3
14	Tie-In	9-11-9 to 11-2-10	(Span)1-6-6 to 0-2-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
15	Tie-In	10-10-7 to 11-2-10	(Span)4-0-0 to 3-7-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				11 PLF				

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

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

Notes

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

Lumber

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

Handling & Installation

Handling & Installation

1. VIV 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 lateraty restrained

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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

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





isDesign™

Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

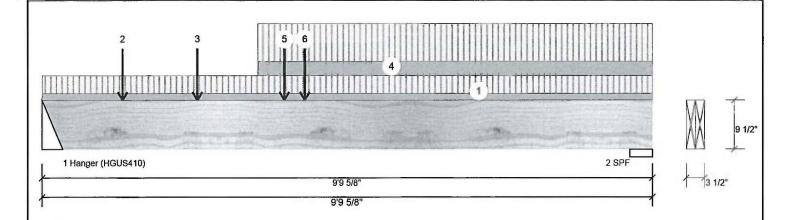
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



Wichinger Illier	110,000							,	- 1-11-17		
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	W	Wind	
Plies:	2	Design Method:	LSD	1	1478		667		0	0	
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	616		292		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			Bearing	s and Fac	tored F	Reactions				
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
		× ×		1 -	4.000"	29%	833 / 2216	3049	L	1.25D+1.5L	
				Hanger							
<b>Analysis Resul</b>	ts			2-SPF	4.375"	14%	365 / 924	1289	L	1.25D+1.5L	

Analysis Ke	suits					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6674 ft-lb	2'6"	22724 ft-lb	0.294 (29%)	1.25D+1.5L	L
Unbraced	6674 ft-lb	2'6"	21042 ft-lb	0.317 (32%)	1.25D+1.5L	L
Shear	3021 lb	1' 3/4"	9277 lb	0.326 (33%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/2662)	4'3 5/8"	0.308 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.093 (L/1194)	4'3 5/16"	0.308 (L/360)	0.300 (30%)	L	L
TL Defl inch	0.134 (L/825)	4'3 3/8"	0.461 (L/240)	0.290 (29%)	D+L	L

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

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.

Member Information

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
ID	Load Type	Location	THE WIGHT	Side	Dead	Live	SHOW	vviila	Comments
1	Tie-In	0-0-0 to 9-9-10	(Span)0-5-2	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-3-9		Far Face	11 lb	17 lb	0 lb	0 lb	F14
3	Point	2-6-0		Far Face	714 lb	1654 lb	0 lb	0 lb	F8
4	Tie-In	3-5-10 to 9-9-10	(Span) 0-10-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	3-10-12		Тор	27 lb	72 lb	0 lb	0 lb	

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 variety the dispensions and loads. Lumber

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

chemicals

Handling & Installation

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

papprovals

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

This design is valid until 7/10/2021

Manufacturer Info Forex

APA: PR-L318





isDesign<sup>™</sup>

Client:

Project: Address:

8/15/2018 Date:

SB

Designer: Job Name: MILLWOOD 3 EL-2

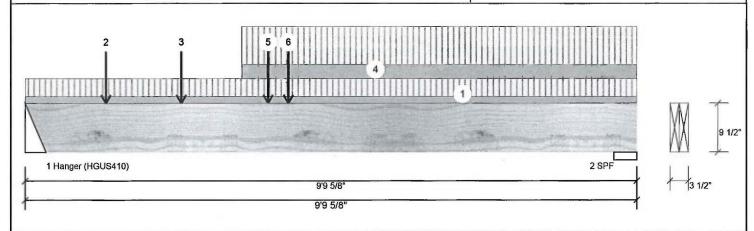
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



..Continued from page 1

ID 6

Load Type Point

Self Weight

4-2-11

Location Trib Width

Side Top

Dead 57 lb

Live 152 lb Snow 0 lb Wind Comments

0 lb

8 PLF

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

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

Notes

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

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

chemicals

Handling & Installation

andling & installation
LVL beams must not be cut or drilled
Refer to manufacturer's product information
regarding installation requirements, multi-rily
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





Member Information

Wind

&PROFESSIONA,

EL-MASRL

0

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Page 1 of 2



Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

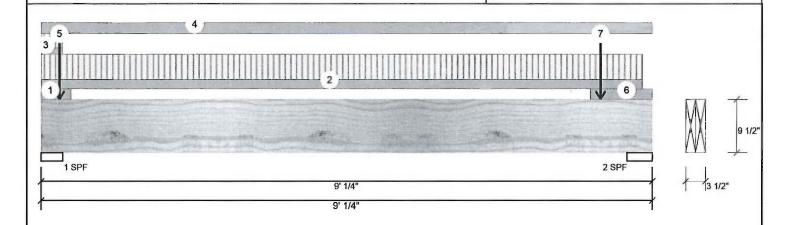
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



Brg

2

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		
Analysis Result	s		

Bearings and Factored Reactions											
Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.					
1 - SPF	3.813"	40%	1319 / 1950	3269	L	1.25D+1.5L +0.5S					
2-SPF	4.467"	33%	1313 / 1814	3127	L	1.25D+1.5L +0.5S					

Analysis Actual Location Allowed Capacity Comb. Case Moment 4669 ft-lb 4'7" 22724 ft-lb 0.205 (21%) 1.25D+1.5L L +0.58 0.219 (22%) 1.25D+1.5L L Unbraced 4669 ft-lb 4'7" 21311 ft-lb +0.5S2166 lb 7'11 1/16" 9277 lb 0.233 (23%) 1.25D+1.5L L Shear Perm Defl in. 0.045 (L/2254) 4'6 1/4" 0.282 (L/360) 0.160 (16%) D Uniform LL Defl inch 0.054 (L/1870) 4'6 5/16" 0.282 (L/360) 0.190 (19%) L+0.5S TL Defl inch 0.099 (L/1022) 4'6 5/16" 0.423 (L/240) 0.230 (23%) D+L+0.5S

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

Dead

1055

1050

Snow

173

169

Live

1242

1153

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



- 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

Laterare	monacinioso rano bacca o	ii ian oodaan maan.						
ID	Load Type	Location Trib	Width Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-5-5	Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 8-10-8	Тор	74 PLF	196 PLF	0 PLF	0 PLF	J4
3	Part. Uniform	0-0-0 to 0-3-12	Тор	47 PLF	113 PLF	0 PLF	0 PLF	J4
4	Part. Uniform	0-0-0 to 9-0-4	Тор	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

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 inlended application, and to verify the dimensions and loads.

### Lumber

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

Handling & Installation

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

tastering details, beam strength values, and code approvals

Damaged Beams must not be used

Design essumes 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 APA: PR-L318

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





isDesign<sup>™</sup>

Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

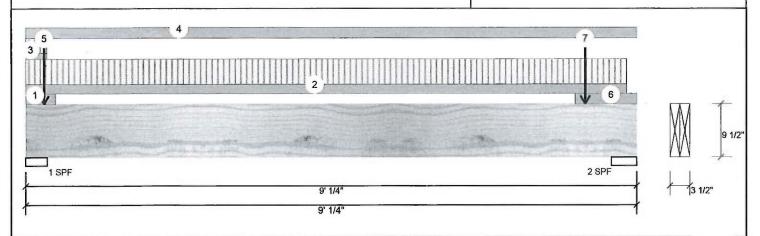
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor



Continued f	rom page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	0-3-4		Тор	256 lb	311 lb	164 lb	0 lb	F17 F17
6	Part. Uniform	8-1-5 to 9-0-4		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Point	8-3-2		Тор	261 lb	309 lb	178 lb	0 lb	F17 F17
	Self Weight				8 PLF				
Į.	OOR TYCIGHT				- 1 Li				

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

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

Notes

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

Lumber

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

chemicals

Handling & Installation

Handling & Installation

1. LVL beams must not be cut or drilled

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

3. Damaged Beams must not be used

4. Design assumes top edge is laterally restrained

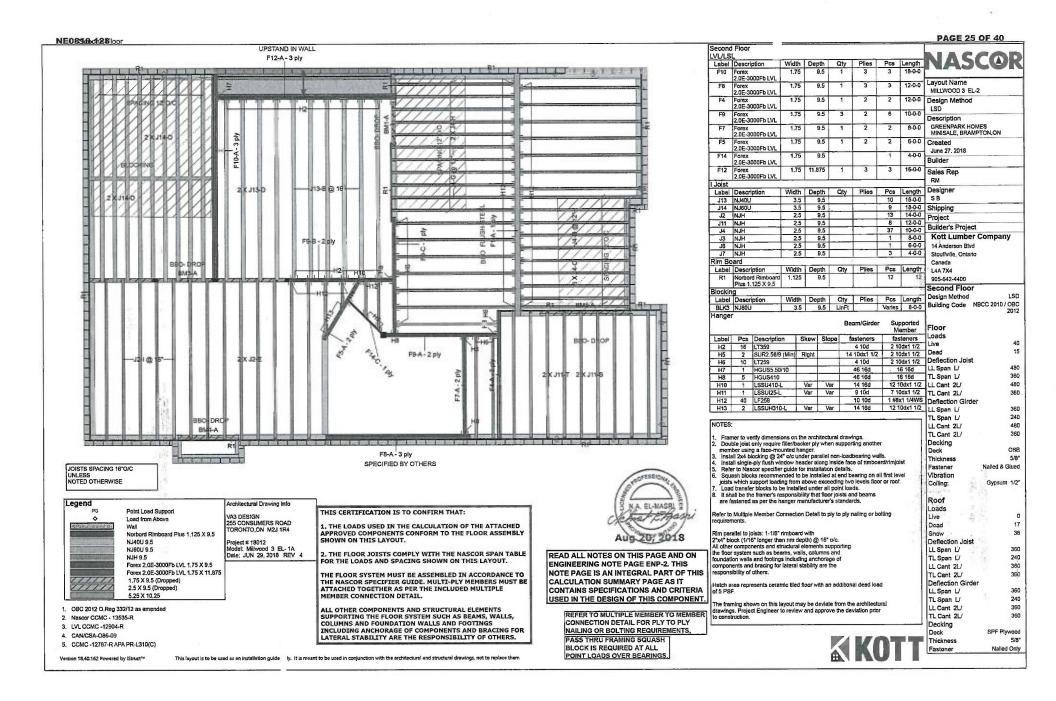
5. Provide lateral support at bearing points to avoid lateral displacement and rotation.

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

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







Client:

Project: Address: Date: 8/15/2018

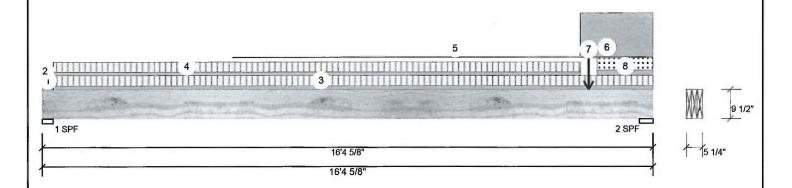
Designer: SB

Job Name: MILLWOOD 3 EL-2

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" 3-Ply - PASSED Level: Second Floor



nation			Unfactored Reactions UNPATTERNED Ib (Uplift)					
Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	W
3	Design Method:	LSD	1	467		441	24	1
Dry	Building Code:	NBCC 2010 / OBC 2012	2	2024		2666	247	9
360	Load Sharing:	Yes						
240	Deck:	Not Checked	1					
Normal	Vibration:	Not Checked	1					
40 PSF			Bearings	and Fact	ored I	Reactions		
15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case
			1 - SPF	3.500"	12%	552 / 821	1373	L
s			2-SPF	4.375"	57%	3333 / 4731	8064	L
	Girder 3 Dry 360 240 Normal 40 PSF	Girder Application:  Design Method: Building Code: Load Sharing: Deck: Vibration:  40 PSF 15 PSF	Girder Application: Floor (Residential) 3 Design Method: LSD Building Code: NBCC 2010 / OBC 2012 360 Load Sharing: Yes 240 Deck: Not Checked Normal Vibration: Not Checked	Girder Application: Floor (Residential) 3 Design Method: LSD 1 1 2 360 Load Sharing: Yes 240 Deck: Not Checked Normal Vibration: Not Checked 40 PSF 15 PSF  Bearings 1 - SPF	Application: Floor (Residential)   Brg   Live	Application: Floor (Residential)   Brg   Live	Application: Floor (Residential)   Brg   Live   Dead	Application: Floor (Residential)   Brg   Live   Dead   Snot

Analysis Actual Location Allowed Capacity Comb. 11165 ft-lb 14'8" 35449 ft-lb 0.315 (31%) 1.25D+1.5S L Moment Unbraced 11165 ft-lb 14'8" 33795 ft-lb 0.330 (33%) 1.25D+1.5S L +0.5L 0.565 (57%) 1.25D+1.5S L Shear 7866 lb 15'3 1/2" 13915 lb +0.5L Uniform 9'1 1/16" 0.528 (L/360) 0.360 (36%) D Perm Defl in. 0.190 (L/999) 9' 5/8" 0.528 (L/360) 0.470 (47%) L+0.5S LL Defl inch 0.246 (L/773) L 9' 13/16" 0.793 (L/240) 0.550 (55%) D+L+0.5S TL Defl inch 0.437 (L/436)

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.



Wind 0 0

Ld. Comb. 1.25D+1.5L +0.58 1.25D+1.5S +0.5L

**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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-8	(Span)0-7-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-3-8	(Span)0-8-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-3-8 to 16-4-10	(Span)0-11-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-3-8 to 14-5-6	(Span) 0-10-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

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

### Lumber

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

chemicals

Handling & Installation

- 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

restening details, vector sucrey values, and coverage reprovals

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

Manufacturer Info Forex APA: PR-L318

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





isDesign™

Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

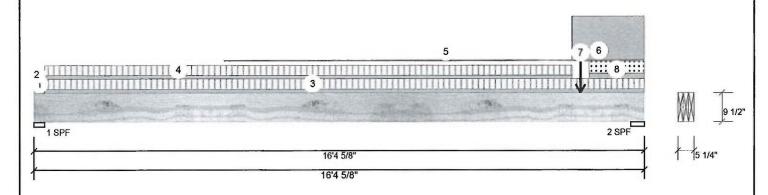
Project #:

Forex 2.0E-3000Fb LVL F10-A

1.750" X 9.500"

3-Ply - PASSED

Level: Second Floor



Continued fro	om page 1								
ID	Load Type	Location Tri	rib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tapered Start	5-1-5		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
	End	16-2-4			2 PLF	0 PLF	0 PLF	0 PLF	
6	Part. Uniform	14-5-4 to 16-4-10		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Point	14-8-0		Near Face	2522 lb	1928 lb	2686 lb	0 lb	F12
8	Part. Uniform	14-10-12 to 16-4-10		Тор	10 PLF	0 PLF	23 PLF	0 PLF	
	Self Weight				11 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 Shuchured 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 inlended application, and to verify the dimensions and loads.

Lumber

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

Handling & Installation

Handling & Installation

1. LVL beams must not be cut or drilled

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

3. Damaged Beams must not be used

4. Design assumes top edge is lateraty 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 APA: PR-L318



Wind 0 0

Ld. Comb.

1.25D+1.5S +0.5L

1.25D+1.5S

+0.5L

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N.A. EL-MASRI

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Page 1 of 2



Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

Project #

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

3-Ply - PASSED Level: Second Floor

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

44% 3031 / 4731

READ ALL NOTES ON THIS PAGE AND ON **ENGINEERING NOTE PAGE ENP-2. THIS** 

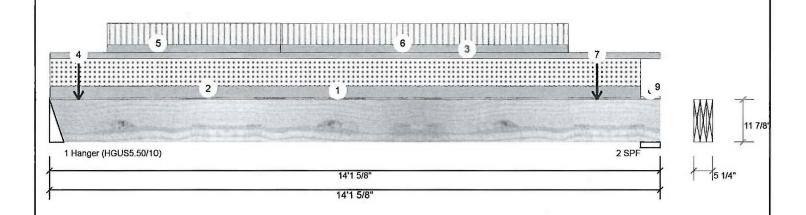
NOTE PAGE IS AN INTEGRAL PART OF THIS **CALCULATION SUMMARY PAGE AS IT** CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

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

Snow



Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow
Plies:	3	Design Method:	LSD	1	1928		2522	2686
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	1777		2425	2562
Deflection LL:	360	Load Sharing:	Yes					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load		1000						
Floor Live:	40 PSF			Bearing	s and Fac	tored	Reactions	
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total Ld. Ca
				1 -	4.000"	52%	3153 / 4993	8146 L

**Analysis Results** 

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	26538 ft-lb	7'	53447 ft-lb	0.497 (50%)	1.25D+1.5S +0.5L	L
Unbraced	26538 ft-lb	7'	50634 ft-lb	0.524 (52%)	1.25D+1.5S +0.5L	L
Shear	7024 lb	1'3 1/8"	17394 lb	0.404 (40%)	1.25D+1.5S +0.5L	L
Perm Defl in.	0.198 (L/814)	7'	0.449 (L/360)	0.440 (44%)	D	Uniform
LL Defl inch	0.287 (L/563)	7'	0.449 (L/360)	0.640 (64%)	S+0.5L	L
TL Defl inch	0.486 (L/333)	7'	0.673 (L/240)	0.720 (72%)	D+S+0.5L	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.

Part. Uniform

Part. Uniform

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

7 Lateral slenderness ratio based on full section width. ID Trib Width Side Dead Load Type Location Part. Uniform 0-0-0 to 13-8-2 8 PLF 1

0 PLF **18 PLF** 0 PLF Top 0-0-2 to 13-8-2 Top 157 PLF 0 PLF 366 PLF 0 PLF 0-0-2 to 14-1-10 **78 PLF** 0 PLF 0 PLF 0 PLF Wall Self Weight Top

Point 0-8-2 Near Face 120 lb 319 lb 0 lb 0 lb J13 4

Continued on page 2...

Notes

2

3

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

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

Handling & Installation

LVI. 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

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

Live

Hanger 2 - SPF 5.500"

This design is valid until 7/10/2021



Manufacturer Info APA: PR-L318

L4A 7X4 905-642-4400



Wind

Comments

Kott Lumber Company 14 Anderson Blvd, Ontario Canada



isDesign<sup>™</sup>

Client:

Project: Address:

8/15/2018 Date:

Designer: SB

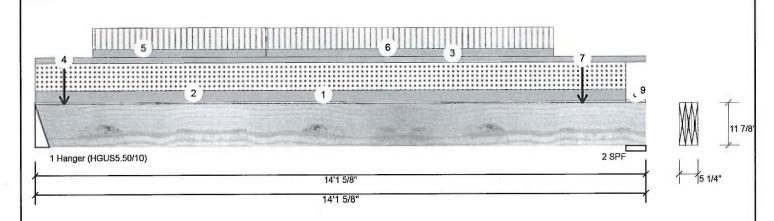
Job Name: MILLWOOD 3 EL-2

Project #:

Forex 2.0E-3000Fb LVL F12-A

1.750" X 11.875"

3-Ply - PASSED Level: Second Floor



Continued	from page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Part. Uniform	1-4-2 to 5-4-2		Near Face	107 PLF	286 PLF	0 PLF	0 PLF	
6	Part. Uniform	5-4-2 to 12-0-2		Near Face	106 PLF	283 PLF	0 PLF	0 PLF	
7	Point	12-8-2		Near Face	128 lb	341 lb	dl 0	0 lb	J13
8	Tie-In	13-8-2 to 14-1-10	(Span)1-7-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
9	Part. Uniform	14-0-2 to 14-1-10		Тор	4 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				14 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 niended application, and to verify the dimensions and loads.

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

chemicals

Handling & Installation

and ling & 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 APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4





Client:

Project: Address:

8/15/2018 Date:

Designer: SB

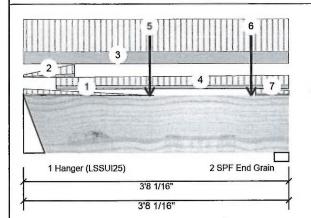
Job Name: MILLWOOD 3 EL-2

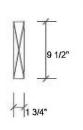
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Second Floor





Member	Infor	mation

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	641	248	0	0
2	666	257	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	958 ft-lb	1'9 13/16"	11362 ft-lb	0.084 (8%)	1.25D+1.5L	L
Unbraced	958 ft-lb	1'9 13/16"	9640 ft-lb	0.099 (10%)	1.25D+1.5L	L
Shear	718 lb	2'8 7/8"	4638 lb	0.155 (15%)	1.25D+1.5L	L
Perm Defl in.	0.003 (L/14388)	1'10 1/4"	0.110 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.007 (L/5563)	1'10 1/4"	0.110 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.010 (L/4012)	1'10 1/4"	0.165 (L/240)	0.060 (6%)	D+L	L

### **Bearings and Factored Reactions**

Grain

Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 -	3.500"	28%	310 / 962	1271	L	1.25D+1.5L
Hanger						
2 - SPF End	2.438"	42%	321 / 999	1320	L	1.25D+1.5L

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

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

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



### Design Notes

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

ľ	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
	1	Tie-In	0-0-0 to 1-9-10	(Span) 1-10-12 to 0-0-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
	2	Tie-In	0-0-0 to 0-8-7	(Span)0-7-8 to 3-6-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
l	3	Part. Uniform	0-0-0 to 3-8-1		Тор	90 PLF	240 PLF	0 PLF	0 PLF		
	4	Tie-In	0-5-7 to 3-8-1	(Span)3-1-8 to 3-6-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
l	5	Point	1-8-15		Far Face	20 lb	52 lb	0 lb	0 lb	J7	

Continued on page 2...

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

chemicals

Handling & Installation

andling & Installation

LVL beams must not be cut or drilled

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

Damaged Beams must not be used

Design assumes top edge is laterally restrained

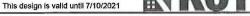
Provide lateral support at bearing points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex

APA: PR-L318









Client:

Project: Address:

8/15/2018 Date:

SB

Job Name: MILLWOOD 3 EL-2

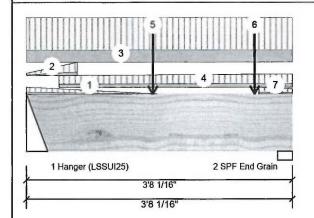
Project #

Designer:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type
6	Point
7	Tie-In

Location Trib Width

3-2-8 to 3-8-1

Side Far Face (Span)1-10-2 Top

to 1-4-8

Dead 30 lb 15 PSF

Live 79 lb 40 PSF

Snow 0 lb 0 PSF

Wind Comments 0 lb

J7

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.

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### chemicals

Handling & Installation

andiling & Installation.

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Design assumes top edge is laterally restrained.
Provide lateral support at bearing points to avoid lateral displacement and rotation.

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

Forex

APA: PR-L318







isDesign<sup>™</sup>

Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

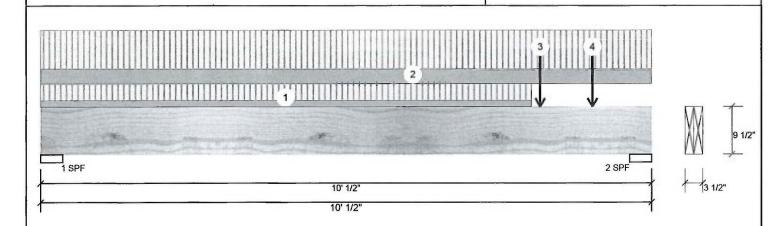
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Girder	Application:				Unfactored Reactions UNPATTERNED Ib (Uplift)				
	Application.	Floor (Residential)	Brg	Live		Dead	Snov	V	Wind
2	Design Method:	LSD	1	270		149		0	0
Dry	Building Code:	NBCC 2010 / OBC 2012	2	789		385		0	0
360	Load Sharing:	No							
240	Deck:	Not Checked							
Normal	Vibration:	Not Checked							
40 PSF			Bearings a	and Fact	tored F	Reactions			
15 PSF			Bearing L	ength	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
			1-SPF 4	.375"	6%	187 / 405	592	L	1.25D+1.5L
			2-SPF 4	.375"	18%	481 / 1183	1664	L	1.25D+1.5L
	360 240 Normal 40 PSF	Dry Building Code: 360 Load Sharing: 240 Deck: Normal Vibration: 40 PSF 15 PSF	Dry Building Code: NBCC 2010 / OBC 2012 360 Load Sharing: No 240 Deck: Not Checked Normal Vibration: Not Checked 40 PSF 15 PSF	Dry   Building Code: NBCC 2010 / OBC 2012   2	Dry   Building Code: NBCC 2010 / OBC 2012   2 789     360   Load Sharing: No   Deck: Not Checked   Normal   Vibration: Not Checked	Dry   Building Code: NBCC 2010 / OBC 2012   2 789	Dry   Building Code: NBCC 2010 / OBC 2012   2 789 385   385   380   240   Deck: Not Checked   Normal   Vibration: Not Checked	Dry   Building Code: NBCC 2010 / OBC 2012   2 789 385	Dry   Building Code: NBCC 2010 / OBC 2012   2   789   385   0

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2159 ft-lb	7'10 9/16"	22724 ft-lb	0.095 (9%)	1.25D+1.5L	L
Unbraced	2159 ft-lb	7'10 9/16"	20965 ft-lb	0.103 (10%)	1.25D+1.5L	L
Shear	1604 lb	8'11 3/8"	9277 lb	0.173 (17%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/6499)	5'5 1/2"	0.315 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.033 (L/3397)	5'6 1/8"	0.315 (L/360)	0.110 (11%)	L	L
TL Defl inch	0.051 (L/2231)	5'5 15/16"	0.472 (L/240)	0.110 (11%)	D+L	L

**Design Notes** 

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

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 8-0-13	(Span)0-6-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-0-8	(Span)1-2-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	8-2-9		Far Face	275 lb	570 lb	0 lb	0 lb	F9
4	Point	9-0-13		Far Face	65 lb	174 lb	0 lb	0 lb	J3
	Self Weight				8 PLF				

Notes

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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 essumes 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 APA: PR-L318

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





Client: Project: Address:

8/15/2018 Date:

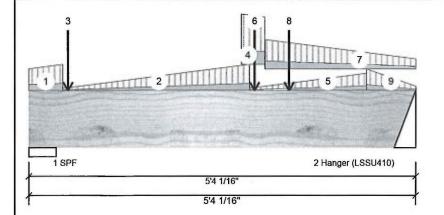
Designer: SB

MILLWOOD 3 EL-2 Job Name:

Project #:

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

Level: Second Floor



Application:

Design Method:

**Building Code:** 

Floor (Residential)

NBCC 2010 / OBC 2012

Brg

1

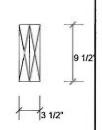
2

2

Hanger

1 - SPF 4.563"

3.500"



Wind

0

0

1.25D+1.5L

1.25D+1.5L

Deflection LL	Deflection LL: 360		Load Sh	aring: N	No Not Checked		
Deflection TL: 240 Importance: Normal			Deck:	N			
		Vibration	n: N	Not Checked			
General Load	i						
Floor Live:	40 PSF						
Dead:	15 PSF						
Analysis Re							_
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	
Moment	1603 ft-lb	3'7 3/16"	22724 ft-lb	0.071 (7%)	1.25D+1.5L	L	
Unbraced	1603 ft-lb	3'7 3/16"	22724 ft-lb	0.071 (7%)	1.25D+1.5L	L	

Bearings and Factored Reactions							
bearings and rac	tored Keachons						

205 / 563

296 / 847

Snow

0

n

768 L

1143 L

Unfactored Reactions UNPATTERNED Ib (Uplift)

Dead

164

237

Live

375

564

1058 lb 4'3 13/16" 9277 lb 0.114 (11%) 1.25D+1.5L L Shear Perm Defl in. 0.003 3'1 1/2" 0.160 (L/360) 0.020 (2%) D Uniform (L/17600) LL Defl inch 0.008 (L/7322) 3'1 13/16" 0.160 (L/360) 0.050 (5%) L L TL Defl inch 0.011 (L/5171) 3'1 5/8" 0.240 (L/240) 0.050 (5%) D+L

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

8%

13%

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.

Member Information

Moisture Condition: Dry

2

Туре:

Plies:

- 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 0-5-10	(Span)1-5-0 to 1-8-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-10 to 3-0-10	(Span)0-1-12 to 1-8-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-6-8		Far Face	35 lb	93 lb	0 lb	0 lb	J8

Continued on page 2...

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

### Lumber

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

### chemicals

Handling & Installation

- andling & Installation.

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

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





Client:

Project: Address: Date: Designer:

8/15/2018

Job Name: MILLWOOD 3 EL-2

SB

Page 2 of 2

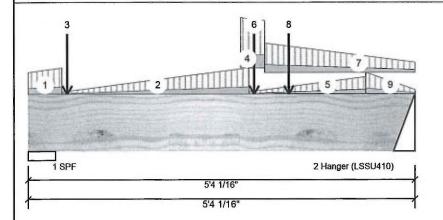
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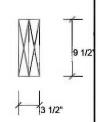
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor





Continued t	from page 1	1 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
1D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Tie-In	2-11-4 to 3-3-3	(Span)3-3-6 to 3-1-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	3-0-10 to 4-7-15	(Span)0-1-12 to 1-1-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	3-1-8		Far Face	14 lb	37 lb	0 lb	0 lb	J7
7	Tie-In	3-3-3 to 5-4-1	(Span)1-11-0 to 0-8-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
8	Point	3-7-3		Near Face	248 lb	641 lb	0 lb	0 lb	F14
9	Tie-In	4-7-15 to 5-4-1	(Span)1-4-13 to 0-3-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	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.

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chemicals

Handling & Installation

Handling & Installation

1. IVI. 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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

Forex APA: PR-L318









Client:

Project: Address: Date: 8/15/2018

Designer: SB

Job Name: MILLWOOD 3 EL-2

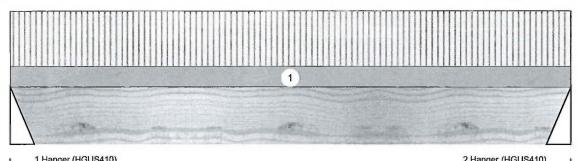
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor

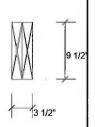


1 Hanger (HGUS410)

2 Hanger (HGUS410)

7'8 11/16"

7'8 11/16"



Member Information								
Туре:	Girder	Application:	Floor (Residential)					
Plies:	2	Design Method:	LSD					
Moisture Condit	ion: 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	12						
Dead:	15 PSF							

Unfactored Reactions UNPATTERINED ID (Uplift)						
Brg	Live	Dead	Snow	Wind		
1	71	56	0	0		
2	71	56	0	0		

Beari
Bear
1 - Hang
2

ngs and Factored Reactions ing Length Cap. React D/L lb

Total Ld. Case Ld. Comb. 4.000" 2% 70 / 107 177 L 1.25D+1.5L ger 2% 70 / 107 1.25D+1.5L 4.000" 177 L Hanger

Analysis Actual Location Allowed Moment 295 ft-lb 295 ft-lb Unbraced

128 lb

(L/18411)

**Analysis Results** 

Capacity Comb. Case 0.013 (1%) 1.25D+1.5L L 3'10 3/8" 22724 ft-lb 3'10 3/8" 21705 ft-lb 0.014 (1%) 1.25D+1.5L L 0.014 (1%) 1.25D+1.5L L 6'7 15/16" 9277 lb Uniform

Perm Defl in. 0.002 3'10 3/8" 0.239 (L/360) 0.010 (1%) D (L/41749) 0.003 3'10 3/8" 0.239 (L/360) 0.010 (1%) L (L/32937)

L

**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.

READ ALL NOTES ON THIS PAGE AND ON

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** 

TL Defl inch 0.005

LL Defl inch

Shear

1 Fill all hanger nailing holes.

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

- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.

6 Bottom braced at bearings.										
7 Lateral	slenderness ratio based on	full section width.								
ID	Load Type	Location	Trib Width	Side	Dead					

Live Wind Snow (Span)0-11-0 Top **40 PSF** 0 PSF 0 PSF 1 Tie-In 0-0-0 to 7-8-11 15 PSF

> Self Weight 8 PLF

to 0-11-1

3'10 3/8" 0.359 (L/240) 0.010 (1%) D+L

Comments

Notes

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approvers
Demaged Beams must not be used
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For flat roofs provide proper drainage to prevent conding

Manufacturer Info APA: PR-L318

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







Client:

Project: Address:

8/15/2018 Date:

Designer: SB

Job Name: MILLWOOD 3 EL-2

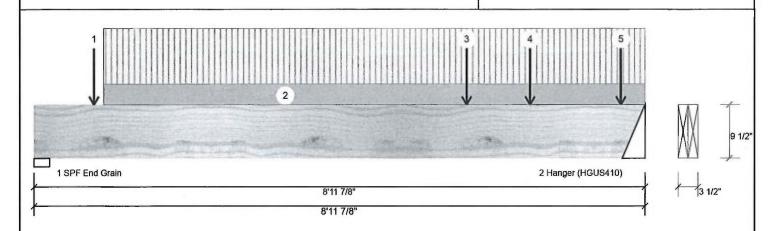
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Member Infor	mation			Unfacto	red Reac	tions (	INPATTERN	ED lb (	Uplift)
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	W
Plies:	2	Design Method:	LSD	1	1758		756		0
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	570		275		0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked	1					
General Load									
Floor Live:	40 PSF			Bearing	s and Fac	tored	Reactions		
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case
				1 - SPF End	2.750"	50%	945 / 2637	3582	L
Analysis Resul	ts			Grain					

Ana	ly	sis	Res	u	ts

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2571 ft-lb	10 5/8"	22724 ft-lb	0.113 (11%)	1.25D+1.5L	L
Unbraced	2571 ft-lb	10 5/8"	21279 ft-lb	0.121 (12%)	1.25D+1.5L	L
Shear	3573 lb	11 1/2"	9277 lb	0.385 (39%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/6104)	4'1 7/8"	0.285 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.034 (L/2981)	4' 1/2"	0.285 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.051 (L/2003)	4' 15/16"	0.428 (L/240)	0.120 (12%)	D+L	L
TE DON MON	***************************************					

### **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.
- e ratio based on full section width

4.000" 12% 344 / 855 1199 L Hanger READ ALL NOTES ON THIS PAGE AND ON **ENGINEERING NOTE PAGE ENP-2. THIS** NOTE PAGE IS AN INTEGRAL PART OF THIS **CALCULATION SUMMARY PAGE AS IT** CONTAINS SPECIFICATIONS AND CRITERIA

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

USED IN THE DESIGN OF THIS COMPONENT.

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



Wind 0 0

Ld. Comb. 1.25D+1.5L

1.25D+1.5L

/ Lat	teral sienderness ratio based (	on full section width.			0.0				
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-10-10		Far Face	735 lb	1800 lb	0 lb	0 lb	F9
2	Tie-In	1-0-6 to 8-11-14	(Span)0-10-4 to 0-10-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	6-4-9		Near Face	56 lb	71 lb	0 lb	0 lb	F7
4	Point	7-3-10		Near Face	67 lb	177 lb	0 lb	0 lb	J4
5	Point	8-7-10		Near Face	54 lb	144 lb	0 lb	0 lb	J4
	Self Weight				8 PLF				

Calculated Shuchured 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 inlended application, and to verify the dimensions and loads. Lumber

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

chemicals

Handling & Installation

andling & Installation
LVL beams must not be cut or drilled
Refer to manufacturer's product Information
regarding installation requirements, multi-pt
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 Canada L4A 7X4 905-642-4400





Client:

Project: Address: Date: 8/15/2018

Designer:

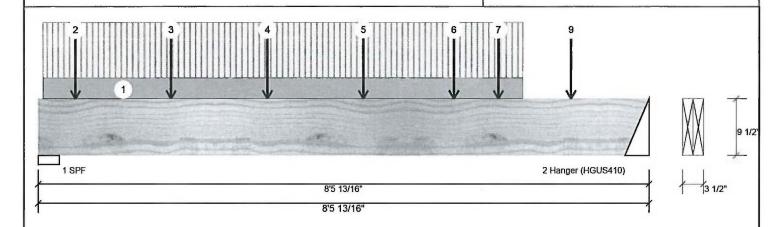
Job Name: MILLWOOD 3 EL-2

Project #:

F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Т	Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snov	V	Wind	
ı	Plies:	2	Design Method:	LSD	1	1973	780	(	0	0	
Т	Moisture Condition:	Dry	<b>Building Code:</b>	NBCC 2010 / OBC 2012	2	1694	686	ſ	0	0	
ı	Deflection LL:	360	Load Sharing:	No							
ı	Deflection TL:	240	Deck:	Not Checked	7.1						
Т	Importance:	Normal	Vibration:	Not Checked							
ı	General Load										_
ı	Floor Live:	40 PSF			Bearing:	s and Factore	d Reactions				
	Dead:	15 PSF			Bearing	Length C	ap. React D/L lb	Total	Ld. Case	Ld. Comb.	
1					1-SPF	3.500" 5	2% 975 / 2959	3934	L	1.25D+1.5L	

2 -

Hanger

4.000"

**Analysis Results** 

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7040 ft-lb	4'6 1/4"	22724 ft-lb	0.310 (31%)	1.25D+1.5L	L
Unbraced	7040 ft-lb	4'6 1/4"	21464 ft-lb	0.328 (33%)	1.25D+1.5L	L
Shear	3828 lb	7'5 1/16"	9277 lb	0.413 (41%)	1.25D+1.5L	L
Perm Defl in.	0.038 (L/2539)	4'3 1/2"	0.266 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.094 (L/1019)	4'3 7/16"	0.266 (L/360)	0.350 (35%)	L	L
TL Defl inch	0.132 (L/727)	4'3 7/16"	0.399 (L/240)	0.330 (33%)	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.

33%

857 / 2541

3398 L

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

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

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



1.25D+1.5L

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

Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
Part. Uniform	0-0-12 to 6-8-12		Far Face	106 PLF	283 PLF	0 PLF	0 PLF	
Point	0-6-4		Near Face	122 lb	326 lb	0 lb	0 lb	J2
Point	1-10-4		Near Face	99 lb	263 lb	0 lb	0 lb	J2
Point	3-2-4		Near Face	39 lb	103 lb	0 lb	0 lb	J8
Point	4-6-4		Near Face	15 lb	40 lb	0 lb	di 0	J7
Point	5-9-6		Near Face	237 lb	564 lb	0 lb	0 lb	F5
	Part. Uniform Point Point Point Point	Part. Uniform 0-0-12 to 6-8-12 Point 0-6-4 Point 1-10-4 Point 3-2-4 Point 4-6-4	Part. Uniform 0-0-12 to 6-8-12 Point 0-6-4 Point 1-10-4 Point 3-2-4 Point 4-6-4	Part. Uniform         0-0-12 to 6-8-12         Far Face           Point         0-6-4         Near Face           Point         1-10-4         Near Face           Point         3-2-4         Near Face           Point         4-6-4         Near Face	Part. Uniform         0-0-12 to 6-8-12         Far Face         106 PLF           Point         0-6-4         Near Face         122 lb           Point         1-10-4         Near Face         99 lb           Point         3-2-4         Near Face         39 lb           Point         4-6-4         Near Face         15 lb	Part. Uniform         0-0-12 to 6-8-12         Far Face         106 PLF         283 PLF           Point         0-6-4         Near Face         122 lb         326 lb           Point         1-10-4         Near Face         99 lb         263 lb           Point         3-2-4         Near Face         39 lb         103 lb           Point         4-6-4         Near Face         15 lb         40 lb	Part. Uniform         0-0-12 to 6-8-12         Far Face         106 PLF         283 PLF         0 PLF           Point         0-6-4         Near Face         122 lb         326 lb         0 lb           Point         1-10-4         Near Face         99 lb         263 lb         0 lb           Point         3-2-4         Near Face         39 lb         103 lb         0 lb           Point         4-6-4         Near Face         15 lb         40 lb         0 lb	Part. Uniform         0-0-12 to 6-8-12         Far Face         106 PLF         283 PLF         0 PLF         0 PLF           Point         0-6-4         Near Face         122 lb         326 lb         0 lb         0 lb           Point         1-10-4         Near Face         99 lb         263 lb         0 lb         0 lb           Point         3-2-4         Near Face         39 lb         103 lb         0 lb         0 lb           Point         4-6-4         Near Face         15 lb         40 lb         0 lb         0 lb

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

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

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

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4



isDesign<sup>™</sup>

Client:

Project: Address: Date: 8/15/2018

Designer: SB

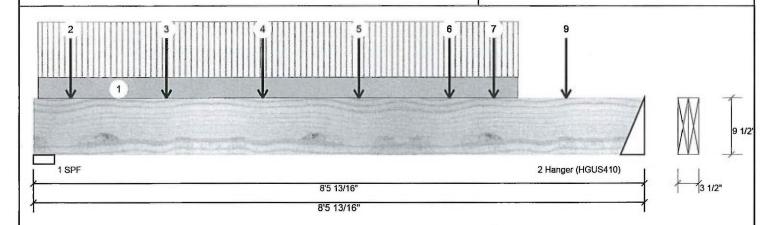
Job Name: MILLWOOD 3 EL-2

Project #:

F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



ı	Continued from	page 1								
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	7	Point	6-4-12		Near Face	20 lb	53 lb	0 lb	0 lb	J7
	8	Point	7-4-12		Far Face	131 lb	350 lb	0 lb	0 lb	J13
	9	Point	7-4-12		Near Face	31 lb	81 lb	0 lb	0 lb	J7
		Self Weight				8 PLF				
1	f .									

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

Handling & Installation

Handling & Installation

1. IVI beams must not be cut or drilled

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

3. Damaged Beams must not be used

4. Design assumes top edge is lateraty restrained

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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

APA: PR-L318







isDesign™

Client:

Project: Address: Date: Designer:

8/15/2018 SB

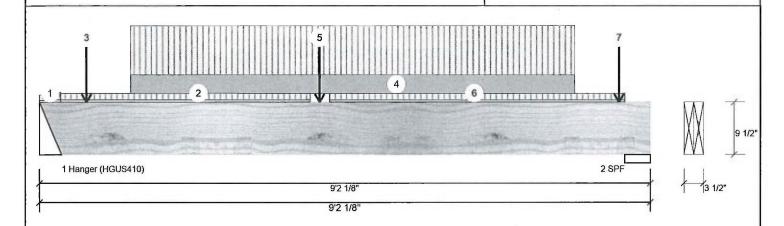
Job Name: MILLWOOD 3 EL-2

Project #:

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Member Infor	mation			Unfactored Reactions UNPATTERNED Ib (Uplift)						
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	2	Design Method:	LSD	1	1800	735	0	0		
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	1751	713	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			Bearing:	s and Fac	tored Reactions				
Dead:	15 PSF	-		Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.		
				1 -	4.000"	35% 919 / 2699	3618 L	1.25D+1.5L		
				Hanger						
Analysis Resul	lysis Results				4.625"	35% 891 / 2627	3518 L	1.25D+1.5L		

1	Analysis Results											
Γ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case					
l	Moment	11061 ft-lb	4'2 9/16"	22724 ft-lb	0.487 (49%)	1.25D+1.5L	L					
l	Unbraced	11061 ft-lb	4'2 9/16"	21268 ft-lb	0.520 (52%)	1.25D+1.5L	L					
l	Shear	3557 lb	1' 3/4"	9277 lb	0.383 (38%)	1.25D+1.5L	L					
l	Perm Defl in.	0.059 (L/1740)	4'4 5/16"	0.286 (L/360)	0.210 (21%)	D	Uniform					
ı	LL Defl inch	0.146 (L/708)	4'4 5/16"	0.286 (L/360)	0.510 (51%)	L	L					
l	TL Defl inch	0.205 (L/503)	4'4 5/16"	0.429 (L/240)	0.480 (48%)	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 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 0-3-14	(Span)1-0-6 to 1-4-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Tie-In	0-3-14 to 4-0-13	(Span)1-3-0 to 1-2-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Point	0-8-8		Near Face	65 lb	174 lb	0 lb	0 lb	J3	
4	Part. Uniform	1-4-8 to 8-0-8		Near Face	70 PLF	188 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 critical 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

t.VL 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

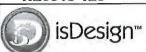
Manufacturer Info APA: PR-L318











Client:

Project: Address: Date:

8/15/2018

Designer: SB Job Name: MILLWOOD 3 EL-2

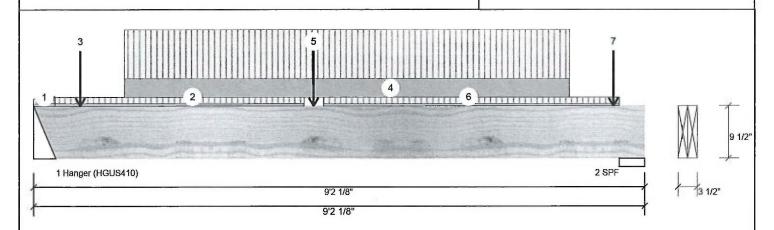
Project #:

Forex 2.0E-3000Fb LVL F9-C

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
5	Point	4-2-9		Far Face	686 lb	1694 lb	0 lb	0 lb	F9
6	Tie-In	4-4-5 to 8-9-9	(Span)1-2-13 to 1-2-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
7	Point	8-8-8		Near Face	82 lb	220 lb	0 lb	0 lb	J4
	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.

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

and ling & Installation
LVL beams must not be cut or drilled
Refer to manufacturer's product information
regarding installation requirements, multi-pit
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
leteral displacement and rotation

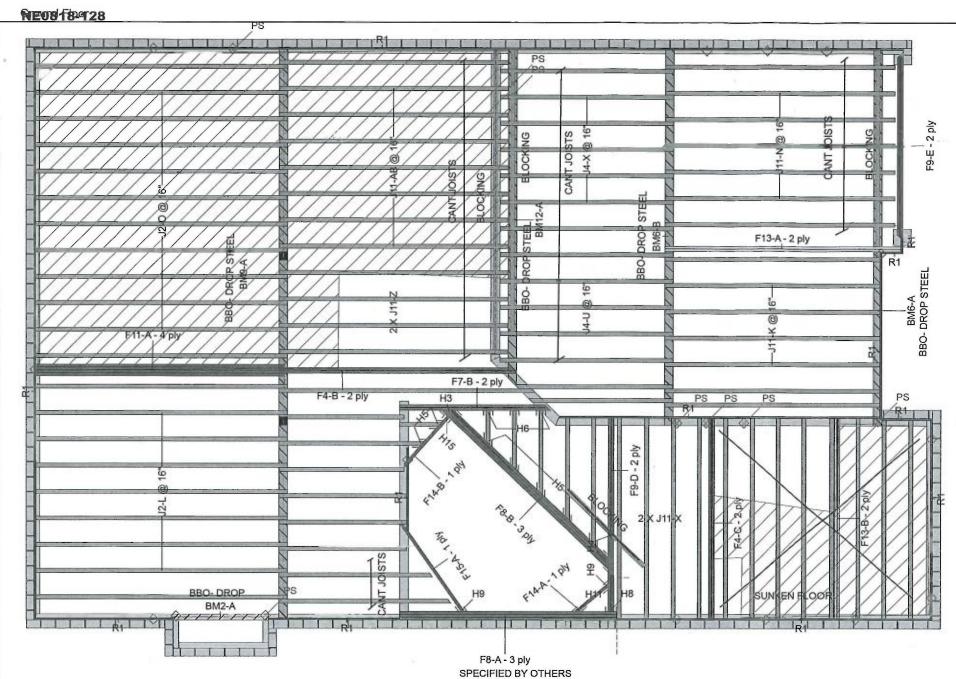
For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info Forex APA: PR-L318







JOISTS SPACING 16"O/C UNLESS NOTED OTHERWISE

Architectural Drawing Info

VA3 DESIGN 255 CONSUMERS ROAD TORONTO, ON M2J 1R4

Project # 18012 Model: Millwood 3 Date: JUN 29, 2018 REV 4

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R
- 3. LVL CCMC -12904-R
- 4. CAN/CSA-O86-09
- 5. CCMC -12787-R APA PR-L310(C)

Version 18.40.162 Powered by iStruct™

0 /////

111111

Point Load Support

Norbord Rimboard Plus 1.1:

Forex 2.0E-3000Fb LVL 1.75

1.75 X 9.5 (Dropped)

5.25 X 10.25 (Dropped)

Load from Above

NJ 9.5

**NJH 9.5** 

Legend

THIS CERTIFICATION IS TO CONFIRM THAT:

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

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.

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

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

BLOCK IS REQUIRED AT ALL

N.A. EL-MASRI ST
Aug 20, 2018

READ ALL NOTES ON THIS PAGE AND ON

PASS THRU FRAMING SQUASH POINT LOADS OVER BEARINGS.

											PAGE 3	UF 40	
Ground											Access of the Control		
LVL/LSL  Label Description Width Depth Qty Plies Pcs Length							Lamette	RIAC					
F11	Forex	риоп		75	Depth 9.5	_	Qty 1	Plies 4	Pcs 4	Length 14-0-0			
FII		000Fb LVL	-	75	9.	9		4	4	14-0-0	1 (1)		
F8	Forex 2.0E-3	000Fb LVL	1.	75	9.	5	2	3	6	12-0-0	Layout Name MILLWOOD 3 EL-2		
F4	Forex	000Fb LVL	1.	75	9.	5	2	2	4	12-0-0	Design Method		
F9	Forex	000Fb LVL	1.	75	9.5	5	2	2	4	10-0-0	LSD Description		
F7	Forex	000Fb LVL	1.	75	9.5	5	1	2	2	8-0-0	GREENPARK HOMES MINISALE, BRAMPTON,ON		
F15	Forex	000Fb LVL	1.	75	9.5	5			1	6-0-0	Created		
F14	Forex	000Fb LVL	1.	75	9.5	5			2	4-0-0	June 27, 2018 Builder		
Joist	Z.UL-3	JOOI D LVL	-	-									
	Descri	ntion	Wid	th I	Depth	.	Qty	Plies	Pcs	Length	Sales Rep		
F13	NJ	Pilon		1.5	9.5		2	2	4	12-0-0	RM		
J2	NJH			2.5	9.5	_			22	14-0-0	Designer		
J11	NJH			2.5	9.5	_			38	12-0-0	SB		
J4	NJH			2.5	9.5	_			13	10-0-0	Shipping		
J3	NJH			2.5	9.5	_			10	8-0-0			
J8	NJH	_		2.5	9.5				2	6-0-0	Project		
J7	NJH	-		2.5	9.5				2	4-0-0	Builder's Project		
J1	NJH			2.5	9.5	_			1	2-0-0	Kott Lumber	Company	
Rim Bo	ard			- 6							14 Anderson Blvd		
	Descri	ption	Wid	th [	Depth	1	Qty	Plies	Pcs	Length	Stouffville, Ontario		
R1		d Rimboard	1.1:		9.5				13	12	Canada		
		125 X 9.5									L4A 7X4		
3lockin	g	77-7-7									905-642-4400		
Label	Descri	ption	Wid	th [	Depth	1	Qty	Plies	Pcs	Length	Ground Floor		
BLK1	HLN		2	2.5	9.5	5 L	inFt		Varies	39-0-0	Design Method	LSD	
Hanger						-						3CC 2010 / OBC	
							Bea	am/Girdei		ported	Building Code NE	2012	
	_				1 -					ember	Floor		
Label	Pcs	Description		Ske	_	Slope	fa	steners	fas	teners	Loads		
НЗ	1	HGUS5.50/		Righ	_				-		Live	40	
H4	1	HGUS5.50/		Lef	_						Dead	15	
H5	7	SUR2.56/9	(Min)	Righ	nt			14 16d		dx1 1/2	Deflection Joist		
H6	3	LT259			_			4 10d		dx1 1/2	LL Span L/	480	
H8	1	HGUS410			_			46 16d		6 16d	TL Span L/	360	
H9	2	LSSUI25-R		Vai	_	Var	9 10d 7 10dx1 1/2		LL Cant 2L/	480			
H11 H15	1	LSSUI25-L HUS1.81/10	,	Vai		Var		9 10d	7 10dx1 1/2 10 16d		TL Cant 2L/	360	
пю		HUS 1.8 1/10	J					30 16d	1 10	J 160	Deflection Girder	500	
NOTES:	_										LL Span L/	360	
NOTES:								- 1	· ·	240			
Framer to verify dimensions on the architectural drawings.								TL Span L/					
<ol><li>Double joist only require filler/backer ply when supporting another</li></ol>									LL Cant 2L/	480			
member using a face-mounted hanger.									TL Cant 2L/	360			
Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.     Install single-ply flush window header along inside face of rimboard/rimjoist								.	Decking	1900121			
5. Refer to Nascor specifier guide for installation details.							51	Deck	OSB				
Squash blocks recommended to be installed at end bearing on all first level							el	Thickness	3/4"				
												11 1 10 01 1	

- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads. 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

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c. All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.

Hatch area represents ceramic tiled floor with an additional dead load

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

OF BRAMPTON DING DIVISION REVIEWED JAN 0 3 2019 MARK DERKSEN

Fastener

Vibration

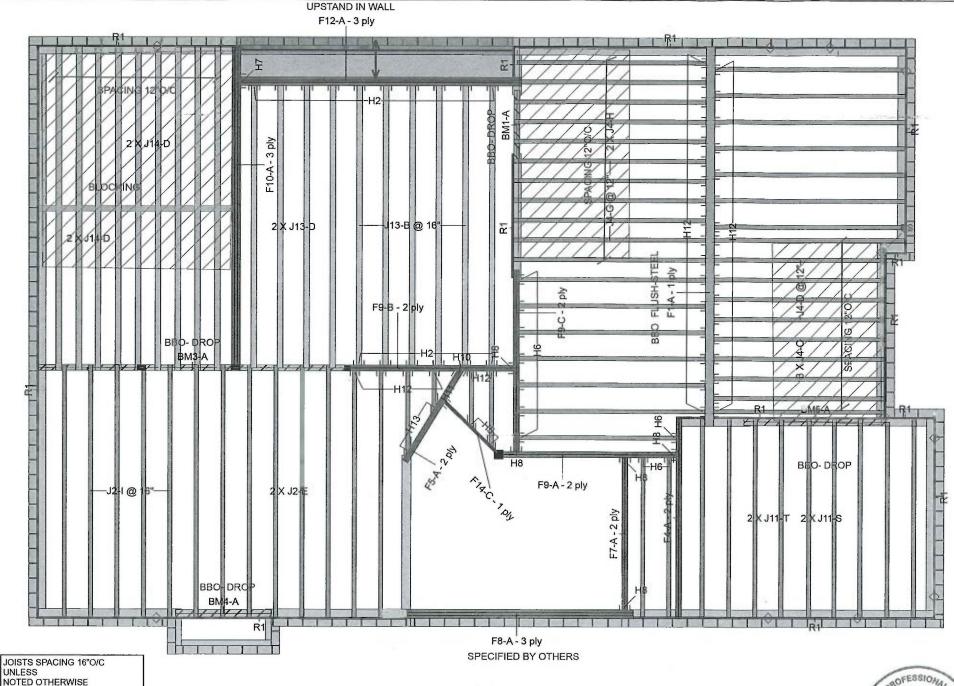
Nailed & Glued

**PAGE 3 OF 40** 

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

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





Legend Load from Above NJ40U 9.5 NJ60U 9.5 NJH 9.5 Forex 2.0E-3000Fb LVL 1.75 X 9.5 Forex 2.0E-3000Fb LVL 1.75 X 11.875 1.75 X 9.5 (Dropped)

2.5 X 9.5 (Dropped)

5.25 X 10.25

Architectural Drawing Info Point Load Support

VA3 DESIGN 255 CONSUMERS ROAD ORONTO, ON M2J 1R4 Norbord Rimboard Plus 1.125 X 9.5

> Project # 18012 Model: Millwood 3 EL-1A Date: JUN 29, 2018 REV 4

> > 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.

1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED

THIS CERTIFICATION IS TO CONFIRM THAT:

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.

REFER TO MULTIPLE MEMBER TO MEMBER PASS THRU FRAMING SQUASH

N.A. EL-MASRI

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.

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

Second LVL/LS	L.						
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F10	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	18-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	12-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	3	2	6	10-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0
F14	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	11.875	1	3	3	16-0-0
l Joist							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J13	NJ40U	3.5	9.5			10	16-0-0
J14	NJ60U	3.5	9.5			9	18-0-0
J2	NJH	2.5	9.5			13	14-0-0
J11	NJH	2.5	9.5			8	12-0-0
J4	NJH	2.5	9.5			37	10-0-0
J3	NJH	2.5	9.5			1	8-0-0
J8	NJH	2.5	9.5			1	6-0-0
J7	NJH	2.5	9.5			3	4-0-0
Rim Bo	ard						
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			12	12
3lockin	g						
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK3 NJ60U		3.5	9.5	LinFt	-	Varies	8-0-0

					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H2	16	LT359			4 10d	2 10dx1 1/2
H5	2	SUR2.56/9 (Min)	Right		14 10dx1 1/2	2 10dx1 1/2
H6	10	LT259			4 10d	2 10dx1 1/2
H7	1	HGUS5.50/10			46 16d	16 16d
H8	5	HGUS410			46 16d	16 16d
H10	1	LSSU410-L	Var	Var	14 16d	12 10dx1 1/2
H11	1	LSSUI25-L	Var	Var	9 10d	7 10dx1 1/2
H12	40	LF259		33	10 10d	1 #8x1 1/4WS
H13	2	LSSUH310-L	Var	Var	14 16d	12 10dx1 1/2

### NOTES:

Hanger

- Framer to verify dimensions on the architectural drawings.
- Double joist only require filler/backer ply when supporting another member using a face-mounted hanger
- Install 2x4 blocking @ 24" ofc under parallel non-loadbearing walls.

  Install single-ply flush window header along inside face of rimboard/rimjoist
- Refer to Nascor specifier guide for installation details.
- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof. Load transfer blocks to be installed under all point loads.
- 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 equirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x4" 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 be deviate from the architectural drawings. Project Engineer to review and approve the deviation prior to construction.

### Layout Name MILLWOOD 3 EL-2 Design Method LSD Description GREENPARK HOMES MINISALE, BRAMPTON,ON Created June 27, 2018 Builder Sales Rep RM Designer SB Shipping Project Builder's Project **Kott Lumber Company** 14 Anderson Blvd Stouffville, Ontario Canada L4A 7X4 905-642-4400 Second 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
3	Deflection Girder	
	LL Span L/	360
1	TL Span L/	240
	LL Cant 2L/	480
	TL Cant 2L/	360
	Decking	
	Deck	OSB
	Thickness	5/8"
	Fastener	Nailed & Glued
	Vibration	
	Ceiling:	Gypsum 1/2"
	Roof	
	Loads	
	Live	0
	Dead	17
i	Snow	36
	Deflection Joist	
	LL Span L/	360
	TL Span L/	240

LL Cant 2L/

TL Cant 2L/

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Thickness

Deck

Deflection Girder

360

360

360

240

360

360

SPF Plywood

Nailed Only

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

2. Nascor CCMC - 13535-R

3. LVL CCMC -12904-R

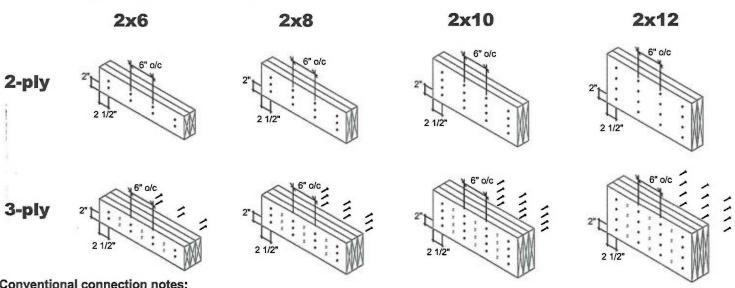
4. CAN/CSA-O86-09

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

# PLE MEMBER CONNECTIONS

GREENPARK HOMES-MINISALE-MILLWOOD 3 EL 2-BRAMPTON-ON

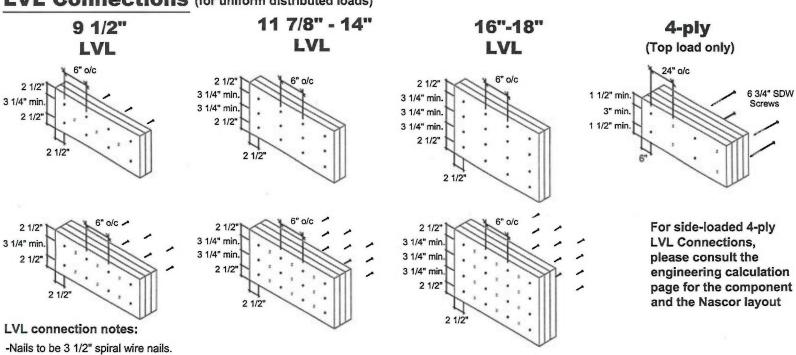
# Conventional Connections (for uniform distributed loads)



### Conventional connection notes:

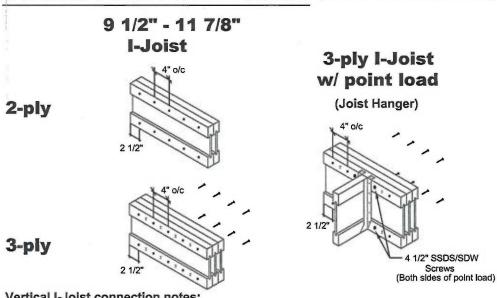
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

# LVL Connections (for uniform distributed loads)



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

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



### Vertical I-Joist connection notes:

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

**MULTI-PLY** CONNECTION **DETAILS** 

> Date: November 30, 2016 Scale: NTS

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