GREENPARK-TRINAR HALL-EAST GWILLIMBURY-ON-LOT-19

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

**REVISION 2018-10-17** 

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

## **DESIGN INFORMATION**

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

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

The responsibility of the undersigned is limited to the verification of the structural capacity of the 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 transfer blocks. Structural elements such as walls, posts, connectors, and transfer 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 floor joists is to be carried out in accordance with the current edition of the manufacturer's literature available at http://www.kottgroup.com.

## **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 "Mult Connection Details".
- 4. Pass-thru transfer 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 proauthorization.

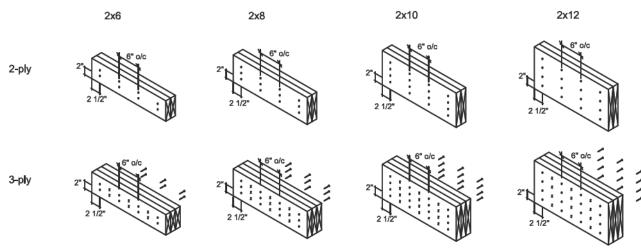
These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amépaded. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

	Discipline	Reviewer	BCIN	Date
7	Building Code	H. Authier	43236	2021-02-03
1	Sewage System			
	Zoning			



GREENPARK-TRINAR HALL-EAST GWILLIMBURY-ON-LOT-19

# **Conventional Connections**



Conventional connection notes:

- -Nails to be 3" long wire nails.
- -Nalls to be located 2" mln. from the top and bottom of the member. Start all nalls 2 1/2" mln. from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.

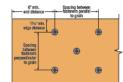
3 1/4" mlr

3 1/4" mlr

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

#### SIMPSON SDW SPACING REQUIREMENT





Spacing Requirements

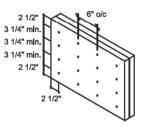
# LVL Connections

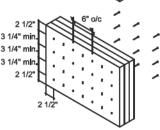
9 1/2" LVL

HEAD OF ALL SPECIFIED NAILS AND SCREWS MUST BE ON THE LOADED SIDE

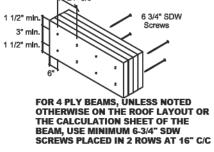
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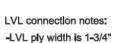
11 7/8" - 14" LVL 16"-18" LVL





4-ply LVL (Top load only)





- -Nalls to be 3 1/2" common wire nalls.
- -Nails to be located 2 1/2" min. from the top and bottom of the member.
- -Minimum 3 1/4" spacing between rows.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nall or screw driven from the opposite side.



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# Multiple Member Connections

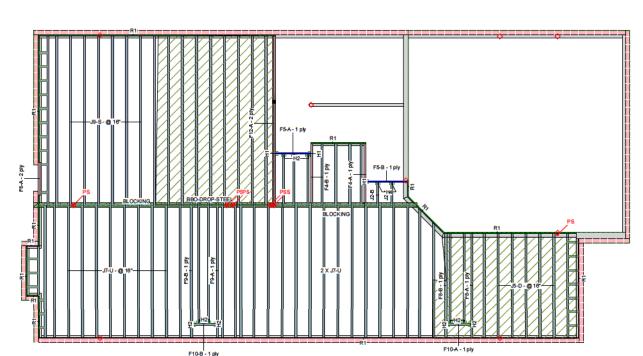
All connections are for uniformly distributed loads.

For multi-ply connections of I-joists, refer to Manufacturer's Installation Guide



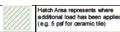
Discipline	Keviewei	BCIIV	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

KOTT Inc. 3228 Moodie Drive Ottawa, ON K2H 7V1 613-838-2775



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



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

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East Gwillimbury

Building Standards Branch BCIN #16487

Discipline	Reviewer	BCIN	Date	
Building Code	H. Authier	43236	2021-02-03	
Sewage System				
Zoning				
				-

Ground Floor LVL/LSL Width Depth Qty Plies Pcs Length Label Description F12 1.75 11.875 2 Forex 2 18-0-0 2.0E-3000Fb LVL F4 1.75 11.875 8-0-0 .0E-300 0Fb LVL 1.75 4-0-0 2.0E-3000Fb LVL F6 1.75 11.875 2 4-0-0 2.0E-3000Fb LVL I Joist Label Description Width Depth Qty Plies Pcs Length F9 AJS 140 2.5 11.875 2 14-0-0 F8 AJS 140 2.5 11.875 2 10-0-0 F10 AJS 140 2.5 11.875 2 4-0-0 27 14-0-0 J7 AJS 140 2.5 11.875 J6 AJS 140 2.5 11.875 3 12-0-0 J5 AJS 140 2.5 11.875 9 10-0-0 J4 AJS 140 2.5 11.875 4 8-0-0 J3 AJS 140 2.5 11.875 4 6-0-0 J2 AJS 140 2.5 11.875 2 4-0-0 J9 AJS 20 2.5 11.875 17 18-0-0 Rim Board Label Description Width Depth Qty Plies Pcs Length Norbord Rimboard Plus 1.125 X 1.125 11.875 12 12-0-0 11.875 Blocking Label Description Width Depth Qty Plies Pcs Length

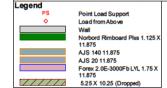
Hange	r				Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	3	HUS1.81/10			30 16d	10 16d
H2	11	LF2511			12 10d	1 #8x1 1/4WS
H4 /	All blackin	lgft856 out from	2' joists			

2.5 11.875 LinFt

- 2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- 3. Ends of joists to be laterally supported

BLK1 AJS 140

- 4. Packing of Steel beams and attachment by others
- Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
- 6. Beams identified as "B" are dropped and supplied by others
- 7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
- 8. Load transfer blocks to be installed under all point loads
- 9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting
- 10. Hangers and Fasteners to be installed as per manufacturer
- 11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.



JOISTS SPACING 12"O/C UNLESS NOTED OTHERWISE

JOB INFORMATION Builder Project Shipping GREENPARK HOMES TRINAR HALL,EAST GWILLIMBURY,ON Sales Rep Designer SB Plotted December 17, 2020 Layout Name LOT-19(BRENTWOOD-2 EL-2) Job Path

C:\Data\SAUMIL\GREENPARK HOMES\TRINAR HALL\LOT 19\FLOOR\LOT-19(BRENTWOOD-2 EL-2).isl DESIGN CRITERIA Ground Floor Design Method LSD (Canada)

**Building Code** NBCC 2015 / OBC 2012 Floor Loads Live 15 Dead **Deflection Joist** Varies 42-0-0 LL Span L/ 360

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

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

Decking Thickness 3/4" Fastener Nailed & Glued Vibration Strapping 1"X4", 1 Row at Midspan

**CCMC References** Boise - 12472-R , 12787-R LP - 12412-R

Forex - 14056-F

Kott Inc. 3228 Moodie Dr, Ottawa

613-838-2775 905-642-4400



Version 20.40.075 Powered by iStruct\*\*

NE1220-146

Ground Floor

isDesign

Client:

Project: Address:

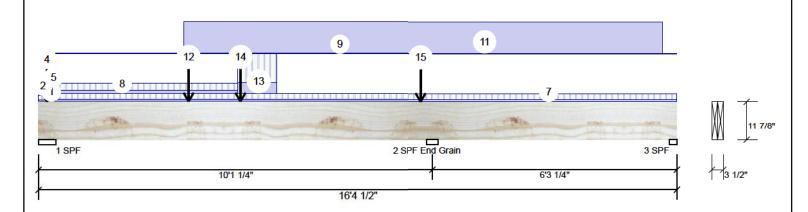
**GREENPARK HOMES** TRINAR HALL, EAST GWILLIMBURY, ON Date: 12/17/2020 Input by:

Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875" 2-Ply - PASSED Level: Ground Floor



Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load		Sp. 14.4 (cg. 24) all models (d.	
Floor Live:	40 PSF		
Dead:	15 PSF		

Ana	ly	/sis	R	esu	lts

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-5225 ft-lb	10'1 1/4"	34261 ft-lb	0.153 (15%)	1.25D+1.5L	LL
Unbraced	-5225 ft-lb	10'1 1/4"	29859 ft-lb	0.175 (17%)	1.25D+1.5L	LL
Pos Moment	8316 ft-lb	3'10 1/8"	34261 ft-lb	0.243 (24%)	1.25D+1.5L	L_
Unbraced	8316 ft-lb	3'10 1/8"	29859 ft-lb	0.279 (28%)	1.25D+1.5L	L_
Shear	2759 lb	9'1 3/8"	11596 lb	0.238 (24%)	1.25D+1.5L	LL
Perm Defl in	0.034 (L/3421)	4'8 1/16"	0.324 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.060 (L/1948)	4'5 3/8"	0.324 (L/360)	0.180 (18%)	L	L_
TL Defl inch	0.094 (L/1242)	4'6 5/16"	0.486 (L/240)	0.190 (19%)	D+L	L_

## **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Tie-down connection required at bearing 3 for uplift 498 lb (Combination 0.9D+1.5L, Load Case L ).
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.
- 8 Lateral slenderness ratio based on full section width.

### Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	1647	853	0	0
2	1673	1550	0	0
3	0 (-279)	44	0	0

### **Bearings and Factored Reactions**

Bearing Length	Cap. Re	eact D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 5.250"	31%	1051 / 2451	3502	L_	1.25D+1.5L
2 - SPF 3.500" End Grain	50%	1976 / 2573	4549	LL	1.25D+1.5L
3 - SPF 2.375"	3%	31 / 65 97	(-498)	_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.



(0.9D+1.5L)

Page 4 of 34



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

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 corre

Handling & Installation

LVL beams must not be cut or drilled
 Refer to manufacturer's product regarding installation requirement

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

naged Beams must not be used

Manufacturer Info Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





Client: isDesign

Project:

Address:

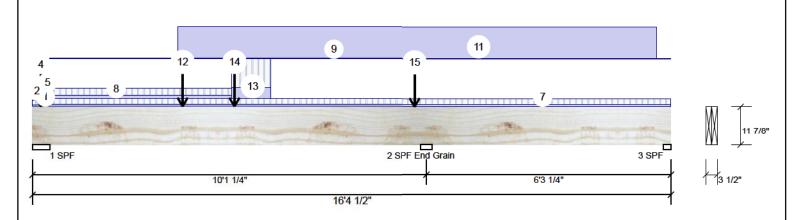
**GREENPARK HOMES** TRINAR HALL, EAST GWILLIMBURY, ON Date: 12/17/2020 Input by:

Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

Forex 2.0E-3000Fb LVL

2-Ply - PASSED Level: Ground Floor 1.750" X 11.875"



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	0-3-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	0-4-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Тор	190 lb	453 lb	0 lb	0 lb	B7 B7
4	Point	0-2-10		Тор	20 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Part. Uniform	0-2-13 to 0-5-4		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
7	Tie-In	0-5-4 to 16-4-8	0-4-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	0-5-4 to 5-1-3	0-5-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
9	Part. Uniform	0-5-4 to 16-4-8		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
11	Part. Uniform	3-8-10 to 16-0-2		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
12	Point	3-10-2		Тор	683 lb	1672 lb	0 lb	0 lb	B7 B7
13	Tie-In	5-1-3 to 6-1-5	1-9-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
14	Point	5-2-1		Near Face	108 lb	268 lb	0 lb	0 lb	F5
15	Point	9-9-10		Тор	121 lb	239 lb	0 lb	0 lb	B6 B6
	Self Weight				10 PLF				

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

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.

**BLOCK IS REQUIRED AT ALL** POINT LOADS OVER BEARINGS.



Page 5 of 34

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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

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

## Handling & Installation

- 1. IVI, beams must not be cut or drilled
  2. Refer to manufacturer's product informati regarding installation requirements, multi-fastening details, beam strength values, and co approvals
  3. Damaged Beams must not be used
- Daniaged beams must not be used
  Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





isDesign

Client:

Project:

Address:

**GREENPARK HOMES** TRINAR HALL, EAST GWILLIMBURY, ON Date: 12/17/2020 Input by:

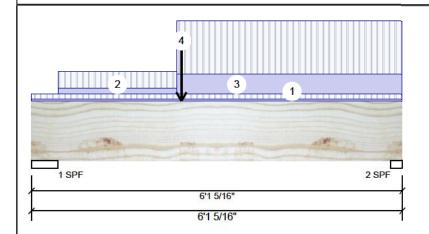
Job Name: LOT-19(BRENTWOOD-2 EL-2)

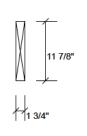
Project #:

### Forex 2.0E-3000Fb LVL

## 1.750" X 11.875" - PASSED

Level: Ground Floor





Wind

0

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

0

n

Total Ld. Case

966 L

860 I

Page 6 of 34

#### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load		SANAR GENERAL EL	
Floor Live:	40 PSF		

#### Unfactored Reactions UNPATTERNED lb (Uplift) Brg Live Dead

478

426

1 2

Bearing Length

1 - SPF 5.250"

2 - SPF 2.375"

40 PSF

40 PSF

40 PSF

521 lb

Bearings and Factored Reactions						

250 / 717

221 / 639

200

177

Cap. React D/L lb

#### **Analysis Results**

Dead:

15 PSF

Г	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	1862 ft-lb	2'5 5/8"	17130 ft-lb	0.109 (11%)	1.25D+1.5L	L
	Unbraced	1862 ft-lb	2'5 5/8"	8030 ft-lb	0.232 (23%)	1.25D+1.5L	L
	Shear	894 lb	1'4 3/8"	5798 lb	0.154 (15%)	1.25D+1.5L	L
	Perm Defl in.	0.006 (L/11636)	2'9 13/16"	0.187 (L/360)	0.030 (3%)	D	Uniform
	LL Defl inch	0.014 (L/4751)	2'9 11/16"	0.187 (L/360)	0.080 (8%)	L	L
	TL Defl inch	0.020 (L/3374)	2'9 11/16"	0.280 (L/240)	0.070 (7%)	D+L	L

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34%

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

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



### **Design Notes**

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

ID	Load Type	Location	Trib Width	Side	Dead
1	Tie-In	0-0-0 to 6-1-5	0-2-3	Тор	15 PSF
2	Tie-In	0-5-4 to 2-4-12	0-7-5	Тор	15 PSF
3	Tie-In	2-4-12 to 6-1-5	1-11-7	Тор	15 PSF
4	Point	2-5-10		Near Face	204 lb
	Self Weight				5 PLF

Comments Live Snow Wind

0 PSF

0 PSF

0 PSF

0 lb F5

0 PSF

0 PSF

0 PSF

0 lb

<u></u>	East Gwillimbury
Toront for just	Building Standards Branch BCIN #16487

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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### 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 corre
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product regarding installation requirement fastening details, beam strength value
- naged Beams must not be used Daniaged 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 Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400



This design is valid until 4/24/2023

CSD DESIGN

isDesign

Client:

Project:

Address:

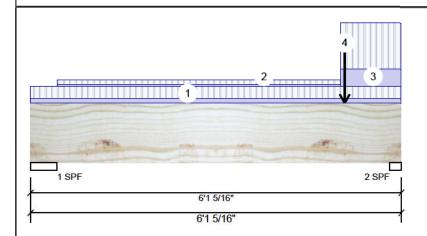
**GREENPARK HOMES** TRINAR HALL, EAST GWILLIMBURY, ON Date: 12/17/2020 Input by:

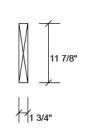
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

#### Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor





Wind

0

n

Ld. Comb.

1.25D+1.5L 1.25D+1.5L

0

n

Total Ld. Case

272 L

794 I

Page 7 of 34

#### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition	n: Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		

#### Unfactored Reactions UNPATTERNED lb (Uplift) Brg Live Dead

128

390

1

2

Bearing Length

1 - SPF 5.250"

2 - SPF 2.375"

Bearings and Factored Reactions							
~	000	101	•	•			

80 / 192

209 / 585

64

167

Cap. React D/L lb

5%

31%

#### **Analysis Results**

Dead:

15 PSF

Г	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	562 ft-lb	4'9 1/8"	17130 ft-lb	0.033 (3%)	1.25D+1.5L	L
	Unbraced	562 ft-lb	4'9 1/8"	8030 ft-lb	0.070 (7%)	1.25D+1.5L	L
	Shear	599 lb	4'11 13/16"	5798 lb	0.103 (10%)	1.25D+1.5L	L
	Perm Defl in.	0.002 (L/33372)	3'6 5/8"	0.187 (L/360)	0.010 (1%)	D	Uniform
	LL Defl inch	0.004 (L/15426)	3'7 1/2"	0.187 (L/360)	0.020 (2%)	L	L
	TL Defl inch	0.006 (L/10551)	3'7 3/16"	0.280 (L/240)	0.020 (2%)	D+L	L

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

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

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



#### **Design Notes**

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-1-5	0-5-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-4 to 5-1-3	0-2-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	5-1-3 to 6-1-5	1-9-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	5-2-1		Far Face	118 lb	292 lb	0 lb	0 lb	F5
	Self Weight				5 PLF				



These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amépaded. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### Notes

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 corro
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product regarding installation requirement fastening details, beam strength value
- approvals

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

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





Page 8 of 34

isDesign

Client: Project:

Address:

**GREENPARK HOMES** TRINAR HALL, EAST GWILLIMBURY, ON Date: 12/17/2020 Input by:

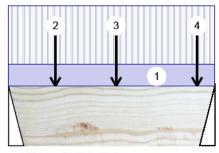
Job Name: LOT-19(BRENTWOOD-2 EL-2)

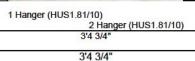
Project #:

#### F5-A Forex 2.0E-3000Fb LVL

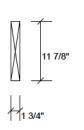
1.750" X 11.875" - PASSED

Level: Ground Floor





15 PSF



Wind

#### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load		20412-41-07-24-28-28-28-28-	
Floor Live:	AN DSE		

#### Unfactored Reactions UNPATTERNED lb (Uplift) Bra Livo Dead

ľ	oly .	LIVE	Deau	SHOW	VVIIIG	
l	1	268	108	0	0	
	2	292	118	0	0	
l						

#### Analysis Results

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	413 ft-lb	1'9 1/4"	17130 ft-lb	0.024 (2%)	1.25D+1.5L	L
Unbraced	413 ft-lb	1'9 1/4"	13730 ft-lb	0.030 (3%)	1.25D+1.5L	L
Shear	393 lb	2'2 5/8"	5798 lb	0.068 (7%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/50245)	1'9 1/4"	0.101 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/20138)	1'9 1/4"	0.101 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.003 (L/14376)	1'9 1/4"	0.151 (L/240)	0.020 (2%)	D+L	L

## **Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 - Hanger	3.000"	14%	135 / 401	537	L	1.25D+1.5L	
2 - Hanger	3.000"	15%	147 / 438	585	L	1.25D+1.5L	

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

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



#### **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 bearing

L	4 BUILDIN DIACEL	at bearings.								
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	1	Part. Uniform	0-0-0 to 3-4-12		Тор	30 PLF	80 PLF	0 PLF	0 PLF	
	2	Point	0-9-4		Near Face	35 lb	93 lb	0 lb	0 lb	J3
	3	Point	1-9-4		Near Face	42 lb	113 lb	0 lb	0 lb	J3
	4	Point	3-1-4		Near Face	31 lb	82 lb	0 lb	0 lb	J3
		Self Weight				5 PLF				



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### 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
 LVL not to be treated with fire retardant or corrosive

## Handling & Installation

1. IVI, beams must not be out or drilled
2. Refer to manufacturer's product inforegarding installation requirements, in fastening details, beam strength values, an 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 4. 5.

Manufacturer Info Forex

APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





isDesign

Client: Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

Date: 12/17/2020

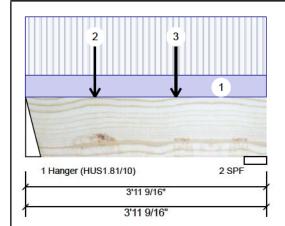
Input by:

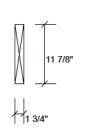
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

F5-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor





Wind

0

0

0

Page 9 of 34

Page 6 of 8

Member Inforn	nation		
Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load		SA 4 4 4 1 10 24 5 25 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
Floor Live:	40 PSF		

Unfactored	Reactions	UNPATTERNED	lb (Uplift)
Brg	Live	Dead	Snow

204

213

521

543

1

2

1									
	Bearings and Factored Reactions								
	Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.		
ı	1 -	3.000"	27%	256 / 782	1037	L	1.25D+1.5L		
4	Hanger								
ı	2 - SPF	4.375"	23%	267 / 814	1081	L	1.25D+1.5L		

Comments

J2

.12

#### **Analysis** Actual Location Allowed Moment 841 ft-lb 1'11 3/8" 17130 ft-lb 841 ft-lb Unbraced Shear 474 lb Perm Defl in. 0.002

(L/25114)

15 PSF

0.049 (5%) 1.25D+1.5L L 1'11 3/8" 12633 ft-lb 0.067 (7%) 1.25D+1.5L L 0.082 (8%) 1.25D+1.5L L 1'2 1/8" 5798 lb 1'11 1/4" 0.116 (L/360) 0.010 (1%) D Uniform

Capacity

Comb.

Case

LL Defl inch 0.004 (L/9846) 1'11 3/16" 0.116 (L/360) 0.040 (4%) L L TL Defl inch 0.006 (L/7073) 1'11 3/16" 0.174 (L/240) 0.030 (3%) D+L L READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

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

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



### **Design Notes**

Dead:

Analysis Results

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Part. Uniform	0-0-0 to 3-11-9		Тор	90 PLF	240 PLF	0 PLF	0 PLF
2	Point	1-1-11		Near Face	20 lb	54 lb	0 lb	0 lb
3	Point	2-5-11		Near Face	22 lb	58 lb	0 lb	0 lb
	Self Weight				5 PLF			



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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

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

**Handling & Installation** 

 LVL beams must not be cut or drilled
 Refer to manufacturer's product regarding installation requirement fastening details, beam strength value naged Beams must not be used

Daniaged 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

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Client:

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

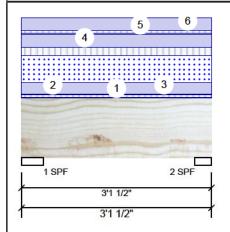
Date: 12/17/2020 Input by: SB

Job Name: LOT-19(BRENTWOOD-2 EL-2)

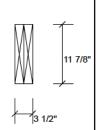
Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED

Level: Ground Floor



mbar Information



Page 10 of 34

wember inform	nation		
Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load		SA 4 4 4 1 10 A 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4	

	Unfactored	Reactions U	NPATTERNE	D lb (Uplift)	
	Brg	Live	Dead	Snow	Wind
	1	134	411	273	0
2	2	127	388	259	0

# Floor Live: 40 PSF 15 PSF Dead: Analysis Results Allowed

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	567 ft-lb	1'7 1/4"	32890 ft-lb	0.017 (2%)	1.25D+1.5S +L	L
Unbraced	567 ft-lb	1'7 1/4"	32890 ft-lb	0.017 (2%)	1.25D+1.5S +L	L
Shear	212 lb	1'11 1/8"	11132 lb	0.019 (2%)	1.25D+1.5S +L	L
Perm Defl in.	0.001 (L/35421)	1'7 5/16"	0.088 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/42743)	1'7 5/16"	0.088 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch	0.002 (L/19370)	1'7 5/16"	0.131 (L/240)	0.010 (1%)	D+S+0.5L	L

Bearings	s and Facto	red Rea	ctions				
Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF	4.261"	12%	513 / 543	1057	L	1.25D+1.5S +L	
2 - SPF	3.251"	15%	486 / 515	1000	L	1.25D+1.5S +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. REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

READ ALL NOTES ON THIS PAGE AND ON

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 3-1-8	0-4-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 1-0-5		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 3-1-8		Тор	73 PLF	51 PLF	170 PLF	0 PLF	
Continued on page	2								



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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

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- 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 regarding installation requirement fastening details, beam strength value approvals

  Damaged Beams must not be used
- Daniaged 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 Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Page 11 of 34 Client: Page 8 of 8

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

Date: 12/17/2020

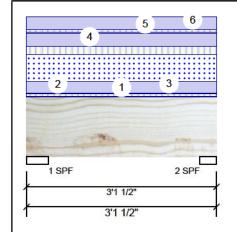
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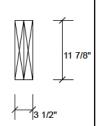
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED F6-A

Level: Ground Floor





ı	Continued from	page 1								
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	4	Part. Uniform	0-0-0 to 3-1-8		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	5	Tapered Start	0-0-0		Тор	7 PLF	17 PLF	0 PLF	0 PLF	
		End	3-1-8			7 PLF	17 PLF	0 PLF	0 PLF	
	6	Part. Uniform	0-0-0 to 3-1-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
		Self Weight				10 PLF				

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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### Notes

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

Handling & Installation

1. IVI, beams must not be out or drilled
2. Refer to manufacturer's product informati regarding installation requirements, multifastening details, beam strength values, and co approvals
3. Damaged Beams must not be used

Daniaged beams must not be used
Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation 4. 5.

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400







### F10-A

Dry | 1 span | No cant.

**BC CALC® Member Report Build 7364** 

City, Province, Postal Code:

Job name:

Customer:

Address: **GREENPARK HOMES** 

C:\Data\SAUMIL\GREENP...BRENTWOOD-2 EL-2).isl File name:

Description: Level - Ground Floor

SB

TRINA...LL, EAST GWILLIMBURY, ON

Specifier:

Code reports: CCMC 12787-R Designer:

Company:

				3/																		7	4/								
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₁ B1															02-0	3-08															B2

Total Horizontal Product Length = 02-03-08

Reaction Summary (Down / Unlift) (lbs)

Neaction Summa	iy (Dowii)	<i>i</i> Opinii) (ibaj			
Bearing	Live	Dead	Snow	Wind	
B1, 2"	208 / 0	105 / 0			
B2, 2"	175 / 0	89 / 0			

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-03-08	Тор		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	02-03-08	Тор		3			n\a
2		Unf. Lin. (lb/ft)	L	00-00-00	02-03-08	Тор	26	10			n\a
3	J5	Conc. Pt. (lbs)	L	00-03-12	00-03-12	Back	148	72			n\a
4	J5	Conc. Pt. (lbs)	L	01-07-12	01-07-12	Back	176	87			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	190 ft-lbs	5305 ft-lbs	3.6%	1	01-07-12
End Reaction	443 lbs	1607 lbs	27.6%	1	00-00-00
End Shear	434 lbs	2350 lbs	18.5%	1	00-02-00
Total Load Deflection	L/999 (0.002")	n\a	n\a	4	01-07-12
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	01-07-12
Max Defl.	0.002"	n\a	n\a	4	01-07-12
Span / Depth	2.1				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 2-1/2"	443 lbs	20.0%	27.6%	LF2511
B2	Hanger	2" x 2-1/2"	373 lbs	16.9%	23.2%	LF2511

## Cautions

Hanger LF2511 requires (12) 10dx1.5 face nails, (1) #8x1.25 joist nails.

Header for the hanger LF2511 is a Single 2-1/2" x 11-7/8" I-joist

Header for the hanger LF2511 is a Single 2-1/2" x 11-7/8" I-joist



Page 12 of 34

December 17, 2020 15:26:27

**PASSED** 



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

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.



### F10-A

Dry | 1 span | No cant.

Page 13 of 34 **PASSED** 

**BC CALC® Member Report** 

City, Province, Postal Code:

**Build 7364** Job name:

December 17, 2020 15:26:27

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Address: **GREENPARK HOMES** 

Description: Level - Ground Floor

TRINA...LL, EAST GWILLIMBURY, ON

Specifier:

READ ALL NOTES ON THIS PAGE AND ON

NOTE PAGE IS AN INTEGRAL PART OF THIS

CONTAINS SPECIFICATIONS AND CRITERIA

USED IN THE DESIGN OF THIS COMPONENT.

ENGINEERING NOTE PAGE ENP-2. THIS

CALCULATION SUMMARY PAGE AS IT

File name:

Customer: Designer: SB

Code reports: CCMC 12787-R Company:

#### **Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Design meets User specified (0.72") Maximum live load deflection criteria.

Calculations assume member is fully braced. Hanger Manufacturer: Simpson Strong-Tie, Inc.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

## Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User

License Agreer Completeness must be review



qualified engine
expert to assuft corrections as noted. No other changes may be
anyone relying
standards Branch. All work must comply with
evidence of sui Zoning By-Lav 2018-043, as amended, and the
Ontario Building Code, as amehded. These application. The building code-a properties and Installation of B engineered wor

before installation.

approved docun times. The bui posted on site at	ilding pern		
Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zonino			

accordance wit Guide and applicable pulluling codes. obtain Installation Guide or ask questions, please call (800)232-0788

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### F10-B

Dry | 1 span | No cant.

Page 14 of 34 **PASSED** 

**BC CALC® Member Report** 

**Build 7364** 

December 17, 2020 15:26:27

Job name: Address:

**GREENPARK HOMES** 

TRINA...LL, EAST GWILLIMBURY, ON

Description:

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Specifier:

File name:

Level - Ground Floor

Wind

City, Province, Postal Code: Customer:

SB Designer:

Code reports: CCMC 12787-R Company:

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<u> </u>																														
P1														02-0	3-08															B2

Total Horizontal Product Length = 02-03-08

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	233 / 0	91 / 0
B2, 2"	211 / 0	82 / 0

L	oad Summary						Live	Dead	Snow	Wind	Tributary
	ag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-03-08	Тор		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	02-03-08	Тор	26	10			n\a
2	. J6	Conc. Pt. (lbs)	L	00-07-04	00-07-04	Back	183	69			n\a
3	J6	Conc. Pt. (lbs)	L	01-06-04	01-06-04	Back	202	76			n\a

0 1 1 0		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	263 ft-lbs	5305 ft-lbs	5.0%	1	01-06-04
End Reaction	463 lbs	1607 lbs	28.8%	1	00-00-00
End Shear	454 lbs	2350 lbs	19.3%	1	00-02-00
Total Load Deflection	L/999 (0.003")	n\a	n\a	4	01-04-14
Live Load Deflection	L/999 (0.002")	n\a	n\a	5	01-05-02
Max Defl.	0.003"	n\a	n\a	4	01-04-14
Span / Depth	2.1				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 2-1/2"	463 lbs	20.9%	28.8%	LF2511
B2	Hanger	2" x 2-1/2"	419 lbs	18.9%	26.0%	LF2511



## Cautions

Hanger LF2511 requires (12) 10dx1.5 face nails, (1) #8x1.25 joist nails. Header for the hanger LF2511 is a Single 2-1/2" x 11-7/8" I-joist

Header for the hanger LF2511 is a Single 2-1/2" x 11-7/8" I-joist

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.

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			



### F10-B

Dry | 1 span | No cant. December 17, 2020 15:26:27

**BC CALC® Member Report Build 7364** 

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Page 15 of 34

**PASSED** 

Job name: Address:

Customer:

**GREENPARK HOMES** 

Description: Level - Ground Floor

SB

TRINA...LL, EAST GWILLIMBURY, ON

Specifier: Designer:

File name:

City, Province, Postal Code:

Code reports: CCMC 12787-R Company:

**Notes** 

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Design meets User specified (0.72") Maximum live load deflection criteria.

Calculations assume member is fully braced. Hanger Manufacturer: Simpson Strong-Tie, Inc.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

### Disclosure

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East Gwillimbury

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accordance wit

properties and Discipline Reviewer BCIN Date Building Code H. Authier 43236 20214

Guide and applicable building codes. 10 obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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### F8-A

December 17, 2020 15:26:27

Level - Ground Floor

Wind

**BC CALC® Member Report** 

City, Province, Postal Code:

Dry | 1 span | No cant.

**Build 7364** Job name:

Address:

Customer:

**GREENPARK HOMES** 

Description:

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Page 16 of 34

**PASSED** 

TRINA...LL, EAST GWILLIMBURY, ON

Specifier:

File name:

Code reports: CCMC 12787-R

SB Designer: Company:

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+ + 4 + + + +	+ + + + + + + + + + + + + + + + + + + +
+ + + + + +	<del>+ + + + + + + + 3 </del> <del>+ + + + + + + + + + + + + + + + + + </del>
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abla	
l.	L
1	7 09-11-12
B1	B2

Total Horizontal Product Length = 09-11-12

Snow

## Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	
B1, 2-3/8"	387 / 0	208 / 0	
B2, 4-3/8"	217 / 0	121 / 0	

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-11-12	Тор		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Тор		6			n\a
2		Unf. Lin. (lb/ft)	L	01-04-02	09-07-06	Тор		2			n\a
3		Unf. Lin. (lb/ft)	L	00-00-00	09-07-06	Тор		3			n\a
4		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Тор	50	19			n\a
5		Unf. Lin. (lb/ft)	L	01-04-02	09-11-12	Тор	15	6			n\a
6		Unf. Lin. (lb/ft)	L	00-00-00	09-11-12	Тор	23	9			n\a
7	F10	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Back	175	89			n\a

<b>Controls Summary</b>	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1213 ft-lbs	5305 ft-lbs	22.9%	1	04-03-10
End Reaction	840 lbs	1684 lbs	49.9%	1	00-00-00
End Shear	809 lbs	2350 lbs	34.4%	1	00-02-06
Total Load Deflection	L/999 (0.058")	n\a	n\a	4	04-07-11
Live Load Deflection	L/999 (0.038")	n\a	n\a	5	04-07-11
Max Defl.	0.058"	n\a	n\a	4	04-07-11
Span / Depth	9.6				

Bea	ring Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 2-1/2"	840 lbs	23.0%	49.9%	Spruce-Pine-Fir
B2	Wall/Plate	4-3/8" x 2-1/2"	477 lbs	7.1%	24.9%	Spruce-Pine-Fir



These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

I. Authier	43236	2021-02-03



### F8-A

Dry | 1 span | No cant. December 17, 2020 15:26:27

**BC CALC® Member Report Build 7364** 

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Page 17 of 34

**PASSED** 

Job name: Address:

Customer:

**GREENPARK HOMES** 

Description: Level - Ground Floor

TRINA...LL, EAST GWILLIMBURY, ON

Specifier:

File name:

City, Province, Postal Code:

Designer: SB

READ ALL NOTES ON THIS PAGE AND ON

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USED IN THE DESIGN OF THIS COMPONENT.

ENGINEERING NOTE PAGE ENP-2. THIS

CALCULATION SUMMARY PAGE AS IT

Code reports: CCMC 12787-R Company:

## **Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Design meets User specified (0.72") Maximum live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

### Disclosure

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East Gwillimbury

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
ewage System			
Coning			

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### F8-B

File name:

December 17, 2020 15:26:27 Dry | 1 span | No cant.

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**BC CALC® Member Report** 

City, Province, Postal Code:

**Build 7364** Job name:

Address:

Customer:

**GREENPARK HOMES** 

Description: Level - Ground Floor

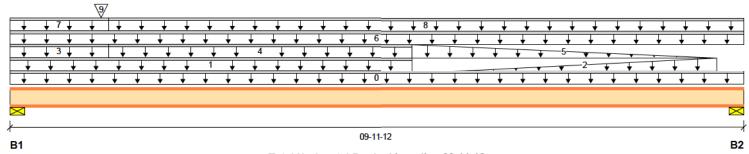
SB

TRINA...LL, EAST GWILLIMBURY, ON

Specifier:

Designer:

Code reports: CCMC 12787-R Company:



Total Horizontal Product Length = 09-11-12

### Reaction Summary (Down / Uplift) (lbs)

	(==::::: =	P, ()			
Bearing	Live	Dead	Snow	Wind	
B1, 2-3/8"	392 / 0	206 / 0			
B2, 4-3/8"	188 / 0	97 / 0			

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-11-12	Тор		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	05-05-10	Тор		3			n\a
2		Trapezoidal (lb/ft)	L	06-00-08		Тор		0			n\a
					09-07-06			2			
3		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Тор		6			n\a
4		Unf. Lin. (lb/ft)	L	01-04-02	05-05-10	Тор		1			n\a
5		Trapezoidal (lb/ft)	L	05-05-10		Тор		1			n\a
					09-07-06			0			
6		Unf. Lin. (lb/ft)	L	00-00-00	09-11-12	Тор	23	9			n\a
7		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Тор	50	19			n\a
8		Unf. Lin. (lb/ft)	L	01-04-02	09-11-12	Тор	8	3			n\a
9	F10	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Front	208	105			n\a

0 (   0		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1090 ft-lbs	5305 ft-lbs	20.6%	1	04-00-10
End Reaction	846 lbs	1684 lbs	50.2%	1	00-00-00
End Shear	815 lbs	2350 lbs	34.7%	1	00-02-06
Total Load Deflection	L/999 (0.052")	n\a	n\a	4	04-06-13
Live Load Deflection	L/999 (0.034")	n\a	n\a	5	04-06-13
Max Defl.	0.052"	n\a	n\a	4	04-06-13
Span / Depth	9.6				

Beari	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 2-1/2"	846 lbs	23.2%	50.2%	Spruce-Pine-Fir
B2	Wall/Plate	4-3/8" x 2-1/2"	403 lbs	6.0%	21.1%	Spruce-Pine-Fir



Page 18 of 34

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			



### F8-B

Dry | 1 span | No cant.

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ENGINEERING NOTE PAGE ENP-2. THIS

CALCULATION SUMMARY PAGE AS IT

**BC CALC® Member Report** 

**Build 7364** Job name: File name:

> Description: Level - Ground Floor **GREENPARK HOMES**

Address: TRINA...LL, EAST GWILLIMBURY, ON

City, Province, Postal Code: Specifier:

Customer: Designer: SB Code reports: CCMC 12787-R Company:

**Notes** 

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Design meets User specified (0.72") Maximum live load deflection criteria.

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Resistance Factor phi has been applied to all presented results per CSA O86.

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Page 19 of 34

December 17, 2020 15:26:27

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expert to assun corrections as noted. No other changes may be
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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
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REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH



### F9-A

Page 20 of 34 **PASSED** 

**BC CALC® Member Report** 

Dry | 1 span | No cant.

December 17, 2020 15:26:27

**Build 7364** Job name:

Address: **GREENPARK HOMES** 

TRINA...LL, EAST GWILLIMBURY, ON

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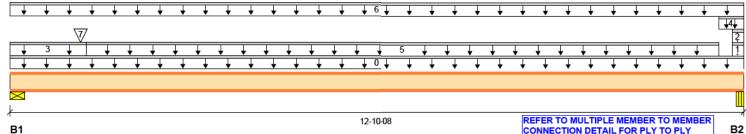
File name: Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer: SB Designer:

Code reports: CCMC 12787-R Company:



Total Horizontal Product Length = 12-10-08

Snow

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARING

#### Reaction Summary (Down / Uplift) (lbs) Live Dead

Bearing B1, 2-3/8' 402 / 0 169 / 0 B2, 5-1/4" 194 / 0 90 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-10-08	Тор		3			00-00-00
1		Unf. Lin. (lb/ft)	L	12-08-01	12-10-08	Тор		2			n\a
2		Unf. Lin. (lb/ft)	L	12-08-01	12-10-08	Тор		1			n\a
3		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Тор	50	19			n\a
4		Unf. Lin. (lb/ft)	L	12-05-04	12-10-08	Тор	13	5			n\a
5		Unf. Lin. (lb/ft)	L	01-04-02	12-05-04	Top	18	7			n\a
6		Unf. Lin. (lb/ft)	L	00-00-00	12-10-08	Тор	9	3			n\a
7	F10	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Back	211	82			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1334 ft-lbs	5305 ft-lbs	25.1%	1	05-07-05
End Reaction	815 lbs	1684 lbs	48.4%	1	00-00-00
End Shear	791 lbs	2350 lbs	33.7%	1	00-02-06
Total Load Deflection	L/999 (0.098")	n\a	n\a	4	06-01-00
Live Load Deflection	L/999 (0.068")	n\a	n\a	5	06-01-00
Max Defl.	0.098"	n\a	n\a	4	06-01-00
Span / Depth	12.5				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 2-1/2"	815 lbs	22.3%	48.4%	Spruce-Pine-Fir
B2	Beam	5-1/4" x 2-1/2"	403 lbs	5.0%	21.1%	Spruce-Pine-Fir

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Design meets User specified (0.72") Maximum live load deflection criteria.

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Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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H. Authier 43236 engineered woo

accordance wit Guide and applicable building codes. 10

obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



### F9-B

Page 21 of 34 **PASSED** 

December 17, 2020 15:26:27

C:\Data\SAUMIL\GREENP...BRENTWOOD-2 EL-2).isl

**BC CALC® Member Report** 

City, Province, Postal Code:

Dry | 1 span | No cant.

**Build 7364** Job name: Address:

Customer:

**GREENPARK HOMES** 

Description: Level - Ground Floor

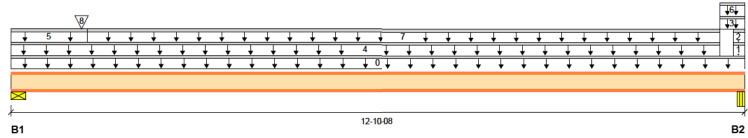
Wind

TRINA...LL, EAST GWILLIMBURY, ON

Specifier: SB

Code reports: CCMC 12787-R Designer: Company:

File name:



Total Horizontal Product Length = 12-10-08

Snow

## Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	
B1, 2-3/8"	479 / 0	199 / 0	
B2. 5-1/4"	249 / 0	111 / 0	

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-10-08	Тор		3			00-00-00
1	Unf. Lin. (lb/ft)	L	12-08-01	12-10-08	Тор		2			n\a
2	Unf. Lin. (lb/ft)	L	12-08-01	12-10-08	Тор		1			n\a
3	Unf. Lin. (lb/ft)	L	12-05-04	12-10-08	Тор	17	6			n\a
4	Unf. Lin. (lb/ft)	L	00-00-00	12-05-04	Тор	21	8			n\a
5	Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Тор	50	19			n\a
6	Unf. Lin. (lb/ft)	L	12-05-04	12-10-08	Тор	10	4			n\a
7	Unf. Lin. (lb/ft)	L	01-04-02	12-05-04	Тор	14	5			n\a
8 F10	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Front	233	91			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1673 ft-lbs	5305 ft-lbs	31.5%	1	05-07-05
End Reaction	968 lbs	1684 lbs	57.4%	1	00-00-00
End Shear	939 lbs	2350 lbs	40.0%	1	00-02-06
Total Load Deflection	L/999 (0.123")	n\a	n\a	4	06-01-00
Live Load Deflection	L/999 (0.086")	n\a	n\a	5	06-01-00
Max Defl.	0.123"	n\a	n\a	4	06-01-00
Span / Depth	12.5				

Ве	earing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 2-1/2"	968 lbs	26.5%	57.4%	Spruce-Pine-Fir
B2	Beam	5-1/4" x 2-1/2"	512 lbs	6.3%	26.7%	Spruce-Pine-Fir



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

READ ALL NOTES ON THIS PAGE AND ON



### F9-B

Dry | 1 span | No cant. December 17, 2020 15:26:27

C:\Data\SAUMIL\GREENP...BRENTWOOD-2 EL-2).isl

**BC CALC® Member Report Build 7364** 

File name:

**GREENPARK HOMES** Description: Level - Ground Floor

READ ALL NOTES ON THIS PAGE AND ON

NOTE PAGE IS AN INTEGRAL PART OF THIS

CONTAINS SPECIFICATIONS AND CRITERIA

USED IN THE DESIGN OF THIS COMPONENT.

ENGINEERING NOTE PAGE ENP-2. THIS

CALCULATION SUMMARY PAGE AS IT

Address: TRINA...LL, EAST GWILLIMBURY, ON

City, Province, Postal Code: Specifier:

Customer: SB Designer:

Code reports: CCMC 12787-R Company:

Notes

Job name:

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Design meets User specified (0.72") Maximum live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



Page 22 of 34

**PASSED** 

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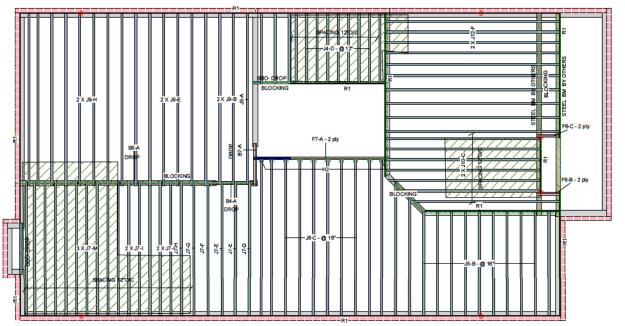
Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

Second Floor



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 MEMBE CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. BLOCK IS REQUIRED AT ALL

JOB INFORMATION Second Floor LVL/LSL (Flush) Width Label Description F7 1.75 Forex 2.0E-3000Fb LVL F6 Forex 2.0E-300 0Fb LVL 1.75 LVL/LSL (Dropped) Label Description Width B4 1.75 2.0E-300 0Fb LVL R5 1.75 2.0E-300 0Fb LVL **B**7 1.75 Forex 2.0E-3000Fb LVL I Joist (Flush) Label Description Width J12 AJS 140 2.5 J10 AJS 140 2.5 J7 AJS 140 2.5 J6 AJS 140 2.5 J5 AJS 140 2.5 2.5 J4 AJS 140 J9 AJS 20 J8 AJS 20 2.5 Rim Board Width Label Description R1 Norbord Rimbos 1.125 Plus 1.125 X 11.875 Width Label Description BLK1 AJS 140 2.5

Hange	r				Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H2	10	LF2511			12 10d	1 #8x1 1/4WS

- 1. All blocking to be cut from 12' joists
- 2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- 3. Ends of joists to be laterally supported
- 4. Packing of Steel beams and attachment by others
- 5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
- 6. Beams identified as "B" are dropped and supplied by others
- 7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
- 8. Load transfer blocks to be installed uncer all point loads
- 9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting re quirements
- 10. Hangers and Fasteners to be installed as per manufacturer
- Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.

Point Load Support 

Legend

Load from Above Wall Norbord Rimboard Plus 1.125 X AJS 140 11.875 AJS 20 11.875 Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)

Forex 2.0E-3000Fb LVL 1.75 X 11.875 (Dropped) Forex 2.0E-3000Fb LVL 1.75 X 11.875

1.5 X 9.5 (Dropped) 1.75 X 9.5 (Dropped) 5.25 X 10.25 (Dropped)

JOISTS SPACING 12"O/C UNLESS NOTED OTHERWISE

_						Builder	
De		Qty	Plies		Length		
11.8	375	1	2	2	14-0-0	Project	
11.8	375	2	2	4	4-0-0	Shipping GREENPARK HOMES TRINAR HALL,EAST G	
D-	-41-	04.	Plies	D	1 #-	Sales Rep	
De		Qty		Pcs	Length 4-0-0		
	9.5	1	2	2		Designer SB	
11.8	375	1	3	3	16-0-0	Plotted	
11.8	375	1	2	2	4-0-0	December 17, 2020	
	_					Layout Name  LOT-19(BRENTWOOD	)-2 EL-2)
De	pth	Qty	Plies	Pcs	Length	Job Path	
11.8	375			10	18-0-0		ENPARK HOMES/TRINAR
11.8	375			6	16-0-0		LOT-19(BRENTWOOD-2
11.8	375			23	14-0-0	EL-2).isl	
11.8				1	12-0-0	DESIGN CRITERIA	
11.8	375			10	10-0-0		
11.8				12	8-0-0	Second Floor	100 (04-)
11.8				17	18-0-0	Design Method	LSD (Canada)
11.8	375			10	16-0-0	Building Code	NBCC 2015 / OBC 2012
						Floor	
De	pth	Qty	Plies	Pcs	Length	Loads	
11.8	375			17	12-0-0	Live	40
						Dead	15
						<b>Deflection Joist</b>	
_						LL Span L/	480
De		Qty	Plies		Length	TL Span L/	360
11.8	375	LinFt		Varies	28-0-0	LL Cant 2L/	480
						TL Cant 2L/	360
		Bea	m/Girder		ported	Deflection Girder	550
	-				ember	LL Span L/	360
ew	Slop	e  fa	steners	fas	teners	LL Span L/	360

**CCMC References** 

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Decking

Thickness

Fastener

Ceiling:

Vibration

Boise - 12472-R , 12787-R LP - 12412-R Forex - 14056-R

Kott Inc. 3228 Moodie Dr, Ottawa



240 480

360

OSB

5/8"

Nailed & Glued

Gypsum 1/2"



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Reviewer	BCIN	Date
H. Authier	43236	2021-02-03

Hatch Area represents where al load has been applied e.g. 5 psf for ceramic tile)

Version 20.40.075 Powered by iStruct\*\*

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

NE1220-146 Page 24 of 34 Client:

isDesign

Project: Address:

**GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

Date: 12/17/2020 Input by:

Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

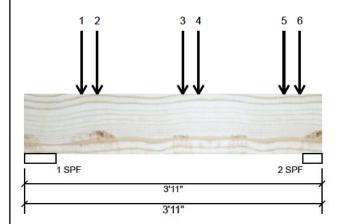
2-Ply - PASSED

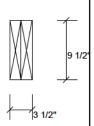
1

2

2 - SPF 3.000"

Level: Second Floor





Wind

0

0

1.25D+1.5L

0

0

2161 I

#### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load		100 to 10 to	
Floor Live:	40 PSF		
Dead:	15 PSF		

#### Unfactored Reactions UNPATTERNED lb (Uplift) Brg Dead

402

422

Live 1034

1089

Bearings and Fac	tored Reactions		
Bearing Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 SDE 5.000"	10% 503 / 1551	2053	1.25D±1.5I

527 / 1634

#### Analysis Results

Г	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	1681 ft-lb	2'1"	22724 ft-lb	0.074 (7%)	1.25D+1.5L	L
	Unbraced	1681 ft-lb	2'1"	22724 ft-lb	0.074 (7%)	1.25D+1.5L	L
	Shear	1470 lb	1'1 3/4"	9277 lb	0.158 (16%)	1.25D+1.5L	L
	Perm Defl in.	0.002 (L/16922)	2'1 1/16"	0.112 (L/360)	0.020 (2%)	D	Uniform
	LL Defl inch	0.006 (L/6550)	2'1 1/16"	0.112 (L/360)	0.050 (5%)	L	L
	TL Defl inch	0.009 (L/4722)	2'1 1/16"	0.169 (L/240)	0.050 (5%)	D+L	L

**Design Notes** 

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

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

33%

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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





/ Lateral slenderness ratio based on full section width.										
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	1	Point	0-9-0		Тор	159 lb	425 lb	0 lb	0 lb	J9
	2	Point	0-11-8		Тор	124 lb	332 lb	0 lb	0 lb	J7
	3	Point	2-1-0		Тор	159 lb	425 lb	0 lb	0 lb	J9
	4	Point	2-3-8		Тор	124 lb	332 lb	0 lb	0 lb	J7
	5	Point	3-5-0		Top	113 lb	303 lb	0 lb	0 lb	J9

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

Continued on page 2...

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design orineria 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 corro
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product regarding installation requirement fastening details, beam strength value
- naged Beams must not be used
- Daniaged 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 Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400



NE1220-146 Page 25 of 34 Client: Date: 12/17/2020 Page 2 of 11 Project: Input by: isDesign Address: **GREENPARK HOMES** Job Name: LOT-19(BRENTWOOD-2 EL-2) TRINAR HALL, EAST GWILLIMBURY, ON Project #: 1.750" X 9.500" Level: Second Floor Forex 2.0E-3000Fb LVL 2-Ply - PASSED 2 5 6 1 3 4

1 SPF 2 SPF 3'11' 3'11"

.Continued from page 1

ID Load Type Location Trib Width Side Dead Live Snow Wind Comments 6 115 lb 306 lb 0 lb 0 lb **Point** 3-7-8 Top Self Weight 8 PLF

> 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.



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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### Notes

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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 info regarding installation requirements, refastening details, beam strength values, an approvals approvals

  Damaged Beams must not be used
- Daniaged beams must not be used Design assumes top edge is laterally restrained Provide lateral support at bearing points to avoid lateral displacement and rotation
- 4. 5.

Manufacturer Info Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400



NE1220-146 Page 26 of 34 Client:

isDesign

Project:

Address: GREENPARK HOMES

TRINAR HALL, EAST GWILLIMBURY, ON

Date: 12/17/2020 Input by:

Job Name: LOT-19(BRENTWOOD-2 EL-2)

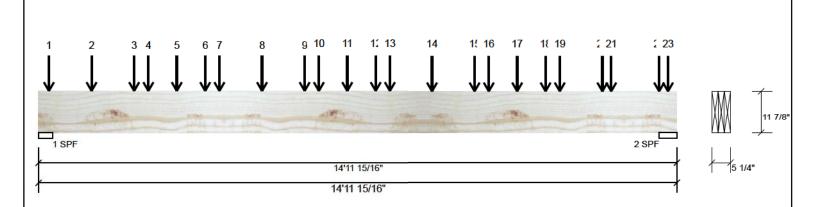
Project #:

Forex 2.0E-3000Fb LVL **B5-A** 

1.750" X 11.875"

3-Ply - PASSED

Level: Second Floor



Member Infor	mation			Unfactore	ed Reaction	ons UNPATTERNE	D lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	3	Design Method:	LSD	1	4028	1788	0	0
Moisture Condition	n: Dry	Building Code:	NBCC 2015 / OBC 2012	2	4124	1719	0	0
Deflection LL:	360	Load Sharing:	Yes					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load		324.54 (1924) SECOND 20						
Floor Live:	40 PSF			Bearings a	and Facto	red Reactions		
Dead:	15 PSF			Bearing L	ength.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 3	3.938"	65% 2235 / 6043	8278 L	1.25D+1.5L
				2 - SPF 5	5.000"	52% 2149 / 6185	8334 L	1.25D+1.5L

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	30010 ft-lb	7'2 15/16"	53447 ft-lb	0.561 (56%)	1.25D+1.5L	L
Unbraced	30010 ft-lb	7'2 15/16"	50243 ft-lb	0.597 (60%)	1.25D+1.5L	L
Shear	7979 lb	1'3 1/16"	17394 lb	0.459 (46%)	1.25D+1.5L	L
Perm Defl in.	0.172 (L/1005)	7'4 15/16"	0.479 (L/360)	0.360 (36%)	D	Uniform
LL Defl inch	0.402 (L/429)	7'5 3/8"	0.479 (L/360)	0.840 (84%)	L	L
TL Defl inch	0.574 (L/301)	7'5 1/4"	0.719 (L/240)	0.800 (80%)	D+L	L

### **Design Notes**

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

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

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

NAILING OR BOLTING REQUIREMENTS.



Page 3 of 11

/ Lateral siendemess ratio based on full section width.										
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	1	Point	0-2-15		Тор	59 lb	124 lb	0 lb	0 lb	J7
	2	Point	1-2-15		Тор	297 lb	691 lb	0 lb	0 lb	J9 J7
	3	Point	2-2-15		Тор	120 lb	253 lb	0 lb	0 lb	J7
	4	Point	2-6-15		Тор	170 lb	423 lb	0 lb	0 lb	J9
	5	Point	3-2-15		Тор	121 lb	253 lb	0 lb	0 lb	J7
	Continued on page	2								

East Gwillimbury

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product info regarding installation requirements, respectively.

  fastening details, beam strength values, an approvals
  - approvals

    Damaged Beams must not be used
- Daniaged 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 Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Page 27 of 34 Client: Date: 12/17/2020 Page 4 of 11

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

Input by:

Job Name: LOT-19(BRENTWOOD-2 EL-2)

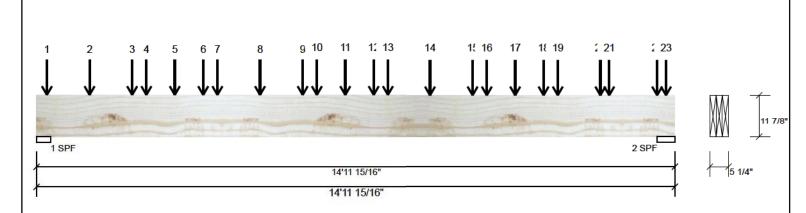
Project #:

Forex 2.0E-3000Fb LVL B5-A

1.750" X 11.875"

3-Ply - PASSED

Level: Second Floor



Continued f	rom page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-10-15		Top	170 lb	423 lb	0 lb	0 lb	J9
7	Point	4-2-15		Тор	120 lb	253 lb	0 lb	0 lb	J7
8	Point	5-2-15		Тор	297 lb	691 lb	0 lb	0 lb	J9 J7
9	Point	6-2-15		Тор	109 lb	253 lb	0 lb	0 lb	J7
10	Point	6-6-15		Тор	160 lb	423 lb	0 lb	0 lb	J9
11	Point	7-2-15		Тор	100 lb	253 lb	0 lb	0 lb	J7
12	Point	7-10-15		Top	159 lb	423 lb	0 lb	0 lb	J9
13	Point	8-2-15		Тор	100 lb	253 lb	0 lb	0 lb	J7
14	Point	9-2-15		Тор	264 lb	691 lb	0 lb	0 lb	J9 J7
15	Point	10-2-15		Тор	100 lb	253 lb	0 lb	0 lb	J7
16	Point	10-6-15		Тор	159 lb	423 lb	0 lb	0 lb	J9
17	Point	11-2-15		Тор	100 lb	253 lb	0 lb	0 lb	J7
18	Point	11-10-15		Тор	159 lb	423 lb	0 lb	0 lb	J9
19	Point	12-2-15		Тор	110 lb	278 lb	0 lb	0 lb	J7
20	Point	13-2-15		Тор	159 lb	425 lb	0 lb	0 lb	J9
21	Point	13-5-7		Тор	121 lb	318 lb	0 lb	0 lb	J7
22	Point	14-6-15		Тор	78 lb	209 lb	0 lb	0 lb	J9
23	Point	14-9-7		Тор	61 lb	163 lb	0 lb	0 lb	J7
	Self Weight				14 PLF				

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.



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Building Code H. Authier 43236 2021-02-03 Sewage System

### Notes

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   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- 1. LVI. beams must not be out or drilled
  2. Refer to manufacturer's product informati regarding installation requirements, multi-fastening details, beam strength values, and co 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 4. 5.

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

Kott Inc. 3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400



This design is valid until 4/24/2023

Version 20.40.075 Powered by iStruct™

NE1220-146 Page 28 of 34 Page 5 of 11 Client:

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

Date: 12/17/2020 Input by:

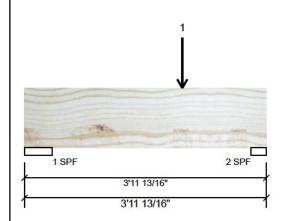
Job Name: LOT-19(BRENTWOOD-2 EL-2)

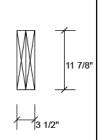
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor





Member Infor	mation			Unfactore	ed Reaction	ons UNPATTERNE	D lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	906	380	0	0
Moisture Condition	: Dry	Building Code:	NBCC 2015 / OBC 2012	2	1672	683	0	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load		324 A S						
Floor Live:	40 PSF			Bearings a	and Facto	red Reactions		
Dead:	15 PSF			Bearing L	ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 5	5.500"	15% 476 / 1359	1835 L	1.25D+1.5L
				2 - SPF 3	3.063"	51% 854 / 2508	3362 L	1.25D+1.5L

Dead

6. For flat roofs provide proper drainage to prevent

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3998 ft-lb	2'7 3/16"	34261 ft-lb	0.117 (12%)	1.25D+1.5L	L
Unbraced	3998 ft-lb	2'7 3/16"	34261 ft-lb	0.117 (12%)	1.25D+1.5L	L
Shear	3348 lb	2'9 5/8"	11596 lb	0.289 (29%)	1.25D+1.5L	L
Perm Defl in.	0.003 (L/11689)	2'7 3/16"	0.113 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.009 (L/4734)	2'7 3/16"	0.113 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.012 (L/3370)	2'7 3/16"	0.170 (L/240)	0.070 (7%)	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

Load Type

Self Weight

**Point** 

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

NAILING OR BOLTING REQUIREMENTS.



Live Snow Wind Comments



1026 lb 2578 lb 0 lb 0 lb F7 10 PLF

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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### Notes

ID

1

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corre
- Handling & Installation

Location

2-7-3

Trib Width

Side

Top

- LVL beams must not be cut or drilled
   Refer to manufacturer's product regarding installation requirement fastening details, beam strength value naged Beams must not be used
- Daniaged 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 4/24/2023

Manufacturer Info	
Forex APA: PR-L318	

Kott Inc. 3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Page 29 of 34 Page 6 of 11 Client:

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

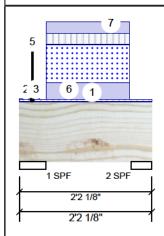
12/17/2020 Date: Input by: SB

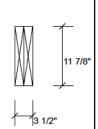
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL F6-B 2-Ply - PASSED

Level: Second Floor





Member Inform	nation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		

	Unfactored Reactions UNPATTERNED lb (Uplift)						
	Brg	Live	Dead	Snow	Wind		
	1	74	190	189	0		
2	2	71	149	184	0		

#### Analysis Results Actual Location Allowed Capacity Comb **Analysis** Case Moment 220 ft-lb 1'1 5/8" 34261 ft-lb 0.006 (1%) 1.25D+1.5S L +L Unbraced 220 ft-lb 1'1 5/8" 34261 ft-lb 0.006 (1%) 1.25D+1.5S L +L Shear 177 lb 1'4 3/8" 11596 lb 0.015 (2%) 1.25D+1.5S L Perm Defl in. 0.000 (L/999) 0 999.000 (L/0) 0.000 (0%) LL Defl inch 0.000 1'1 5/8" 0.051 (L/360) 0.010 (1%) S+0.5L L (L/62384)

#### **Bearings and Factored Reactions** Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 5.250" 238 / 357 595 I 1.25D+1.5S +L 2 - SPF 4.125" 6% 187 / 347 533 L 1.25D+1.5S +L

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POINT LOADS OVER BEARINGS.



### Design Notes

TL Defl inch 0.000

Dead:

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

1'1 5/8" 0.076 (L/240) 0.010 (1%) D+S+0.5L

- 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.

(L/37484)

15 PSF

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



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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

#### Notes

Calculated Situational Designs is responsible only on the structural adequacy of this component based on the design oriteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended specification, and to were the dimensions and loads to

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

**Handling & Installation** 

naged Beams must not be used

LVL beams must not be cut or drilled
 Refer to manufacturer's product regarding installation requirement

Daniaged 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 Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400



NE1220-146 Page 30 of 34 Client: Date: 12/17/2020 Page 7 of 11

isDesign Address:

Project:

**GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

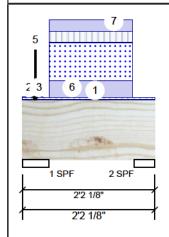
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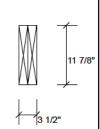
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED F6-B

Level: Second Floor





ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-2-2	0-4-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-4-1		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 0-4-0		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
4	Point	0-2-8		Тор	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Point	0-2-8		Тор	33 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Part. Uniform	0-5-4 to 1-9-12		Тор	117 PLF	82 PLF	271 PLF	0 PLF	
7	Part. Uniform	0-5-4 to 1-9-12		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				

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Building Code H. Authier 43236 2021-02-03 Sewage System Zoning 4. Authier 43236 2021-02-03				
	Building Code	H. Authier	43236	2021-02-03
Zoning	Sewage System			
	Zoning			

### Notes

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- 1. IVI, beams must not be out or drilled
  2. Refer to manufacturer's product informati regarding installation requirements, multi-fastening details, beam strength values, and co 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 4. 5.
- 6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex

APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Page 31 of 34 Page 8 of 11 Client: Date:

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

12/17/2020

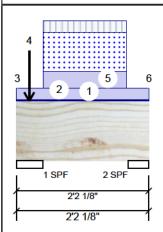
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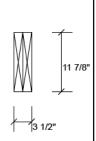
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED

Level: Second Floor





	Member Inform	nation		
	Туре:	Girder	Application:	Floor (Residential)
	Plies:	2	Design Method:	LSD
	Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
	Deflection LL:	360	Load Sharing:	No
	Deflection TL:	240	Deck:	Not Checked
	Importance:	Normal	Vibration:	Not Checked
	General Load			
ı	Floor Live	AN PSE		

Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / 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		

	Brg	Live	Dead	Snow	Wind	
	1	141	308	440	0	
2	2	64	176	184	0	

Unfactored Reactions UNPATTERNED lb (Uplift)

l	Bearings	Bearings and Factored Reactions					
ĺ	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
	1 - SPF	5.250"	10%	385 / 801	1186	L	1.25D+1.5S +L
1	2 - SPF	4.125"	6%	220 / 340	559	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	218 ft-lb	1'1 5/8"	34261 ft-lb	0.006 (1%)	1.25D+1.5S +L	L
Unbraced	218 ft-lb	1'1 5/8"	34261 ft-lb	0.006 (1%)	1.25D+1.5S +L	L
Shear	174 lb	1'4 3/8"	11596 lb	0.015 (2%)	1.25D+1.5S +L	L
Perm Defl in	. 0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/63061)	1'1 5/8"	0.051 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch	0.000 (L/37856)	1'1 5/8"	0.076 (L/240)	0.010 (1%)	D+S+0.5L	L

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CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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Discipline	Keviewei	DCIIV	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
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- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

#### Notes

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Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Page 32 of 34 Client: Date: 12/17/2020 Page 9 of 11

isDesign

Project:

Address: **GREENPARK HOMES** 

TRINAR HALL, EAST GWILLIMBURY, ON

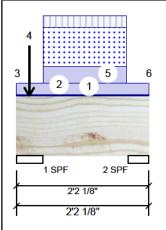
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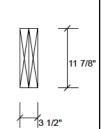
Job Name: LOT-19(BRENTWOOD-2 EL-2)

Project #:

Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED F6-C

Level: Second Floor





ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-2-2	0-2-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 2-2-2		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 0-0-4		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	0-2-8		Тор	120 lb	75 lb	251 lb	0 lb	F1 F1
5	Part. Uniform	0-5-4 to 1-9-12		Тор	117 PLF	82 PLF	271 PLF	0 PLF	
6	Part. Uniform	2-2-2 to 2-2-2		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				

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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

### Notes

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- Handling & Installation
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  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 laterally restrained
  5. Provide lateral support at bearing points to avoid lateral displacement and rotation

- 6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex APA: PR-L318 3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400





NE1220-146 Page 33 of 34 Client: Date: 12/17/2020 Project: Input by: isDesign Address: **GREENPARK HOMES** Job Name: LOT-19(BRENTWOOD-2 EL-2) TRINAR HALL, EAST GWILLIMBURY, ON Project #: Level: Second Floor Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED 2 3 5 6 4 1 LVL 2 SPF 12'11 3/4" 12'11 3/4" D lb (Uplift) Snow Wind 0 0 0 0

Member Infor	mation			Unfactore	d React	tions UN	NPATTERN	ED
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Т
Plies:	2	Design Method:	LSD	1	2578		1026	
Moisture Condition	n: Dry	Building Code:	NBCC 2015 / OBC 2012	2	1999	Š.	812	
Deflection LL:	360	Load Sharing:	No	22.5				
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load					F F 100 - 200 - 100	100	170	_
Floor Live:	40 PSF			Bearings a	nd Fac	tored R	eactions	
Dead:	15 PSF			Bearing L	ength	Cap.	React D/L lb	-
				1 11/1 3	500"	57%	1283 / 3866	

	Bearing	s and Fa	actored I	Reactions				
	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
ı	1 - LVL	3.500"	57%	1283 / 3866	5149	L	1.25D+1.5L	
4	2 - SPF	5.500"	34%	1015 / 2998	4013	L	1.25D+1.5L	

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12527 ft-lb	6' 11/16"	34261 ft-lb	0.366 (37%)	1.25D+1.5L	L
Unbraced	12527 ft-lb	6' 11/16"	27160 ft-lb	0.461 (46%)	1.25D+1.5L	L
Shear	4559 lb	1'2 5/8"	11596 lb	0.393 (39%)	1.25D+1.5L	L
Perm Defl in.	0.079 (L/1884)	6'3 11/16"	0.412 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.195 (L/759)	6'3 9/16"	0.412 (L/360)	0.470 (47%)	L	L
TL Defl inch	0.274 (L/541)	6'3 9/16"	0.618 (L/240)	0.440 (44%)	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.

al clandamace ratio bacad on full caction 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.



6 Lateral siende	erness ratio based o	on Iuli section width.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Part. Uniform	0-0-0 to 3-6-0		Тор	90 PLF	240 PLF	0 PLF	0 PLF		
2	Point	0-8-12		Near Face	120 lb	320 lb	0 lb	0 lb	J8	
3	Point	1-8-12		Near Face	128 lb	343 lb	0 lb	0 lb	J8	
4	Part. Uniform	2-4-12 to 10-4-12		Near Face	110 PLF	294 PLF	0 PLF	0 PLF		
5	Point	11-0-12		Near Face	138 lb	367 lb	0 lb	0 lb	J8	
6	Point	12-2-12		Near Face	131 lb	348 lb	0 lb	0 lb	J8	
Continued on page	2									

These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amépaded. These approved documents must be kept on site at all times. The building bermit must be clearly posted on site at all times.

East Gwillimbury

Discipline Reviewer BCIN Date

	Building Code	H. Authier	43236	2021-02-03
ĺ	Sewage System			
	Zoning			
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#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design orineria 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 corro
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product info regarding installation requirements, refastening details, beam strength values, an approvals

rovals naged Beams must not be used Daniaged beams must not be used
Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400



NE1220-146 Page 34 of 34 Page 11 of 11 Client: Date: 12/17/2020 Project: Input by: SB isDesign Address: **GREENPARK HOMES** Job Name: LOT-19(BRENTWOOD-2 EL-2) TRINAR HALL, EAST GWILLIMBURY, ON Project #: Level: Second Floor 1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED 2 3 5 6 4 1 LVL 2 SPF 12'11 3/4" 12'11 3/4" .Continued from page 1 ID Location Trib Width Side Dead Live Snow Wind Comments Load Type 7 15 PSF 40 PSF 0 PSF 0 PSF Tie-In 12-7-6 to 12-11-12 0-5-4 Top Self Weight 10 PLF

> 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.

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

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Manufacturer Info Forex APA: PR-L318

3228 Moodie Dr, Ottawa, Ontario

