

GREENPARK-TRINAR HALL-  
EAST GWILLIMBURY-ON-  
GLENWAY 12A-EL-1

## **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 only limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the 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 "Multi-ply Connection Details".
4. Pass-thru transfer block framing is required at all point loads over bearings.



### **HANDLING AND INSTALLATION**

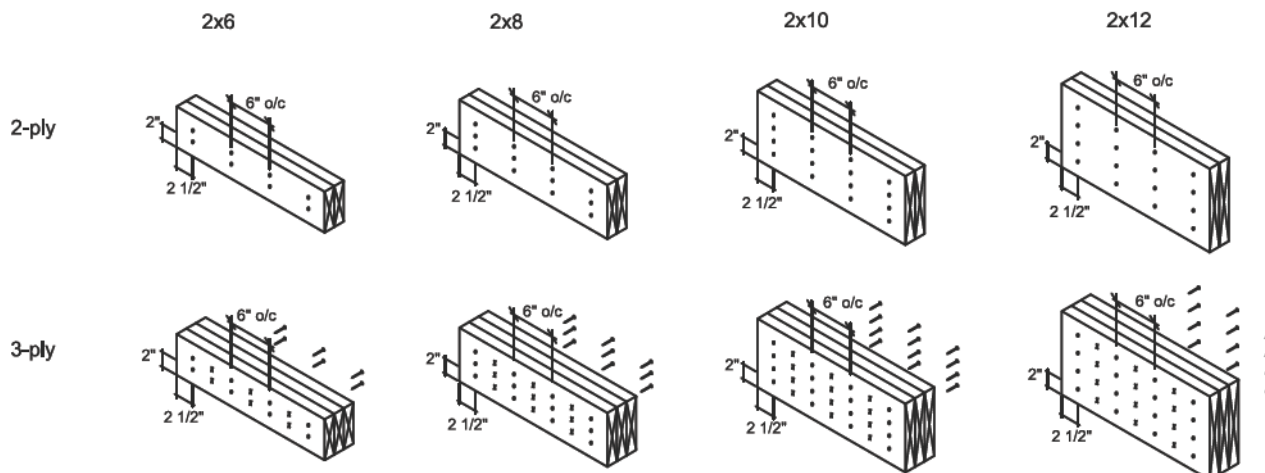
Do not drill any hole, cut or notch a certified building component without a written authorization.

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.

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

GREENPARK-TRINAR HALL-  
EAST GWILLIMBURY-ON-  
GLENWAY 12A-EL-1

## Conventional Connections



### Conventional connection notes:

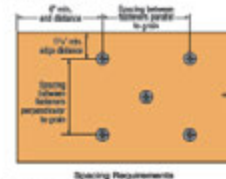
- Nails to be 3" long wire nails.
- Nails to be located 2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

### SIMPSON SDW SPACING REQUIREMENT

Table 9 – Spacing Requirements

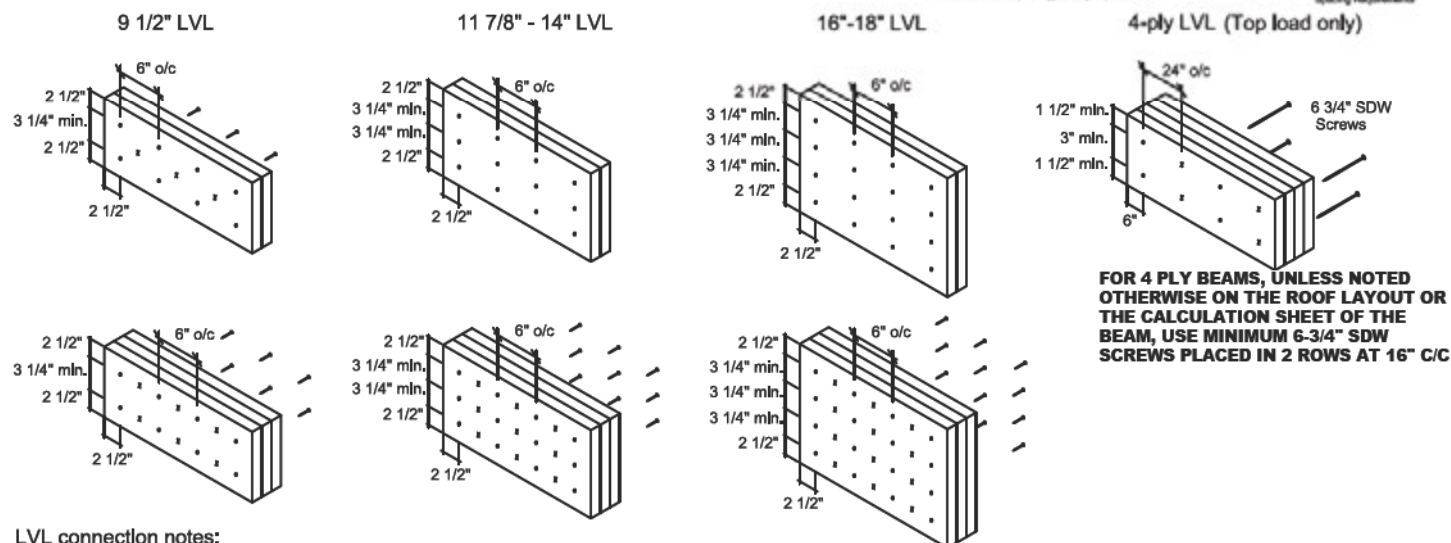
Geometry	Minimum Dimensions (in.)	
	S/P/L	S-A-P
Spacing parallel to grain	6	5
End distance parallel to grain	6	6
Spacing perpendicular to grain	3	2 1/2
End distance perpendicular to grain	1 1/2	1 1/2

1. Additional screws may be staggered diagonally between rows.



## LVL Connections

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



### LVL connection notes:

- LVL ply width is 1-3/4"
- Nails to be 3 1/2" common wire nails.
- 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 nail or screw driven from the opposite side.

FOR 4 PLY BEAMS, UNLESS NOTED  
OTHERWISE ON THE ROOF LAYOUT OR  
THE CALCULATION SHEET OF THE  
BEAM, USE MINIMUM 6-3/4" SDW  
SCREWS PLACED IN 2 ROWS AT 16" C/C

## Multiple Member Connections

All connections are for uniformly distributed loads.

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

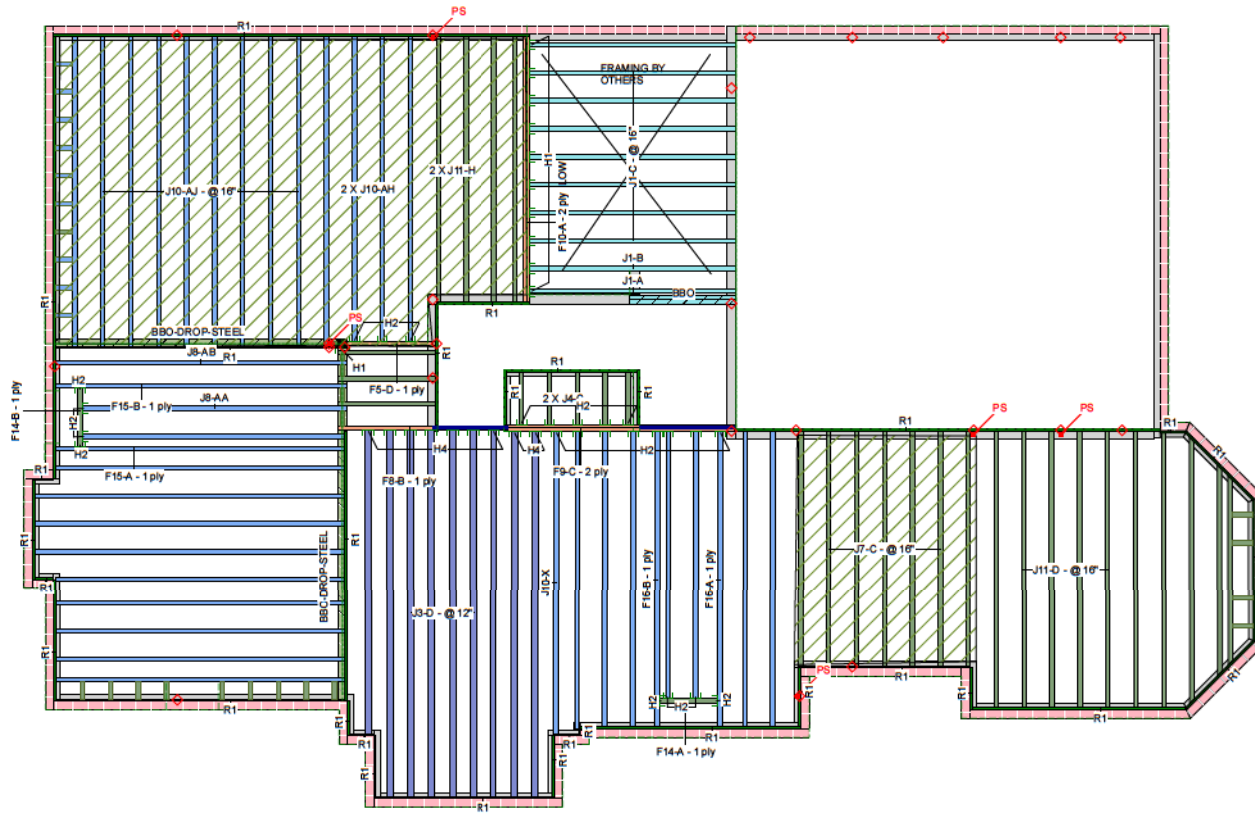


Discipline	Reviewer	BCIN	Date
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Sewage System			
Zoning			

KOTT  
3228  
Ottawa  
K2H 7V1  
613-838-2775



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corrections as noted. No other changes may be  
made without written approval of the Building  
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READ ALL NOTES ON THIS PAGE AND ON  
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NOTE PAGE IS AN INTEGRAL PART OF THIS  
CALCULATION SUMMARY PAGE AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA  
USED IN THE DESIGN OF THIS COMPONENT.

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

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

Ground Floor  
LVL/L SL

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F10	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			1	6-0-0

## I Joist

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F14	AJS 140	2.5	9.5			2	4-0-0
J11	AJS 140	2.5	9.5			12	14-0-0
J7	AJS 140	2.5	9.5			8	12-0-0
J6	AJS 140	2.5	9.5			1	10-0-0
J5	AJS 140	2.5	9.5			3	6-0-0
J4	AJS 140	2.5	9.5			5	4-0-0
F16	AJS 20	2.5	9.5			2	16-0-0
F15	AJS 20	2.5	9.5			2	14-0-0
J10	AJS 20	2.5	9.5			22	16-0-0
J8	AJS 20	2.5	9.5			11	14-0-0
J3	AJS 25	3.5	9.5			8	18-0-0
J2	AJS 25	3.5	9.5			1	16-0-0

## Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			18	12-0-0

## Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	AJS 140	2.5	9.5	LinFt		Varies	15-0-0
BLK2	AJS 20	2.5	9.5	LinFt		Varies	8-0-0

## Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	Unknown Hanger				
H1	10	Unknown Hanger				
H2	24	LF259			10 10d	1 #6x1 1/4WS
H4	9	LF359			10 10d	2 #6x1 1/4WS

- All blocking to be cut from 12" joists
- 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- Ends of joists to be laterally supported
- Packing of Steel beams and attachment by others
- Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
- Beams identified as "B" are dropped and supplied by others
- Install 2x4 blocking @ 24" o.c. under parallel non-loadbearing walls
- Load transfer blocks to be installed under all point loads
- Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
- 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.

## Legend

PS	Point Load Support
○	Load from Above
Wall	Wall
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
AJS 140 9.5	AJS 140 9.5
AJS 20 9.5	AJS 20 9.5
AJS 25 9.5	AJS 25 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
2.5 X 9.5 (Dropped)	2.5 X 9.5 (Dropped)
2.5 X 9.5	2.5 X 9.5
5.25 X 10.25 (Dropped)	5.25 X 10.25 (Dropped)

JOISTS SPACING 12" O/C  
UNLESS  
NOTED OTHERWISE

## JOB INFORMATION

## Builder

## Project

Shipping  
GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

## Sales Rep

## Designer

## Plotted

December 17, 2020

## Layout Name

GLENWAY 12A EL-1

## Job Path

C:\Data\SAUMIL\GREENPARK HOMES\TRINAR HALL\GLENWAY 12A\FLOOR\EL 1\WITH AJS140

## DESIGN CRITERIA

## Ground Floor

Design Method LSD (Canada)

Building Code NBCC 2015 / OBC 2012

## Floor

## Loads

Live 40

Dead 15

## Deflection Joist

LL Span L/ 480

TL Span L/ 360

LL Cant 2L/ 480

TL Cant 2L/ 360

## Deflection Girder

LL Span L/ 360

TL Span L/ 240

LL Cant 2L/ 480

TL Cant 2L/ 360

## Decking

OSB

Thickness 3/4"

Fastener Nailed & Glued

## Vibration

## CCMC References

Boise - 12472-R, 12787-R

P.P. - 12412-R

Forex - 14056-R

## Kott Inc.

3228 Moodie Dr, Ottawa

14 Anderson Blvd, Uxbridge, Ontario

613-838-2775 / 905-642-4400

East of Gwillimbury

Building Standards Branch BCIN 116487

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DISCIPLINE

Building Code

Reviewer H. Authier

BCIN 43236

Date 2021-02-25

Sewage System

Zoning

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

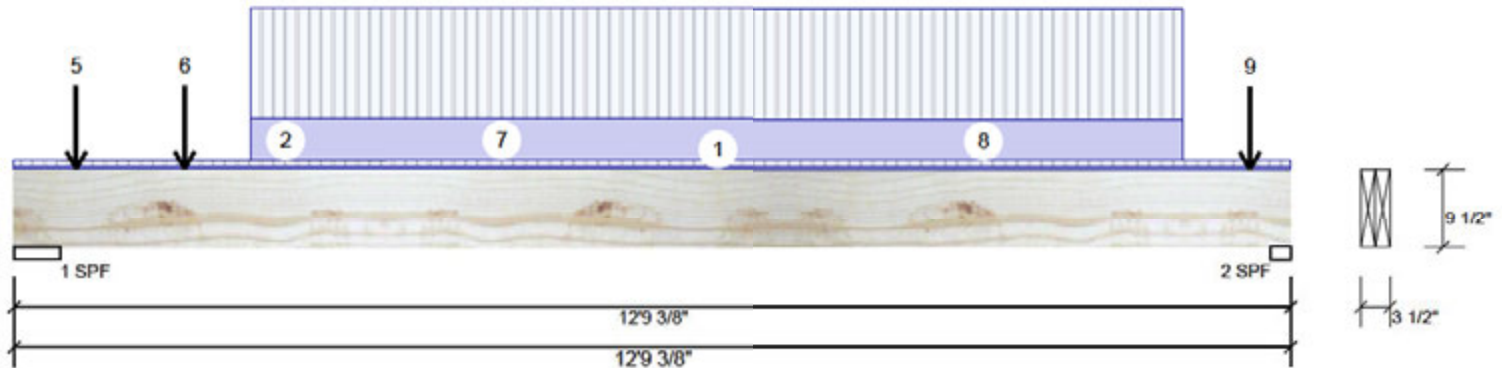




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1194	501	0	0
2	1238	517	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	20%	627 / 1791	2418 L	1.25D+1.5L
2 - SPF	2.375"	49%	647 / 1857	2504 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7722 ft-lb	6'6 5/16"	22724 ft-lb	0.340 (34%)	1.25D+1.5L	L
Unbraced	7722 ft-lb	6'6 5/16"	19760 ft-lb	0.391 (39%)	1.25D+1.5L	L
Shear	2473 lb	11'10 1/4"	9277 lb	0.267 (27%)	1.25D+1.5L	L
Perm Defl in.	0.091 (L/1610)	6'6 1/4"	0.408 (L/360)	0.220 (22%)	D	Uniform
LL Defl inch	0.219 (L/671)	6'6 1/4"	0.408 (L/360)	0.540 (54%)	L	
TL Defl inch	0.310 (L/473)	6'6 1/4"	0.612 (L/240)	0.510 (51%)	D+L	L

### Design Notes

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

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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.**



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-9-6	0-3-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tapered Start	0-5-8		Top	0 PLF	0 PLF	0 PLF	0 PLF	
	End	3-8-11			1 PLF	0 PLF	0 PLF	0 PLF	
5	Point	0-7-7		Near Face	23 lb	74 lb	0 lb	0 lb	J1
6	Point	1-8-7		Near Face	88 lb	236 lb	0 lb	0 lb	J1
7	Part. Uniform	2-4-7 to 11-8-7		Near Face	73 PLF	195 PLF	0 PLF	0 PLF	

Continued on page 2...

### Notes

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

### Lumber

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

### Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



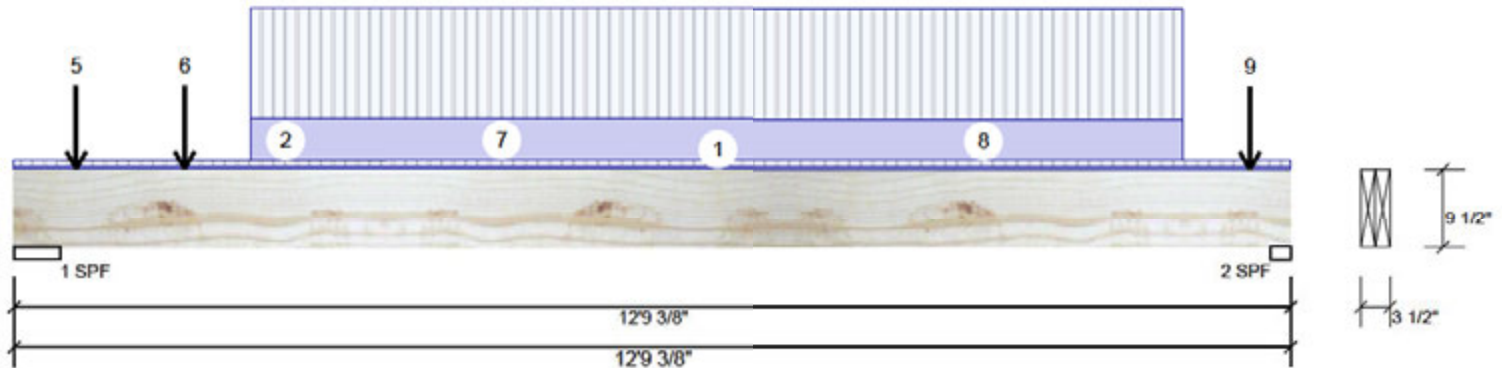




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Part. Uniform	3-8-11 to 12-8-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
9	Point	12-4-7		Near Face	50 lb	157 lb	0 lb	0 lb	J1
	Self Weight				8 PLF				

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NAILING OR BOLTING REQUIREMENTS.

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



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#### Notes

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#### Lumber

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

#### chemicals

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023

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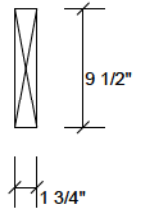
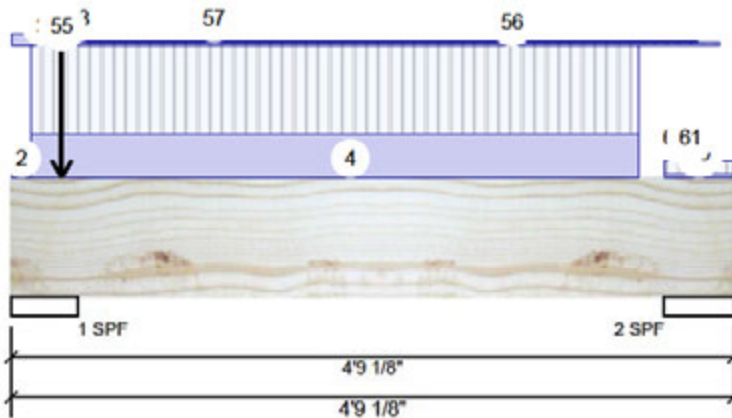


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Project #:

# F5-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1008	485	0	0
2	551	278	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	37% 606 / 1512	2119	L	1.25D+1.5L
2 - SPF	5.500"	20% 347 / 826	1173	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1256 ft-lb	2'4 3/8"	11362 ft-lb	0.111 (11%)	1.25D+1.5L	L
Unbraced	1256 ft-lb	2'4 3/8"	8847 ft-lb	0.142 (14%)	1.25D+1.5L	L
Shear	1253 lb	3'6 7/8"	4638 lb	0.270 (27%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/8786)	2'4 3/8"	0.133 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.011 (L/4417)	2'4 3/8"	0.133 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.016 (L/2939)	2'4 3/8"	0.199 (L/240)	0.080 (8%)	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 Top braced at bearings.
- 4 Bottom braced at bearings.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
2	Part. Uniform	0-0-1 to 0-1-10		Top	31 PLF	82 PLF	0 PLF	0 PLF	J10
3	Part. Uniform	0-0-1 to 0-5-4		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self v
4	Part. Uniform	0-1-10 to 4-1-10		Far Face	142 PLF	290 PLF	0 PLF	0 PLF	
55	Point	0-4-0		Top	129 lb	335 lb	0 lb	0 lb	F5 F5
56	Tie-In	0-5-4 to 4-8-0	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
57	Part. Uniform	0-5-4 to 4-6-4		Top	1 PLF	0 PLF	0 PLF	0 PLF	
58	Part. Uniform	0-5-4 to 0-5-6		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self v

Continued on page 2...

## Notes

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## Lumber

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

chemicals

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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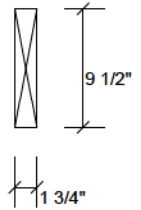
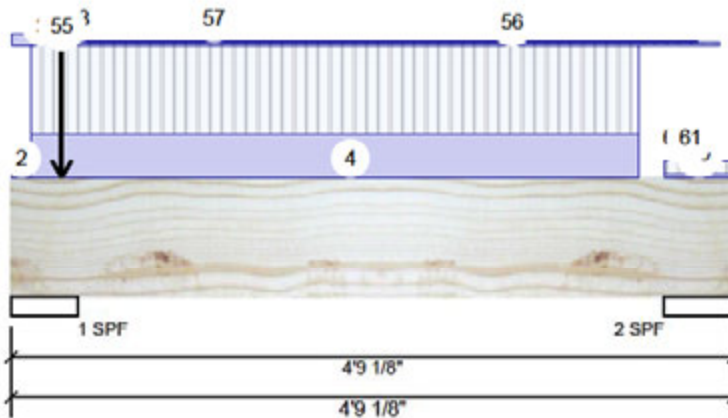


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**F5-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED**

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
59	Tie-In	4-3-10 to 4-9-2	0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
60	Part. Uniform	4-3-10 to 4-5-2		Top	5 PLF	0 PLF	0 PLF	0 PLF	
61	Tapered Start	4-5-2		Top	5 PLF	0 PLF	0 PLF	0 PLF	
	End	4-6-4			0 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

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NAILING OR BOLTING REQUIREMENTS.**

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



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#### Notes

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#### Lumber

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

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			





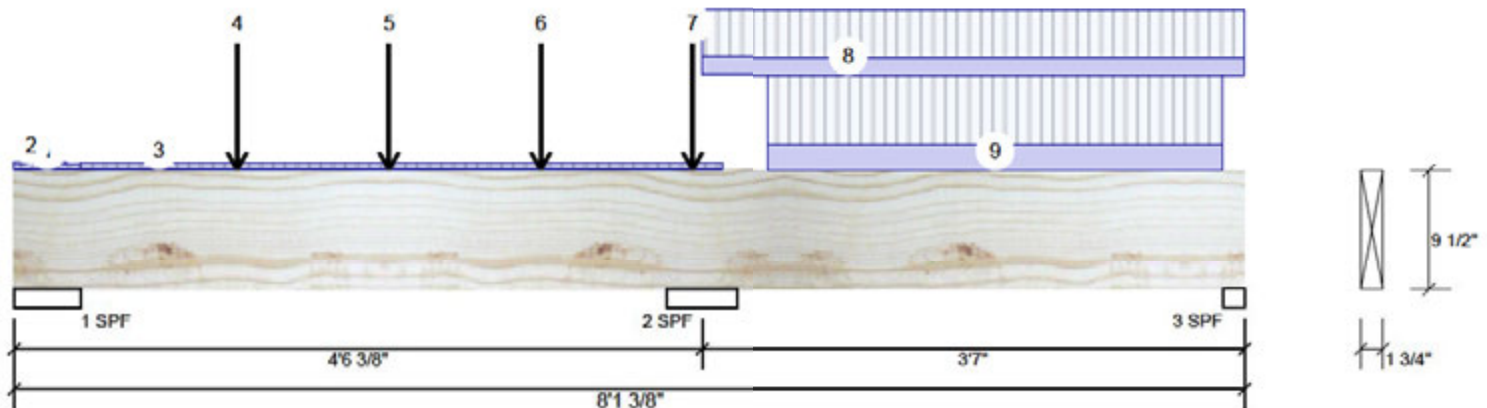


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

# F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	490	192	0	0
2	2108	807	0	0
3	824	314	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	19%	223 / 828	1051	L_ 1.25D+1.5L
2 - SPF	5.500"	73%	1045 / 3274	4319	LL 1.25D+1.5L
3 - SPF	1.750"	92%	373 / 1361	1733	_L 1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1651 ft-lb	4'6 3/8"	11362 ft-lb	0.145 (15%)	1.25D+1.5L	LL
Unbraced	-1651 ft-lb	4'6 3/8"	8633 ft-lb	0.191 (19%)	1.25D+1.5L	LL
Pos Moment	1292 ft-lb	6'6 1/2"	11362 ft-lb	0.114 (11%)	1.25D+1.5L	_L
Unbraced	1292 ft-lb	6'6 1/2"	9427 ft-lb	0.137 (14%)	1.25D+1.5L	_L
Shear	2110 lb	5'3 7/8"	4638 lb	0.455 (45%)	1.25D+1.5L	LL
Perm Defl in.	0.004 (L/11812)	2'5 5/8"	0.139 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.013 (L/3717)	2'5 5/8"	0.139 (L/360)	0.100 (10%)	L	_L
TL Defl inch	0.016 (L/2607)	6'4 1/8"	0.175 (L/240)	0.090 (9%)	D+L	_L

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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

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	0-5-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	0-2-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 4-8-0	0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	1-5-10		Near Face	162 lb	450 lb	0 lb	0 lb	J2
5	Point	2-5-10		Near Face	135 lb	359 lb	0 lb	0 lb	J3
6	Point	3-5-10		Near Face	131 lb	351 lb	0 lb	0 lb	J3

Continued on page 2...

## Notes

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## Lumber

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

## Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			





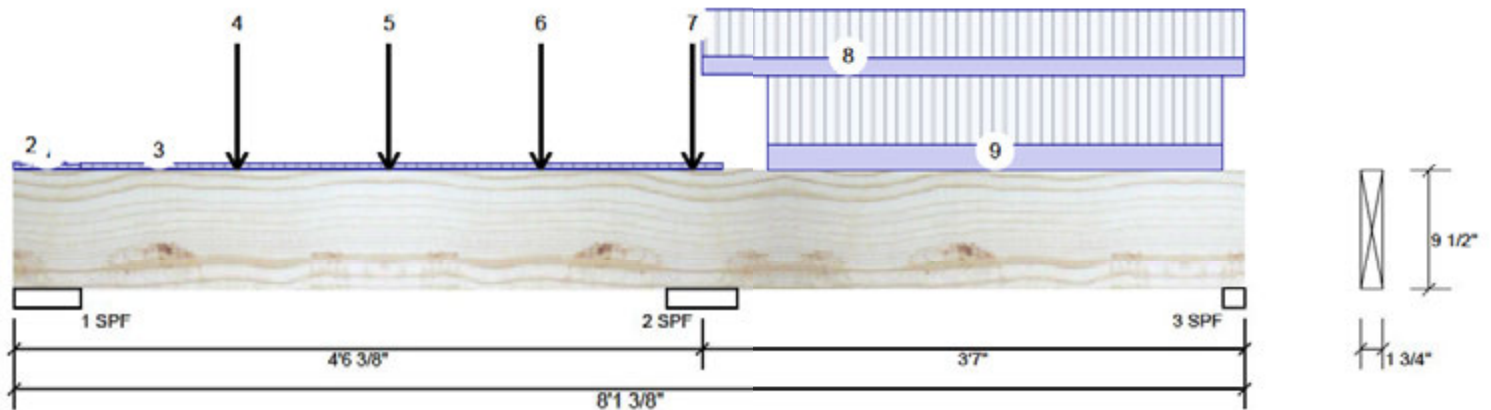
Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

Page 6 of 8

# F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	4-5-10		Near Face	98 lb	244 lb	0 lb	0 lb	J3
8	Part. Uniform	4-6-6 to 8-1-6		Top	90 PLF	240 PLF	0 PLF	0 PLF	
9	Part. Uniform	4-11-10 to 7-11-10		Near Face	131 PLF	350 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

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## Notes

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## Lumber

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

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			





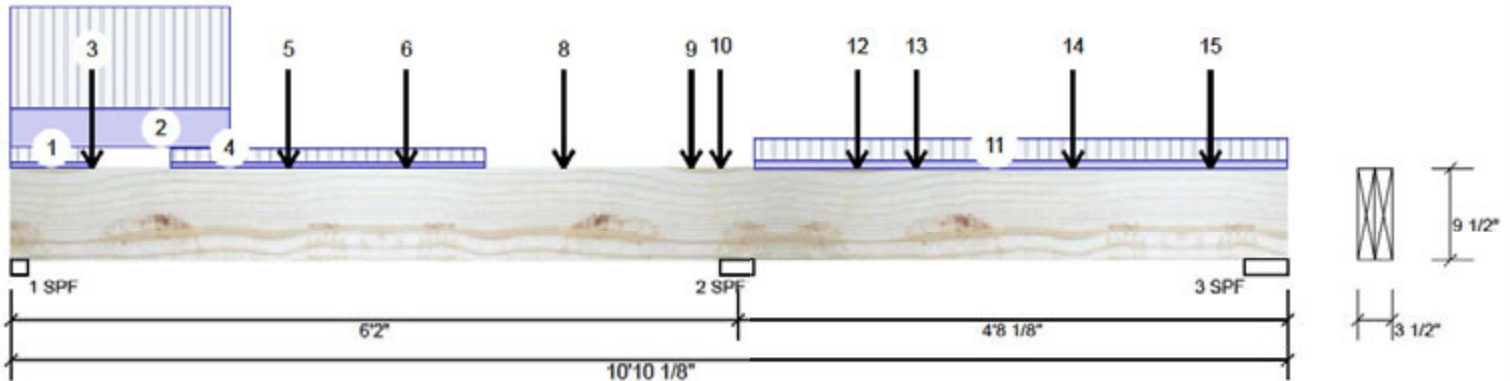


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1018	401	0	0
2	2269	919	0	0
3	614	262	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.750"	55% 490 / 1582	2072	L	1.25D+1.5L
2 - SPF	3.500"	62% 1173 / 3479	4653	LL	1.25D+1.5L
3 - SPF	4.375"	16% 313 / 1186	1500	L	1.25D+1.5L
			(-47)		(0.9D+1.5L)

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2509 ft-lb	6'2"	22724 ft-lb	0.110 (11%)	1.25D+1.5L	LL
Unbraced	-2509 ft-lb	6'2"	21993 ft-lb	0.114 (11%)	1.25D+1.5L	LL
Pos Moment	2352 ft-lb	2'4 1/4"	22724 ft-lb	0.104 (10%)	1.25D+1.5L	L
Unbraced	2352 ft-lb	2'4 1/4"	21993 ft-lb	0.107 (11%)	1.25D+1.5L	L
Shear	2622 lb	5'4 1/2"	9277 lb	0.283 (28%)	1.25D+1.5L	LL
Perm Defl in. (L/10364)	0.007	2'10 3/16"	0.203 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.020 (L/3599)	2'11 3/8"	0.203 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.027 (L/2672)	2'11"	0.304 (L/240)	0.090 (9%)	D+L	L

### Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Tie-down connection required at bearing 3 for uplift 47 lb (Combination 0.9D+1.5L, Load Case L).
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Tie-In	0-0-0 to 0-8-4	1-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 1-10-4		Near Face	141 PLF	376 PLF	0 PLF	0 PLF	
3	Point	0-8-4		Far Face	20 lb	53 lb	0 lb	0 lb	J4

Continued on page 2...

### Notes

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### Lumber

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- LVL not to be treated with fire retardant or corrosive

### chemicals

### Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Seismic System			
Zoning			



This design is valid until 4/24/2023



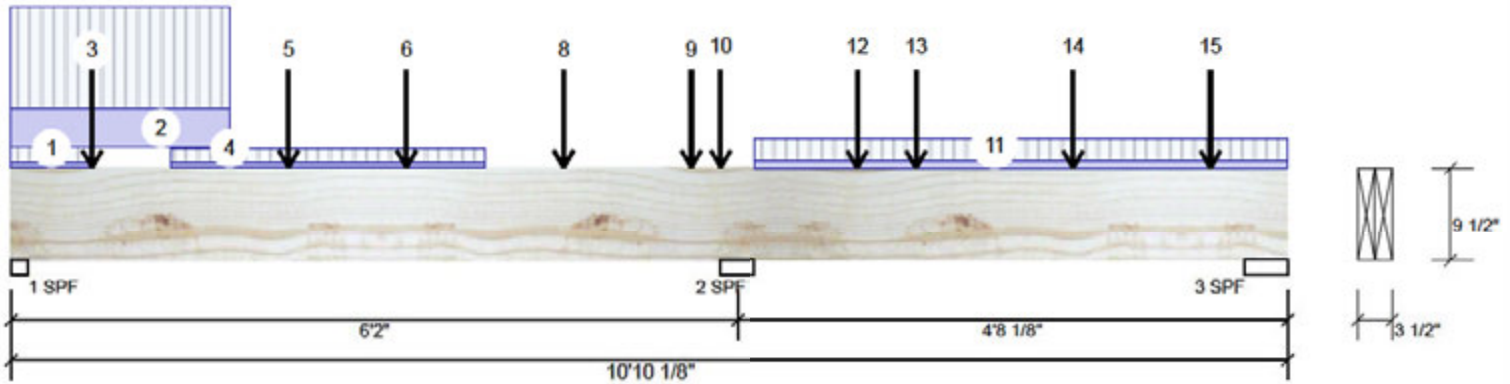


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	1-4-4 to 4-0-4		Far Face	19 PLF	50 PLF	0 PLF	0 PLF	
5	Point	2-4-4		Near Face	108 lb	289 lb	0 lb	0 lb	J10
6	Point	3-4-4		Near Face	124 lb	330 lb	0 lb	0 lb	J10
7	Point	4-8-4		Far Face	23 lb	60 lb	0 lb	0 lb	J4
8	Point	4-8-4		Near Face	141 lb	377 lb	0 lb	0 lb	J10
9	Point	5-9-4		Far Face	13 lb	39 lb	0 lb	0 lb	J4
10	Point	6-0-4		Near Face	132 lb	353 lb	0 lb	0 lb	J10
11	Part. Uniform	6-3-12 to 10-10-2		Top	30 PLF	80 PLF	0 PLF	0 PLF	
12	Point	7-2-4		Near Face	118 lb	267 lb	0 lb	0 lb	F16
13	Point	7-8-4		Near Face	88 lb	235 lb	0 lb	0 lb	J8
14	Point	9-0-4		Near Face	120 lb	320 lb	0 lb	0 lb	J8
15	Point	10-2-4		Near Face	148 lb	348 lb	0 lb	0 lb	F16
	Self Weight				8 PLF				

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#### Lumber

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

#### chemicals

#### Handling & Installation

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#### Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



**F14-A**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 08:00:42

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP...\GLENWAY 12A EL-1.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

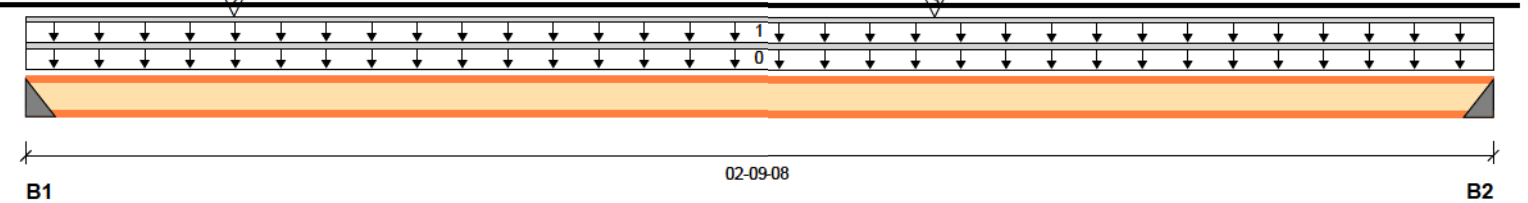
Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:



Total Horizontal Product Length = 02-09-08

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

Bearing	Live	Dead	Snow	Wind
B1, 2"	363 / 0	139 / 0		
B2, 2"	264 / 0	102 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-09-08	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	02-09-08	Top	26	10			n/a
2	J8	Conc. Pt. (lbs)	L	00-04-12	00-04-12	Back	235	88			n/a
3	J8	Conc. Pt. (lbs)	L	01-08-12	01-08-12	Back	320	120			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	471 ft-lbs	4095 ft-lbs	11.5%	1	01-08-12
End Reaction	719 lbs	1588 lbs	45.3%	1	00-00-00
End Shear	710 lbs	1830 lbs	38.8%	1	00-02-00
Total Load Deflection	L/999 (0.008")	n/a	n/a	4	01-08-12
Live Load Deflection	L/999 (0.006")	n/a	n/a	5	01-08-12
Max Defl.	0.008"	n/a	n/a	4	01-08-12
Span / Depth	3.3				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 2-1/2"	719 lbs	37.0%	45.3%	LF259
B2	Hanger 2" x 2-1/2"	523 lbs	26.9%	32.9%	LF259

**Cautions**

Hanger LF259 requires (10) 10dx1.5 face nails, (1) #8x1.25 joist nails.

Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist

Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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**F14-A**

Dry | 1 span | No cant.

December 17, 2020 08:00:42

BC CALC® Member Report

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP...\GLENWAY 12A EL-1.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:

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

**Notes**

**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 expert to a anyone rel evidence o application building co properties; Installation engineer's accordance; Guide and obtain Inst questions, before inst;



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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

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F14-B

Dry | 1 span | No cant.

December 17, 2020 08:00:42

BC CALC® Member Report

Build 7364

Job name:

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

File name: C:\Data\SAUMIL\GREENP... \GLENWAY 12A EL-1.isl

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

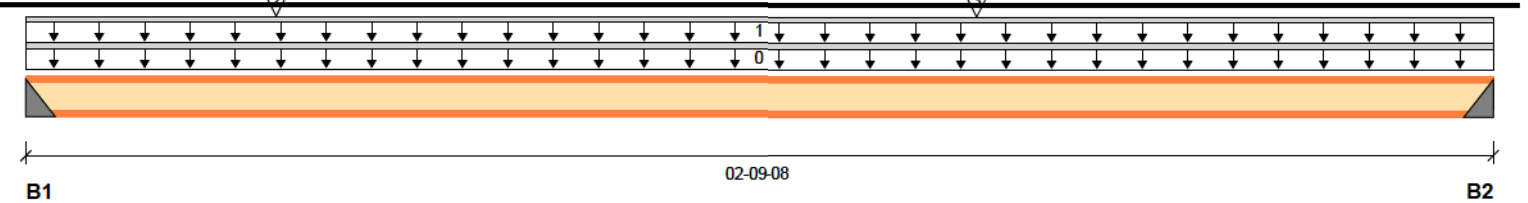
Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 2"	337 / 0	130 / 0		
B2, 2"	265 / 0	102 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-09-08	Top	1.00	0.65	1.00	1.15	00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	02-09-08	Top	24	9			n/a
2	J8	Conc. Pt. (lbs)	L	00-05-11	00-05-11	Front	236	89			n/a
3	J8	Conc. Pt. (lbs)	L	01-09-11	01-09-11	Front	299	112			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	437 ft-lbs	4095 ft-lbs	10.7%	1	01-09-11
End Reaction	668 lbs	1588 lbs	42.1%	1	00-00-00
End Shear	660 lbs	1830 lbs	36.1%	1	00-02-00
Total Load Deflection	L/999 (0.007")	n/a	n/a	4	01-09-11
Live Load Deflection	L/999 (0.005")	n/a	n/a	5	01-09-11
Max Defl.	0.007"	n/a	n/a	4	01-09-11
Span / Depth	3.3				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 2-1/2"	668 lbs	34.4%	42.1%	LF259
B2	Hanger 2" x 2-1/2"	525 lbs	27.0%	33.1%	LF259

**Cautions**

Hanger LF259 requires (10) 10dx1.5 face nails, (1) #8x1.25 joist nails.

Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist

Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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

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

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

**F14-B**

Dry | 1 span | No cant.

December 17, 2020 08:00:42

BC CALC® Member Report

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP...\GLENWAY 12A EL-1.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:

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

**Notes**

**Disclosure**

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Completeness and accuracy of input must be reviewed and verified by a

qualified expert to a anyone rel evidence o application building co properties; Installation engineer's accordance; Guide and obtain Inst questions, before inst;



East Gwillimbury  
Building Standards Branch BCN #16487

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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

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**F15-A**

Dry | 1 span | No cant.

December 17, 2020 08:00:42

BC CALC® Member Report

Build 7364

Job name:

Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

File name: C:\Data\SAUMIL\GREENP... \GLENWAY 12A EL-1.isl

Description: Level - Ground Floor

City, Province, Postal Code:

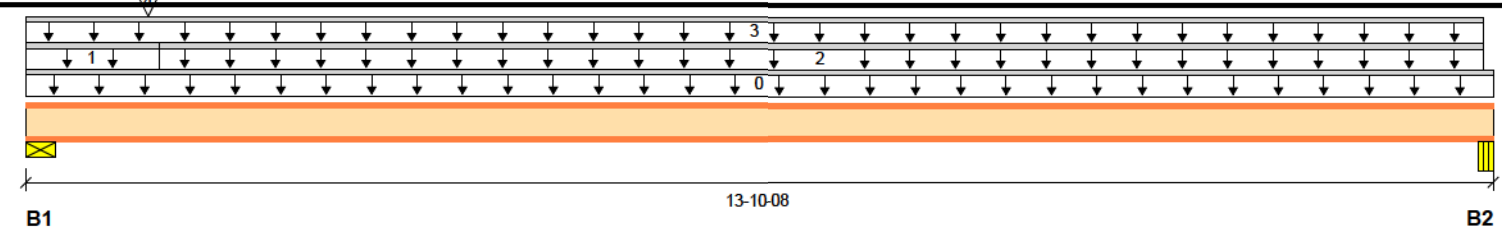
Specifier:

Customer:

Designer: S B

Code reports: CCMC 12787-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	575 / 0	236 / 0		
B2, 5-1/4"	237 / 0	107 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-10-08	Top		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	01-03-02	Top	60	23			n/a
2		Unf. Lin. (lb/ft)	L	01-03-02	13-09-06	Top	12	4			n/a
3		Unf. Lin. (lb/ft)	L	00-00-00	13-09-06	Top	18	7			n/a
4	F14	Conc. Pt. (lbs)	L	01-01-14	01-01-14	Back	337	130			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1784 ft-lbs	5675 ft-lbs	31.4%	1	05-10-10
End Reaction	1157 lbs	1653 lbs	70.0%	1	00-00-00
End Shear	1125 lbs	1830 lbs	61.5%	1	00-02-06
Total Load Deflection	L/799 (0.201")	n/a	30.0%	4	06-07-03
Live Load Deflection	L/1151 (0.139")	n/a	31.3%	5	06-07-03
Max Defl.	0.201"	n/a	20.1%	4	06-07-03
Span / Depth	16.9				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1157 lbs	31.7%	70.0%	Spruce-Pine-Fir
B2	Beam 5-1/4" x 2-1/2"	489 lbs	6.1%	26.4%	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.  
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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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

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**F16-A**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 08:00:42

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP... \GLENWAY 12A EL-1.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

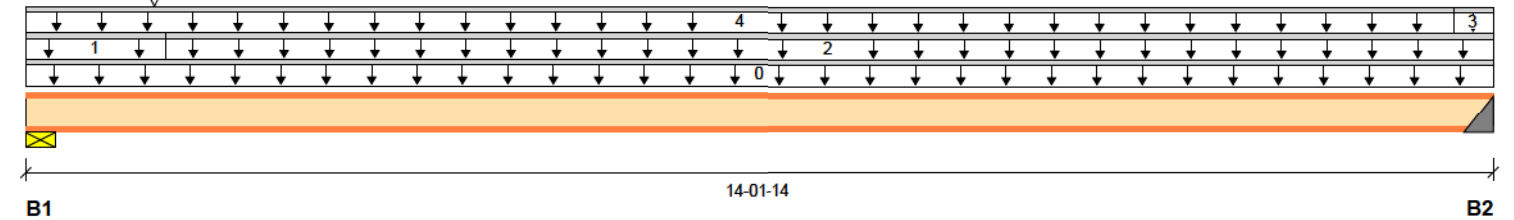
Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	621 / 0	254 / 0		
B2, 2"	348 / 0	148 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-01-14	Top		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Top	60	23			n/a
2		Unf. Lin. (lb/ft)	L	01-04-02	14-01-14	Top	23	9			n/a
3		Unf. Lin. (lb/ft)	L	13-09-06	14-01-14	Top	10	4			n/a
4		Unf. Lin. (lb/ft)	L	00-00-00	13-09-06	Top	23	9			n/a
5	F14	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Back	264	102			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2626 ft-lbs	5675 ft-lbs	46.3%	1	06-06-06
End Reaction	1249 lbs	1653 lbs	75.5%	1	00-00-00
End Shear	1216 lbs	1830 lbs	66.4%	1	00-02-06
Total Load Deflection	L/530 (0.315")	n/a	45.3%	4	06-10-13
Live Load Deflection	L/754 (0.221")	n/a	47.7%	5	06-10-13
Max Defl.	0.315"	n/a	31.5%	4	06-10-13
Span / Depth	17.6				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1249 lbs	34.2%	75.5%	Spruce-Pine-Fir
B2	Hanger 2" x 2-1/2"	707 lbs	28.0%	44.5%	LF259

**Cautions**

Hanger LF259 requires (10) 10d face nails, (1) #8x1.25 joist nails.  
Header for the hanger LF259 is a Double 1-3/4" x 9-1/2" LVL beam



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.

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Sewage System			
Zoning			

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Dry | 1 span | No cant.

December 17, 2020 08:00:42

BC CALC® Member Report

Build 7364

Job name:

Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

File name: C:\Data\SAUMIL\GREENP...\GLENWAY 12A EL-1.isl

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: S B

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

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Zoning			

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City, Province, Postal Code:

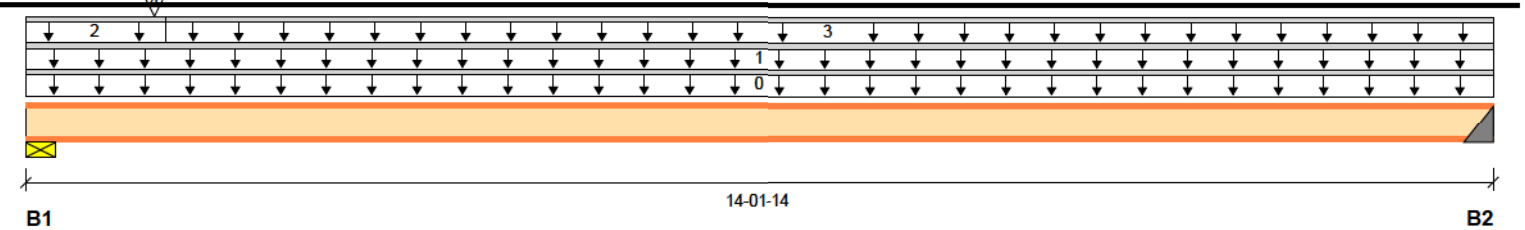
Specifier:

Customer:

Designer: S B

Code reports: CCMC 12787-R

Company:



Total Horizontal Product Length = 14-01-14

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

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	635 / 0	259 / 0		
B2, 2"	267 / 0	118 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-01-14	Top		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	14-01-14	Top	23	9			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Top	60	23			n/a
3		Unf. Lin. (lb/ft)	L	01-04-02	14-01-14	Top	10	4			n/a
4	F14	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Front	363	139			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2125 ft-lbs	5675 ft-lbs	37.5%	1	06-01-15
End Reaction	1276 lbs	1653 lbs	77.2%	1	00-00-00
End Shear	1243 lbs	1830 lbs	67.9%	1	00-02-06
Total Load Deflection	L/650 (0.257")	n/a	36.9%	4	06-10-13
Live Load Deflection	L/932 (0.179")	n/a	38.6%	5	06-08-09
Max Defl.	0.257"	n/a	25.7%	4	06-10-13
Span / Depth	17.6				



**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1276 lbs	34.9%	77.2%	Spruce-Pine-Fir
B2	Hanger 2" x 2-1/2"	548 lbs	21.7%	34.5%	LF259

**Cautions**

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Header for the hanger LF259 is a Double 1-3/4" x 9-1/2" LVL beam



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Zoning			

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Dry | 1 span | No cant.

December 17, 2020 08:00:42

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Build 7364

Job name:

Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

File name: C:\Data\SAUMIL\GREENP...\GLENWAY 12A EL-1.isl

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: S B

Code reports: CCMC 12787-R

Company:

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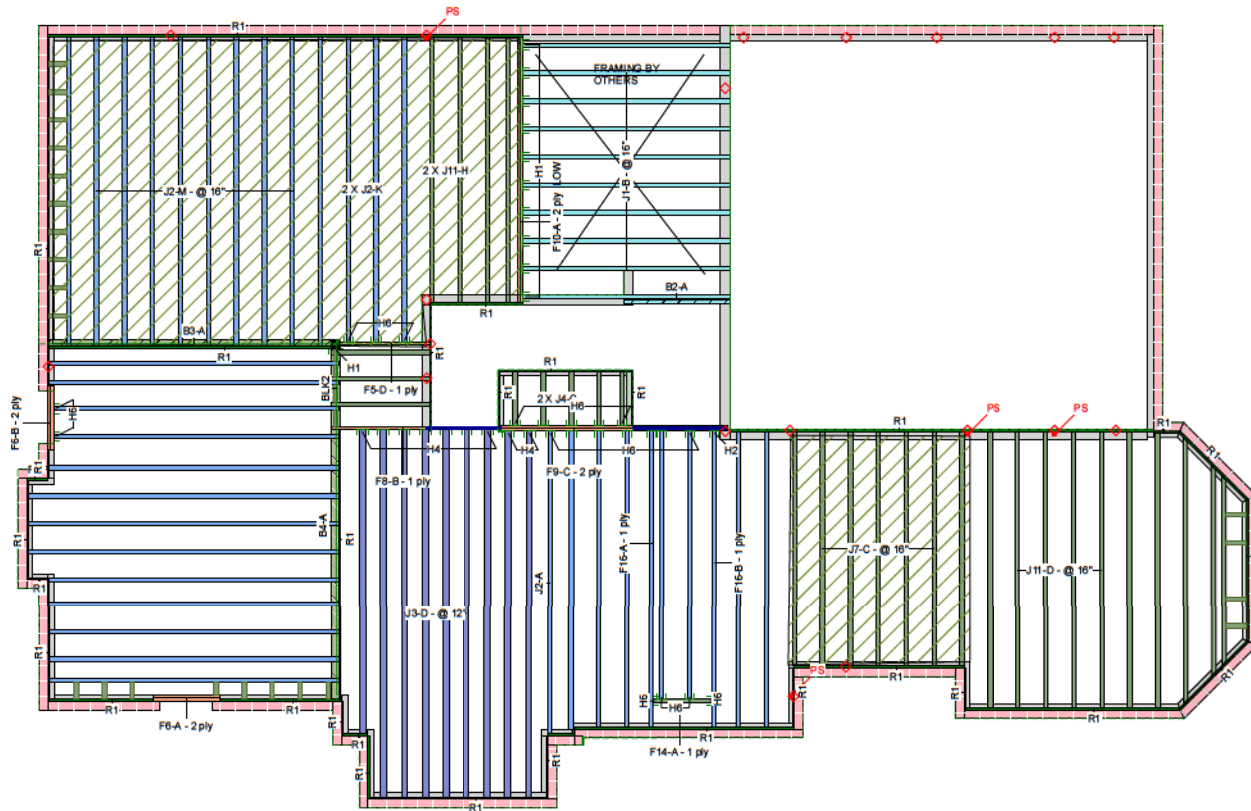
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Hatch Area represents where additional load has been applied. (e.g. 5 psf for ceramic tile)

Ground Floor  
LVL/L SL

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F10	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			1	6-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0

## Joist

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F14	AJS 140	2.5	9.5			1	4-0-0
J14	AJS 140	2.5	9.5			12	14-0-0
J7	AJS 140	2.5	9.5			8	12-0-0
J6	AJS 140	2.5	9.5			1	10-0-0
J5	AJS 140	2.5	9.5			3	6-0-0
J4	AJS 140	2.5	9.5			5	4-0-0
J2	AJS 20	2.5	9.5			22	16-0-0
J8	AJS 20	2.5	9.5			12	14-0-0
F16	AJS 20	2.5	9.5			2	16-0-0
J3	AJS 25	3.5	9.5			8	18-0-0
J12	AJS 25	3.5	9.5			1	16-0-0

## Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			17	12-0-0

## Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK2	AJS 140	2.5	9.5	1 in R		Varies	21-0-0

## Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	11	Unknown Hanger				
H2	1	LF259			10 10d	2 #6x1 1/4WS
H4	9	LF359			10 10d	1 #6x1 1/4WS
H6	21	LF259			10 10d	1 #6x1 1/4WS

- All blocking to be cut from 12" joists
- 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- Ends of joists to be laterally supported
- Packing of Steel beams and attachment by others
- Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
- Beams identified as "B" are dropped and supplied by others
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
- Load transfer blocks to be installed under all point loads
- Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
- 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.

## Legend

PS	Point Load Support
◊	Load from Above
Wall	Wall
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
AJS 140 9.5	AJS 140 9.5
AJS 20 9.5	AJS 20 9.5
AJS 25 9.5	AJS 25 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
2.5 X 9.5 (Dropped)	2.5 X 9.5 (Dropped)
2.5 X 9.5	2.5 X 9.5
5.25 X 10.25 (Dropped)	5.25 X 10.25 (Dropped)

JOISTS SPACING 12" O/C  
UNLESS  
NOTED OTHERWISE

## JOB INFORMATION

<b>Builder</b>	
<b>Project</b>	GREENPARK HOMES
<b>Shipping</b>	TRINAR HALL EAST GWILLIMBURY, ON
<b>Sales Rep</b>	
<b>Designer</b>	S.B.

## Plotted

December 17, 2020

## Layout Name

GLENWAY 12A EL-1\_DECK CONDITION

## Job Path

C:\Data\SAUML\GREENPARK HOMES\TRINAR HALL\GLENWAY 12A\FLOOR\EL 1\DECK

## DESIGN CRITERIA

<b>Ground Floor</b>	
<b>Design Method</b>	LSD (Canada)
<b>Building Code</b>	NBCC 2015 / OBC 2012

## Floor

<b>Loads</b>	
Live	40
Dead	15

## Deflection Joist

LL Span 1/	480
TL Span 1/	360
LL Cant 2L/	480
TL Cant 2L/	360

## Deflection Girder

LL Span 1/	360
TL Span 1/	240
LL Cant 2L/	480
TL Cant 2L/	360

## Decking

Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued
<b>Vibration</b>	

## CCMC References

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

## Kott Inc.

3228 Moodie Dr, Ottawa  
14 Anderson Blvd, Uxbridge,  
Ontario

613-838-2775 /  
905-642-4400



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

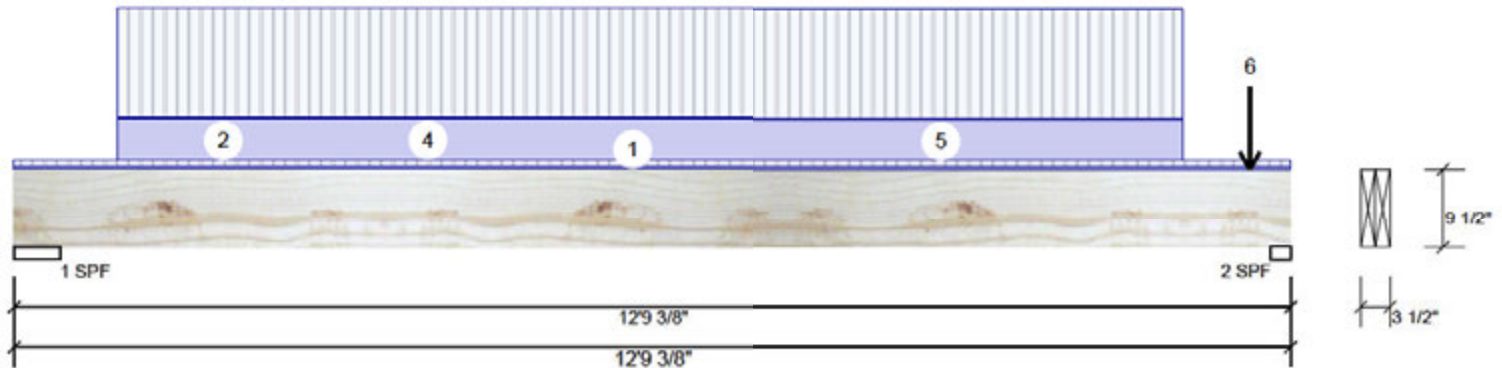




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

**F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED** Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1137	482	0	0
2	1233	518	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	19%	603 / 1706	2309 L	1.25D+1.5L
2 - SPF	2.375"	49%	647 / 1850	2497 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7709 ft-lb	6'6 1/4"	22724 ft-lb	0.339 (34%)	1.25D+1.5L	L
Unbraced	7709 ft-lb	6'6 1/4"	19760 ft-lb	0.390 (39%)	1.25D+1.5L	L
Shear	2523 lb	11'10 1/4"	9277 lb	0.272 (27%)	1.25D+1.5L	L
Perm Defl in.	0.091 (L/1607)	6'6 1/4"	0.408 (L/360)	0.220 (22%)	D	Uniform
LL Defl inch	0.219 (L/673)	6'6 1/4"	0.408 (L/360)	0.540 (54%)	L	
TL Defl inch	0.310 (L/474)	6'6 1/4"	0.612 (L/240)	0.510 (51%)	D+L	L

### Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-9-6	0-3-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tapered Start	0-5-8		Top	0 PLF	0 PLF	0 PLF	0 PLF	
	End	3-8-11			1 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	1-0-7 to 11-8-7		Near Face	73 PLF	194 PLF	0 PLF	0 PLF	
5	Part. Uniform	3-8-11 to 12-8-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
6	Point	12-4-7		Near Face	53 lb	156 lb	0 lb	0 lb	J1
	Self Weight				8 PLF				



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### Notes

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### Lumber

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

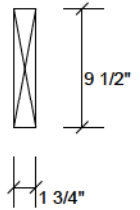
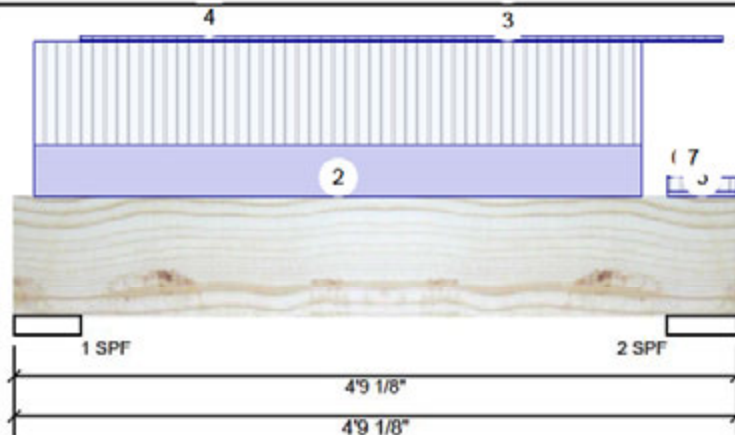


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

# F5-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	662	333	0	0
2	551	278	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.250"	25%	417 / 993	1410 L
2 - SPF	5.500"	20%	347 / 826	1173 L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1256 ft-lb	2'4 3/8"	11362 ft-lb	0.111 (11%)	1.25D+1.5L	L
Unbraced	1256 ft-lb	2'4 3/8"	8847 ft-lb	0.142 (14%)	1.25D+1.5L	L
Shear	1253 lb	3'6 7/8"	4638 lb	0.270 (27%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/8788)	2'4 3/8"	0.133 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.011 (L/4417)	2'4 3/8"	0.133 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.016 (L/2940)	2'4 3/8"	0.199 (L/240)	0.080 (8%)	D+L	L

## Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
2	Part. Uniform	0-1-10 to 4-1-10		Far Face	142 PLF	290 PLF	0 PLF	0 PLF	
3	Tie-In	0-5-4 to 4-8-0	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	0-5-4 to 4-6-4		Top	1 PLF	0 PLF	0 PLF	0 PLF	
5	Tie-In	4-3-10 to 4-9-2	0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	4-3-10 to 4-5-2		Top	5 PLF	0 PLF	0 PLF	0 PLF	
7	Tapered Start	4-5-2		Top	5 PLF	0 PLF	0 PLF	0 PLF	
	End	4-6-4		Top	0 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

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NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH  
BLOCK IS REQUIRED AT ALL  
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## Notes

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responsibility of the customer and/or the contractor to  
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application, and to verify the dimensions and loads.

## Lumber

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

## chemicals

## Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information  
regarding installation requirements, multi-ply  
fastening details, beam strength values, and code  
approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid  
lateral displacement and rotation

- For flat roofs provide proper drainage to prevent  
ponding

## Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



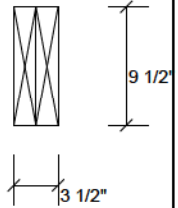
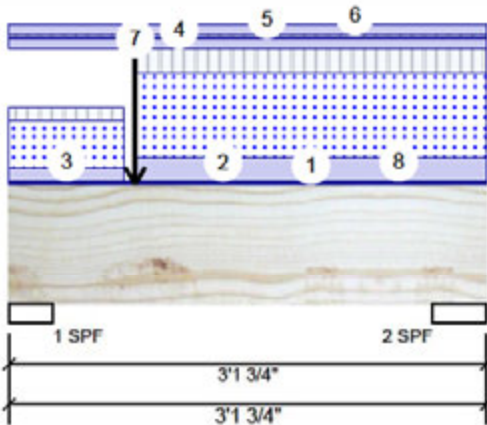


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

F6-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	675	989	2161	0
2	470	723	1423	0

### Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.462"	69%	1236 / 3916	5152	L	1.25D+1.5S +L
2 - SPF	4.277"	38%	904 / 2605	3509	L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2808 ft-lb	11 15/16"	22724 ft-lb	0.124 (12%)	1.25D+1.5S +L	L
Unbraced	2808 ft-lb	11 15/16"	22724 ft-lb	0.124 (12%)	1.25D+1.5S +L	L
Shear	3079 lb	1' 3/16"	9277 lb	0.332 (33%)	1.25D+1.5S +L	L
Perm Defl in.	0.003 (L/10257)	1'4 1/16"	0.088 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.008 (L/4034)	1'3 3/16"	0.088 (L/360)	0.090 (9%)	S+0.5L	L
TL Defl inch	0.011 (L/2897)	1'3 1/2"	0.131 (L/240)	0.080 (8%)	D+S+0.5L	L

### Design Notes

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

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**PASS THRU FRAMING SQUASH  
BLOCK IS REQUIRED AT ALL  
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Tie-In	0-0-0 to 3-1-12	0-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tapered Start	0-0-0		Top	1 PLF	0 PLF	0 PLF	0 PLF	
	End	3-1-12			1 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

### Notes

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### Lumber

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

### Handing & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



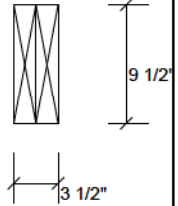
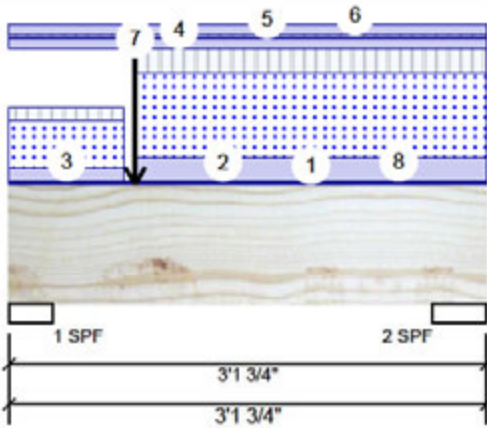


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
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Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

F6-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
3	Part. Uniform	0-0-0 to 0-9-1		Top	99 #LF	104 PLF	358 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 3-1-12		Top	80 #LF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Tapered Start	0-0-0		Top	7 #LF	19 PLF	0 PLF	0 PLF	
	End	3-1-12			7 #LF	19 PLF	0 PLF	0 PLF	
6	Part. Uniform	0-0-0 to 3-1-12		Top	82 #LF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Point	0-9-15		Top	645 lb	522 lb	1834 lb	0 lb	F4 F4
8	Part. Uniform	0-9-15 to 3-1-12		Top	178 #LF	186 PLF	639 PLF	0 PLF	
	Self Weight				8 #LF				

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#### Lumber

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

#### chemicals

#### Handling & Installation

1. LVL beams must not be cut or drilled
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fastening details, beam strength values, and code  
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3. Damaged Beams must not be used
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Discipline	Reviewer	BCIN	Date
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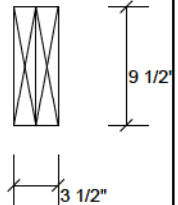
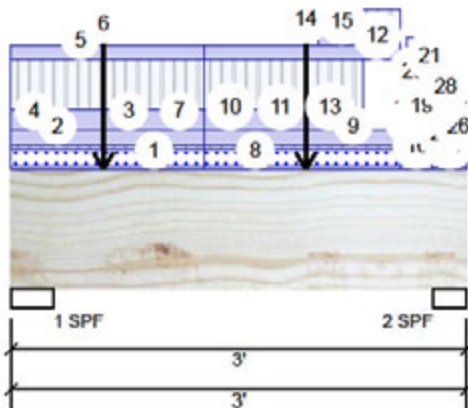


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	928	653	138	0
2	706	528	120	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.334"	33% 816 / 1530	2346	L	1.25D+1.5L +S
2 - SPF	2.688"	32% 660 / 1178	1838	L	1.25D+1.5L +S

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1281 ft-lb	1'7 7/8"	22724 ft-lb	0.056 (6%)	1.25D+1.5L +S	L
Unbraced	1281 ft-lb	1'7 7/8"	22724 ft-lb	0.056 (6%)	1.25D+1.5L +S	L
Shear	1416 lb	1' 1/16"	9277 lb	0.153 (15%)	1.25D+1.5L +S	L
Perm Defl in.	0.002 (L/14767)	1'6 3/4"	0.087 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.003 (L/9681)	1'7 1/4"	0.087 (L/360)	0.040 (4%)	L+0.5S	L
TL Defl inch	0.005 (L/5849)	1'7 1/16"	0.131 (L/240)	0.040 (4%)	D+L+0.5S	L

### Design Notes

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

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Part. Uniform	0-0-0 to 1-3-5		Top	24 PLF	25 PLF	87 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 1-3-5		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self
3	Tapered Start	0-0-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	0-11-5			0 PLF	1 PLF	0 PLF	0 PLF	

Continued on page 2...

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### Lumber

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- LVL not to be treated with fire retardant or corrosive chemicals

### Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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- Design assumes top edge is laterally restrained
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6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

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Sewage System			
Zoning			



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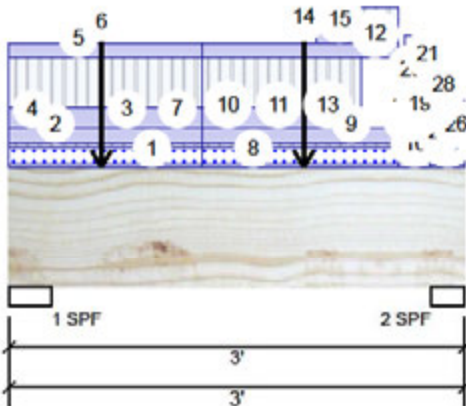


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Project #:

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

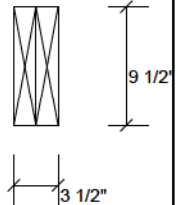
Level: Ground Floor



READ ALL NOTES ON THIS PAGE AND ON  
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CONNECTION DETAIL FOR PLY TO PLY  
NAILING OR BOLTING REQUIREMENTS.

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



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	0-0-0 to 1-3-5		Top	112 PLF	277 PLF	0 PLF	0 PLF	J13
5	Part. Uniform	0-0-0 to 1-3-5		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Point	0-7-5		Near Face	164 lb	402 lb	6 lb	0 lb	J8
7	Tapered Start	0-11-5		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	1-3-5			0 PLF	1 PLF	0 PLF	0 PLF	
8	Part. Uniform	1-3-5 to 2-6-13		Top	24 PLF	25 PLF	87 PLF	0 PLF	
9	Part. Uniform	1-3-5 to 2-6-13		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Tapered Start	1-3-5		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	1-11-5			0 PLF	1 PLF	0 PLF	0 PLF	
11	Part. Uniform	1-3-5 to 2-3-13		Top	112 PLF	277 PLF	0 PLF	0 PLF	J13
12	Part. Uniform	1-3-5 to 2-6-13		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
13	Tapered Start	1-11-5		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	2-6-13			0 PLF	1 PLF	0 PLF	0 PLF	
14	Point	1-11-5		Near Face	130 lb	346 lb	0 lb	0 lb	J8
15	Part. Uniform	2-0-5 to 2-6-13		Top	56 PLF	139 PLF	0 PLF	0 PLF	J13
16	Part. Uniform	2-6-13 to 2-9-5		Top	24 PLF	25 PLF	87 PLF	0 PLF	
17	Part. Uniform	2-6-13 to 2-9-5		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
18	Tapered Start	2-6-13		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	2-8-5			0 PLF	1 PLF	0 PLF	0 PLF	
19	Part. Uniform	2-6-13 to 2-9-5		Top	56 PLF	139 PLF	0 PLF	0 PLF	J13
20	Part. Uniform	2-6-13 to 2-9-5		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
21	Part. Uniform	2-7-5 to 2-9-5		Top	65 PLF	172 PLF	0 PLF	0 PLF	J13
22	Tapered Start	2-8-5		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	2-9-5			0 PLF	1 PLF	0 PLF	0 PLF	
23	Part. Uniform	2-9-5 to 3-0-0		Top	12 PLF	12 PLF	44 PLF	0 PLF	
24	Part. Uniform	2-9-5 to 3-0-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
26	Part. Uniform	2-9-5 to 3-0-0		Top	28 PLF	69 PLF	0 PLF	0 PLF	J13
27	Part. Uniform	2-9-5 to 3-0-0		Top	32 PLF	86 PLF	0 PLF	0 PLF	J13
28	Part. Uniform	2-9-5 to 3-0-0		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
	Self Weight				8 PLF				



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#### Notes

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#### Lumber

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

chemicals

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



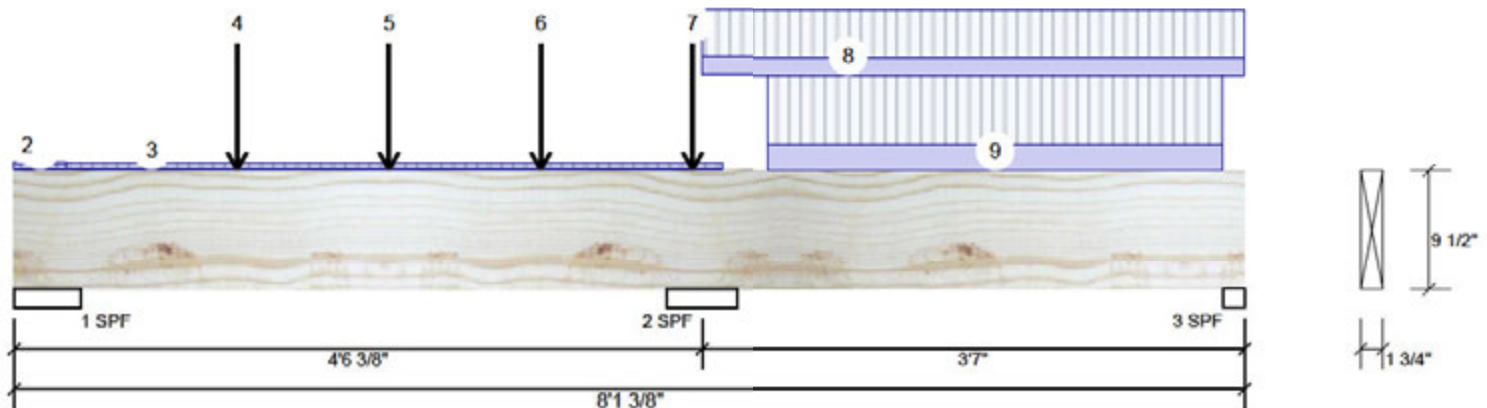


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

# F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	390	155	0	0
2	2051	786	0	0
3	833	317	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	15%	178 / 680	858 (-2)	L	1.25D+1.5L (0.9D+1.5L)
2 - SPF	5.500"	71%	1017 / 3184	4201	LL	1.25D+1.5L
3 - SPF	1.750"	92%	378 / 1361	1739	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1571 ft-lb	4'6 3/8"	11362 ft-lb	0.138 (14%)	1.25D+1.5L	LL
Unbraced	-1571 ft-lb	4'6 3/8"	8633 ft-lb	0.182 (18%)	1.25D+1.5L	LL
Pos Moment	1300 ft-lb	6'6 7/16"	11362 ft-lb	0.114 (11%)	1.25D+1.5L	L
Unbraced	1300 ft-lb	6'6 7/16"	9427 ft-lb	0.138 (14%)	1.25D+1.5L	L
Shear	2087 lb	5'3 7/8"	4638 lb	0.450 (45%)	1.25D+1.5L	LL
Perm Defl in.	0.004 (L/13467)	2'5 5/8"	0.139 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.012 (L/3446)	6'3 15/16"	0.117 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.016 (L/2597)	6'4 1/8"	0.175 (L/240)	0.090 (9%)	D+L	L

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



## Design Notes

- Girders are designed to be supported on the bottom edge only.
- Tie-down connection required at bearing 1 for uplift 2 lb (Combination 0.9D+1.5L, Load Case L).
- Top braced at bearings.
- Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Tie-In	0-0-0 to 0-4-2	0-5-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	0-2-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-4-2 to 4-8-0	0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	1-5-10		Near Face	111 lb	303 lb	0 lb	0 lb	J12
5	Point	2-5-10		Near Face	135 lb	359 lb	0 lb	0 lb	J3

Continued on page 2...

## Notes

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## Lumber

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

## chemicals

## Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



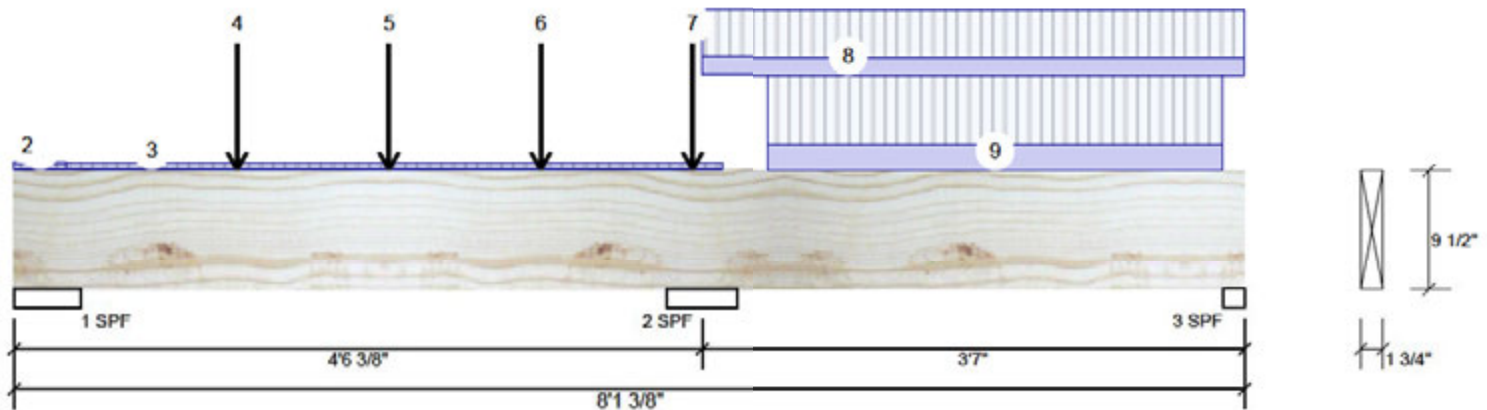


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Project:  
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TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

# F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-5-10		Near Face	131 lb	351 lb	0 lb	0 lb	J3
7	Point	4-5-10		Near Face	91 lb	244 lb	0 lb	0 lb	J3
8	Part. Uniform	4-6-6 to 8-1-6		Top	90 PLF	240 PLF	0 PLF	0 PLF	
9	Part. Uniform	4-11-10 to 7-11-10		Near Face	131 PLF	350 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

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## Notes

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## Lumber

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

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023

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Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			





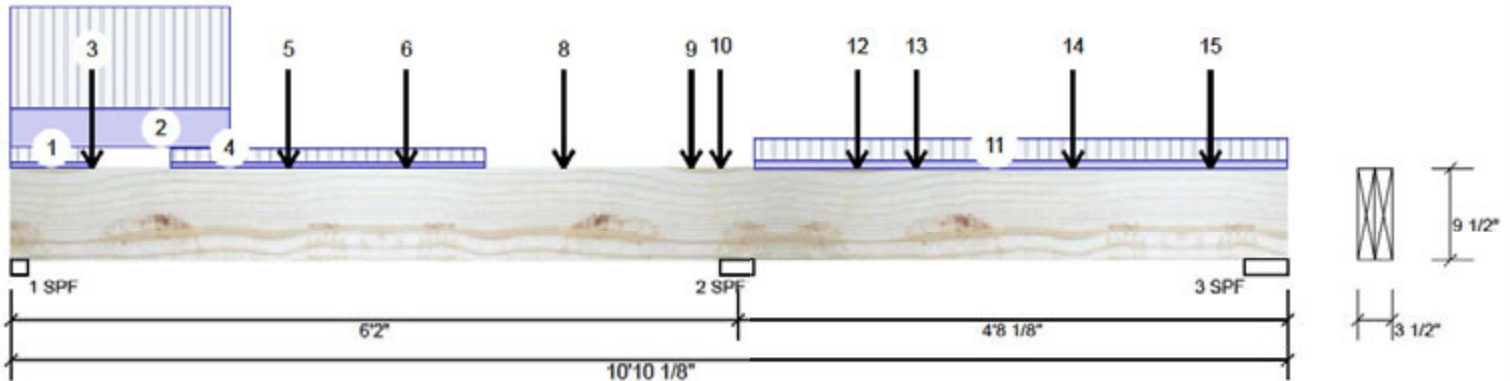


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TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1018	401	0	0
2	2269	919	0	0
3	614	262	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.750"	55% 490 / 1582	2072	L	1.25D+1.5L
2 - SPF	3.500"	62% 1173 / 3479	4653	LL	1.25D+1.5L
3 - SPF	4.375"	16% 313 / 1186	1500	L	1.25D+1.5L
			(-47)		(0.9D+1.5L)

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2509 ft-lb	6'2"	22724 ft-lb	0.110 (11%)	1.25D+1.5L	LL
Unbraced	-2509 ft-lb	6'2"	21993 ft-lb	0.114 (11%)	1.25D+1.5L	LL
Pos Moment	2352 ft-lb	2'4 1/4"	22724 ft-lb	0.104 (10%)	1.25D+1.5L	L
Unbraced	2352 ft-lb	2'4 1/4"	21993 ft-lb	0.107 (11%)	1.25D+1.5L	L
Shear	2622 lb	5'4 1/2"	9277 lb	0.283 (28%)	1.25D+1.5L	LL
Perm Defl in. (L/10364)	0.007	2'10 3/16"	0.203 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.020 (L/3599)	2'11 3/8"	0.203 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.027 (L/2672)	2'11"	0.304 (L/240)	0.090 (9%)	D+L	L

### Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Tie-down connection required at bearing 3 for uplift 47 lb (Combination 0.9D+1.5L, Load Case L).
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Tie-In	0-0-0 to 0-8-4	1-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 1-10-4		Near Face	141 PLF	376 PLF	0 PLF	0 PLF	
3	Point	0-8-4		Far Face	20 lb	53 lb	0 lb	0 lb	J4

Continued on page 2...

### Notes

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### Lumber

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

### chemicals

### Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

- For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Seismic System			
Zoning			



This design is valid until 4/24/2023



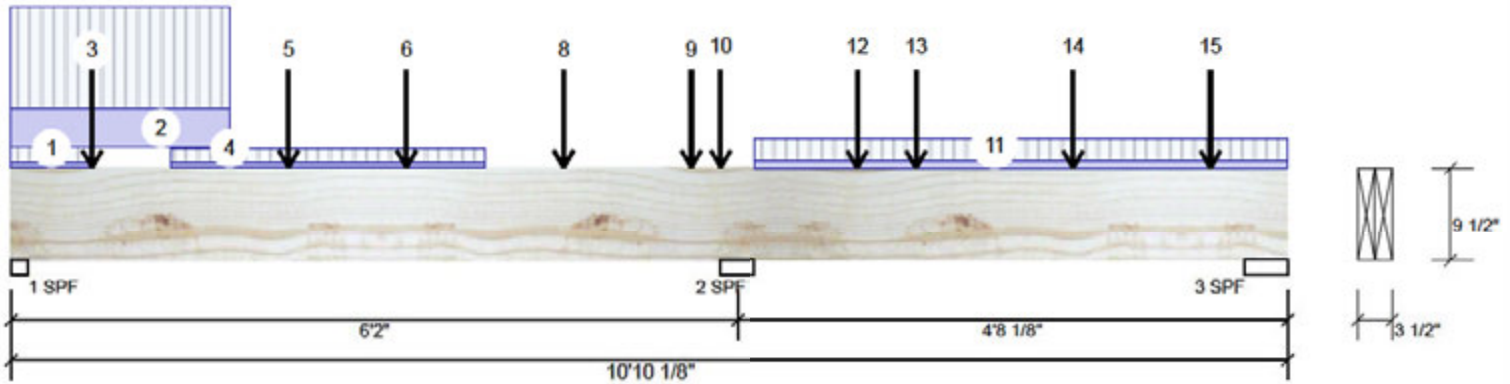


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1\_DECK CONDITION  
Project #:

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	1-4-4 to 4-0-4		Far Face	19 PLF	50 PLF	0 PLF	0 PLF	
5	Point	2-4-4		Near Face	108 lb	289 lb	0 lb	0 lb	J2
6	Point	3-4-4		Near Face	124 lb	330 lb	0 lb	0 lb	J2
7	Point	4-8-4		Far Face	23 lb	60 lb	0 lb	0 lb	J4
8	Point	4-8-4		Near Face	141 lb	377 lb	0 lb	0 lb	J2
9	Point	5-9-4		Far Face	13 lb	39 lb	0 lb	0 lb	J4
10	Point	6-0-4		Near Face	132 lb	353 lb	0 lb	0 lb	J2
11	Part. Uniform	6-3-12 to 10-10-2		Top	30 PLF	80 PLF	0 PLF	0 PLF	
12	Point	7-2-4		Near Face	118 lb	267 lb	0 lb	0 lb	F16
13	Point	7-8-4		Near Face	88 lb	235 lb	0 lb	0 lb	J8
14	Point	9-0-4		Near Face	120 lb	320 lb	0 lb	0 lb	J8
15	Point	10-2-4		Near Face	148 lb	348 lb	0 lb	0 lb	F16
	Self Weight				8 PLF				

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#### Lumber

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

#### chemicals

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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

**F14-A**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 08:44:18

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP...-1\_DECK CONDITION.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

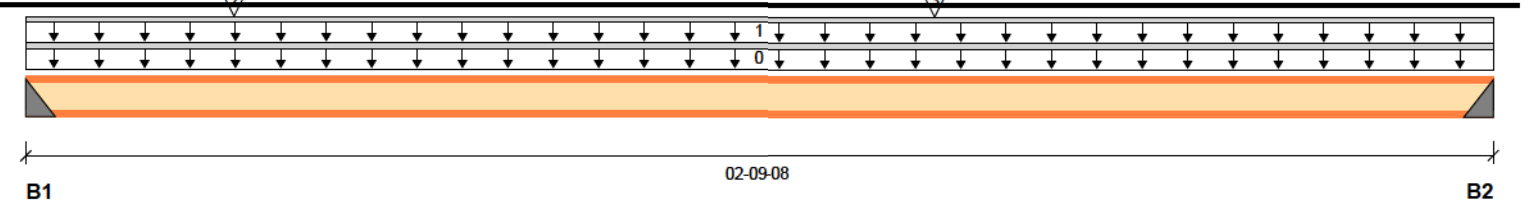
Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 2"	363 / 0	139 / 0		
B2, 2"	264 / 0	102 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-09-08	Top	1.00	0.65	1.00	1.15	00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	02-09-08	Top	26	10			n/a
2	J8	Conc. Pt. (lbs)	L	00-04-12	00-04-12	Back	235	88			n/a
3	J8	Conc. Pt. (lbs)	L	01-08-12	01-08-12	Back	320	120			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	471 ft-lbs	4095 ft-lbs	11.5%	1	01-08-12
End Reaction	719 lbs	1588 lbs	45.3%	1	00-00-00
End Shear	710 lbs	1830 lbs	38.8%	1	00-02-00
Total Load Deflection	L/999 (0.008")	n/a	n/a	4	01-08-12
Live Load Deflection	L/999 (0.006")	n/a	n/a	5	01-08-12
Max Defl.	0.008"	n/a	n/a	4	01-08-12
Span / Depth	3.3				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 2-1/2"	719 lbs	37.0%	45.3%	LF259
B2	Hanger 2" x 2-1/2"	523 lbs	26.9%	32.9%	LF259

**Cautions**

Hanger LF259 requires (10) 10dx1.5 face nails, (1) #8x1.25 joist nails.

Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist

Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist

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posted on site at all times.

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

**F14-A**

Dry | 1 span | No cant.

December 17, 2020 08:44:18

BC CALC® Member Report

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP...-1\_DECK CONDITION.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:

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

**Notes**

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

**Disclosure**

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qualified expert to a anyone rel evidence o application building co properties; Installation engineer's accordance; Guide and obtain Inst questions, before inst;



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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**F16-A**

Dry | 1 span | No cant.

December 17, 2020 08:44:18

BC CALC® Member Report

Build 7364

Job name:

Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

File name: C:\Data\SAUMIL\GREENP...-1\_DECK CONDITION.isl

Description: Level - Ground Floor

City, Province, Postal Code:

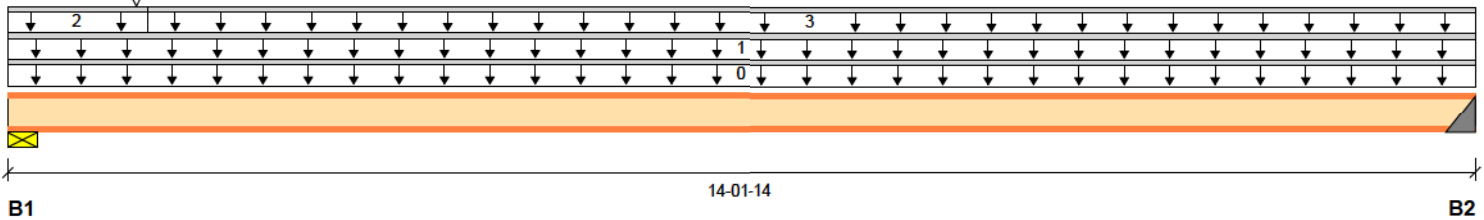
Specifier:

Customer:

Designer: S B

Code reports: CCMC 12787-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	635 / 0	259 / 0		
B2, 2"	267 / 0	118 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-01-14	Top		3			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	14-01-14	Top	23	9			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Top	60	23			n/a
3		Unf. Lin. (lb/ft)	L	01-04-02	14-01-14	Top	10	4			n/a
4	F14	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Front	363	139			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2125 ft-lbs	5675 ft-lbs	37.5%	1	06-01-15
End Reaction	1276 lbs	1653 lbs	77.2%	1	00-00-00
End Shear	1243 lbs	1830 lbs	67.9%	1	00-02-06
Total Load Deflection	L/650 (0.257")	n/a	36.9%	4	06-10-13
Live Load Deflection	L/932 (0.179")	n/a	38.6%	5	06-08-09
Max Defl.	0.257"	n/a	25.7%	4	06-10-13
Span / Depth	17.6				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/ Resistance	Demand/ Resistance	Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1276 lbs	34.9%	77.2%		Spruce-Pine-Fir
B2	Hanger 2" x 2-1/2"	548 lbs	21.7%	34.5%		LF259

**Cautions**

Hanger LF259 requires (10) 10d face nails, (1) #8x1.25 joist nails.  
Header for the hanger LF259 is a Double 1-3/4" x 9-1/2" LVL beam



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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

**F16-A**

Dry | 1 span | No cant.

December 17, 2020 08:44:18

BC CALC® Member Report

Build 7364

Job name:

File name: C:\Data\SAUMIL\GREENP...-1\_DECK CONDITION.isl

Address:

GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: S B

Code reports:

CCMC 12787-R

Company:

**Notes**

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Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
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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

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East Gwillimbury  
Building Standards Branch BCN #15487

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Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

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**F16-B**

Dry | 1 span | No cant.

December 17, 2020 08:44:18

BC CALC® Member Report

Build 7364

Job name:

Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

File name: C:\Data\SAUMIL\GREENP...-1\_DECK CONDITION.isl

Description: Level - Ground Floor

City, Province, Postal Code:

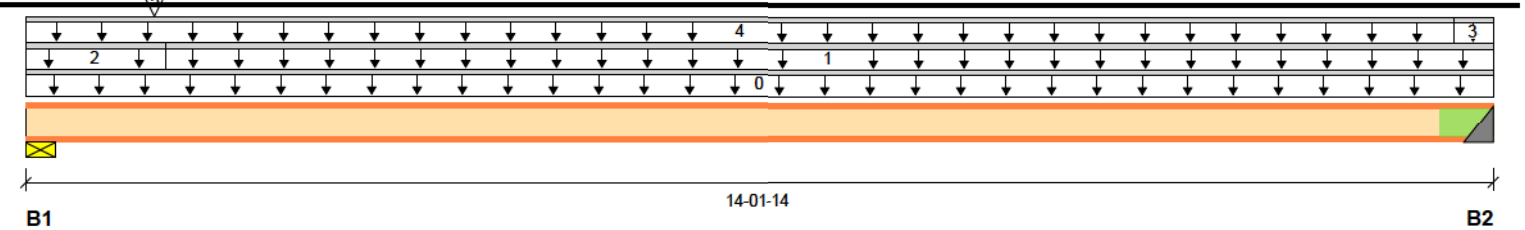
Specifier:

Customer:

Designer: S B

Code reports: CCMC 12787-R

Company:



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

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	621 / 0	254 / 0		
B2, 2"	348 / 0	148 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-01-14	Top		3			00-00-00
1		Unf. Lin. (lb/ft)	L	01-04-02	14-01-14	Top	23	9			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	01-04-02	Top	60	23			n/a
3		Unf. Lin. (lb/ft)	L	13-09-06	14-01-14	Top	10	4			n/a
4		Unf. Lin. (lb/ft)	L	00-00-00	13-09-06	Top	23	9			n/a
5	F14	Conc. Pt. (lbs)	L	01-02-14	01-02-14	Back	264	102			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2626 ft-lbs	5675 ft-lbs	46.3%	1	06-06-06
End Reaction	1249 lbs	1653 lbs	75.5%	1	00-00-00
End Shear	1216 lbs	1830 lbs	66.4%	1	00-02-06
Total Load Deflection	L/530 (0.315")	n/a	45.3%	4	06-10-13
Live Load Deflection	L/754 (0.221")	n/a	47.7%	5	06-10-13
Max Defl.	0.315"	n/a	31.5%	4	06-10-13
Span / Depth	17.6				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1249 lbs	34.2%	75.5%	Spruce-Pine-Fir
B2	Hanger 2" x 2-1/2"	707 lbs	28.0%	34.5%	LF259

**Cautions**

Web stiffeners required at bearing B2.  
Hanger LF259 requires (10) 10d face nails, (2) 10dx1.5 joist nails.  
Header for the hanger LF259 is a Double 1-3/4" x 9-1/2" LVL beam



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Zoning			

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Build 7364

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File name: C:\Data\SAUMIL\GREENP...-1\_DECK CONDITION.isl

Address:

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TRINAR HALL  
EAST GWILLIMBURY, ON

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

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Code reports:

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**Notes**

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Importance Factor : Normal Part code : Part 9

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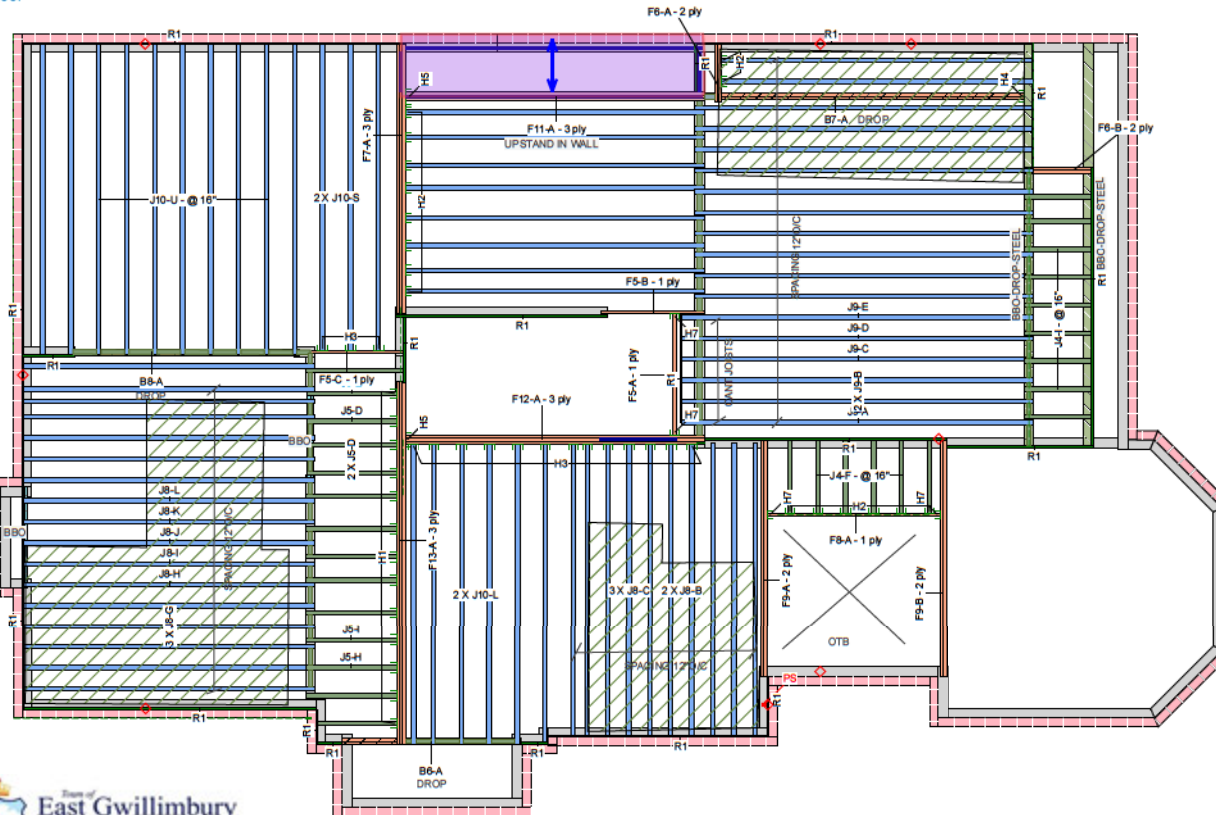
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Zoning			

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

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JOISTS SPACING 12" O/C UNLESS NOTED OTHERWISE

### Second Floor LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F13	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	18-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	16-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	14-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	12-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			3	6-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	11.875	1	3	3	16-0-0

### LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
B7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	16-0-0
B8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
B6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0

### I Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J5	AJS 140	2.5	9.5			13	6-0-0
J4	AJS 140	2.5	9.5			16	4-0-0
J9	AJS 20	2.5	9.5			16	18-0-0
J10	AJS 20	2.5	9.5			32	16-0-0
J8	AJS 20	2.5	9.5			24	14-0-0

### Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			14	12-0-0

### Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	AJS 140	2.5	9.5	LinR		Varies	43-0-0
BLK4	AJS 140	2.5	11.875	LinR		Varies	1-0-0

### Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	13	Unknown Hanger				
H2	16	LF259			10 10d	1 #8x1 1/4WS
H3	16	LF259				
H4	1	LF359			10 10d	2 #8x1 1/4WS
H5	2	HGUS5 50/10			48 16d	16 16d
H7	4	HUS1.81/10			30 16d	10 16d

- All blocking to be cut from 12" joists
- 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- Ends of joists to be laterally supported
- Packing of Steel beams and attachment by others
- Show and water closet flange locations are approximate only, consult architectural drawing for exact locations
- Beams identified as "B" are dropped and supplied by others
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
- Load transfer blocks to be installed under all point loads
- Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
- 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.

### Legend

PS	Point Load Support
◊	Load from Above
Wall	Wall
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
AJS 140 9.5	AJS 140 9.5
AJS 20 9.5	AJS 20 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
Forex 2.0E-3000Fb LVL 1.75 X 11.875	Forex 2.0E-3000Fb LVL 1.75 X 11.875
1.75 X 9.5 (Dropped)	1.75 X 9.5 (Dropped)
6-26 X-10-26 (Dropped)	6-26 X-10-26 (Dropped)

### JOB INFORMATION

<b>Builder</b>	
<b>Project</b>	
<b>Shipping</b>	GREENPARK HOMES TRINAR HALL EAST GWILLIMBURY, ON
<b>Sales Rep</b>	
<b>Designer</b>	S.B.
<b>Plotted</b>	December 17, 2020
<b>Layout Name</b>	GLENWAY 12A EL-1
<b>Job Path</b>	C:\Data\SAUMIL\GREENPARK HOMES\TRINAR HALL\GLENWAY 12A\FLOOR\EL 1\WITH AJS140

### DESIGN CRITERIA

<b>Second Floor</b>	
<b>Design Method</b>	LSD (Canada)
<b>Building Code</b>	NBCC 2015 / OBC 2012

### Floor Loads

<b>Live</b>	40
<b>Dead</b>	15
<b>Deflection Joist</b>	
LL Span /	480
TL Span /	360
LL Cant 2L	480
TL Cant 2L	360
<b>Deflection Girder</b>	
LL Span /	360
TL Span /	240
LL Cant 2L	480
TL Cant 2L	360

### Decking

<b>Decking</b>	OSB
<b>Thickness</b>	5/8"
<b>Fastener</b>	Nailed & Glued
<b>Vibration</b>	
<b>Ceiling:</b>	Gypsum 1/2"

### Roof Loads

<b>Live</b>	0
<b>Dead</b>	17
<b>Snow</b>	36

### Deflection Joist

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

### Deflection Girder

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

### Decking

<b>Decking</b>	SPF Plywood
<b>Thickness</b>	5/8"
<b>Fastener</b>	Nailed Only

### CCMC References

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

<b>KOTT</b>	<b>Kott Inc.</b>
	3228 Moodie Dr, Ottawa
	14 Anderson Blvd, Uxbridge, Ontario
	613-838-2775 / 905-642-4400

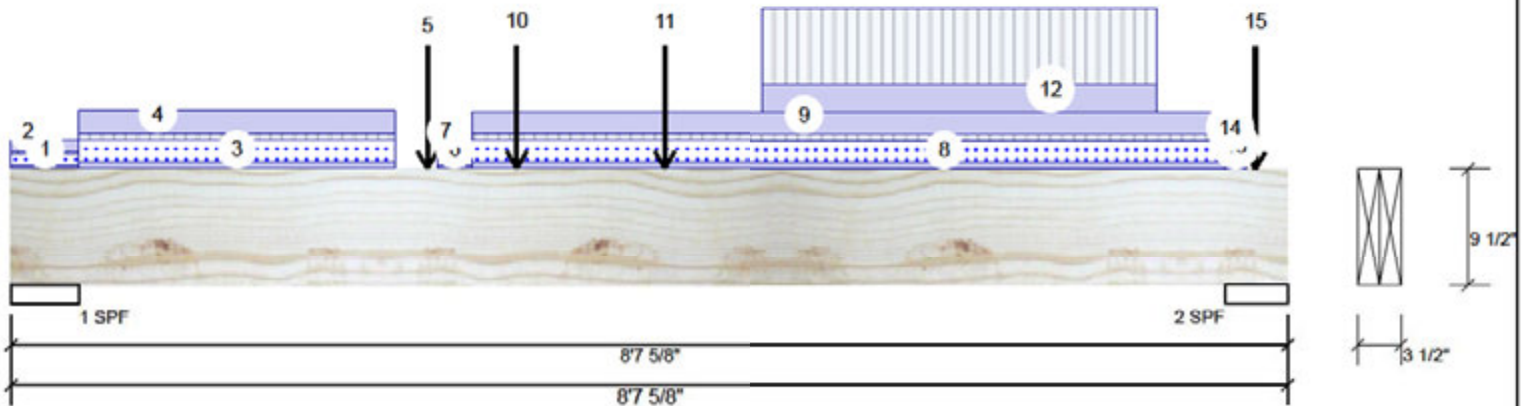


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

B6-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1325	1013	357	0
2	1433	999	360	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	30%	1266 / 2344	3610 L	1.25D+1.5L +S
2 - SPF	5.125"	34%	1249 / 2510	3759 L	1.25D+1.5L +S

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8183 ft-lb	3'8 1/16"	22724 ft-lb	0.360 (36%)	1.25D+1.5L +S	L
Unbraced	8183 ft-lb	3'8 1/16"	21499 ft-lb	0.381 (38%)	1.25D+1.5L +S	L
Shear	3346 lb	1'2 1/4"	9277 lb	0.361 (36%)	1.25D+1.5L +S	L
Perm Defl in.	0.055 (L/1716)	4'2 13/16"	0.262 (L/360)	0.210 (21%)	D	Uniform
LL Defl inch	0.090 (L/1045)	4'2 7/8"	0.262 (L/360)	0.340 (34%)	L+0.5S	L
TL Defl inch	0.146 (L/649)	4'2 13/16"	0.394 (L/240)	0.370 (37%)	D+L+0.5S	L

### Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Part. Uniform	0-0-0 to 0-5-8		Top	12 PLF	12 PLF	44 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 0-5-8		Top	44 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
3	Part. Uniform	0-5-8 to 2-7-2		Top	24 PLF	25 PLF	87 PLF	0 PLF	
4	Part. Uniform	0-5-8 to 2-7-2		Top	88 PLF	0 PLF	0 PLF	0 PLF	Wall Self V

Continued on page 2...

### Notes

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### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			





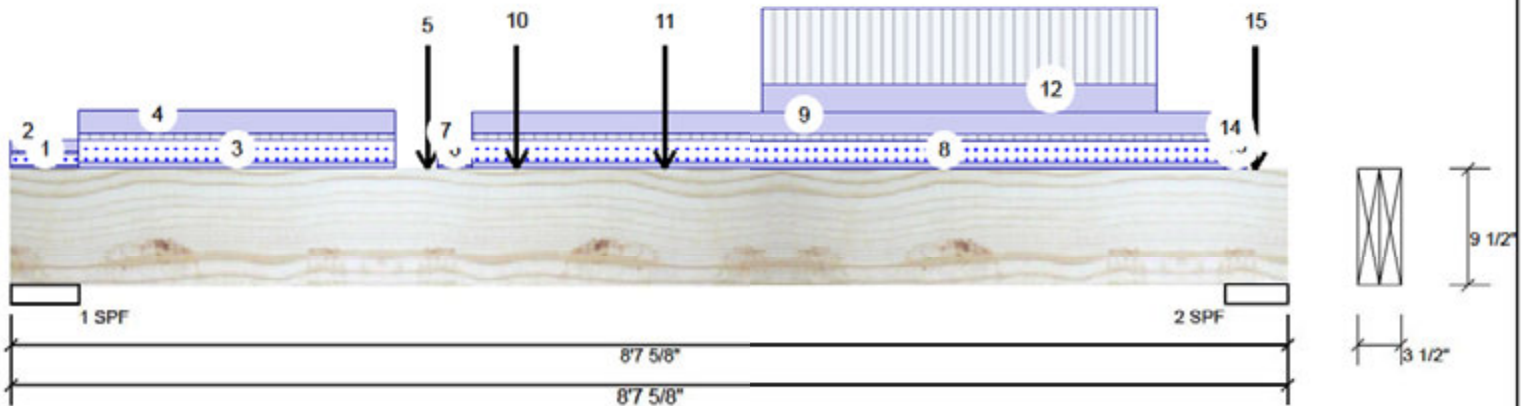


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

**B6-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Second Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	2-9-12		Top	550 lb	1066 lb	35 lb	0 lb	F13
6	Part. Uniform	2-10-9 to 3-1-6		Top	12 PLF	12 PLF	44 PLF	0 PLF	
7	Part. Uniform	2-10-9 to 3-1-6		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part. Uniform	3-1-6 to 8-2-8		Top	24 PLF	25 PLF	87 PLF	0 PLF	
9	Part. Uniform	3-1-6 to 8-2-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Point	3-5-0		Top	87 lb	232 lb	0 lb	0 lb	J10
11	Point	4-5-0		Top	127 lb	338 lb	0 lb	0 lb	J10
12	Part. Uniform	5-1-0 to 7-9-0		Top	109 PLF	290 PLF	0 PLF	0 PLF	
13	Part. Uniform	8-2-8 to 8-4-5		Top	12 PLF	12 PLF	44 PLF	0 PLF	
14	Part. Uniform	8-2-8 to 8-4-5		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
15	Point	8-5-0		Top	77 lb	158 lb	16 lb	0 lb	J10
	Self Weight				8 PLF				

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#### Notes

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#### Lumber

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

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

B7-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	725	953	1534	0
2	15	71	3	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.750"	87%	1191 / 3026	4217	L	1.25D+1.5S +L
2 - Hanger	2.000"	3%	99 / 0	99	Uniform	1.4D

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	450 ft-lb	6'2 15/16"	14770 ft-lb	0.030 (3%)	1.4D	Uniform
Unbraced	668 ft-lb	3'7"	18125 ft-lb	0.037 (4%)	1.25D+1.5L +S	L
Shear	782 lb	11 1/2"	9277 lb	0.084 (8%)	1.25D+1.5L +S	L
Perm Defl in.	0.029 (L/6353)	7'4 7/8"	0.509 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.013 (L/13758)	6'6 1/8"	0.509 (L/360)	0.030 (3%)	L+0.5S	L
TL Defl inch	0.042 (L/4360)	7'1 11/16"	0.763 (L/240)	0.060 (6%)	D+L+0.5S	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 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.
- 8 Lateral slenderness ratio based on full section width.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Point	0-1-6		Top	629 lb	426 lb	1462 lb	0 lb	F11
2	Part. Uniform	0-2-12 to 0-8-6		Top	78 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
3	Point	0-10-8		Top	240 lb	314 lb	75 lb	0 lb	F6
	Self Weight				8 PLF				

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### Notes

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### Lumber

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

chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

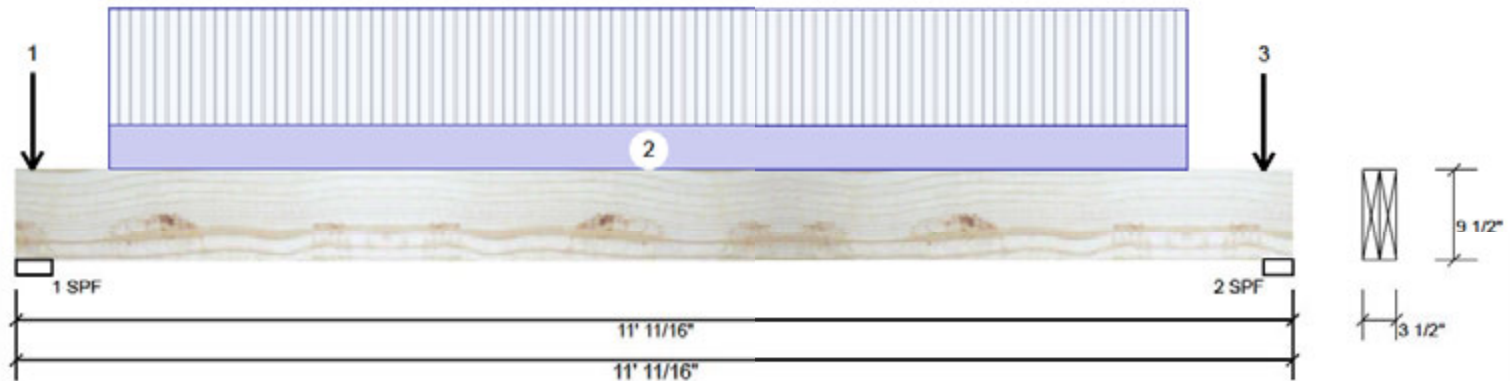
Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



B8-A	Forex 2.0E-3000Fb LVL	1.750" X 9.500"	2-Ply - PASSED	Level: Second Floor
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### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

### Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	1566	628	0	0
2	1519	611	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.688"	39%	785 / 2348	3133	L	1.25D+1.5L
2 - SPF	3.000"	47%	764 / 2279	3043	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8175 ft-lb	5'6 9/16"	22724 ft-lb	0.360 (36%)	1.25D+1.5L	L
Unbraced	8175 ft-lb	5'6 9/16"	20494 ft-lb	0.399 (40%)	1.25D+1.5L	L
Shear	2664 lb	10' 15/16"	9277 lb	0.287 (29%)	1.25D+1.5L	L
Perm Defl in.	0.072 (L/1772)	5'6 11/16"	0.354 (L/360)	0.200 (20%)	D	Uniform
LL Defl inch	0.180 (L/710)	5'6 11/16"	0.354 (L/360)	0.510 (51%)	L	L
TL Defl inch	0.252 (L/507)	5'6 11/16"	0.531 (L/240)	0.470 (47%)	D+L	L

### Design Notes

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

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CONNECTION DETAIL FOR PLY TO PLY  
NAILING OR BOLTING REQUIREMENTS.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-1-11		Top	64 lb	172 lb	0 lb	0 lb	J10
2	Part. Uniform	0-9-11 to 10-1-11		Top	110 PLF	294 PLF	0 PLF	0 PLF	
3	Point	10-9-11		Top	64 lb	169 lb	0 lb	0 lb	J10
	Self Weight				8 PLF				



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## Notes

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**Lumber**

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

## chemicals

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

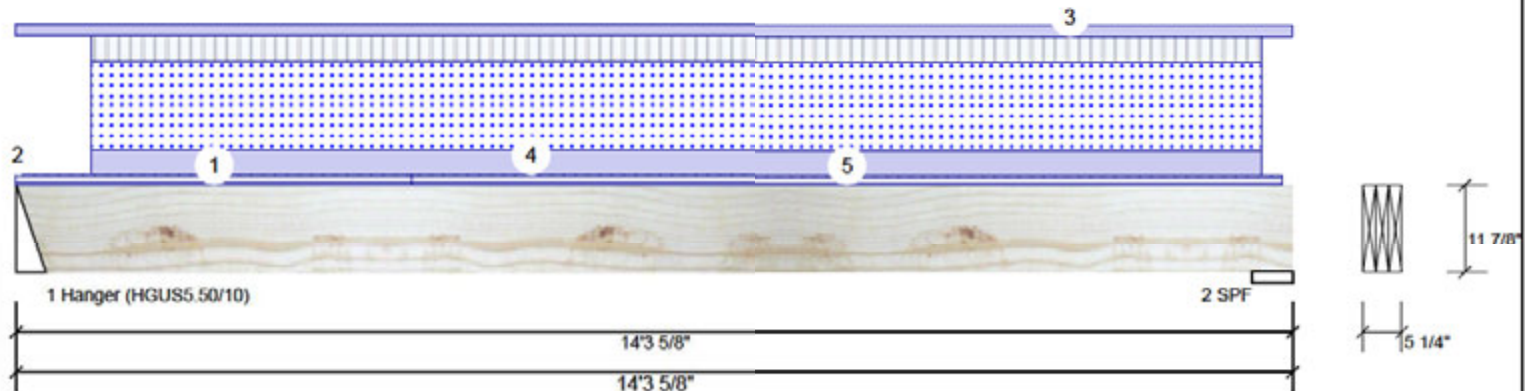




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

**F11-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 3-Ply - PASSED** Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1175	1781	4037	0
2	1277	1888	4386	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	61% 2227 / 7231	9458	L	1.25D+1.5S +L
2 - SPF	5.500"	58% 2359 / 7855	10215	L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	34349 ft-lb	7'1 3/16"	53447 ft-lb	0.643 (64%)	1.25D+1.5S +L	L
Unbraced	34349 ft-lb	7'1 3/16"	50564 ft-lb	0.679 (68%)	1.25D+1.5S +L	L
Shear	8654 lb	1'3 1/8"	17394 lb	0.498 (50%)	1.25D+1.5S +L	L
Perm Defl in.	0.155 (L/1058)	7'1 1/8"	0.455 (L/360)	0.340 (34%)	D	Uniform
LL Defl inch	0.418 (L/391)	7'1 1/8"	0.455 (L/360)	0.920 (92%)	S+0.5L	L
TL Defl inch	0.573 (L/286)	7'1 1/8"	0.682 (L/240)	0.840 (84%)	D+S+0.5L	L

### Design Notes

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Part. Uniform	0-0-0 to 4-5-3		Top	12 PLF	12 PLF	42 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 0-0-6		Top	78 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
3	Part. Uniform	0-0-0 to 14-3-10		Top	78 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
4	Part. Uniform	0-10-1 to 13-11-6		Top	166 PLF	174 PLF	597 PLF	0 PLF	

Continued on page 2...

### Notes

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### Lumber

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

chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



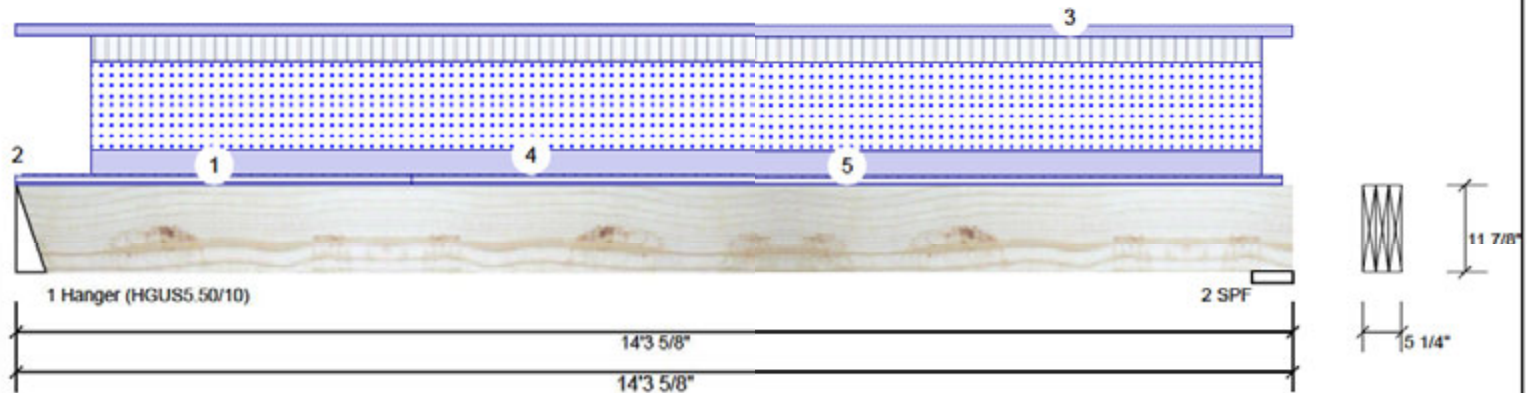
This design is valid until 4/24/2023



Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F11-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 3-Ply - PASSED Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Part. Uniform	4-5-3 to 14-2-4		Top	12 PLF	12 PLF	42 PLF	0 PLF	
	Self Weight				14 PLF				

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PASS THRU FRAMING SQUASH  
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#### Lumber

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

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Sewage System			
Zoning			



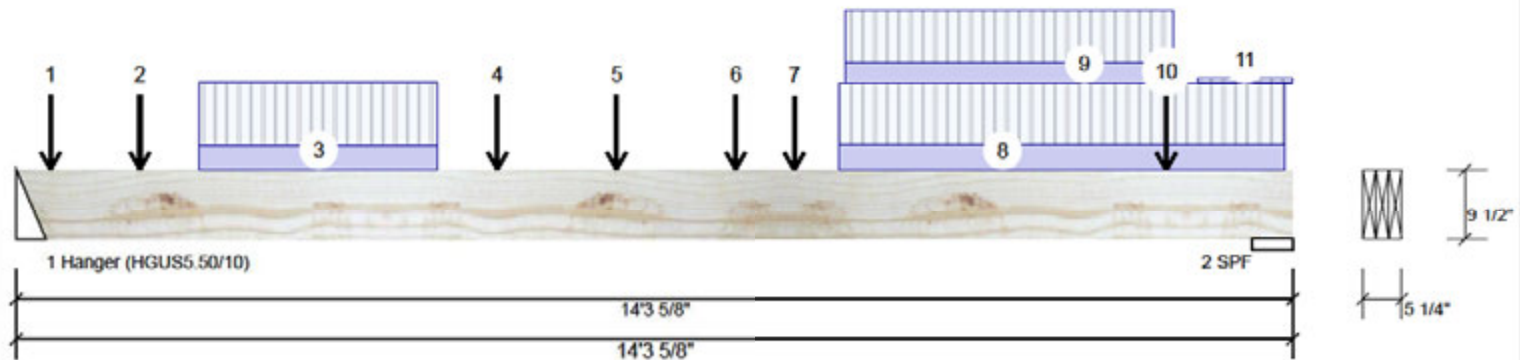




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

**F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED** Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	2152	902	0	0
2	2700	1159	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	28% 1128 / 3228	4356	L	1.25D+1.5L
2 - SPF	5.500"	31% 1449 / 4049	5498	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15712 ft-lb	8' 5/8"	35449 ft-lb	0.443 (44%)	1.25D+1.5L	L
Unbraced	15712 ft-lb	8' 5/8"	34225 ft-lb	0.459 (46%)	1.25D+1.5L	L
Shear	4832 lb	13'1 3/8"	13915 lb	0.347 (35%)	1.25D+1.5L	L
Perm Defl in.	0.154 (L/1060)	7'2 15/16"	0.455 (L/360)	0.340 (34%)	D	Uniform
LL Defl inch	0.366 (L/447)	7'2 7/8"	0.455 (L/360)	0.810 (81%)	L	
TL Defl inch	0.520 (L/314)	7'2 7/8"	0.682 (L/240)	0.760 (76%)	D+L	L

### Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
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**PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.**



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Point	0-4-10		Near Face	85 lb	228 lb	0 lb	0 lb	J10
2	Point	1-4-10		Near Face	125 lb	332 lb	0 lb	0 lb	J10
3	Part. Uniform	2-0-10 to 4-0-10		Near Face	107 PLF	285 PLF	0 PLF	0 PLF	
4	Point	5-4-10		Near Face	141 lb	375 lb	0 lb	0 lb	J10
5	Point	6-8-10		Near Face	137 lb	366 lb	0 lb	0 lb	J10
6	Point	8-0-10		Near Face	108 lb	275 lb	0 lb	0 lb	J8

Continued on page 2...

### Notes

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### Lumber

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Seismic System			
Zoning			



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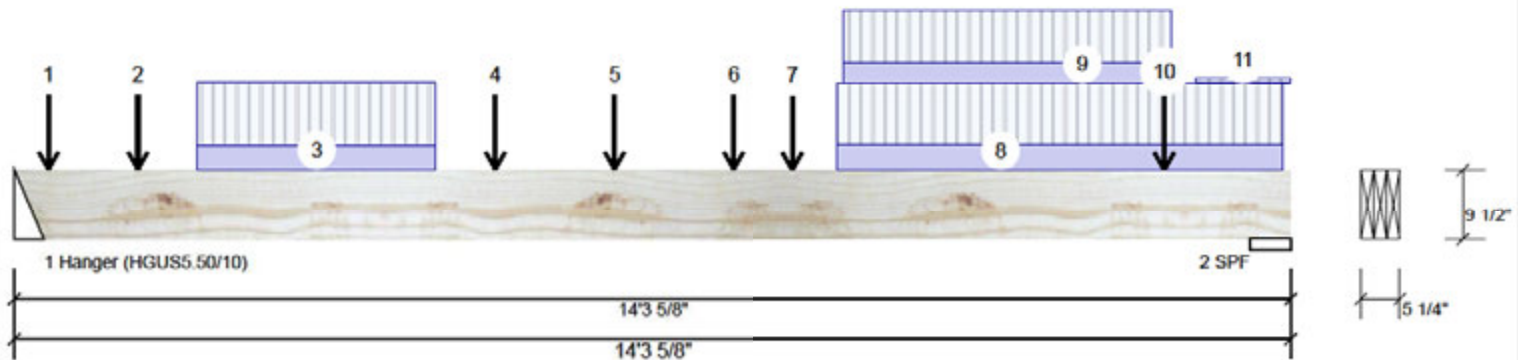




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	8-8-10		Near Face	90 lb	229 lb	0 lb	0 lb	J8
8	Part. Uniform	9-2-10 to 14-2-10		Near Face	115 PLF	275 PLF	0 PLF	0 PLF	
9	Part. Uniform	9-3-8 to 12-11-8		Top	90 PLF	240 PLF	0 PLF	0 PLF	
10	Point	12-10-10		Far Face	15 lb	14 lb	0 lb	0 lb	F5
11	Tie-In	13-2-12 to 14-3-10	0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				11 PLF				

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CONTAINS SPECIFICATIONS AND CRITERIA  
USED IN THE DESIGN OF THIS COMPONENT.

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

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



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corrections as noted. No other changes may be  
made without written approval of the Building  
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Ontario Building Code, as amended. These  
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posted on site at all times.

#### Notes

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

#### Lumber

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

#### chemicals

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent  
ponding

#### Manufacturer Info

Forex  
APA: PR-L318

This design is valid until 4/24/2023

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			

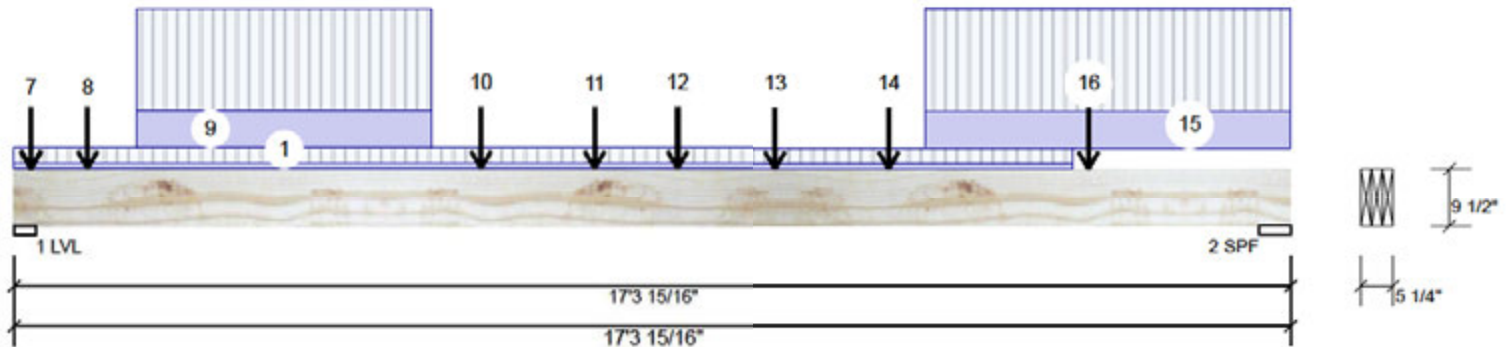




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1066	550	35	0
2	2643	1172	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL	3.500"	17% 688 / 1635	2322	L	1.25D+1.5L+S
2 - SPF	5.196"	32% 1465 / 3965	5430	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13122 ft-lb	11'10 7/16"	35449 ft-lb	0.370 (37%)	1.25D+1.5L	L
Unbraced	13122 ft-lb	11'10 7/16"	33607 ft-lb	0.390 (39%)	1.25D+1.5L	L
Shear	5223 lb	16'2"	13915 lb	0.375 (38%)	1.25D+1.5L	L
Perm Defl in.	0.201 (L/1001)	9'1 1/2"	0.558 (L/360)	0.360 (36%)	D	Uniform
LL Defl inch	0.437 (L/460)	9'2 1/4"	0.558 (L/360)	0.780 (78%)	L+0.5S	L
TL Defl inch	0.637 (L/315)	9'2"	0.836 (L/240)	0.760 (76%)	D+L+0.5S	L

### Design Notes

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

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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.**



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Tie-In	0-0.0 to 14-4-6	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	3 lb	3 lb	10 lb	0 lb	
3	Point	0-2-12		Top	3 lb	0 lb	0 lb	0 lb	Wall Self V
4	Point	0-2-12		Top	4 lb	4 lb	15 lb	0 lb	
5	Point	0-2-12		Top	11 lb	0 lb	0 lb	0 lb	Wall Self V

Continued on page 2...

### Notes

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### Lumber

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Seismic System			
Zoning			



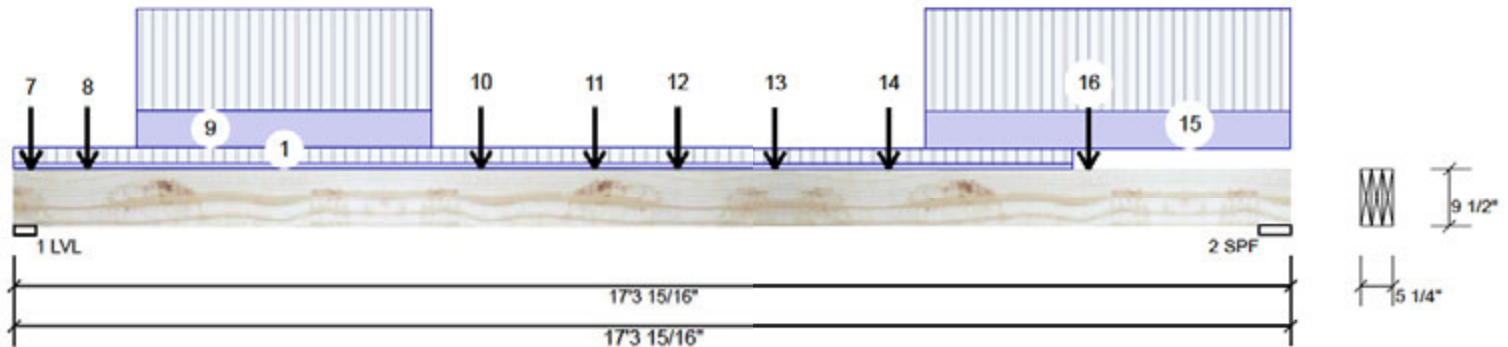




Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - **PASSED** Level: Second Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	0-2-12		Top	3 lb	3 lb	10 lb	0 lb	
7	Point	0-2-12		Top	3 lb	0 lb	0 lb	0 lb	Wall Self Weight
8	Point	0-11-15		Far Face	29 lb	77 lb	0 lb	0 lb	J4
9	Part. Uniform	1-7-15 to 5-7-15		Far Face	31 PLF	82 PLF	0 PLF	0 PLF	
10	Point	6-3-15		Far Face	41 lb	118 lb	0 lb	0 lb	J5
11	Point	7-10-7		Far Face	41 lb	110 lb	0 lb	0 lb	J5
12	Point	8-11-15		Far Face	33 lb	101 lb	0 lb	0 lb	J5
13	Point	10-3-15		Far Face	44 lb	118 lb	0 lb	0 lb	J5
14	Point	11-10-7		Far Face	41 lb	110 lb	0 lb	0 lb	J5
15	Part. Uniform	12-4-6 to 17-3-15		Far Face	31 PLF	83 PLF	0 PLF	0 PLF	
16	Point	14-7-0		Near Face	902 lb	2152 lb	0 lb	0 lb	F12
	Self Weight				11 PLF				

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#### Notes

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#### Lumber

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

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



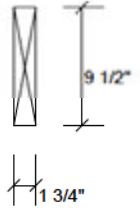
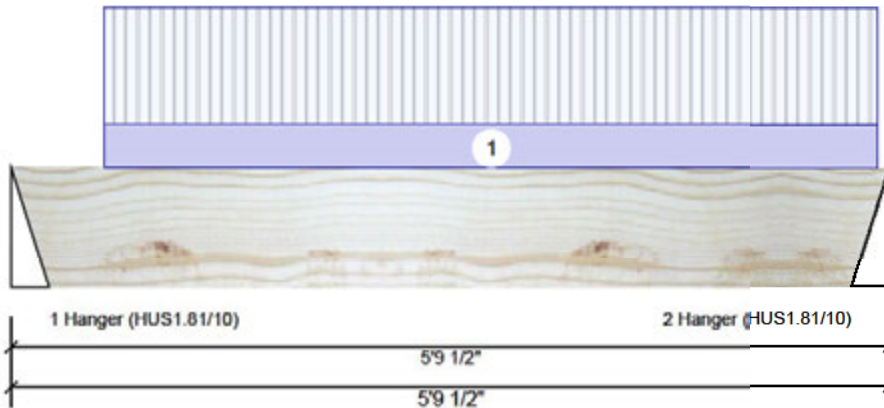


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

# F5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## 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			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	14	16	0	0
2	17	17	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	1%	20 / 20	41 L	1.25D+1.5L
2 - Hanger	3.000"	1%	22 / 25	47 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	60 ft-lb	2'10 7/8"	11135 ft-lb	0.005 (1%)	1.25D+1.5L	L
Unbraced	60 ft-lb	2'10 7/8"	6882 ft-lb	0.009 (1%)	1.25D+1.5L	L
Shear	32 lb	11 3/4"	4546 lb	0.007 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

## Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-7-5 to 5-8-9	0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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## Notes

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## Lumber

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

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

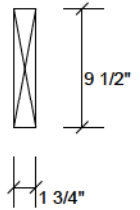
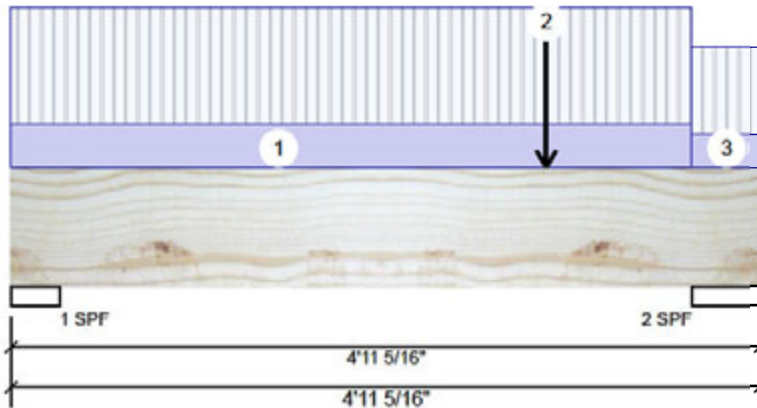


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

# F5-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## 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			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	52	31	0	0
2	61	41	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	3.813"	3%	39 / 78	117 L 1.25D+1.5L
2 - SPF	5.500"	2%	51 / 92	143 L 1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	127 ft-lb	2'7 13/16"	11362 ft-lb	0.011 (1%)	1.25D+1.5L	L
Unbraced	127 ft-lb	2'7 13/16"	8454 ft-lb	0.015 (1%)	1.25D+1.5L	L
Shear	95 lb	3'9 1/16"	4638 lb	0.021 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/46174)	2'5 7/8"	0.143 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.002 (L/28142)	2'6 1/8"	0.215 (L/240)	0.010 (1%)	D+L	L

## Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-5-13	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	3-6-5		Near Face	17 lb	17 lb	0 lb	0 lb	F5
3	Tie-In	4-5-13 to 4-11-5	0-4-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				



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## Notes

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## Lumber

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

## Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/24/2023

## Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			





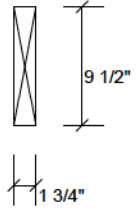
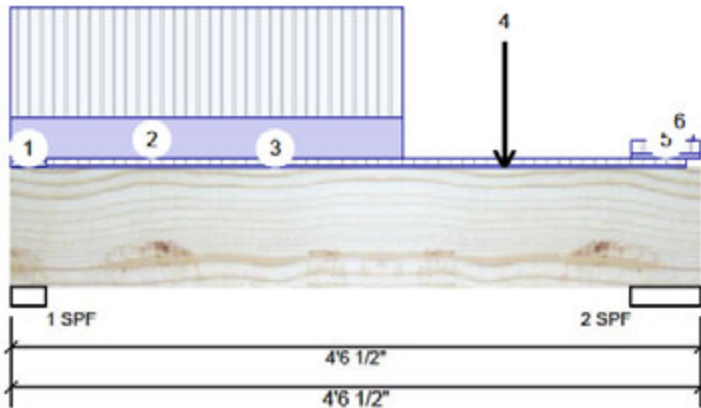


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

# F5-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## 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			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	669	258	0	0
2	566	221	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.750"	45%	323 / 1004	1327 L	1.25D+1.5L
2 - SPF	5.500"	19%	276 / 849	1125 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1203 ft-lb	2'1 9/16"	11362 ft-lb	0.106 (11%)	1.25D+1.5L	L
Unbraced	1203 ft-lb	2'1 9/16"	8860 ft-lb	0.136 (14%)	1.25D+1.5L	L
Shear	1501 lb	3'4 1/4"	4638 lb	0.324 (32%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/11055)	2'1 13/16"	0.133 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.011 (L/4270)	2'1 13/16"	0.133 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.016 (L/3080)	2'1 13/16"	0.199 (L/240)	0.080 (8%)	D+L	L

## Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-12	0-4-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 2-7-0		Far Face	111 PLF	297 PLF	0 PLF	0 PLF	
3	Tie-In	0-2-12 to 4-5-6	0-5-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	3-3-0		Far Face	133 lb	369 lb	0 lb	0 lb	J10
5	Tie-In	4-1-0 to 4-6-8	0-10-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	4-3-12 to 4-5-15	0-11-4 to 0-8-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				



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## Notes

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## Lumber

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

## Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



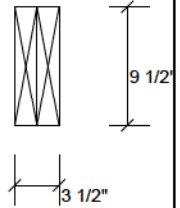
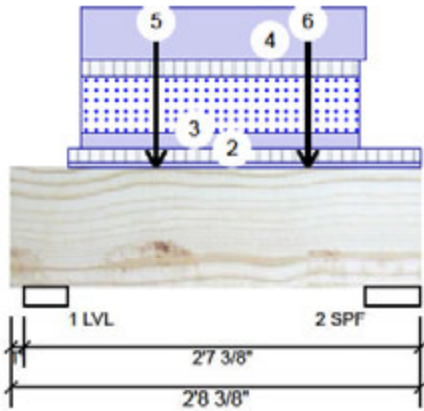


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

**F6-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	314	240	75	0
2	373	281	84	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - LVL	3.500"	9%	300 / 547	847 _L 1.25D+1.5L +S
2 - SPF	4.375"	11%	351 / 645	995 _L 1.25D+1.5L +S

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	572 ft-lb	11 7/16"	22724 ft-lb	0.025 (3%)	1.25D+1.5L +S	_L
Unbraced	572 ft-lb	11 7/16"	22724 ft-lb	0.025 (3%)	1.25D+1.5L +S	_L
Shear	760 lb	1'7 1/4"	9277 lb	0.082 (8%)	1.25D+1.5L +S	_L
Perm Defl in.	0.001 (L/32024)	1'2 1/2"	0.072 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/21367)	1'1 9/16"	0.072 (L/360)	0.020 (2%)	L+0.5S	LL
TL Defl inch	0.002 (L/12827)	1'2"	0.108 (L/240)	0.020 (2%)	D+L+0.5S	LL
LL Cant	-0.000 (2L/40281)	Lt Cant	0.200 (2L/480)	0.000 (0%)	L+0.5S	LL
TL Cant	-0.000 (2L/24209)	Lt Cant	0.300 (2L/360)	0.000 (0%)	D+L+0.5S	LL

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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

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

### Notes

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### Lumber

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

chemicals

### Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

- For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

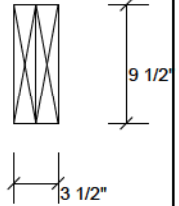
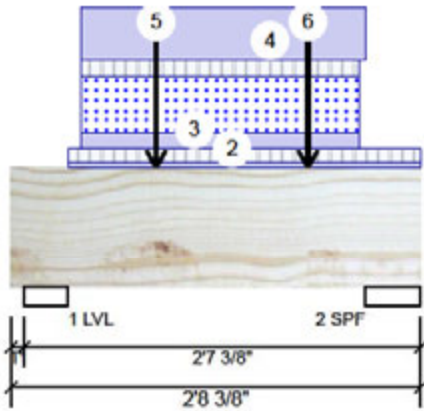


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F6-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
2	Tie-In	0-4-8 to 2-8-6	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-5-8 to 2-3-8		Top	24 PLF	25 PLF	87 PLF	0 PLF	
4	Part. Uniform	0-5-8 to 2-4-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Point	0-11-7		Near Face	16l lb	330 lb	0 lb	0 lb	J10
6	Point	1-11-7		Near Face	127 lb	263 lb	0 lb	0 lb	J10
	Self Weight				8 PLF				

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CONNECTION DETAIL FOR PLY TO PLY  
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PASS THRU FRAMING SQUASH  
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#### Notes

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#### Lumber

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

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

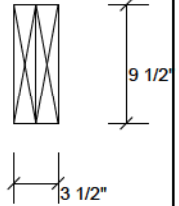
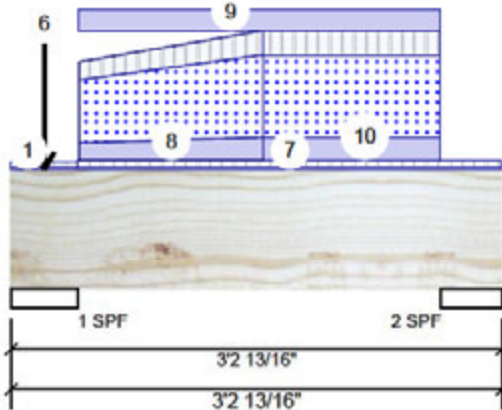


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	363	481	1112	0
2	145	221	357	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	23%	601 / 2031	2633 L	1.25D+1.5S +L
2 - SPF	4.813"	9%	276 / 680	956 L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	614 ft-lb	1'7 7/8"	22724 ft-lb	0.027 (3%)	1.25D+1.5S +L	L
Unbraced	614 ft-lb	1'7 7/8"	22724 ft-lb	0.027 (3%)	1.25D+1.5S +L	L
Shear	379 lb	1'2"	9277 lb	0.041 (4%)	1.25D+1.5S +L	L
Perm Defl in.	0.001 (L/37262)	1'7 3/4"	0.084 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/19005)	1'7 13/16"	0.084 (L/360)	0.020 (2%)	S+0.5L	L
TL Defl inch	0.002 (L/12586)	1'7 13/16"	0.126 (L/240)	0.020 (2%)	D+S+0.5L	L

### Design Notes

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

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### Notes

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### Lumber

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

### Handling & Installation

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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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4. Design assumes top edge is laterally restrained
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6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



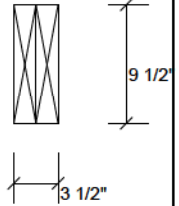
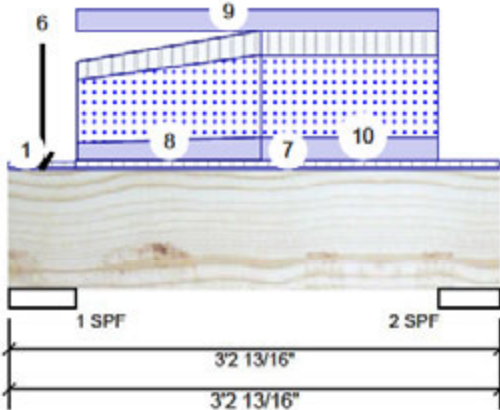


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	0-5-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-10		Top	3 lb	9 lb	31 lb	0 lb	
3	Point	0-2-10		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	0-2-10		Top	227 lb	212 lb	729 lb	0 lb	F1 F1
5	Point	0-2-10		Top	3 lb	7 lb	23 lb	0 lb	
6	Point	0-2-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Tie-In	0-5-4 to 3-2-13	0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tapered Start	0-5-6		Top	65 PLF	68 PLF	234 PLF	0 PLF	
	End	1-7-15			85 PLF	90 PLF	308 PLF	0 PLF	
9	Part. Uniform	0-5-6 to 2-9-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	1-7-15 to 2-9-14		Top	85 PLF	90 PLF	308 PLF	0 PLF	
	Self Weight				8 PLF				

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#### Lumber

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#### Handling & Installation

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#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

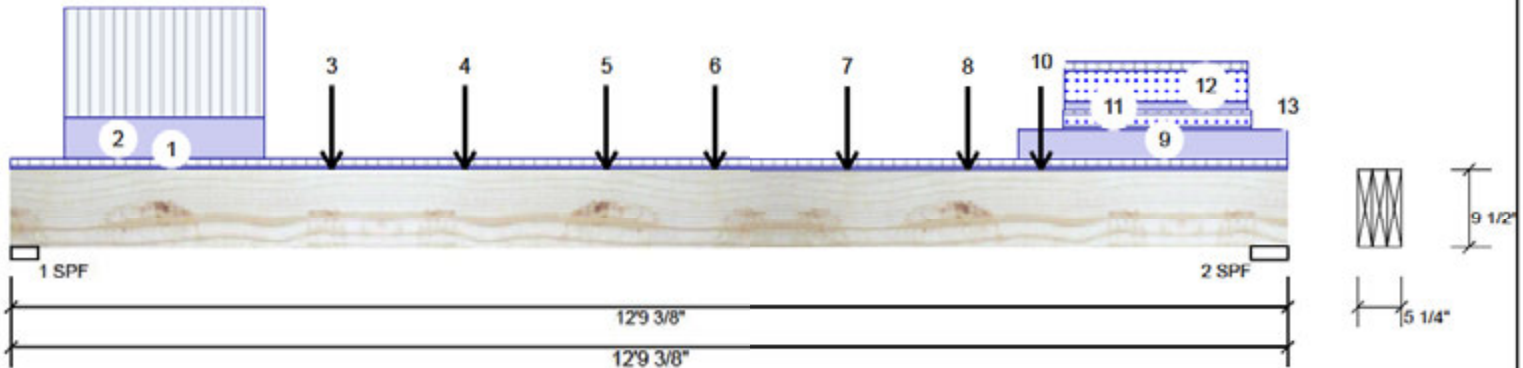


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

F7-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1921	1052	732	0
2	2248	2253	3533	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.250"	47% 1315 / 3614	4929	L	1.25D+1.5L +S
2 - SPF	4.375"	73% 2816 / 7547	10363	L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	21479 ft-lb	9'6 15/16"	35449 ft-lb	0.606 (61%)	1.25D+1.5S +L	L
Unbraced	21479 ft-lb	9'6 15/16"	35449 ft-lb	0.606 (61%)	1.25D+1.5S +L	L
Shear	10226 lb	11'8 1/4"	13915 lb	0.735 (73%)	1.25D+1.5S +L	L
Perm Defl in.	0.175 (L/843)	6'9 11/16"	0.409 (L/360)	0.430 (43%)	D	Uniform
LL Defl inch	0.355 (L/415)	6'8 1/2"	0.409 (L/360)	0.870 (87%)	L+0.5S	L
TL Defl inch	0.530 (L/278)	6'8 7/8"	0.614 (L/240)	0.860 (86%)	D+L+0.5S	L

### Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Tie-In	0-0-0 to 12-9-6	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-6-7 to 2-6-7		Near Face	114 PLF	303 PLF	0 PLF	0 PLF	
3	Point	3-2-7		Near Face	131 lb	350 lb	0 lb	0 lb	J10
4	Point	4-6-7		Near Face	141 lb	385 lb	0 lb	0 lb	J10
5	Point	5-11-7		Near Face	131 lb	350 lb	0 lb	0 lb	J10

Continued on page 2...

### Notes

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### Lumber

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

### chemicals

### Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Seismic System			
Zoning			





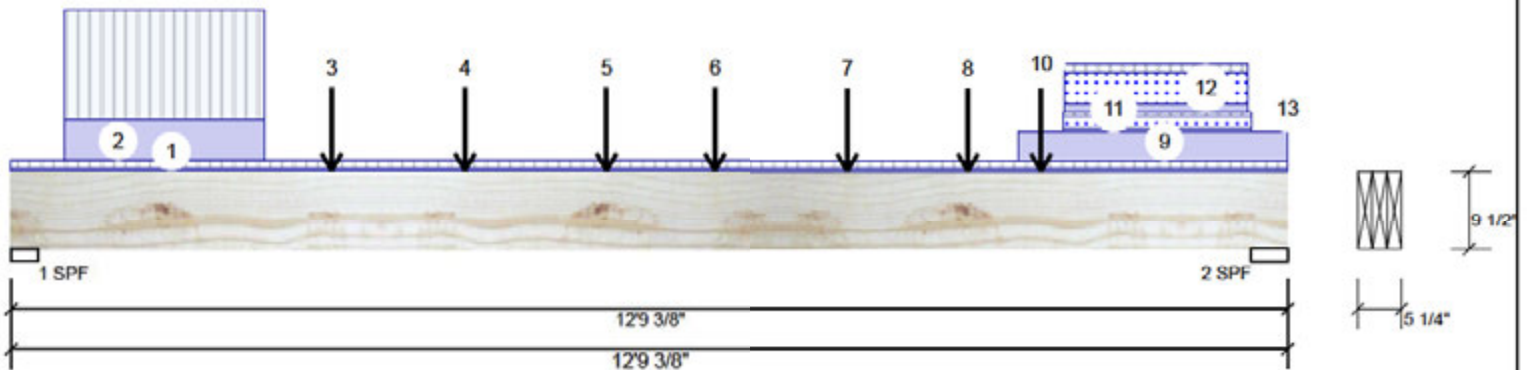


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F7-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	7-0-7		Near Face	127 lb	339 lb	0 lb	0 lb	J10
7	Point	8-4-7		Near Face	134 lb	356 lb	0 lb	0 lb	J10
8	Point	9-6-15		Near Face	102 lb	272 lb	0 lb	0 lb	J10
9	Part. Uniform	10-1-0 to 12-9-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Point	10-3-12		Near Face	178 lb	1175 lb	4037 lb	0 lb	F11
11	Part. Uniform	10-6-6 to 12-5-0		Top	10 PLF	10 PLF	36 PLF	0 PLF	
12	Part. Uniform	10-6-8 to 12-4-8		Top	24 PLF	25 PLF	87 PLF	0 PLF	
13	Part. Uniform	12-9-6 to 12-9-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight					11 PLF			

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application, and to verify the dimensions and loads.

#### Lumber

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

#### chemicals

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent  
ponding

#### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



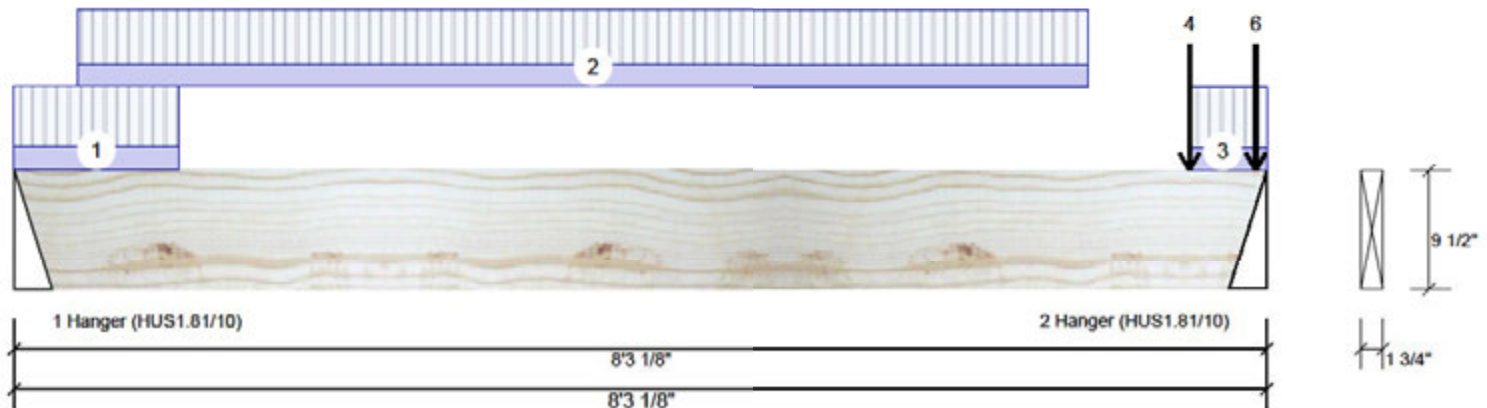


Client:  
Project:  
Address: GREENPARK HOMES  
TRINAR HALL  
EAST GWILLIMBURY, ON

Date: 12/17/2020  
Input by: S B  
Job Name: GLENWAY 12A EL-1  
Project #:

# F8-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## 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			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	319	136	0	0
2	349	249	162	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	17%	170 / 479	649 L	1.25D+1.5L
2 - Hanger	3.000"	26%	311 / 686	997 L	1.25D+1.5L +S

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1070 ft-lb	4' 13/16"	11362 ft-lb	0.094 (9%)	1.25D+1.5L	L
Unbraced	1070 ft-lb	4' 13/16"	4727 ft-lb	0.226 (23%)	1.25D+1.5L	L
Shear	612 lb	7'3 3/8"	4638 lb	0.132 (13%)	1.25D+1.5L	L
Perm Defl in.	0.012 (L/8016)	4'1 5/16"	0.263 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.027 (L/3487)	4'1 1/4"	0.263 (L/360)	0.100 (10%)	L+0.5S	L
TL Defl inch	0.039 (L/2430)	4'1 5/16"	0.394 (L/240)	0.100 (10%)	D+L+0.5S	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 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.

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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.**



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-1-0	1-9-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-5-0 to 7-1-0		Far Face	25 PLF	66 PLF	0 PLF	0 PLF	
3	Tie-In	7-9-0 to 8-3-2	1-9-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	7-9-0		Far Face	25 lb	66 lb	0 lb	0 lb	J4
5	Point	8-2-4		Top	45 lb	47 lb	162 lb	0 lb	
6	Point	8-2-4		Top	74 lb	0 lb	0 lb	0 lb	Wall Self V
	Self Weight				4 PLF				



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## Notes

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## Lumber

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

chemicals

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023

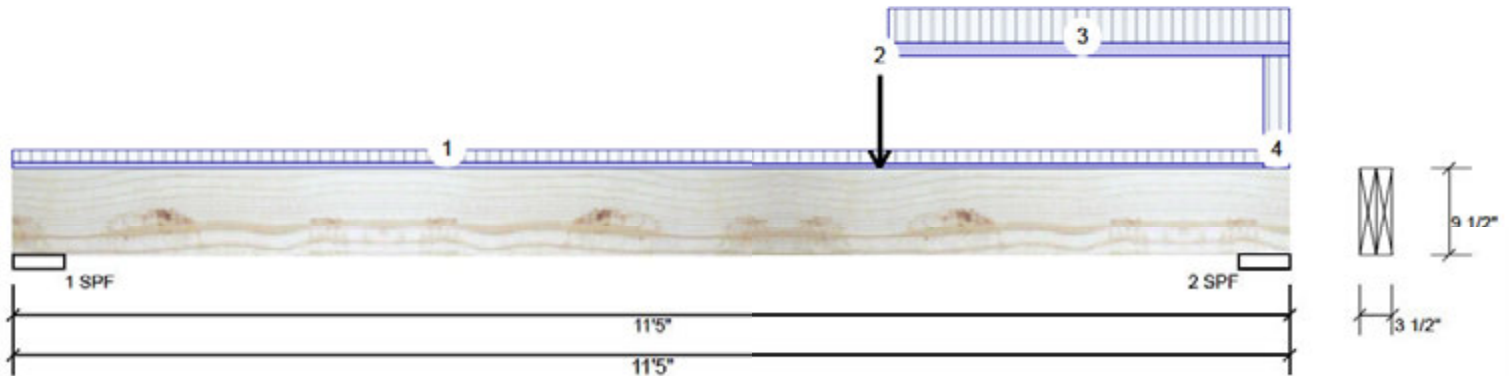


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**F9-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	160	109	0	0
2	358	189	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	3%	136 / 240	376 L	1.25D+1.5L
2 - SPF	5.500"	7%	237 / 538	774 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1961 ft-lb	7'9"	22724 ft-lb	0.086 (9%)	1.25D+1.5L	L
Unbraced	1961 ft-lb	7'9"	20494 ft-lb	0.096 (10%)	1.25D+1.5L	L
Shear	663 lb	10'2 3/4"	9277 lb	0.071 (7%)	1.25D+1.5L	L
Perm Defl in.	0.018 (L/6955)	6'1 13/16"	0.354 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.033 (L/3860)	6'3 5/8"	0.354 (L/360)	0.090 (9%)	L	
TL Defl inch	0.051 (L/2483)	6'2 15/16"	0.531 (L/240)	0.100 (10%)	D+L	L

### Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-2-4	0-2-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	7-9-0		Near Face	135 lb	319 lb	0 lb	0 lb	F8
3	Tie-In	7-9-14 to 11-5-0	0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	11-2-4 to 11-5-0	1-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				



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### Notes

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### Lumber

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

### Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

- For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Sewage System			
Zoning			



This design is valid until 4/24/2023



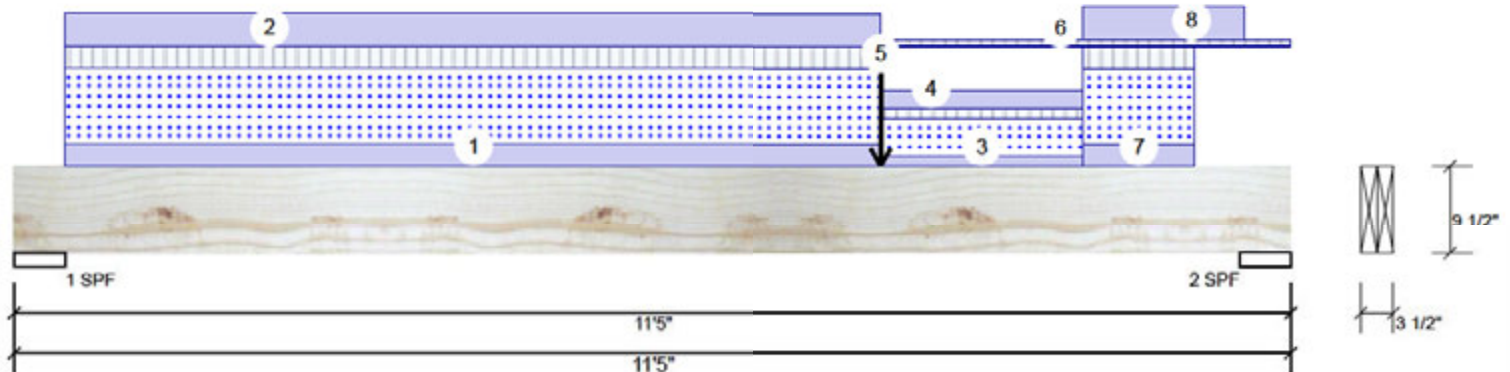


Client:  
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EAST GWILLIMBURY, ON

Date: 12/17/2020  
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Job Name: GLENWAY 12A EL-1  
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F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	371	773	936	0
2	494	800	841	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	23% 966 / 1774	2740	L	1.25D+1.5S +L
2 - SPF	5.500"	23% 1000 / 1755	2755	L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7875 ft-lb	6'1 1/16"	22724 ft-lb	0.347 (35%)	1.25D+1.5S +L	L
Unbraced	7875 ft-lb	6'1 1/16"	20494 ft-lb	0.384 (38%)	1.25D+1.5S +L	L
Shear	2520 lb	10'2 3/4"	9277 lb	0.272 (27%)	1.25D+1.5S +L	L
Perm Defl in.	0.097 (L/1309)	5'9 1/2"	0.354 (L/360)	0.280 (28%)	D	Uniform
LL Defl inch	0.140 (L/909)	5'9 1/4"	0.354 (L/360)	0.400 (40%)	S+0.5L	L
TL Defl inch	0.238 (L/536)	5'9 3/8"	0.531 (L/240)	0.450 (45%)	D+S+0.5L	L

### Design Notes

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comment
1	Part. Uniform	0-5-8 to 7-9-0		Top	49 PLF	51 PLF	176 PLF	0 PLF	
2	Part. Uniform	0-5-8 to 7-9-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
3	Part. Uniform	7-9-0 to 9-6-12		Top	24 PLF	25 PLF	86 PLF	0 PLF	
4	Part. Uniform	7-9-0 to 9-6-12		Top	39 PLF	0 PLF	0 PLF	0 PLF	Wall Self V
5	Point	7-9-0		Far Face	243 lb	349 lb	162 lb	0 lb	F8

Continued on page 2...

### Notes

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### Lumber

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### Handling & Installation

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6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-25
Seismic System			
Zoning			





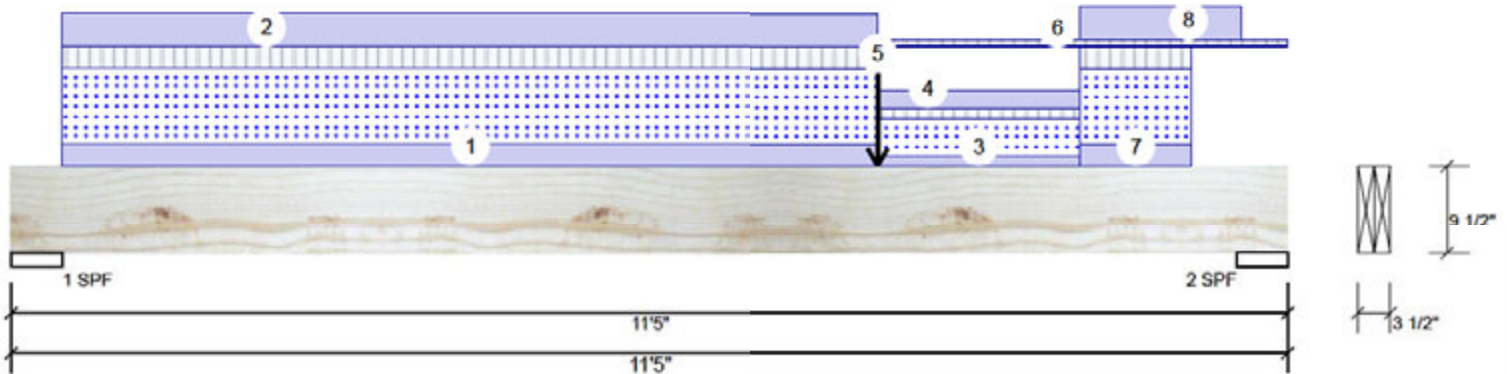


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Job Name: GLENWAY 12A EL-1  
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F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tie-In	7-9-14 to 11-5-0	0-3-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	9-6-12 to 10-6-11		Top	49 PLF	51 PLF	176 PLF	0 PLF	
8	Part. Uniform	9-6-12 to 11-0-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				8 PLF				

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#### chemicals

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Sewage System			
Zoning			

