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

REVISION 2018-10-17

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

## **DESIGN INFORMATION**

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

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

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

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

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

Installation of floor joists is to be carried out in accordance with the current edition of the manufacturer's literature available at <a href="http://www.kottgroup.com">http://www.kottgroup.com</a>.

## <u>CODE</u>

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 preauthorization.

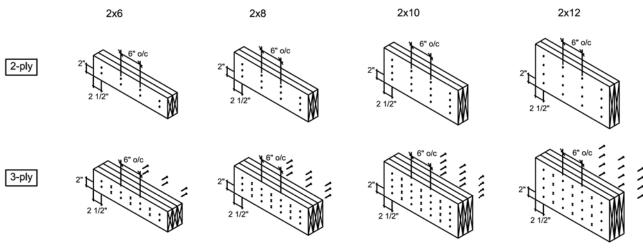


CITY OF RICHMOND HILL BUILDING DIVISION

09/22/2022

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Per: joshua.nabua

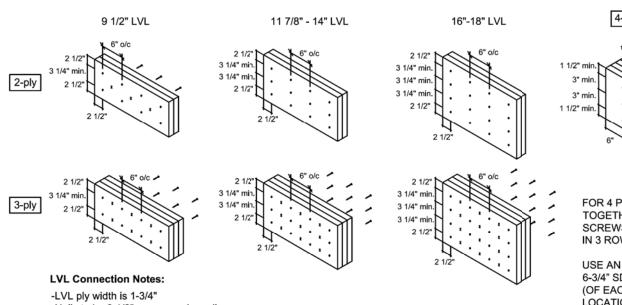
# **Conventional Connections**



### **Conventional Connection Notes:**

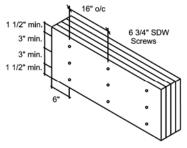
- -Nails to be 3" long wire nails.
- -Nails to be located 2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

## LVL Connections



- -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. Start all nails 2 1/2" min. from ends.
- -Minimum 3 1/4" spacing between rows.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.
- Head of all specified screws must be on the loaded side.

4-ply 9 1/2"-18"



FOR 4 PLY BEAMS\*, ATTACH PLIES TOGETHER USING 6-3/4" SDW SCREWS (HEAD ON LOADED SIDE) IN 3 ROWS @ 16" C/C.

USE AN ADDITIONAL THREE (3) 6-3/4" SDW SCREWS ON EACH SIDE (OF EACH FACE) AT POINT LOAD LOCATIONS @ 1/2 SPACING, WHERE APPLICABLE.

\*UNLESS NOTED OTHERWISE ON LAYOUT OR CALCULATION SHEET OF BEAM IN THE FLOOR PACKAGE

# **Multiple Member Connections**

All connections are for uniformly distributed loads.

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



KOTTY INF. RICHMOND HILL 3228 Moodle Brive ISION Ottawa, ON K2H7V1/ZZ 613-838-2775

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Last revised: February 19, 2021

Ground Floor FH1-MR1 2 X J5-B -3 X J10-S- 6-2 X J10-U 0-F5-A - 1 ply R1 R2 子 F6-A - 1 ply 2 X J4-E 2 X J5-D 4 F6-C - 1 ply, 

2 X J7-K 🕏

F1 B - 1 ply FH1-J

F6-B - 1 ply

VL/LS	Description	Width	Depth	Qt	v Plies	Pcs	Length	Builder
F4	Forex	1.75	9.5	- Qi	y 1 1103	1	14-0-0	GREENPARK
	2.0E-3000Fb LVL		0.0					Project
F9	Forex 2.0E-3000Fb LVL	1.75	11.875			1	14-0-0	ROUNDEL HOMES INC
F14	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	10-0-0	Shipping GLENROWAN 41-2-1 RICHMOND HILL,ON
F7	Forex 2.0E-3000Fb LVL	1.75	11.875			1	8-0-0	Sales Rep
F5	Forex 2.0E-3000Fb LVL	1.75	11.875			1	6-0-0	RALPH MIRIGELLO
F6	Forex 2.0E-3000Fb LVL	1.75	11.875			3	4-0-0	<b>Designer</b> W C
Joist								Plotted
Label	Description	Width	Depth	Qt	y Plies	Pcs	Length	June 09, 2021
J2	AJS 24	3.5	9.5			8	14-0-0	Layout Name
J1	AJS 24	3.5	9.5		,	1	12-0-0	GR41-2-1 STANDARD
F3	AJS 24	3.5	11.875			2	18-0-0	
F2	AJS 24	3.5	11.875			2	14-0-0	Job Path
F1	AJS 24	3.5	11.875			2	4-0-0	DESIGN CRITERIA
J10	AJS 24	3.5	11.875			14	18-0-0	Ground Floor
J8	AJS 24	3.5	11.875			11	16-0-0	Design Method
J7	AJS 24	3.5	11.875			12	14-0-0	Building Code
J6	AJS 24	3.5	11.875			4	12-0-0	Floor
J5	AJS 24	3.5	11.875			6	10-0-0	Loads
J4	AJS 24	3.5	11.875			3	8-0-0	Live
J3	AJS 24	3.5	11.875			1	6-0-0	Dead
Rim Bo								Decking
	Description	Width	Depth	Qt	y Plies	Pcs	Length	Decking
R2	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			3	12-0-0	Thickness
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			13	12-0-0	Fastener Vibration Ceiling:
Blockin	a			-				Celling.
	Description	Width	Depth	Qt	y Plies	Pcs	Length	1
	AJS 24	3.5	11.875	Lini		Varies	18-0-0	1
Hanger					Beam/Girde		pported ember	
Label	Pcs Description	n S	kew S	ope	fasteners	fas	steners	1
H1	20 LF3511				12 10d	2 #8	x1 1/4WS	1
H2	1 HUS1.81/10	1			30 16d	1	0 16d	1

**CCMC References** 

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

Kott Inc.

3228 Moodie Dr, Ottawa

613-838-2775 / 905-642-4400

14 Anderson Blvd, Uxbridge Ontario

IM0721-006 Page 3 of 24

LSD (Canada) NBCC 2015 / OBC 2012

> 40 15

OSB

5/8"

Nailed & Glued

Gypsum 1/2"

1. All blocking to be cut from 12' joists

2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length

3. Ends of joists to be laterally supported

4. Packing of Steel beams and attachment by others

5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations

6. Beams identified as "B" are dropped and supplied by others

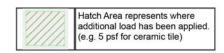
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls

8. Load transfer blocks to be installed under all point loads

9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting

10. Hangers and Fasteners to be installed as per manufacturer

Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.



AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

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

CITY OF RICHMOND HILL In Hanger Laber Denotes Web Stiffene PS Point Load Support **\Q** 

Legend

Coad from Above / 2 Wall Opening Norbord Rimboard Plus 1,125 X 11.875 Norbord Rimboard Plus 1 125 X 9.5 AJS 24 95 hua nabua

Page 1 of 41



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC

7/5/2021 Date: WC Input by:

GLENROWAN 41-2-1 Job Name: GR41-2-1 STANDARD RICHMOND HILL, ON Project #: ROUNDEL HOMES INC

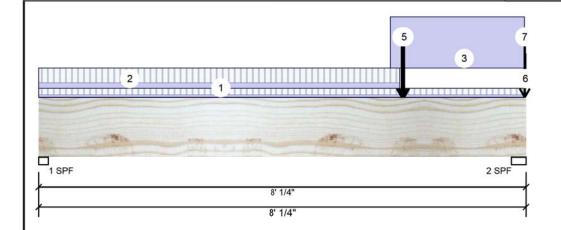
F14-A Forex 2.0E-3000Fb LVL 1.750" X 11.875"

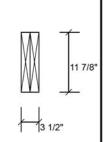
LSD

NBCC 2015 / OBC 2012

2-Ply - PASSED

Level: Ground Floor





### Member Information Type: Application: Plies: 2 Design Method: Moisture Condition: Dry Building Code: Deflection LL: 480 Load Sharing: Deflection TL: 240 Deck: Importance: Normal - II Vibration: General Load 40 PSF Floor Live:

15 PSF

Unfactored Reactions UNPATTERNED Ib (Uplift) Floor (Residential) Brg 1

2

Live Dead 322 186 960 1948

Snow Wind 0 0 0 0

No Not Checked Not Checked

## **Bearings and Factored Reactions**

Direction

Vertical

Vertical

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 1.901" Vert 17% 233 / 484 716 L 1.25D+1.5L 1199 / 2922 1.25D+1.5L 2 - SPF 2.875" Vert 67% 4122 L

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3062 ft-lb	5'11 3/4"	34261 ft-lb	0.089 (9%)	1.25D+1.5L	L
Unbraced	3062 ft-lb	5'11 3/4"	34261 ft-lb	0.089 (9%)	1.25D+1.5L	L
Shear	1661 lb	6'9 1/2"	11596 lb	0.143 (14%)	1.25D+1.5L	L
Perm Defl in.	0.009 (L/10831)	4'6 15/16"	0.258 (L/360)	0.033 (3%)	D	Uniform
LL Defl inch	0.016 (L/5871)	4'7 1/2"	0.194 (L/480)	0.082 (8%)	L	L
TL Defl inch	0.024 (L/3807)	4'7 5/16"	0.387 (L/240)	0.063 (6%)	D+L	L

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

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



## Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 6' 3/16' o.c.
- 7 Lateral slenderness ratio based on full section width.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 8-0-0	0-2-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Tie-In	0-0-0 to 5-11-5	0-5-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Part. Uniform	5-9-8 to 7-11-15		Тор	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
4	Point	5-11-12		Тор	184 lb	405 lb	0 lb	0 lb	F8 F8	
	Bearing Length	0-3-8								

Continued on page 2...

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pl regarding installation requirements, multi-fastening details, beam strength values, and co approvals
- naged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontari 618-838-2775 D/\905-642-4400



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Client: GREENPARK Project:

Address:

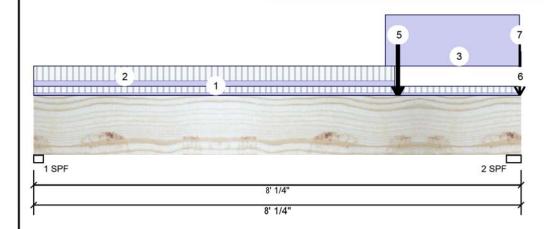
ROUNDEL HOMES INC

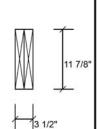
7/5/2021 Input by:

GLENROWAN 41-2-1 Job Name: GR41-2-1 STANDARD RICHMOND HILL, ON Project #: ROUNDEL HOMES INC

F14-A Forex 2.0E-3000Fb LVL 1.750" X 11.875"

2-Ply - PASSED Level: Ground Floor





Continued	from	page 1	١
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
5	Point	6-0-3		Near Face	205 lb	523 lb	0 lb	0 lb	F6	
6	Part. Uniform	7-11-15 to 8-0-4		Тор	43 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
7	Point	8-0-0		Тор	472 lb	1167 lb	0 lb	0 lb	C1	
	Bearing Length	0-3-8								
	Self Weight				10 PLF					

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

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



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

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor 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 rolation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318



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Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

RICHMOND HILL, ON

7/5/2021 WC Input by:

Project #:

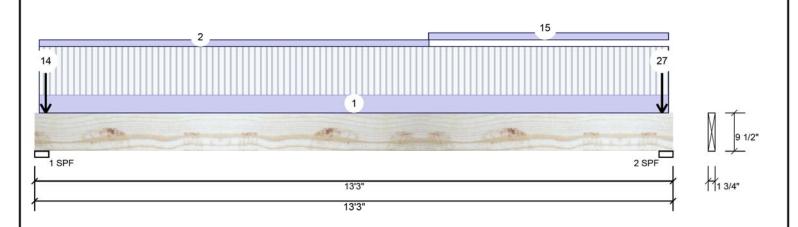
Job Name: GR41-2-1 STANDARD

Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED F4-A

Address:

Level: Ground Floor

ROUNDEL HOMES INC



Member Info	mation			Unfactored Reactions UNPATTERNED Ib (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind	
Plies:	1	Design Method:	LSD	1	Vertical	100	135	79	0	
Moisture Condition	n: Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	116	95	0	0	
Deflection LL:	480	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal - II	Vibration:	Not Checked							
General Load				_		100				
Floor Live:	40 PSF			Bear	ings and F	actored Rea	ctions			
Dead:	15 PSF			Bea	ring Length	Dir. Cap.	React D/L lb	Total Ld. Case	Ld. Comb.	
				1 - 8	SPF 3.500"	Vert 11%	169 / 218	387 L	1.25D+1.5S +L	
Analysis Resu	alysis Results					Vert 8%	119 / 174	293 L	1.25D+1.5L	
Analusia A	atual Lass	tion Allowed Conce	it. Comb Coop	7						

Analysis Actual Location Allowed Capacity Comb. Case 0.036 (4%) 1.25D+1.5L L Moment 407 ft-lb 6'7 1/2" 11248 ft-lb Unbraced 407 ft-lb 6'7 1/2" 11248 ft-lb 0.036 (4%) 1.25D+1.5L L 12'2" 4592 lb 0.025 (2%) 1.25D+1.5L L 114 lb Shear Perm Defl in. 0.019 (L/8075) 6'7 9/16" 0.426 (L/360) 0.045 (4%) D Uniform LL Defl inch 0.018 (L/8546) 6'7 9/16" 0.320 (L/480) 0.056 (6%) L+0.5S L TL Defl inch 0.037 (L/4152) 6'7 9/16" 0.640 (L/240) 0.058 (6%) D+L+0.5S

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

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



Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at bearings.

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

O DOLLOIN	made no laterally braces o	at bournigo.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	Π
1	Tie-In	0-1-2 to 13-1-14	0-2-2	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Part. Uniform	0-1-2 to 8-2-1		Тор	1 PLF	0 PLF	0 PLF	0 PLF		
3	Point	0-2-12		Тор	8 lb	0 lb	21 lb	0 lb		
	Bearing Length	0-5-8								
4	Point	0-2-12		Тор	5 lb	14 lb	0 lb	0 lb	J7	

Continued on page 2...

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

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

## Handling & Installation

- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation

6. For flat roofs provide proper drainage to prevent

Forex APA: PR-L318

Manufacturer Info

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

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This design is valid until 5/24/2024

Page 12 of 4



Client: GREENPARK Project:

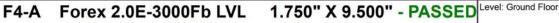
Address:

ROUNDEL HOMES INC

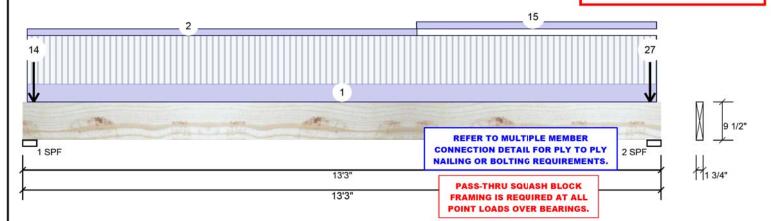
7/5/2021

Input by: WC

GLENROWAN 41-2-1 Job Name: GR41-2-1 STANDARD RICHMOND HILL, ON Project #: ROUNDEL HOMES INC



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



Continued from	page 1						477077			
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
	Bearing Length	0-5-8								
5	Point	0-2-12		Тор	4 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Bearing Length	0-5-8								
6	Point	0-2-12		Тор	5 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Bearing Length	0-5-8								
7	Point	0-2-12		Тор	12 lb	0 lb	29 lb	0 lb		
	Bearing Length	0-5-8								
8	Point	0-2-12		Тор	7 lb	20 lb	0 lb	0 lb	J7	
	Bearing Length	0-5-8								
9	Point	0-2-12		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Bearing Length	0-5-8								
10	Point	0-2-12		Тор	7 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Bearing Length	0-5-8								15
11	Point	0-2-12		Тор	12 lb	0 lb	29 lb	0 lb		LICENSE
	Bearing Length	0-5-8								=
12	Point	0-2-12		Тор	7 lb	20 lb	0 lb	0 lb	J7	/3
	Bearing Length	0-5-8								1
13	Point	0-2-12		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Bearing Length	0-5-8								
14	Point	0-2-12		Тор	7 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Bearing Length	0-5-8								
15	Part. Uniform	8-2-0 to 13-1-14		Тор	1 PLF	0 PLF	0 PLF	0 PLF		
16	Point	13-0-4		Тор	9 lb	24 lb	0 lb	0 lb	J7	
	Bearing Length	0-5-8								
18	Point	13-0-4		Тор	1 lb	2 lb	0 lb	0 lb		

Top

Top

### Notes

19

20

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

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

# Handling & Installation

0-5-8

13-0-4

0-5-8 13-0-4

0-5-8

- Handling & Installation

  1. IVI, beams must not be cutor drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

7 lb

9 lb

0 lb

24 lb

Manufacturer Info Forex

APA: PR-L318

0 lb

0 lb

0 lb J7

> 3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

PROFESSIONA

I.MATIJEVIC 100528832

NCE OF ON July 05 2021

Version 21.40.338 Powered by iStruct™ Dataset: 21060301.1545

Bearing Length

Bearing Length

Bearing Length

Point

Point

joshua.nabua

Wall Self Weight



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

RICHMOND HILL, ON

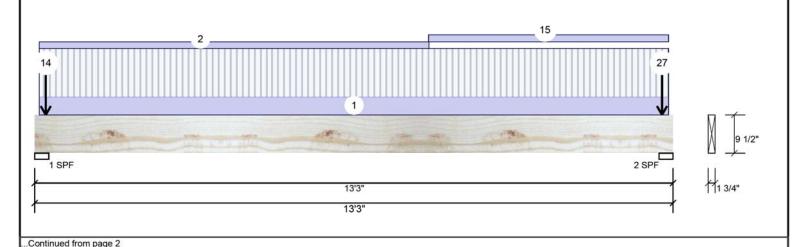
7/5/2021 Input by: WC

Job Name: GR41-2-1 STANDARD

Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED F4-A

Address:

Project #: ROUNDEL HOMES INC Level: Ground Floor



Continued from page 2										
I	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
I	22	Point	13-0-4		Тор	1 lb	2 lb	0 lb	0 lb	
I		Bearing Length	0-5-8							
I	23	Point	13-0-4		Тор	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
I		Bearing Length	0-5-8							
I	24	Point	13-0-4		Тор	6 lb	17 lb	0 lb	0 lb	J7
I		Bearing Length	0-5-8							
I	26	Point	13-0-4		Тор	1 lb	1 lb	0 lb	0 lb	
I		Bearing Length	0-5-8							
I	27	Point	13-0-4		Тор	5 lb	0 lb	0 lb	0 lb	Wall Self Weight
I		Bearing Length	0-5-8							
١		Self Weight				4 PLF				

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

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



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

### Notes

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

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

  1. IVI, beams must not be cutor drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info Forex

APA: PR-L318

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

Version 21.40.338 Powered by iStruct™ Dataset: 21060301.1545

CSD joshua.nabua



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1 RICHMOND HILL, ON

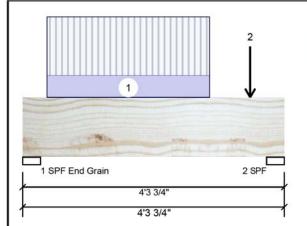
7/5/2021 WC Input by:

Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

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

Address:

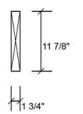
Level: Ground Floor



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

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## Member Information

Type: Application: Floor (Residential) Plies: 1 Design Method: LSD Moisture Condition: Dry Building Code: NBCC 2015 / OBC 2012 Deflection LL: 480 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal - II Vibration: Not Checked General Load 40 PSF Floor Live:

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	330	133	0	0
2	Vertical	365	146	0	0

## **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	677 ft-lb	2'1 5/16"	17130 ft-lb	0.039 (4%)	1.25D+1.5L	L
Unbraced	677 ft-lb	2'1 5/16"	17130 ft-lb	0.039 (4%)	1.25D+1.5L	L
Shear	1025 lb	3' 3/8"	5798 lb	0.177 (18%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/31156)	2'1 9/16"	0.128 (L/360)	0.012 (1%)	D	Uniform
LL Defl inch	0.004 (L/12435)	2'1 9/16"	0.096 (L/480)	0.039 (4%)	L	L
TL Defl inch	0.005 (L/8888)	2'1 9/16"	0.193 (L/240)	0.027 (3%)	D+L	L

## Bearings and Factored Reactions

•	carings and ractored reactions											
	Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.				
	1 - SPF End Grain	3.505"	Vert	15%	167 / 495	662	L	1.25D+1.5L				
	2-SPF	3.500"	Vert	19%	183 / 547	730	L	1.25D+1.5L				



- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.

15 PSF

4 Bottom must have sheathing attached or be continuously braced.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part, Uniform	0-4-13 to 3-0-13		Far Face	72 PLF	193 PLF	0 PLF	0 PLF	

Point 3-8-13 Far Face 67 lb 180 lb 0 lb 0 lb J5

Self Weight 5 PLF

2

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

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

APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontari 613-838-2775 D/\905-642-4400

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This design is valid until 5/24/2024

Page 15 of 4"



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1 RICHMOND HILL, ON

7/5/2021 WC Input by:

Project #:

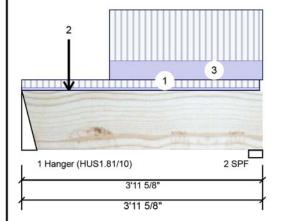
Job Name: GR41-2-1 STANDARD

ROUNDEL HOMES INC

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

Address:

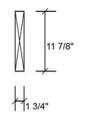
Level: Ground Floor



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

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

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



### Member Information Type:

Plies: 1 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 240 Importance: Normal - II General Load 40 PSF Floor Live:

15 PSF

Building Code: NBCC 2015 / OBC 2012 Load Sharing: No Deck: Not Checked Vibration: Not Checked

Application:

Design Method:

Unfactored Reactions UNPATTERNED Ib (Uplift) Brg Direction Live Dead Snow Wind 523 205 0 1 Vertical 0 232 595 0 0 2 Vertical

# **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	948 ft-lb	2' 5/16"	17130 ft-lb	0.055 (6%)	1.25D+1.5L	L
Unbraced	948 ft-lb	2' 5/16"	17130 ft-lb	0.055 (6%)	1.25D+1.5L	L
Shear	1463 lb	1'2 7/8"	5798 lb	0.252 (25%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/22421)	2' 1/8"	0.120 (L/360)	0.016 (2%)	D	Uniform
LL Defl inch	0.005 (L/8759)	2' 1/8"	0.090 (L/480)	0.055 (5%)	L	L
TL Defl inch	0.007 (L/6299)	2' 1/8"	0.180 (L/240)	0.038 (4%)	D+L	L

## Bearings and Factored Reactions

١	Jeaning.	, una i c		u itcu	ctions			
	Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
	1 - Hanger	3.000"	Vert	27%	257 / 785	1042	L	1.25D+1.5L
	2 - SPF	2.938"	Vert	37%	290 / 893	1183	L	1.25D+1.5L

## Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top must be continuously laterally braced.
- 5 Bottom must have sheathing attached or be continuously braced



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-11-1		Тор	15 PLF	40 PLF	0 PLF	0 PLF	
2	Point	0-9-5		Near Face	107 lb	286 lb	0 lb	0 lb	J7

Floor (Residential)

LSD

3 Part. Uniform 1-5-5 to 3-11-10 Near Face 100 PLF 267 PLF 0 PLF 0 PLF

> Self Weight 5 PLF

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

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

This design is valid until 5/24/2024

Manufacturer Info Forex APA: PR-L318

3228 Moodie Dr. Ottawa, Ontari 618-838-2775 D/\905-642-4400

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Page 16 of 4"



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

RICHMOND HILL, ON

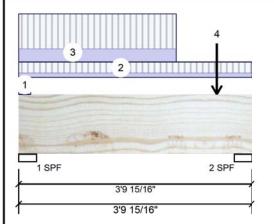
7/5/2021 WC Input by:

Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor

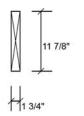


REFER TO MULTIPLE MEMBER **CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.** 

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

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

12



Wind

### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2013
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED Ib (Uplift) Direction Live Dead Snow

111	vertical	415	100	U	U
2	Vertical	359	145	0	0
l					

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	22%	208 / 622	830	L	1.25D+1.5L
2-SPF	3.500"	Vert	19%	181 / 539	720	L	1.25D+1.5L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	580 ft-lb	1'10 3/8"	17130 ft-lb	0.034 (3%)	1.25D+1.5L	L
Unbraced	580 ft-lb	1'10 3/8"	17130 ft-lb	0.034 (3%)	1.25D+1.5L	L
Shear	895 lb	2'6 9/16"	5798 lb	0.154 (15%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/35748)	1'10 5/8"	0.112 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/14400)	1'10 5/8"	0.084 (L/480)	0.033 (3%)	L	L
TL Defl inch	0.004 (L/10265)	1'10 5/8"	0.169 (L/240)	0.023 (2%)	D+L	L

### Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must have sheathing attached or be continuously braced

1	4 Dottoill illust i	nave oneutring attacht	o or be continued	ory bruccu.						
I	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
I	1	Tie-In	0-0-0 to 0-2-6	1-5-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
I	2	Part. Uniform	0-0-0 to 3-9-15		Тор	20 PLF	52 PLF	0 PLF	0 PLF	
I	3	Part. Uniform	0-0-0 to 2-7-0		Far Face	62 PLF	164 PLF	0 PLF	0 PLF	
I	4	Point	3-3-0		Far Face	52 lb	139 lb	0 lb	0 lb	J5
I		Self Weight				5 PLF				

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- 1. UVL beams must not be cutor drilled
  2. Refer to manufacturer's product information regarding installation requirements, multi-ph fastening details, beam stength values, and codi approvals
  3. Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318



PROFESSIONA

I.MATIJEVIC 100528832

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July 05 2021

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Page 17 of 4



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1 RICHMOND HILL, ON

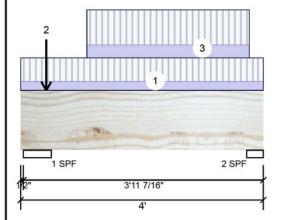
7/5/2021 WC Input by:

Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor



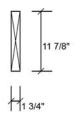
REFER TO MULTIPLE MEMBER **CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.** 

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

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Direction

Vertical



Wind

0

Snow

PROFESSIONA

I.MATIJEVIC 100528832

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July 05 2021

0

### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED Ib (Uplift) Live

596

Bea	rings and Fa	ctored Reaction	ons	

Dead

249

## **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	604 ft-lb	2' 15/16"	17130 ft-lb	0.035 (4%)	1.25D+1.5L	_L
Unbraced	604 ft-lb	2' 15/16"	17130 ft-lb	0.035 (4%)	1.25D+1.5L	_L
Shear	494 lb	1'5 7/8"	5798 lb	0.085 (9%)	1.25D+1.5L	LL
Perm Defl in.	0.001 (L/34861)	2' 11/16"	0.117 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/13899)	2' 3/4"	0.087 (L/480)	0.035 (3%)	L	_L
TL Defl inch	0.004 (L/9937)	2' 3/4"	0.175 (L/240)	0.024 (2%)	D+L	_L
LL Cant	-0.000 (2L/20066)	Lt Cant	0.200 (2L/480)	0.000 (0%)	L	_L
TL Cant	-0.000 (2L/14376)	Lt Cant	0.300 (2L/240)	0.000 (0%)	D+L	_L

### Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 5.500" Vert 20% 311 / 893 1204 LL 1.25D+1.5L 2 - SPF 3.500" Vert 20% 187 / 562 749 1.25D+1.5L

## **Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must have sheathing attached or be continuously braced

_	4 Dottom mast i	lave sheathing attache	d of be continuou							
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8.	1	Part. Uniform	0-0-0 to 4-0-0		Тор	32 PLF	85 PLF	0 PLF	0 PLF	
	2	Point	0-5-1		Far Face	126 lb	294 lb	0 lb	0 lb	J4
8	3	Part. Uniform	1-1-1 to 3-9-1		Far Face	47 PLF	126 PLF	0 PLF	0 PLF	
ı		Self Weight				5 PLF				

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318



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Page 18 of 4



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

RICHMOND HILL, ON

7/5/2021 WC Input by:

Project #:

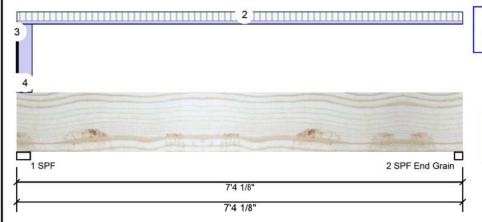
Job Name: GR41-2-1 STANDARD

Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED F7-A

Address:

Level: Ground Floor

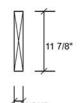
ROUNDEL HOMES INC



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

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

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### Member Information

Type:	Girder	Application:
Plies:	1	Design Method
Moisture Conditi	on: Dry	Building Code:
Deflection LL:	480	Load Sharing:
Deflection TL:	240	Deck:
Importance:	Normal - II	Vibration:
General Load		
Floor Live:	40 PSF	

15 PSF

Floor (Residential) n:

lethod: LSD Code: NBCC 2015 / OBC 2012

No

Not Checked

Not Checked

## Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1198	516	0	0
2	Vertical	30	29	0	0

## Bearings and Factored Reactions

Grain

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.688"	Vert	84%	645 / 1797	2442	L	1.25D+1.5L
2 - SPF End	1.625"	Vert	4%	36 / 45	81	L	1.25D+1.5L

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	141 ft-lb	3'8 9/16"	17130 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	141 ft-lb	3'8 9/16"	17130 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	62 lb	6'2 5/8"	5798 lb	0.011 (1%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/70817)	3'8 9/16"	0.237 (L/360)	0.005 (1%)	D	Uniform
LL Defl inch	0.001 (L/67516)	3'8 5/8"	0.178 (L/480)	0.007 (1%)	L	L
TL Defl inch	0.002 (L/34564)	3'8 9/16"	0.355 (L/240)	0.007 (1%)	D+L	L

### Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.

4 Bottom must be laterally braced at bearings.



	sottoni maot be laterally bracea at b	ournigo.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Part. Uniform	0-0-0 to 0-0-5		Тор	21 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
2	Tie-In	0-0-1 to 7-4-2	0-2-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Point	0-0-1		Тор	472 lb	1167 lb	0 lb	0 lb	C1	
	Bearing Length	0-3-8								
4	Part. Uniform	0-0-5 to 0-3-1		Тор	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
	Self Weight				5 PLF					

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- 1. UVL beams must not be cutor drilled
  2. Refer to manufacturer's product information regarding installation requirements, multi-ph fastening details, beam stength values, and codi approvals
  3. Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

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Page 19 of 4



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

RICHMOND HILL, ON

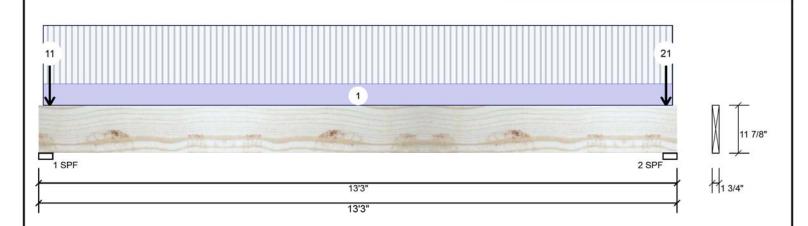
7/5/2021 Input by: WC

Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED F9-A

Address:

Level: Ground Floor



Member Inforn	nation			Unfa	actored	Reactions	UNP	ATTERNED IL	(Upl	ift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Directio	n L	ive	Dead		Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical		140	194		137	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical		149	115		0	0
Deflection LL:	480	Load Sharing:	No	1							
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal - II	Vibration:	Not Checked	1							
General Load					0.57	1000F-0 10 00	2000	* DRIEGO			
Floor Live:	40 PSF			Bear	rings an	nd Factored	Rea	ctions			
Dead:	15 PSF			Bea	aring Ler	ngth Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - 3	SPF 3.50	00" Vert	16%	242 / 345	588	L	1.25D+1.5S +L
Analysis Result	s			2 - 3	SPF 3.50	00" Vert	10%	144 / 223	367	L	1.25D+1.5L

Case Analysis Actual Location Allowed Capacity Comb. 0.045 (5%) 1.25D+1.5L L Moment 769 ft-lb 6'7 1/2" 16959 ft-lb 769 ft-lb Unbraced 6'7 1/2" 16959 ft-lb 0.045 (5%) 1.25D+1.5L L 0.036 (4%) 1.25D+1.5L L 207 lb 1'3 3/8" 5740 lb Shear Perm Defl in. 0.015 6'7 9/16" 0.426 (L/360) 0.034 (3%) D (L/10562) LL Defl inch 0.022 (L/7090) 6'7 9/16" 0.320 (L/480) 0.068 (7%) L+0.5S L TL Defl inch 0.036 (L/4242) 6'7 9/16" 0.640 (L/240) 0.057 (6%) D+L+0.5S L

Uniform

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

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



Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top must be continuously laterally braced.

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

O BOLLOI	if must be laterally braced a								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 13-1-14	0-4-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Тор	8 lb	0 lb	0 lb	0 lb	Wall Self Weight
l	Bearing Length	0-5-8							
3	Point	0-2-12		Тор	17 lb	0 lb	42 lb	0 lb	

Continued on page 2...

Notes

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

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Page 20 of 41



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1 7/5/2021

Input by: WC Job Name: GR41-2-1 STANDARD

RICHMOND HILL, ON

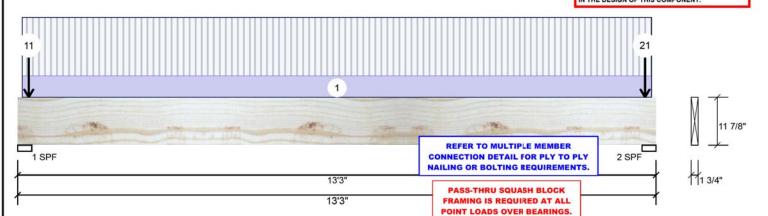
Project #: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor

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



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ľ	Continued from pa	age 1	pa 6.	er sawa e waara nama	See Miller	222	ro-v		947 Santa (1949		
l	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
l		Bearing Length	0-5-8								
l	4	Point	0-2-12		Тор	8 lb	0 lb	0 lb	0 lb	Wall Self Weight	
١		Bearing Length	0-5-8								
١	5	Point	0-2-12		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight	
l		Bearing Length	0-5-8								
l	6	Point	0-2-12		Тор	12 lb	0 lb	29 lb	0 lb		
l		Bearing Length	0-5-8								
l	7	Point	0-2-12		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight	
١		Bearing Length	0-5-8								
l	8	Point	0-2-12		Тор	13 lb	0 lb	0 lb	0 lb	Wall Self Weight	
l		Bearing Length	0-5-8								
١	9	Point	0-2-12		Тор	27 lb	0 lb	66 lb	0 lb		
١		Bearing Length	0-5-8								
١	10	Point	0-2-12		Тор	13 lb	35 lb	0 lb	0 lb	J7	
l		Bearing Length	0-5-8								
l	11	Point	0-2-12		Тор	13 lb	0 lb	0 lb	0 lb	Wall Self Weight	I.MATUEVIC 100528832
l		Bearing Length	0-5-8								PROFESSION
l	12	Point	13-0-4		Тор	2 lb	4 lb	0 lb	0 lb		13/
l		Bearing Length	0-5-8								I.MATUEVIC 100528832
l	13	Point	13-0-4		Тор	13 lb	35 lb	0 lb	0 lb	J7	
l		Bearing Length	0-5-8								SAOVINCE OF ON'
l	15	Point	13-0-4		Тор	13 lb	0 lb	0 lb	0 lb	Wall Self Weight	July 05 2021
l		Bearing Length	0-5-8								July 05 2021
l	16	Point	13-0-4		Тор	1 lb	2 lb	0 lb	0 lb		
l		Bearing Length	0-5-8								
l	18	Point	13-0-4		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight	
I		Bearing Length	0-5-8								
I	19	Point	13-0-4		Тор	1 lb	3 lb	0 lb	0 lb		
I		Bearing Length	0-5-8								

21

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

Point

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

## Handling & Installation

13-0-4

- 1. LVL beams must not be cutor 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 roiation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

8 lb

Top

0 lb

APA: PR-L318

Manufacturer Info

0 lb

3228 Moodie Dr. Ottawa, Ontario 618-838-2775D/\905-642-4400



0 lb Wall Self Weight

Page 21 of 4



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

7/5/2021 Input by:

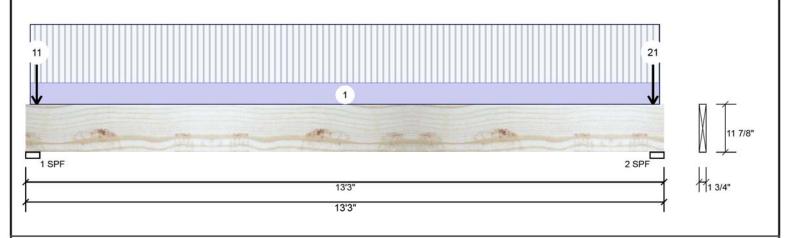
WC

Job Name: GR41-2-1 STANDARD RICHMOND HILL, ON Project #: ROUNDEL HOMES INC

F9-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Address:

Level: Ground Floor



.Continued from page 2

Location Trib Width Wind Comments Load Type Side Dead Live Snow

> Bearing Length 0-5-8

Self Weight 5 PLF

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

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



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

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info Forex

APA: PR-L318

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FH2-D J10-C J10-I F11-A - 2 ply J10-H (9) J10-F J10-B J9-0 J10-A J9-E J10-A J10-E/ B3-A BLK1 F16-A - 2 ply F12-A - 2 ply J10-D 2 X J4-D 4 -J4-B - @ 16"-F10-A - 1 ply -J7-B - @ 16"-

Second Floor JOB INFORMATION LVL/LSL Label Description Width Depth Qty Plies Pcs Length F10 11.875 12-0-0 Forex 2.0E-3000Fb LVL Forex 2.0E-3000Fb LVL F8 1.75 11.875 10-0-0 F16 Forex 1.75 11.875 8-0-0 2 2.0E-3000Fb LVL F12 Forex 2.0E-3000Fb LVL 1.75 11.875 2 2 6-0-0 F11 Forex 1.75 11.875 2-0-0 2.0E-3000Fb LVL I Joist Label Description Width Depth Qty Plies Pcs Length J10 AJS 24 3.5 11.875 34 18-0-0 J8 AJS 24 3.5 11.875 12 16-0-0 J7 AJS 24 3.5 11.875 18 14-0-0 J6 AJS 24 3.5 11.875 1 12-0-0 J4 AJS 24 3.5 11.875 8 8-0-0 3.5 11.875 J9 AJS 24 12 2-0-0 Rim Board Qty Plies Label Description Width Depth Pcs Length Norbord Rimboard R1 1.125 11.875 15 Plus 1.125 X **Building Code** 11.875 Blocking Floor Label Description Width Depth Qty Plies Pcs Length LinFt BLK1 AJS 24 3.5 11.875 Varies 52-0-0 Hanger Beam/Girder Supported Member Label Pcs Description Skew Slope fasteners fasteners H1 24 LF3511 2 #8x1 1/4WS 12 10d 1 HUS1.81/10 30 10dx1 1/2 10 16d

Builder GREENPARK Project ROUNDEL HOMES INC Shipping GLENROWAN 41-2-1 RICHMOND HILL,ON Sales Rep RALPH MIRIGELLO Designer WC Plotted June 09, 2021 Layout Name GR41-2-1 STANDARD Job Path **DESIGN CRITERIA** Second Floor 12-0-0 Design Method LSD (Canada) NBCC 2015 / OBC 2012

> oads Dead Decking OSB Decking 5/8" Thickness Fastener Nailed & Glued Vibration

Roof Loads Live

Ceiling:

10.3 Dead Snow 21 Decking

Decking **CCMC References** 

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

Kott Inc. 3228 Moodie Dr, Ottawa

14 Anderson Blvd, Uxbridge Ontario

613-838-2775 / 905-642-4400

40

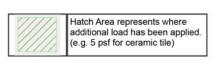
15

Gypsum 1/2"

SPF Plywood

IM0721-006 Page 17 of 24

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



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

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

Legend CITY OF RICHMOND HILL In Hanger Laber Denotes Web Stiffene Point Load Support PS **\Q** Coad from Above / 2 Wall Opening Norbord Rimboard Plus 1,125 X 11.875 AJS 24 11.875 L V L L Forex 2:0E-3000Fb LVL 1.75 X 11.875

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Second Floor

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Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1

RICHMOND HILL, ON

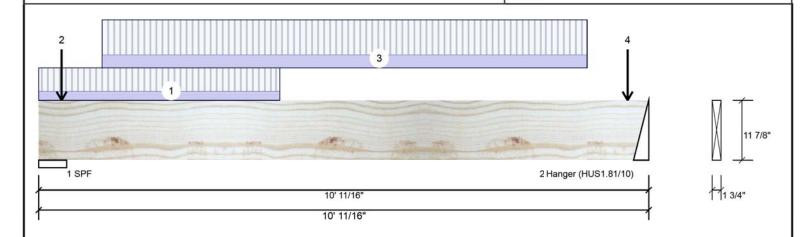
7/5/2021 WC Input by:

Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Address:

Level: Second Floor



Member Inform	nation			Unfa	actored Rea	actions	UNP	ATTERNED II	b (Upli	ft)	
Type:	Girder	Application:	Floor (Residential)	Brg	Direction		Live	Dead		Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical		869	352		0	0
Moisture Condition	: Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical		657	271		0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	240	Deck:	Not Checked	1							
Importance:	Normal - II	Vibration:	Not Checked	1							
General Load					- 107 NOTES		1991/1990	555.0			
Floor Live:	40 PSF			Bear	rings and F	actored	d Read	tions			
Dead:	15 PSF			Bea	aring Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-	SPF 5.500"	Vert	29%	440 / 1304	1744	L	1.25D+1.5L
				2-	3.000"	Vert	34%	339 / 986			
Analysis Result	s	DECED TO MILL TIDLE MEMBED									

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3335 ft-lb	4'8 1/4"	17130 ft-lb	0.195 (19%)	1.25D+1.5L	L
Unbraced	3335 ft-lb	4'8 1/4"	17130 ft-lb	0.195 (19%)	1.25D+1.5L	L
Shear	1352 lb	8'9 13/16"	5798 lb	0.233 (23%)	1.25D+1.5L	L
Perm Defl in.	0.026 (L/4329)	5' 1/8"	0.316 (L/360)	0.083 (8%)	D	Uniform
LL Defl inch	0.064 (L/1770)	5' 1/16"	0.237 (L/480)	0.271 (27%)	L	L
TL Defl inch	0.090 (L/1257)	5' 1/16"	0.474 (L/240)	0.191 (19%)	D+L	L

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

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

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

IS AN INTEGRAL PART OF THIS DRAWING AS IT

**CONTAINS SPECIFICATIONS AND CRITERIA USED** 

0 PLF

0 lb J4



July 05 2021

## Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.

1-0-8 to 9-0-8

9-8-8

- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced

Part. Uniform

Point Self Weight

4 Top must b	e continuousiy laterali	y braced.		IN THE DESIGN OF THIS COMPONENT.						
5 Bottom mu	st have sheathing atta	ched or be continuous								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Part. Uniform	0-0-0 to 3-11-11		Тор	32 PLF	84 PLF	0 PLF	0 PLF		
2	Point	0-4-8		Far Face	30 lb	81 lb	0 lb	0 lb	J4	

Far Face

Far Face

3

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation
- 6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

47 PLF

42 lb

5 PLF

125 PLF

112 lb

Manufacturer Info Forex APA: PR-L318

0 PLF

0 lb

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Page 27 of 4



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC GLENROWAN 41-2-1 Date: 7/5/2021 WC Input by:

Project #:

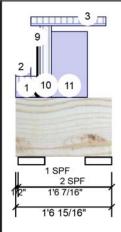
Job Name: GR41-2-1 STANDARD

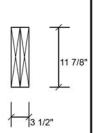
F11-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED Level: Second Floor

ROUNDEL HOMES INC





Member Info	rmation			Unfa	actored Rea	actions U	NP.	ATTERNED I	b (Upl	ift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Liv	е	Dead		Snow	Wind
Plies:	2	Design Method:	LSD	1	Vertical	2	2	638		1281	0
Moisture Condition	on: Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical		9	42		0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal - II	Vibration:	Not Checked								
General Load					11.2.2	115 2012		* 5-00-2			
Floor Live:	40 PSF			Bear	rings and F	actored I	Rea	ctions			
Dead:	15 PSF			Bea	aring Length	Dir. (	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-	SPF 5.250"	Vert	32%	798 / 1943	2741	LL	1.25D+1.5S +L
Analysis Resu	lts			2 -	SPF 5.250"	Vert	1%	53 / 14	67	_L	1.25D+1.5L

ı	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	Moment	14 ft-lb	8 11/16"	22269 ft-lb	0.001 (0%)	1.25D+1.5L	_L
l	Unbraced	14 ft-lb	8 11/16"	22269 ft-lb	0.001 (0%)	1.25D+1.5L	_L
l	Shear	49 lb	1'5 5/8"	7537 lb	0.007 (1%)	1.25D+1.5L	_L
	Perm Defl in.	0.000 (L/442483)	9 3/16"	0.031 (L/360)	0.001 (0%)	D	Uniform
	LL Defl inch	0.000 (L/1409007)	6 3/4"	0.024 (L/480)	0.000 (0%)	L+0.5S	_L
	TL Defl inch	0.000 (L/349521)	8 13/16"	0.047 (L/240)	0.001 (0%)	D+L+0.5S	_L
	LL Cant	-0.000 (2L/15256834)	Lt Cant	0.200 (2L/480)	0.000 (0%)	L+0.5S	_L
	TL Cant	-0.000 (2L/4866440)	Lt Cant	0.300 (2L/240)	0.000 (0%)	D+L+0.5S	_L

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

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



**Design Notes** 

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- 7 Bottom must have sheathing attached or be continuously braced.
- 8 Lateral slenderness ratio based on full section width

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

### Notes

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info Forex APA: PR-L318

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Page 28 of 4



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC GLENROWAN 41-2-1

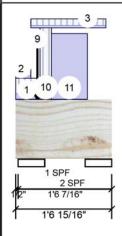
7/5/2021 Input by: WC

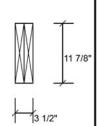
Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

F11-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

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 0-4-13	0-5-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-3-0	0-2-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-3-0 to 1-5-13	0-2-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-4-5		Тор	3 lb	0 lb	8 lb	0 lb	
	Bearing Length	0-5-8							
5	Point	0-4-5		Тор	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-4-5		Тор	557 lb	0 lb	1262 lb	0 lb	F13 F13
	Bearing Length	0-5-8							
7	Point	0-4-5		Тор	5 lb	0 lb	11 lb	0 lb	
	Bearing Length	0-5-8							
8	Point	0-4-5		Тор	27 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Point	0-4-5		Тор	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
10	Tie-In	0-4-13 to 0-7-1	1-7-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
11	Part. Uniform	0-7-1 to 1-2-1		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				

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

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



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

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

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

  1. IVI, beams must not be cutor drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

- For flat roofs provide proper drainage to prevent ponding

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



This design is valid until 5/24/2024

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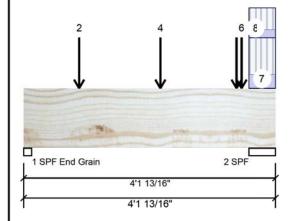
Client: GREENPARK Project:

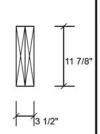
ROUNDEL HOMES INC

7/5/2021 Input by: WC

Job Name: GR41-2-1 STANDARD Address: GLENROWAN 41-2-1 RICHMOND HILL, ON Project #: ROUNDEL HOMES INC

F12-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Second Floor





Member Inform	nation		
Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	974	407	0	0
2	Vertical	1198	517	0	0

### Bearing Length Dir.

Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 1.581" Vert 48% 509 / 1461 1971 L 1.25D+1.5L End

Grain

2443 L 2 - SPF 5.447" Vert 21% 646 / 1797 1.25D+1.5L

**Analysis Results** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2170 ft-lb	2'2 15/16"	34261 ft-lb	0.063 (6%)	1.25D+1.5L	L
Unbraced	2170 ft-lb	2'2 15/16"	34261 ft-lb	0.063 (6%)	1.25D+1.5L	L
Shear	2413 lb	2'8 1/2"	11596 lb	0.208 (21%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/19407)	2'2 3/8"	0.123 (L/360)	0.019 (2%)	D	Uniform
LL Defl inch	0.005 (L/8168)	2'2 3/8"	0.092 (L/480)	0.059 (6%)	L	L
TL Defl inch	0.008 (L/5749)	2'2 3/8"	0.184 (L/240)	0.042 (4%)	D+L	L

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

**Bearings and Factored Reactions** 

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



July 05 2021

### **Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- 6 Bottom must have sheathing attached or be continuously braced.
- 7 Lateral slenderness ratio based on full section width

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

l	/ Lateral significant based on full section within									
ľ	ID	Load Type	Location Tr	rib Width	Side	Dead	Live S	Snow	Wind	Comments
I	1	Point	0-10-15		Far Face	168 lb	448 lb	0 lb	0 lb	J10
I	2	Point	0-10-15		Near Face	140 lb	337 lb	0 lb	0 lb	J8
I	3	Point	2-2-15		Far Face	175 lb	434 lb	0 lb	0 lb	J10
I	4	Point	2-2-15		Near Face	160 lb	384 lb	0 lb	0 lb	J8
I	5	Point	3-5-15		Far Face	91 lb	210 lb	0 lb	0 lb	J10

### Notes

Continued on page 2...

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

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength 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 rolation
- 6. For flat roofs provide proper drainage to prevent

Manufacturer Info APA: PR-L318

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



This design is valid until 5/24/2024 oshua.nabua

Page 30 of 41



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC GLENROWAN 41-2-1

7/5/2021 Input by:

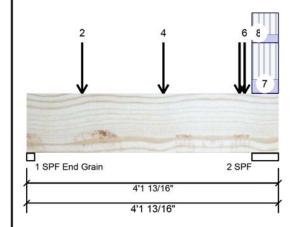
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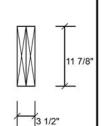
Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

F12-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED Level: Second Floor





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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-6-15		Near Face	146 lb	347 lb	0 lb	0 lb	J8
7	Tie-In	3-8-6 to 4-1-13	0-5-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	3-8-6 to 4-1-13	0-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

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

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



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

  1. IVI, beams must not be cutor drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

- 6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info

APA: PR-L318

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

CSD joshua.nabua

Page 31 of 4



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC GLENROWAN 41-2-1

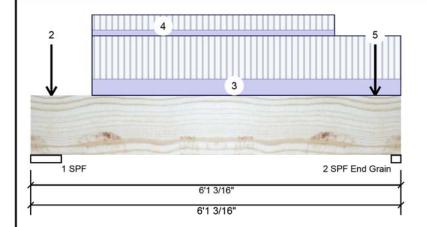
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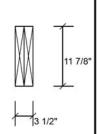
Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

F16-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED Level: Second Floor





### Member Information

Г	Type:	Girder	Application:	Floor (Residential)
	Plies:	2	Design Method:	LSD
	Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
	Deflection LL:	480	Load Sharing:	No
	Deflection TL:	240	Deck:	Not Checked
	Importance:	Normal - II	Vibration:	Not Checked
	General Load			
	Floor Live:	40 PSF		

## Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1459	576	0	0
2	Vertical	1360	537	0	0

## **Analysis Results**

**Design Notes** 

Dead:

15 PSF

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3572 ft-lb	3'2 7/8"	34261 ft-lb	0.104 (10%)	1.25D+1.5L	L
Unbraced	3572 ft-lb	3'2 7/8"	34261 ft-lb	0.104 (10%)	1.25D+1.5L	L
Shear	2357 lb	1'5 7/8"	11596 lb	0.203 (20%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/11178)	3'2 3/4"	0.185 (L/360)	0.032 (3%)	D	Uniform
LL Defl inch	0.015 (L/4411)	3'2 13/16"	0.139 (L/480)	0.109 (11%)	L	L
TL Defl inch	0.021 (L/3163)	3'2 3/4"	0.278 (L/240)	0.076 (8%)	D+L	L

Provide support to prevent lateral movement and rotation at the end bearings. Lateral support

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1-SPF	6.026"	Vert	22%	721 / 2188	2908	L	1.25D+1.5L
2 - SPF End	1.938"	Vert	54%	671 / 2040	2711	L	1.25D+1.5L

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

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



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

### 4 Top must be continuously laterally braced. 5 Bottom must have sheathing attached or be continuously braced. 6 Lateral slenderness ratio based on full section width.

may also be required at the interior bearings by the building code.

3 Multiple plies must be fastened together as per manufacturer's details.

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

ľ	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
l	1	Point	0-4-1		Far Face	102 lb	273 lb	0 lb	0 lb	J10
l	2	Point	0-4-1		Near Face	46 lb	122 lb	0 lb	0 lb	J4
l	3	Part. Uniform	1-0-1 to 6-1-3		Far Face	132 PLF	352 PLF	0 PLF	0 PLF	
l	4	Part. Uniform	1-0-1 to 5-0-1		Near Face	46 PLF	124 PLF	0 PLF	0 PLF	
l	5	Point	5-8-1		Near Face	51 lb	136 lb	0 lb	0 lb	J4
l		Self Weight				10 PLF				

### Notes

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

## Handling & Installation

1. UVL beams must not be cutor drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ph fastening details, beam stength values, and codi approvals
3. Damaged Beams must not be used

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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



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Page 32 of 4



Client: GREENPARK Project:

ROUNDEL HOMES INC GLENROWAN 41-2-1 RICHMOND HILL, ON

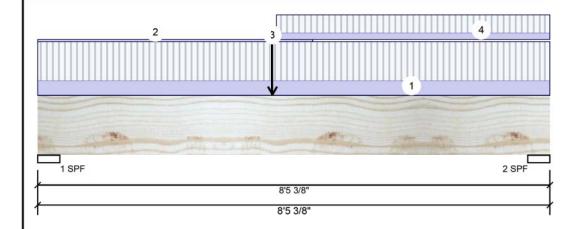
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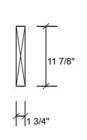
Job Name: GR41-2-1 STANDARD Project #: ROUNDEL HOMES INC

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

Address:

Level: Second Floor





### Member Information Unfactored Reactions UNPATTERNED Ib (Uplift) Type: Application: Floor (Residential) Brg Direction Live Dead Snow Wind Plies: 1 Design Method: LSD 445 204 0 1 Vertical 0 Moisture Condition: Dry Building Code: NBCC 2015 / OBC 2012 405 0 0 2 Vertical 184 Deflection LL: 480 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal - II Vibration: Not Checked General Load **Bearings and Factored Reactions** 40 PSF Floor Live: 15 PSF Dead: Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 4.385" Vert 20% 255 / 667 922 L 1.25D+1.5L 1.25D+1.5L 2 - SPF 4.571" Vert 17% 230 / 607 837 1

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2960 ft-lb	3'10 5/16"	17130 ft-lb	0.173 (17%)	1.25D+1.5L	L
Unbraced	2960 ft-lb	3'10 5/16"	17130 ft-lb	0.173 (17%)	1.25D+1.5L	L
Shear	869 lb	1'4 1/4"	5798 lb	0.150 (15%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/6137)	3'10 3/8"	0.261 (L/360)	0.059 (6%)	D	Uniform
LL Defl inch	0.035 (L/2700)	3'10 3/8"	0.196 (L/480)	0.178 (18%)	L	L
TL Defl inch	0.050 (L/1875)	3'10 3/8"	0.391 (L/240)	0.128 (13%)	D+L	L

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

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

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**Design Notes** 

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at a maximum of 4'7 1/16" o.c.

a bottom made by factoring brades at a manifest of the bottom										
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	1	Tie-In	0-0-0 to 8-5-6	0-5-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	2	Part. Uniform	0-0-0 to 4-6-6		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
	3	Point	3-10-6		Far Face	271 lb	657 lb	0 lb	0 lb	F10
	4	Tie-In	3-11-4 to 8-5-6	0-2-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
		Self Weight				5 PLF				

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product informatio regarding installation requirements, multi-pl details, beam strength values, and co

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- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation
- 6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontari 618-838-2775 D/\905-642-4400

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