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

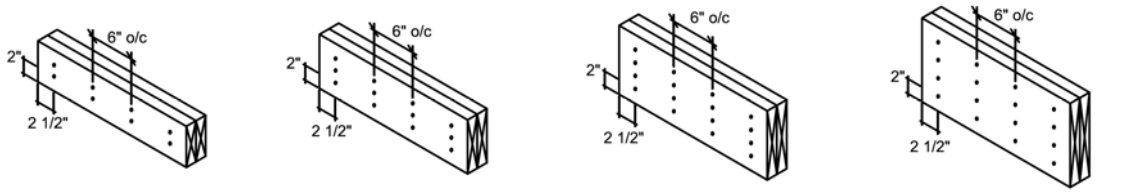
Do not drill any hole, cut or notch a certified building component without a written pre-authorization.

KOTT

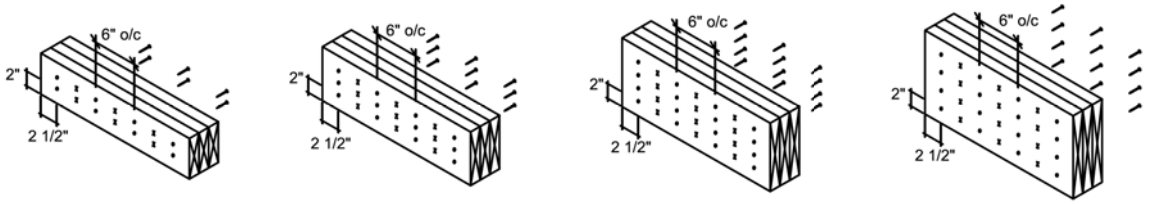
Conventional Connections

2x6 2x8 2x10 2x12

2-ply



3-ply



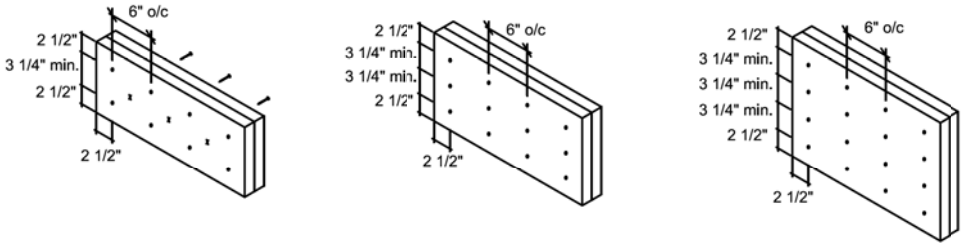
Conventional Connection Notes:

-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.

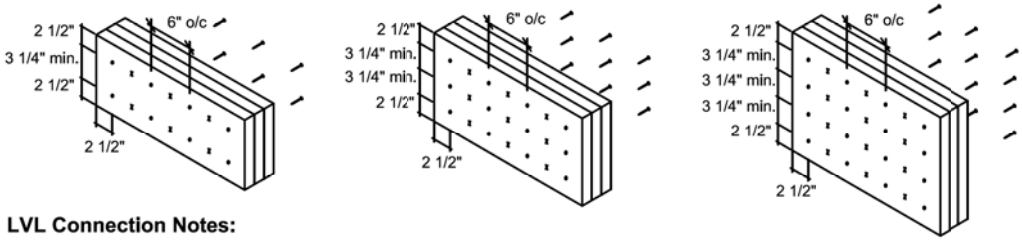
LVL Connections

9 1/2" LVL 11 7/8" - 14" LVL 16"-18" LVL

2-ply



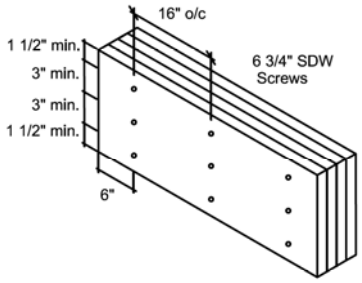
3-ply



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. 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

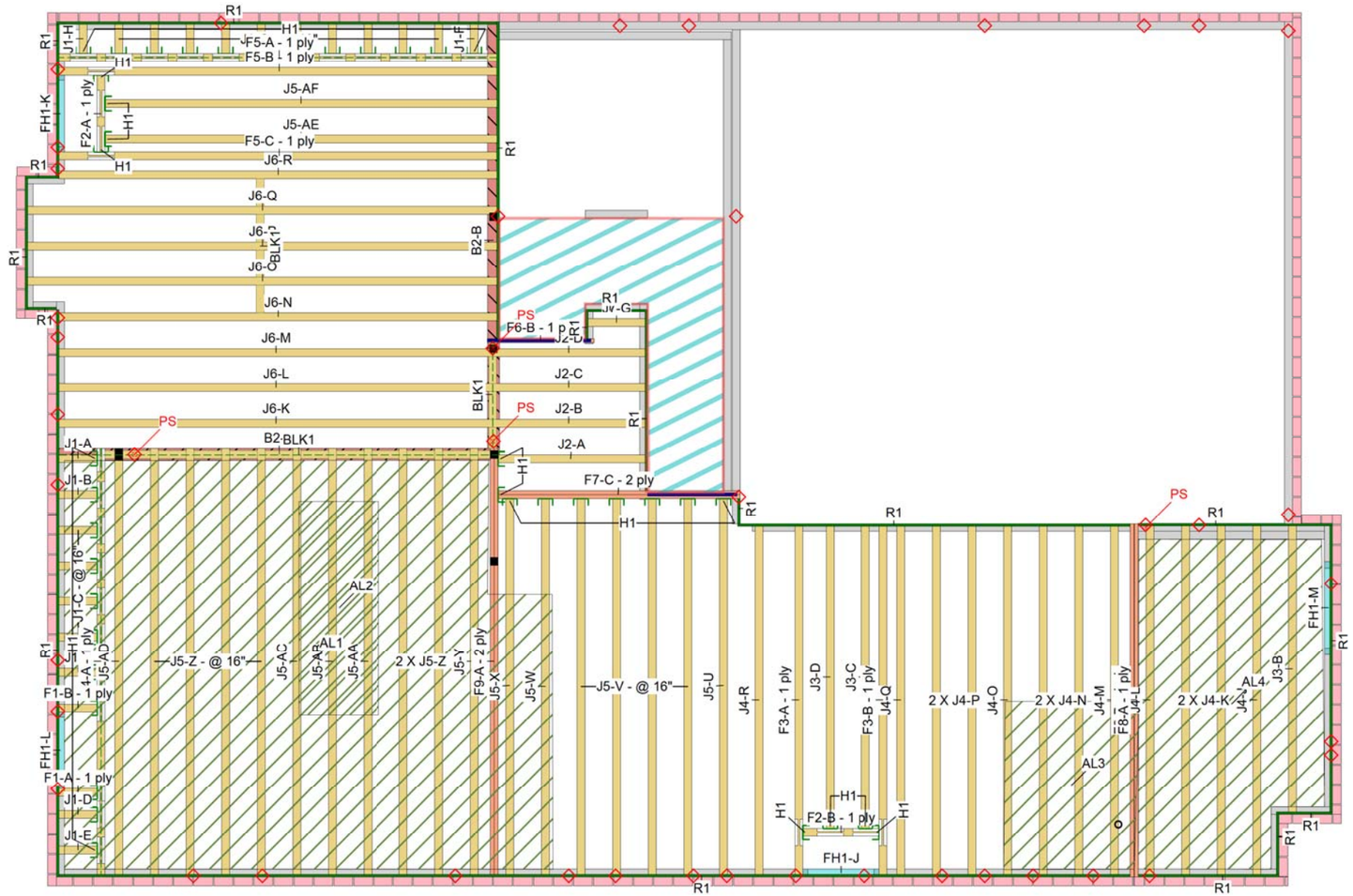
All connections are for uniformly distributed loads.

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

Last revised: February 19, 2021

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

Ground Floor



Ground Floor
LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	16-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5			2	14-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0

I Joist

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J6	AJS 24	3.5	9.5			8	18-0-0
J5	AJS 24	3.5	9.5			20	16-0-0
J4	AJS 24	3.5	9.5			12	14-0-0
J3	AJS 24	3.5	9.5			3	12-0-0
J2	AJS 24	3.5	9.5			4	6-0-0
J7	AJS 24	3.5	9.5			1	4-0-0
J1	AJS 24	3.5	9.5			21	2-0-0
F5	AJS 24	3.5	9.5			3	18-0-0
F4	AJS 24	3.5	9.5			1	16-0-0
F3	AJS 24	3.5	9.5			2	14-0-0
F2	AJS 24	3.5	9.5			2	4-0-0
F1	AJS 24	3.5	9.5			2	2-0-0

Rim Board

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

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	9.5	LinFt		Varies	19-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H1	40	LF359			10 10d	2 #8x1 1/4WS

JOB INFORMATION

Builder
GREENPARK

Project
ROUNDEL HOMES INC

Shipping
GLENROWAN 41-1-3
RICHMOND HILL, ON

Sales Rep
RALPH MIRIGELLO

Designer
W C

Plotted
June 09, 2021

Layout Name
GR41-1-3 STANDARD & REAR UPGRADE

Job Path

DESIGN CRITERIA

Ground Floor

Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012

Floor

Loads

Live	40
Dead	15

Decking

Decking	OSB
Thickness	5/8"
Fastener	Nailed & Glued

Vibration

Ceiling:	Gypsum 1/2"

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

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 requirements
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.

Legend

PS	Point Load Support
◇	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 9.5
	AJS 24 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5
	1.75 X 9.5 (Dropped)
	5.25 X 8 (Dropped)

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

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

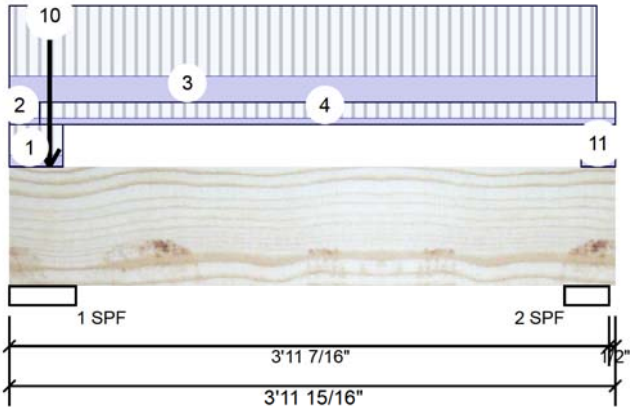
iStructDesign

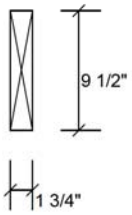
Client: GREENPARK
Project:
Address: GLENROWAN 41-1-3
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-1-3 STANDARD & REAR UPGRADE
Project #: ROUNDEL HOMES INC

F6-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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	176	98	0	0
2	Vertical	92	42	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	7%	122 / 264	386	L_	1.25D+1.5L
2 - SPF	3.500"	Vert	5%	52 / 137	189	LL	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	149 ft-lb	2'1 1/16"	11362 ft-lb	0.013 (1%)	1.25D+1.5L	L_
Unbraced	149 ft-lb	2'1 1/16"	11362 ft-lb	0.013 (1%)	1.25D+1.5L	L_
Shear	91 lb	1'2 3/4"	4638 lb	0.020 (2%)	1.25D+1.5L	L_
Perm Defl in.	0.001 (L/81811)	2'1 1/8"	0.114 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.001 (L/37025)	2'1 1/8"	0.086 (L/480)	0.013 (1%)	L	L_
TL Defl inch	0.002 (L/25489)	2'1 1/8"	0.172 (L/240)	0.009 (1%)	D+L	L_
LL Cant	-0.000 (2L/42071)	Rt Cant	0.200 (2L/480)	0.000 (0%)	L	L_
TL Cant	-0.000 (2L/29028)	Rt Cant	0.300 (2L/240)	0.000 (0%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

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.

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 Top must be continuously laterally braced.
5 Bottom must be laterally braced at bearings.

Notes

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

Lumber

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

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

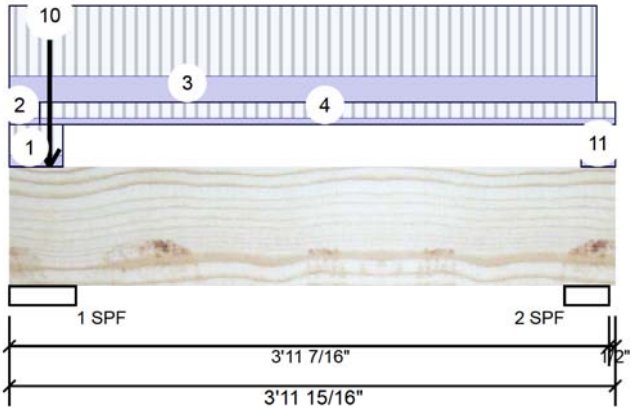
iStructDesign

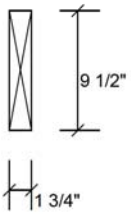
Client: GREENPARK
Project:
Address: GLENROWAN 41-1-3
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-1-3 STANDARD & REAR UPGRADE
Project #: ROUNDEL HOMES INC

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

Level: Ground Floor





ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-3	0-5-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-6	0-2-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 3-10-7		Top	15 PLF	40 PLF	0 PLF	0 PLF	
4	Tie-In	0-2-6 to 3-11-15	0-2-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	0-3-3		Top	9 lb	25 lb	0 lb	0 lb	J6
	Bearing Length	0-5-8							
7	Point	0-3-3		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-3-3		Top	16 lb	42 lb	0 lb	0 lb	J6
	Bearing Length	0-5-8							
10	Point	0-3-3		Top	15 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Tie-In	3-9-3 to 3-11-15	0-4-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	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.

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July 05 2021

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

This design is valid until 5/24/2024

Manufacturer Info

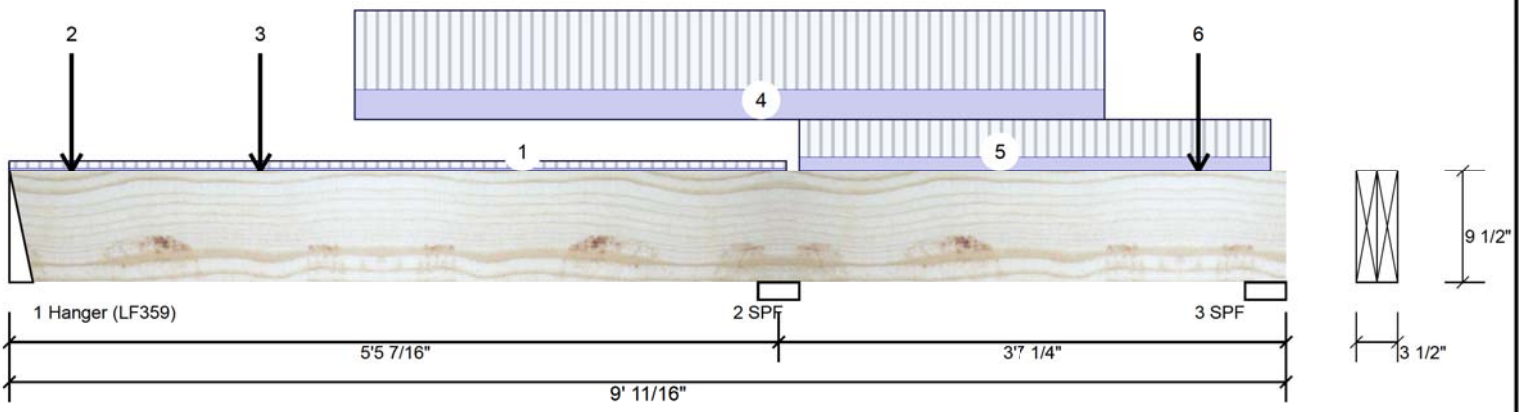
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

F7-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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	681	297	0	0
2	Vertical	1860	747	0	0
3	Vertical	557	216	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	27%	359 / 1050	1409	L_	1.25D+1.5L
2 - SPF	3.500"	Vert	51%	965 / 2882	3846	LL	1.25D+1.5L
3 - SPF	3.500"	Vert	18%	251 / 1074	1324 (-90)	_L	1.25D+1.5L (0.9D+1.5L)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1787 ft-lb	5'5 7/16"	22724 ft-lb	0.079 (8%)	1.25D+1.5L	LL
Pos Moment	1519 ft-lb	1'9 1/4"	22724 ft-lb	0.067 (7%)	1.25D+1.5L	L_
Unbraced	1519 ft-lb	1'9 1/4"	22724 ft-lb	0.067 (7%)	1.25D+1.5L	L_
Shear	1795 lb	11 1/2"	9277 lb	0.193 (19%)	1.25D+1.5L	L_
Perm Defl in.	0.004 (L/15062)	2'7 3/16"	0.178 (L/360)	0.024 (2%)	D	Uniform
LL Defl inch	0.011 (L/5651)	2'8 1/16"	0.134 (L/480)	0.085 (8%)	L	L_
TL Defl inch	0.016 (L/4110)	2'7 13/16"	0.267 (L/240)	0.058 (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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

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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 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 Tie-down connection required at bearing 3 for uplift 90 lb (Combination 0.9D+1.5L, Load Case L_).
7 Top must be continuously laterally braced.
8 Bottom must have sheathing attached or be continuously braced.
9 Lateral slenderness ratio based on full section width.

Notes

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

Lumber

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

Handling & Installation

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

This design is valid until 5/24/2024

Manufacturer Info

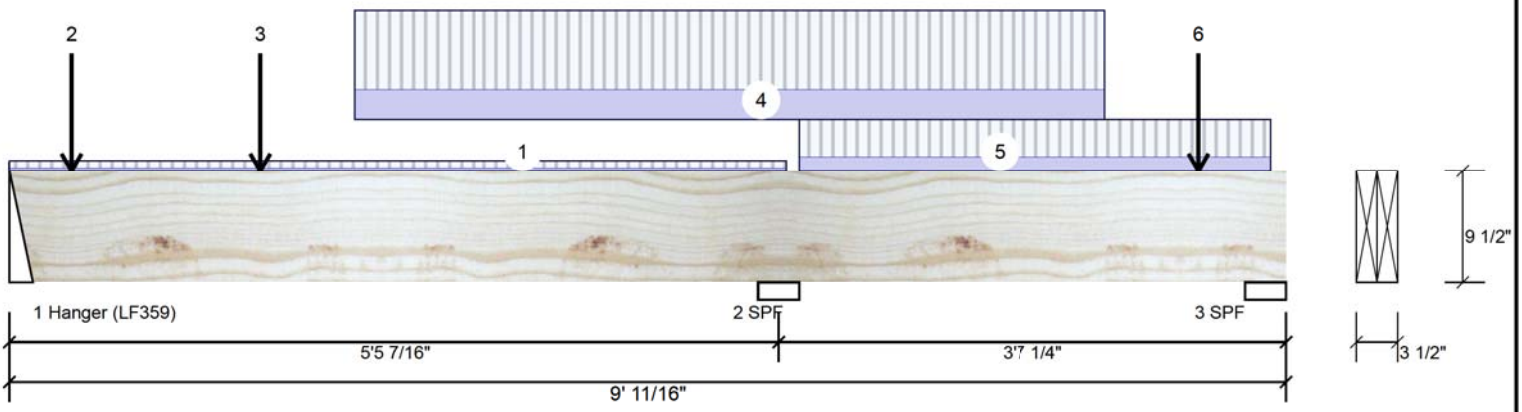
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

F7-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-6-1	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-5-4		Near Face	117 lb	270 lb	0 lb	0 lb	J5
3	Point	1-9-4		Near Face	156 lb	375 lb	0 lb	0 lb	J5
4	Part. Uniform	2-5-4 to 7-9-4		Near Face	105 PLF	281 PLF	0 PLF	0 PLF	
5	Part. Uniform	5-7-3 to 8-11-6		Top	50 PLF	134 PLF	0 PLF	0 PLF	
6	Point	8-5-4		Near Face	135 lb	359 lb	0 lb	0 lb	J5
	Self Weight				8 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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

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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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

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

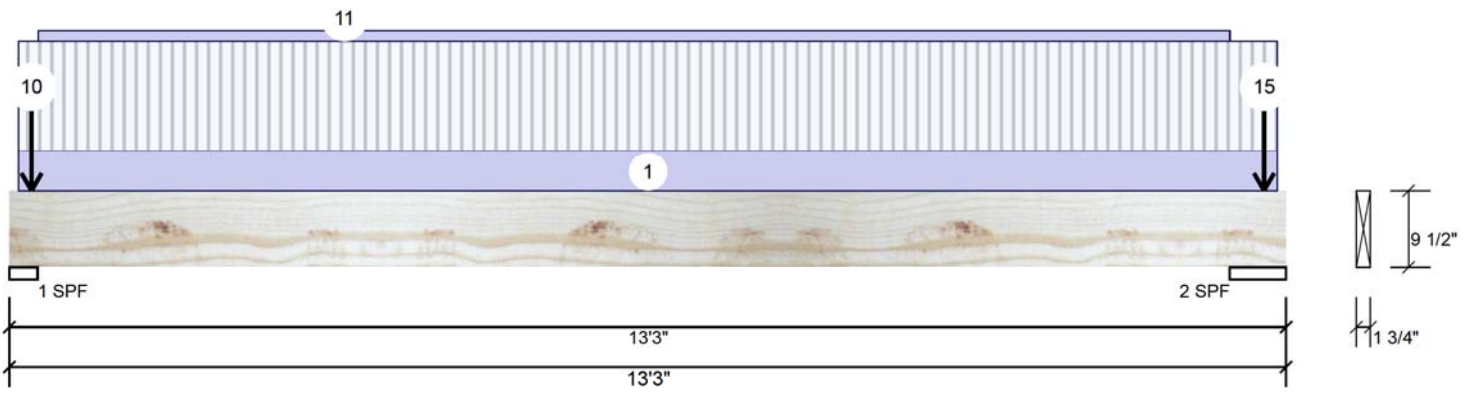
iStructDesign

Client: GREENPARK
Project:
Address: GLENROWAN 41-1-3
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-1-3 STANDARD & REAR UPGRADE
Project #: ROUNDEL HOMES INC

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

Level: Ground Floor



Member Information

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

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	129	121	0	0
2	Vertical	69	81	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	9%	151 / 193	344	L	1.25D+1.5L
2 - SPF	7.014"	Vert	3%	101 / 103	205	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	514 ft-lb	6'5 3/4"	11362 ft-lb	0.045 (5%)	1.25D+1.5L	L
Unbraced	514 ft-lb	6'5 3/4"	11362 ft-lb	0.045 (5%)	1.25D+1.5L	L
Shear	146 lb	1'1"	4638 lb	0.031 (3%)	1.25D+1.5L	L
Perm Defl in.	0.020 (L/7409)	6'5 3/4"	0.417 (L/360)	0.049 (5%)	D	Uniform
LL Defl inch	0.024 (L/6230)	6'5 3/4"	0.312 (L/480)	0.077 (8%)	L	L
TL Defl inch	0.044 (L/3384)	6'5 3/4"	0.625 (L/240)	0.071 (7%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

Design Notes

1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
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 Top must be continuously laterally braced.
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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	0-1-2 to 13-1-14	0-3-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	9 lb	25 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
3	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
4	Point	0-2-12		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight

Continued on page 2...

Notes

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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
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
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This design is valid until 5/24/2024

Manufacturer Info

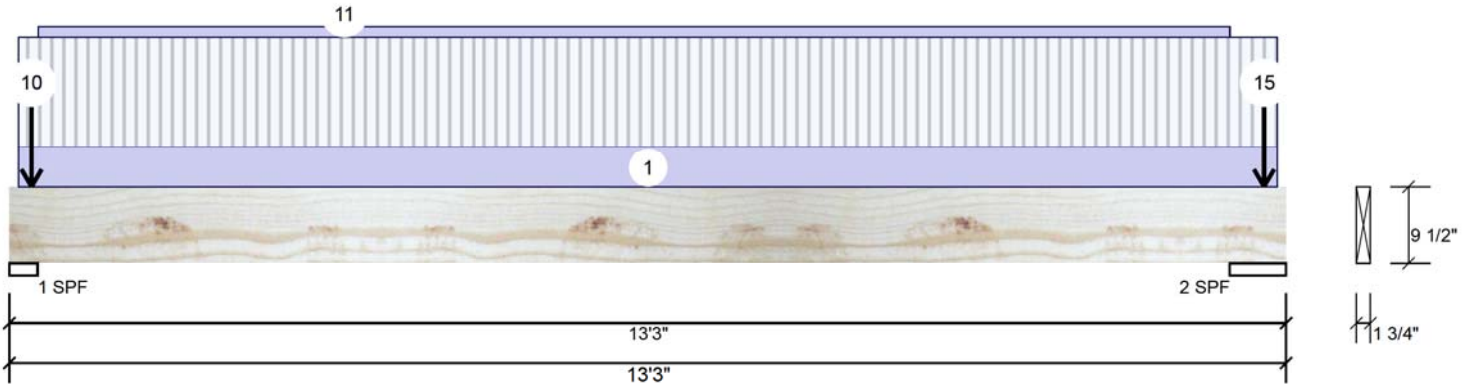
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

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

Level: Ground Floor



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	7 lb	19 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-2-12		Top	7 lb	19 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
9	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
10	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Part. Uniform	0-3-9 to 12-8-0		Top	1 PLF	0 PLF	0 PLF	0 PLF	
13	Point	13-0-4		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
14	Point	13-0-4		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
15	Point	13-0-4		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				4 PLF				

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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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

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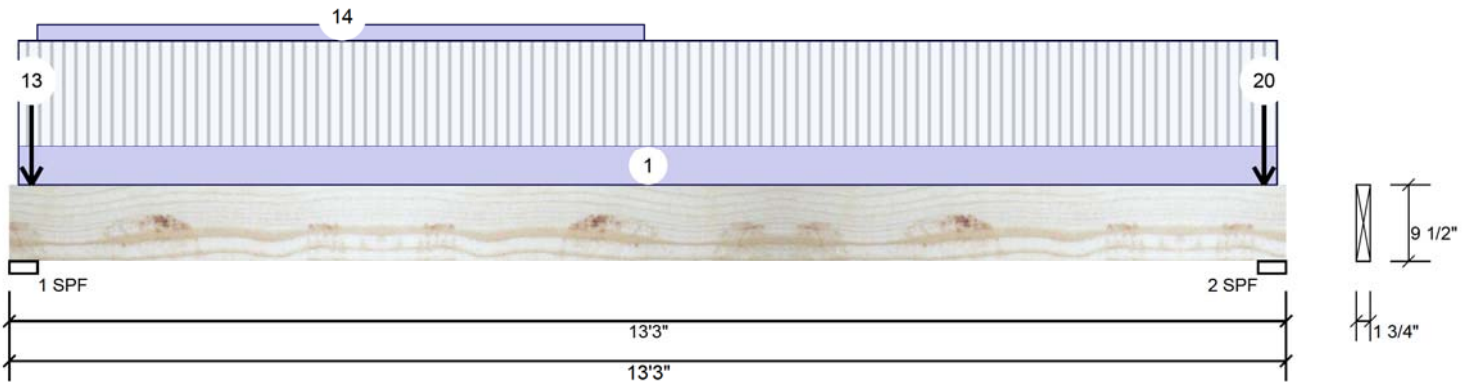
F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	141	142	15	0
2	Vertical	141	106	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	11%	177 / 227	404	L	1.25D+1.5L +S
2 - SPF	3.500"	Vert	9%	132 / 212	344	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	654 ft-lb	6'6 1/16"	11362 ft-lb	0.058 (6%)	1.25D+1.5L	L
Unbraced	654 ft-lb	6'6 1/16"	11362 ft-lb	0.058 (6%)	1.25D+1.5L	L
Shear	184 lb	1'1"	4638 lb	0.040 (4%)	1.25D+1.5L	L
Perm Defl in.	0.025 (L/6174)	6'6 11/16"	0.426 (L/360)	0.058 (6%)	D	Uniform
LL Defl inch	0.034 (L/4564)	6'7 9/16"	0.320 (L/480)	0.105 (11%)	L+0.5S	L
TL Defl inch	0.058 (L/2624)	6'7 3/16"	0.640 (L/240)	0.091 (9%)	D+L+0.5S	L

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

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Design Notes

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 13-1-14	0-3-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
3	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							

Continued on page 2...

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Lumber

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Handling & Installation

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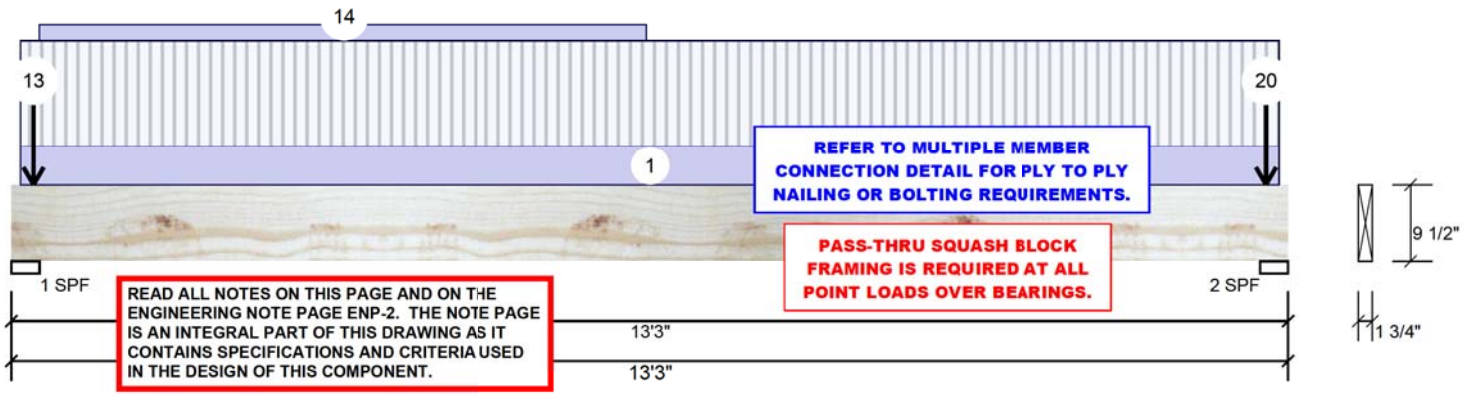
F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	0-2-12		Top	1 lb	2 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-2-12		Top	7 lb	19 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
9	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
10	Point	0-2-12		Top	3 lb	0 lb	7 lb	0 lb	
	Bearing Length	0-5-8							
11	Point	0-2-12		Top	10 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
12	Point	0-2-12		Top	13 lb	34 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
13	Point	0-2-12		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
14	Part. Uniform	0-3-8 to 6-7-0		Top	2 PLF	0 PLF	0 PLF	0 PLF	
15	Point	13-0-4		Top	13 lb	34 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
16	Point	13-0-4		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weig
	Bearing Length	0-5-8							
17	Point	13-0-4		Top	7 lb	19 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							
18	Point	13-0-4		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weig
	Bearing Length	0-5-8							
19	Point	13-0-4		Top	1 lb	2 lb	0 lb	0 lb	J4

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
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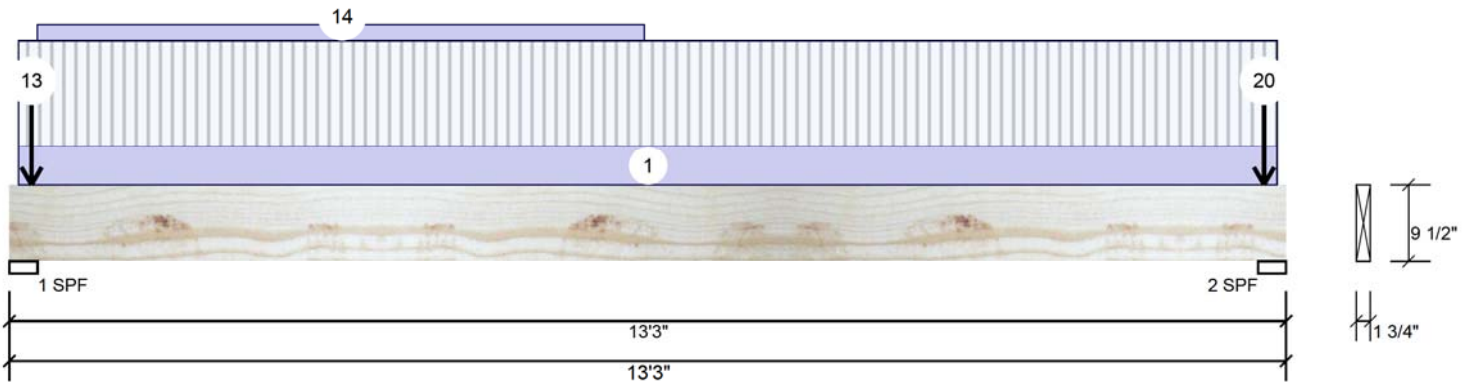
F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
20	Point	13-0-4		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	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.

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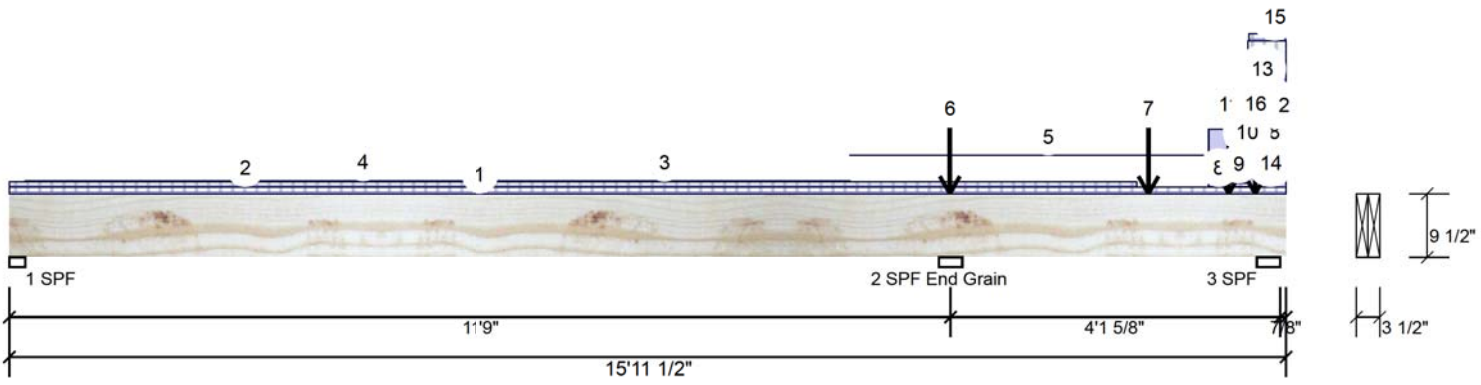
F9-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	115	93	0	0
2	Vertical	1280	696	0	0
3	Vertical	1678	780	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	7%	114 / 194	309	L_L	1.25D+1.5L
2 - SPF End Grain	3.500"	Vert	31%	879 / 1937	2817	LL_	1.25D+1.5L
3 - SPF	3.500"	Vert	48%	968 / 2630	3599	_LL	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1249 ft-lb	11'9"	22724 ft-lb	0.055 (5%)	1.25D+1.5L	LL_
Unbraced	-1249 ft-lb	11'9"	20060 ft-lb	0.062 (6%)	1.25D+1.5L	LL_
Pos Moment	1952 ft-lb	14'2 15/16"	22724 ft-lb	0.086 (9%)	1.25D+1.5L	_L_
Unbraced	1952 ft-lb	14'2 15/16"	22724 ft-lb	0.086 (9%)	1.25D+1.5L	_L_
Shear	1781 lb	14'9 5/8"	9277 lb	0.192 (19%)	1.25D+1.5L	_LL
Perm Defl in.	0.003 (L/15278)	14'2 7/8"	0.133 (L/360)	0.024 (2%)	D	Uniform
LL Defl inch	0.008 (L/5769)	14'2 7/8"	0.100 (L/480)	0.083 (8%)	L	_L_
TL Defl inch	0.011 (L/4188)	14'2 7/8"	0.200 (L/240)	0.057 (6%)	D+L	_L_
LL Cant	-0.000 (2L/5081)	Rt Cant	0.200 (2L/480)	0.002 (0%)	L	_L_
TL Cant	-0.000 (2L/3663)	Rt Cant	0.300 (2L/240)	0.002 (0%)	D+L	_L_

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

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LICENSED PROFESSIONAL ENGINEER
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Design Notes

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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 Multiple plies must be fastened together as per manufacturer's details.
6 Top loads must be supported equally by all plies.
7 Top must be continuously laterally braced.
8 Bottom must be laterally braced at bearings.

Notes

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This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

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

isDesign

Client: GREENPARK
Project:
Address: GLENROWAN 41-1-3
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-1-3 STANDARD & REAR UPGRADE
Project #: ROUNDEL HOMES INC

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

Level: Ground Floor

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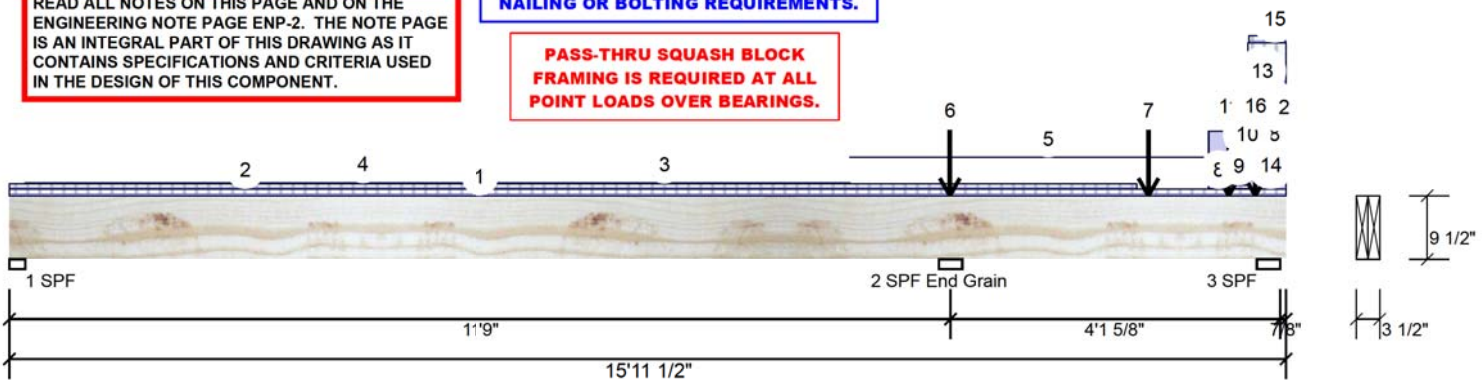
PASS-THRU SQUASH BLOCK FRAMING IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.



9 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 15-11-8	0-4-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-1-2	0-3-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 10-5-14		Top	1 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 10-5-14		Top	2 PLF	0 PLF	0 PLF	0 PLF	
5	Part. Uniform	10-5-14 to 15-6-6		Top	1 PLF	0 PLF	0 PLF	0 PLF	
6	Point	11-8-14		Top	245 lb	491 lb	0 lb	0 lb	C3
	Bearing Length	0-3-8							
7	Point	14-2-14		Near Face	297 lb	681 lb	0 lb	0 lb	F7
8	Tapered Start	14-11-15		Top	3 PLF	8 PLF	0 PLF	0 PLF	
	End	15-5-14			3 PLF	8 PLF	0 PLF	0 PLF	
9	Tapered Start	14-11-15		Top	13 PLF	35 PLF	0 PLF	0 PLF	
	End	15-5-14			13 PLF	35 PLF	0 PLF	0 PLF	
10	Part. Uniform	14-11-15 to 15-11-8		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Point	15-2-14		Top	522 lb	1184 lb	0 lb	0 lb	B6 B6
	Bearing Length	0-5-8							
12	Part. Uniform	15-3-13 to 15-11-8		Top	30 PLF	80 PLF	0 PLF	0 PLF	J7
13	Part. Uniform	15-5-13 to 15-11-8		Top	43 PLF	116 PLF	0 PLF	0 PLF	J6
14	Tapered Start	15-5-14		Top	26 PLF	70 PLF	0 PLF	0 PLF	
	End	15-11-8			26 PLF	70 PLF	0 PLF	0 PLF	
15	Tapered Start	15-5-14		Top	6 PLF	15 PLF	0 PLF	0 PLF	
	End	15-11-7			6 PLF	15 PLF	0 PLF	0 PLF	
16	Point	15-6-14		Near Face	55 lb	146 lb	0 lb	0 lb	J2
18	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
20	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
22	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	

Continued on page 3...

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

Notes

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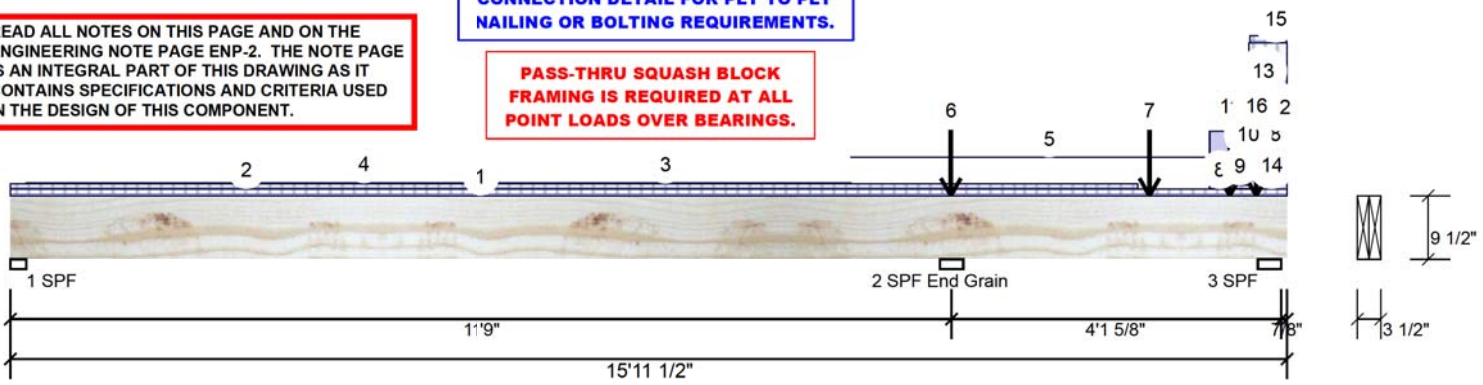

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
24	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
26	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
28	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
30	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
32	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
34	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
36	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
38	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
40	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
42	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
44	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
46	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
48	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
50	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
52	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	

LICENSED PROFESSIONAL ENGINEER
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PROVINCE OF ONTARIO
July 05 2021

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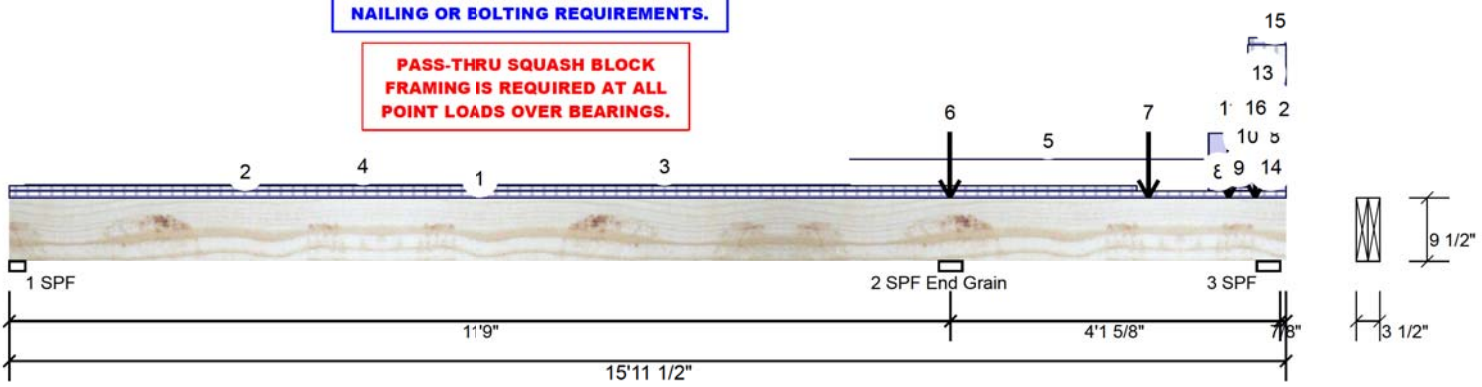

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
54	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
56	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
58	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
60	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
62	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
64	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
66	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
68	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
70	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
72	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
74	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
76	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
78	Tapered Start	15-8-14		Top	0 PLF	1 PLF	0 PLF	0 PLF	
	End	15-8-14			0 PLF	1 PLF	0 PLF	0 PLF	
	Self Weight				8 PLF				

LICENSED PROFESSIONAL ENGINEER
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July 05 2021

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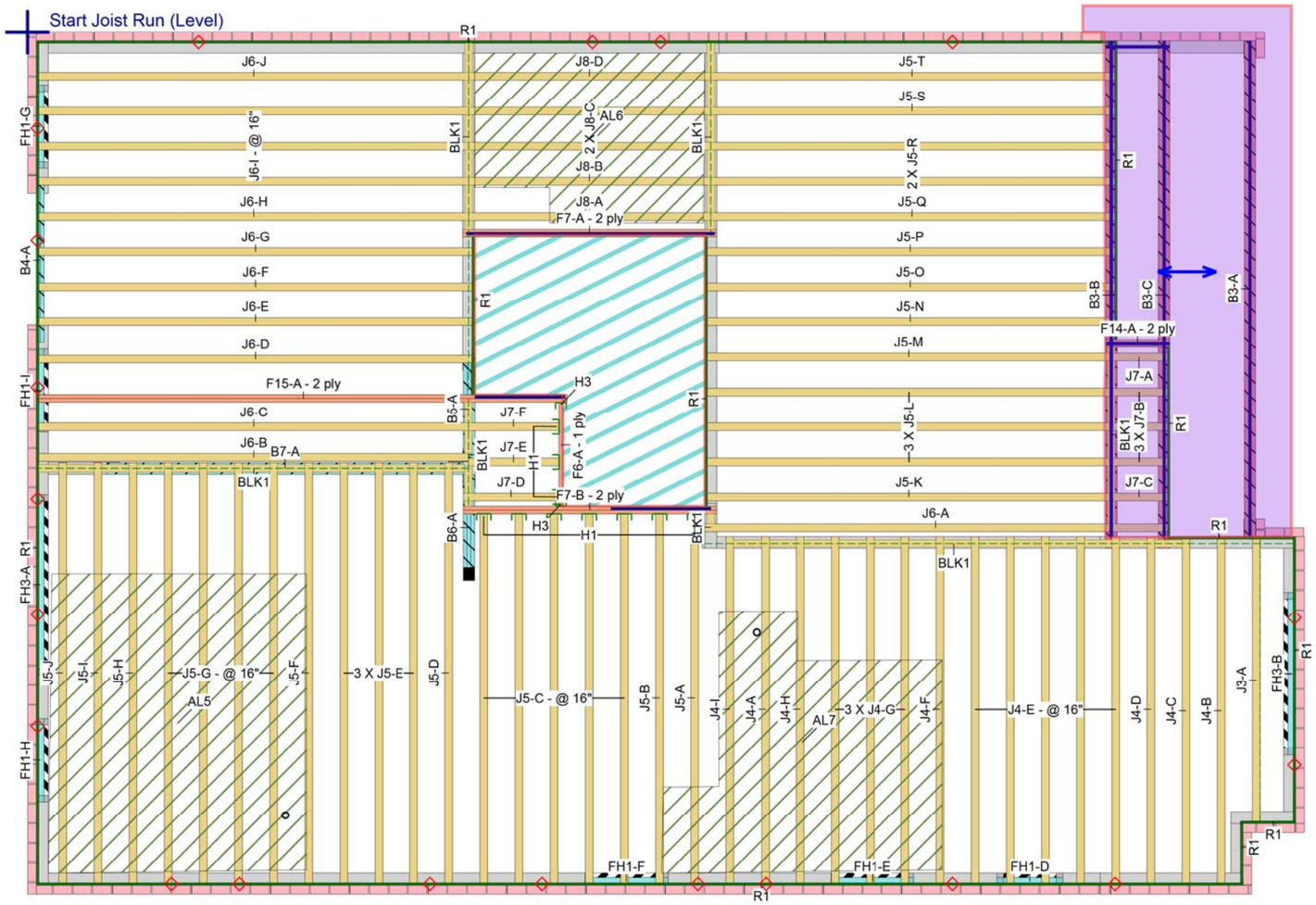
APA: PR-L318

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

Second Floor



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

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

Second Floor
LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	22-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	10-0-0
F14	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0

I Joist

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J6	AJS 24	3.5	9.5			12	18-0-0
J5	AJS 24	3.5	9.5			32	16-0-0
J4	AJS 24	3.5	9.5			15	14-0-0
J3	AJS 24	3.5	9.5			1	12-0-0
J8	AJS 24	3.5	9.5			5	10-0-0
J7	AJS 24	3.5	9.5			8	4-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			15	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	9.5	LinFt		Varies	46-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H1	10	LF359			10 10dx1 1/2	2 #8x1 1/4WS
H3	2	HUS1.81/10			30 16d	10 16d

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 requirements
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.

Legend

PS	Point Load Support
	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 9.5
	AJS 24 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5
	1.75 X 9.5 (Dropped)
	5.25 X 8 (Dropped)

JOB INFORMATION

Builder
GREENPARK

Project
ROUNDEL HOMES INC

Shipping
GLENROWAN 41-1-3
RICHMOND HILL, ON

Sales Rep
RALPH MIRIGELLO

Designer
W C

Plotted
June 09, 2021

Layout Name
GR41-1-3 STANDARD & REAR UPGRADE

Job Path

DESIGN CRITERIA

Second Floor

Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012

Floor
Loads

Live	40
Dead	15

Decking

Decking	OSB
Thickness	5/8"
Fastener	Nailed & Glued

Vibration

Ceiling:	Gypsum 1/2"

Roof
Loads

Live	0
Dead	10.3
Snow	21

Decking

Decking	SPF Plywood

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

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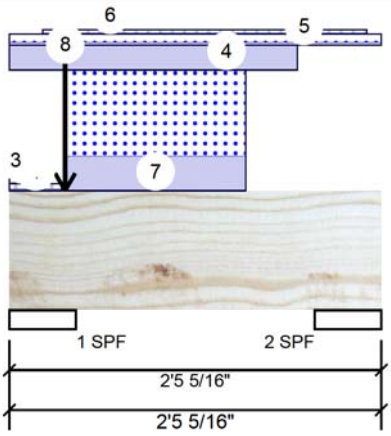

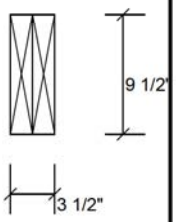

Member Information

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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	18	820	1550	0
2	Vertical	12	126	146	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	32%	1025 / 2343	3368	L	1.25D+1.5S +L
2 - SPF	5.250"	Vert	3%	158 / 230	388	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	226 ft-lb	1'1 15/16"	22724 ft-lb	0.010 (1%)	1.25D+1.5S +L	L
Unbraced	226 ft-lb	1'1 15/16"	22724 ft-lb	0.010 (1%)	1.25D+1.5S +L	L
Shear	46 lb	1'2 9/16"	9277 lb	0.005 (0%)	1.25D+1.5S	L
Perm Defl in.	0.000 (L/66163)	1'2 1/4"	0.056 (L/360)	0.005 (1%)	D	Uniform
LL Defl inch	0.000 (L/48956)	1'1 15/16"	0.042 (L/480)	0.010 (1%)	S+0.5L	L
TL Defl inch	0.001 (L/28142)	1'2 1/16"	0.085 (L/240)	0.009 (1%)	D+S+0.5L	L

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PROVINCE OF ONTARIO
July 05 2021

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 be laterally braced at bearings.
8. Lateral slenderness ratio based on full section width.

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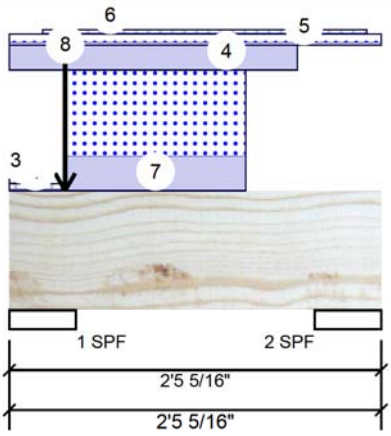
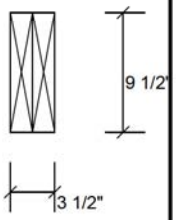
Level: Second Floor





ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	0-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-3-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 0-1-2		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 1-10-11		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Part. Uniform	0-0-0 to 2-5-5		Top	10 PLF	0 PLF	26 PLF	0 PLF	
6	Tie-In	0-2-10 to 2-4-3	0-3-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	0-4-5 to 1-6-10		Top	112 PLF	0 PLF	278 PLF	0 PLF	
8	Point	0-4-6		Top	599 lb	0 lb	1300 lb	0 lb	F10 F10
	Bearing Length	0-5-8							
	Self Weight				8 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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

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.

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

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

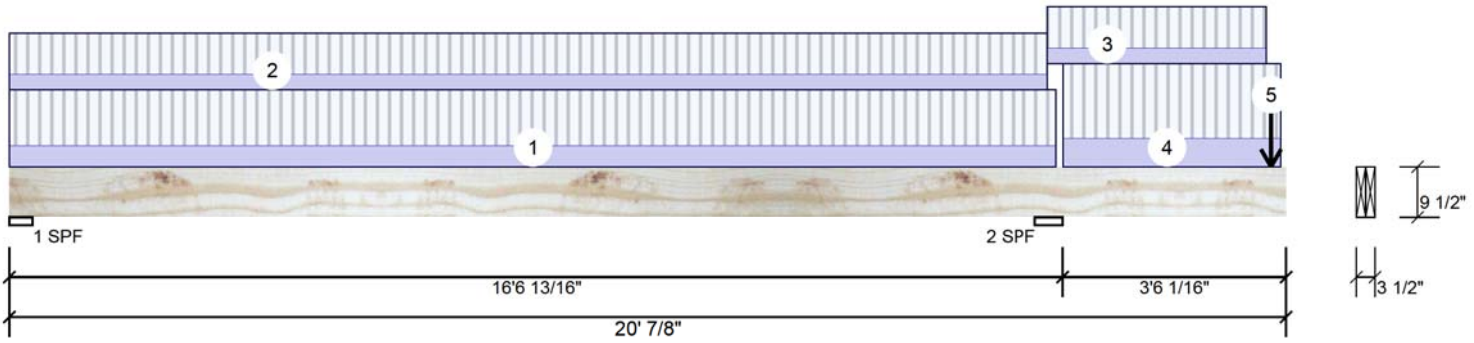
iStruct Design

Client: GREENPARK
Project:
Address: GLENROWAN 41-1-3
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-1-3 STANDARD & REAR UPGRADE
Project #: ROUNDEL HOMES INC

F15-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Information

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

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	364	195	0	0
2	Vertical	911	444	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.376"	Vert	9%	244 / 645	889	L_	1.25D+1.5L
2 - SPF	5.250"	Vert	17%	555 / 1367	1921	LL	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2188 ft-lb	16'6 13/16"	20906 ft-lb	0.105 (10%)	1.25D+1.5L	_L
Unbraced	-2188 ft-lb	16'6 13/16"	16947 ft-lb	0.129 (13%)	1.25D+1.5L	_L
Pos Moment	3291 ft-lb	7'11 15/16"	22724 ft-lb	0.145 (14%)	1.25D+1.5L	L_
Unbraced	3291 ft-lb	7'11 15/16"	22724 ft-lb	0.145 (14%)	1.25D+1.5L	L_
Shear	924 lb	15'4 1/16"	9277 lb	0.100 (10%)	1.25D+1.5L	LL
Perm Defl in.	0.057 (L/3349)	7'10 1/4"	0.535 (L/360)	0.107 (11%)	D	Uniform
LL Defl inch	0.160 (L/1205)	8'3 15/16"	0.401 (L/480)	0.398 (40%)	L	L_
TL Defl inch	0.217 (L/887)	8'2 5/16"	0.802 (L/240)	0.271 (27%)	D+L	L_
LL Cant	-0.108 (2L/781)	Rt Cant	0.200 (2L/480)	0.539 (54%)	L	L_
TL Cant	-0.125 (2L/671)	Rt Cant	0.351 (2L/240)	0.358 (36%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
July 05 2021

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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 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 bearings.
7 Lateral slenderness ratio based on full section width.

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

This design is valid until 5/24/2024

Manufacturer Info

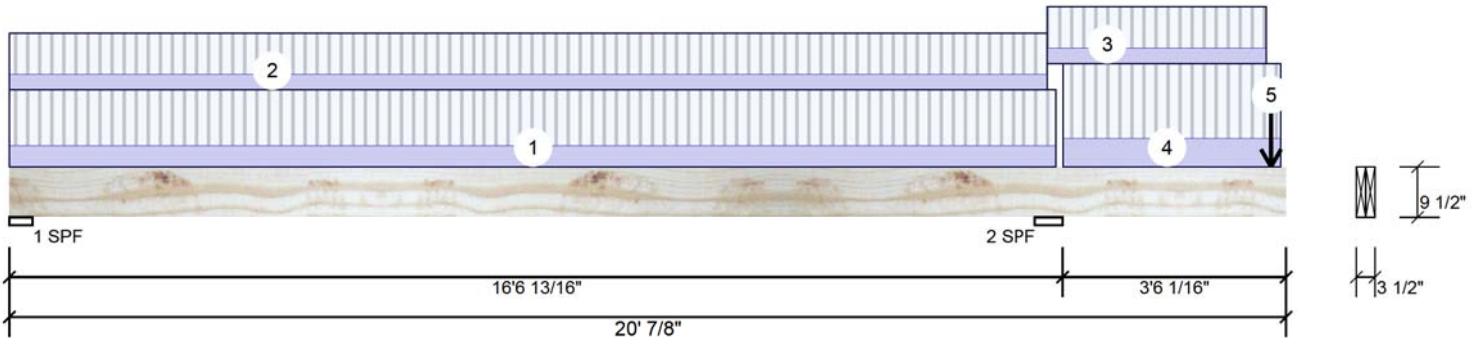
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

F15-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
1	Tie-In	0-0-0 to 16-5-8	0-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-3-15	0-6-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	16-3-15 to 19-9-2	0-6-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	16-6-14 to 19-11-14		Top	15 PLF	40 PLF	0 PLF	0 PLF	
5	Point	19-10-0		Near Face	89 lb	216 lb	0 lb	0 lb	F6
	Self Weight				8 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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
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Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

iStructDesign

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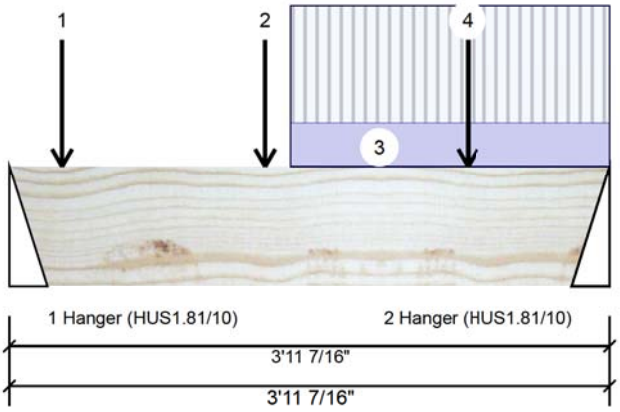
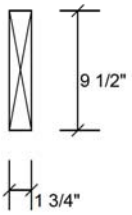
Project:
Address: GLENROWAN 41-1-3
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-1-3 STANDARD & REAR UPGRADE
Project #: ROUNDEL HOMES INC

F6-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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	163	69	0	0
2	Vertical	216	89	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	9%	87 / 245	332	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	11%	111 / 323	435	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	336 ft-lb	2' 7/16"	11362 ft-lb	0.030 (3%)	1.25D+1.5L	L
Unbraced	336 ft-lb	2' 7/16"	11362 ft-lb	0.030 (3%)	1.25D+1.5L	L
Shear	331 lb	1' 1/2"	4638 lb	0.071 (7%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/38673)	2' 5/16"	0.119 (L/360)	0.009 (1%)	D	Uniform
LL Defl inch	0.003 (L/16096)	2' 3/8"	0.090 (L/480)	0.030 (3%)	L	L
TL Defl inch	0.004 (L/11365)	2' 3/8"	0.179 (L/240)	0.021 (2%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
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 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.

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	Point	0-4-2		Far Face	23 lb	61 lb	0 lb	0 lb	J7
2	Point	1-8-2		Far Face	34 lb	89 lb	0 lb	0 lb	J7
3	Tie-In	1-10-2 to 3-11-7	1-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	3-0-2		Far Face	31 lb	81 lb	0 lb	0 lb	J7
	Self Weight				4 PLF				

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

This design is valid until 5/24/2024

Manufacturer Info

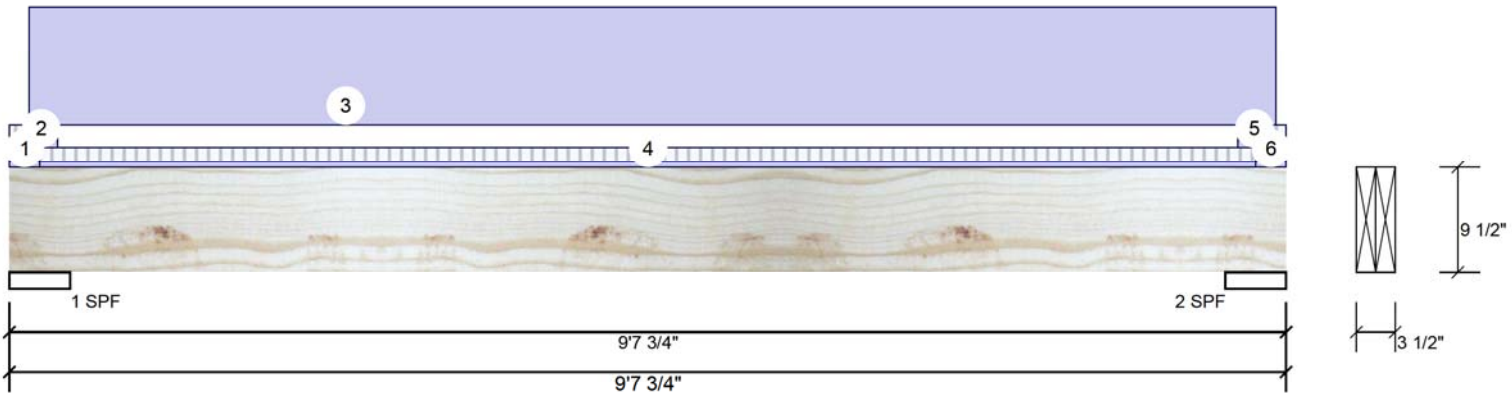
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

F7-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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	66	529	0	0
2	Vertical	66	536	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	10%	661 / 99	760	L	1.25D+1.5L
2 - SPF	5.500"	Vert	10%	670 / 99	768	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1560 ft-lb	4'9 7/8"	14770 ft-lb	0.106 (11%)	1.25D+1.5L	L
Unbraced	1560 ft-lb	4'9 7/8"	14770 ft-lb	0.106 (11%)	1.25D+1.5L	L
Shear	576 lb	8'4 3/4"	6030 lb	0.096 (10%)	1.25D+1.5L	L
Perm Defl in.	0.035 (L/3049)	4'9 7/8"	0.295 (L/360)	0.118 (12%)	D	Uniform
LL Defl inch	0.004 (L/27268)	4'9 7/8"	0.221 (L/480)	0.018 (2%)	L	L
TL Defl inch	0.039 (L/2742)	4'9 7/8"	0.443 (L/240)	0.088 (9%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
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 be laterally braced at bearings.
7. Lateral slenderness ratio based on full section width.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-12	0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-6	0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-1-12 to 9-6-13		Top	100 PLF	0 PLF	0 PLF	0 PLF	
4	Tie-In	0-2-12 to 9-5-0	0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	9-3-6 to 9-7-12	0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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
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This design is valid until 5/24/2024

Manufacturer Info

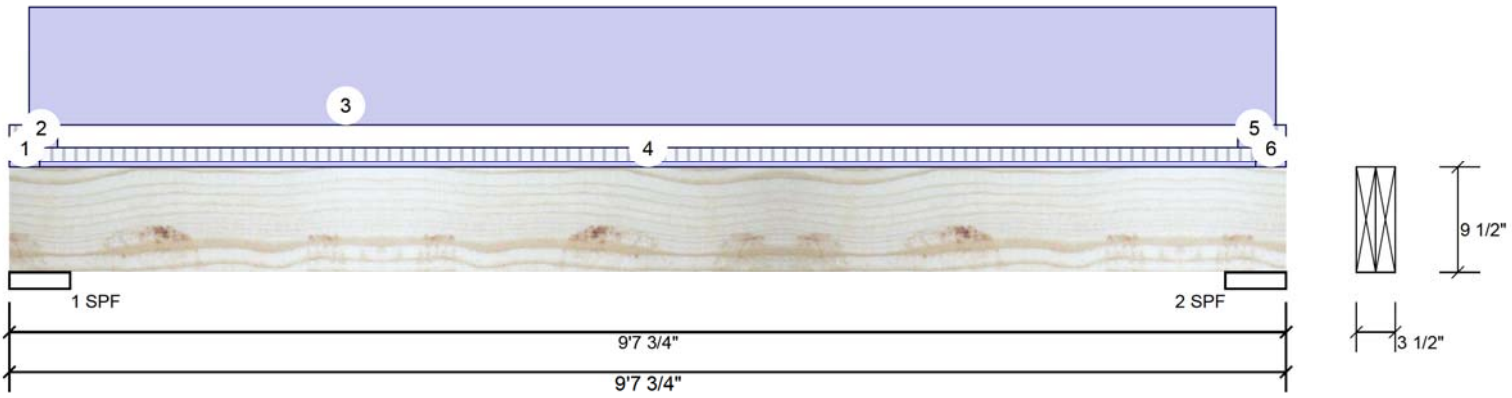
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

F7-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tie-In	9-5-0 to 9-7-12	0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 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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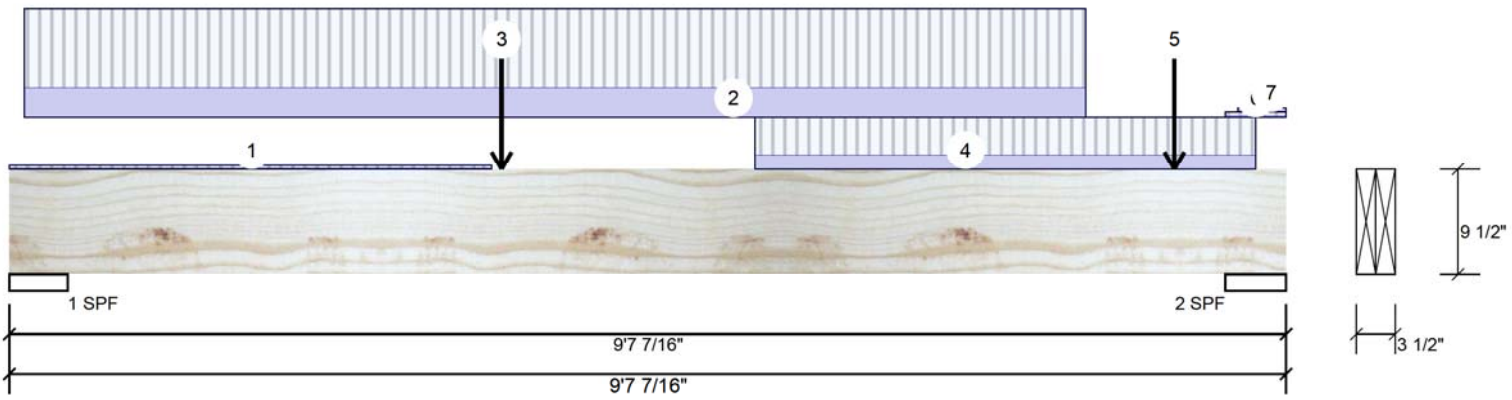
F7-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

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:	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 lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1522	614	0	0
2	Vertical	1747	698	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	27%	768 / 2283	3051	L	1.25D+1.5L
2 - SPF	5.500"	Vert	29%	872 / 2621	3493	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6867 ft-lb	4'10 3/4"	22724 ft-lb	0.302 (30%)	1.25D+1.5L	L
Unbraced	6867 ft-lb	4'10 3/4"	22724 ft-lb	0.302 (30%)	1.25D+1.5L	L
Shear	3631 lb	8'4 7/16"	9277 lb	0.391 (39%)	1.25D+1.5L	L
Perm Defl in.	0.044 (L/2422)	4'9 15/16"	0.295 (L/360)	0.149 (15%)	D	Uniform
LL Defl inch	0.109 (L/973)	4'10 1/16"	0.221 (L/480)	0.493 (49%)	L	L
TL Defl inch	0.153 (L/694)	4'10"	0.442 (L/240)	0.346 (35%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-7-10	0-2-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-6 to 8-1-6		Near Face	104 PLF	276 PLF	0 PLF	0 PLF	
3	Point	3-8-8		Far Face	69 lb	163 lb	0 lb	0 lb	F6
4	Part. Uniform	5-7-5 to 9-4-11		Top	50 PLF	134 PLF	0 PLF	0 PLF	
5	Point	8-9-6		Near Face	132 lb	346 lb	0 lb	0 lb	J5

Continued on page 2...

Notes

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

Lumber

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

Handling & Installation

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

This design is valid until 5/24/2024

Manufacturer Info

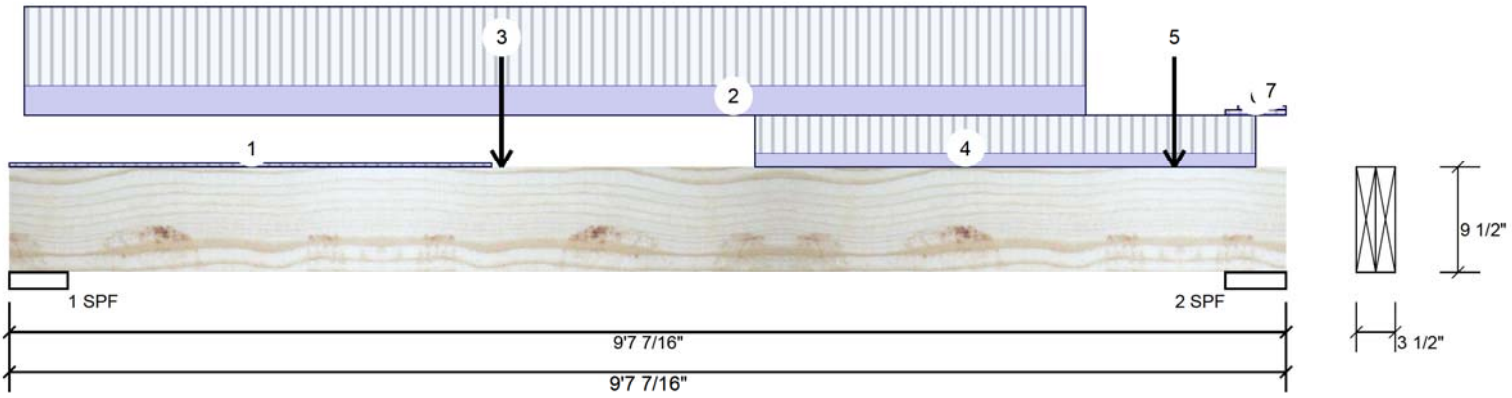
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	7/5/2021
Project:		Input by:	W C
Address:	GLENROWAN 41-1-3 RICHMOND HILL, ON	Job Name:	GR41-1-3 STANDARD & REAR UPGRADE
		Project #:	ROUNDEL HOMES INC

F7-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tie-In	9-1-15 to 9-7-7	0-4-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Tie-In	9-3-1 to 9-7-7	0-2-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
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July 05 2021

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