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

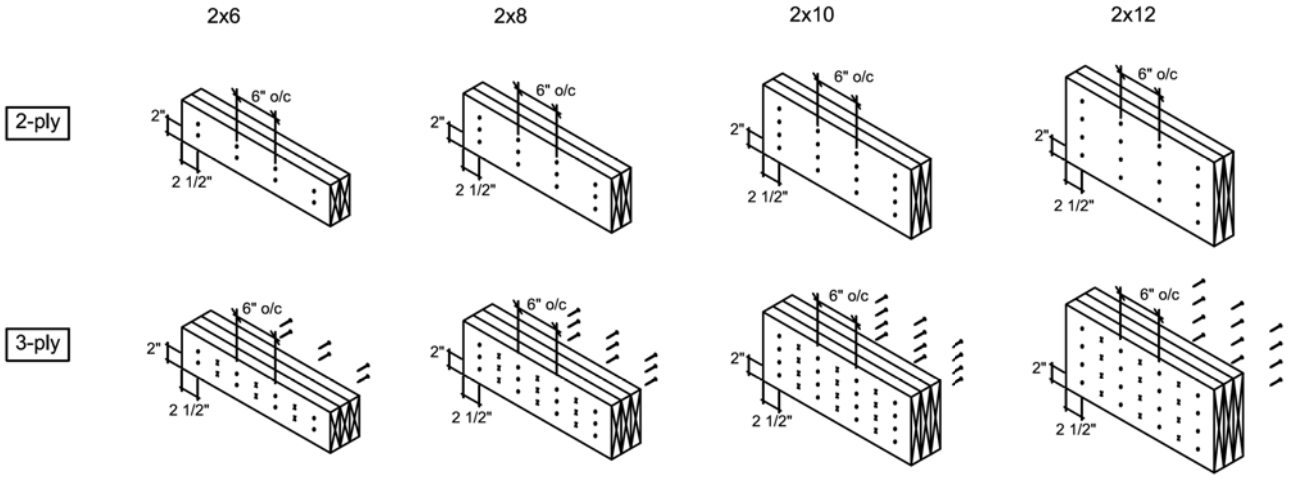
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies 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

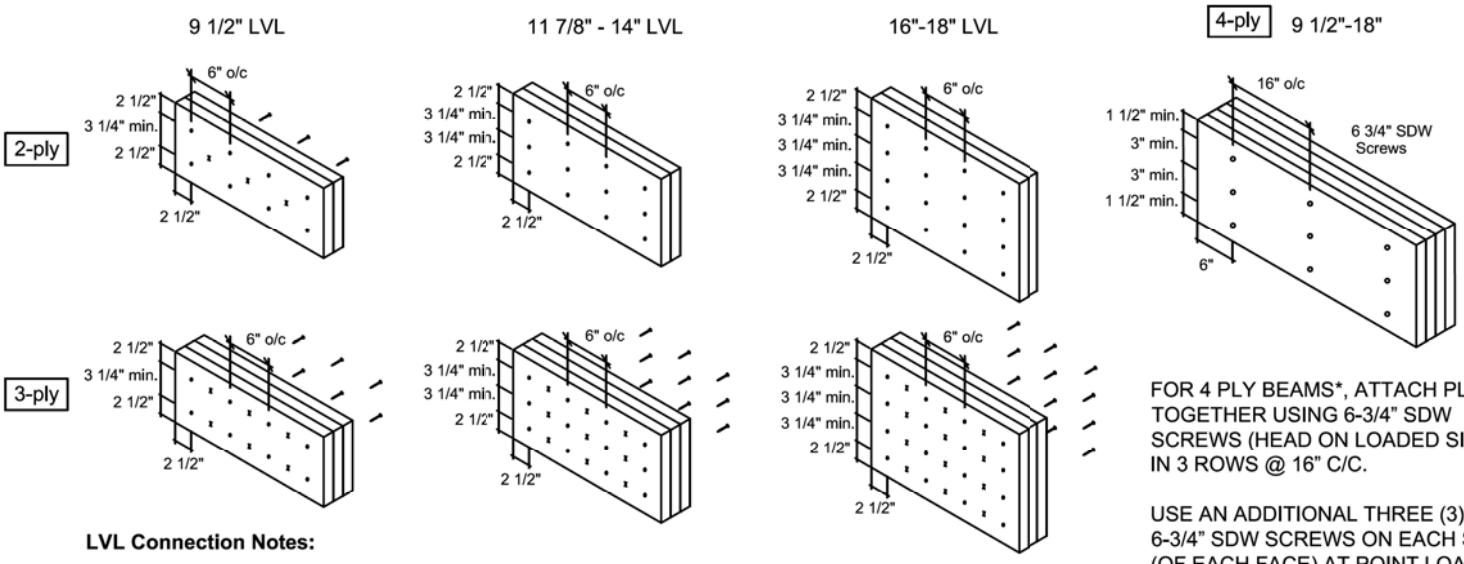
Conventional Connections



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



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.

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

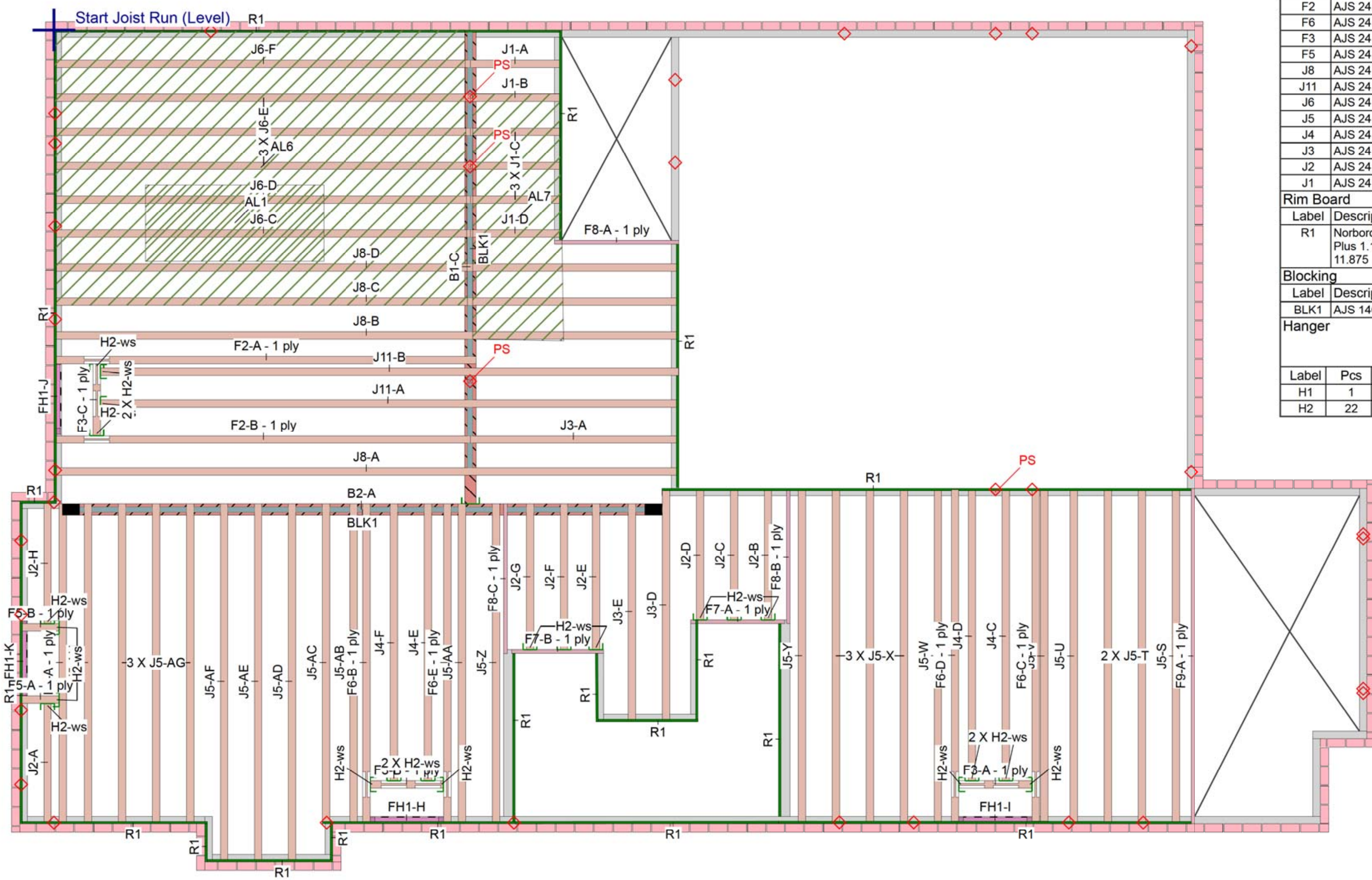
All connections are for uniformly distributed loads.

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	11.875			1	14-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	11.875			3	6-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	11.875			2	4-0-0
I Joist							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F2	AJS 24	3.5	11.875			2	18-0-0
F6	AJS 24	3.5	11.875			5	14-0-0
F3	AJS 24	3.5	11.875			3	4-0-0
F5	AJS 24	3.5	11.875			2	2-0-0
J8	AJS 24	3.5	11.875			4	26-0-0
J11	AJS 24	3.5	11.875			2	24-0-0
J6	AJS 24	3.5	11.875			6	18-0-0
J5	AJS 24	3.5	11.875			21	14-0-0
J4	AJS 24	3.5	11.875			4	12-0-0
J3	AJS 24	3.5	11.875			3	10-0-0
J2	AJS 24	3.5	11.875			8	6-0-0
J1	AJS 24	3.5	11.875			6	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			14	12-0-0
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 140	2.5	11.875	LinFt		Varies	31-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H1	1	Hanger By Other				
H2	22	LT351188			4 10d	2 10dx1 1/2

JOB INFORMATION

Builder
ROUNDEL HOMES INC

Project

Shipping
RICHMOND HILL, ON

Sales Rep
RALPH MIRIGELLO

Designer
K R

Plotted
June 14, 2021

Layout Name
PT38-02-3

Job Path
C:\Users\kriopel\AppData\Local\iStruct\JOBS

DESIGN CRITERIA

Ground Floor

Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012
Floor	
Loads	
Live	40
Dead	15
Decking	
Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued
Vibration	

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

KOTT

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.

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.

Legend

WS	Web Stiffener
-ws	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 11.875
	AJS 24 11.875
	Forex 2.0E-3000Fb LVL 1.75 X 11.875

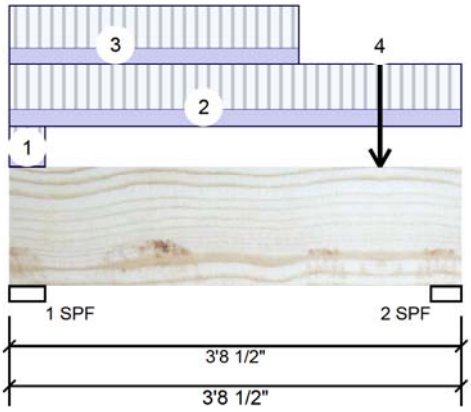
CITY OF RICHMOND HILL
BUILDING DIVISION
09/22/2022
RECEIVED
Per: [illegible]

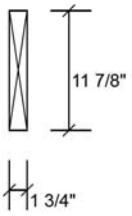
iStructDesign

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F7-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	453	178	0	0
2	Vertical	391	155	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	24%	222 / 679	901	L	1.25D+1.5L
2 - SPF	3.000"	Vert	24%	194 / 587	781	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	607 ft-lb	1'10 1/8"	17130 ft-lb	0.035 (4%)	1.25D+1.5L	L
Unbraced	607 ft-lb	1'10 1/8"	17130 ft-lb	0.035 (4%)	1.25D+1.5L	L
Shear	706 lb	2'5 5/8"	5798 lb	0.122 (12%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/34460)	1'10 5/16"	0.110 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/13595)	1'10 5/16"	0.082 (L/480)	0.035 (4%)	L	L
TL Defl inch	0.004 (L/9749)	1'10 5/16"	0.165 (L/240)	0.025 (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
June 30, 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 Top must be continuously laterally braced.
4 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	Tie-In	0-0-0 to 0-3-8	1-11-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-8-8		Top	45 PLF	120 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 2-4-8		Far Face	42 PLF	113 PLF	0 PLF	0 PLF	
4	Point	3-0-8		Far Face	40 lb	108 lb	0 lb	0 lb	J2
	Self Weight				5 PLF				

Notes

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

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 3/25/2024

Manufacturer Info

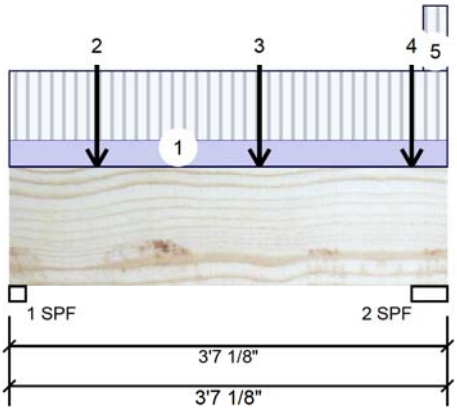
Forex
APA: PR-L318

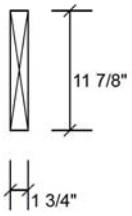
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F7-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	294	119	0	0
2	Vertical	415	164	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.625"	Vert	34%	148 / 441	590	L	1.25D+1.5L
2 - SPF	3.500"	Vert	22%	205 / 623	828	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	495 ft-lb	2' 5/8"	17130 ft-lb	0.029 (3%)	1.25D+1.5L	L
Unbraced	495 ft-lb	2' 5/8"	17130 ft-lb	0.029 (3%)	1.25D+1.5L	L
Shear	412 lb	1'1 1/2"	5798 lb	0.071 (7%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/42459)	1'10 1/16"	0.110 (L/360)	0.008 (1%)	D	Uniform
LL Defl inch	0.002 (L/17065)	1'10 1/4"	0.082 (L/480)	0.028 (3%)	L	L
TL Defl inch	0.003 (L/12173)	1'10 3/16"	0.165 (L/240)	0.020 (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.

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 30, 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 Top must be continuously laterally braced.
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	0-0-0 to 3-7-2		Top	30 PLF	80 PLF	0 PLF	0 PLF	
2	Point	0-8-10		Far Face	47 lb	125 lb	0 lb	0 lb	J2
3	Point	2-0-10		Far Face	53 lb	141 lb	0 lb	0 lb	J2
4	Point	3-3-10		Far Face	54 lb	145 lb	0 lb	0 lb	J2
5	Tie-In	3-4-12 to 3-7-2	1-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

Notes

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

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 3/25/2024

Manufacturer Info

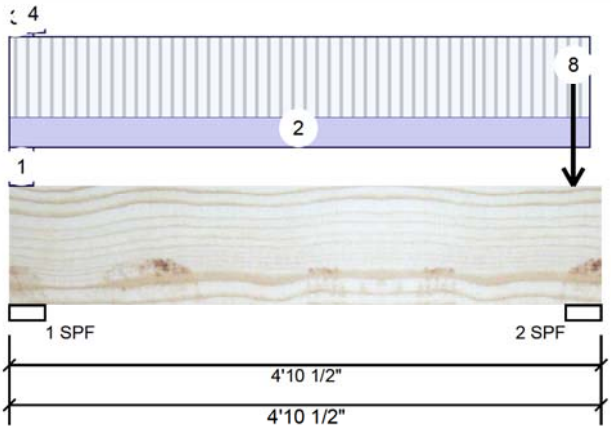
Forex
APA: PR-L318

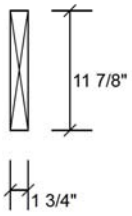
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F8-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	50	31	0	0
2	Vertical	80	72	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	3%	39 / 74	113	L	1.25D+1.5L
2 - SPF	3.500"	Vert	6%	90 / 121	211	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	110 ft-lb	2'5 1/4"	17130 ft-lb	0.006 (1%)	1.25D+1.5L	L
Unbraced	110 ft-lb	2'5 1/4"	17130 ft-lb	0.006 (1%)	1.25D+1.5L	L
Shear	58 lb	3'7 1/8"	5798 lb	0.010 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/140097)	2'5 1/4"	0.147 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch	0.001 (L/86254)	2'5 1/4"	0.110 (L/480)	0.006 (1%)	L	L
TL Defl inch	0.001 (L/53386)	2'5 1/4"	0.221 (L/240)	0.004 (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
June 30, 2021

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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.
5 Bottom must be laterally braced at a maximum of 4'10 1/2" o.c.

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

Continued on page 2...

Notes

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Lumber

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

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 3/25/2024

Manufacturer Info

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Kott Inc.
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Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
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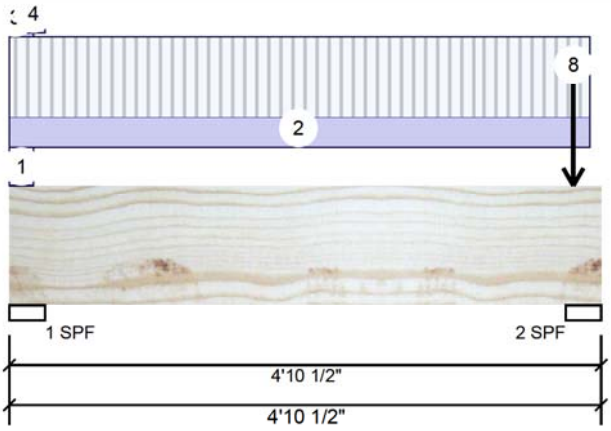
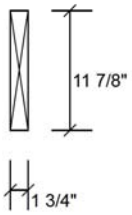
Level: Ground Floor





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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	4-7-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	4-7-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	4-7-12		Top	14 lb	34 lb	0 lb	0 lb	J9
	Bearing Length	0-5-8							
8	Point	4-7-12		Top	17 lb	0 lb	0 lb	0 lb	Wall Self Weight
	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.

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June 30, 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 3/25/2024

Manufacturer Info

Forex
APA: PR-L318

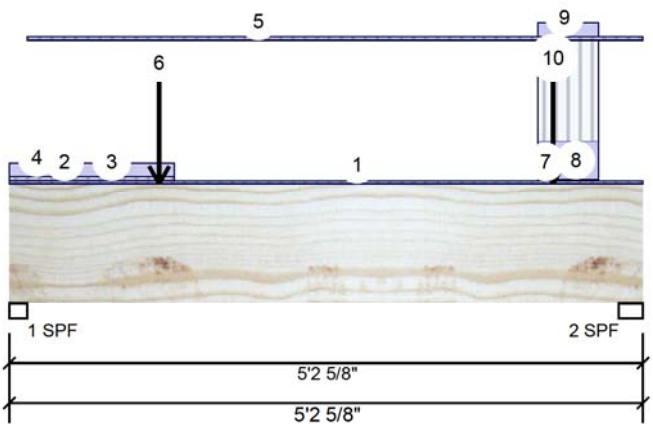
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

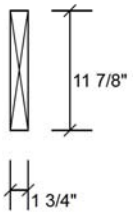
iStructDesign

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F8-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	573	371	0	0
2	Vertical	718	369	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.750"	Vert	70%	464 / 859	1323	L	1.25D+1.5L
2 - SPF	2.375"	Vert	60%	461 / 1076	1537	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1376 ft-lb	1'2 3/4"	17130 ft-lb	0.080 (8%)	1.25D+1.5L	L
Unbraced	1376 ft-lb	1'2 3/4"	17130 ft-lb	0.080 (8%)	1.25D+1.5L	L
Shear	1114 lb	1'1 5/8"	5798 lb	0.192 (19%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/12239)	2'3 9/16"	0.167 (L/360)	0.029 (3%)	D	Uniform
LL Defl inch	0.009 (L/6696)	2'4 1/8"	0.125 (L/480)	0.072 (7%)	L	L
TL Defl inch	0.014 (L/4328)	2'3 15/16"	0.250 (L/240)	0.055 (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
June 30, 2021

Design Notes

1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 2.375.
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 a maximum of 5'2 5/8" o.c.

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 5-2-10	0-3-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tapered Start	0-0-0		Top	1 PLF	0 PLF	0 PLF	0 PLF	
	End	0-10-14			1 PLF	0 PLF	0 PLF	0 PLF	
3	Tapered Start	0-0-0		Top	7 PLF	17 PLF	0 PLF	0 PLF	
	End	1-4-4			7 PLF	17 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 1-4-4		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 2...

Notes

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Lumber

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

Handling & Installation

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

This design is valid until 3/25/2024

Manufacturer Info

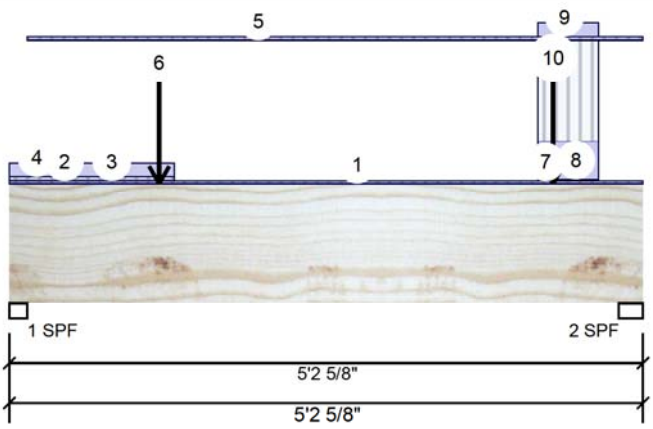
Forex
APA: PR-L318

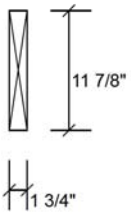
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F8-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor





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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tie-In	0-1-12 to 5-2-10	0-4-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	1-2-12		Top	257 lb	549 lb	0 lb	0 lb	B4 B4
	Bearing Length	0-5-8							
7	Tapered Start	4-4-4		Top	3 PLF	7 PLF	0 PLF	0 PLF	
	End	4-6-4			3 PLF	7 PLF	0 PLF	0 PLF	
8	Part. Uniform	4-4-4 to 4-10-4		Top	221 PLF	589 PLF	0 PLF	0 PLF	J4
9	Part. Uniform	4-4-4 to 4-10-4		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Point	4-5-12		Top	137 lb	286 lb	0 lb	0 lb	B4 B4
	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.

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 30, 2021

Notes

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Lumber

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iStructDesign

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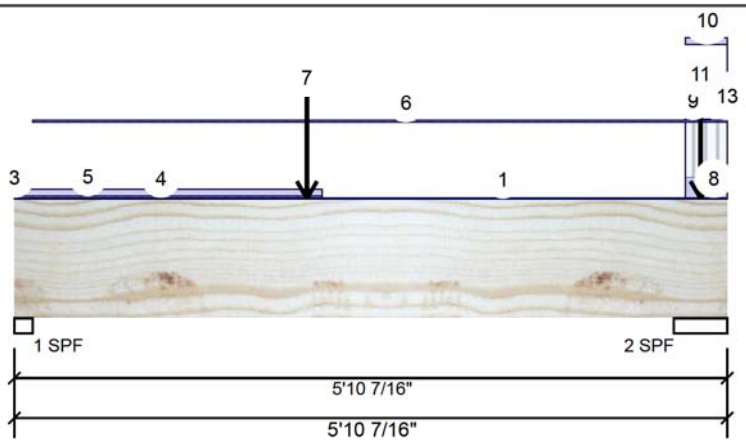
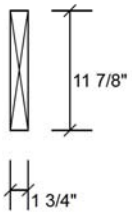
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F8-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	303	314	0	0
2	Vertical	723	410	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.813"	Vert	43%	392 / 454	847	L	1.25D+1.5L
2 - SPF	5.250"	Vert	28%	513 / 1084	1597	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1437 ft-lb	2'4 13/16"	17130 ft-lb	0.084 (8%)	1.25D+1.5L	L
Unbraced	1437 ft-lb	2'4 13/16"	17130 ft-lb	0.084 (8%)	1.25D+1.5L	L
Shear	647 lb	1'1 11/16"	5798 lb	0.112 (11%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/9981)	2'4 13/16"	0.180 (L/360)	0.036 (4%)	D	Uniform
LL Defl inch	0.009 (L/7630)	2'4 13/16"	0.135 (L/480)	0.063 (6%)	L	L
TL Defl inch	0.015 (L/4324)	2'4 13/16"	0.270 (L/240)	0.056 (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
June 30, 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 Top must be continuously laterally braced.
5 Bottom must be laterally braced at a maximum of 5'10 7/16" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-10-7	0-2-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tapered Start	0-0-0		Top	3 PLF	7 PLF	0 PLF	0 PLF	
	End	0-0-1			3 PLF	7 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 0-0-1		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Tapered Start	0-0-1		Top	5 PLF	14 PLF	0 PLF	0 PLF	
	End	2-6-5			5 PLF	14 PLF	0 PLF	0 PLF	

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

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

Forex
APA: PR-L318

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

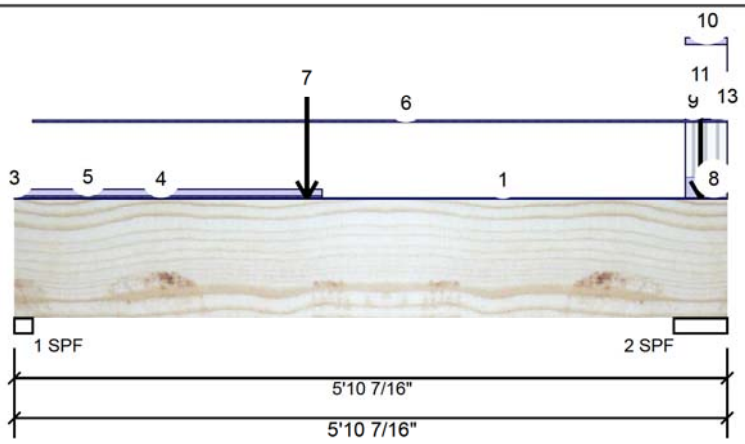
iStructDesign

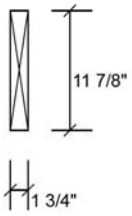
Client: ROUNDEL HOMES INC
Project: PINETREE 2 ELEV 3
Address: RICHMOND HILL, ON

Date: 6/14/2021
Input by: K R
Job Name: PT38-02-3
Project #:

F8-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor





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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Part. Uniform	0-0-1 to 2-6-5		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Tie-In	0-1-13 to 5-10-7	0-5-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Point	2-4-13		Top	185 lb	356 lb	0 lb	0 lb	B4 B4
	Bearing Length	0-5-8							
8	Part. Uniform	5-6-5 to 5-10-7		Top	241 PLF	642 PLF	0 PLF	0 PLF	J4
9	Tapered Start	5-6-5		Top	2 PLF	5 PLF	0 PLF	0 PLF	
	End	5-8-12			2 PLF	5 PLF	0 PLF	0 PLF	
10	Part. Uniform	5-6-5 to 5-10-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Point	5-7-13		Top	128 lb	259 lb	0 lb	0 lb	B4 B4
	Bearing Length	0-5-8							
12	Part. Uniform	5-10-7 to 5-10-7		Top	241 PLF	642 PLF	0 PLF	0 PLF	J4
13	Part. Uniform	5-10-7 to 5-10-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	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.

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June 30, 2021

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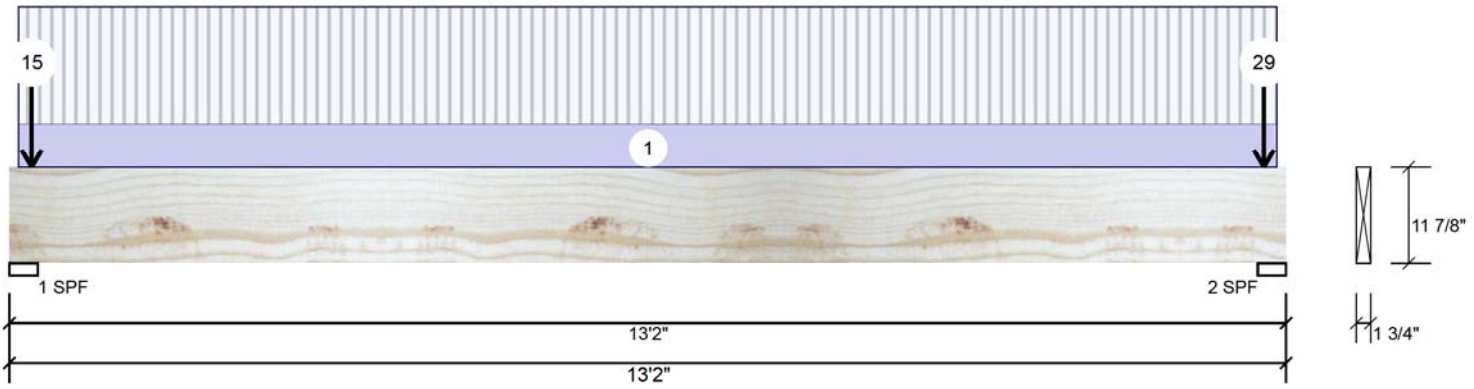
F9-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

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	138	152	57	0
2	Vertical	139	152	57	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	12%	190 / 264	454	L	1.25D+1.5L +S
2 - SPF	3.500"	Vert	12%	190 / 265	456	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	658 ft-lb	6'7"	16788 ft-lb	0.039 (4%)	1.25D+1.5L	L
Unbraced	658 ft-lb	6'7"	16788 ft-lb	0.039 (4%)	1.25D+1.5L	L
Shear	179 lb	11'10 5/8"	5682 lb	0.031 (3%)	1.25D+1.5L	L
Perm Defl in.	0.013 (L/11799)	6'7"	0.424 (L/360)	0.031 (3%)	D	Uniform
LL Defl inch	0.018 (L/8574)	6'7"	0.318 (L/480)	0.056 (6%)	L+0.5S	L
TL Defl inch	0.031 (L/4965)	6'7"	0.635 (L/240)	0.048 (5%)	D+L+0.5S	L

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 30, 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. 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.
6. Bottom must be laterally braced at a maximum of 13'2" o.c.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 13-0-14	0-4-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
3	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight

Continued on page 2...

Notes

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Lumber

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Manufacturer Info

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

Level: Ground Floor

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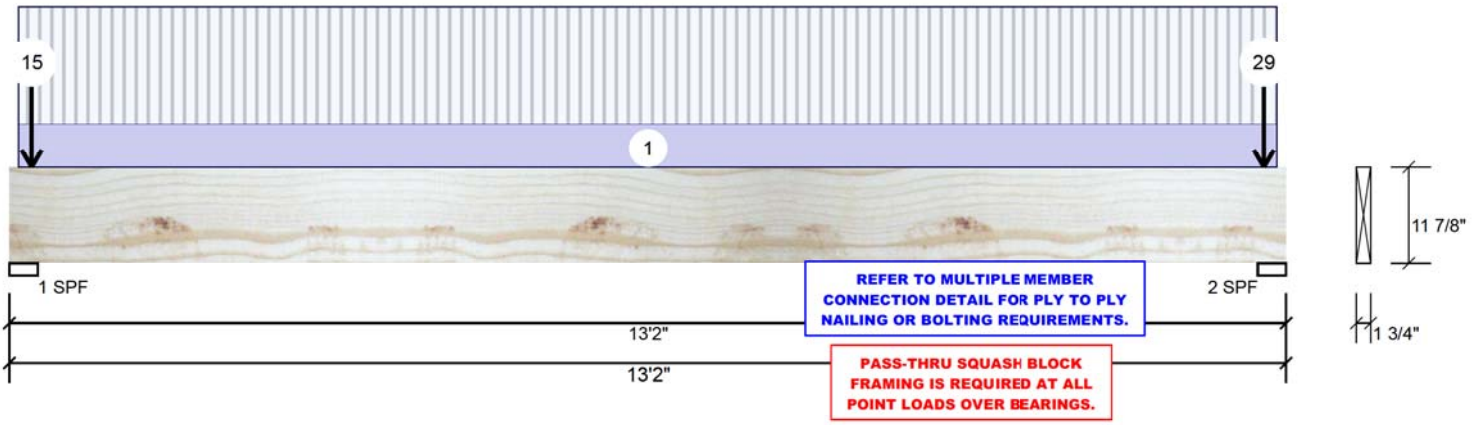

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Point	0-2-12		Top	6 lb	16 lb	0 lb	0 lb	J5
	Bearing Length	0-5-8							
10	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	0-2-12		Top	11 lb	0 lb	27 lb	0 lb	
	Bearing Length	0-5-8							
12	Point	0-2-12		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
14	Point	0-2-12		Top	13 lb	34 lb	0 lb	0 lb	J5
	Bearing Length	0-5-8							
15	Point	0-2-12		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
16	Point	12-11-4		Top	13 lb	35 lb	0 lb	0 lb	J5
	Bearing Length	0-5-8							
17	Point	12-11-4		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
18	Point	12-11-4		Top	11 lb	0 lb	27 lb	0 lb	
	Bearing Length	0-5-8							
20	Point	12-11-4		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
21	Point	12-11-4		Top	6 lb	16 lb	0 lb	0 lb	J5
	Bearing Length	0-5-8							
22	Point	12-11-4		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 30, 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 3/25/2024

Manufacturer Info

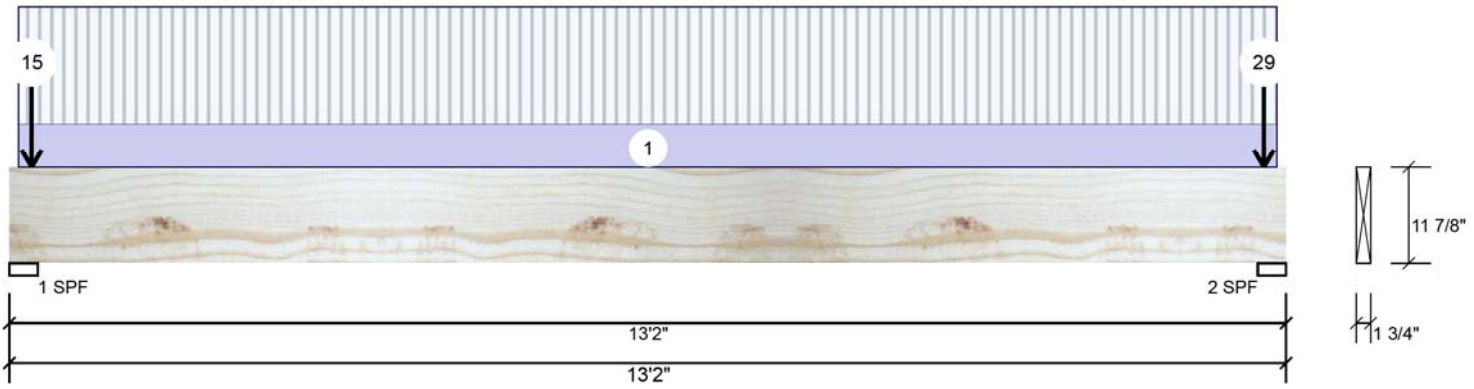
Forex
APA: PR-L318

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

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

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

Level: Ground Floor



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
23	Point	12-11-4		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
25	Point	12-11-4		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
26	Point	12-11-4		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
27	Point	12-11-4		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
29	Point	12-11-4		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	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.

LICENSED PROFESSIONAL ENGINEER
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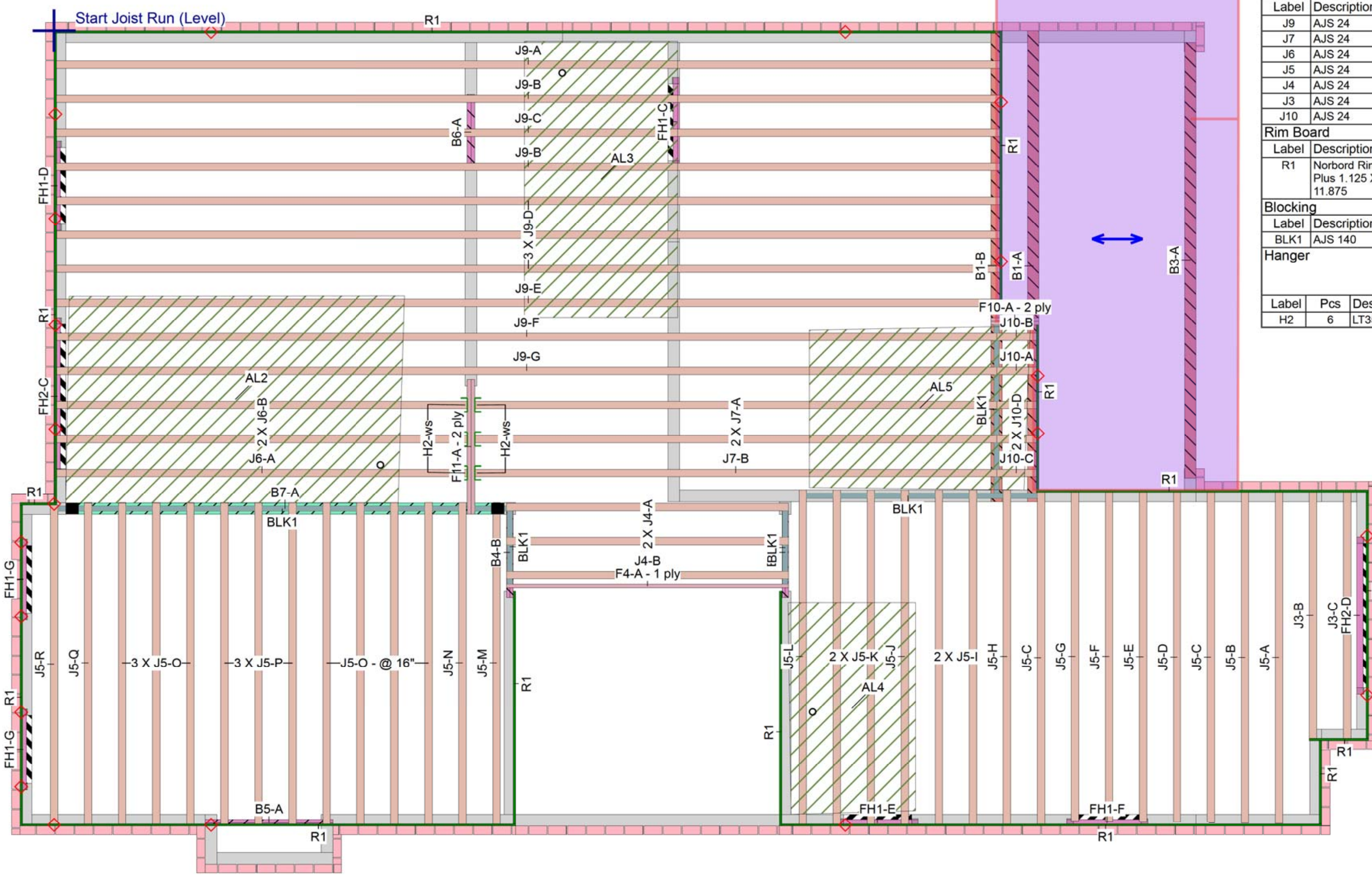
Manufacturer Info

Forex
APA: PR-L318

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

Second Floor



Second Floor

LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F4	Forex 2.0E-3000Fb LVL	1.75	11.875			1	12-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	6-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	2-0-0

I Joist

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J9	AJS 24	3.5	11.875			10	38-0-0
J7	AJS 24	3.5	11.875			3	22-0-0
J6	AJS 24	3.5	11.875			3	18-0-0
J5	AJS 24	3.5	11.875			29	14-0-0
J4	AJS 24	3.5	11.875			3	12-0-0
J3	AJS 24	3.5	11.875			2	10-0-0
J10	AJS 24	3.5	11.875			5	2-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			15	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 140	2.5	11.875	LinFt		Varies	31-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H2	6	LT351188			4 10d	2 10dx1 1/2

JOB INFORMATION

Builder
ROUNDEL HOMES INC

Project

Shipping
RICHMOND HILL, ON

Sales Rep
RALPH MIRIGELLO

Designer
K R

Plotted
June 14, 2021

Layout Name
PT38-02-3

Job Path
C:\Users\kriopel\AppData\Local\iStruct\JOBS

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"

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

Symbol	Meaning
WS	Web Stiffener
-ws	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 11.875
	AJS 24 11.875
	Forex 2.0E-3000Fb LVL 1.75 X 11.875

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.

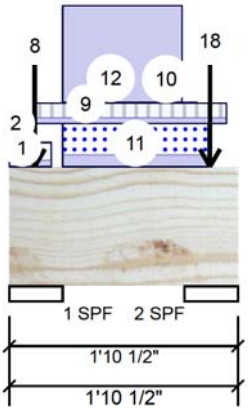
This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them

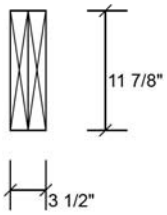
iStructDesign

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 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	16	264	360	0
2	Vertical	10	99	41	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	8%	330 / 556	887	L	1.25D+1.5S +L
2 - SPF	5.250"	Vert	2%	123 / 15	138	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	23 ft-lb	11 1/4"	22269 ft-lb	0.001 (0%)	1.25D+1.5L	L
Unbraced	23 ft-lb	11 1/4"	22269 ft-lb	0.001 (0%)	1.25D+1.5L	L
Shear	61 lb	5 3/8"	7537 lb	0.008 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/275318)	11 1/4"	0.038 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch	0.000 (L/890798)	11 1/4"	0.028 (L/480)	0.001 (0%)	S+0.5L	L
TL Defl inch	0.000 (L/210318)	11 1/4"	0.056 (L/240)	0.001 (0%)	D+S+0.5L	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
June 30, 2021

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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.

Notes

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Lumber

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Manufacturer Info

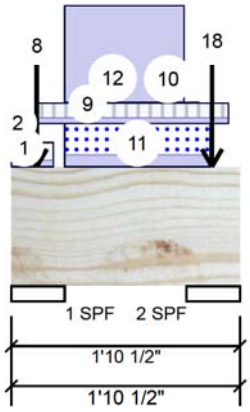
Forex
APA: PR-L318

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

Client:	ROUNDEL HOMES INC	Date:	6/14/2021
Project:	PINETREE 2 ELEV 3	Input by:	K R
Address:	RICHMOND HILL, ON	Job Name:	PT38-02-3
		Project #:	

F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



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June 30, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	0-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-2-8		Top	4 lb	0 lb	9 lb	0 lb	
	Bearing Length	0-5-8							
5	Point	0-2-8		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-8		Top	161 lb	0 lb	338 lb	0 lb	F12 F12
	Bearing Length	0-5-8							
7	Point	0-2-8		Top	23 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-2-8		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Tie-In	0-2-10 to 1-9-6	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Tapered Start	0-2-10		Top	0 PLF	0 PLF	0 PLF	0 PLF	
	End	1-6-7			1 PLF	0 PLF	0 PLF	0 PLF	
11	Part. Uniform	0-5-4 to 1-7-9		Top	10 PLF	0 PLF	26 PLF	0 PLF	
12	Part. Uniform	0-5-4 to 1-5-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
13	Point	1-7-12		Top	4 lb	0 lb	9 lb	0 lb	
	Bearing Length	0-5-8							
14	Point	1-7-12		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
15	Point	1-7-12		Top	4 lb	0 lb	9 lb	0 lb	
	Bearing Length	0-5-8							
16	Point	1-7-12		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
17	Point	1-7-12		Top	2 lb	0 lb	5 lb	0 lb	
	Bearing Length	0-5-8							
18	Point	1-7-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				10 PLF				

Notes

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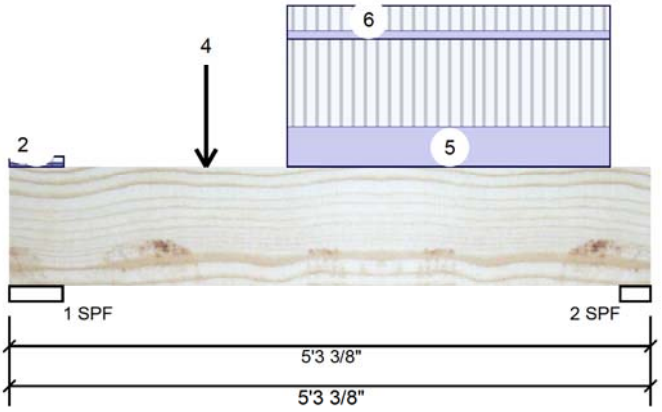

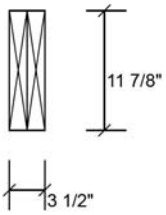

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Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	720	335	0	0
2	Vertical	878	400	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	13%	419 / 1080	1499	L	1.25D+1.5L
2 - SPF	3.000"	Vert	28%	499 / 1317	1816	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2216 ft-lb	2'9 9/16"	34261 ft-lb	0.065 (6%)	1.25D+1.5L	L
Unbraced	2216 ft-lb	2'9 9/16"	34261 ft-lb	0.065 (6%)	1.25D+1.5L	L
Shear	2170 lb	1'5 1/8"	11596 lb	0.187 (19%)	1.25D+1.5L	L
Perm Defl in.	0.003 (L/16939)	2'9 1/8"	0.157 (L/360)	0.021 (2%)	D	Uniform
LL Defl inch	0.007 (L/7680)	2'9 3/16"	0.118 (L/480)	0.063 (6%)	L	L
TL Defl inch	0.011 (L/5284)	2'9 1/8"	0.236 (L/240)	0.045 (5%)	D+L	L

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2	Tie-In	0-0-0 to 0-5-6	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Far Face	182 lb	397 lb	0 lb	0 lb	J6
4	Point	1-7-6		Near Face	34 lb	101 lb	0 lb	0 lb	J7
5	Part. Uniform	2-3-6 to 4-11-6		Far Face	144 PLF	318 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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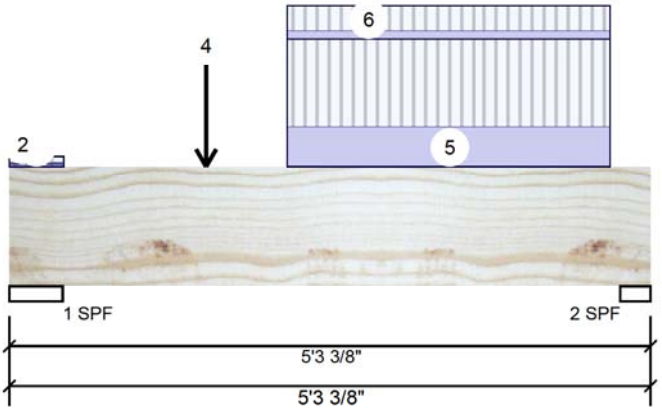
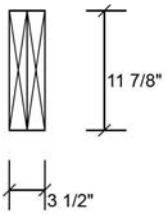
Level: Second Floor





...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Part. Uniform	2-3-6 to 4-11-6		Near Face	30 PLF	90 PLF	0 PLF	0 PLF	
	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.

June 30, 2021

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 3/25/2024

Manufacturer Info

Forex
APA: PR-L318

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

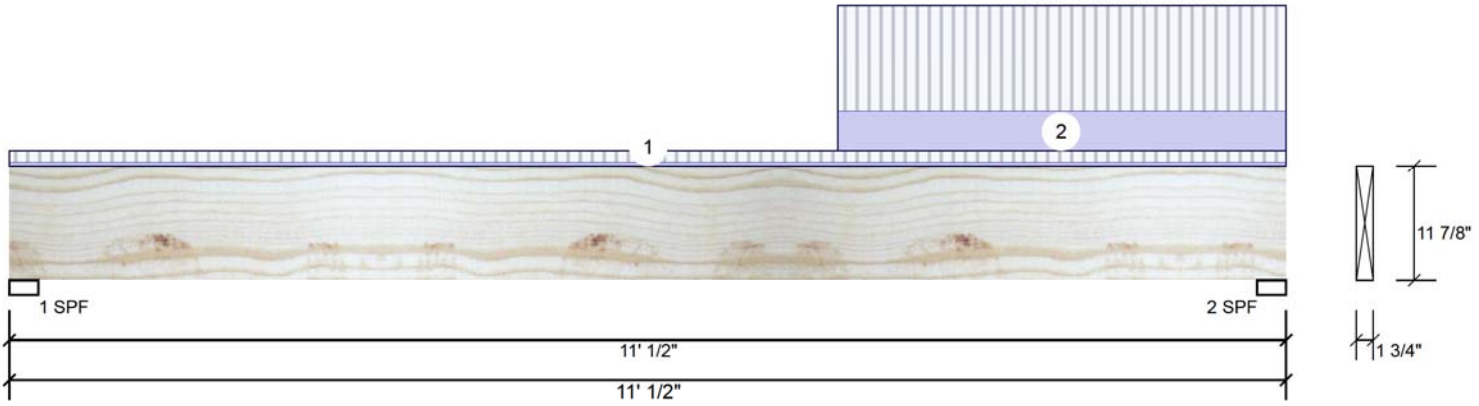
iStructDesign

Client: ROUNDEL HOMES INC
Project: PINETREE 2 ELEV 3
Address: RICHMOND HILL, ON

Date: 6/14/2021
Input by: K R
Job Name: PT38-02-3
Project #:

F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	98	63	0	0
2	Vertical	307	141	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.000"	Vert	7%	79 / 148	227	L	1.25D+1.5L
2 - SPF	3.000"	Vert	20%	177 / 460	637	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1008 ft-lb	7'6 1/8"	17130 ft-lb	0.059 (6%)	1.25D+1.5L	L
Unbraced	1008 ft-lb	7'6 1/8"	17130 ft-lb	0.059 (6%)	1.25D+1.5L	L
Shear	419 lb	9'9 5/8"	5798 lb	0.072 (7%)	1.25D+1.5L	L
Perm Defl in.	0.011 (L/11891)	5'11 3/8"	0.356 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.020 (L/6329)	6'1 3/4"	0.267 (L/480)	0.076 (8%)	L	L
TL Defl inch	0.031 (L/4132)	6' 15/16"	0.533 (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
June 30, 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 Top must be continuously laterally braced.
4 Bottom must be laterally braced at a maximum of 11' 1/2" o.c.

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 11-0-8	0-2-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	7-1-14 to 11-0-8		Top	30 PLF	80 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				

Notes

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CSDT DRAW DESIGN BUILD