

Engineering Note Page (ENP-2)

REVISION 2021-10-04

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

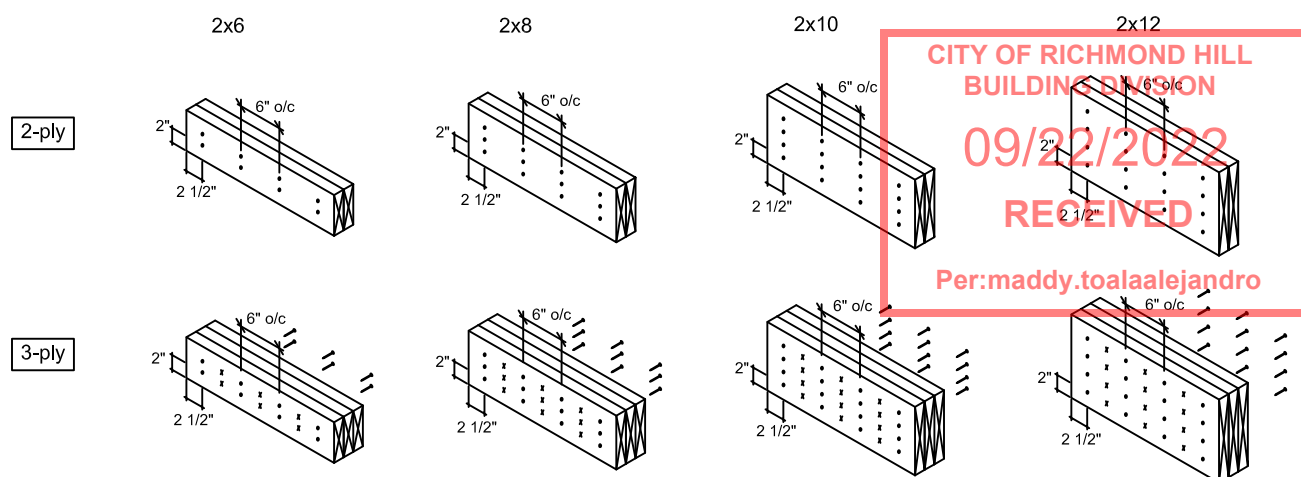
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies 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.
5. It is assumed that each LVL beam where not seated in a hanger is attached using (4) four 3-1/4" common spiral nails for up to 5.5" long bearings and using (6) six 3-1/4" common spiral nails for bearings equal to or longer than 5.5", unless indicated otherwise.

HANDLING AND INSTALLATION

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



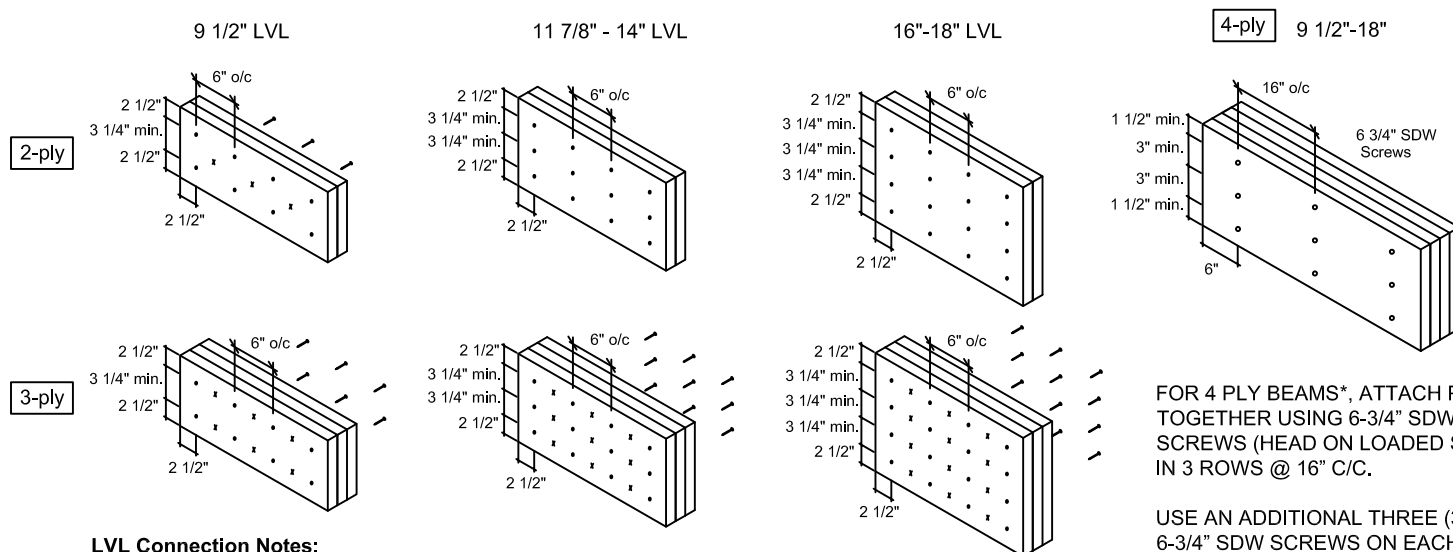
Conventional Connections



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 PLYS 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

[illegible]

Hanger					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	45	LF359			10 10d	2 #8x1 1/4WS
H4	1	H2.5A			5 8d	5 8d

Kott Inc.
3228 Moodie Dr, Ottawa
14 Anderson Blvd, Uxbridge
Ontario

613-838-2775 /
905-642-4400






The logo for KOTT features a stylized 'K' composed of green and blue geometric shapes, followed by the word 'KOTT' in a bold, blue, sans-serif font.

Per:maddy.toalaalejandro

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

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

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 9.5
	AJS 24 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5



Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 1 of 21

F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

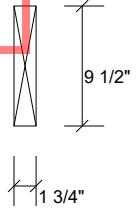
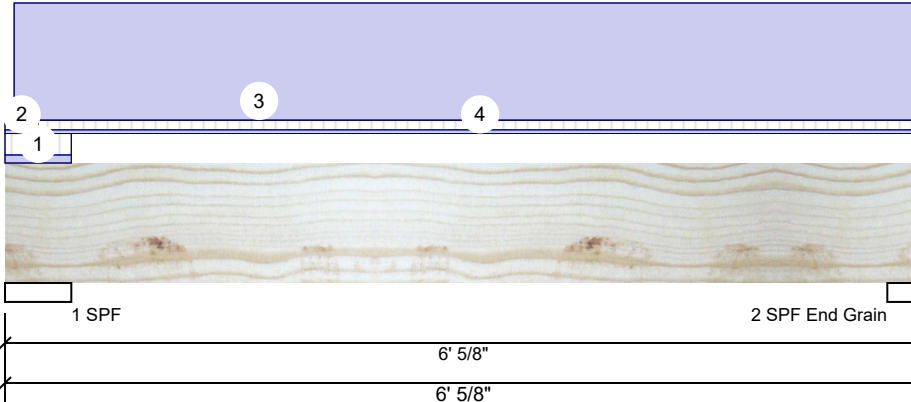
Level: Ground Floor

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BUILDING DIVISION

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	34	332	0	0
2	Vertical	24	312	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%	415 / 51	466	L	1.25D+1.5L
2 - SPF	2.750"	Vert	19%	437 / 0	437	Uniform	1.4D
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	568 ft-lb	3'1 9/16"	7385 ft-lb	0.077 (8%)	1.4D	Uniform
Unbraced	568 ft-lb	3'1 9/16"	7385 ft-lb	0.077 (8%)	1.4D	Uniform
Shear	289 lb	5' 3/8"	3015 lb	0.096 (10%)	1.4D	Uniform
Perm Defl in.	0.012 (L/5664)	3'1 9/16"	0.184 (L/360)	0.064 (6%)	D	Uniform
LL Defl inch	0.001 (L/72461)	3'1 9/16"	0.184 (L/360)	0.005 (0%)	L	L
TL Defl inch	0.013 (L/5254)	3'1 9/16"	0.275 (L/240)	0.046 (5%)	D+L	L

Design Notes

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



October 14, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-12 to 6-0-10		Top	100 PLF	0 PLF	0 PLF	0 PLF	
4	Tie-In	0-2-10 to 6-0-10	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



Client: GREENPARK
Project: TERRACOTA 45-2-3
Address: RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 2 of 21

F10-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

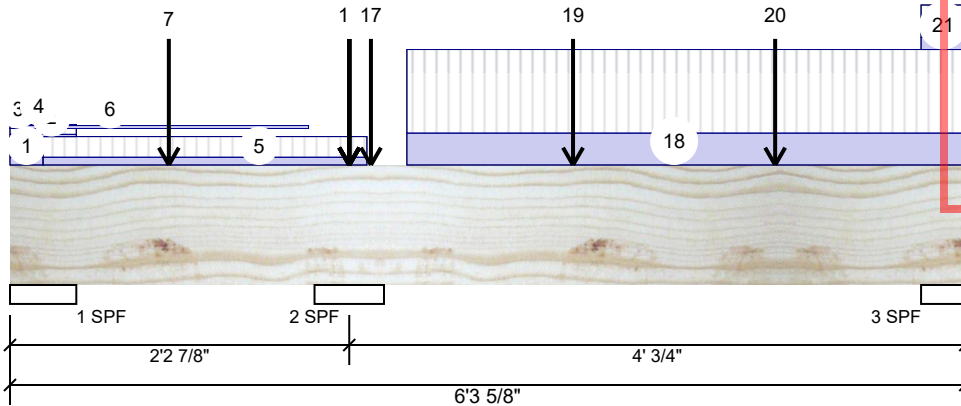
Level: Ground Floor

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BUILDING DIVISION

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	52	27	0	0
2	Vertical	1261	530	0	0
3	Vertical	600	233	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	6%	-4 / 336	332 (-368)	L_	0.9D+1.5L (1.25D+1.5L)
2 - SPF	5.500"	Vert	47%	720 / 2070	2790	LL	1.25D+1.5L
3 - SPF	3.500"	Vert	30%	272 / 856	1128	_L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1000 ft-lb	2'2 7/8"	11362 ft-lb	0.088 (9%)	1.25D+1.5L	LL
Pos Moment	1008 ft-lb	4'11 3/4"	11362 ft-lb	0.089 (9%)	1.25D+1.5L	_L
Unbraced	1008 ft-lb	4'11 3/4"	11362 ft-lb	0.089 (9%)	1.25D+1.5L	_L
Shear	1209 lb	3'3 1/8"	4638 lb	0.261 (26%)	1.25D+1.5L	LL
Perm Defl in.	0.004 (L/11484)	4'2 1/8"	0.128 (L/360)	0.031 (3%)	D	Uniform
LL Defl inch	0.011 (L/4360)	4'2 1/16"	0.128 (L/360)	0.083 (8%)	L	_L
TL Defl inch	0.015 (L/3160)	4'2 1/16"	0.192 (L/240)	0.076 (8%)	D+L	_L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 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 Tie-down connection required at bearing 1 for uplift 368 lb (Combination 1.25D+1.5L, Load Case _L).
- 5 Top must be continuously laterally braced.
- 6 Bottom must have sheathing attached or be continuously 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	0-0-0 to 0-2-10	0-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 0-2-10		Top	3 PLF	0 PLF	0 PLF	0 PLF	

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

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



Client: GREENPARK
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Address: TERRACOTA 45-2-3
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Job Name: TC45-2-3 STANDARD
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F10-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

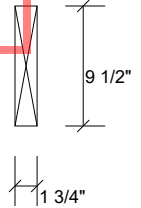
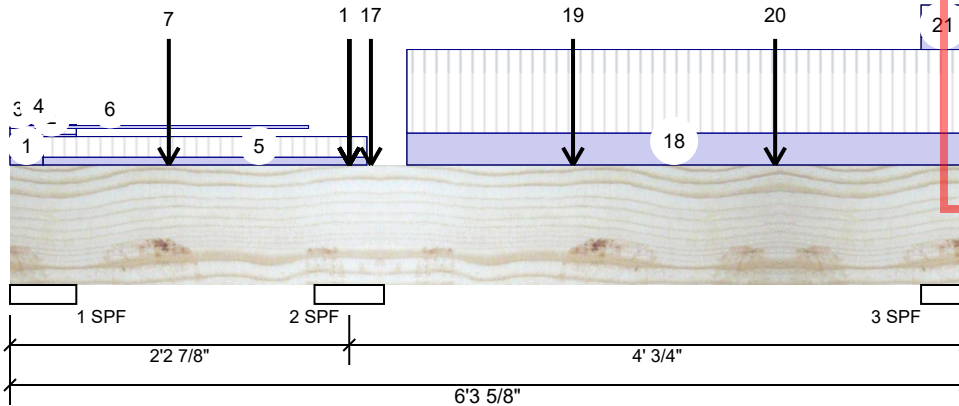
Level: Ground Floor

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BUILDING DIVISION

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	0-0-0 to 0-5-4		Top	1 PLF	0 PLF	0 PLF	0 PLF	
5	Tie-In	0-2-10 to 2-4-4	0-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	0-2-10 to 1-11-10		Top	3 PLF	0 PLF	0 PLF	0 PLF	
7	Point	1-0-9		Near Face	125 lb	333 lb	0 lb	0 lb	J6
8	Point	2-2-14		Top	39 lb	103 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
10	Point	2-2-14		Top	20 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	2-2-14		Top	12 lb	32 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
13	Point	2-2-14		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
14	Point	2-2-14		Top	4 lb	10 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
16	Point	2-2-14		Top	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
17	Point	2-4-9		Near Face	71 lb	160 lb	0 lb	0 lb	J6
18	Part. Uniform	2-7-7 to 6-3-10		Top	32 PLF	84 PLF	0 PLF	0 PLF	
19	Point	3-8-9		Near Face	171 lb	456 lb	0 lb	0 lb	J6
20	Point	5-0-9		Near Face	168 lb	449 lb	0 lb	0 lb	J6
21	Tie-In	6-0-2 to 6-3-10	0-9-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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October 14, 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

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



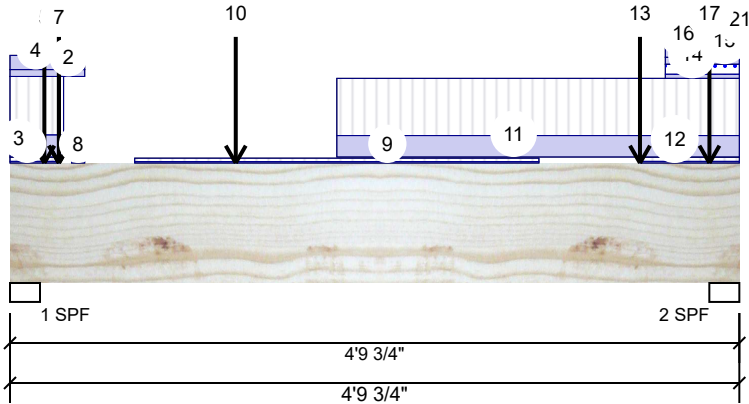
Client: GREENPARK
 Project:
 Address: TERRACOTA 45-2-3
 RICHMOND HILL, ON

Date: 10/1/2021
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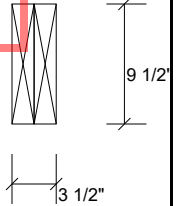
Page 4 of 21

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

Level: Ground Floor


**CITY OF RICHMOND HILL
 BUILDING DIVISION**
09/22/2022
RECEIVED

Per:maddy.toalaalejandros


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	1848	1251	484	0
2	Vertical	1657	1047	294	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	94%	1564 / 3256	4820	L	1.25D+1.5L+S
2 - SPF	2.375"	Vert	80%	1309 / 2779	4088	L	1.25D+1.5L+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1917 ft-lb	2'4 3/16"	22724 ft-lb	0.084 (8%)	1.25D+1.5L+S	L
Unbraced	1917 ft-lb	2'4 3/16"	22724 ft-lb	0.084 (8%)	1.25D+1.5L+S	L
Shear	2644 lb	11 7/8"	9277 lb	0.285 (29%)	1.25D+1.5L+S	L
Perm Defl in.	0.004 (L/12199)	2'4 3/16"	0.151 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.010 (L/5249)	2'4 1/2"	0.151 (L/360)	0.069 (7%)	L+0.5S	L
TL Defl inch	0.015 (L/3670)	2'4 7/16"	0.227 (L/240)	0.065 (7%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 2.375.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 2.375.
- 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 have sheathing attached or be continuously braced.
- 9 Lateral slenderness ratio based on full section width.



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Notes

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Lumber

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

chemicals
Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

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 3228 Moodie Dr, Ottawa, Ontario
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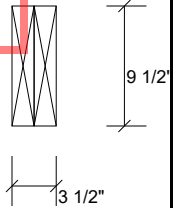
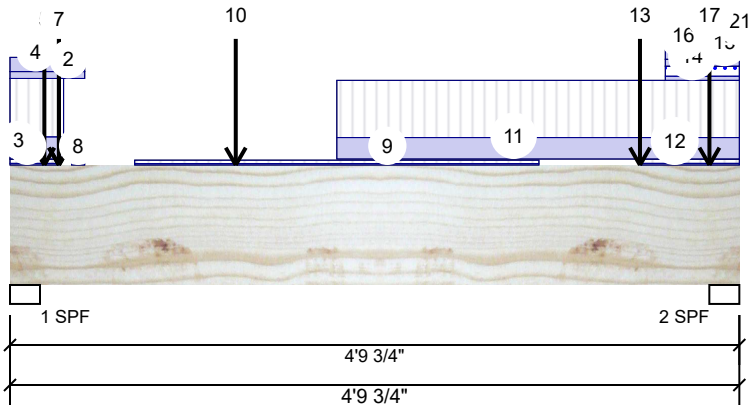
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Level: Ground Floor

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BUILDING DIVISION**
09/22/2022
RECEIVED
Per:maddy.toalaalejandro


ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-14	0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-5-15		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 0-4-4		Top	128 PLF	338 PLF	0 PLF	0 PLF	J6
4	Part. Uniform	0-0-0 to 0-5-15		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Point	0-2-12		Top	717 lb	702 lb	488 lb	0 lb	B3 B3 Header Column
	Bearing Length	0-5-8							
6	Point	0-3-14		Near Face	215 lb	486 lb	0 lb	0 lb	J6
7	Point	0-3-14		Far Face	6 lb	16 lb	0 lb	0 lb	J1
8	Part. Uniform	0-4-14 to 0-5-15		Top	24 PLF	0 PLF	58 PLF	0 PLF	
9	Part. Uniform	0-9-14 to 3-5-14		Far Face	8 PLF	20 PLF	0 PLF	0 PLF	
10	Point	1-5-14		Near Face	155 lb	412 lb	0 lb	0 lb	J6
11	Part. Uniform	2-1-14 to 4-9-12		Near Face	124 PLF	331 PLF	0 PLF	0 PLF	
12	Tie-In	4-1-14 to 4-9-12	0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
13	Point	4-1-14		Far Face	8 lb	21 lb	0 lb	0 lb	J1
14	Part. Uniform	4-3-14 to 4-9-12		Top	24 PLF	0 PLF	58 PLF	0 PLF	
15	Part. Uniform	4-3-14 to 4-9-12		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
16	Part. Uniform	4-3-14 to 4-9-12		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
17	Point	4-7-6		Top	622 lb	792 lb	256 lb	0 lb	B3 B3
	Bearing Length	0-5-8							
18	Part. Uniform	4-9-12 to 4-9-12		Top	12 PLF	0 PLF	29 PLF	0 PLF	
19	Part. Uniform	4-9-12 to 4-9-12		Top	20 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
20	Part. Uniform	4-9-12 to 4-9-12		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
21	Part. Uniform	4-9-14 to 4-9-12		Top	63 PLF	169 PLF	0 PLF	0 PLF	J6
	Self Weight				8 PLF				

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October 14, 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

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024

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





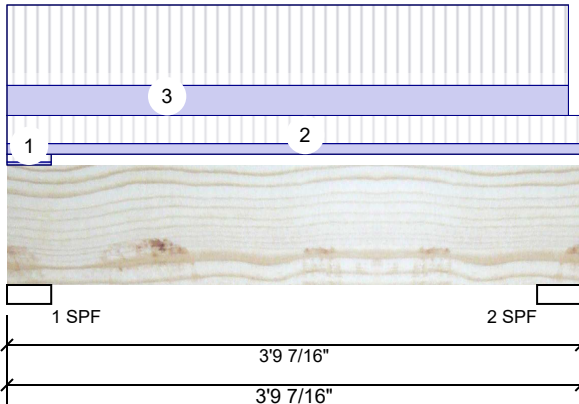
Client: GREENPARK
 Project:
 Address: TERRACOTA 45-2-3
 RICHMOND HILL, ON

Date: 10/1/2021
 Input by: W C
 Job Name: TC45-2-3 STANDARD
 Project #: ROUNDEL HOMES INC

Page 6 of 21

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

Level: Ground Floor

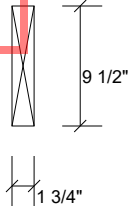


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 BUILDING DIVISION

09/22/2022

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	864	331	0	0
2	Vertical	826	317	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	45%	414 / 1296	1709	L	1.25D+1.5L
2 - SPF	3.500"	Vert	43%	396 / 1239	1635	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1238 ft-lb	1'10 3/4"	11362 ft-lb	0.109 (11%)	1.25D+1.5L	L
Unbraced	1238 ft-lb	1'10 3/4"	11362 ft-lb	0.109 (11%)	1.25D+1.5L	L
Shear	1248 lb	2'8 7/16"	4638 lb	0.269 (27%)	1.25D+1.5L	L
Perm Defl in. (L/11183)	0.004	1'10 3/4"	0.111 (L/360)	0.032 (3%)	D	Uniform
LL Defl inch	0.009 (L/4285)	1'10 3/4"	0.111 (L/360)	0.084 (8%)	L	L
TL Defl inch	0.013 (L/3098)	1'10 3/4"	0.167 (L/240)	0.077 (8%)	D+L	L



October 14, 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	Tie-In	0-0-0 to 0-3-8	0-9-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-9-7		Top	44 PLF	117 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 3-8-7		Near Face	125 PLF	334 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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





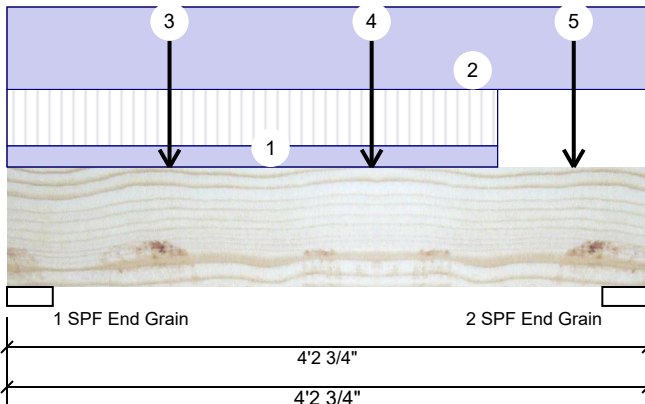
Client: GREENPARK
 Project:
 Address: TERRACOTA 45-2-3
 RICHMOND HILL, ON

Date: 10/1/2021
 Input by: W C
 Job Name: TC45-2-3 STANDARD
 Project #: ROUNDEL HOMES INC

Page 7 of 21

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

Level: Ground Floor

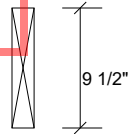


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 BUILDING DIVISION

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	317	339	0	0
2	Vertical	295	331	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.625"	Vert	19%	423 / 476	899	L	1.25D+1.5L
2 - SPF End Grain	3.625"	Vert	19%	413 / 443	856	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	833 ft-lb	2'4 5/8"	11135 ft-lb	0.075 (7%)	1.25D+1.5L	L
Unbraced	833 ft-lb	2'4 5/8"	11135 ft-lb	0.075 (7%)	1.25D+1.5L	L
Shear	704 lb	3'1 5/8"	4546 lb	0.155 (15%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/8933)	2'1 3/4"	0.125 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.005 (L/8770)	2'2 7/16"	0.125 (L/360)	0.041 (4%)	L	L
TL Defl inch	0.010 (L/4427)	2'2 1/8"	0.188 (L/240)	0.054 (5%)	D+L	L

Design Notes

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



October 14, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-2-13	1-8-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 4-2-12		Top	100 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-0-14		Far Face	51 lb	136 lb	0 lb	0 lb	J3
4	Point	2-4-14		Far Face	58 lb	154 lb	0 lb	0 lb	J3
5	Point	3-8-14		Far Face	38 lb	101 lb	0 lb	0 lb	J3
	Self Weight				4 PLF				

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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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

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



This design is valid until 5/24/2024



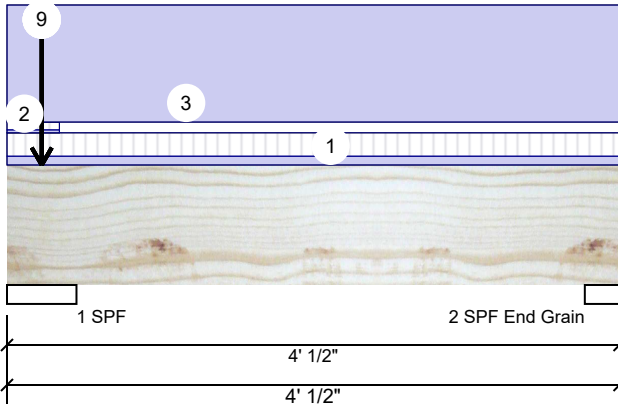
Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 8 of 21

F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

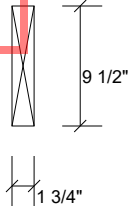


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BUILDING DIVISION

09/22/2022

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	479	444	0	0
2	Vertical	38	212	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	23%	554 / 718	1273	L	1.25D+1.5L
2 - SPF	2.750"	Vert	13%	297 / 0	297	Uniform	1.4D
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	236 ft-lb	2'1 5/8"	7385 ft-lb	0.032 (3%)	1.4D	Uniform
Unbraced	236 ft-lb	2'1 5/8"	7385 ft-lb	0.032 (3%)	1.4D	Uniform
Shear	142 lb	3' 1/4"	3015 lb	0.047 (5%)	1.4D	Uniform
Perm Defl in. (L/15854)	0.003	2'1 5/8"	0.116 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch (L/88279)	0.000	2'1 5/8"	0.116 (L/360)	0.004 (0%)	L	L
TL Defl inch (L/13440)	0.003	2'1 5/8"	0.174 (L/240)	0.018 (2%)	D+L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 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.



October 14, 2021

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-0-8	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	0-2-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 4-0-8		Top	100 PLF	0 PLF	0 PLF	0 PLF	
4	Point	0-2-12		Top	138 lb	324 lb	0 lb	0 lb	F11 F11

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



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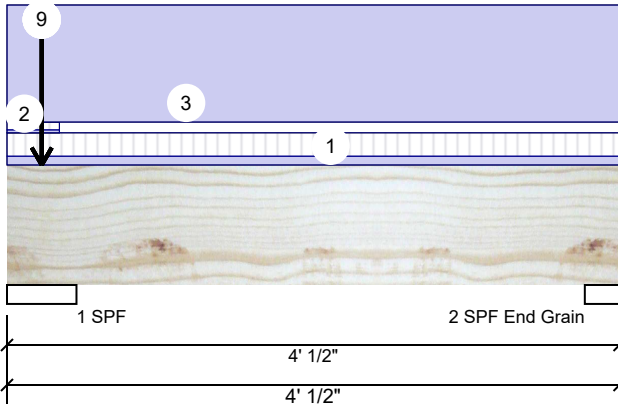
Client: GREENPARK
 Project:
 Address: TERRACOTA 45-2-3
 RICHMOND HILL, ON

Date: 10/1/2021
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 Job Name: TC45-2-3 STANDARD
 Project #: ROUNDEL HOMES INC

Page 9 of 21

F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

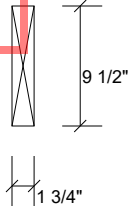


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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	37 lb	92 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	19 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	7 lb	18 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
9	Point	0-2-12		Top	4 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				4 PLF				



October 14, 2021

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Manufacturer Info

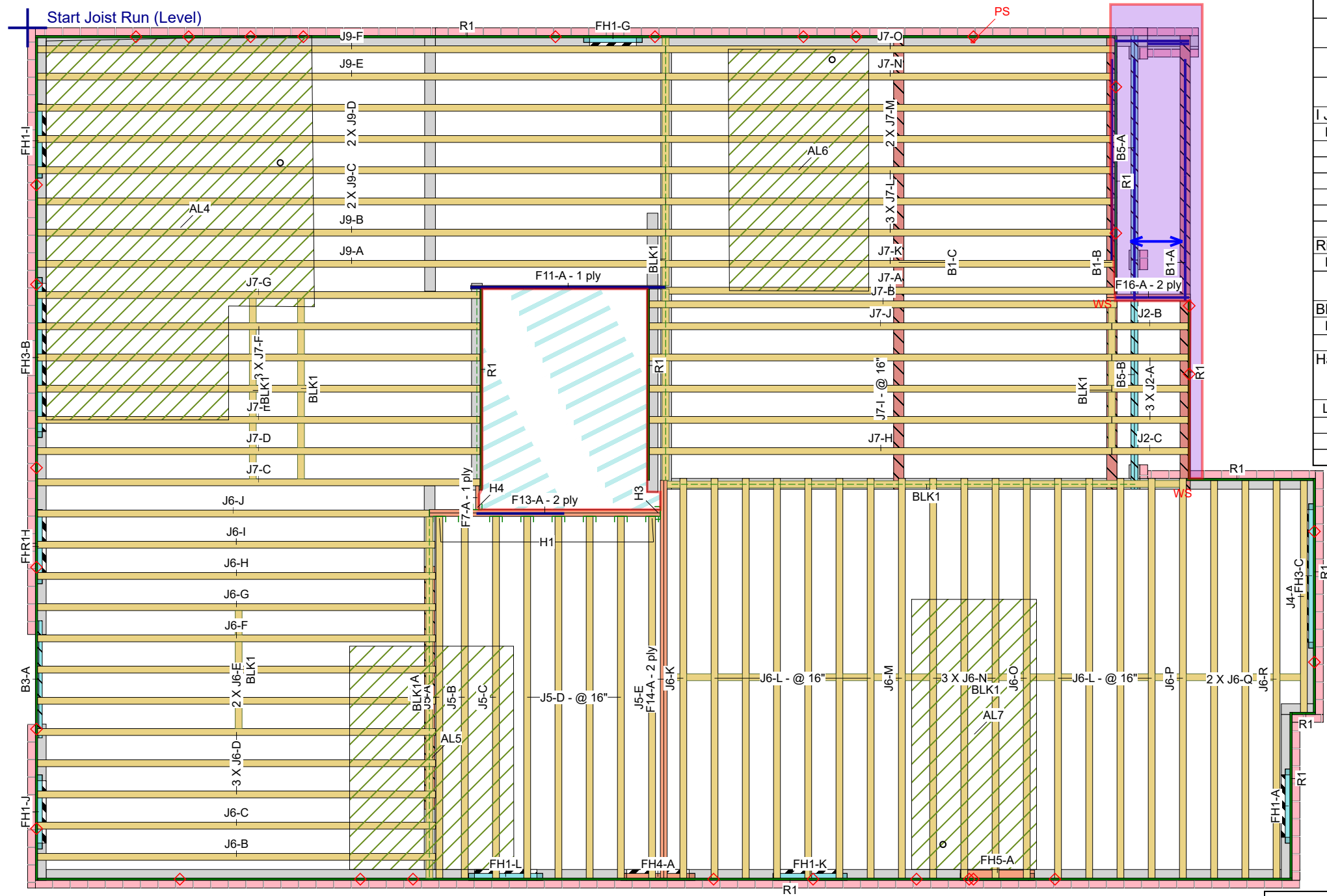
Forex
 APA: PR-L318

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



This design is valid until 5/24/2024

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
F14	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	18-0-0
B4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	12-0-0
F13	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
FH5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	4-0-0
F16	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
FH4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5			1	2-0-0

I Joist							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J9	AJS 24	3.5	9.5			8	28-0-0
J7	AJS 24	3.5	9.5			22	20-0-0
J6	AJS 24	3.5	9.5			32	18-0-0
J5	AJS 24	3.5	9.5			8	16-0-0
J4	AJS 24	3.5	9.5			1	10-0-0
J2	AJS 24	3.5	9.5			5	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			17	12-0-0

Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	9.5	LinFt		Varies	87-0-0

Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	8	LF359			10 10d	2 #8x1 1/4WS	
H3	1	HHUS410			30 16d	10 16d	
H4	1	HUS1.81/10			30 16d	10 16d	

JOB INFORMATION	
Builder	GREENPARK
Project	ROUNDEL HOMES INC
Shipping	TERRACOTA 45-2-3 RICHMOND HILL, ON
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	October 01, 2021
Layout Name	TC45-2-3 STANDARD

Job Path	
DESIGN CRITERIA	
Second Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012

Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	360
TL Span L/	240
Deflection Flush Girder	
LL Span L/	360
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	360
TL Span L/	240
Deflection Header	
LL Span L/	360
TL Span L/	240
Decking	
Decking	OSB

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

CITY OF RICHMOND HILL
BUILDING DIVISION

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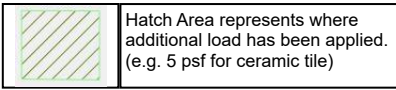
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1. All blocking to be cut from 12' joists
2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange 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	
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 9.5
	AJS 24 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5

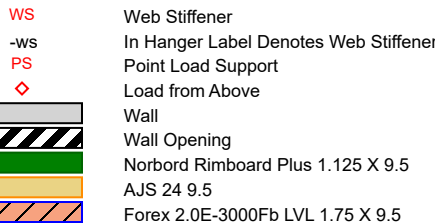
Start Joist Run (Level)



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

TC45-2-3 (5-BDRM OPT.)

613-838-2775 /
905-642-4400





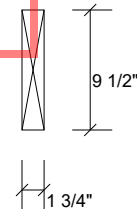
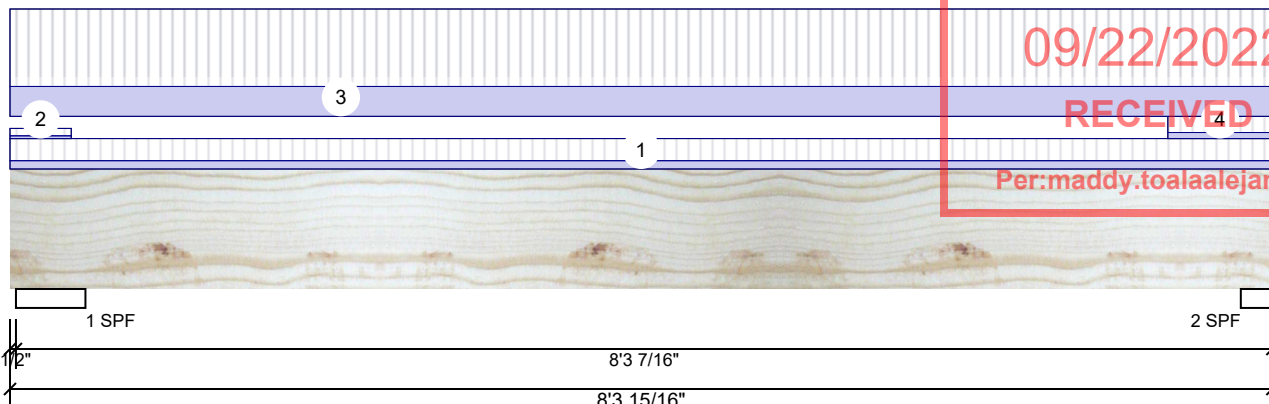
Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/14/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 3 of 3

F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	383	163	0	0
2	Vertical	378	160	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	13%	204 / 575	779	LL	1.25D+1.5L
2 - SPF	2.500"	Vert	29%	200 / 567	767	_L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1434 ft-lb	4'2 3/4"	11362 ft-lb	0.126 (13%)	1.25D+1.5L	_L
Unbraced	1434 ft-lb	4'2 3/4"	11362 ft-lb	0.126 (13%)	1.25D+1.5L	_L
Shear	571 lb	7'3 15/16"	4638 lb	0.123 (12%)	1.25D+1.5L	_L
Perm Defl in.	0.016 (L/6079)	4'2 3/4"	0.264 (L/360)	0.059 (6%)	D	Uniform
LL Defl inch	0.037 (L/2587)	4'2 3/4"	0.264 (L/360)	0.139 (14%)	L	_L
TL Defl inch	0.052 (L/1815)	4'2 3/4"	0.396 (L/240)	0.132 (13%)	D+L	_L
LL Cant	-0.001 (2L/1866)	Lt Cant	0.200 (2L/360)	0.003 (0%)	L	_L
TL Cant	-0.001 (2L/1309)	Lt Cant	0.300 (2L/240)	0.002 (0%)	D+L	_L



October 14, 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 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-3-15	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-14	0-2-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 8-3-12		Top	27 PLF	70 PLF	0 PLF	0 PLF	
4	Tie-In	7-7-11 to 8-3-15	0-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 12 of 21

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

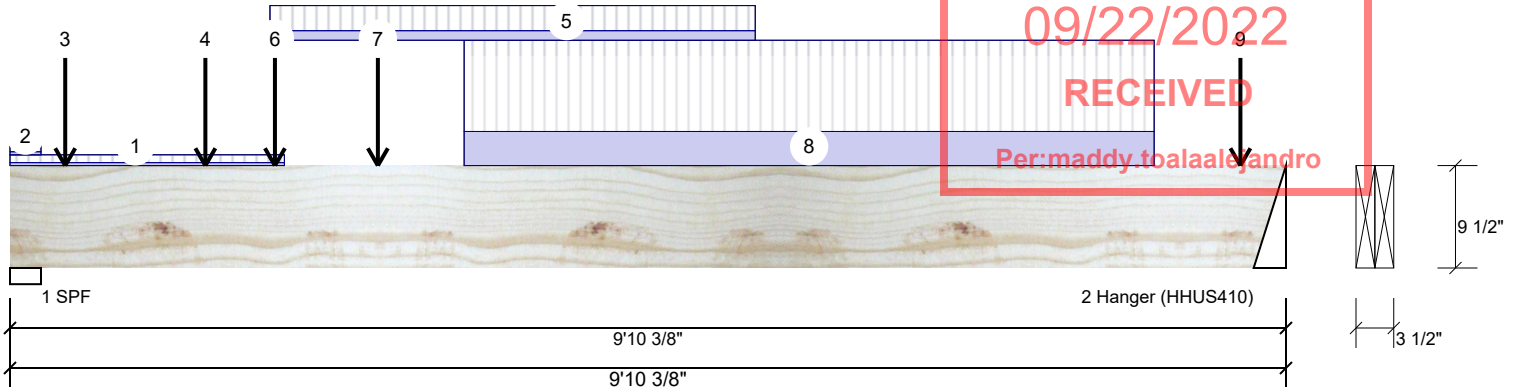
Level: Second Floor

CITY OF RICHMOND HILL
BUILDING DIVISION

09/22/2022

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Per: maddy.toalaale@andro


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	1649	696	0	0
2	Vertical	1601	646	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.876"	Vert	54%	870 / 2473	3343	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	41%	808 / 2401	3209	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7953 ft-lb	4'9 3/16"	22724 ft-lb	0.350 (35%)	1.25D+1.5L	L
Unbraced	7953 ft-lb	4'9 3/16"	22724 ft-lb	0.350 (35%)	1.25D+1.5L	L
Shear	3275 lb	1' 3/8"	9277 lb	0.353 (35%)	1.25D+1.5L	L
Perm Defl in.	0.058 (L/1980)	4'10 3/8"	0.317 (L/360)	0.182 (18%)	D	Uniform
LL Defl inch	0.141 (L/808)	4'10 9/16"	0.317 (L/360)	0.445 (45%)	L	L
TL Defl inch	0.199 (L/574)	4'10 1/2"	0.475 (L/240)	0.418 (42%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must have sheathing attached or be continuously braced.
- 8 Lateral slenderness ratio based on full section width.



October 14, 2021

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ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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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 2-1-7	0-7-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-14	0-8-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-5-2		Near Face	81 lb	191 lb	0 lb	0 lb	J5
4	Point	1-6-2		Near Face	157 lb	369 lb	0 lb	0 lb	J5

Continued on page 2...

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



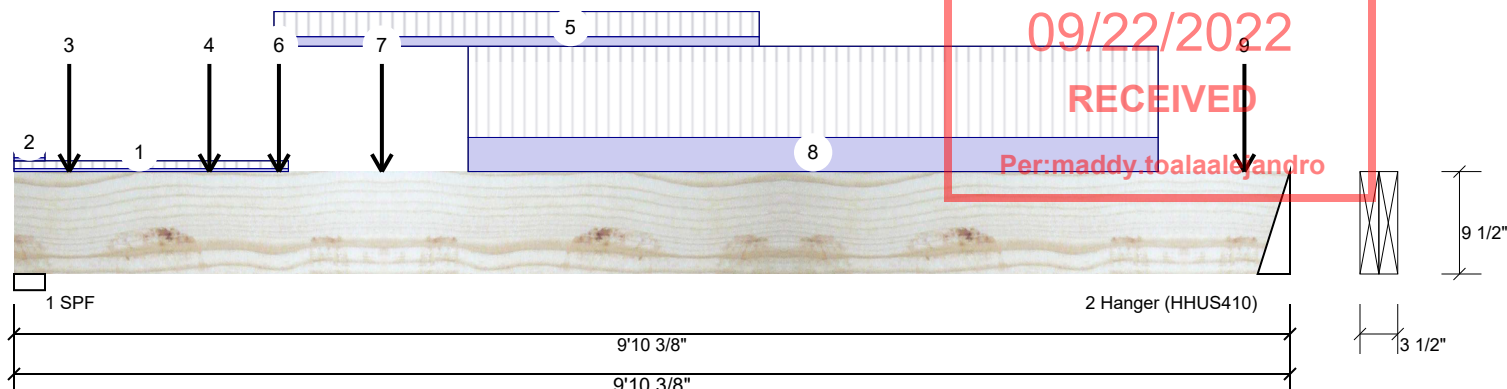
Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 13 of 21

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Part. Uniform	2-0-2 to 5-9-2		Top	32 PLF	84 PLF	0 PLF	0 PLF	
6	Point	2-0-9		Far Face	2 lb	0 lb	0 lb	0 lb	F7
7	Point	2-10-2		Near Face	171 lb	407 lb	0 lb	0 lb	J5
8	Part. Uniform	3-6-2 to 8-10-2		Near Face	114 PLF	305 PLF	0 PLF	0 PLF	
9	Point	9-6-2		Near Face	105 lb	279 lb	0 lb	0 lb	J5
	Self Weight				8 PLF				



October 14, 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

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 14 of 21

F14-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

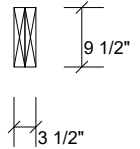
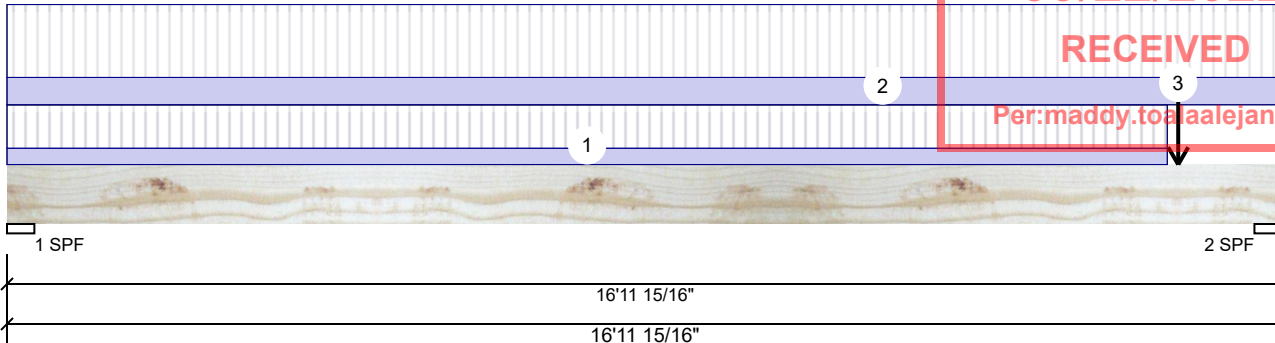
Level: Second Floor

CITY OF RICHMOND HILL
BUILDING DIVISION

09/22/2022

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Per:maddy.toalaalejandro


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	331	192	0	0
2	Vertical	1708	748	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.376"	Vert	8%	240 / 497	737	L	1.25D+1.5L
2 - SPF	4.563"	Vert	36%	935 / 2561	3496	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4157 ft-lb	11'10 9/16"	22724 ft-lb	0.183 (18%)	1.25D+1.5L	L
Unbraced	4157 ft-lb	11'10 9/16"	22724 ft-lb	0.183 (18%)	1.25D+1.5L	L
Shear	3454 lb	15'9 7/8"	9277 lb	0.372 (37%)	1.25D+1.5L	L
Perm Defl in.	0.101 (L/1954)	9' 3/16"	0.546 (L/360)	0.184 (18%)	D	Uniform
LL Defl inch	0.193 (L/1020)	9'2 3/16"	0.546 (L/360)	0.353 (35%)	L	L
TL Defl inch	0.293 (L/670)	9'1 1/2"	0.819 (L/240)	0.358 (36%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 15'7 3/16" o.c.
- 7 Lateral slenderness ratio based on full section width.



October 14, 2021

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ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
IS AN INTEGRAL PART OF THIS DRAWING AS IT
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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 15-5-7	0-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-11-15	0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	15-7-3		Far Face	646 lb	1601 lb	0 lb	0 lb	F13
	Self Weight				8 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



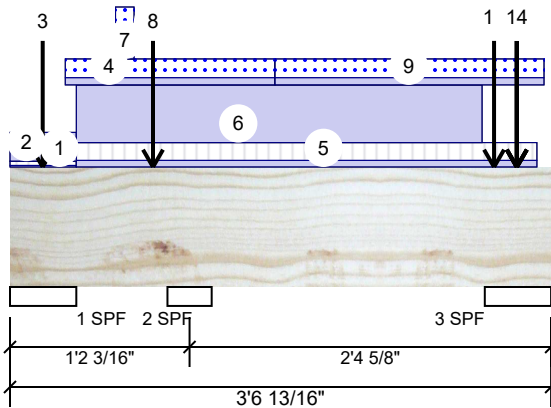
Client: GREENPARK
Project: TERRACOTA 45-2-3
Address: RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

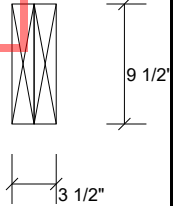
Page 15 of 21

F16-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


**CITY OF RICHMOND HILL
BUILDING DIVISION**
09/22/2022
RECEIVED

Per:maddy.toalaalejandro


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	255	452	634	0
2	Vertical	40	210	92	0
3	Vertical	30	233	168	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	15%	522 / 1202	1723	L_	1.25D+1.5S +L
2 - SPF	3.500"	Vert	7%	361 / 0	361	Uniform	1.4D
3 - SPF	5.250"	Vert	5%	274 / 275	549	_L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-60 ft-lb	1'2 3/16"	14770 ft-lb	0.004 (0%)	1.4D	Uniform
Unbraced	-60 ft-lb	1'2 3/16"	14770 ft-lb	0.004 (0%)	1.4D	Uniform
Pos Moment	48 ft-lb	2'4 5/8"	14770 ft-lb	0.003 (0%)	1.4D	Uniform
Unbraced	48 ft-lb	2'4 5/8"	14770 ft-lb	0.003 (0%)	1.4D	Uniform
Shear	132 lb	1'2 3/4"	6030 lb	0.022 (2%)	1.4D	Uniform
Perm Defl in.	0.000 (L/95856)	2'2 3/8"	0.067 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.000 (L/190471)	11 5/16"	0.027 (L/360)	0.002 (0%)	S+0.5L	L_
TL Defl inch	0.000 (L/70528)	2'2 3/8"	0.101 (L/240)	0.003 (0%)	D+S+0.5L	_L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 3 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 4 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.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Multiple plies must be fastened together as per manufacturer's details.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be continuously laterally braced.
- 9 Bottom must be laterally braced at bearings.
- 10 Lateral slenderness ratio based on full section width.



October 14, 2021

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Notes

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

Lumber

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

chemicals
Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



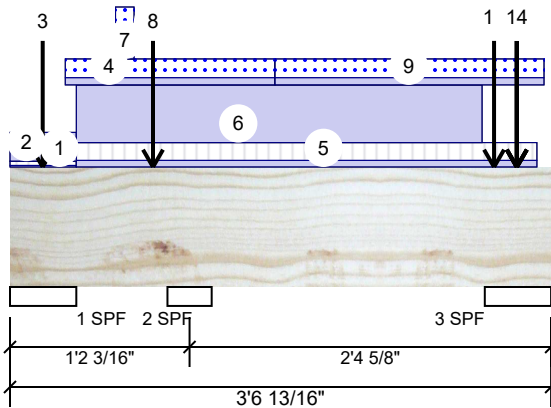
Client: GREENPARK
 Project:
 Address: TERRACOTA 45-2-3
 RICHMOND HILL, ON

Date: 10/1/2021
 Input by: W C
 Job Name: TC45-2-3 STANDARD
 Project #: ROUNDEL HOMES INC

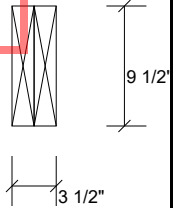
Page 16 of 21

F16-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


**CITY OF RICHMOND HILL
 BUILDING DIVISION**
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RECEIVED

Per:maddy.toalaalejandro



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-5-4		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Point	0-2-9		Top	396 lb	248 lb	606 lb	0 lb	F15 F15
	Bearing Length	0-5-8							
4	Part. Uniform	0-4-6 to 1-9-0		Top	10 PLF	0 PLF	26 PLF	0 PLF	
5	Tie-In	0-5-4 to 3-5-11	0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	0-5-4 to 3-1-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	0-8-6 to 0-9-13		Top	21 PLF	0 PLF	51 PLF	0 PLF	
8	Point	0-11-5		Top	46 lb	0 lb	64 lb	0 lb	Header Column
	Bearing Length	0-5-8							
9	Part. Uniform	1-9-0 to 3-6-4		Top	10 PLF	0 PLF	26 PLF	0 PLF	
10	Point	3-2-5		Top	42 lb	0 lb	53 lb	0 lb	Header Column
	Bearing Length	0-5-8							
11	Point	3-4-2		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
12	Point	3-4-2		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
13	Point	3-4-2		Top	46 lb	0 lb	83 lb	0 lb	Header Column
	Bearing Length	0-5-8							
14	Point	3-4-2		Top	19 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				8 PLF				

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October 14, 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

Manufacturer Info

Forex
 APA: PR-L318

This design is valid until 5/24/2024

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





Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

Page 17 of 21

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

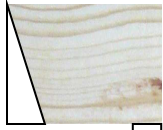
Level: Second Floor

CITY OF RICHMOND HILL
BUILDING DIVISION

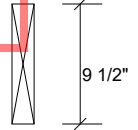
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Per:maddy.toalaalejandro



1 Hanger (HUS 1.81/10)
2 SPF
1' 3/16"
1' 3/16"



1 3/4"

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	0	2	0	0
2	Vertical	0	2	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	0%	3 / 0	3	Uniform	1.4D
2 - SPF	2.250"	Vert	0%	3 / 0	3	Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	0 ft-lb	6 1/2"	7385 ft-lb	0.000 (0%)	1.4D	Uniform
Unbraced	0 ft-lb	6 1/2"	7385 ft-lb	0.000 (0%)	1.4D	Uniform
Shear	2 lb	1' 1/2"	3015 lb	0.001 (0%)	1.4D	Uniform
Perm Defl in. (L/4905518)	0.000	6 1/2"	0.023 (L/360)	0.000 (0%)	D	Uniform
LL Defl inch (L/999)	0.000	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch (L/4905518)	0.000	6 1/2"	0.035 (L/240)	0.000 (0%)	D	Uniform



October 14, 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Self Weight				4 PLF				

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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



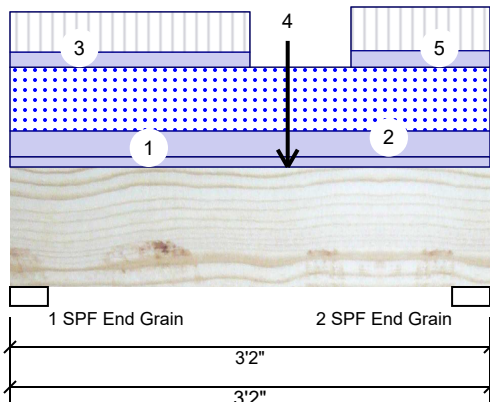
Client: GREENPARK
Project:
Address: TERRACOTA 45-2-3
RICHMOND HILL, ON

Date: 10/1/2021
Input by: W C
Job Name: TC45-2-3 STANDARD
Project #: ROUNDEL HOMES INC

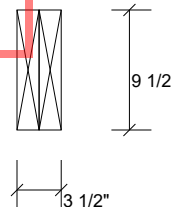
Page 18 of 21

FH4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


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BUILDING DIVISION**
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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:	360	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	555	691	785	0
2	Vertical	584	714	785	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	33%	864 / 1733	2596	L	1.25D+1.5S +L
2 - SPF End Grain	3.000"	Vert	34%	893 / 1762	2655	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1699 ft-lb	1'8 5/16"	22724 ft-lb	0.075 (7%)	1.25D+1.5S +L	L
Unbraced	1699 ft-lb	1'8 5/16"	22724 ft-lb	0.075 (7%)	1.25D+1.5S +L	L
Shear	1056 lb	2'1 1/2"	9277 lb	0.114 (11%)	1.25D+1.5L +S	L
Perm Defl in. (L/11538)	0.003	1'7 15/16"	0.093 (L/360)	0.031 (3%)	D	Uniform
LL Defl inch	0.004 (L/7908)	1'7 5/16"	0.093 (L/360)	0.046 (5%)	S+0.5L	L
TL Defl inch	0.007 (L/4693)	1'7 9/16"	0.140 (L/240)	0.051 (5%)	D+S+0.5L	L

Design Notes

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



October 14, 2021

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-2-0		Top	200 PLF	0 PLF	496 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 1-7-0		Top	117 PLF	313 PLF	0 PLF	0 PLF	J5

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



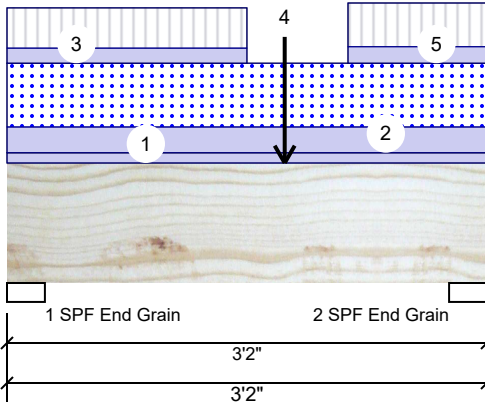
Client: GREENPARK
 Project:
 Address: TERRACOTA 45-2-3
 RICHMOND HILL, ON

Date: 10/1/2021
 Input by: W C
 Job Name: TC45-2-3 STANDARD
 Project #: ROUNDEL HOMES INC

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FH4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor

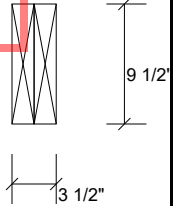


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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	1-10-0		Top	192 lb	331 lb	0 lb	0 lb	F14 F14
	Bearing Length	0-3-8							
5	Part. Uniform	2-3-0 to 3-2-0		Top	128 PLF	340 PLF	0 PLF	0 PLF	J6
	Self Weight				8 PLF				



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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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 APA: PR-L318

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



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RICHMOND HILL, ON

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Project #: ROUNDEL HOMES INC

Page 20 of 21

FH5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

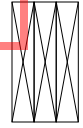
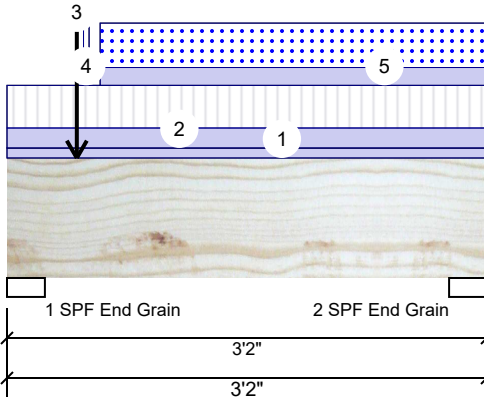
Level: Second Floor

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9 1/2"

5 1/4"

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - 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	1668	1885	2245	0
2	Vertical	661	763	754	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	80%	2356 / 5036	7392	L	1.25D+1.5S +L
2 - SPF End Grain	3.000"	Vert	23%	954 / 1793	2746	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2279 ft-lb	1'1 13/16"	35449 ft-lb	0.064 (6%)	1.25D+1.5S +L	L
Unbraced	2279 ft-lb	1'1 13/16"	35449 ft-lb	0.064 (6%)	1.25D+1.5S +L	L
Shear	1815 lb	1' 1/2"	13915 lb	0.130 (13%)	1.25D+1.5S +L	L
Perm Defl in.	0.003 (L/13227)	1'4 3/4"	0.093 (L/360)	0.027 (3%)	D	Uniform
LL Defl inch	0.004 (L/8729)	1'4 1/8"	0.093 (L/360)	0.041 (4%)	S+0.5L	L
TL Defl inch	0.006 (L/5260)	1'4 7/16"	0.140 (L/240)	0.046 (5%)	D+S+0.5L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.
- 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.



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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



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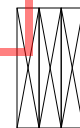
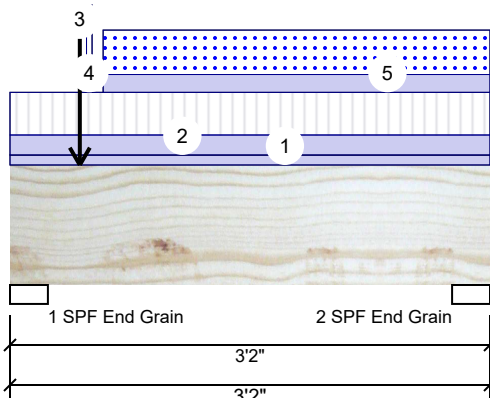
Level: Second Floor

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9 1/2"

5 1/4"

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-2-0		Top	159 PLF	340 PLF	0 PLF	0 PLF	J6
3	Point	0-5-8		Top	1485 lb	1252 lb	2078 lb	0 lb	F2 F2 Header Column
	Bearing Length	0-3-8							
4	Part. Uniform	0-6-1 to 0-6-8		Top	200 PLF	0 PLF	496 PLF	0 PLF	
5	Part. Uniform	0-7-6 to 3-2-0		Top	142 PLF	0 PLF	354 PLF	0 PLF	
	Self Weight				11 PLF				



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