

Engineering Note Page (ENP-2)

REVISION 2018-10-17

Floor

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

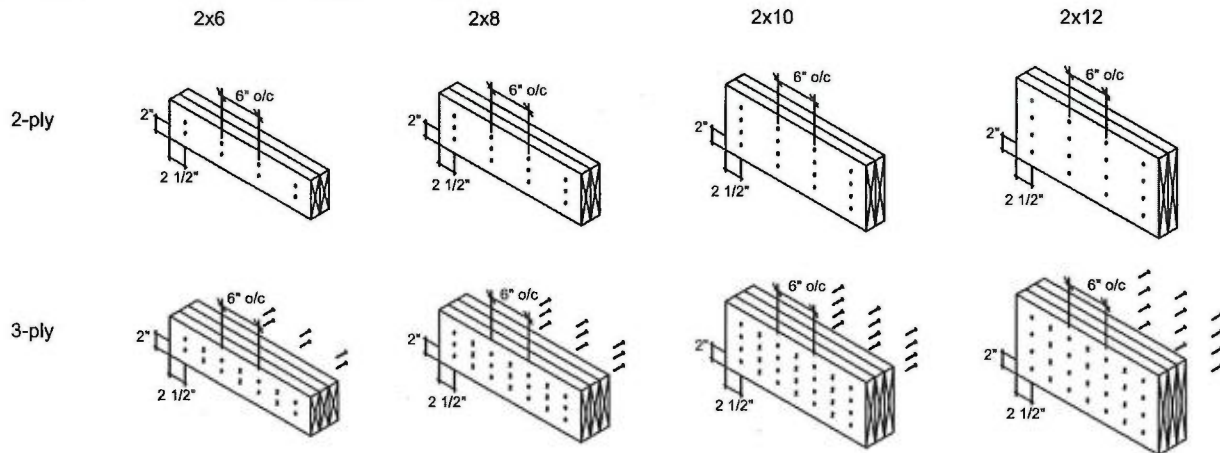
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies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



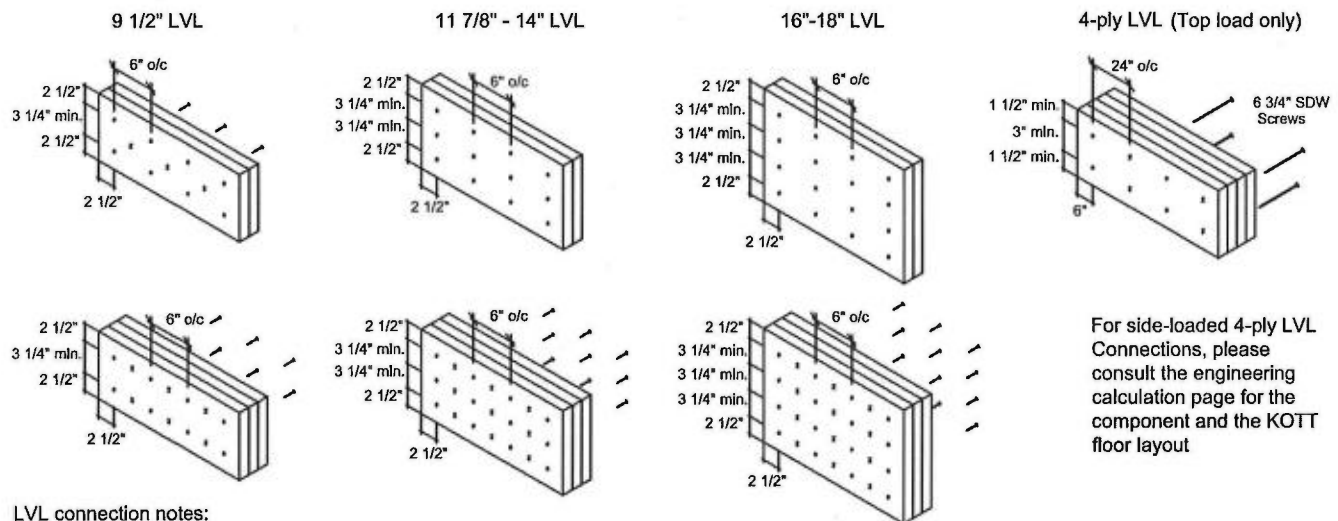
Conventional Connections



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 or screw driven from the opposite side.

For side-loaded 4-ply LVL Connections, please consult the engineering calculation page for the component and the KOTT floor layout

Multiple Member Connections

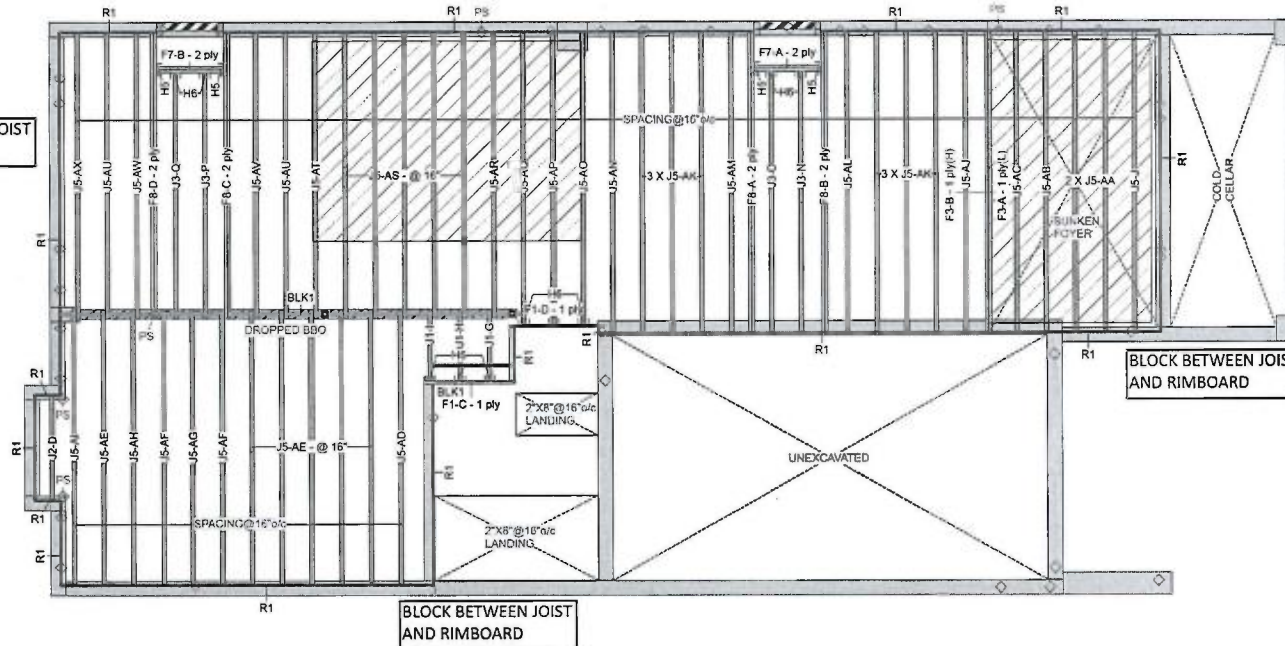
All connections are for uniformly distributed loads.

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



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

**BLOCK BETWEEN JOIST
AND RIMBOARD**



BLOCK BETWEEN JOIST
AND RIMBOARD

Ground Floor LVL/SL (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	4	2	8	14-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			2	14-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J5	LPI 20Plus	2.5	9.5			42	14-0-0
J3	LPI 20Plus	2.5	9.5			4	12-0-0
J2	LPI 20Plus	2.5	9.5			1	8-0-0
J1	LPI 20Plus	2.5	9.5			3	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norboard Rimboard Plus 1.125 X 9.5	1.125	9.5			12	12
Hanger					Beam/Girder	Supported Member	
Label	Pcs	Description	Skow	Slope	fasteners	fasteners	
H5	4	LF359			10 10p	2 #8x1 1/4/WS	
H6	10	LT259			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	LPI 20 Plus	2.5	9.5	LnFt		Varies	18-0-0

1. Frame to verify dimensions on the architectural drawings.
2. Double joint only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24"o/c under parallel non-load bearing walls.
4. Install single-ply flush window header along inside face of rimboard/rimjoist.
5. Refer to Nascor specification guide for installation works.
6. Suspend block joist immediately to be installed at end bearing on first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. It shall be the frame's responsibility that floor joists and beams are installed as per the hanger manufacturer's standards.

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls, and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the prior to construction.

JARDIN DESIGN GROUP
64 Jardin Dr., Suite 3A
Date: Rev. 1, 5/22/2018
Project No: 18-24
Model: Grandbrooke 1, Elevation 2

1. CBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -14056-R
4. CAN/CSA-C06-09
5. CCMC -12787-R APA PR-L310(C)

Point Load Support
Load from Above
Wall
Wall Opening
Norbord Rimboard Plus 1.125 X 9.5
LPI 20Plus 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the KOTT span table for the loads and spacing shown on this layout.
3. The floor system must be assembled in accordance to the KOTT Specification. Multiple members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



October 25, 2018



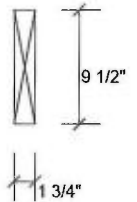
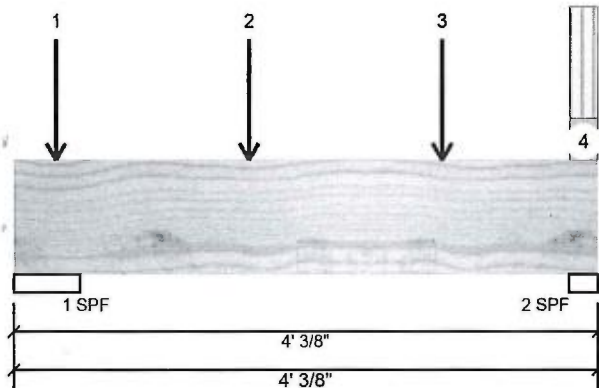
Layout Name GRANDBROOKE 1-ELEV 2-CUSTOM		
Design Method LSD		
Description		
Created June 25, 2018		
Revised October 23, 2018		
Builder GREENPARK		
Sales Rep R M		
Designer R O		
Shipping		
Project		
Builder's Project		
Kott Lumber Company		
14 Anderson Blvd Stouffville, Ontario Canada K2H7V1 905-642-4400		
Job Path S:\CUSTOMERS\GREENPARK WINNISALE HOMES\MODELS GRANDBROOKE 1\CUSTOM FLOORS\GRANDBROOKE 1-ELEV 2- CUSTOM.hsl		
Ground Floor		
Design Method		LSD
Building Code		NBC 2010 / OSC 2012
Floor		
Loads		
Live		40
Dead		15
Deflection Joist		
LL Span 1/		480
TL Span 1/		360
LL Cant 2L/		480
TL Cant 2L/		360
Deflection Girder		
LL Span 1/		360
TL Span 1/		240
LL Cant 2L/		480
TL Cant 2L/		240
Decking		
Deck		OSB
Thickness		3/4"
Fastener		Nailed & Glued
Vibration		



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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F1-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	320	128	0	0
2	333	132	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	11%	160 / 480	640	L	1.25D+1.5L
2 - SPF	2.375"	26%	165 / 500	664	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	690 ft-lb	1'7 1/2"	11362 ft-lb	0.061 (6%)	1.25D+1.5L	L
Unbraced	690 ft-lb	1'7 1/2"	9427 ft-lb	0.073 (7%)	1.25D+1.5L	L
Shear	640 lb	3'1 1/4"	4638 lb	0.138 (14%)	1.25D+1.5L	L
Perm Defl in. (L/20141)	0.002	2' 5/8"	0.117 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/7912)	2' 9/16"	0.117 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.007 (L/5681)	2' 9/16"	0.175 (L/240)	0.040 (4%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-3-8		Far Face	14 lb	38 lb	0 lb	0 lb	J1
2	Point	1-7-8		Far Face	119 lb	315 lb	0 lb	0 lb	J1
3	Point	2-11-8		Far Face	108 lb	290 lb	0 lb	0 lb	J1
4	Tie-In	3-10-0 to 4-0-6	(Span)2-6-6	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.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



This design is valid until 7/10/2021

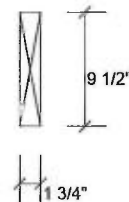
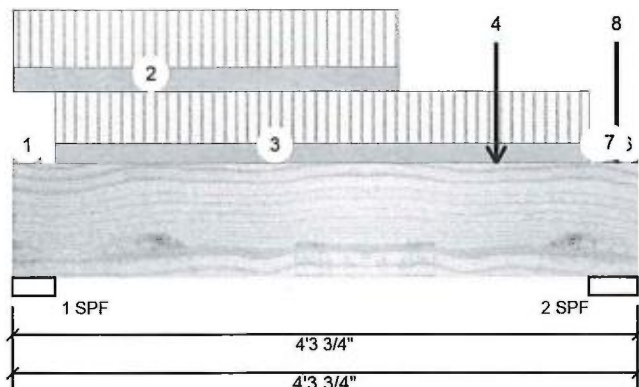




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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 2

F1-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1009	417	0	0
2	1985	863	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	54%	522 / 1514	2035	L	1.25D+1.5L
2 - SPF	4.000"	94%	1079 / 2977	4056	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1825 ft-lb	2'1 1/2"	11362 ft-lb	0.161 (16%)	1.25D+1.5L	L
Unbraced	1825 ft-lb	2'1 1/2"	9065 ft-lb	0.201 (20%)	1.25D+1.5L	L
Shear	1922 lb	3'3"	4638 lb	0.414 (41%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/7071)	2'1 9/16"	0.127 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.016 (L/2890)	2'1 11/16"	0.127 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.022 (L/2052)	2'1 9/16"	0.191 (L/240)	0.120 (12%)	D+L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-6	(Span)2-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-1 to 2-8-1		Far Face	114 PLF	263 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-3-8 to 3-11-12		Top	90 PLF	240 PLF	0 PLF	0 PLF	
4	Point	3-4-1		Far Face	134 lb	333 lb	0 lb	0 lb	J5
5	Part. Uniform	4-0-4 to 4-0-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Tie-In	4-0-14 to 4-3-12	(Span)0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	Pass-Thru Framing Squash Block is required at all point loads over bearings
7	Part. Uniform	4-0-14 to 4-3-12		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 2...

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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 &**

1. LVL beams
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

Image to prevent**Manufacturer Info**Forex
APA: PR-L318Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400**KOTT NASCOR**

This design is valid until 7/10/2021

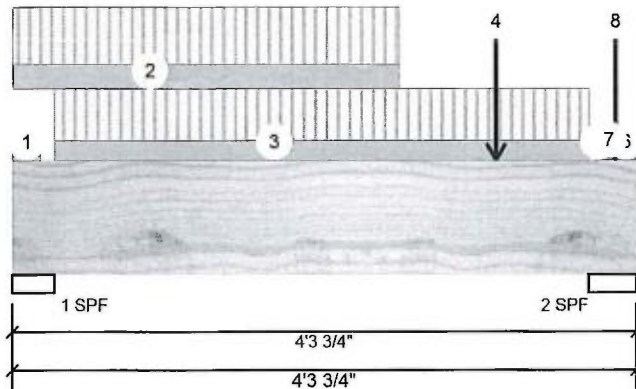




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Project #:

Page 2 of 2

F1-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor

...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	4-2-0		Top	476 lb	1063 lb	0 lb	0 lb	F8 F8
	Self Weight				4 PLF				



October 25, 2018

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

Pass-Thru Framing Squash Block is
required at all point loads over bearings

Refer to Multiple Member Connection
Detail for ply to ply nailing or bolting
requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



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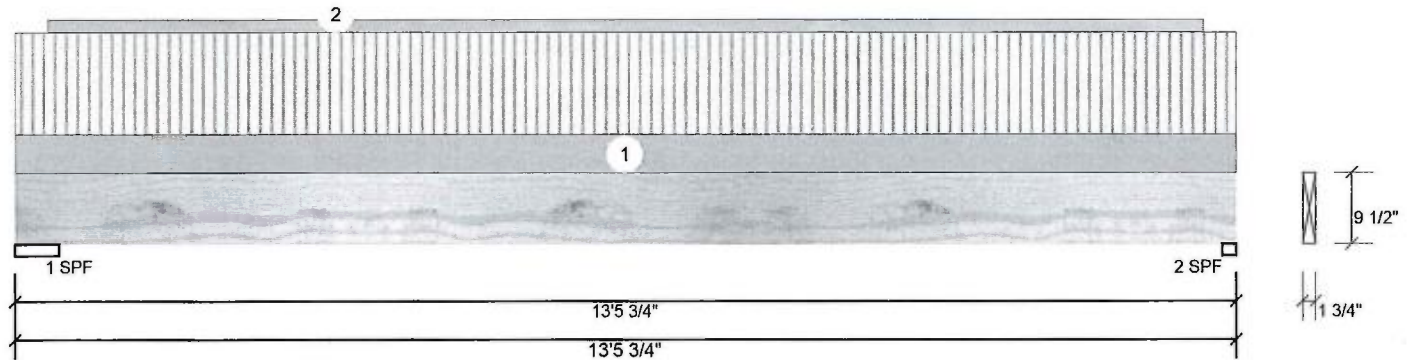




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Page 1 of 1

F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	165	108	0	0
2	157	102	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.875"	6%	135 / 247	381	L	1.25D+1.5L
2 - SPF	1.875"	18%	128 / 235	363	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1163 ft-lb	6'10 7/8"	11362 ft-lb	0.102 (10%)	1.25D+1.5L	L
Unbraced	1163 ft-lb	6'10 7/8"	2877 ft-lb	0.404 (40%)	1.25D+1.5L	L
Shear	315 lb	12'7 1/8"	4638 lb	0.068 (7%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/3683)	6'10 7/8"	0.432 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.064 (L/2434)	6'10 7/8"	0.432 (L/360)	0.150 (15%)	L	L
TL Defl inch	0.106 (L/1465)	6'10 7/8"	0.648 (L/240)	0.160 (16%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Tie-In	0-0-0 to 13-5-12	(Span)1-2-5	Top	15 PSF	40 PSF	0 PSF	0 PSF
2	Part. Uniform	0-4-6 to 13-1-6		Top	3 PLF	0 PLF	0 PLF	0 PLF
	Self Weight				4 PLF			



October 25, 2018

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Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



This design is valid until 7/10/2021

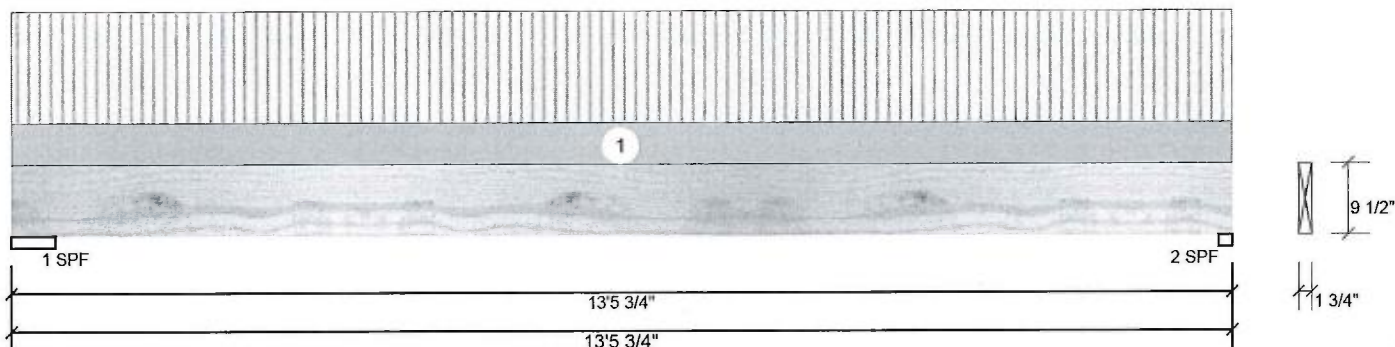




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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F3-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	132	76	0	0
2	126	72	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.875"	5%	95 / 198	293	L	1.25D+1.5L
2 - SPF	1.875"	14%	90 / 188	278	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	889 ft-lb	6'10 7/8"	11362 ft-lb	0.078 (8%)	1.25D+1.5L	L
Unbraced	889 ft-lb	6'10 7/8"	2877 ft-lb	0.309 (31%)	1.25D+1.5L	L
Shear	241 lb	1'2 5/8"	4638 lb	0.052 (5%)	1.25D+1.5L	L
Perm Defl in.	0.029 (L/5284)	6'10 7/8"	0.432 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.051 (L/3036)	6'10 7/8"	0.432 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.081 (L/1928)	6'10 7/8"	0.648 (L/240)	0.120 (12%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Tie-In	0-0-0 to 13-5-12	(Span)0-11-7	Top	15 PSF	40 PSF	0 PSF	0 PSF
	Self Weight				4 PLF			



October 25, 2018

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.

Pass-Thru Framing Squash Block is
required at all point loads over bearings

Refer to Multiple Member Connection
Detail for ply to ply nailing or bolting
requirements

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





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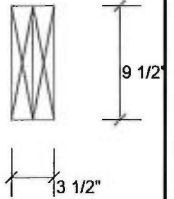
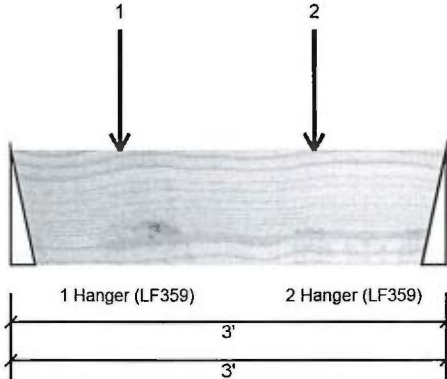
Client: GREENPARK
Project:
Address:

Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

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

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	273	114	0	0
2	253	106	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	11%	142 / 410	552	L	1.25D+1.5L
2 - Hanger	2.000"	10%	133 / 379	512	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	409 ft-lb	2'1 1/16"	22724 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	409 ft-lb	2'1 1/16"	22724 ft-lb	0.018 (2%)	1.25D+1.5L	L
Shear	543 lb	10 3/4"	9277 lb	0.059 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/64763)	1'7 1/8"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/26644)	1'7 5/16"	0.093 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.002 (L/18878)	1'7 5/16"	0.140 (L/240)	0.010 (1%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-9-1		Near Face	95 lb	254 lb	0 lb	0 lb	J3
2	Point	2-1-1		Near Face	102 lb	272 lb	0 lb	0 lb	J3
	Self Weight				8 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.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





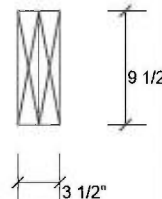
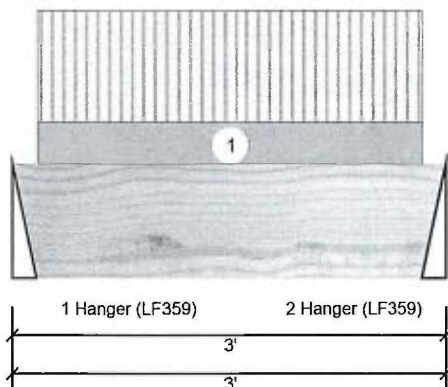
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

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

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	250	104	0	0
2	252	105	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	10%	130 / 374	505 L	1.25D+1.5L
2 - Hanger	2.000"	10%	131 / 378	509 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	369 ft-lb	1'6"	22724 ft-lb	0.016 (2%)	1.25D+1.5L	L
Unbraced	369 ft-lb	1'6"	22724 ft-lb	0.016 (2%)	1.25D+1.5L	L
Shear	501 lb	10 3/4"	9277 lb	0.054 (5%)	1.25D+1.5L	L
Perm Defl in. (L/70805)	0.000	1'6"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/29240)	0.001	1'6"	0.093 (L/360)	0.010 (1%)	L	L
TL Defl inch (L/20694)	0.002	1'6"	0.140 (L/240)	0.010 (1%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-2-1 to 2-10-1		Near Face	70 PLF	188 PLF	0 PLF	0 PLF	
	Self Weight				8 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.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



This design is valid until 7/10/2021





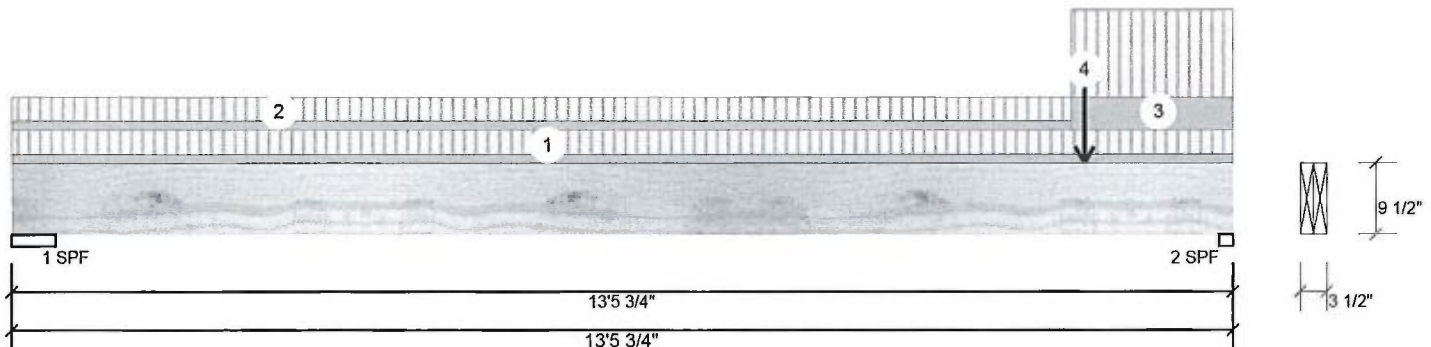
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F8-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	288	162	0	0
2	559	270	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.875"	5%	203 / 432	635	L	1.25D+1.5L
2 - SPF	1.875"	29%	337 / 838	1175	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2226 ft-lb	7'10 3/16"	22724 ft-lb	0.098 (10%)	1.25D+1.5L	L
Unbraced	2226 ft-lb	7'10 3/16"	19408 ft-lb	0.115 (11%)	1.25D+1.5L	L
Shear	1020 lb	12'7 1/8"	9277 lb	0.110 (11%)	1.25D+1.5L	L
Perm Defl in.	0.036 (L/4318)	7'1 3/8"	0.432 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.067 (L/2320)	7'2 3/16"	0.432 (L/360)	0.160 (16%)	L	L
TL Defl inch	0.103 (L/1509)	7'1 7/8"	0.648 (L/240)	0.160 (16%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-5-12	(Span) 0-10-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 11-8-6	(Span) 0-10-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	11-8-6 to 13-5-12	(Span) 3-3-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-10-2		Near Face	114 lb	273 lb	0 lb		
	Self Weight				8 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.

0 PSF
Pass-Thru Framing Squash Block is required at all point loads over bearings
0 PSF
Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





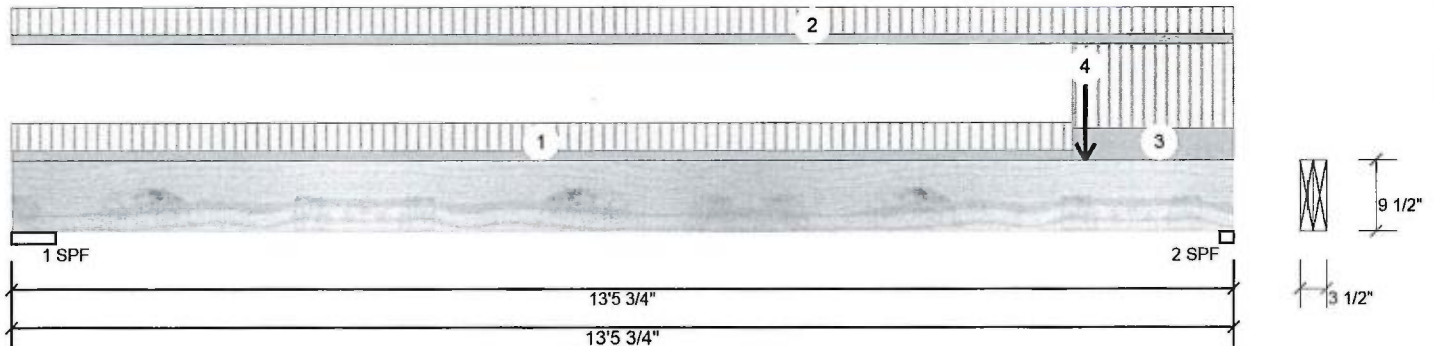
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F8-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	323	175	0	0
2	571	274	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.875"	6%	219 / 484	703 L 1.25D+1.5L
2 - SPF	1.875"	30%	343 / 857	1200 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2406 ft-lb	7'8 1/8"	22724 ft-lb	0.106 (11%)	1.25D+1.5L	L
Unbraced	2406 ft-lb	7'8 1/8"	19408 ft-lb	0.124 (12%)	1.25D+1.5L	L
Shear	1041 lb	12'7 1/8"	9277 lb	0.112 (11%)	1.25D+1.5L	L
Perm Defl in.	0.038 (L/4070)	7'1 1/16"	0.432 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.073 (L/2132)	7'1 1/16"	0.432 (L/360)	0.170 (17%)	L	L
TL Defl inch	0.111 (L/1399)	7'1 7/16"	0.648 (L/240)	0.170 (17%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-8-6	(Span)1-0-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-5-12	(Span)1-0-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	11-8-6 to 13-5-12	(Span)3-3-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-10-2		Far Face	106 lb	253 lb	0 lb	0 lb	F7
	Self Weight				8 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.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





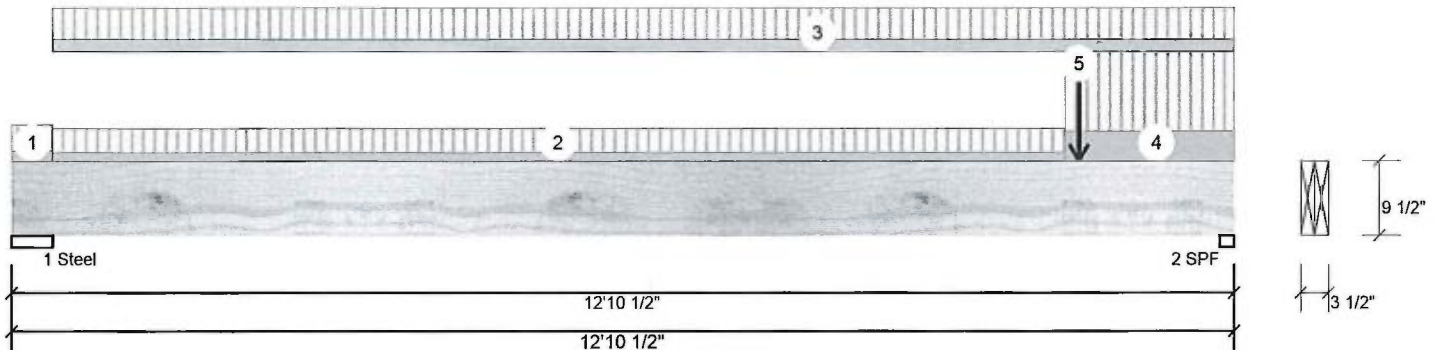
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F8-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	325	173	0	0
2	584	276	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Steel	5.250"	5%	217 / 488	704	L	1.25D+1.5L
2 - SPF	1.875"	30%	345 / 876	1221	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2389 ft-lb	7'3 7/8"	22724 ft-lb	0.105 (11%)	1.25D+1.5L	L
Unbraced	2389 ft-lb	7'3 7/8"	19684 ft-lb	0.121 (12%)	1.25D+1.5L	L
Shear	1053 lb	11'11 7/8"	9277 lb	0.113 (11%)	1.25D+1.5L	L
Perm Defl in.	0.034 (L/4334)	6'9 1/8"	0.414 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.067 (L/2218)	6'9 5/8"	0.414 (L/360)	0.160 (16%)	L	L
TL Defl inch	0.101 (L/1467)	6'9 7/16"	0.620 (L/240)	0.160 (16%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)1-1-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-4 to 11-1-2	(Span)0-11-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 12-10-8	(Span)1-3-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	11-1-2 to 12-10-8	(Span)3-3-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	11-2-14		Far Face	105 lb	252 lb	0 PSF	0 PSF	Pass-Through Framing Squash Block is required at all point loads over bearings
	Self Weight				8 PLF				Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





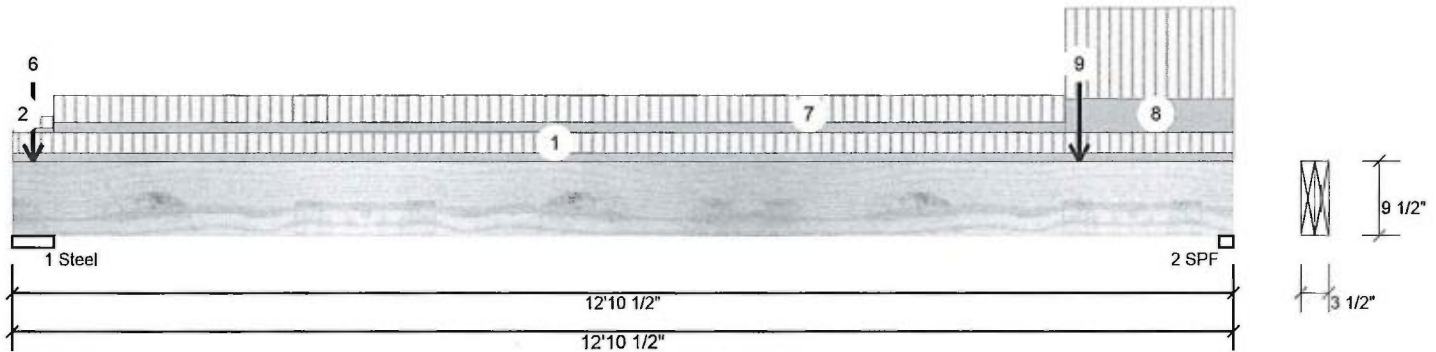
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 2

F8-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1316	611	0	0
2	516	251	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Steel	5.250"	27% 763 / 1973	2737 L	1.25D+1.5L
2 - SPF	1.875"	27% 313 / 774	1087 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1997 ft-lb	7'6 1/8"	22724 ft-lb	0.088 (9%)	1.25D+1.5L	L
Unbraced	1997 ft-lb	7'6 1/8"	19684 ft-lb	0.101 (10%)	1.25D+1.5L	L
Shear	938 lb	11'11 7/8"	9277 lb	0.101 (10%)	1.25D+1.5L	L
Perm Defl in.	0.030 (L/4983)	6'9 7/16"	0.414 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.055 (L/2695)	6'10 1/4"	0.414 (L/360)	0.130 (13%)	L	L
TL Defl inch	0.085 (L/1749)	6'9 15/16"	0.620 (L/240)	0.140 (14%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-10-8	(Span)0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Top	394 lb	947 lb	0 lb	0 lb	BBO4 BBO4
4	Point	0-2-10		Top	29 lb	70 lb	0 lb	0 lb	J5
5	Point	0-2-10		Top	14 lb	37 lb	0 lb	0 lb	J5

Pass-Thru Framing Squash Block is required at all point loads over bearings

Continued on page 2...

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 for structural adequacy of this component based on 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

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

Notes provide proper drainage to prevent

Manufactured by
Forex
APA: PR-L318

Refer to Multiple Member Connection
Detail for ply to ply nailing or bolting requirements

14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





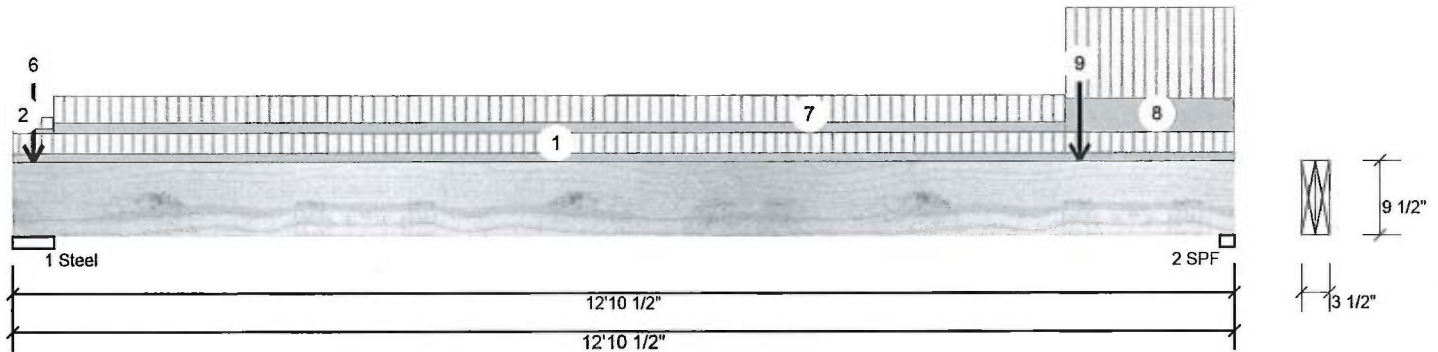
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 2 of 2

F8-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	0-2-10		Top	24 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Tie-In	0-5-4 to 11-1-2	(Span) 0-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	11-1-2 to 12-10-8	(Span)3-3-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Point Self Weight	11-2-14		Near Face	104 lb 8 PLF	250 lb	0 lb	0 lb	F7



October 25, 2018

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Pass-Thru Framing Squash Block is
required at all point loads over bearings

Refer to Multiple Member Connection
Detail for ply to ply nailing or bolting
requirements

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent
ponding

Manufacturer Info

Forex
APA: PR-L318

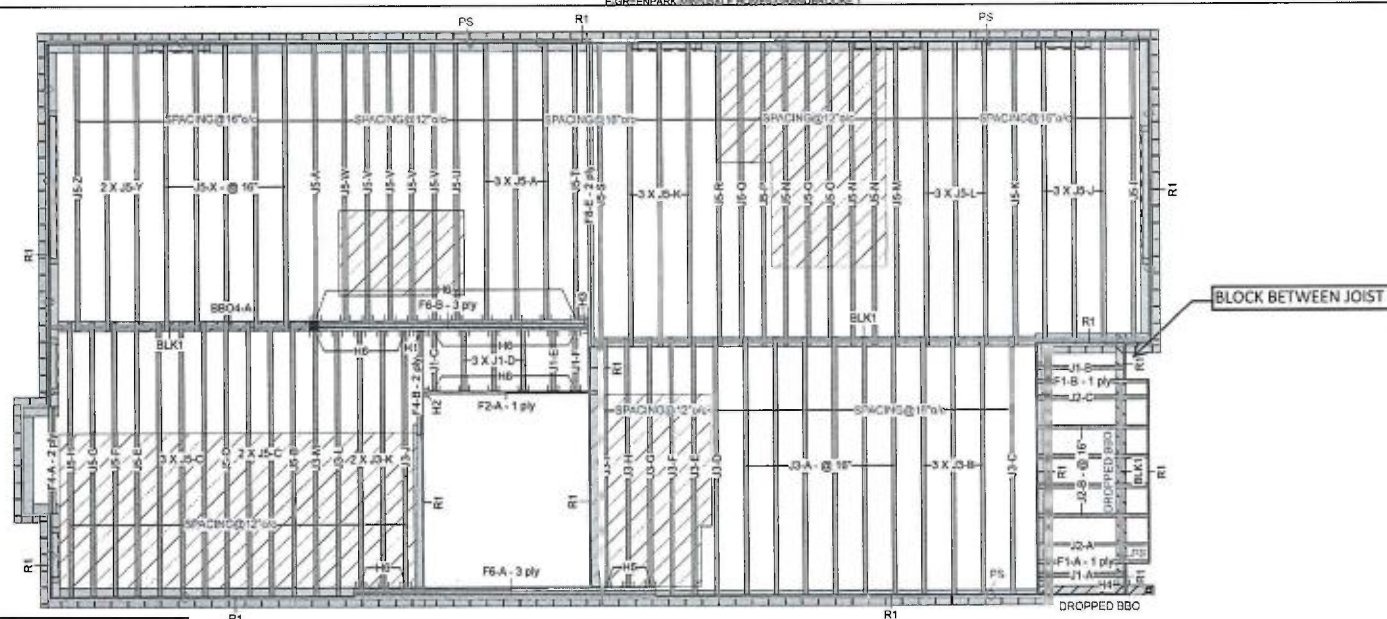
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



This design is valid until 7/10/2021



Second Floor



Second Floor LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	2	3	6	14-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	8-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	6-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0

LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BB04	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	10-0-0

I Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J5	LPI 20Plus	2.5	9.5			51	14-0-0
J3	LPI 20Plus	2.5	9.5			21	12-0-0
J2	LPI 20Plus	2.5	9.5			6	6-0-0
J1	LPI 20Plus	2.5	9.5			8	4-0-0

Rim Board

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

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	HGU5410			46 16d	16 16d
H2	1	LF178			10 10d	1 #8x1 1/4WS
H3	1	HGU55.50/10			46 16d	16 16d
H4	1	Unknown Hanger				
H6	34	LT259			4 10dx1 1/2	2 10dx1 1/2

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	LPI 20 Plus	2.5	9.5	LnFt		Vanes	32-0-0

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP
84 Jardin Dr., Suite 3A
Date: Rev. 1, 5/22/2018
Project No: 18-24
Model: Grandbrooke 1, Elevation 2

NOTES:

1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filterboard ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
4. Install single-ply flush window header along inside face of rimboard/rmjjoist.
5. Refer to Nasor specifier guide for installation works.
6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. It shall be the frame's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls, and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch are represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

1. OBC 2012 O Reg 332/12 as amended
2. Nasor CCMC - 13535-R
3. LVL CCMC - 14056-R
4. CAN/CSA-O86-09
5. CCMC - 12787-R APA PR-L310(C)

Legend

PS	Point Load Support
◊	Load from Above
Wall	Wall
Wall Opening	Wall Opening
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
LPI 20Plus 9.5	LPI 20Plus 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)

This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the KOTT span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the KOTT Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



October 25, 2018

Layout Name	GRANDBROOKE 1-ELEV 2-CUSTOM
Design Method	LSD
Description	
Created	June 25, 2018
Revised	October 23, 2018
Builder	GREENPARK
Sales Rep	R M
Designer	R O
Shipping	
Project	
Builder's Project	Kott Lumber Company
	14 Anderson Blvd Stouffville, Ontario Canada K2H7V1 905-642-4400
Job Path	S:\CUSTOMERS\GREENPARK WINNISALE HOMES\MODELS \GRANDBROOKE 1\CUSTOM FLOORS\GRANDBROOKE 1-ELEV 2- CUSTOM.sit

Second Floor	
Design Method	LSD
Building Code	NBCC 2010 / OBC 2012
Floor	
Live	40
Dead	15
Deflection Joist	
LL Span 1/	480
LL Span 2/	360
LL Cant 2L/	480
LL Cant 2L/	360
Deflection Girder	
LL Span 1/	360
LL Span 2/	240
LL Cant 2L/	480
LL Cant 2L/	240
Decking	
Deck	OSB
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling	Gypsum 1/2"





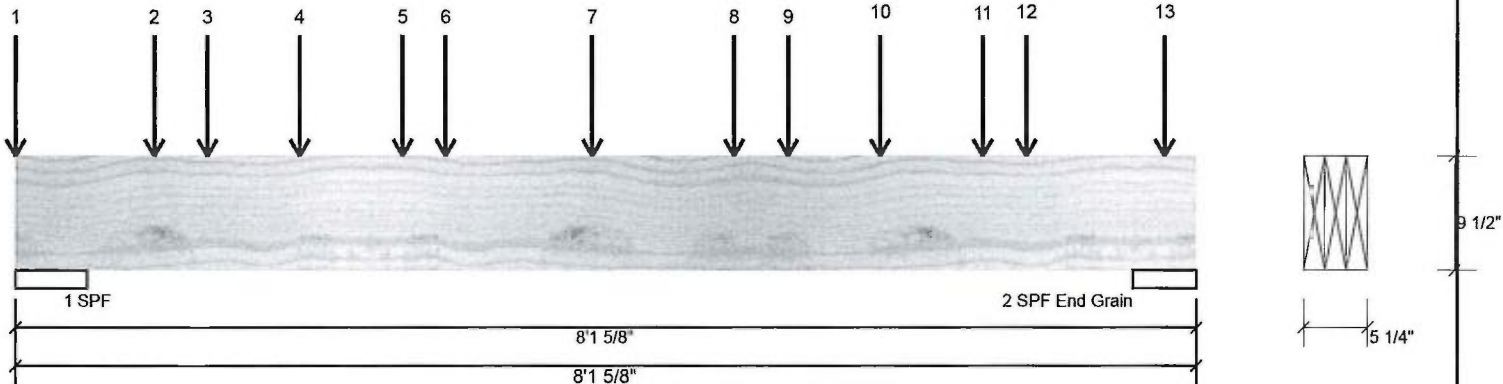
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 2

BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1893	788	0	0
2	4488	1923	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	20% 985 / 2840	3825	L	1.25D+1.5L
2 - SPF	5.250"	48% 2404 / 6732	9135	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6759 ft-lb	3'11 13/16"	35449 ft-lb	0.191 (19%)	1.25D+1.5L	L
Unbraced	6759 ft-lb	3'11 13/16"	35449 ft-lb	0.191 (19%)	1.25D+1.5L	L
Shear	3321 lb	1'2 3/4"	13915 lb	0.239 (24%)	1.25D+1.5L	L
Perm Defl in.	0.021 (L/4217)	4' 5/16"	0.244 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.050 (L/1755)	4' 5/16"	0.244 (L/360)	0.210 (21%)	L	L
TL Defl inch	0.071 (L/1239)	4' 5/16"	0.366 (L/240)	0.190 (19%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-0-0		Top	61 lb	164 lb	0 lb	0 lb	J5
2	Point	0-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
3	Point	1-4-0		Top	124 lb	331 lb	0 lb	0 lb	J5
4	Point	1-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
5	Point	2-8-0		Top	124 lb	331 lb	0 lb	0 lb	J5

Continued on page 2...

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Upper drainage to prevent

Manufacturer Info

Forex
APA: PR-L318Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

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

Hand
che
1. LVL
2. Ref
reg

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

This design is valid until 7/10/2021

KOTT NASCOR





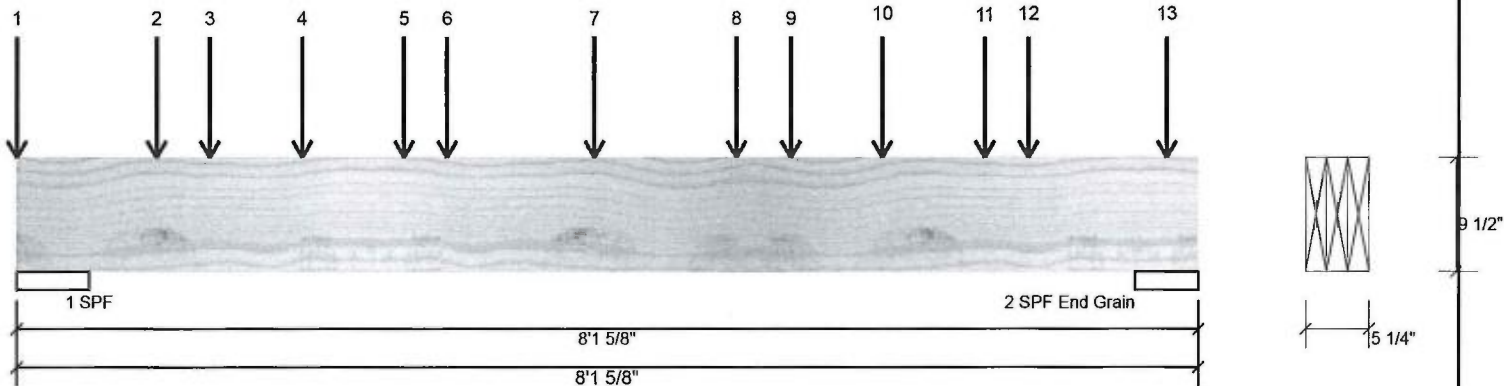
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 2 of 2

BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	2-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
7	Point	3-11-13		Top	223 lb	571 lb	0 lb	0 lb	J5
8	Point	4-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
9	Point	5-4-0		Top	124 lb	331 lb	0 lb	0 lb	J5
10	Point	5-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
11	Point	6-8-0		Top	124 lb	331 lb	0 lb	0 lb	J5
12	Point	6-11-9		Top	96 lb	234 lb	0 lb	0 lb	J5
13	Point	7-11-0		Top	1242 lb	2873 lb	0 lb	0 lb	F6
	Self Weight				11 PLF				



October 25, 2018

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Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



This design is valid until 7/10/2021

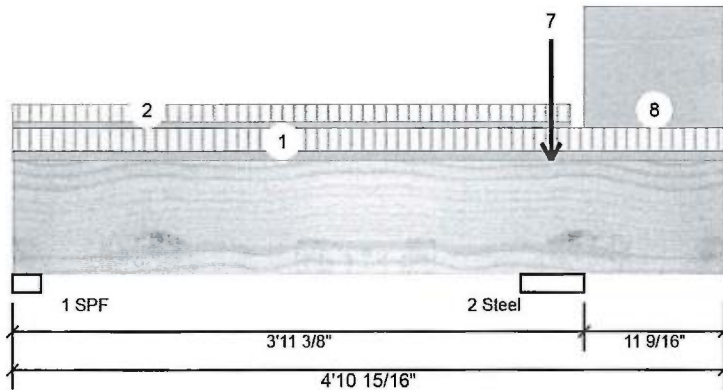




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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 2

F1-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 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	50	15	0	0
2	69	249	134	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	5%	19 / 77	96 L	1.25D+1.5L
2 - Steel	5.250"	9%	312 / 201	513 L	1.25D+1.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-62 ft-lb	3'11 3/8"	7385 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	-62 ft-lb	3'11 3/8"	7209 ft-lb	0.009 (1%)	1.25D+1.5L	L
Pos Moment	68 ft-lb	1'8 1/8"	9090 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	68 ft-lb	1'8 1/8"	8317 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	75 lb	2'11 1/4"	3850 lb	0.019 (2%)	1.25D+1.5L	LL
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/61738)	1'11 1/4"	0.120 (L/360)	0.010 (1%)	L+0.5S	L
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Cant	-0.000 (2L/67348)	Rt Cant	0.200 (2L/480)	0.002 (0%)	L+0.5S	L
TL Cant	0.001 (2L/32363)	Rt Cant	0.300 (2L/240)	0.002 (0%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.

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October 25, 2018

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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
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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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 10/23/2018

Designer: R O

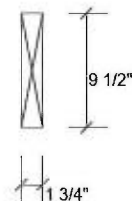
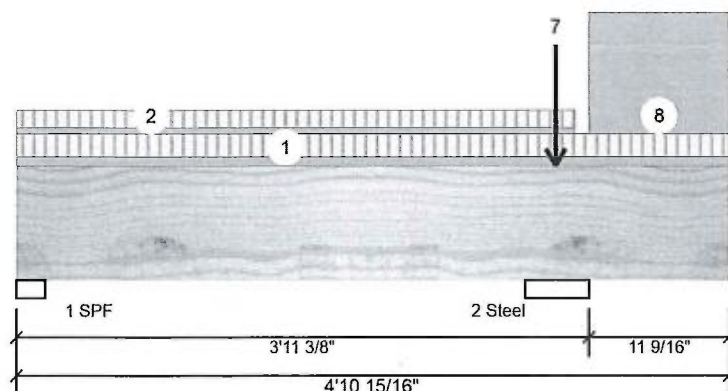
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM

Project #:

Page 2 of 2

F1-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-10-15	(Span)0-9-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 3-10-4	(Span)0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	3-8-10		Top	87 lb	0 lb	124 lb	0 lb	F11 F11
4	Point	3-8-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Point	3-8-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	3-8-10		Top	4 lb	0 lb	10 lb	0 lb	
7	Point	3-8-10		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
8	Part. Uniform Self Weight	3-11-6 to 4-10-15		Top	80 PLF 4 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight



October 25, 2018

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design criteria and loadings shown. It is the
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application, and to verify the dimensions and loads.

Lumber

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chemicals

Handling & Installation

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2. Refer to manufacturer's product information
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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 Lumber Company
14 Anderson Blvd, Ontario
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K2H7V1
905-642-4400



This design is valid until 7/10/2021

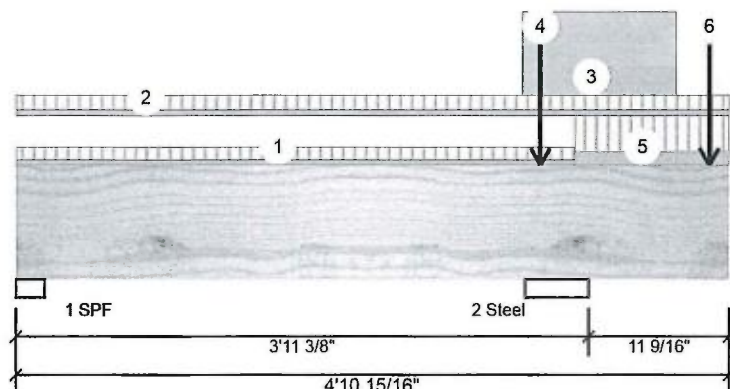




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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 2

F1-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Second Floor**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	45	12	0	0
2	109	370	278	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	5%	15 / 77	92 L	1.25D+1.5L
2 - Steel	5.250"	15%	463 / 448	911 L	1.25D+1.5S +0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-104 ft-lb	3'11 3/8"	7385 ft-lb	0.014 (1%)	1.25D+1.5L	L
Unbraced	-104 ft-lb	3'11 3/8"	6825 ft-lb	0.015 (2%)	1.25D+1.5L	L
Pos Moment	62 ft-lb	1'8 1/8"	8181 ft-lb	0.008 (1%)	0.9D+1.5L	L
Unbraced	62 ft-lb	1'8 1/8"	7621 ft-lb	0.008 (1%)	0.9D+1.5L	L
Shear	86 lb	2'11 1/4"	3711 lb	0.023 (2%)	1.25D+1.5L	LL
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/61738)	1'11 1/4"	0.120 (L/360)	0.010 (1%)	L+0.5S	L
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Cant	0.000 (2L/55471)	Rt Cant	0.200 (2L/480)	0.002 (0%)	L+0.5S	L
TL Cant	0.001 (2L/18442)	Rt Cant	0.300 (2L/240)	0.004 (0%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom 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.



October 25, 2018

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

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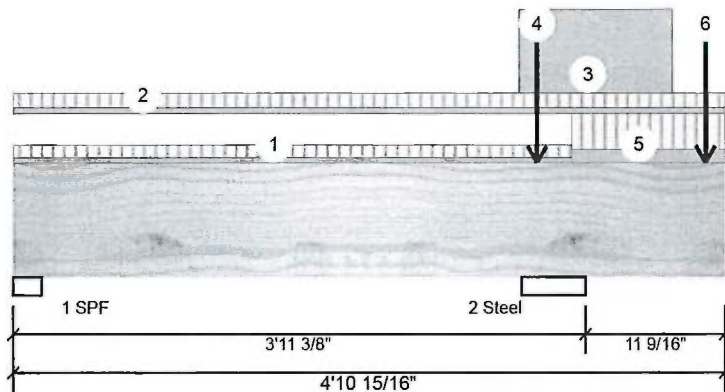




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Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 2 of 2

F1-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Second Floor

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-10-4	(Span)0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-10-15	(Span)0-8-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	3-5-14 to 4-6-9		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	3-7-6		Top	186 lb	0 lb	278 lb	0 lb	F11 F11
5	Tie-In	3-10-4 to 4-10-15	(Span)1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	4-9-5		Top	35 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				4 PLF				



October 25, 2018

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 InfoForex
APA: PR-L318Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400**KOTT NASCOR**

This design is valid until 7/10/2021





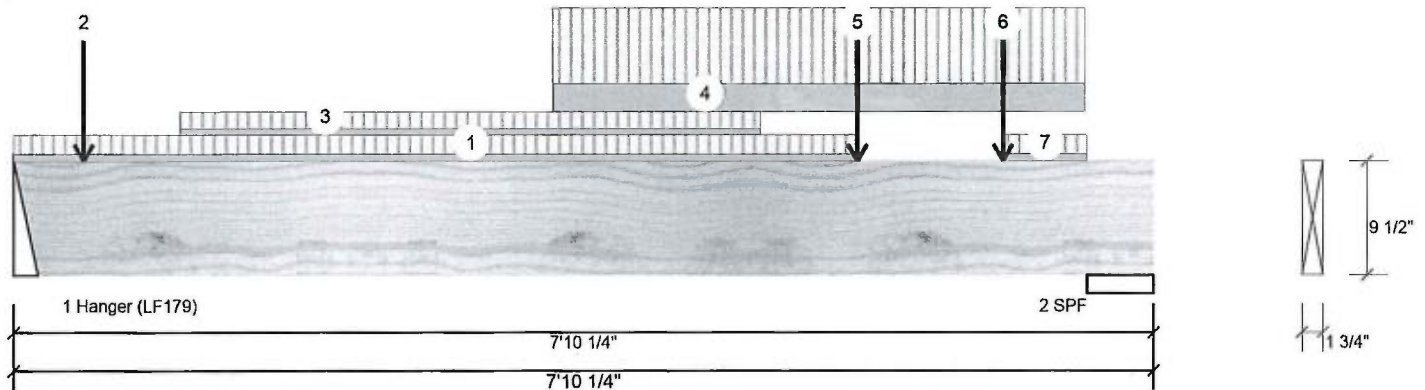
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Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F2-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	642	255	0	0
2	999	391	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	49%	318 / 962	1281 L 1.25D+1.5L
2 - SPF	5.500"	34%	488 / 1499	1987 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3231 ft-lb	4' 4 3/16"	11362 ft-lb	0.284 (28%)	1.25D+1.5L	L
Unbraced	3231 ft-lb	4' 4 3/16"	5069 ft-lb	0.637 (64%)	1.25D+1.5L	L
Shear	1576 lb	6'8"	4638 lb	0.340 (34%)	1.25D+1.5L	L
Perm Defl in.	0.028 (L/3145)	3'11 15/16"	0.245 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.072 (L/1230)	4' 1/8"	0.245 (L/360)	0.290 (29%)	L	L
TL Defl inch	0.100 (L/884)	4'	0.368 (L/240)	0.270 (27%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Tie-In	0-0-0 to 5-9-13	(Span)3-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF
2	Point	0-5-13		Far Face	20 lb	53 lb	0 lb	0 lb J1
3	Part. Uniform	1-1-13 to 5-1-13		Far Face	20 PLF	54 PLF	0 PLF	0 PLF
4	Part. Uniform	3-8-9 to 7-4-9		Top	90 PLF	240 PLF	0 PLF	0 PLF
5	Point	5-9-13		Far Face	24 lb	63 lb	0 lb	0 lb J1
6	Point	6-9-13		Far Face	17 lb	44 lb	0 lb	0 lb J1
7	Tie-In	6-9-13 to 7-4-12	(Span)3-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF
	Self Weight				4 PLF			



October 25, 2018

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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

Handling & Installation

1. LVL beams must be handled and installed in accordance with the manufacturer's instructions.
2. Refer to manufacturer's instructions 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

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.

to prevent

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





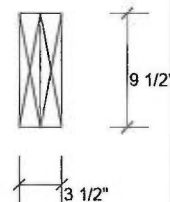
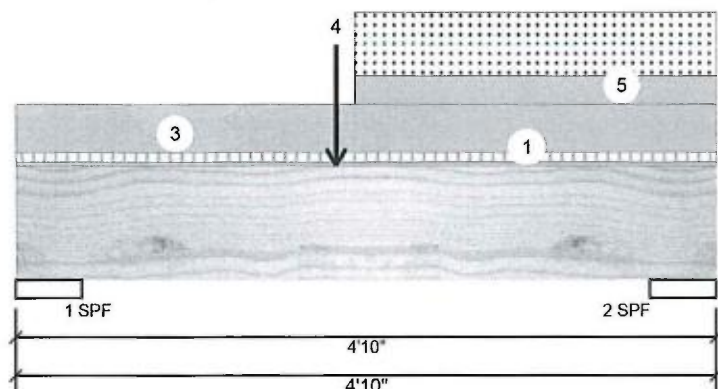
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Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	40	326	185	0
2	40	376	310	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.500"	6%	407 / 297	704 L 1.25D+1.5S +0.5L
2 - SPF	5.500"	9%	471 / 465	936 L 1.25D+1.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	964 ft-lb	2'2 1/2"	20906 ft-lb	0.046 (5%)	1.25D+1.5S	L
Unbraced	964 ft-lb	2'2 1/2"	20906 ft-lb	0.046 (5%)	1.25D+1.5S	L
Shear	545 lb	1'2 1/4"	8535 lb	0.064 (6%)	1.25D+1.5S	L
Perm Defl in.	0.003 (L/14644)	2'4 1/16"	0.135 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.003 (L/15915)	2'3 5/8"	0.135 (L/360)	0.020 (2%)	S+0.5L	L
TL Defl inch	0.006 (L/7627)	2'3 7/8"	0.202 (L/240)	0.030 (3%)	D+S+0.5L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-10-0	(Span)0-9-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 4-10-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	2-2-8		Top	134 lb	0 lb	230 lb	0 lb	Header Column
5	Part. Uniform	2-4-0 to 4-10-0		Top	46 PLF	0 PLF	106 PLF	0 PLF	Pass thru Framing Squash Block is required at all point loads over bearings
	Self Weight				8 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.

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

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

Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





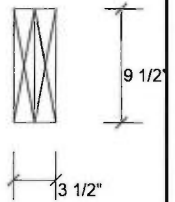
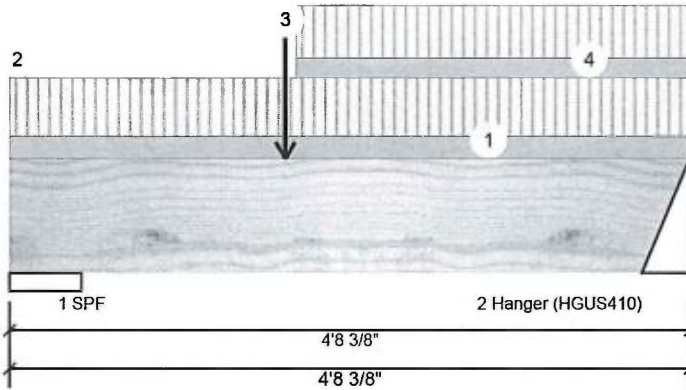
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Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F4-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	449	196	0	0
2	293	132	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	6.000"	7% 245 / 674	919 L	1.25D+1.5L
2 - Hanger	4.000"	6% 165 / 440	605 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1285 ft-lb	1'10 7/8"	22724 ft-lb	0.057 (6%)	1.25D+1.5L	L
Unbraced	1285 ft-lb	1'10 7/8"	22724 ft-lb	0.057 (6%)	1.25D+1.5L	L
Shear	873 lb	1'2 3/4"	9277 lb	0.094 (9%)	1.25D+1.5L	L
Perm Defl in. (L/22814)	0.002	1'11 5/8"	0.133 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/9620)	1'11 3/16"	0.133 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.007 (L/6767)	1'11 1/4"	0.199 (L/240)	0.040 (4%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-8-6	(Span)0-8-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-1-4		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-10-14		Near Face	255 lb	642 lb	0 lb	0 lb	F2
4	Tie-In	1-11-12 to 4-8-6	(Span)0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	Pass-Thru Framing Squash Block is required at all point loads over bearings
	Self Weight				8 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.

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400



This design is valid until 7/10/2021





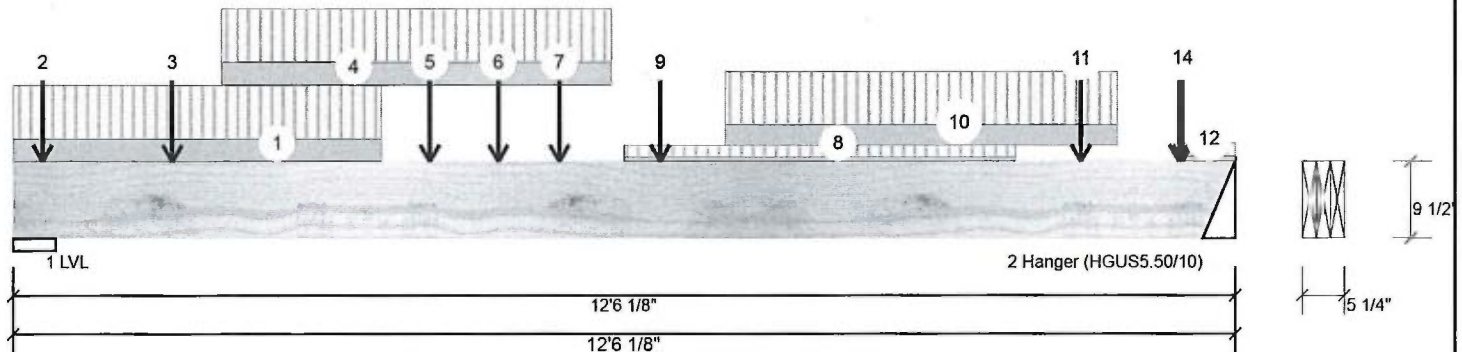
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Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 2

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	2873	1242	0	0
2	2073	885	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL	5.250"	29%	1552 / 4310	5862	L	1.25D+1.5L
2 - Hanger	4.000"	27%	1107 / 3109	4216	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13922 ft-lb	5'6 1/8"	35449 ft-lb	0.393 (39%)	1.25D+1.5L	L
Unbraced	13922 ft-lb	5'6 1/8"	35449 ft-lb	0.393 (39%)	1.25D+1.5L	L
Shear	4621 lb	1'2"	13915 lb	0.332 (33%)	1.25D+1.5L	L
Perm Defl in.	0.106 (L/1341)	6'1 9/16"	0.395 (L/360)	0.270 (27%)	D	Uniform
LL Defl inch	0.243 (L/585)	6'1 11/16"	0.395 (L/360)	0.620 (62%)	L	L
TL Defl inch	0.349 (L/407)	6'1 11/16"	0.593 (L/240)	0.590 (59%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-9-3		Near Face	102 PLF	248 PLF	0 PLF	0 PLF	
2	Point	0-3-10		Far Face	122 lb	326 lb	0 lb	0 lb	J5
3	Point	1-7-10		Far Face	116 lb	286 lb	0 lb	0 lb	J5
4	Part. Uniform	2-1-10 to 6-1-10		Far Face	103 PLF	245 PLF	0 PLF	0 PLF	Pass thru Framing Squash Block is required at all point loads over bearings
5	Point	4-3-3		Near Face	84 lb	201 lb	0 lb	0 lb	Refer to Multiple Member Connection
6	Point	4-11-10		Near Face	132 lb	293 lb	0 lb	0 lb	Detail for ply to ply nailing or bolting requirements

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 & Install

1. LVL beams must not be damaged.
2. Refer to manufacturer's 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.

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.

prevent

Manufacturer Info
Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021



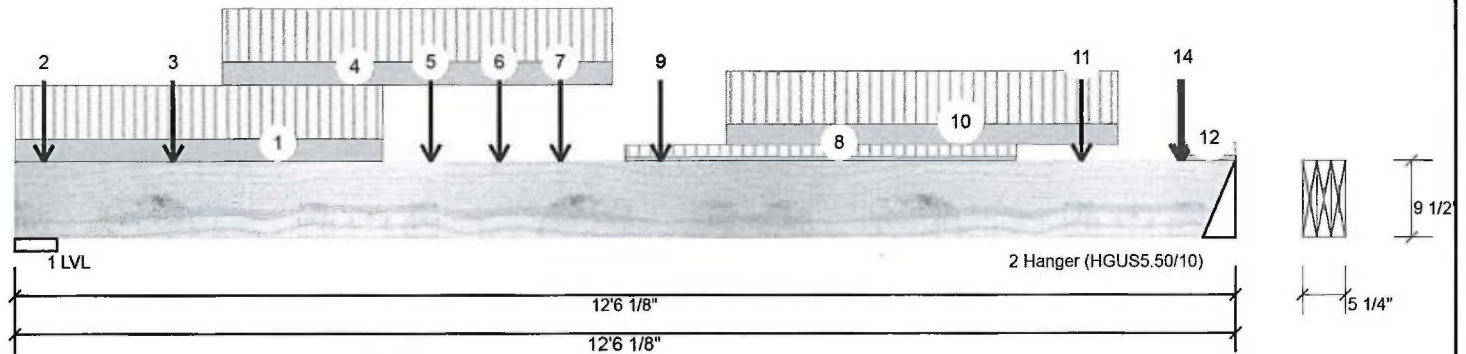


isDesign™

Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	5-7-3		Near Face	20 lb	53 lb	0 lb	0 lb	J1
8	Part. Uniform	6-3-3 to 10-3-3		Near Face	20 PLF	54 PLF	0 PLF	0 PLF	
9	Point	6-7-10		Far Face	119 lb	286 lb	0 lb	0 lb	J5
10	Part. Uniform	7-3-10 to 11-3-10		Far Face	92 PLF	245 PLF	0 PLF	0 PLF	
11	Point	10-11-3		Near Face	24 lb	63 lb	0 lb	0 lb	J1
12	Tie-In	11-11-3 to 12-6-2	(Span)3-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
13	Point	11-11-3		Near Face	17 lb	46 lb	0 lb	0 lb	J1
14	Point	11-11-10		Far Face	93 lb	247 lb	0 lb	0 lb	J5
	Self Weight				11 PLF				



October 25, 2018

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.

Pass-Thru Framing Squash Block is
required at all point loads over bearings

Refer to Multiple Member Connection
Detail for ply to ply nailing or bolting
requirements

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 Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





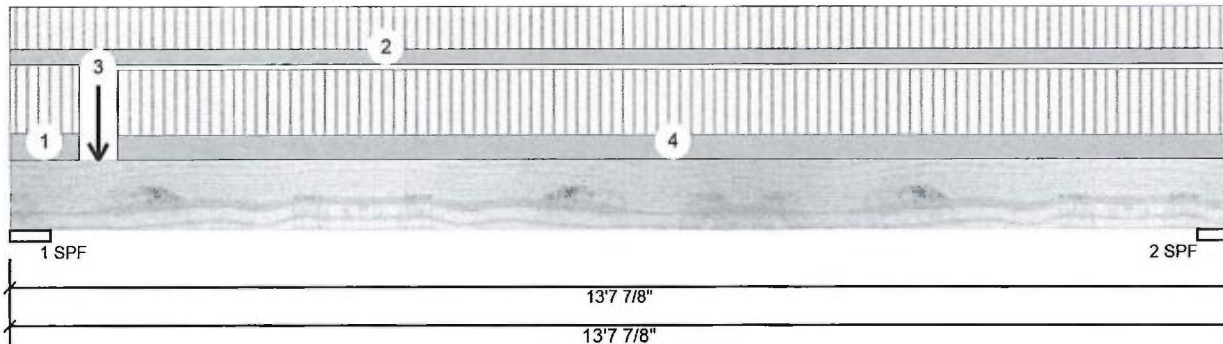
isDesign™

Client: GREENPARK
Project:
Address:Date: 10/23/2018
Designer: R O
Job Name: GRANDBROOKE 1-ELEV 2-CUSTOM
Project #:

Page 1 of 1

F8-E Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	2127	952	0	0
2	250	150	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	37%	1191 / 3190	4380 L	1.25D+1.5L
2 - SPF	4.375"	6%	188 / 374	562 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2760 ft-lb	3'2 15/16"	22724 ft-lb	0.121 (12%)	1.25D+1.5L	L
Unbraced	2760 ft-lb	3'2 15/16"	19408 ft-lb	0.142 (14%)	1.25D+1.5L	L
Shear	4326 lb	1'2 1/4"	9277 lb	0.466 (47%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/3694)	6'4 1/4"	0.432 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.079 (L/1980)	6'2 1/2"	0.432 (L/360)	0.180 (18%)	L	L
TL Defl inch	0.121 (L/1289)	6'3 3/16"	0.648 (L/240)	0.190 (19%)	D+L	L

Design Notes

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



October 25, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-9-6	(Span)0-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-7-14	(Span)0-5-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-0-0		Far Face	885 lb	2073 lb	0 lb	0 lb	F6
4	Tie-In	1-2-10 to 13-7-14	(Span)0-8-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				Pass-Thru Framing Squash Block 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.

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

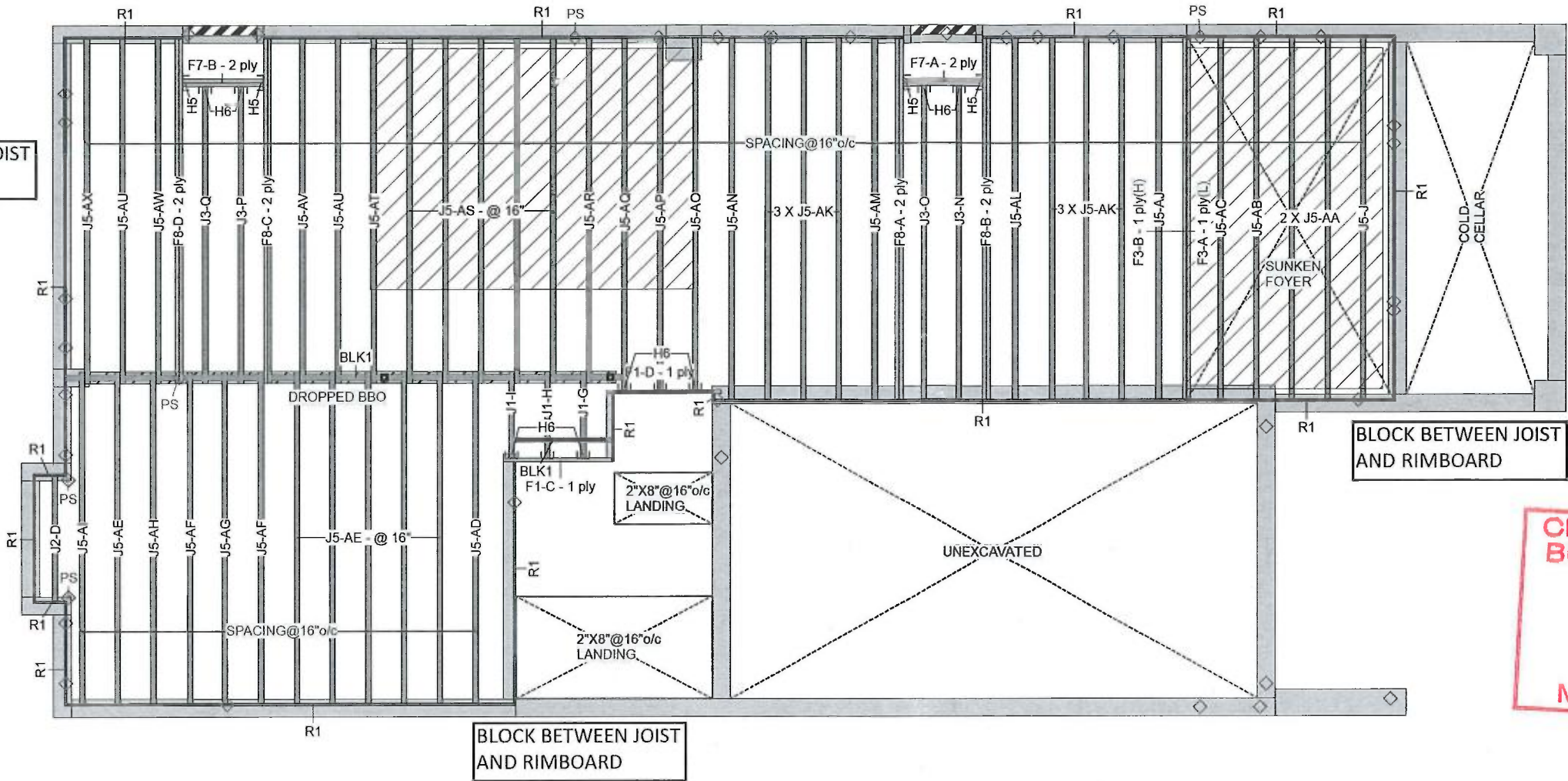
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
K2H7V1
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021



Ground Floor



For conventional wood framing
framing shall conform to OBC.9.23

All work shall conform to the Ontario
Building Code O. Reg. 332/12 as amended

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
JAN 05 2019
BY
MARK DERKSEN

Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	4	2	8	14-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			2	14-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J5	LPI 20Plus	2.5	9.5			42	14-0-0
J3	LPI 20Plus	2.5	9.5			4	12-0-0
J2	LPI 20Plus	2.5	9.5			1	6-0-0
J1	LPI 20Plus	2.5	9.5			3	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			12	12
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H5	4	LF359			10 10d	2 #8x1 1/4WS	
H6	10	LT259			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	LPI 20 Plus	2.5	9.5	LinFt		Varies	18-0-0

NOTES:

1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24"o/c under parallel non-load bearing walls.
4. Install single-ply flush window header along inside face of rimboard/rimjoist.
5. Refer to Nascor specifier guide for installation works.
6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. It shall be the frame's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth @ 16"o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls, and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch are represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP
64 Jardin Dr., Suite 3A
Date: Rev. 1, 5/22/2018
Project No: 18-24
Model: Grandbrooke 1, Elevation 2

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -14056-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA-PR-L310(C)

Legend

PS
◆ Point Load Support
Load from Above
Wall
Wall Opening
Norbord Rimboard Plus 1.125 X 9.5
LPI 20Plus 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5

This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the KOTT span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the KOTT Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



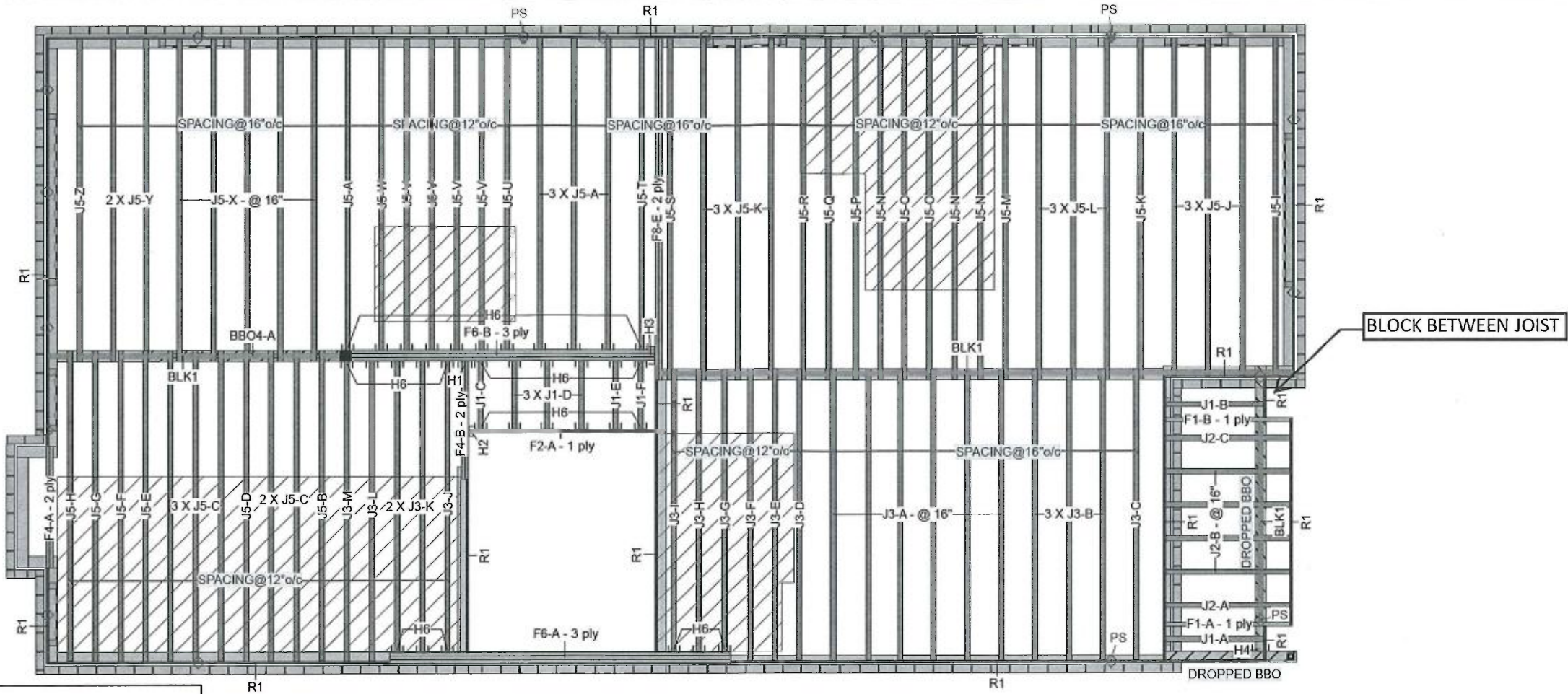
October 25, 2018



18-331266-000-00 RR - FLOOR

Second Floor

E.GREENPARK-MINNISALE HOMES-GRANDBROOKE 1



Second Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	2	3	6	14-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	8-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	6-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
LVL/LSL (Dropped)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BBO4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	10-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J5	LPI 20Plus	2.5	9.5			51	14-0-0
J3	LPI 20Plus	2.5	9.5			21	12-0-0
J2	LPI 20Plus	2.5	9.5			6	6-0-0
J1	LPI 20Plus	2.5	9.5			8	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			14	12
Hanger							
				Beam/Girder	Supported Member		
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	1	HGUS410			46 16d	16 16d	
H2	1	LF179			10 10d	1 #8x1 1/4WS	
H3	1	HGUS5.50/10			46 16d	16 16d	
H4	1	Unknown Hanger					
H6	34	LT259			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	LPI 20 Plus	2.5	9.5	LinFt		Varies	32-0-0

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP
64 Jardin Dr., Suite 3A
Date: Rev. 1, 5/22/2018
Project No: 18-24
Model: Grandbrooke 1, Elevation 2

NOTES:

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Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

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Hatch are represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -14056-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

Legend

PS	Point Load Support
◆	Load from Above
▨	Wall
▧	Wall Opening
▩	Norbord Rimboard Plus 1.125 X 9.5
▪	LPI 20Plus 9.5
▫	Forex 2.0E-3000Fb LVL 1.75 X 9.5
▬	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)

This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
 2. The floor joists comply with the KOTT span table for the loads and spacing shown on this layout.
- The floor system must be assembled in accordance to the KOTT Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.
- All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



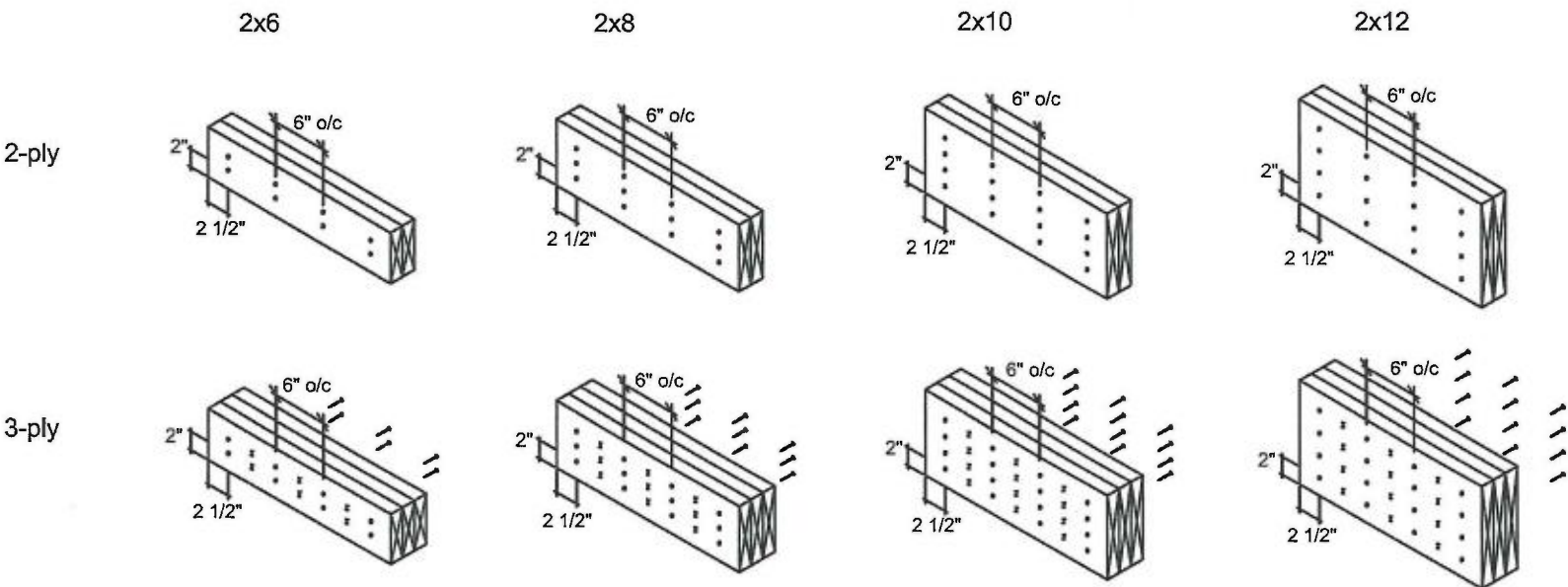
October 25, 2018

Layout Name	GRANDBROOKE 1-ELEV 2-CUSTOM
Design Method	LSD
Description	
Created	June 25, 2018
Revised	October 23, 2018
Builder	GREENPARK
Sales Rep	R M
Designer	R O
Shipping	
Project	
Builder's Project	Kott Lumber Company 14 Anderson Blvd Stouffville, Ontario Canada K2H7V1 905-642-4400
Job Path	S:\CUSTOMERS\GREENPARK MINNISALE HOMES\MODELS GRANDBROOKE 1\CUSTOM FLOORS\GRANDBROOKE 1-ELEV 2- CUSTOM.isl

Second Floor	LSL
Design Method	LSL
Building Code	NBCC 2010 / OBC 2012
Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	480
TL Span L/	360
LL Cant 2L/	480
TL Cant 2L/	360
Deflection Girder	
LL Span L/	360
TL Span L/	240
LL Cant 2L/	480
TL Cant 2L/	240
Decking	
Deck	OSB
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling:	Gypsum 1/2"

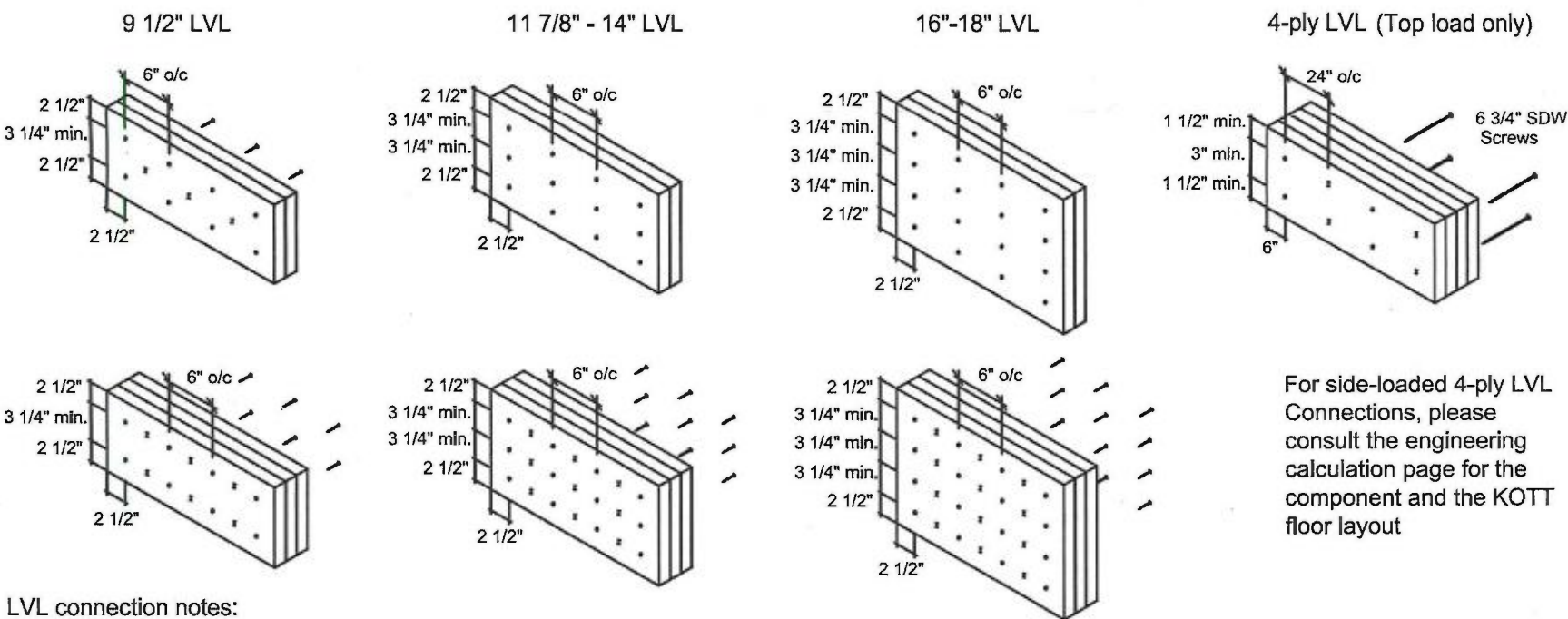


Conventional Connections



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 or screw driven from the opposite side.

For side-loaded 4-ply LVL Connections, please consult the engineering calculation page for the component and the KOTT floor layout

Multiple Member Connections

All connections are for uniformly distributed loads.
For multi-ply connections of I-joists, refer to Manufacturer's Installation Guide



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