

Ground Floor

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

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

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



Engineered floor joists shall be installed in accordance with the supplier's layout and specifications forming part of the permit drawings.

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 NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR 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.

Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	11.875			2	6-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	11.875			1	4-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F10	NJ	1.5	11.875	1	2	2	18-0-0
F19	NJ	1.5	11.875	2	2	4	14-0-0
F8	NJ	1.5	11.875	1	2	2	10-0-0
F16	NJ	1.5	11.875	1	2	2	4-0-0
F7	NJ	1.5	11.875	2	2	4	2-0-0
J7	NJ40U	3.5	11.875			22	18-0-0
J8	NJH	2.5	11.875			8	16-0-0
J5	NJH	2.5	11.875			17	14-0-0
J4	NJH	2.5	11.875			9	12-0-0
J3	NJH	2.5	11.875			11	10-0-0
J1	NJH	2.5	11.875			4	6-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			14	12
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H4	4	LT2-151188			4 10dx1 1/2	2 10dx1 1/2	
H5	2	LT251188			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	11.875	LinFt		Varies	59-0-0

NOTES:

1. Framer 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 area 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:

REGION DESIGN INC.
8700 Dufferin St., Concord
Date: Rev. 1, 5/2018
Project No: 3008
Model: Grandbrooke 12, Elevation 2

Legend

PS	Point Load Support
◇	Load from Above
Wall	Wall
Wall Opening	Wall Opening
Norbord Rimboard Plus 1.125 X 11.875	Norbord Rimboard Plus 1.125 X 11.875
NJ 11.875	NJ 11.875
NJ40U 11.875	NJ40U 11.875
NJH 11.875	NJH 11.875
Forex 2.0E-3000Fb LVL 1.75 X 11.875	Forex 2.0E-3000Fb LVL 1.75 X 11.875

Ground Floor

Design Method LSD
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 SPF Plywood
Thickness 3/4"
Fastener Nailed & Glued
Vibration

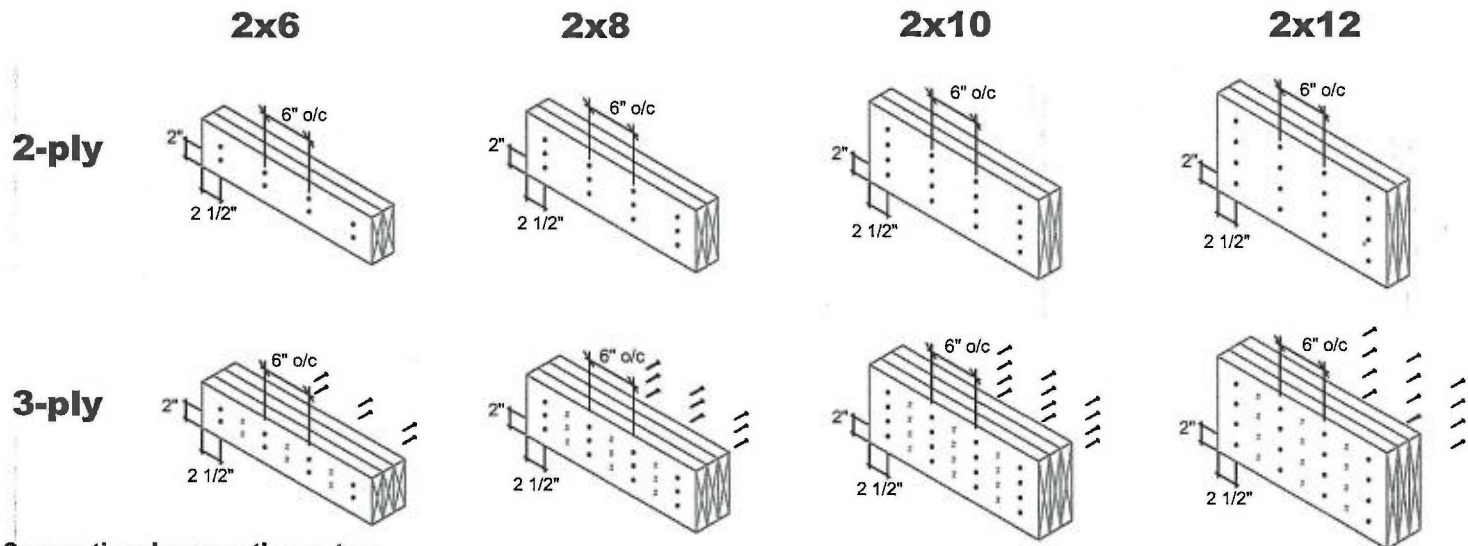
CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
JAN 7 2019
BY
MARK DERKSEN

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC - 14056-R



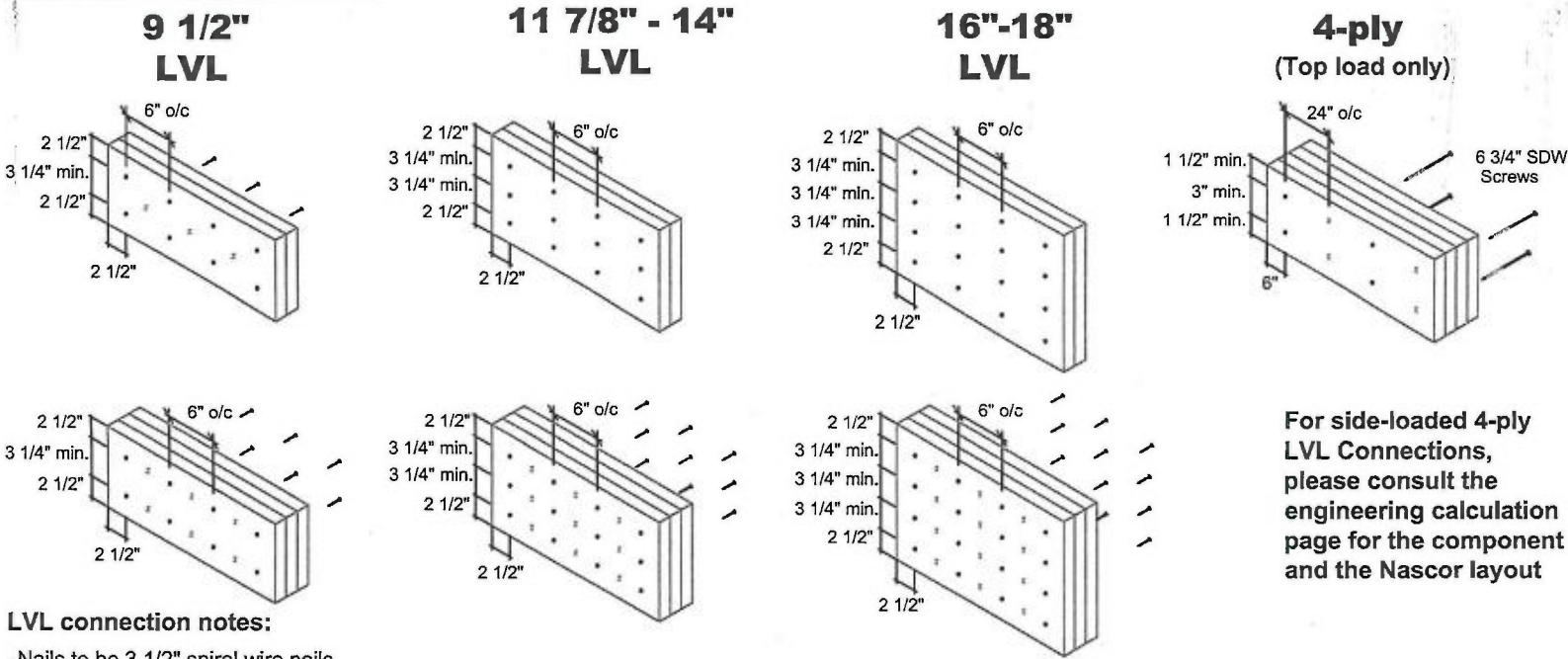
MULTIPLE MEMBER CONNECTIONS

Conventional Connections (for uniform distributed loads)



- Conventional connection notes:**
- Nails to be 3" 10d spiral wire nails.
 - Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
 - Number of rows and spacing as per details shown, unless noted otherwise.
 - "X" represents nail driven from the opposite side.

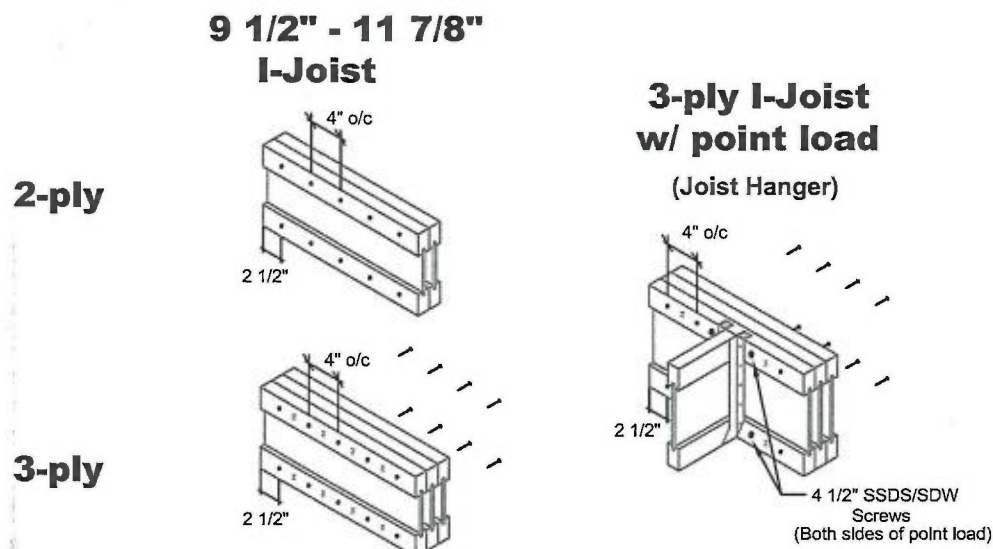
LVL Connections (for uniform distributed loads)



- LVL connection notes:**
- Nails to be 3 1/2" spiral wire nails.
 - Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in 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 Nascor layout

Vertical I-Joist Connections (for uniform distributed loads)



- Vertical I-Joist connection notes:**
- Nails to be 3" spiral wire nails.
 - Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
 - Number of rows and spacing as per details shown, unless noted otherwise.
 - "X" represents nail driven from the opposite side.

Engineering Note Page (ENP-2)

REVISION 2009-10-09

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 NASCOR 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 squash blocks. Structural elements such as walls, posts, connectors, and squash 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 NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <http://www.nascor.ca>.

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

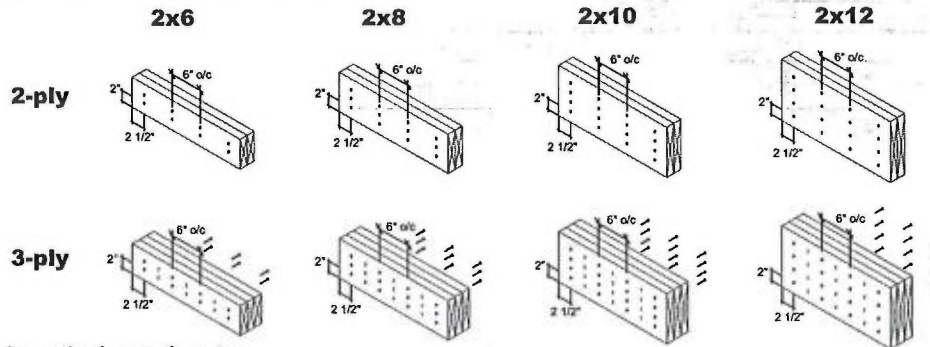
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
4. Pass-thru squash 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.

MULTIPLE MEMBER CONNECTIONS

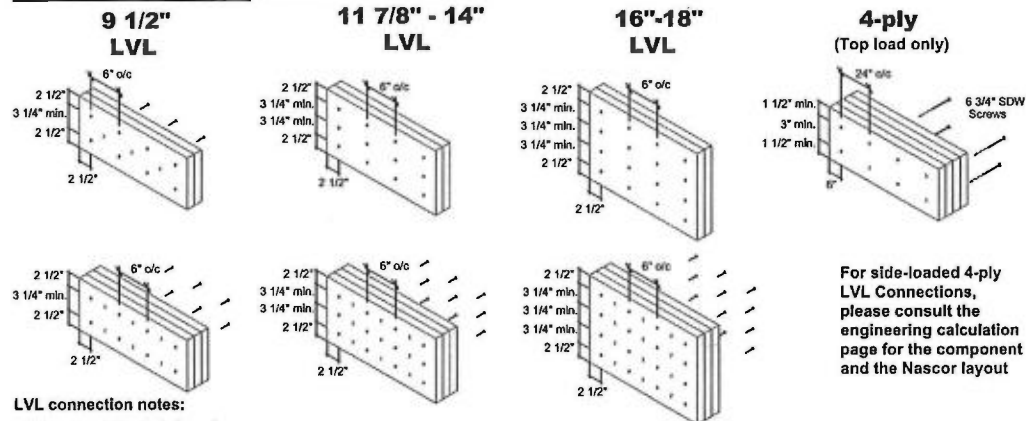
Conventional Connections (for uniform distributed loads)



Conventional connection notes:

- Nails to be 3" 10d spiral wire nails.
- Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

LVL Connections (for uniform distributed loads)

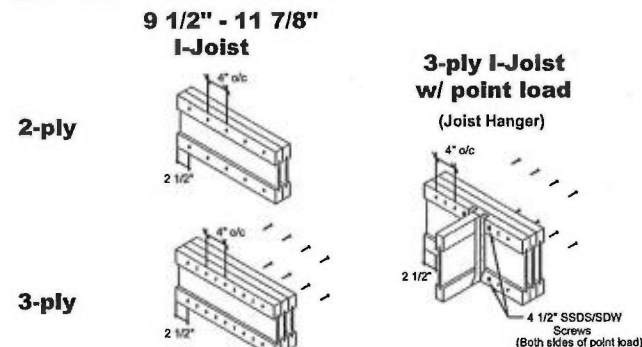


LVL connection notes:

- Nails to be 3 1/2" spiral wire nails.
- Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in 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 Nascor layout

Vertical I-Joist Connections (for uniform distributed loads)



Vertical I-Joist connection notes:

- Nails to be 3" spiral wire nails.
- Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

MULTI-PLY
CONNECTION
DETAILS

Date: November 30, 2016
Scale: NTS

KOTT

KOTT
3228 Moodie Drive
Ottawa, ON
K2H 7V1
Ph: 613-838-2775
Fx: 613-838-4751



isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/13/2018

Designer: R O

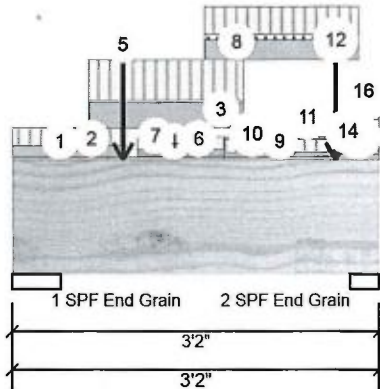
Job Name: GRANDBROOKE 12-ELEV 1-LOB OPT.

Project #:

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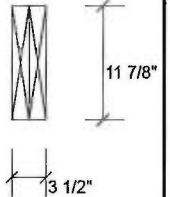
FH6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor



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

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



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	1195	855	78	0
2	1074	868	237	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.000"	22%	1068 / 1831	2900 L	1.25D+1.5L +0.5S
2 - SPF End Grain	3.000"	36%	1085 / 1729	2814 L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1848 ft-lb	1'7 11/16"	34261 ft-lb	0.054 (5%)	1.25D+1.5L +0.5S	L
Unbraced	1848 ft-lb	1'7 11/16"	34261 ft-lb	0.054 (5%)	1.25D+1.5L +0.5S	L
Shear	2264 lb	1'11 7/8"	11596 lb	0.195 (20%)	1.25D+1.5L +0.5S	L
Perm Defl in. (L/14367)	0.002	1'7 13/16"	0.088 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.003 (L/9858)	1'7 3/4"	0.088 (L/360)	0.040 (4%)	L+0.5S	L
TL Defl inch	0.005 (L/5847)	1'7 3/4"	0.131 (L/240)	0.040 (4%)	D+L+0.5S	L

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



Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-9-14		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 0-11-14		Near Face	154 PLF	263 PLF	0 PLF	0 PLF	J7
3	Part. Uniform	0-7-14 to 1-11-14		Near Face	364 PLF	575 PLF	22 PLF	0 PLF	J7

Continued on page 2...

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/13/2018

Designer: R O

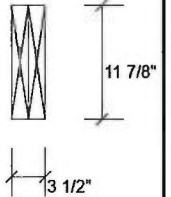
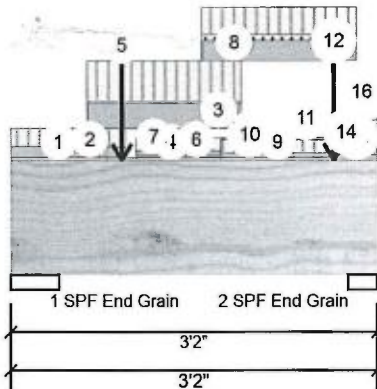
Job Name: GRANDBROOKE 12-ELEV 1-LOB OPT.

Project #:

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FH6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	0-9-14 to 1-9-14		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Point	0-11-8		Top	199 lb	283 lb	29 lb	0 lb	Header Column
6	Part. Uniform	1-1-0 to 1-9-14		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	1-1-0 to 1-9-14		Top	67 PLF	179 PLF	0 PLF	0 PLF	J8
8	Part. Uniform	1-7-14 to 2-11-14		Near Face	281 PLF	391 PLF	86 PLF	0 PLF	J7
9	Part. Uniform	1-9-14 to 2-9-11		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	1-9-14 to 2-9-11		Top	67 PLF	179 PLF	0 PLF	0 PLF	J8
11	Part. Uniform	1-9-14 to 2-9-11		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
12	Point	2-9-8		Top	67 lb	0 lb	115 lb	0 lb	Header Column
13	Part. Uniform	2-9-11 to 3-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Part. Uniform	2-9-11 to 3-2-0		Top	134 PLF	358 PLF	0 PLF	0 PLF	J8
15	Part. Uniform	2-9-11 to 3-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
16	Part. Uniform	2-11-0 to 3-2-0		Top	46 PLF	0 PLF	106 PLF	0 PLF	
	Self Weight				10 PLF				

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

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

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: 8/10/2018

Designer: R O

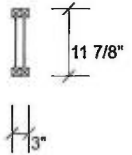
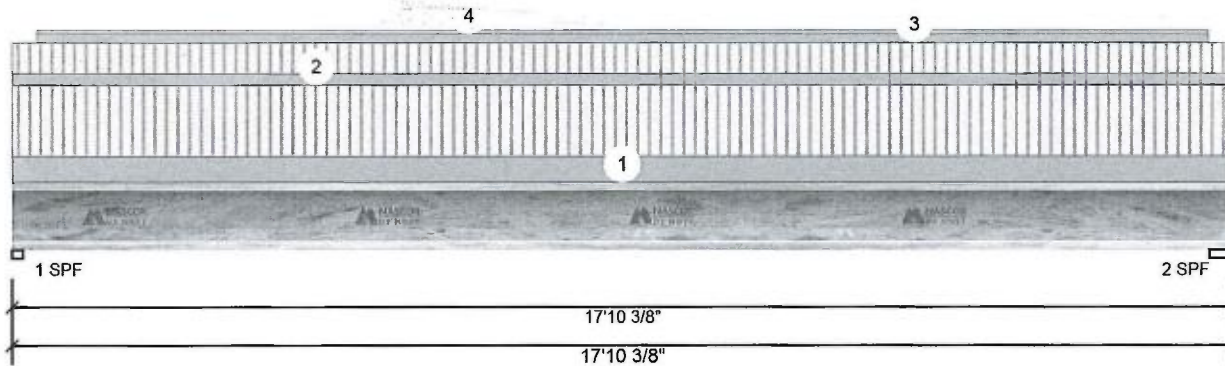
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F10-A NJ 11.875" 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	420	209	0	0
2	429	213	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	33%	261 / 631	891 L	1.25D+1.5L
2 - SPF	4.125"	27%	266 / 644	910 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3868 ft-lb	8'10 1/16"	9020 ft-lb	0.429 (43%)	1.25D+1.5L	L
Unbraced	3868 ft-lb	8'10 1/16"	3903 ft-lb	0.991 (99%)	1.25D+1.5L	L
Shear	884 lb	17'7"	3400 lb	0.260 (26%)	1.25D+1.5L	L
Perm Defl in.	0.108 (L/1941)	8'10 1/8"	0.583 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.216 (L/973)	8'10 1/8"	0.583 (L/360)	0.370 (37%)	L	L
TL Defl inch	0.324 (L/648)	8'10 1/8"	0.874 (L/240)	0.370 (37%)	D+L	L

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

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

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



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 flange must be laterally braced at a maximum of 3'8" o.c.
- 5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 17-10-6	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 17-10-6	(Span)0-8-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-4-6 to 17-6-2		Top	4 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-4-6 to 17-6-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	

Notes

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

Lumber

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

chemicals

Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/installation details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

6. Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

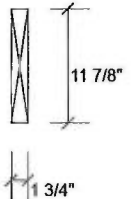
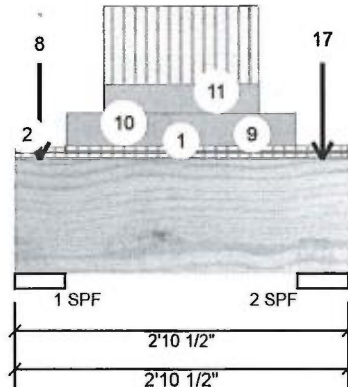
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 2

F2-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	221	200	0	0
2	200	195	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	10%	250 / 331	581 L	1.25D+1.5L
2 - SPF	5.250"	10%	243 / 301	544 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	271 ft-lb	1'5 1/4"	17130 ft-lb	0.016 (2%)	1.25D+1.5L	L
Unbraced	271 ft-lb	1'5 1/4"	15450 ft-lb	0.018 (2%)	1.25D+1.5L	L
Shear	39 lb	1'4 3/8"	5798 lb	0.007 (1%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/40207)	1'5 5/16"	0.071 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/33110)	1'5 5/16"	0.071 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/18157)	1'5 5/16"	0.106 (L/240)	0.010 (1%)	D+L	L

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

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

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

**Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 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	Comments
1	Tie-In	0-0-0 to 2-10-8	(Span)0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Top	1 lb	3 lb	0 lb	0 lb	J8
4	Point	0-2-10		Top	3 lb	8 lb	0 lb	0 lb	J5
5	Point	0-2-10		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	0-2-10		Top	5 lb	14 lb	0 lb	0 lb	J8

Continued on page 2...

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

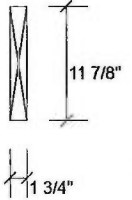
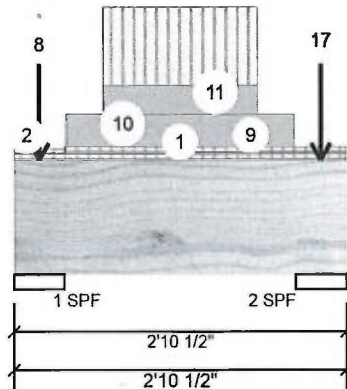
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 2 of 2

F2-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	0-2-10		Top	14 lb	34 lb	0 lb	0 lb	J5
8	Point	0-2-10		Top	24 lb	0 lb	0 lb	0 lb	Wall Self Weight
9	Tie-In	0-5-4 to 2-10-8	(Span)0-7-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	0-5-6 to 2-5-2		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	0-9-4 to 2-1-4		Top	73 PLF	193 PLF	0 PLF	0 PLF	J8
12	Point	2-7-14		Top	5 lb	14 lb	0 lb	0 lb	J8
13	Point	2-7-14		Top	3 lb	8 lb	0 lb	0 lb	J4
14	Point	2-7-14		Top	24 lb	0 lb	0 lb	0 lb	Wall Self Weight
15	Point	2-7-14		Top	4 lb	10 lb	0 lb	0 lb	J4
16	Point	2-7-14		Top	2 lb	5 lb	0 lb	0 lb	J8
17	Point	2-7-14		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				5 PLF				

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

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

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





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

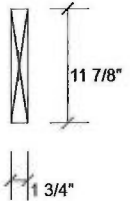
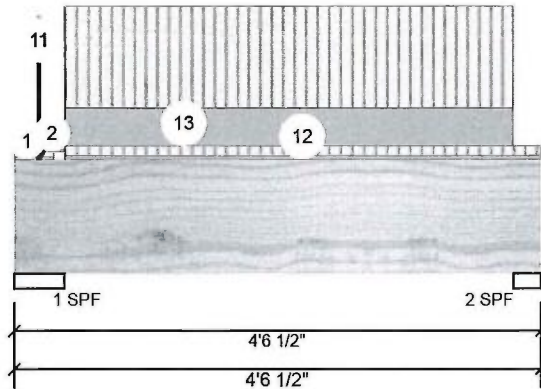
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 2

F3-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	590	259	0	0
2	448	179	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	21%	324 / 885	1209 L	1.25D+1.5L
2 - SPF	2.875"	29%	224 / 672	896 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	911 ft-lb	2'4 7/16"	17130 ft-lb	0.053 (5%)	1.25D+1.5L	L
Unbraced	911 ft-lb	2'4 7/16"	11270 ft-lb	0.081 (8%)	1.25D+1.5L	L
Shear	461 lb	1'4 3/8"	5798 lb	0.079 (8%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/23175)	2'4 1/2"	0.133 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/9197)	2'4 1/2"	0.133 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.007 (L/6584)	2'4 1/2"	0.199 (L/240)	0.040 (4%)	D+L	L

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

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

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



Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 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	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-5-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Top	10 lb	26 lb	0 lb	0 lb	J8
4	Point	0-2-10		Top	2 lb	5 lb	0 lb	0 lb	J1
5	Point	0-2-10		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	0-2-10		Top	19 lb	52 lb	0 lb	0 lb	J8
7	Point	0-2-10		Top	4 lb	11 lb	0 lb	0 lb	J1

Continued on page 2...

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

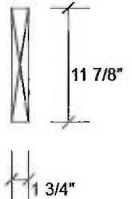
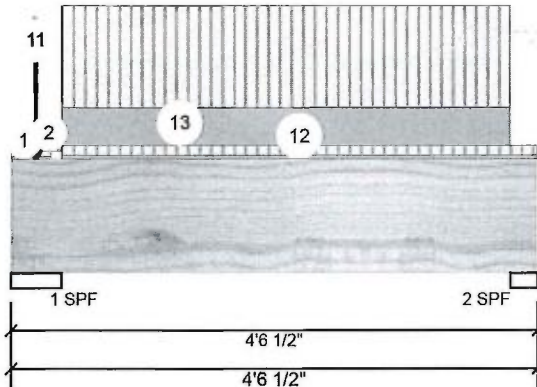
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 2 of 2

F3-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	0-2-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
9	Point	0-2-10		Top	14 lb	37 lb	0 lb	0 lb	J8
10	Point	0-2-10		Top	3 lb	8 lb	0 lb	0 lb	J1
11	Point	0-2-10		Top	8 lb	0 lb	0 lb	0 lb	Wall Self Weight
12	Tie-In	0-5-4 to 4-6-8	(Span) 0-11-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
13	Part. Uniform Self Weight	0-5-4 to 4-3-10		Top	79 PLF 5 PLF	210 PLF	0 PLF	0 PLF	

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

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

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: 8/10/2018

Designer: R O

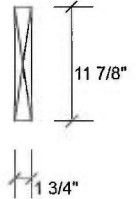
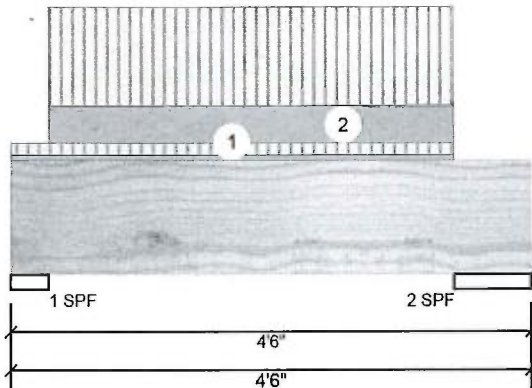
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F3-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Piles:	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	362	146	0	0
2	354	145	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.000"	17% 183 / 542	725 L	1.25D+1.5L
2 - SPF	8.000"	8% 181 / 531	713 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	664 ft-lb	2'1"	17130 ft-lb	0.039 (4%)	1.25D+1.5L	L
Unbraced	664 ft-lb	2'1"	12240 ft-lb	0.054 (5%)	1.25D+1.5L	L
Shear	333 lb	2'10 7/8"	5798 lb	0.057 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/31458)	2'1 1/16"	0.121 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/12616)	2'1 1/16"	0.121 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.005 (L/9004)	2'1 1/16"	0.181 (L/240)	0.030 (3%)	D+L	L

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

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

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

**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	Comments
1	Tie-In	0-0-0 to 3-10-0	(Span)1-1-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-0 to 3-10-0		Top	68 PLF	180 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				

Notes

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

Lumber

- 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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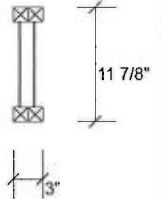
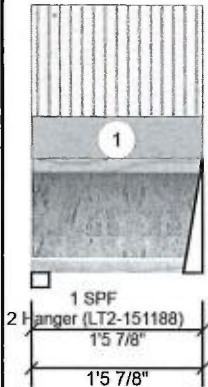
Client: GREENPARK
Project:
Address:

Date: 8/10/2018
Designer: R O
Job Name: GRANDBROOKE 12-ELEV 1
Project #:

Page 1 of 1

F7-A NJ 11.875" 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	48	18	0	0
2	49	18	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	4%	23 / 72	95 L	1.25D+1.5L
2 - Hanger	2.000"	4%	23 / 73	96 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	27 ft-lb	8 7/8"	9020 ft-lb	0.003 (0%)	1.25D+1.5L	L
Unbraced	27 ft-lb	8 7/8"	8539 ft-lb	0.003 (0%)	1.25D+1.5L	L
Shear	83 lb	1 1/8"	3400 lb	0.024 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

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

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

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



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 flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-5-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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. Joist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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: 8/10/2018

Designer: R O

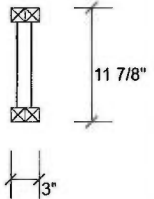
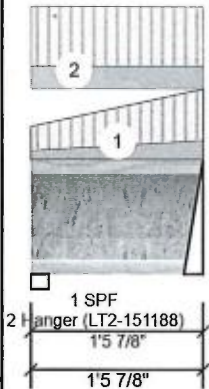
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F7-B NJ 11.875" 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	74	28	0	0
2	84	31	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	5%	35 / 112	146 L	1.25D+1.5L
2 - Hanger	2.000"	6%	39 / 126	165 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	44 ft-lb	9 1/16"	9020 ft-lb	0.005 (0%)	1.25D+1.5L	L
Unbraced	44 ft-lb	9 1/16"	8539 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	140 lb	1'4 5/8"	3400 lb	0.041 (4%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

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 flange braced at bearings.
- 6 Bottom flange braced at bearings.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-5-14	(Span)1-3-12 to 2-9-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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. LJoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. LJoist flanges must not be cut or drilled
2. Refer to latest copy of the LJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/lifting details
3. Damaged LJoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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: 8/10/2018

Designer: R O

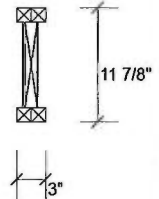
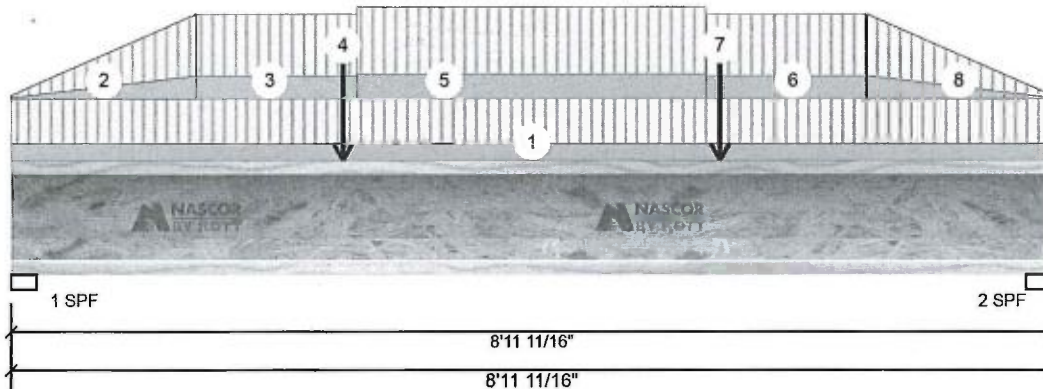
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 2

F8-A NJ 11.875" 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	319	119	0	0
2	319	119	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.652"	21%	149 / 479	628 L	1.25D+1.5L
2 - SPF	2.652"	21%	149 / 479	628 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1508 ft-lb	4'5 13/16"	9020 ft-lb	0.167 (17%)	1.25D+1.5L	L
Unbraced	1508 ft-lb	4'5 13/16"	1511 ft-lb	0.999 (100%)	1.25D+1.5L	L
Shear	619 lb	1 7/8"	3400 lb	0.182 (18%)	1.25D+1.5L	L
Perm Defl in.	0.010 (L/10156)	4'5 7/8"	0.289 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.027 (L/3790)	4'5 7/8"	0.289 (L/360)	0.090 (9%)	L	L
TL Defl inch	0.038 (L/2760)	4'5 7/8"	0.433 (L/240)	0.090 (9%)	D+L	L

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

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

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



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 flange must be laterally braced at a maximum of 5'9" o.c.
- Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-11-11	(Span)1-2-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-7-2	(Span)0-0-13 to 1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	1-7-2 to 2-11-13	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	2-10-5		Near Face	31 lb	84 lb	0 lb	0 lb	F7
5	Tie-In	2-11-13 to 5-11-13	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	5-11-13 to 7-4-9	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

chemicals

Handling & Installation

- Joist flanges must not be cut or drilled
- Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multiply fastening details and handling/erection details
- Damaged Joists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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: 8/10/2018

Designer: R O

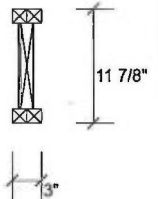
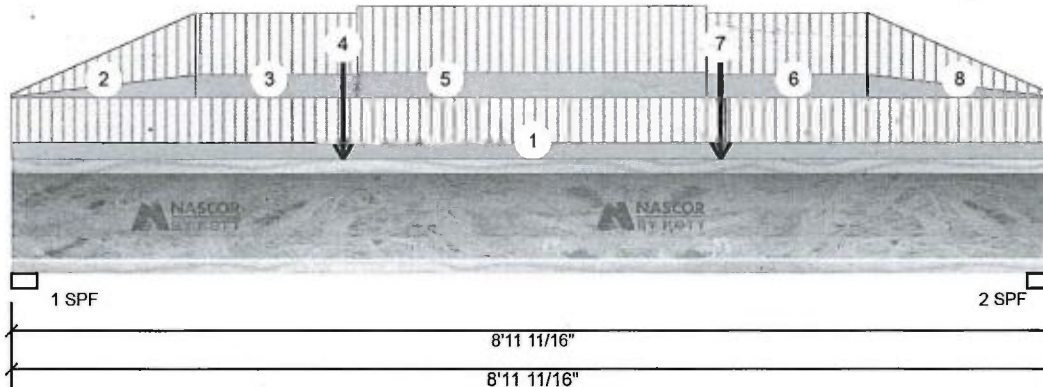
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 2 of 2

F8-A NJ 11.875" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	6-1-5		Near Face	31 lb	84 lb	0 lb	0 lb	F7
8	Tie-In	7-4-9 to 8-11-11	(Span)1-7-15 to 0-0-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

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. Joist not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott

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

KOTT NASCOR





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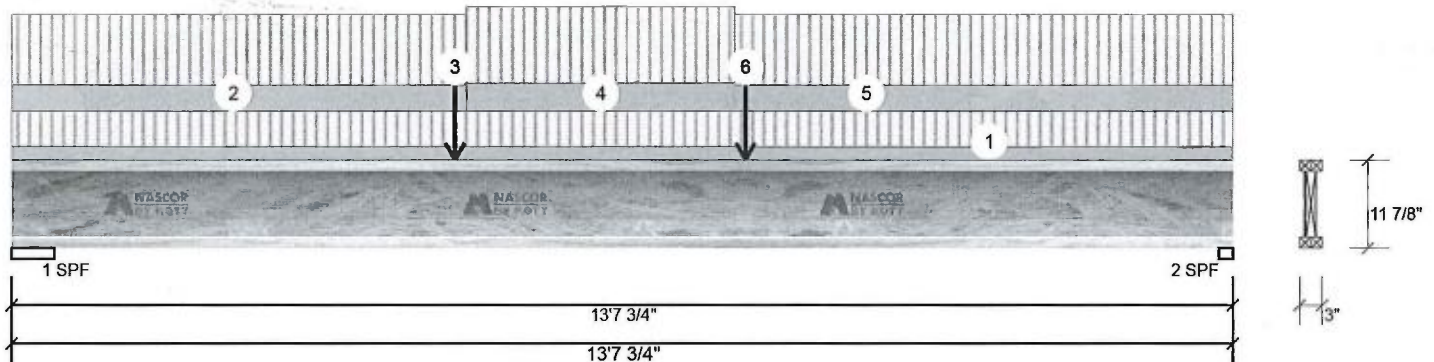
Client: GREENPARK
Project:
Address:

Date: 8/10/2018
Designer: R O
Job Name: GRANDBROOKE 12-ELEV 1
Project #:

Page 1 of 1

F9-A NJ 11.875" 2-Ply - PASSED

Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

Type: Girder	Application: Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies: 2	Design Method: LSD	1	403	151	0	0
Moisture Condition: Dry	Building Code: NBCC 2010 / OBC 2012	2	381	143	0	0
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						

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.625"	23%	188 / 605	793 L	1.25D+1.5L
2 - SPF	1.875"	28%	178 / 572	750 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2634 ft-lb	7' 1/4"	9020 ft-lb	0.292 (29%)	1.25D+1.5L	L
Unbraced	2634 ft-lb	7' 1/4"	2666 ft-lb	0.988 (99%)	1.25D+1.5L	L
Shear	754 lb	4' 7/8"	3400 lb	0.222 (22%)	1.25D+1.5L	L
Perm Defl in.	0.035 (L/4488)	6'11 11/16"	0.438 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.094 (L/1677)	6'11 11/16"	0.438 (L/360)	0.210 (21%)	L	L
TL Defl inch	0.129 (L/1221)	6'11 11/16"	0.657 (L/240)	0.200 (20%)	D+L	L

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

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

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



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 flange must be laterally braced at a maximum of 4'6" o.c.
- Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-7-12	(Span)0-9-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 5-0-14	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	4-11-6		Near Face	18 lb	49 lb	0 lb	0 lb	F7
4	Tie-In	5-0-14 to 8-0-14	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	8-0-14 to 13-7-12	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	8-2-6		Near Face	18 lb	49 lb	0 lb	0 lb	F7

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
- Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/installation details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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: 8/10/2018

Designer: R O

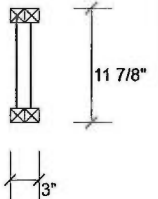
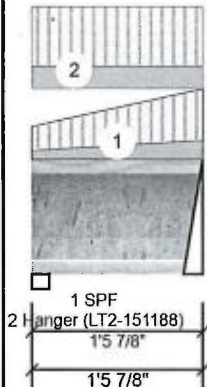
Job Name: GRANDBROOKE 12-ELEV 2

Project #:

Page 1 of 1

F7-A NJ 11.875" 2-Ply - PASSED

Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

Type: Girder	Application: Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies: 2	Design Method: LSD	1	74	28	0	0
Moisture Condition: Dry	Building Code: NBCC 2010 / OBC 2012	2	84	31	0	0
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						

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	5%	35 / 112	146 L	1.25D+1.5L
2 - Hanger	2.000"	6%	39 / 126	165 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	44 ft-lb	9 1/16"	9020 ft-lb	0.005 (0%)	1.25D+1.5L	L
Unbraced	44 ft-lb	9 1/16"	8539 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	140 lb	1'4 5/8"	3400 lb	0.041 (4%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

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

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

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



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 flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-5-14	(Span)1-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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. Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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: 8/10/2018

Designer: R O

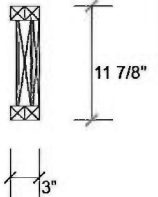
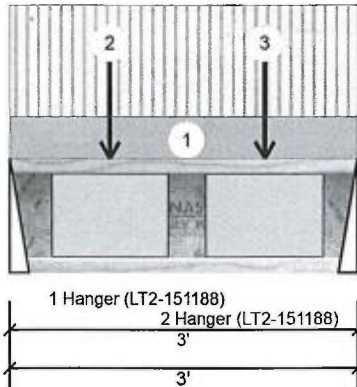
Job Name: GRANDBROOKE 12-ELEV 2

Project #:

Page 1 of 1

F16-A NJ 11.875" 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	311	116	0	0
2	319	119	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	23% 145 / 466	611 L		1.25D+1.5L
2 - Hanger	2.000"	23% 149 / 478	628 L		1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	445 ft-lb	1'3 1/4"	9020 ft-lb	0.049 (5%)	1.25D+1.5L	L
Unbraced	445 ft-lb	1'3 1/4"	5749 ft-lb	0.077 (8%)	1.25D+1.5L	L
Shear	620 lb	2'10 3/4"	3400 lb	0.182 (18%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/34461)	1'5 3/16"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/12881)	1'5 3/16"	0.093 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.004 (L/9376)	1'5 3/16"	0.140 (L/240)	0.030 (3%)	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 flange braced at bearings.
- 6 Bottom flange braced at bearings.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-10-6		Far Face	99 lb	265 lb	0 lb	0 lb	J4
3	Point	2-2-6		Far Face	96 lb	257 lb	0 lb	0 lb	J4

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. Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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: 8/10/2018

Designer: R O

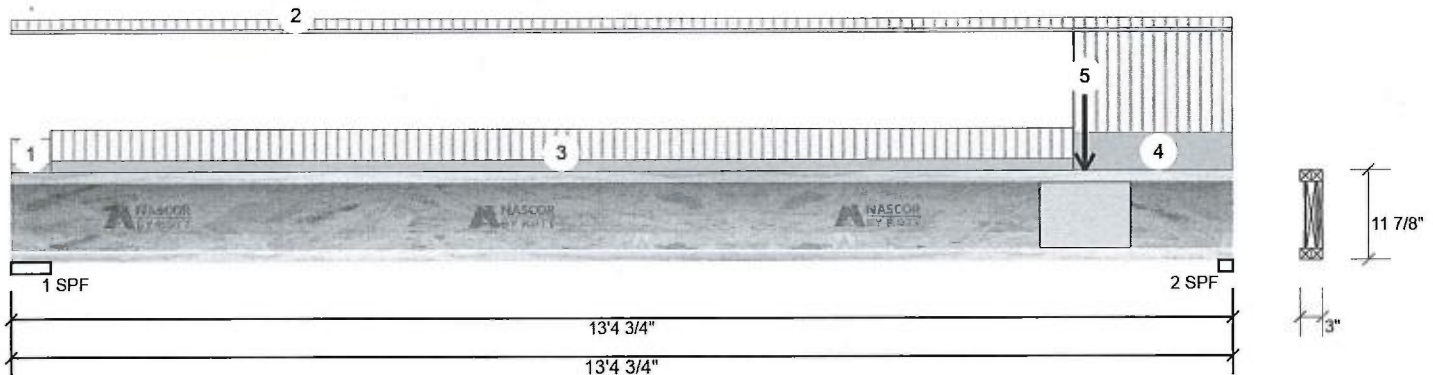
Job Name: GRANDBROOKE 12-ELEV 2

Project #:

Page 1 of 1

F19-A NJ 11.875" 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	222	83	0	0
2	523	196	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.250"	13%	104 / 333	437 L 1.25D+1.5L
2 - SPF	1.875"	39%	245 / 785	1029 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1685 ft-lb	8'4 5/8"	9020 ft-lb	0.187 (19%)	1.25D+1.5L	L
Unbraced	1685 ft-lb	8'4 5/8"	1686 ft-lb	0.999 (100%)	1.25D+1.5L	L
Shear	1016 lb	13'3 5/8"	3400 lb	0.299 (30%)	1.25D+1.5L	L
Perm Defl in.	0.022 (L/6937)	7'3 1/16"	0.431 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.060 (L/2597)	7'3 1/16"	0.431 (L/360)	0.140 (14%)	L	L
TL Defl inch	0.082 (L/1889)	7'3 1/16"	0.646 (L/240)	0.130 (13%)	D+L	L

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

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

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



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 flange must be laterally braced at a maximum of 5'6" o.c.
- Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)0-9-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-4-12	(Span)0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 11-7-14	(Span)0-11-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	11-7-14 to 13-4-12	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	11-9-6		Far Face	116 lb	311 lb	0 lb	0 lb	F16

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
- Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/installation details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

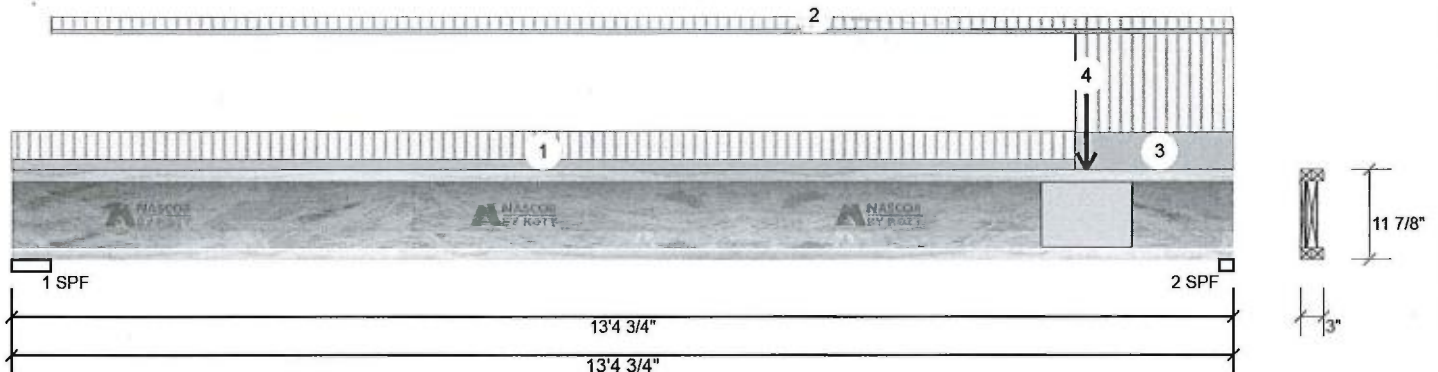
Job Name: GRANDBROOKE 12-ELEV 2

Project #:

Page 1 of 1

F19-B NJ 11.875" 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	221	83	0	0
2	532	199	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.250"	13%	104 / 332	435 L 1.25D+1.5L
2 - SPF	1.875"	39%	249 / 799	1047 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1702 ft-lb	8'5 1/8"	9020 ft-lb	0.189 (19%)	1.25D+1.5L	L
Unbraced	1702 ft-lb	8'5 1/8"	1709 ft-lb	0.996 (100%)	1.25D+1.5L	L
Shear	1034 lb	13'3 5/8"	3400 lb	0.304 (30%)	1.25D+1.5L	L
Perm Defl in.	0.023 (L/6872)	7'3 1/8"	0.431 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.060 (L/2572)	7'3 3/16"	0.431 (L/360)	0.140 (14%)	L	L
TL Defl inch	0.083 (L/1872)	7'3 3/16"	0.646 (L/240)	0.130 (13%)	D+L	L

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

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

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



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 flange must be laterally braced at a maximum of 5'6" o.c.
- Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-7-14	(Span)0-11-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-4 to 13-4-12	(Span)0-4-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	11-7-14 to 13-4-12	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-9-6		Near Face	119 lb	319 lb	0 lb	0 lb	F16

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
- Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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



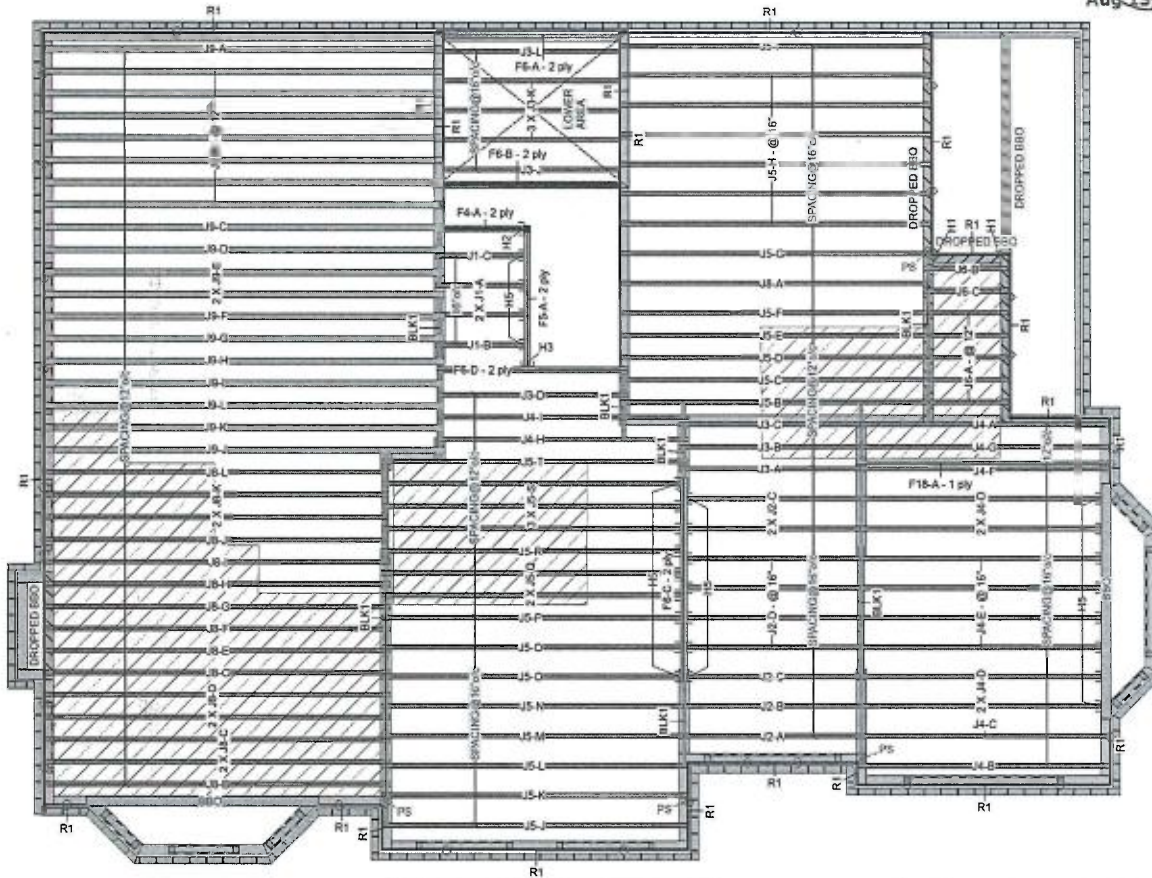
This design is valid until 7/10/2021



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

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

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



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 NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR 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.

Legend

PS	Point Load Support
◆	Load from Above
▨	Wall
▧	Wall Opening
▩	Norbord Rimboard Plus 1.125 X 11.875
▪	NJ 11.875
▫	NJ40U 11.875
▬	NJ60U 11.875
▭	NJH 11.875
▮	Forex 2.0E-3000Fb LVL 1.75 X 11.875

Second Floor

LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F18	Forex 2.0E-3000Fb LVL	1.75	11.875			1	12-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	11.875	4	2	8	10-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	6-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J9	NJ60U	3.5	11.875			19	18-0-0
J8	NJH	2.5	11.875			16	16-0-0
J5	NJH	2.5	11.875			28	14-0-0
J4	NJH	2.5	11.875			15	12-0-0
J3	NJH	2.5	11.875			9	10-0-0
J2	NJH	2.5	11.875			9	8-0-0
J1	NJH	2.5	11.875			4	6-0-0
J6	NJH	2.5	11.875			7	4-0-0

Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			16	12

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	2	Unknown Hanger				fasteners
H2	1	HUC410 (Min)			14 16d	6 10d
H3	1	HGUS410			46 16d	16 16d
H5	28	LT251188			4 10dx1 1/2	2 10dx1 1/2

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	11.875	LnRt		Varies	43-0-0

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:

REGION DESIGN INC.
8700 Dufferin St., Concord
Date: Rev. 1, 5/2018
Project No: 3008
Model: Grandbrooke 12, Elevation 2

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC - 14058-R
4. CAN/CSA-O88-08
5. CCMC - 12787-R APA PR-L310(C)

NASCOR

Layout Name
GRANDBROOKE 12-ELEV 2

Design Method
LSD

Description

Created

June 25, 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

C:\Users\royochavila\Desktop

GREENPARK-MINNISALE HOMES-

MODEL-GRANDBROOKE 12-FLOOR

12-ELEV 2-GRANDBROOKE 12-ELEV

2.rvt

Second Floor

Design Method

LSD

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

SPF Plywood

Thickness

5/8"

Fastener

Nailed & Glued

Vibration

Ceiling

Gypsum 1/2"

KOTT



isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

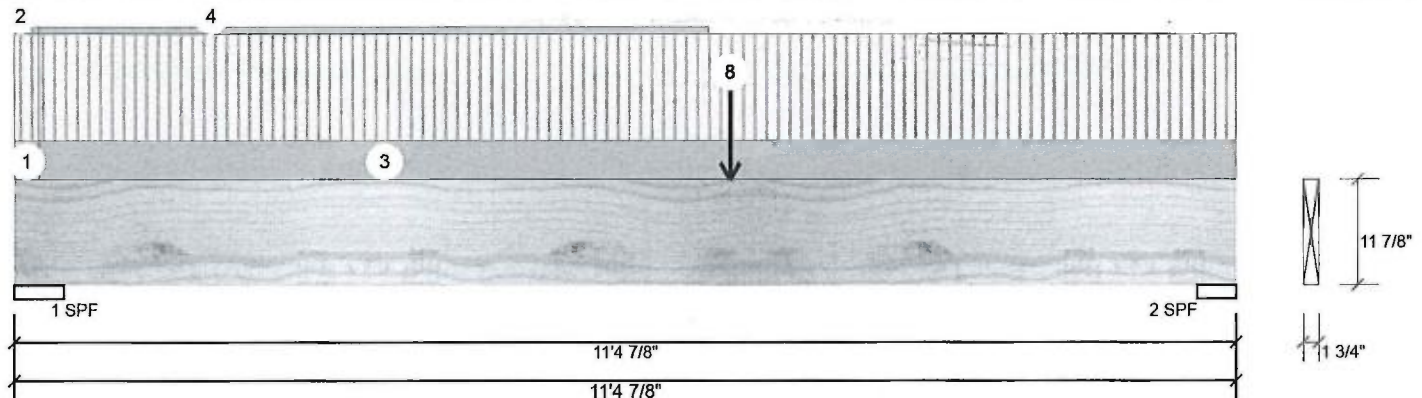
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 2

F18-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	98	167	148	0
2	103	206	212	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	8%	208 / 272	480 L	1.25D+1.5S +0.5L
2 - SPF	4.375"	13%	258 / 369	626 L	1.25D+1.5S +0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2542 ft-lb	6'8 1/4"	17130 ft-lb	0.148 (15%)	1.25D+1.5S +0.5L	L
Unbraced	2542 ft-lb	6'8 1/4"	4199 ft-lb	0.605 (61%)	1.25D+1.5S +0.5L	L
Shear	600 lb	10'1 3/8"	5798 lb	0.104 (10%)	1.25D+1.5S +0.5L	L
Perm Defl in.	0.032 (L/3978)	6'2 1/16"	0.357 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.043 (L/3012)	6'2 7/8"	0.357 (L/360)	0.120 (12%)	S+0.5L	L
TL Defl inch	0.075 (L/1714)	6'2 1/2"	0.535 (L/240)	0.140 (14%)	D+S+0.5L	L

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

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

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



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	Comments
1	Tie-In	0-0-0 to 0-2-12	(Span)0-8-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-2-12		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Tie-In	0-2-12 to 11-4-14	(Span)0-8-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	0-2-12 to 6-5-13		Top	1 PLF	0 PLF	0 PLF	0 PLF	
5	Point	6-8-4		Top	204 lb	33 lb	329 lb	0 lb	F16 F16
6	Point	6-8-4		Top	7 lb	0 lb	17 lb	0 lb	
7	Point	6-8-4		Top	6 lb	0 lb	14 lb	0 lb	

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

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

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





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

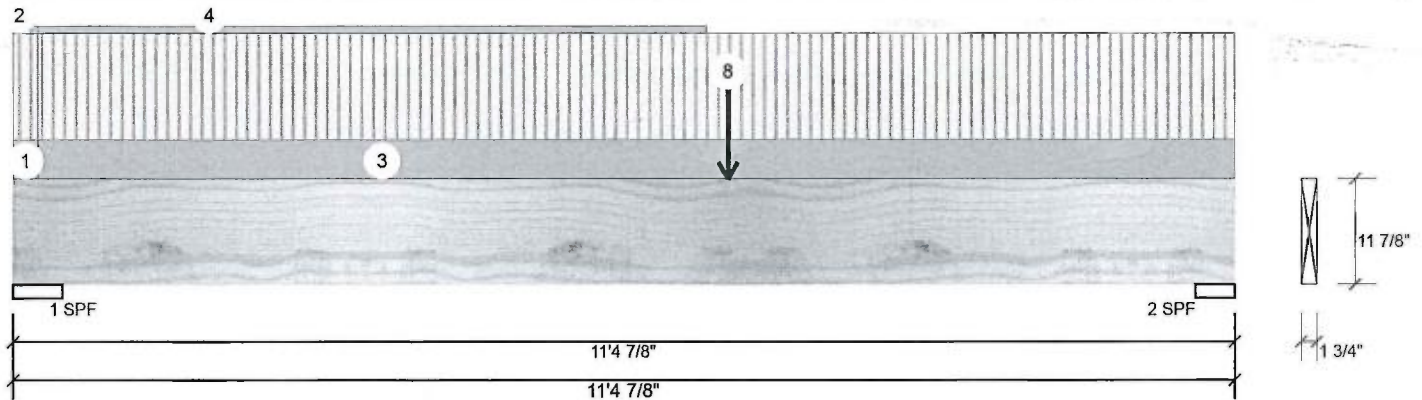
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 2 of 2

F18-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	6-8-4		Top	32 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				5 PLF				

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

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

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: 8/10/2018

Designer: R O

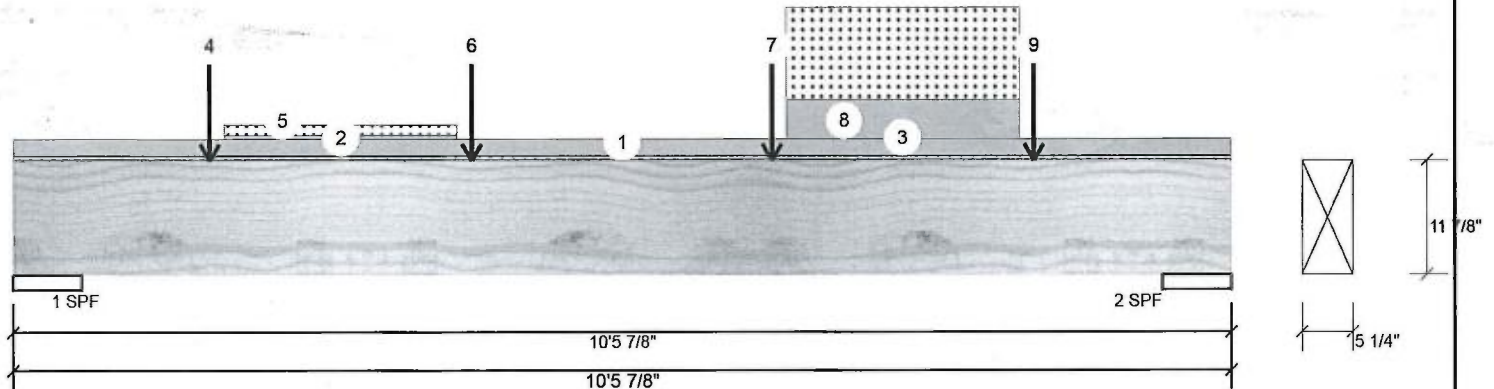
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F1-A 5.250" X 11.875"

Level: Second Floor



Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	81	1464	1953	0
2	81	1627	2407	0

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	7.153"	62%	1830 / 2969	4799 L	1.25D+1.5S +0.5
2 - SPF	7.188"	73%	2034 / 3652	5686 L	1.25D+1.5S +0.5

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-5-14	(Span)0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 10-5-14		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 10-5-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	1-8-7		Top	51 lb	0 lb	67 lb	0 lb	Header Column
5	Part. Uniform	1-9-15 to 3-9-15		Top	20 PLF	0 PLF	47 PLF	0 PLF	
6	Point	3-11-7		Top	998 lb	0 lb	1973 lb	0 lb	Header Column
7	Point	6-6-7		Top	343 lb	0 lb	726 lb	0 lb	Header Column
8	Part. Uniform	6-7-15 to 8-7-15		Top	188 PLF	0 PLF	439 PLF	0 PLF	
9	Point	8-9-7		Top	289 lb	0 lb	622 lb	0 lb	Header Column

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

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

Manufacturer Info

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: 8/10/2018

Designer: R O

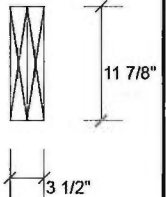
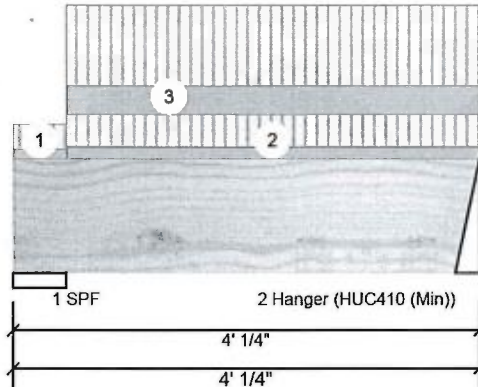
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 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	149	76	0	0
2	158	76	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	3%	94 / 224	319 L	1.25D+1.5L
2 - Hanger	2.500"	5%	95 / 237	333 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	267 ft-lb	2'1 5/8"	34261 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	267 ft-lb	2'1 5/8"	34261 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	132 lb	1'4 5/8"	11596 lb	0.011 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/65763)	2'1 11/16"	0.116 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/44356)	2'1 11/16"	0.174 (L/240)	0.010 (1%)	D+L	L

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

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

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



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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-8	(Span)0-11-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-8 to 4-0-4	(Span)1-2-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-5-8 to 4-0-4		Top	22 PLF	60 PLF	0 PLF	0 PLF	
	Self Weight				10 PLF				

Notes

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

Lumber

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

chemicals

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: 8/10/2018

Designer: R O

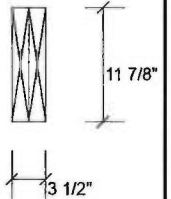
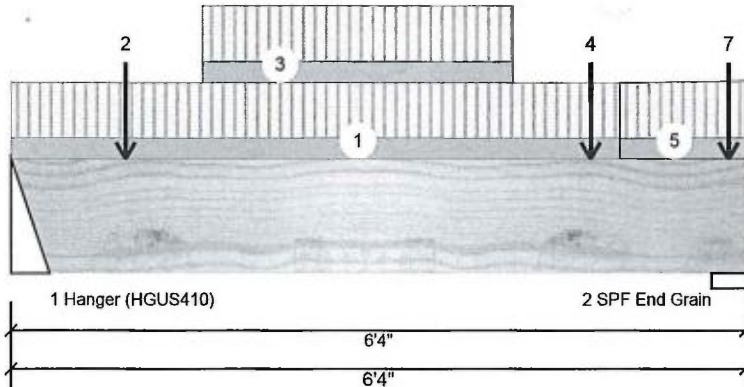
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 2

F5-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	442	196	0	0
2	582	264	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	4.000"	9%	245 / 663	908 L
2 - SPF End Grain	3.500"	13%	330 / 873	1203 L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1280 ft-lb	3'2 1/8"	34261 ft-lb	0.037 (4%)	1.25D+1.5L	L
Unbraced	1280 ft-lb	3'2 1/8"	32678 ft-lb	0.039 (4%)	1.25D+1.5L	L
Shear	709 lb	1'3 1/8"	11596 lb	0.061 (6%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/28206)	3'2 1/4"	0.194 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.006 (L/12392)	3'2 1/4"	0.194 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.008 (L/8610)	3'2 1/4"	0.292 (L/240)	0.030 (3%)	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 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.
- 8 Lateral slenderness ratio based on full section width.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-2-14	(Span)3-8-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-11-14		Far Face	35 lb	92 lb	0 lb	0 lb	J1
3	Part. Uniform	1-7-14 to 4-3-14		Far Face	28 PLF	75 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott 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: 8/10/2018

Designer: R O

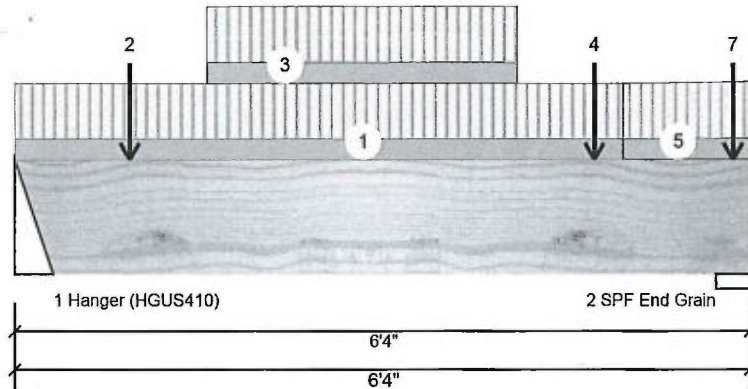
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 2 of 2

F5-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	4-11-14		Far Face	35 lb	94 lb	0 lb	0 lb	J1
5	Tie-In	5-2-14 to 6-4-0	(Span)3-8-8 to 3-9-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	6-2-4		Top	3 lb	9 lb	0 lb	0 lb	
7	Point	6-2-4		Far Face	76 lb	158 lb	0 lb	0 lb	F4
	Self Weight				10 PLF				

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

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

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 NASCOR

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

This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

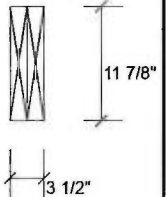
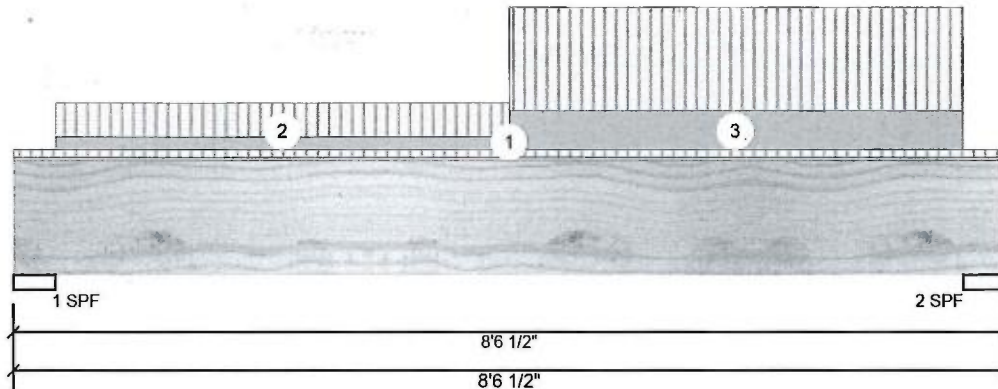
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F6-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 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	411	194	0	0
2	642	282	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	9%	242 / 617	860 L	1.25D+1.5L
2 - SPF	4.375"	14%	353 / 963	1316 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2235 ft-lb	4'10 7/16"	34261 ft-lb	0.065 (7%)	1.25D+1.5L	L
Unbraced	2235 ft-lb	4'10 7/16"	31329 ft-lb	0.071 (7%)	1.25D+1.5L	L
Shear	937 lb	7'3"	11596 lb	0.081 (8%)	1.25D+1.5L	L
Perm Defl in.	0.007 (L/14057)	4'5 7/8"	0.265 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.015 (L/6266)	4'6 1/4"	0.265 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.022 (L/4334)	4'6 1/8"	0.397 (L/240)	0.060 (6%)	D+L	L

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

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

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



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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-6-8	(Span)0-8-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-6 to 4-3-4		Top	22 PLF	60 PLF	0 PLF	0 PLF	
3	Part. Uniform	4-3-4 to 8-2-2		Top	68 PLF	180 PLF	0 PLF	0 PLF	
	Self Weight				10 PLF				

Notes

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

Lumber

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

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





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

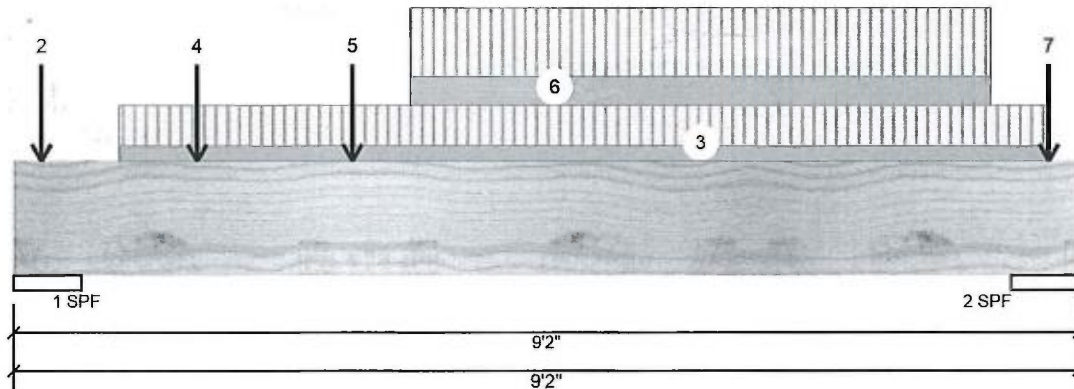
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 1

F6-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	1914	784	0	0
2	1861	791	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	7.000"	26%	980 / 2871	3851 L 1.25D+1.5L
2 - SPF	7.000"	25%	989 / 2792	3781 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7003 ft-lb	4'7 1/8"	34261 ft-lb	0.204 (20%)	1.25D+1.5L	L
Unbraced	7003 ft-lb	4'7 1/8"	31189 ft-lb	0.225 (22%)	1.25D+1.5L	L
Shear	3621 lb	1'6 1/8"	11596 lb	0.312 (31%)	1.25D+1.5L	L
Perm Defl in.	0.022 (L/4500)	4'7 3/16"	0.271 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.052 (L/1889)	4'7 1/16"	0.271 (L/360)	0.190 (19%)	L	L
TL Defl inch	0.073 (L/1330)	4'7 1/16"	0.406 (L/240)	0.180 (18%)	D+L	L

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

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

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



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 braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-2-14		Far Face	88 lb	234 lb	0 lb	0 lb	J5
2	Point	0-2-14		Near Face	52 lb	138 lb	0 lb	0 lb	J2
3	Part. Uniform	0-10-14 to 8-10-14		Near Face	59 PLF	156 PLF	0 PLF	0 PLF	
4	Point	1-6-14		Far Face	132 lb	351 lb	0 lb	0 lb	J5
5	Point	2-10-14		Far Face	115 lb	307 lb	0 lb	0 lb	J5
6	Part. Uniform	3-4-14 to 8-4-14		Far Face	111 PLF	264 PLF	0 PLF	0 PLF	
7	Point	8-10-14		Far Face	74 lb	177 lb	0 lb	0 lb	J5
	Self Weight				10 PLF				

Notes

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

Lumber

- 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





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

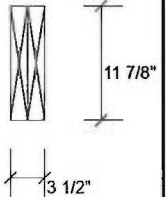
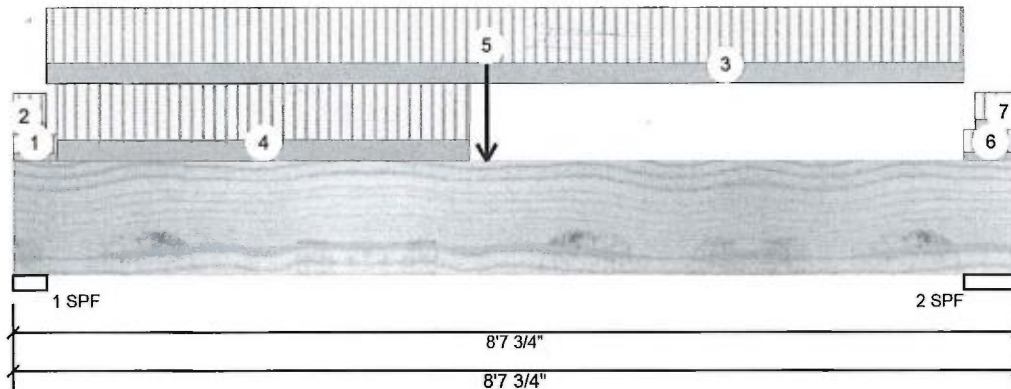
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 1 of 2

F6-D Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	386	201	0	0
2	328	179	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	11%	251 / 578	829	L	1.25D+1.5L
2 - SPF	5.500"	6%	224 / 492	716	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2425 ft-lb	4'1"	34261 ft-lb	0.071 (7%)	1.25D+1.5L	L
Unbraced	2425 ft-lb	4'1"	31268 ft-lb	0.078 (8%)	1.25D+1.5L	L
Shear	723 lb	1'2 5/8"	11596 lb	0.062 (6%)	1.25D+1.5L	L
Perm Defl in.	0.007 (L/13103)	4'1 1/16"	0.267 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.015 (L/6579)	4'1 1/16"	0.267 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.022 (L/4380)	4'1 1/16"	0.401 (L/240)	0.050 (5%)	D+L	L

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

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

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

**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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-8	(Span)0-4-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-3-8	(Span)0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-3-8 to 8-2-4	(Span)1-1-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-4-8 to 3-11-4	(Span)1-1-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	4-1-0		Far Face	196 lb	442 lb	0 lb	0 lb	F5
6	Tie-In	8-2-4 to 8-7-12	(Span)0-5-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

- 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, multiply 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: 8/10/2018

Designer: R O

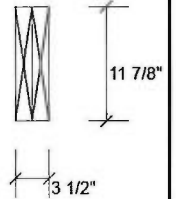
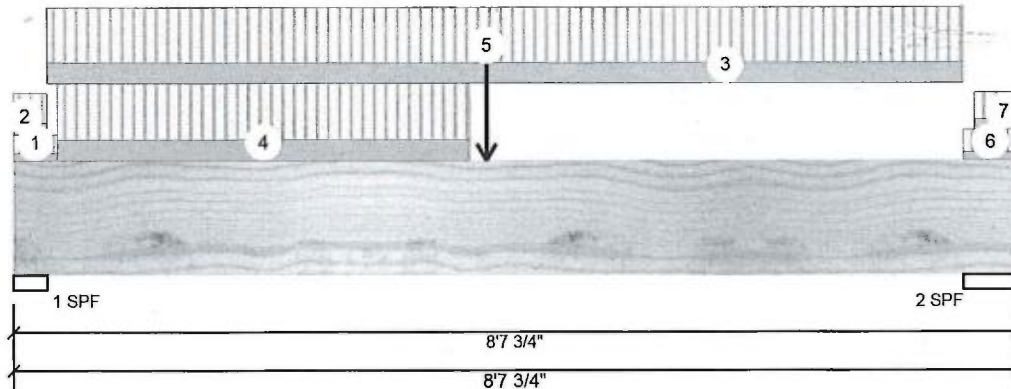
Job Name: GRANDBROOKE 12-ELEV 1

Project #:

Page 2 of 2

F6-D Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Tie-In	8-3-6 to 8-7-12	(Span)0-6-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

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

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

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, multiply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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14 Anderson Blvd, Ontario
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