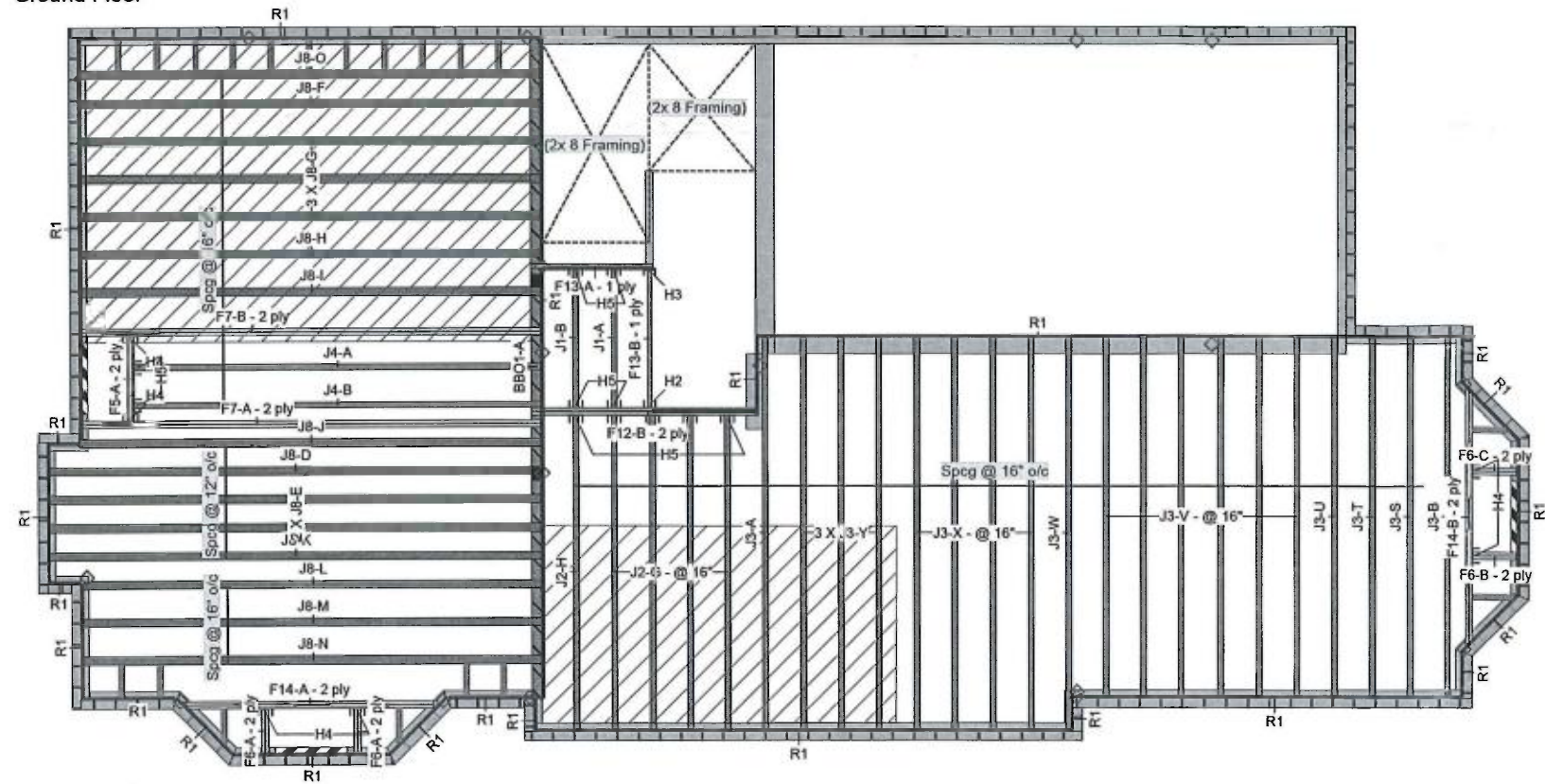


18-931264 000 00 M FLOOR JOIST

Ground Floor



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

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

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
JAN 02 2018
MARK DERKSEN

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**
- Load from Above
 - Wall
 - Wall Opening
 - Norbord Rimboard Plus 1.125 X 11.875
 - NJ 11.875
 - NJ40U 11.875
 - NJH 11.875
 - Forex 2.0E-3000Fb LVL 1.75 X 11.875
- OBC 2012 O.Reg 332/12 as amended
 - Nascor CCMC - 13535-R
 - LVL CCMC -14056-R
 - CAN/CSA-O86-09
 - CCMC -12787-R APA PR-L310(C)



September 13, 2018

Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F12	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0
F13	Forex 2.0E-3000Fb LVL	1.75	11.875			2	6-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F7	NJ	1.5	11.875	2	2	4	18-0-0
F14	NJ	1.5	11.875	2	2	4	10-0-0
F5	NJ	1.5	11.875	1	2	2	4-0-0
F6	NJ	1.5	11.875	4	2	8	2-0-0
J8	NJ40U	3.5	11.875			15	18-0-0
J4	NJH	2.5	11.875			2	16-0-0
J3	NJH	2.5	11.875			19	14-0-0
J2	NJH	2.5	11.875			5	12-0-0
J1	NJH	2.5	11.875			2	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
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	11.875	LinFt		Varies	22-0-0
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H2	1	HUS1.81/10			30 16d	10 16d	
H3	1	LS90					
H4	6	LT2-151188			4 10dx1 1/2	2 10dx1 1/2	
H5	11	LT251188			4 10dx1 1/2	2 10dx1 1/2	

NOTES:

- Framer to verify dimensions on the architectural drawings.
- Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation works.
- 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.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer'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"x 4" 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:

JARDIN DESIGN GROUP INC.
64 Jardin Dr., Suite 3A, Vaughan, ON
Date: June 11, 2018
Project No: 18-24
Model: Grandbrooke 11

NASCOR

Layout Name
GRANDBROOKE 11-2

Design Method
LSD

Description
MINNISALE HOMES
BRAMPTON, ONT.

Created
June 29, 2018

Builder
GREENPARK

Sales Rep
RM

Designer
RCO

Shipping

Project

Builder's Project

Kott Lumber Company
14 Anderson Blvd
Stouffville, Ontario
Canada
L4A 7X4
905-642-4400

Job Path
D:\Users\rochavillo\WORK FROM HOME\GREENPARKMINNISALE HOMES\GRANDBROOKE 11\GRANDBROOKE 11-2\FLOOR\GRANDBROOKE 11-2.lsl

Ground Floor
Design Method
Building Code
LSD
NBCC 2010 / OBC
2012

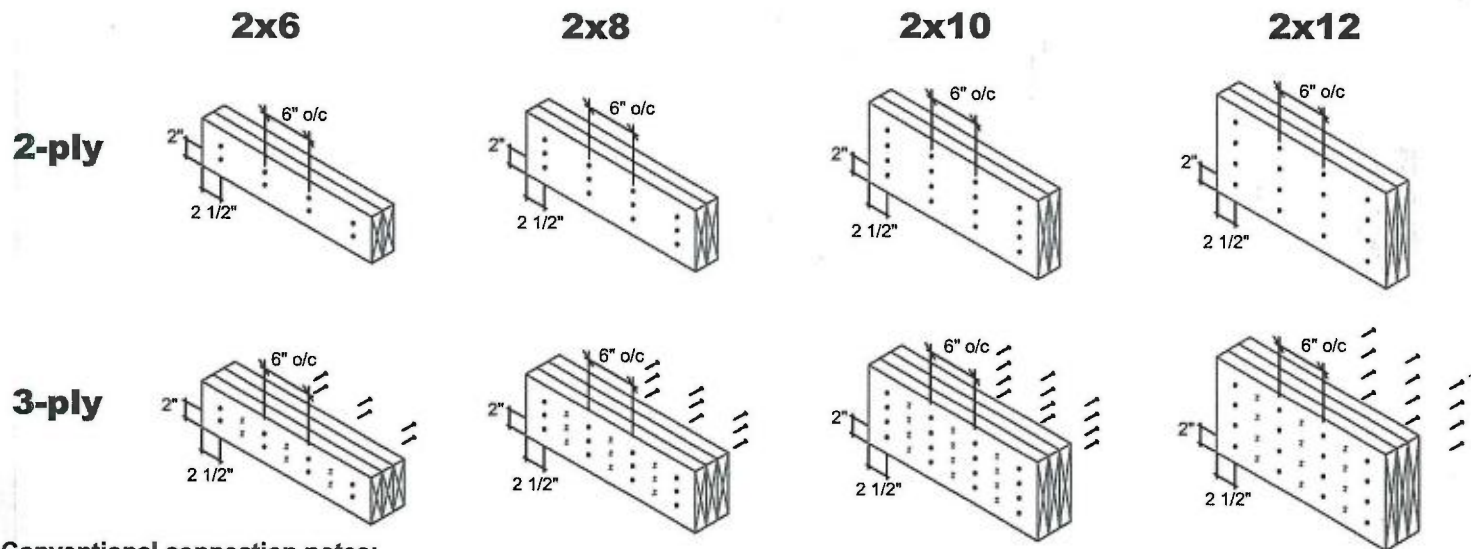
Floor
Loads
Live
Dead
Deflection Joist
LL Span L/
TL Span L/
LL Cant 2L/
TL Cant 2L/
Deflection Girder
LL Span L/
TL Span L/
LL Cant 2L/
TL Cant 2L/
Decking
Deck
Thickness
Fastener
Vibration
SPF Plywood
3/4"
Nailed & Glued

LOT 9



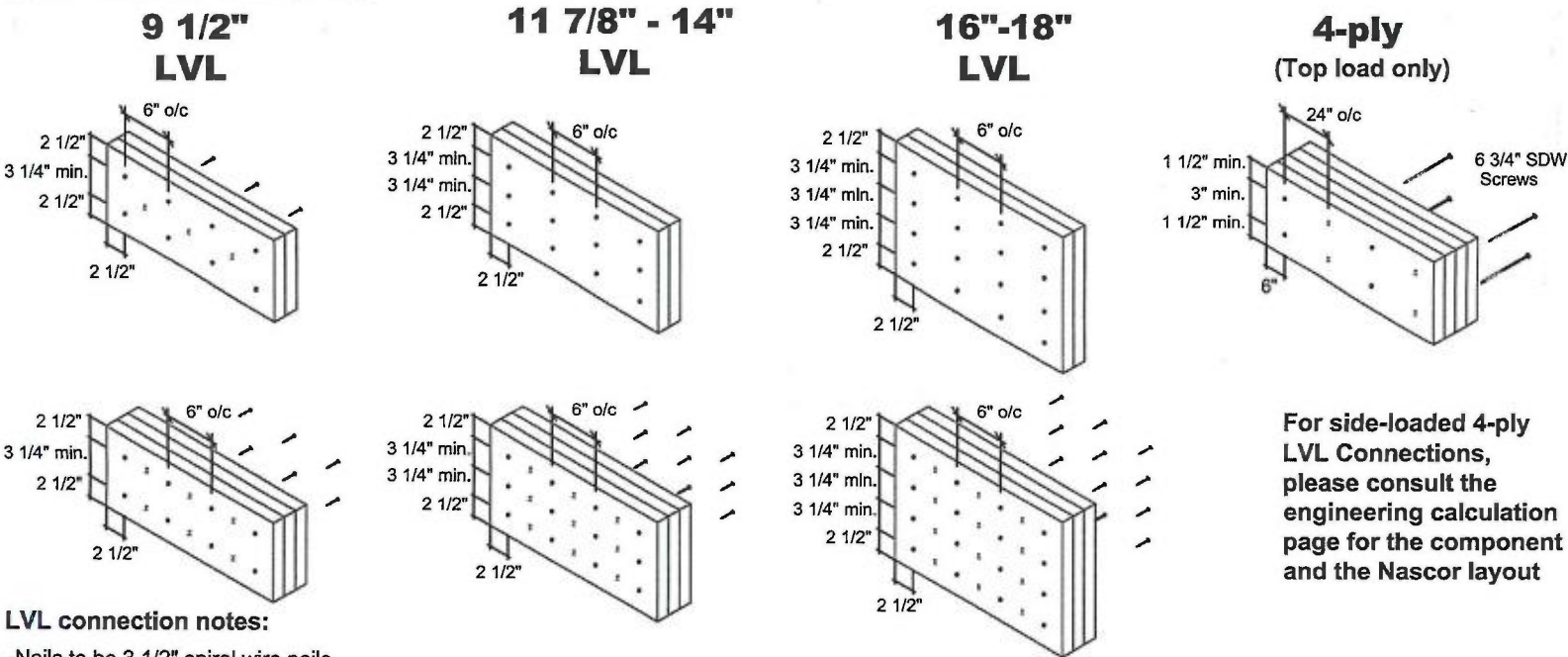
MULTIPLE MEMBER CONNECTIONS

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.

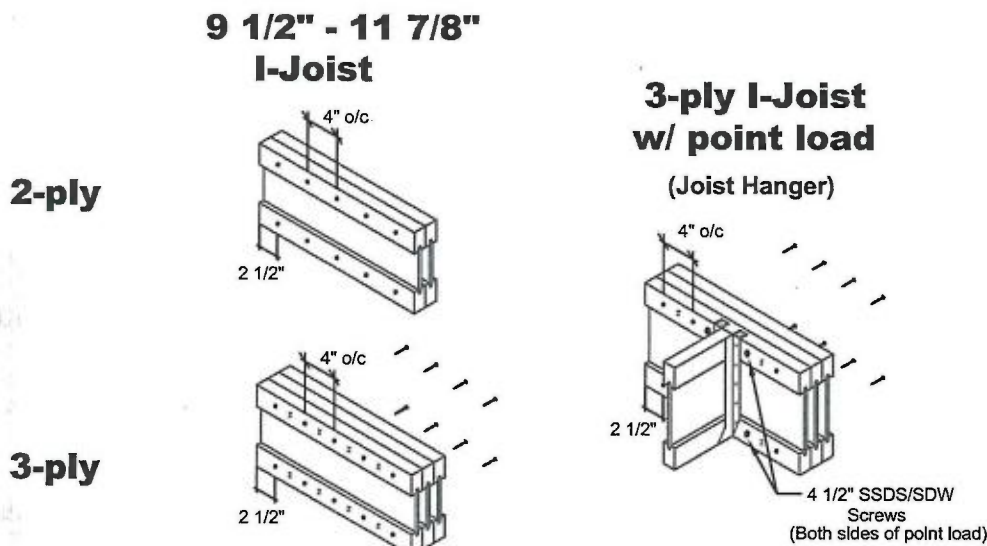
LVL Connections (for uniform distributed loads)



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.

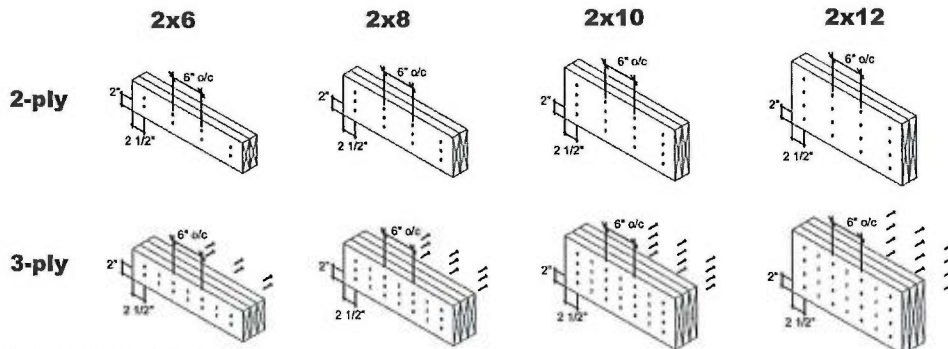
HANDLING AND INSTALLATION

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



MULTIPLE MEMBER CONNECTIONS

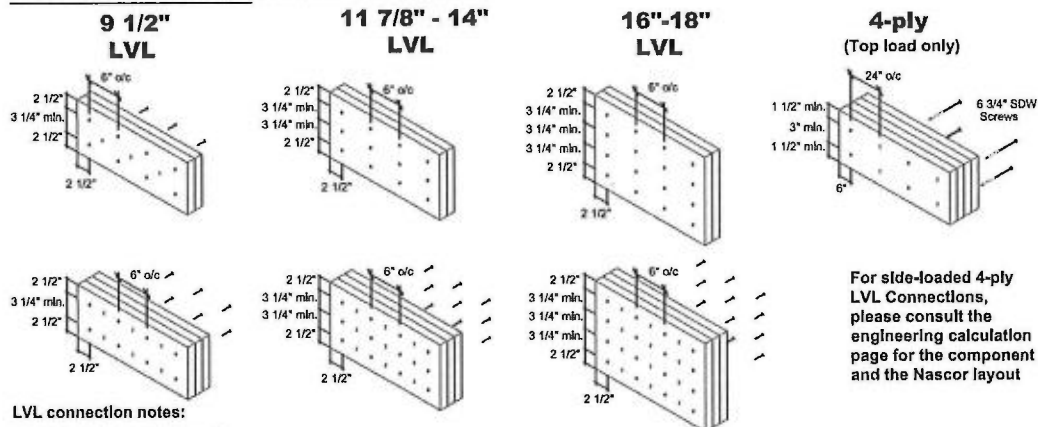
Conventional Connections (for uniform distributed loads)



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)

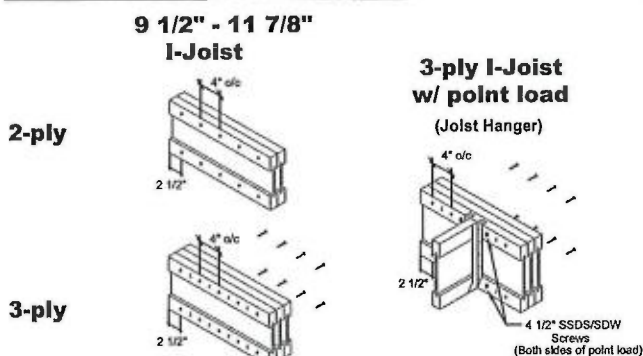


LVL connection notes:

- 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

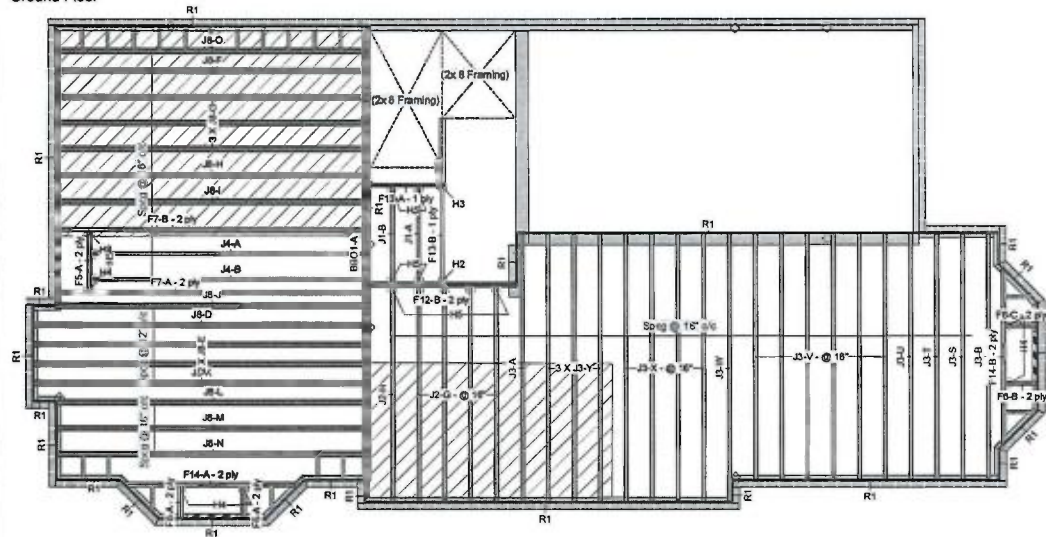
Date: November 30, 2018

Scale: NTS

KOTT

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

Ground Floor



Legend

	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1,125 X 11,875
	NJ 11,875
	NJ40U 11,875
	NJH 11,875
	Forex 2,0E-3000Fb LVL 1.75 X 11,875

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

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.



September 13, 2018

Ground Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F12	Forex 2,0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0
F13	Forex 2,0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F7	NJ	1.5	11.875	2	2	4	18-0-0
F14	NJ	1.5	11.875	2	2	4	10-0-0
F5	NJ	1.5	11.875	1	2	2	4-0-0
F6	NJ	1.5	11.875	4	2	8	2-0-0
J8	NJ40U	3.5	11.875			15	18-0-0
J4	NJH	2.5	11.875			2	18-0-0
J3	NJH	2.5	11.875			19	14-0-0
J2	NJH	2.5	11.875			5	12-0-0
J1	NJH	2.5	11.875			2	8-0-0

Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1,125 X 11,875	1,125	11,875			14	12

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	11.875	1inFt		Varies	22-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H2	1	HUS1.61/10			30 16d	10 16d
H3	1	LS90				
H4	6	LT2-151188			4 10dx1 1/2	2 10dx1 1/2
H5	11	LT251188			4 10dx1 1/2	2 10dx1 1/2

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/ringjoist.
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 framer'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:

JARDIN DESIGN GROUP INC.
64 Jardin Dr., Suite 3A, Vaughan, ON
Date: June 11, 2018
Project No: 18-24
Model: Grandbrooke 11

NASCOR

Layout Name
GRANDBROOKE 11-2

Design Method
LSD

Description
MINNISALE HOMES
BRAMPTON, ONT.

Created
June 29, 2018

Builder
GREENPARK

Sales Rep
RM

Designer
RCO

Shipping

Project

Builder's Project

Kott Lumber Company
14 Anderson Blvd
Stouffville, Ontario

Canada
L4A 7X4
905-642-4400

Job Path

D:\Users\tochavilov\WORK FROM HOME\GREENPARK-MINNISALE HOMES\GRANDBROOKE 11\GRANDBROOKE 11-2\FLOOR\GRANDBROOKE 11-2.lsl

Ground Floor

Design Method
LSD

Building Code
NBC 2010 / OBC 2012

Floor

Loads

Live 40

Dead 15

Deflection Joist

LL Span L/ 480

TL Span L/ 360

LL Cent 2L/ 480

TL Cent 2L/ 360

Deflection Girder

LL Span L/ 360

TL Span L/ 240

LL Cent 2L/ 480

TL Cent 2L/ 360

Decking

Deck SPF Plywood

Thickness 3/4"

Fastener Nailed & Glued

Vibration



isDesign™

Client: GREENPARK

Project:

Address:

Date: 9/7/2018

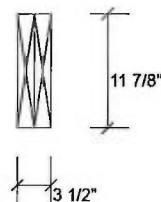
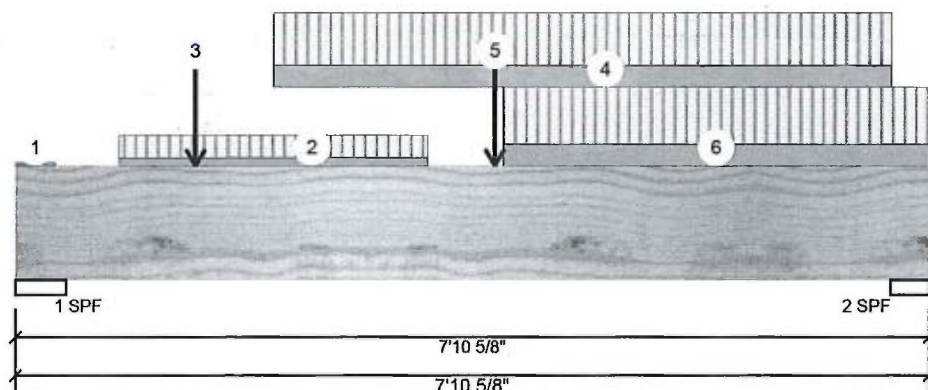
Designer: RCO

Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F12-B Forex 2.0E-3000Fb LVL 1.750" X 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	1152	507	0	0
2	1639	694	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.250"	21% 634 / 1727	2361 L	1.25D+1.5L
2 - SPF	4.000"	39% 868 / 2458	3326 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5565 ft-lb	4'1 5/8"	34261 ft-lb	0.162 (16%)	1.25D+1.5L	L
Unbraced	5565 ft-lb	4'1 5/8"	31822 ft-lb	0.175 (17%)	1.25D+1.5L	L
Shear	2671 lb	1'4 3/8"	11596 lb	0.230 (23%)	1.25D+1.5L	L
Perm Defl in.	0.014 (L/6074)	4'1 5/8"	0.241 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.033 (L/2609)	4'1 5/8"	0.241 (L/360)	0.140 (14%)	L	L
TL Defl inch	0.048 (L/1825)	4'1 5/8"	0.362 (L/240)	0.130 (13%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-10-12 to 3-6-12		Far Face	35 PLF	94 PLF	0 PLF	0 PLF	Pass-Thru Framing Squash Block is required at all point loads over bearings
3	Point	1-6-12		Near Face	117 lb	276 lb	0 lb	0 lb	0 PLF
4	Part. Uniform	2-2-12 to 7-6-12		Near Face	93 PLF	220 PLF	0 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply nailing or bolting requirements
5	Point	4-1-10		Far Face	88 lb	205 lb	0 lb	0 lb	
6	Part. Uniform	4-2-8 to 7-10-10		Top	90 PLF	240 PLF	0 PLF	0 PLF	
	Self Weight				10 PLF				

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

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide ponding

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

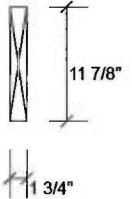
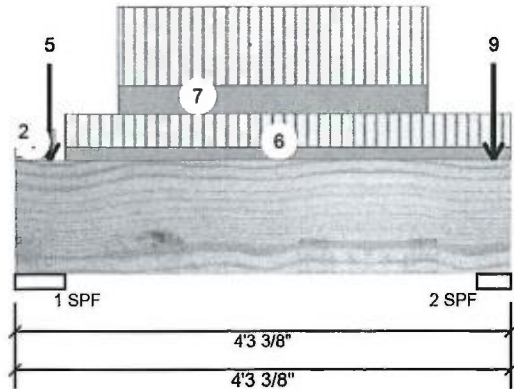
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 2

F13-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	517	239	0	0
2	818	342	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.250"	19% 299 / 776	1075 L	1.25D+1.5L
2 - SPF	3.500"	44% 427 / 1227	1655 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	432 ft-lb	2'2 5/8"	17130 ft-lb	0.025 (3%)	1.25D+1.5L	L
Unbraced	432 ft-lb	2'2 5/8"	12098 ft-lb	0.036 (4%)	1.25D+1.5L	L
Shear	322 lb	1'4 3/8"	5798 lb	0.056 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/47810)	2'2 5/8"	0.123 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/19645)	2'2 5/8"	0.123 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.003 (L/13924)	2'2 5/8"	0.184 (L/240)	0.020 (2%)	D+L	L

Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)0-5-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	(Span)0-10-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	Pass-Thru Framing Squash Block is required at all point loads over bearings
3	Point	0-3-10		Top	81 lb	205 lb	0 lb	0 lb	0 lb F11 F11
4	Point	0-3-10		Top	44 lb	108 lb	0 lb	0 lb	Refer to Multiple Member Connection Detail for nailing or bolting requirements
5	Point	0-3-10		Top	27 lb	0 lb	0 lb	0 lb	0 lb Wall Self Weight
6	Part. Uniform	0-5-4 to 4-3-6		Top	15 PLF	40 PLF	0 PLF	0 PLF	

Continued on page 2...

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

Notes

Calculated Structural Designs is responsible only 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

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

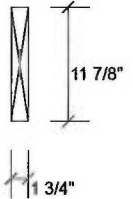
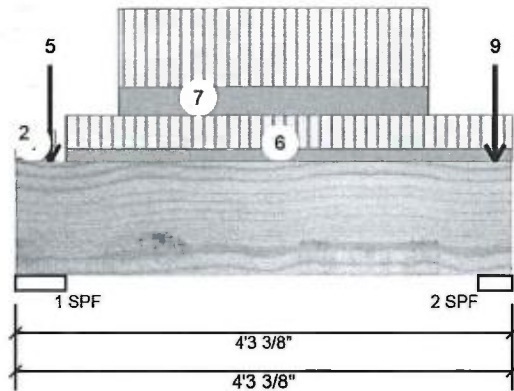
Job Name: GRANDBROOKE 11-2

Project #:

Page 2 of 2

F13-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	Part. Uniform	0-10-12 to 3-6-12		Near Face	35 PLF	94 PLF	0 PLF	0 PLF	
8	Point	4-1-9		Top	219 lb	536 lb	0 lb	0 lb	C3
9	Point	4-1-10		Near Face	35 lb	73 lb	0 lb	0 lb	F13
	Self Weight				5 PLF				



September 13, 2018

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

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

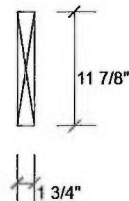
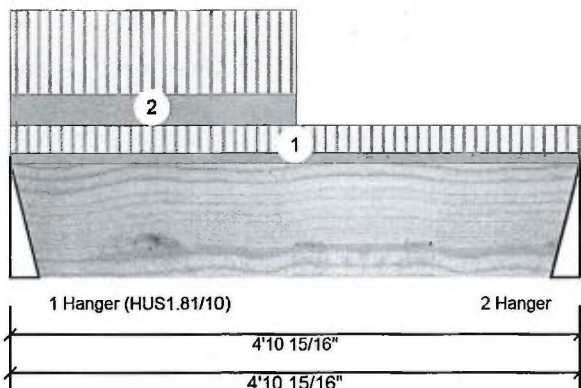
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F13-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor

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

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

Brg	Live	Dead	Snow	Wind
1	205	88	0	0
2	104	51	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	3.000"	11% 111 / 307	418 L	1.25D+1.5L
2 - Hanger	3.000"	6% 64 / 157	220 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	353 ft-lb	2' 9/16"	17130 ft-lb	0.021 (2%)	1.25D+1.5L	L
Unbraced	353 ft-lb	2' 9/16"	9906 ft-lb	0.036 (4%)	1.25D+1.5L	L
Shear	177 lb	1'2 1/8"	5798 lb	0.031 (3%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/55926)	2'2 13/16"	0.151 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/25065)	2'2 3/8"	0.151 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.003 (L/17309)	2'2 1/2"	0.227 (L/240)	0.010 (1%)	D+L	L

Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-10-15	(Span)1-2-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 2-5-10	(Span)3-9-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

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

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

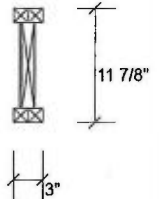
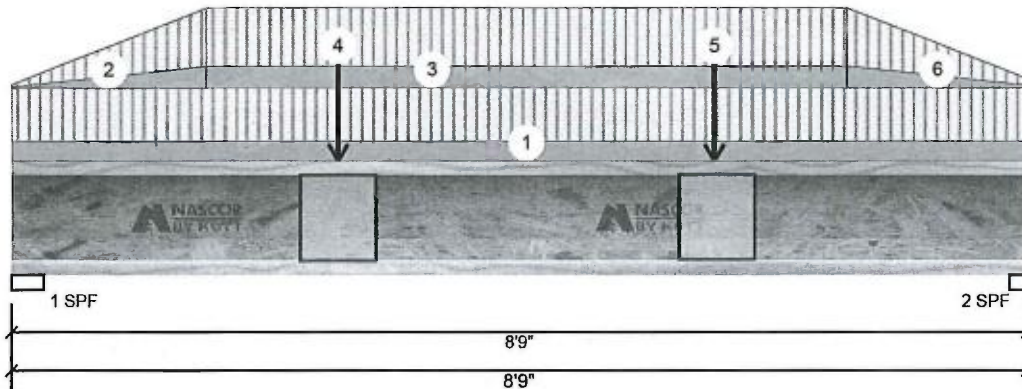
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F14-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	353	132	0	0
2	348	131	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.375"	22%	165 / 529	694	L	1.25D+1.5L
2 - SPF	1.875"	26%	163 / 523	686	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1582 ft-lb	4'5 1/4"	9020 ft-lb	0.175 (18%)	1.25D+1.5L	L
Unbraced	1582 ft-lb	4'5 1/4"	1595 ft-lb	0.992 (99%)	1.25D+1.5L	L
Shear	679 lb	8'7 7/8"	3400 lb	0.200 (20%)	1.25D+1.5L	L
Perm Defl in.	0.010 (L/9752)	4'5 5/16"	0.281 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.028 (L/3661)	4'5 5/16"	0.281 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.038 (L/2662)	4'5 5/16"	0.422 (L/240)	0.090 (9%)	D+L	L

Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 5'8" o.c.
- 5 Bottom flange braced at bearings.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-9-0	(Span)1-7-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-8-2	(Span)0-0-13 to 1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	1-8-2 to 7-2-6	(Span)1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	2-9-12		Near Face	32 lb	85 lb	0 lb	0 lb	Pass This Framing Squash Block is required at all point loads over bearings
5	Point	6-0-12		Near Face	32 lb	85 lb	0 lb	0 lb	
6	Tie-In	7-2-6 to 8-9-0	(Span)1-8-15 to 0-2-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

1. Dry service conditions, unless noted otherwise
2. Ljoist not to be treated with fire retardant or corrosive 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 bracing
6. Web point
7. For more details refer to the Ljoist product information details

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

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

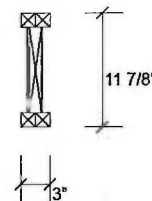
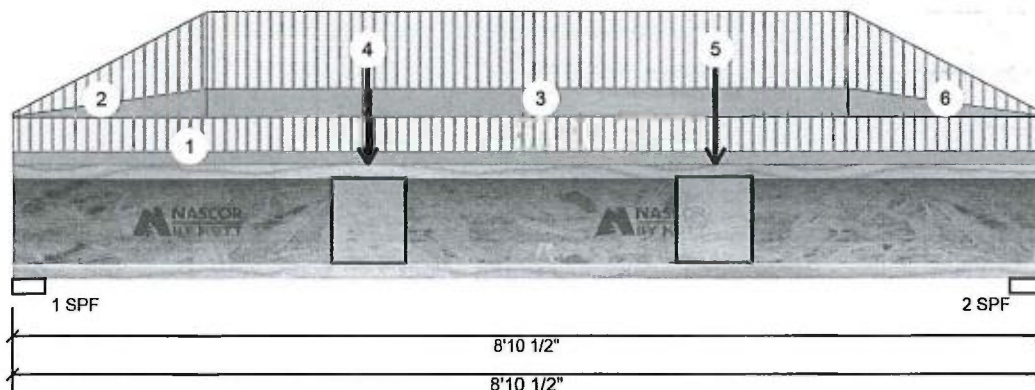
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F14-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	277	104	0	0
2	281	105	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	3.375"	17%	130 / 416	546 L 1.25D+1.5L
2 - SPF	3.375"	17%	131 / 421	552 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1309 ft-lb	4'4 5/16"	9020 ft-lb	0.145 (15%)	1.25D+1.5L	L
Unbraced	1309 ft-lb	4'4 5/16"	1321 ft-lb	0.991 (99%)	1.25D+1.5L	L
Shear	544 lb	8'7 7/8"	3400 lb	0.160 (16%)	1.25D+1.5L	L
Perm Defl in.	0.009 (L/11833)	4'5 1/16"	0.281 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.023 (L/4431)	4'5 1/8"	0.281 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.031 (L/3224)	4'5 1/8"	0.422 (L/240)	0.070 (7%)	D+L	L

Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 6'1" o.c.
- 5 Bottom flange braced at bearings.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-10-8	(Span)0-9-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-8-2	(Span)0-0-13 to 1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	1-8-2 to 7-2-6	(Span)1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	3-0-12		Near Face	32 lb	85 lb	0 lb	0 lb	0 PSF F6
5	Point	6-0-12		Near Face	30 lb	81 lb	0 lb	0 lb	0 PSF F6
6	Tie-In	7-2-6 to 8-10-8	(Span)1-8-15 to 0-0-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	

0 PSF
Pass-Thru Framing Squash Block is required at all point loads over bearings
0 lb F6
0 lb F6
0 PSF
Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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

Lumber

1. Dry service conditions, unless noted otherwise
2. 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.

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

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

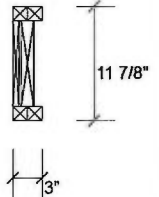
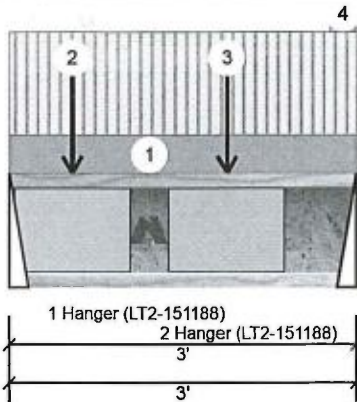
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F5-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	423	158	0	0
2	329	124	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	31% 198 / 634	832 L	1.25D+1.5L
2 - Hanger	2.000"	24% 155 / 493	648 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	614 ft-lb	1'10 9/16"	9020 ft-lb	0.068 (7%)	1.25D+1.5L	L
Unbraced	614 ft-lb	1'10 9/16"	5749 ft-lb	0.107 (11%)	1.25D+1.5L	L
Shear	825 lb	1 1/4"	3400 lb	0.243 (24%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/26335)	1'10 9/16"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/9849)	1'10 9/16"	0.093 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.005 (L/7168)	1'10 9/16"	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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-6-9		Near Face	106 lb	283 lb	0 lb	0 lb	J4
3	Point	1-10-9		Near Face	136 lb	364 lb	0 lb	0 lb	J4
4	Part. Uniform	2-9-5 to 3-0-0		Top	4 PLF	0 PLF	0 PLF		Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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

Notes

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

Lumber

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
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

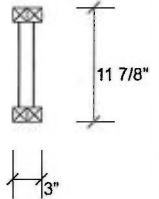
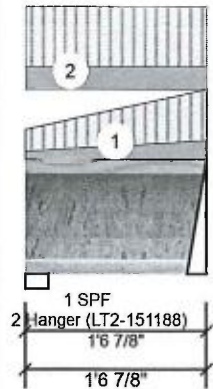
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F6-A NJ 11.875" 2-Ply - PASSED

Level: Ground Floor

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

Type:	Girder	Application:	Floor (Residential)
Ply:	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	79	30	0	0
2	85	32	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	5%	37 / 118	156	L	1.25D+1.5L
2 - Hanger	2.000"	6%	40 / 128	168	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	46 ft-lb	9 13/16"	9020 ft-lb	0.005 (1%)	1.25D+1.5L	L
Unbraced	46 ft-lb	9 13/16"	8494 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	143 lb	1'5 5/8"	3400 lb	0.042 (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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)1-2-3 to 2-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

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

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of this 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
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

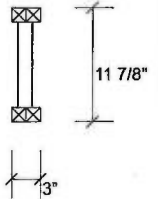
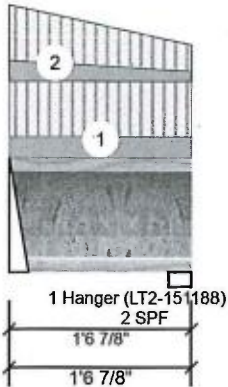
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F6-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	85	32	0	0
2	79	30	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	6% 40 / 128	168 L	1.25D+1.5L
2 - SPF	2.375"	5% 37 / 118	156 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	46 ft-lb	9 1/16"	9020 ft-lb	0.005 (1%)	1.25D+1.5L	L
Unbraced	46 ft-lb	9 1/16"	8494 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	143 lb	1 1/4"	3400 lb	0.042 (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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-6-14	(Span)3-0-1 to 1-5-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

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

Notes

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

Lumber

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
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

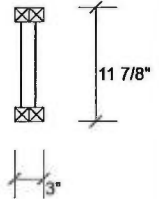
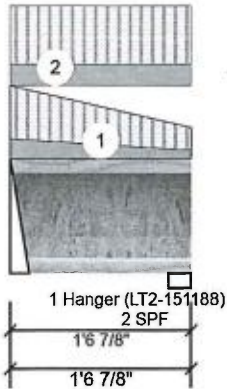
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F6-C 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	81	30	0	0
2	75	28	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	6% 38 / 122	160 L	1.25D+1.5L
2 - SPF	2.375"	5% 35 / 112	148 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"	8494 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	137 lb	1 1/4"	3400 lb	0.040 (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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)2-9-1 to 1-2-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-6-14	(Span)3-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

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

Notes

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

Lumber

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
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

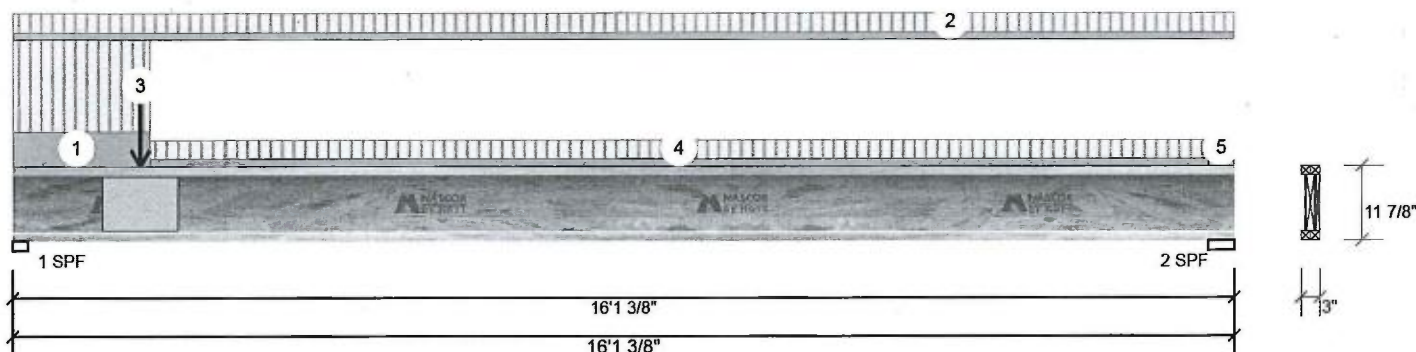
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F7-A NJ 11.875" 2-Ply - PASSED

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED 1b (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	683	256	0	0
2	262	98	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	2.375"	47%	320 / 1025	1344 L 1.25D+1.5L
2 - SPF	4.125"	15%	123 / 393	515 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2420 ft-lb	6'2 13/16"	9020 ft-lb	0.268 (27%)	1.25D+1.5L	L
Unbraced	2420 ft-lb	6'2 13/16"	2442 ft-lb	0.991 (99%)	1.25D+1.5L	L
Shear	1323 lb	1 5/8"	3400 lb	0.389 (39%)	1.25D+1.5L	L
Perm Defl in.	0.046 (L/4121)	7'6 5/16"	0.523 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.122 (L/1544)	7'6 5/16"	0.523 (L/360)	0.230 (23%)	L	L
TL Defl inch	0.168 (L/1123)	7'6 5/16"	0.785 (L/240)	0.210 (21%)	D+L	L

Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'8" o.c.
- 5 Bottom flange braced at bearings.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-1-6	(Span)0-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-6		Far Face	158 lb	423 lb	0 lb	0 lb	F5
4	Tie-In	1-9-14 to 15-9-4	(Span)0-8-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	15-9-4 to 16-1-6	(Span)0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

Notes

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

Lumber

1. Dry service conditions, unless noted otherwise
2. 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
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

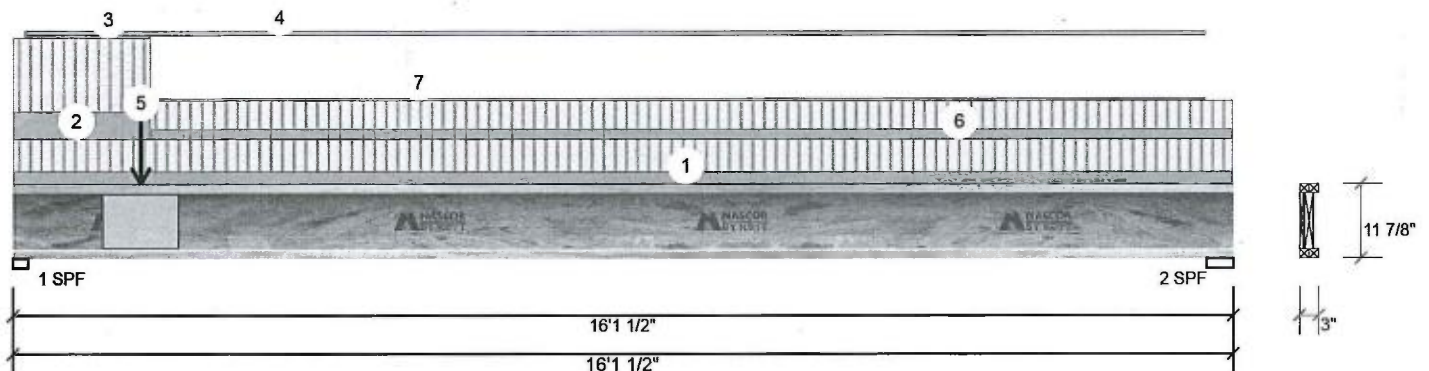
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F7-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	792	344	0	0
2	470	223	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	57%	430 / 1187	1618 L	1.25D+1.5L
2 - SPF	4.250"	29%	279 / 705	984 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4051 ft-lb	7'4 3/16"	9020 ft-lb	0.449 (45%)	1.25D+1.5L	L
Unbraced	4051 ft-lb	7'4 3/16"	4075 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	1593 lb	1 5/8"	3400 lb	0.468 (47%)	1.25D+1.5L	L
Perm Defl in.	0.090 (L/2090)	7'9 11/16"	0.523 (L/360)	0.170 (17%)	D	Uniform
LL Defl inch	0.192 (L/979)	7'9 3/16"	0.523 (L/360)	0.370 (37%)	L	L
TL Defl inch	0.282 (L/667)	7'9 3/8"	0.785 (L/240)	0.360 (36%)	D+L	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 3'7" o.c.
- Bottom flange braced at bearings.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-1-6	(Span)1-5-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-1-15 to 1-9-14		Top	2 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-0 to 15-9-0		Top	4 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-8-6		Near Face	124 lb	329 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
6	Tie-In	1-9-14 to 16-1-6	(Span)1-2-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-9-14 to 15-9-0		Top	2 PLF	0 PLF	0 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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

Notes

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

Lumber

- Dry service conditions, unless noted otherwise
- Joist 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, multi-ply 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 bracing
- Web stiffener
- For flat

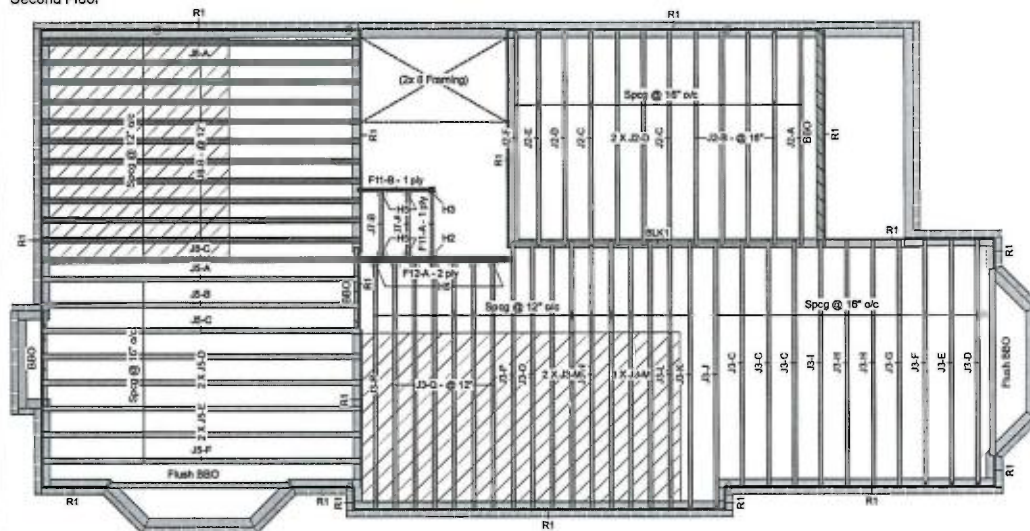
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

KOTT NASCOR

This design is valid until 7/10/2021



Second Floor



Legend

	Load from Above
	Wall
	Norbord Rimboard Plus 1.125 X 11.875
	NJ40U 11.875
	NJ60U 11.875
	NJH 11.875
	Forex 2.0E-3000Fb LVL 1.75 X 11.875
	1.75 X 11.875 (Dropped)
	3.5 X 11.875

- OBC 2012 Q.Reg 332/12 as amended
- Nascor CCMC - 13535-R
- LVL CCMC -14056-R
- CAN/CSA-C85-09
- CCMC-12787-R.APA PR-1310(C)

This certification is to confirm that:

- The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
- 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.



September 13, 2018

Second Floor
LVL/SL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F12	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	11.875			2	4-0-0

J Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J8	NJ40U	3.5	11.875			12	18-0-0
J5	NJ60U	3.5	11.875			8	18-0-0
J3	NJH	2.5	11.875			28	14-0-0
J2	NJH	2.5	11.875			12	12-0-0
J7	NJH	2.5	11.875			2	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			13	12

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	11.875	LinFt		Varies	9-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H2	1	HUS1.81/10			30 16d	10 16d
H3	1	LS80				
H5	11	LT251188			4 10d x 1 1/2	2 10d x 1 1/2

NOTES:

- Framer to verify dimensions on the architectural drawings.
- Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation works.
- 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.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer'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:

JARDIN DESIGN GROUP INC.
64 Jardin Dr., Suite 3A, Vaughan, ON
Date: June 11, 2018
Project No: 18-24
Model: Grandbrooke 11

Layout Name
GRANDBROOKE 11-2

Design Method
LSD

Description
MINISALE HOMES
BRAMPTON, ONT.

Created
June 29, 2018

Builder
GREENPARK

Sales Rep
RM

Designer
RCO

Shipping
Project

Builder's Project

Kott Lumber Company

14 Anderson Blvd
Stouffville, Ontario
Canada
L4A 7X4
905-642-4400

Job Path

D:\Users\vochaville\WORK FROM HOME\GREENPARK\MINISALE HOMES\GRANDBROOKE 11\GRANDBROOKE 11-2\FLOOR\GRANDBROOKE 11-2.rvt

Second Floor

Design Method LSD
Building Code NBCC 2010 / CBC 2012

Floor

Live Loads 40
Dead Loads 15

Deflection Joist

LL Span 1/ 480
TL Span 1/ 360
LL Cant 2L/ 480
TL Cant 2L/ 360

Deflection Girder

LL Span 1/ 360
TL Span 1/ 240
LL Cant 2L/ 480
TL Cant 2L/ 360

Decking

Deck SPF Plywood

Thickness 5/8"

Fastener Nailed & Glued

Vibration

Ceiling Gypsum 1/2"



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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

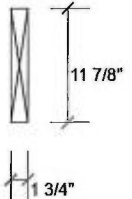
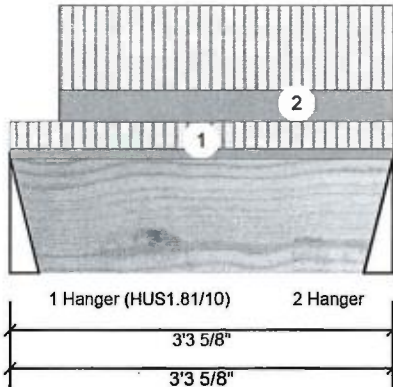
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F11-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Second Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	136	59	0	0
2	168	71	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	7%	74 / 204	278	L	1.25D+1.5L
2 - Hanger	3.000"	9%	88 / 252	340	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	220 ft-lb	1'7 15/16"	17130 ft-lb	0.013 (1%)	1.25D+1.5L	L
Unbraced	220 ft-lb	1'7 15/16"	13936 ft-lb	0.016 (2%)	1.25D+1.5L	L
Shear	100 lb	1'2 1/8"	5798 lb	0.017 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/37319)	1'7 15/16"	0.098 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/26240)	1'7 15/16"	0.146 (L/240)	0.010 (1%)	D+L	L

Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-3-10	(Span)1-2-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-2 to 3-3-10	(Span)3-10-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

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

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

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

Notes

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

Lumber

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
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

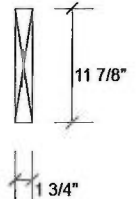
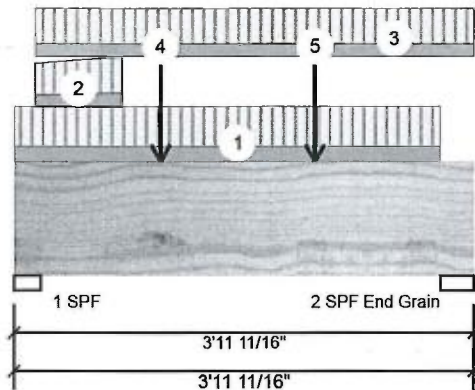
Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 1

F11-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Second Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	410	163	0	0
2	368	148	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.750"	28%	204 / 614	818	L	1.25D+1.5L
2 - SPF End Grain	3.500"	16%	185 / 552	737	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	686 ft-lb	1'11 1/4"	17130 ft-lb	0.040 (4%)	1.25D+1.5L	L
Unbraced	686 ft-lb	1'11 1/4"	12367 ft-lb	0.055 (6%)	1.25D+1.5L	L
Shear	415 lb	2'9 1/16"	5798 lb	0.071 (7%)	1.25D+1.5L	L
Perm Defl in. (L/30447)	0.001	1'11 3/8"	0.119 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/12094)	0.004	1'11 3/8"	0.119 (L/360)	0.030 (3%)	L	L
TL Defl inch (L/8656)	0.005	1'11 3/8"	0.179 (L/240)	0.030 (3%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Part. Uniform	0-0-0 to 3-8-3		Top	30 PLF	80 PLF	0 PLF	0 PLF
2	Tie-In	0-2-3 to 0-11-2	(Span)3-2-2 to 3-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF
3	Tie-In	0-2-3 to 3-11-11	(Span)3-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF
4	Point	1-3-2		Near Face	30 lb	80 lb	0 lb	0 lb
5	Point	2-7-2		Near Face	32 lb	85 lb	0 lb	0 lb
	Self Weight				5 PLF			

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September 13, 2018

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

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

Notes

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

Lumber

- 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
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

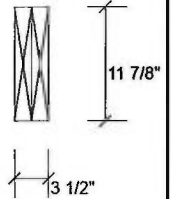
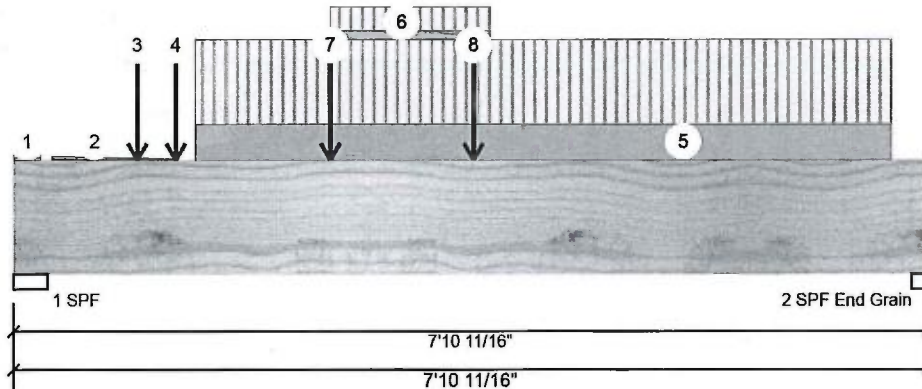
Designer: RCO

Job Name: GRANDBROOKE 11-2

Project #:

Page 1 of 2

F12-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	1110	502	0	0
2	1032	473	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	3.500"	30%	627 / 1665	2292 L 1.25D+1.5L
2 - SPF	1.750"	47%	591 / 1548	2139 L 1.25D+1.5L
End Grain				

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4833 ft-lb	3'11 11/16"	34261 ft-lb	0.141 (14%)	1.25D+1.5L	L
Unbraced	4833 ft-lb	3'11 11/16"	31588 ft-lb	0.153 (15%)	1.25D+1.5L	L
Shear	2641 lb	1'2 5/8"	11596 lb	0.228 (23%)	1.25D+1.5L	L
Perm Defl in.	0.014 (L/6597)	3'11 11/16"	0.253 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.031 (L/2965)	3'11 11/16"	0.253 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.044 (L/2046)	3'11 11/16"	0.379 (L/240)	0.120 (12%)	D+L	L

Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-13	(Span)0-11-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-3-15 to 1-4-14	(Span)0-4-2 to 0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-0-14		Near Face	102 lb	240 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
4	Point	1-4-14		Far Face	30 lb	80 lb	0 lb	0 lb	
5	Part. Uniform	1-6-14 to 7-6-14		Near Face	106 PLF	249 PLF	0 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
6	Tie-In	2-8-14 to 4-1-7	(Span)3-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

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Notes

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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, multiple 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

Manufacturer Info

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: RCO

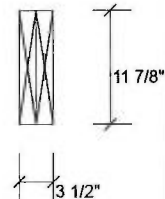
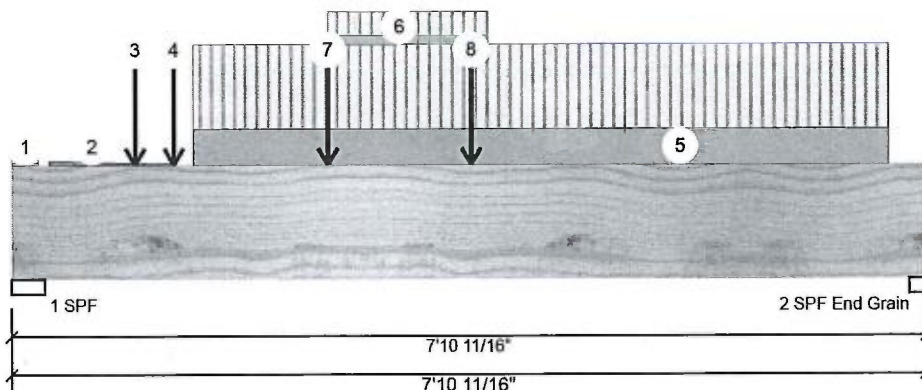
Job Name: GRANDBROOKE 11-2

Project #:

Page 2 of 2

F12-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
7	Point	2-8-14		Far Face	32 lb	85 lb	0 lb	0 lb	J7
8	Point	3-11-11		Far Face	59 lb	136 lb	0 lb	0 lb	F11
	Self Weight				10 PLF				



September 13, 2018

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Lumber

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chemicals**Handling & Installation**

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6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-842-4400



This design is valid until 7/10/2021

