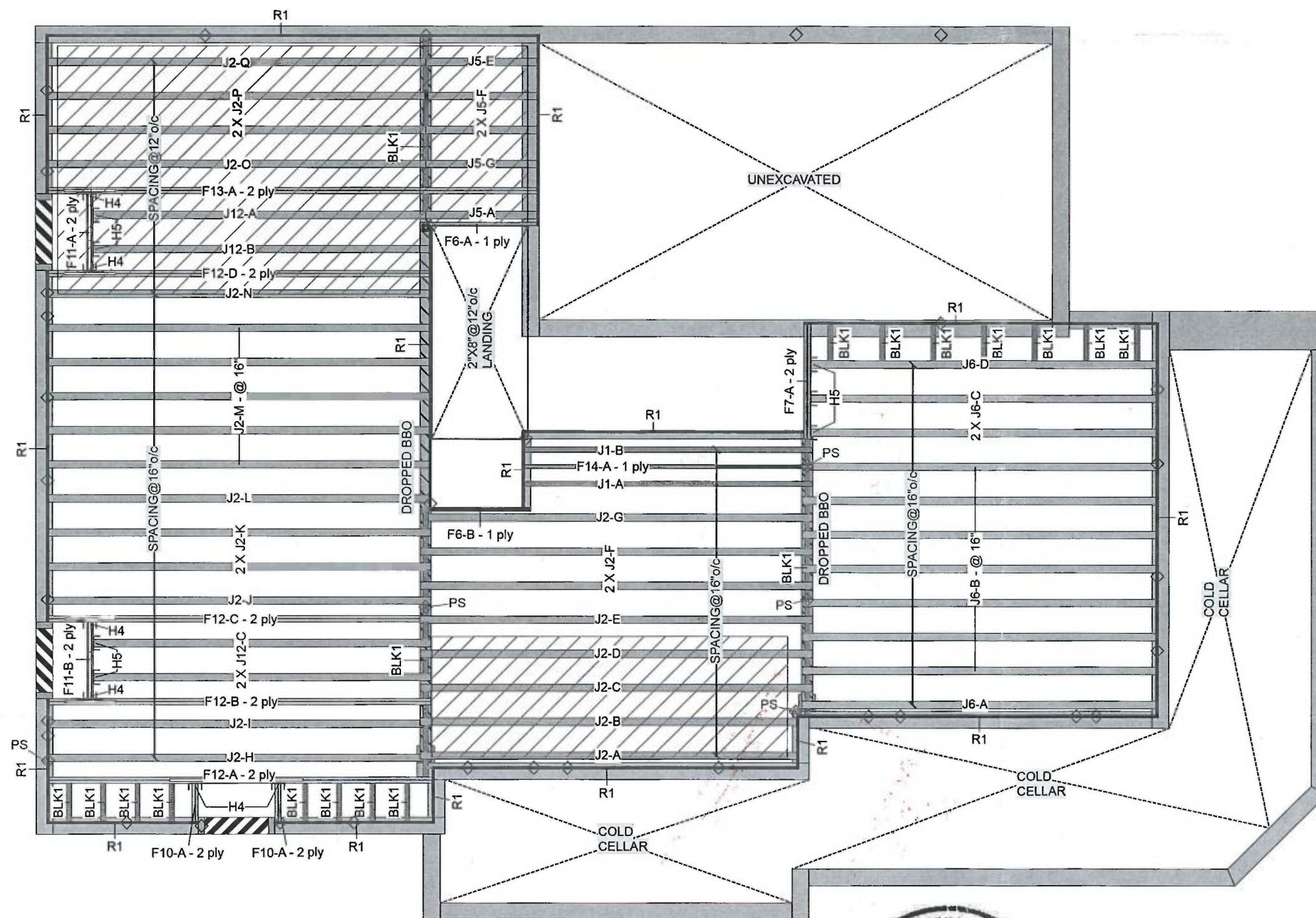


Ground Floor

Ground Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F14	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F13	NJ	1.5	9.5	1	2	2	20-0-0
F12	NJ	1.5	9.5	4	2	8	16-0-0
F11	NJ	1.5	9.5	2	2	4	4-0-0
F10	NJ	1.5	9.5	2	2	4	2-0-0
J6	NJ40U	3.5	9.5			11	14-0-0
J2	NJ60U	3.5	9.5			24	16-0-0
J12	NJ60U	3.5	9.5			4	14-0-0
J5	NJ60U	3.5	9.5			5	6-0-0
J1	NJH	2.5	9.5			2	12-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			13	12

Hanger

		Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners
H4	6	LT2-159			4 10dx1 1/2
H5	7	MIT49.5			4 10dx1 1/2

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	41-0-0

NOTES:

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

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

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

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

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

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.
64 Jardin Dr, Suite 3A
Date: Rev. 1, 4/26/2018
Project No: 18-24
Model: Clover 12A

Legend

PS	Point Load Support
◇	Load from Above
▨	Wall
▩	Wall Opening
▧	Norbord Rimboard Plus 1.125 X 9.5
▦	NJ 9.5
▥	NJ40U 9.5
▤	NJ60U 9.5
▣	NJH 9.5
▢	Forex 2.0E-3000Fb LVL 1.75 X 9.5

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.



September 13, 2018

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

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

NASCORLayout Name
CLOVER 12ADesign Method
LSD

Description

Created
June 25, 2018Builder
GREENPARKSales Rep
R MDesigner
R O

Shipping

Project

Builder's Project

Kott Lumber Company

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

Job Path

S:\CUSTOMERS\GREENPARK
MINNISALE HOMES\MODELS\BLOCK
316\CLOVER 12A\FLOORS\CLOVER
12A.isl

Ground FloorDesign Method LSD
Building Code NBCC 2010 / OBC 2012**Floor**

Loads

Live

Dead

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

Fastener Nailed & Glued

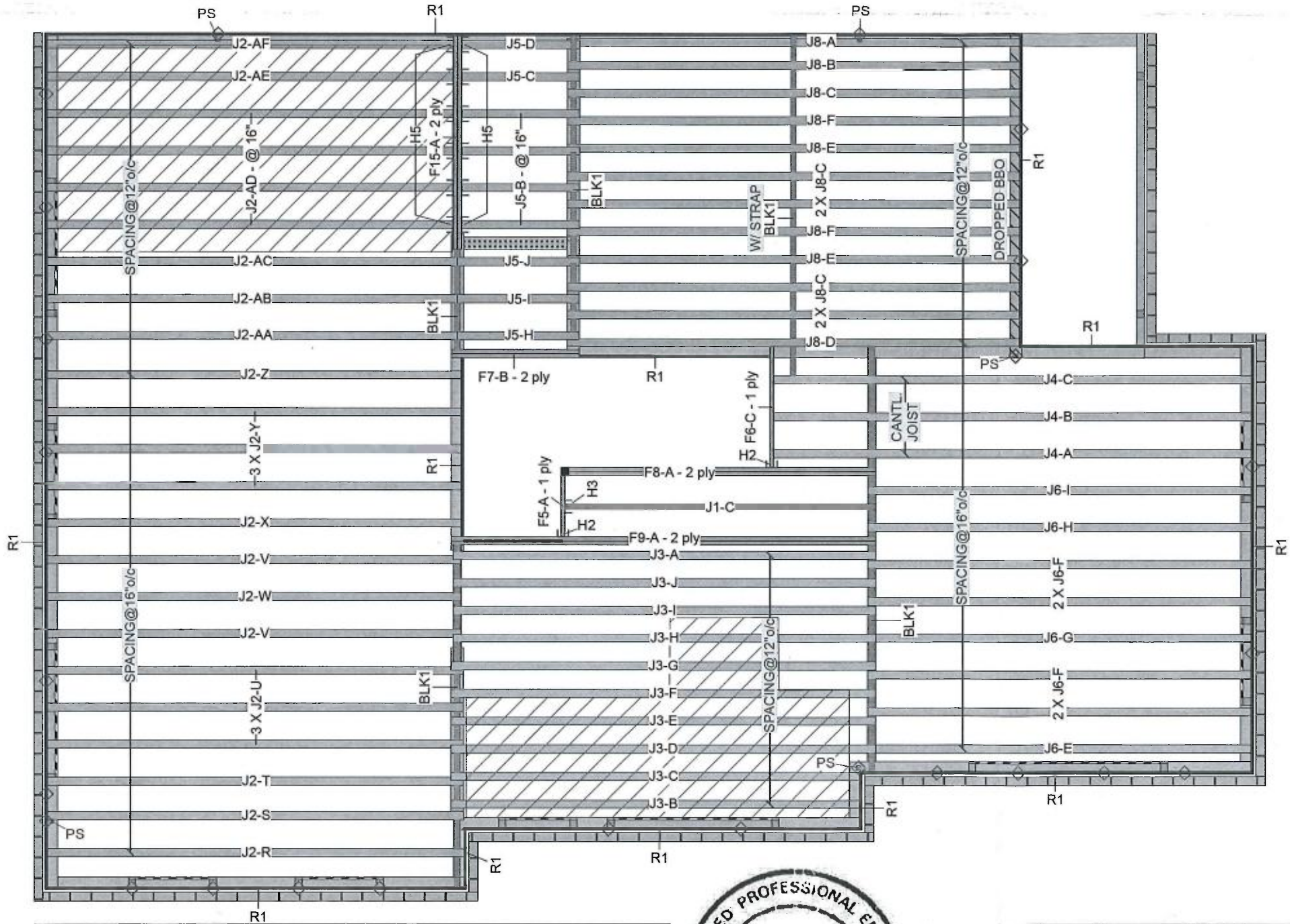
Vibration

**CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED**

JAN 21 2019

BY
MARK DERKSEN**KOTT**

Second Floor



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. Multiple members must be attached together as per the included multiple member connection detail.

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



September 13, 2018

Legend

- PS Point Load Support
- Load from Above
- Wall
- Wall Opening
- Norbord Rimboard Plus 1.125 X 9.5
- NJ 9.5
- NJ40U 9.5
- NJ60U 9.5
- NJH 9.5
- Forex 2.0E-3000Fb LVL 1.75 X 9.5

Second Floor

I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J4	NJ40U	3.5	9.5			3	18-0-0
J3	NJ40U	3.5	9.5			10	16-0-0
J6	NJ40U	3.5	9.5			8	14-0-0
J8	NJ60U	3.5	9.5			12	18-0-0
J2	NJ60U	3.5	9.5			23	16-0-0
J5	NJ60U	3.5	9.5			9	6-0-0
J1	NJH	2.5	9.5			1	12-0-0

LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	16-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5			1	6-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0

Rim Board

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

Hanger

		Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners
H2	2	LF179			10 10d
H3	1	LT259			4 10dx1 1/2
H5	12	MIT49.5			4 10dx1 1/2

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	35-0-0

NOTES:

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

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

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

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

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

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.
64 Jardin Dr, Suite 3A
Date: Rev. 1, 4/26/2018
Project No: 18-24
Model: Clover 12A

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

NASCOR

Layout Name

CLOVER 12A

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

S:\CUSTOMERS\GREENPARK
MINNISALE HOMES\MODELS\BLOCK
316\CLOVER 12A\FLOORS\CLOVER
12A.isl

Second Floor

Design Method LSD
Building Code 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

Ceiling:

40

15

480

360

480

360

360

240

480

240

SPF Plywood

5/8"

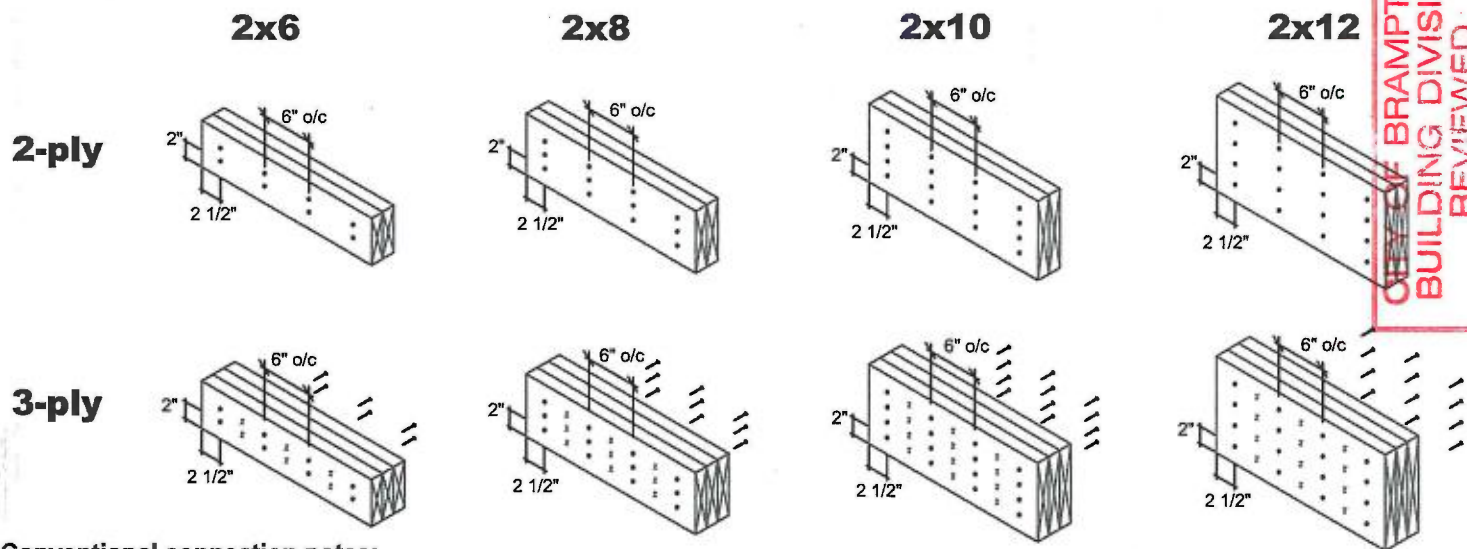
Nailed & Glued

Gypsum 1/2"



MULTIPLE MEMBER CONNECTIONS

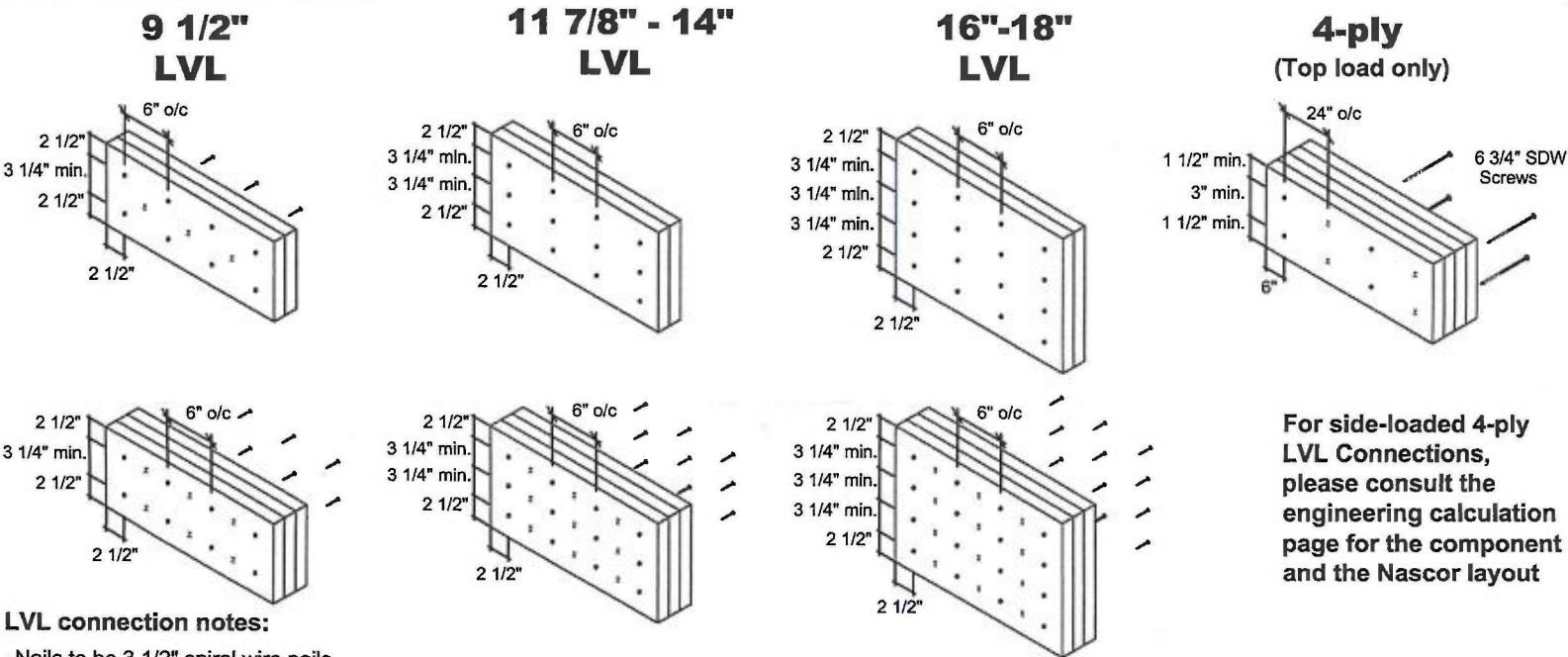
Conventional Connections (for uniform distributed loads)



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.

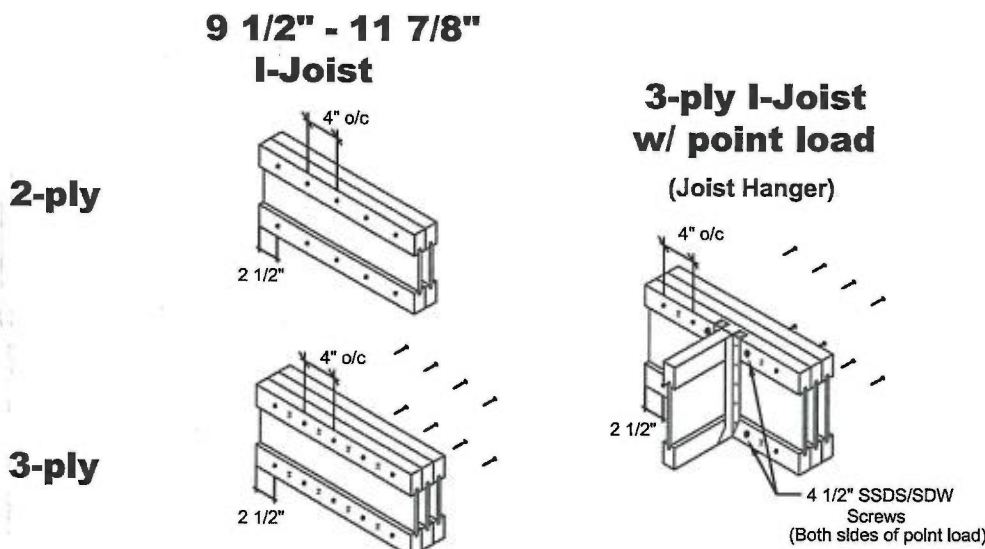
LVL Connections (for uniform distributed loads)



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.

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

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.

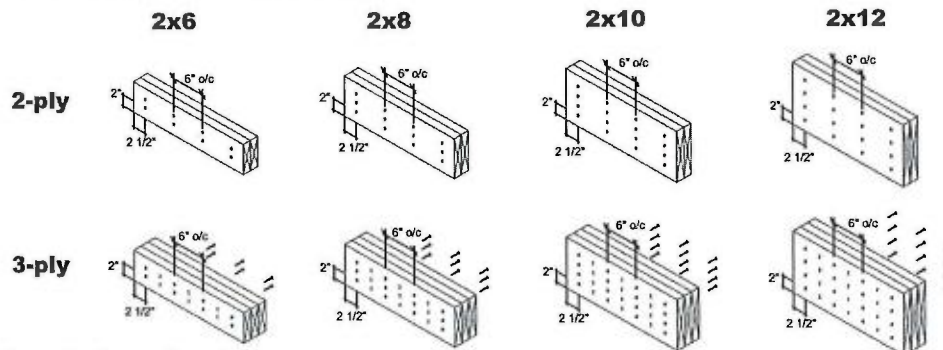
HANDLING AND INSTALLATION

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



MULTIPLE MEMBER CONNECTIONS

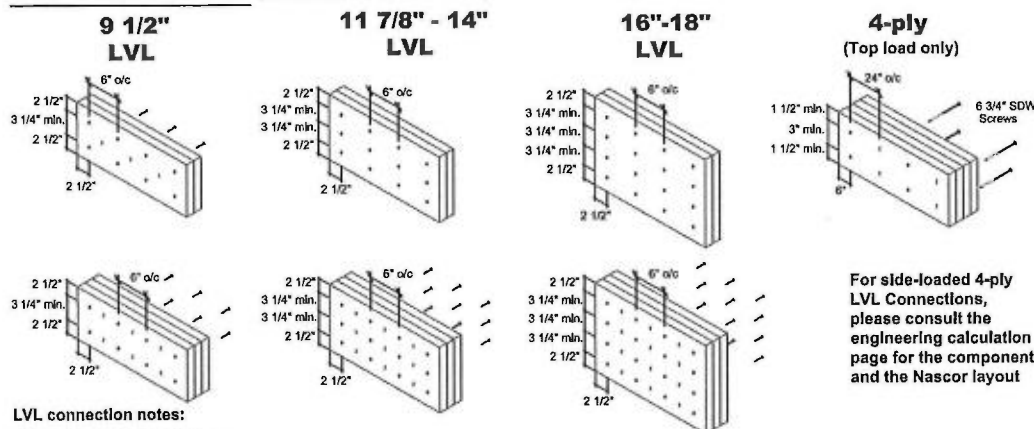
Conventional Connections (for uniform distributed loads)



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)

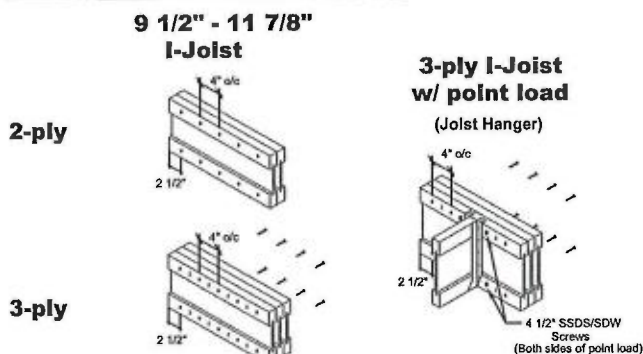


LVL connection notes:

- 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

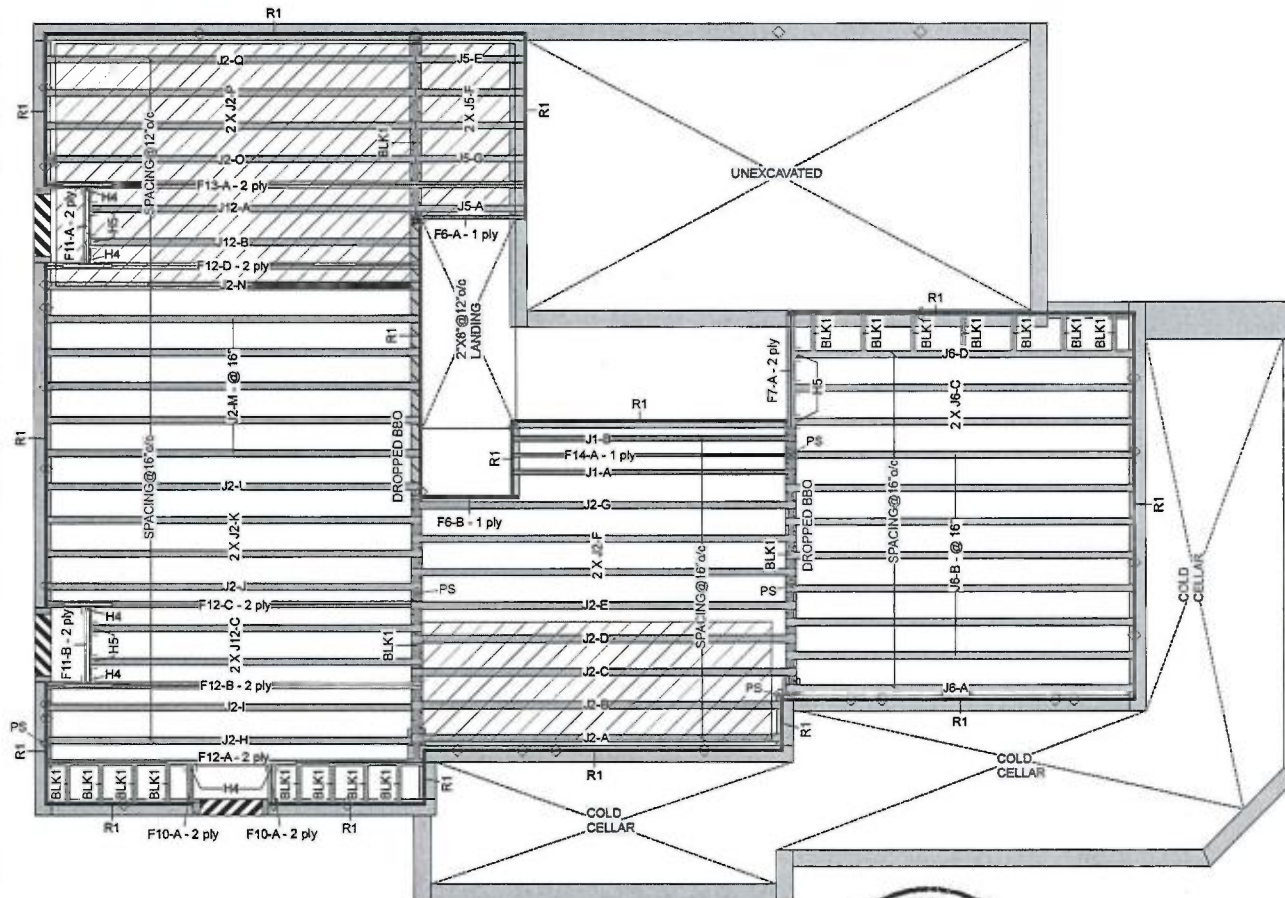
Date: November 30, 2016

Scale: NTS

KOTT

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

Ground Floor



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. Multiple members must be attached together as per the included multiple member connection detail.

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



September 13, 2018

Version 18.40.162 Powered by IStruct™

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

Ground Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Pieces	Length
F14	Forex 2.0E-3000Fb LVL	1.75	9.5		1	12-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5		2	6-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	6-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Pieces	Length
F13	NJ	1.5	9.5	1	2	20-0-0
F12	NJ	1.5	9.5	4	2	18-0-0
F11	NJ	1.5	9.5	2	2	4-0-0
F10	NJ	1.5	9.5	2	2	4-0-0
J6	NJ40U	3.5	9.5		11	14-0-0
J2	NJ80U	3.5	9.5		24	18-0-0
J12	NJ80U	3.5	9.5		4	14-0-0
J5	NJ80U	3.5	9.5		5	6-0-0
J1	NJH	2.5	9.5		2	12-0-0

Rim Board

Label	Description	Width	Depth	Qty	Pieces	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5		13	12

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H4	6	LTZ-159			4 10d x 1 1/2	2 10d x 1 1/2
H5	7	MIT49.5			4 10d x 1 1/2	4 10d x 1 1/2

Blocking

Label	Description	Width	Depth	Qty	Pieces	Length
BLK1	NJH	2.5	9.5	Lin Ft	Varies	41-0-0

NOTES:

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

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

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

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

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

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.
64 Jardin Dr, Suite 3A
Date: Rev. 1, 4/26/2018
Project No: 18-24
Model: Clover 12A

Legend

PS	Point Load Support
◊	Load from Above
Wall	Wall
Well Opening	Well Opening
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
NJ 9.5	NJ 9.5
NJ40U 9.5	NJ40U 9.5
NJ80U 9.5	NJ80U 9.5
NJH 9.5	NJH 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5

NASCOR

Layout Name

CLOVER 12A

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

S:\CUSTOMERS\GREENPARK

MINNSALE HOMES\MODELS\BLOCK

316\CLOVER 12A\FLOORS\CLOVER

12A.lsl

Ground Floor

Design Method

Building Code

NBCC 2010 / CBC

2012

Floor

Loads

Live

Dead

Deflection Joist

LL Span /

TL Span /

LL Cent 2U/

TL Cent 2U/

Deflection Girder

LL Span /

TL Span /

LL Cent 2U/

TL Cent 2U/

Decking

Deck

Thickness

Fastener

Vibration

SPF Plywood

34"

Nailed & Glued

KOTT



isDesign™

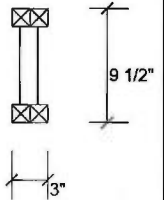
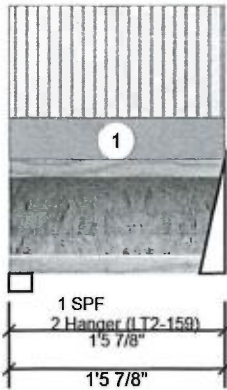
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

F10-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

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

Brg	Live	Dead	Snow	Wind
1	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"	7340 ft-lb	0.004 (0%)	1.25D+1.5L	L
Unbraced	27 ft-lb	8 7/8"	6948 ft-lb	0.004 (0%)	1.25D+1.5L	L
Shear	83 lb	1 1/8"	3080 lb	0.027 (3%)	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 1-5-14	(Span)3-3-0	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.

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. 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 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

NASCOR





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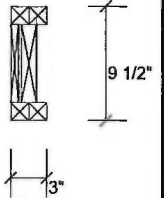
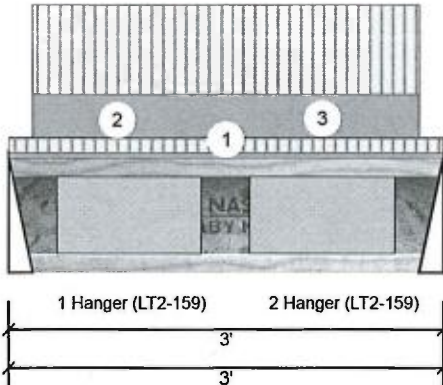
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 1

F11-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	351	170	0	0
2	351	170	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	28%	213 / 527	739	L	1.25D+1.5L
2 - Hanger	2.000"	28%	213 / 527	739	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	530 ft-lb	1'6"	7340 ft-lb	0.072 (7%)	1.25D+1.5L	L
Unbraced	530 ft-lb	1'6"	4678 ft-lb	0.113 (11%)	1.25D+1.5L	L
Shear	731 lb	2'10 3/4"	3080 lb	0.237 (24%)	1.25D+1.5L	L
Perm Defl in. (L/17520)	0.002	1'6"	0.093 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.004 (L/8490)	1'6"	0.093 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.006 (L/5719)	1'6"	0.140 (L/240)	0.040 (4%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top 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)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-0-0		Top	4 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-2-0 to 2-10-0		Near Face	108 PLF	223 PLF	0 PLF	0 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. 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

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

NASCOR





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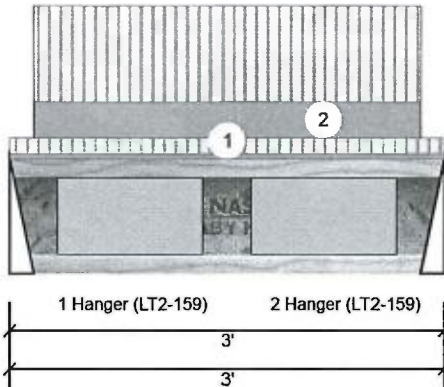
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 1

F11-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

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

Brg	Live	Dead	Snow	Wind
1	351	132	0	0
2	351	132	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	27% 165 / 527	692 L	1.25D+1.5L
2 - Hanger	2.000"	27% 165 / 527	692 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	496 ft-lb	1'6"	7340 ft-lb	0.068 (7%)	1.25D+1.5L	L
Unbraced	496 ft-lb	1'6"	4678 ft-lb	0.106 (11%)	1.25D+1.5L	L
Shear	685 lb	2'10 3/4"	3080 lb	0.222 (22%)	1.25D+1.5L	L
Perm Defl in. (L/22554)	0.001	1'6"	0.093 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch (L/8490)	0.004	1'6"	0.093 (L/360)	0.040 (4%)	L	L
TL Defl inch (L/6168)	0.005	1'6"	0.140 (L/240)	0.040 (4%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top 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)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-0 to 2-10-0		Near Face	84 PLF	223 PLF	0 PLF	0 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. 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

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

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Client: GREENPARK

Project:

Address:

Date: 9/10/2018

Designer: R O

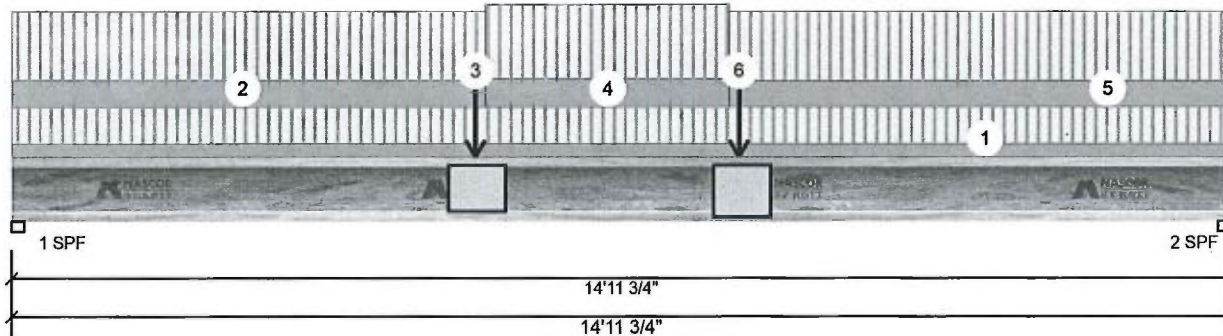
Job Name: CLOVER 12A

Project #:

Page 1 of 1

F12-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

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

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

Brg	Live	Dead	Snow	Wind
1	434	162	0	0
2	431	161	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	1.875"	33%	203 / 651	854 L 1.25D+1.5L
2 - SPF	1.875"	33%	202 / 647	849 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3337 ft-lb	7'6 1/16"	7340 ft-lb	0.455 (45%)	1.25D+1.5L	L
Unbraced	3337 ft-lb	7'6 1/16"	3363 ft-lb	0.992 (99%)	1.25D+1.5L	L
Shear	845 lb	1 1/8"	3080 lb	0.274 (27%)	1.25D+1.5L	L
Perm Defl in.	0.095 (L/1866)	7'5 13/16"	0.493 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.254 (L/698)	7'5 13/16"	0.493 (L/360)	0.520 (52%)	L	L
TL Defl inch	0.350 (L/508)	7'5 13/16"	0.740 (L/240)	0.470 (47%)	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 3'7" 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 14-11-8	(Span)0-10-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 5-9-14	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	5-8-6		Near Face	18 lb	49 lb	0 lb	0 lb	F10
4	Tie-In	5-9-14 to 8-9-14	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	8-9-14 to 14-11-12	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	8-11-6		Near Face	18 lb	49 lb	0 lb	0 lb	F10

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. 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/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





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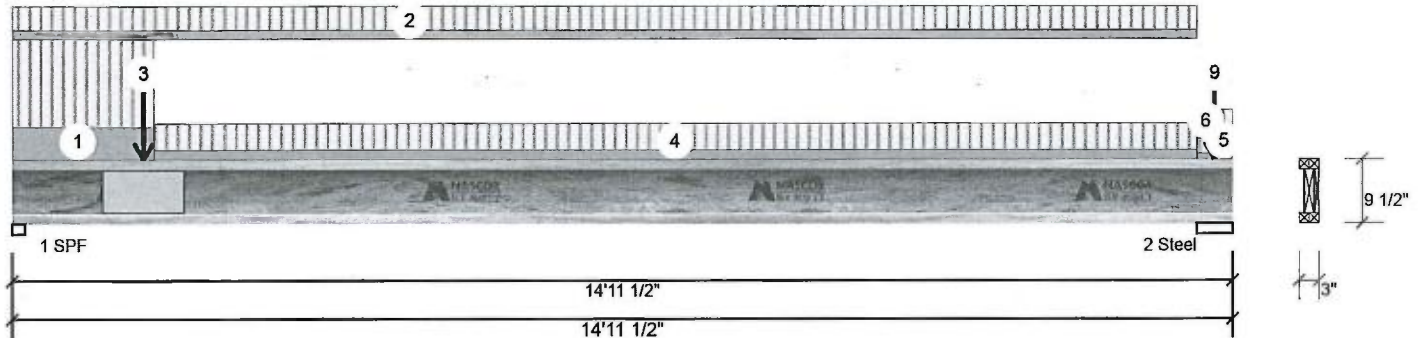
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 2

F12-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	659	247	0	0
2	511	229	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	1.875"	50%	309 / 988	1297 L 1.25D+1.5L
2 - Steel	5.250"	34%	286 / 767	1052 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2527 ft-lb	6'2 5/8"	7340 ft-lb	0.344 (34%)	1.25D+1.5L	L
Unbraced	2527 ft-lb	6'2 5/8"	2551 ft-lb	0.991 (99%)	1.25D+1.5L	L
Shear	1282 lb	1 1/8"	3080 lb	0.416 (42%)	1.25D+1.5L	L
Perm Defl in.	0.072 (L/2422)	7' 5/16"	0.483 (L/360)	0.150 (15%)	D	Uniform
LL Defl inch	0.191 (L/909)	7' 5/16"	0.483 (L/360)	0.400 (40%)	L	L
TL Defl inch	0.263 (L/661)	7' 5/16"	0.724 (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 4'2" 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 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-6-4	(Span)0-10-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Far Face	132 lb	351 lb	0 lb	0 lb	F11
4	Tie-In	1-8-14 to 14-6-4	(Span)0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	14-6-4 to 14-11-8	(Span)0-6-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	14-6-4 to 14-11-8	(Span)0-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Point	14-8-14		Top	36 lb	96 lb	0 lb	0 lb	

Continued on page 2...

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
- 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
- For flat roofs provide ponding

Manufacturer Info

Nascor by Kott

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

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.

This design is valid until 11/10/2021

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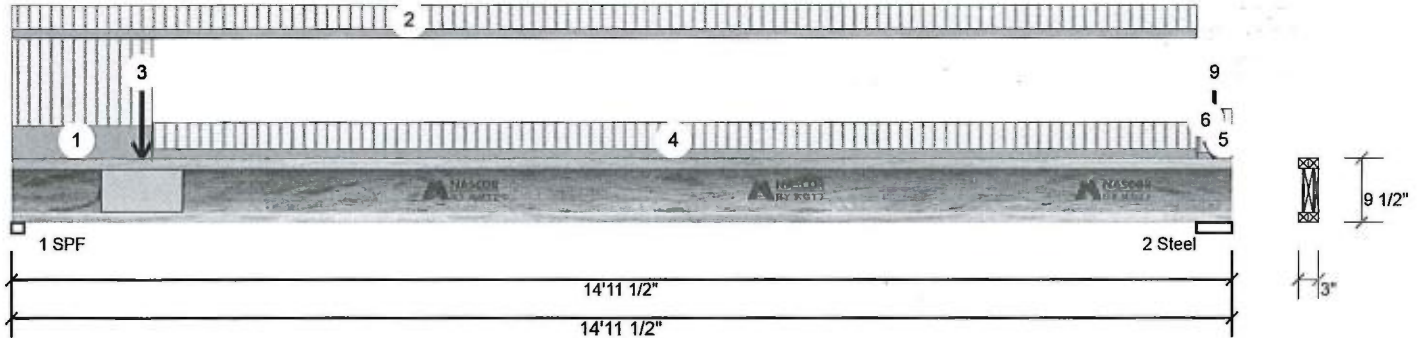
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 2 of 2

F12-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	14-8-14		Top	47 lb	99 lb	0 lb	0 lb	J3
9	Point	14-8-14		Top	27 lb	0 lb	0 lb	0 lb	Wall Self Weight



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. 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 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

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This design is valid until 7/10/2021



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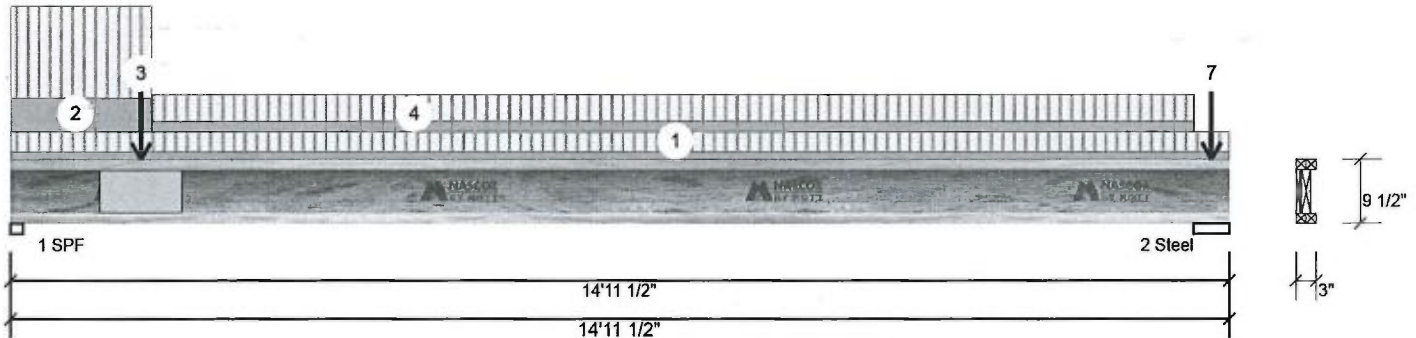
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

F12-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	634	238	0	0
2	378	157	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	49%	298 / 951	1249 L	1.25D+1.5L
2 - Steel	5.250"	25%	196 / 567	762 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2359 ft-lb	6'1 1/4"	7340 ft-lb	0.321 (32%)	1.25D+1.5L	L
Unbraced	2359 ft-lb	6'1 1/4"	2370 ft-lb	0.995 (100%)	1.25D+1.5L	L
Shear	1234 lb	1 1/8"	3080 lb	0.401 (40%)	1.25D+1.5L	L
Perm Defl in.	0.067 (L/2594)	7'	0.483 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.179 (L/974)	7'	0.483 (L/360)	0.370 (37%)	L	L
TL Defl inch	0.246 (L/708)	7'	0.724 (L/240)	0.340 (34%)	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 4'4" 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 14-11-8	(Span)0-8-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Near Face	132 lb	351 lb	0 lb	0 lb	F11
4	Tie-In	1-8-14 to 14-6-4	(Span)0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	Pass-Thru Framing Squash Block is required at all point loads over bearings
5	Point	14-8-14		Top	19 lb	51 lb	0 lb	0 lb	Refer to Multiple Member Connection Detail for fastening or bolting requirements
6	Point	14-8-14		Top	16 lb	40 lb	0 lb	0 lb	
7	Point	14-8-14		Top	14 lb	0 lb	0 lb	0 lb	

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
- For flat roofs provide ponding

Manufacturer Info
 Nascor by Kott

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

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.

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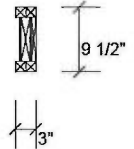
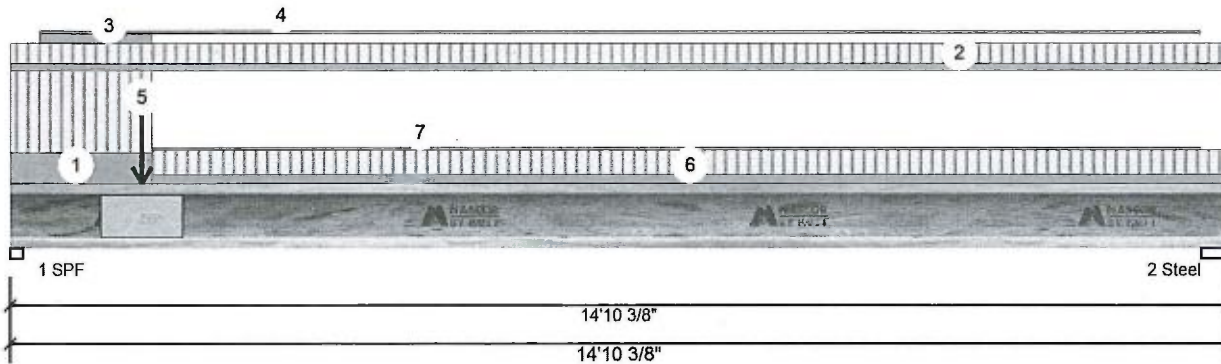
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

F12-D NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	646	312	0	0
2	305	147	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	53%	390 / 970	1360	L	1.25D+1.5L
2 - Steel	4.125"	21%	184 / 457	641	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2618 ft-lb	6'2"	7340 ft-lb	0.357 (36%)	1.25D+1.5L	L
Unbraced	2618 ft-lb	6'2"	2627 ft-lb	0.997 (100%)	1.25D+1.5L	L
Shear	1345 lb	1' 1/8"	3080 lb	0.437 (44%)	1.25D+1.5L	L
Perm Defl in.	0.090 (L/1925)	7' 1/4"	0.483 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.185 (L/940)	7' 3/16"	0.483 (L/360)	0.380 (38%)	L	L
TL Defl inch	0.275 (L/632)	7' 1/4"	0.724 (L/240)	0.380 (38%)	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 4'1" 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 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-10-6	(Span)0-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-4-6 to 1-8-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-4-6 to 14-6-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-7-6		Far Face	170 lb	351 lb	0 lb	0 lb	
6	Tie-In	1-8-14 to 14-10-6	(Span)0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-8-14 to 14-6-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	

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
- 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/direction 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
- For flat roofs provide ponding

Manufacturer Info

Nascor by Kott

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

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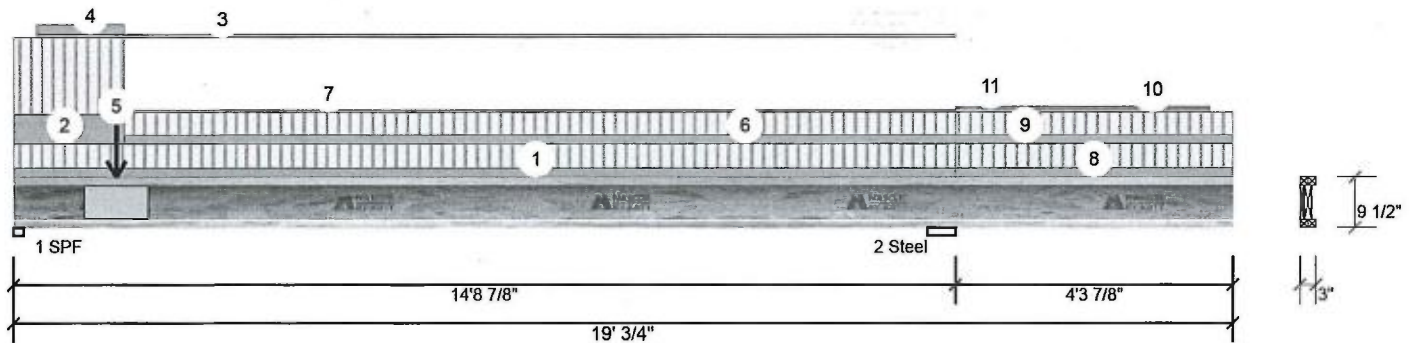
Client: GREENPARK
Project:
Address:

Date: 9/13/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 2

F13-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	656	320	0	0
2	537	266	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	55%	400 / 1023	1423 L	1.25D+1.5L
2 - Steel	5.250"	25%	332 / 806	1138 LL	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-785 ft-lb	14'8 7/8"	5578 ft-lb	0.141 (14%)	1.25D+1.5L	L
Unbraced	-722 ft-lb	14'8 7/8"	1887 ft-lb	0.383 (38%)	0.9D+1.5L	L
Pos Moment	2789 ft-lb	6'1 3/16"	7340 ft-lb	0.380 (38%)	1.25D+1.5L	L
Unbraced	2789 ft-lb	6'1 3/16"	2827 ft-lb	0.987 (99%)	1.25D+1.5L	L
Shear	1407 lb	1 1/8"	3080 lb	0.457 (46%)	1.25D+1.5L	L
Perm Defl in.	0.086 (L/2020)	6'9 11/16"	0.481 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.201 (L/861)	7' 3/16"	0.481 (L/360)	0.420 (42%)	L	L
TL Defl inch	0.287 (L/604)	6'11 3/8"	0.721 (L/240)	0.400 (40%)	D+L	L
LL Cant	-0.171 (2L/606)	Rt Cant	0.216 (2L/480)	0.790 (79%)	L	L
TL Cant	-0.226 (2L/459)	Rt Cant	0.432 (2L/240)	0.520 (52%)	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 3'11" o.c.
- Bottom flange must be laterally braced at a maximum of 6'3" o.c.

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



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
- 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
3228 Moodie Dr., Ontario
Canada
K2H7V1
613-838-2775



This design is valid until 7/10/2021





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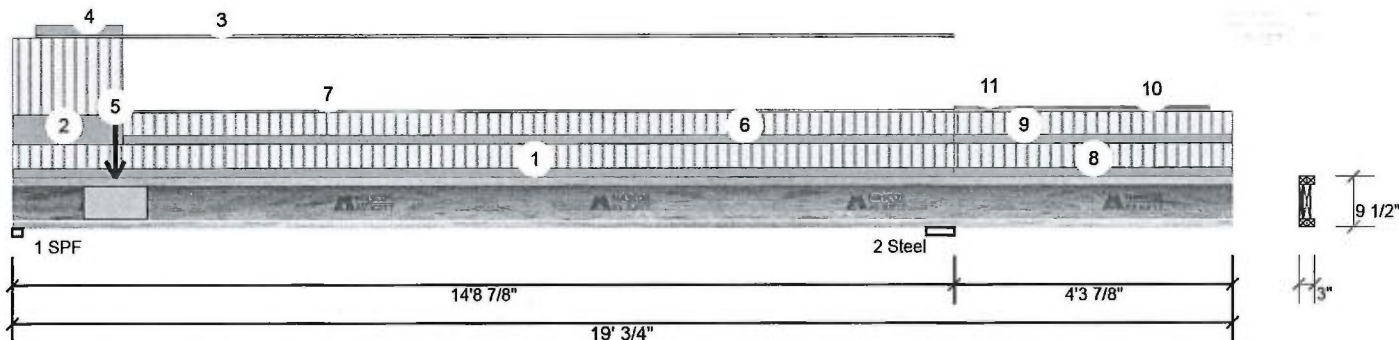
Client: GREENPARK
 Project:
 Address:

Date: 9/13/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 2 of 2

F13-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 14-8-14	(Span)1-0-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-4-6 to 14-8-14		Top	3 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-4-6 to 1-8-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-7-6		Near Face	170 lb	351 lb	0 lb	0 lb	F11
6	Tie-In	1-8-14 to 14-8-14	(Span)0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-8-14 to 14-8-14		Top	2 PLF	0 PLF	0 PLF	0 PLF	
8	Tie-In	14-8-14 to 19-0-12	(Span)1-0-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Tie-In	14-8-14 to 19-0-12	(Span)0-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	14-8-14 to 18-8-6		Top	3 PLF	0 PLF	0 PLF	0 PLF	
11	Part. Uniform	14-8-14 to 18-8-6		Top	2 PLF	0 PLF	0 PLF	0 PLF	



September 13, 2018

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 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. 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 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
 3228 Moodie Dr., Ontario
 Canada
 K2H7V1
 613-838-2775



This design is valid until 7/10/2021





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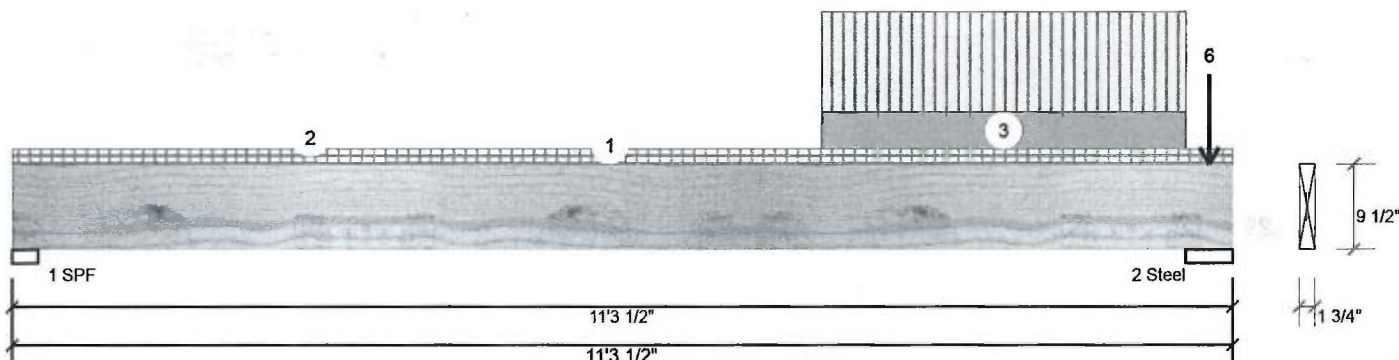
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

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

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	279	126	0	0
2	1664	703	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	2.875"	19%	157 / 418	575 L 1.25D+1.5L
2 - Steel	5.250"	49%	878 / 2497	3375 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2620 ft-lb	7'9 1/4"	11362 ft-lb	0.231 (23%)	1.25D+1.5L	L
Unbraced	2620 ft-lb	7'9 1/4"	3471 ft-lb	0.755 (75%)	1.25D+1.5L	L
Shear	1247 lb	10'1 1/2"	4638 lb	0.269 (27%)	1.25D+1.5L	L
Perm Defl in.	0.045 (L/2891)	6' 7/16"	0.358 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.106 (L/1218)	6'1 3/16"	0.358 (L/360)	0.300 (30%)	L	L
TL Defl inch	0.150 (L/857)	6' 15/16"	0.537 (L/240)	0.280 (28%)	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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Tie-In	0-0-0 to 11-3-8	(Span)0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF
2	Tie-In	0-0-0 to 11-3-8	(Span)0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF
3	Part. Uniform	7-5-15 to 10-10-4		Top	90 PLF	240 PLF	0 PLF	0 PLF
4	Point	11-0-14		Top	336 lb	780 lb	0 lb	0 lb BBO3 BBO3
5	Point	11-0-14		Top	21 lb	56 lb	0 lb	0 lb J6
6	Point	11-0-14		Top	13 lb	0 lb	0 lb	0 lb Wall Self Weight
	Self Weight				4 PLF			

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



September 13, 2018

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

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.

This design is valid

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

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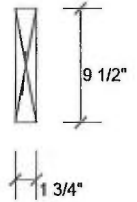
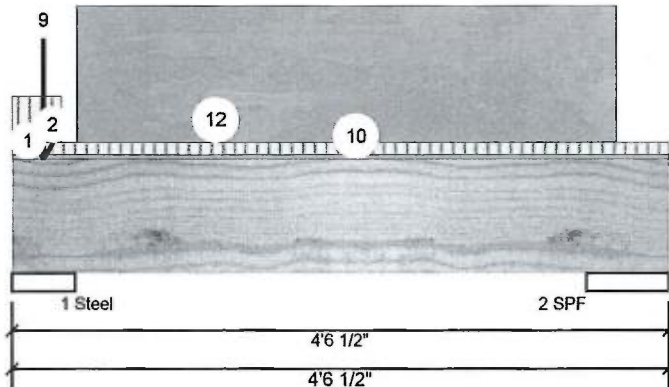
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 2

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

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	924	605	0	0
2	16	173	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Steel	5.250"	47%	756 / 1386	2142	L	1.25D+1.5L
2 - SPF	6.875"	5%	242 / 0	242	Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	202 ft-lb	2'2 7/16"	7385 ft-lb	0.027 (3%)	1.4D	Uniform
Unbraced	202 ft-lb	2'2 7/16"	6805 ft-lb	0.030 (3%)	1.4D	Uniform
Shear	125 lb	1'2"	3015 lb	0.042 (4%)	1.4D	Uniform
Perm Defl in.	0.002 (L/18378)	2'2 1/2"	0.122 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.003 (L/17022)	2'2 1/2"	0.183 (L/240)	0.010 (1%)	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 0-2-10	(Span)0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	(Span)0-11-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-2-10		Top	4 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Point	0-2-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	0-2-10		Top	390 lb	839 lb	0 lb	0 lb	F15 F15
7	Point	0-2-10		Top	20 lb	49 lb	0 lb	0 lb	

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

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

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

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements SCA-PR-1318

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.

This design is valid

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

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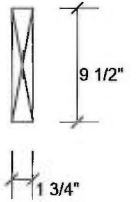
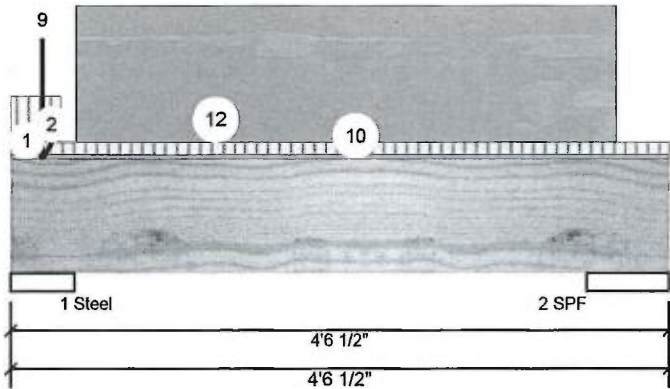
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 2 of 2

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

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	0-2-10		Top	5 lb	14 lb	0 lb	0 lb	J5
9	Point	0-2-10		Top	17 lb	0 lb	0 lb	0 lb	Wall Self Weight
10	Tie-In	0-2-10 to 4-6-8	(Span)0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
12	Part. Uniform Self Weight	0-5-6 to 4-2-2		Top	80 PLF 4 PLF	0 PLF	0 PLF	0 PLF	Partition Wall Self Weight



September 13, 2018

READ ALL NOTES ON THIS PAGE AND ON THE
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 IN THE DESIGN OF THIS COMPONENT.

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent
ponding

Manufacturer Info

Forex
 APA: PR-L318

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

This design is valid until 7/10/2021

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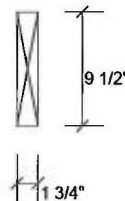
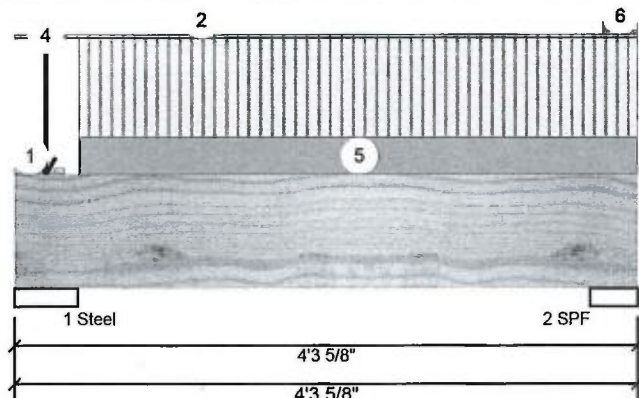
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 1

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

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	386	172	0	0
2	459	181	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Steel	5.250"	12%	214 / 579	793 L 1.25D+1.5L
2 - SPF	4.000"	21%	226 / 689	914 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	720 ft-lb	2'2 7/16"	11362 ft-lb	0.063 (6%)	1.25D+1.5L	L
Unbraced	720 ft-lb	2'2 7/16"	9250 ft-lb	0.078 (8%)	1.25D+1.5L	L
Shear	447 lb	1'2"	4638 lb	0.096 (10%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/18627)	2'2 1/2"	0.122 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.006 (L/7335)	2'2 1/2"	0.122 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.008 (L/5263)	2'2 1/2"	0.183 (L/240)	0.050 (5%)	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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)0-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-3-10	(Span)0-3-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	0-2-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Part. Uniform	0-5-6 to 4-3-10		Top	79 PLF	210 PLF	0 PLF	0 PLF	Pass-Thru Framing Squash Block is required at all point loads over bearings
6	Tie-In	4-0-12 to 4-3-10	(Span)1-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements



September 13, 2018

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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This design is valid



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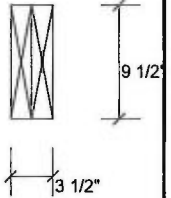
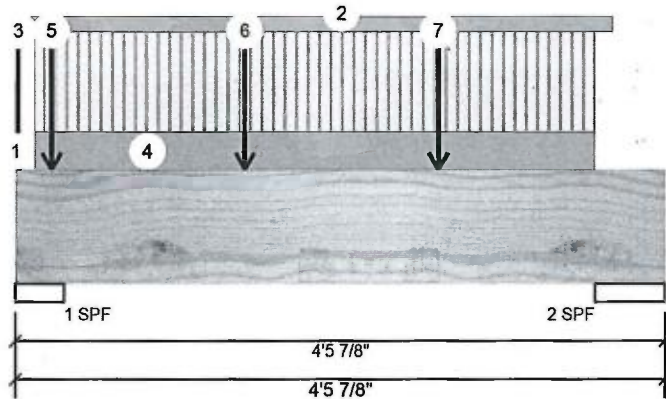
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 2

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

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1590	799	0	0
2	1179	585	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.000"	39%	998 / 2385	3384 L 1.25D+1.5L
2 - SPF	5.875"	20%	731 / 1769	2499 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2573 ft-lb	2'1 7/8"	22724 ft-lb	0.113 (11%)	1.25D+1.5L	L
Unbraced	2573 ft-lb	2'1 7/8"	22724 ft-lb	0.113 (11%)	1.25D+1.5L	L
Shear	1814 lb	3'3 1/4"	9277 lb	0.196 (20%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/8914)	2'2 1/16"	0.126 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.011 (L/4269)	2'2 1/16"	0.126 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.016 (L/2886)	2'2 1/16"	0.190 (L/240)	0.080 (8%)	D+L	L

Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-0-0		Top	101 PLF	268 PLF	0 PLF	0 PLF	J6
2	Part. Uniform	0-0-0 to 4-1-8		Top	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Point	0-0-4		Top	116 lb	181 lb	0 lb	0 lb	Pass-Through Framing Squash Block is required at all point loads over bearings
4	Part. Uniform	0-1-9 to 4-0-0		Top	158 PLF	422 PLF	0 PLF	0 PLF	J6
5	Point	0-3-0		Near Face	72 lb	193 lb	0 lb	0 lb	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Continued on page 2...

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

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info
 Forex
 APA: PR-L318

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

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This design is valid

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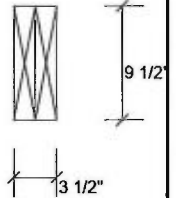
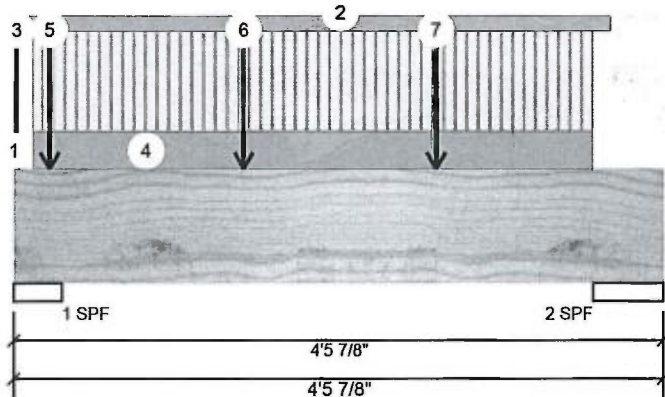
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 2 of 2

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

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	1-7-0		Near Face	136 lb	362 lb	0 lb	0 lb	J6
7	Point	2-11-0		Near Face	150 lb	401 lb	0 lb	0 lb	J6
	Self Weight				8 PLF				



September 13, 2018

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 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
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 application, and to verify the dimensions and loads.

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent
 ponding

Manufacturer Info

Forex
 APA: PR-L318

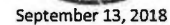
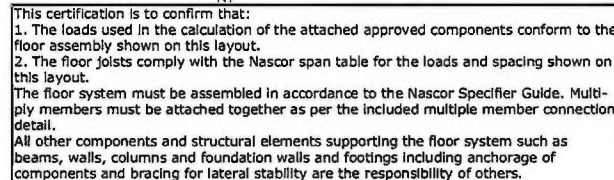
Kott Lumber Company
 14 Anderson Blvd, Ontario
 Canada
 K2H7V1
 905-642-4400

This design is valid until 7/10/2021



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Second Floor
1 Joist (Flush)



Point Load Support
Load from Above
Wall
Wall Opening
Norbord Rimboard Plus 1.125 X 9.5
NJ 9.5
NJ40U 9.5
NJ80U 9.5
NJH 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	35-0-0

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

Proof Loads	
Live	40
Dead	15
Deflection Joist	
LL Span 1/	480
TL Span 1/	360
LL Cant 2/	480
TL Cant 2/	380
Deflection Girder	
LL Span 1/	360
TL Span 1/	240
LL Cant 2/	480
TL Cant 2/	240
Decking	
Deck	SPF Plywood
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling:	Gypsum 1/2"



KOTT



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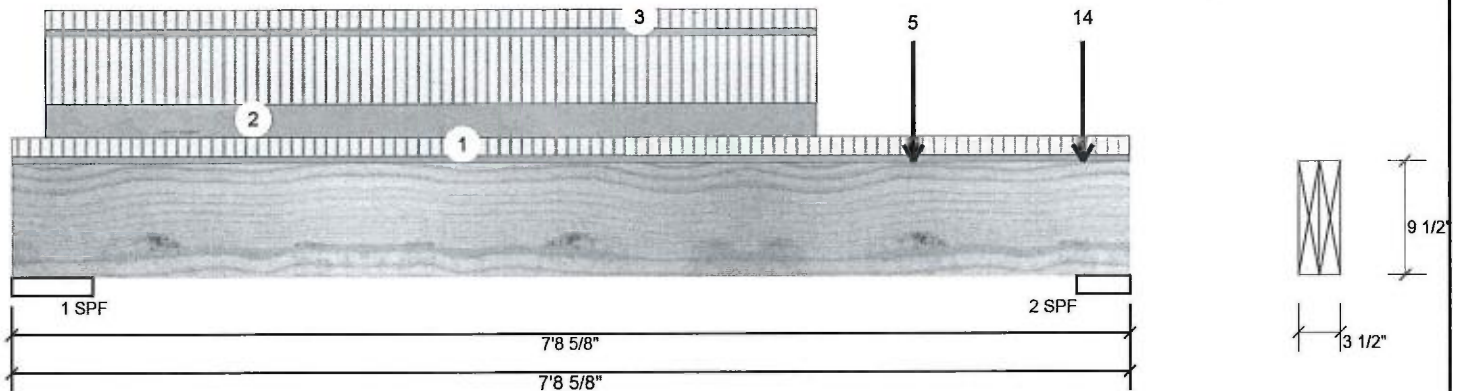
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 2

F15-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

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

Brg	Live	Dead	Snow	Wind
1	1677	780	0	0
2	1370	654	19	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.751"	24%	975 / 2516	3490 L	1.25D+1.5L
2 - SPF	4.375"	31%	818 / 2065	2882 L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5490 ft-lb	3'11 3/16"	22724 ft-lb	0.242 (24%)	1.25D+1.5L	L
Unbraced	5490 ft-lb	3'11 3/16"	21779 ft-lb	0.252 (25%)	1.25D+1.5L	L
Shear	3268 lb	6'7 1/2"	9277 lb	0.352 (35%)	1.25D+1.5L	L
Perm Defl in.	0.025 (L/3274)	3'11 3/8"	0.231 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.054 (L/1523)	3'11 3/8"	0.231 (L/360)	0.240 (24%)	L+0.5S	L
TL Defl inch	0.080 (L/1040)	3'11 3/8"	0.346 (L/240)	0.230 (23%)	D+L+0.5S	L



September 13, 2018

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	Tie-In	0-0-0 to 7-8-10	(Span)3-11-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-12 to 5-6-12		Far Face	141 PLF	289 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-2-12 to 5-6-12		Near Face	30 PLF	80 PLF	0 PLF	0 PLF	
4	Point	6-2-12		Far Face	178 lb	361 lb	0 lb	0 lb	
5	Point	6-2-12		Near Face	38 lb	101 lb	0 lb	0 lb	

Continued on page 2...

Plies-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

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This design is valid until 7/10/2021

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

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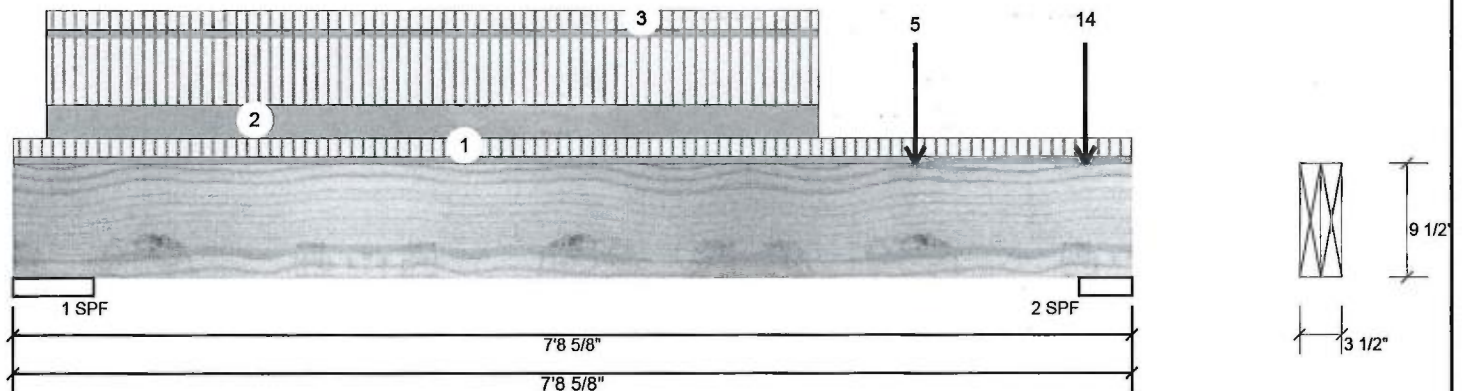
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 2 of 2

F15-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	7-4-12		Top	7 lb	0 lb	17 lb	0 lb	
8	Point	7-4-12		Top	4 lb	0 lb	0 lb	0 lb	Wall Self Weight
9	Point	7-4-12		Top	0 lb	1 lb	0 lb	0 lb	
10	Point	7-4-12		Top	1 lb	2 lb	0 lb	0 lb	
11	Point	7-4-12		Top	1 lb	0 lb	2 lb	0 lb	
12	Point	7-4-12		Top	4 lb	0 lb	0 lb	0 lb	Wall Self Weight
13	Point	7-4-12		Top	0 lb	1 lb	0 lb	0 lb	
14	Point	7-4-12		Top	1 lb	2 lb	0 lb	0 lb	
	Self Weight				8 PLF				



September 13, 2018

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

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

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent
 ponding

Manufacturer Info

Forex
 APA: PR-L318

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

This design is valid until 7/10/2021



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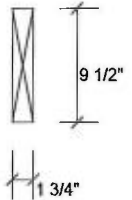
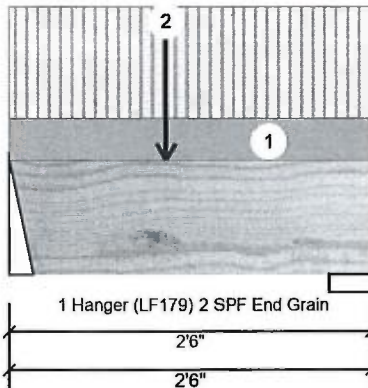
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

F5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor

**Member Information**

Type: Girder
 Plies: 1
 Moisture Condition: Dry
 Deflection LL: 360
 Deflection TL: 240
 Importance: Normal
 General Load
 Floor Live: 40 PSF
 Dead: 15 PSF

Application: Floor (Residential)
 Design Method: LSD
 Building Code: NBCC 2010 / OBC 2012
 Load Sharing: No
 Deck: Not Checked
 Vibration: Not Checked

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	238	94	0	0
2	220	88	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	18% 117 / 357	474 L	1.25D+1.5L
2 - SPF End Grain	3.500"	10% 110 / 330	440 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	378 ft-lb	1'1"	11362 ft-lb	0.033 (3%)	1.25D+1.5L	L
Unbraced	378 ft-lb	1'1"	10620 ft-lb	0.036 (4%)	1.25D+1.5L	L
Shear	341 lb	10 3/4"	4638 lb	0.074 (7%)	1.25D+1.5L	L
Perm Defl in. (L/35992)	0.001	1'1"	0.072 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/13989)	0.002	1'1"	0.072 (L/360)	0.030 (3%)	L	L
TL Defl inch (L/10074)	0.003	1'1"	0.108 (L/240)	0.020 (2%)	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 2-6-0	(Span)3-7-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-1-0		Near Face	104 lb	276 lb	0 lb	0 lb	J1
	Self Weight				4 PLF				

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

Kott Lumber Company
 14 Anderson Blvd, Ontario
 Canada
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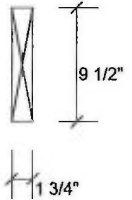
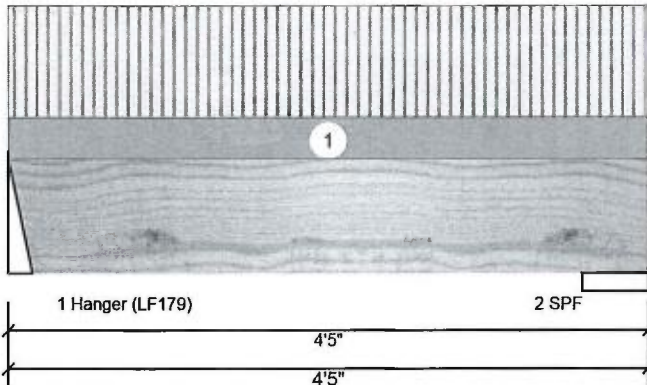
Client: GREENPARK
 Project:
 Address:

Date: 9/13/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

F6-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	165	70	0	0
2	188	80	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	13% 87 / 248	335 L	1.25D+1.5L
2 - SPF	5.500"	6% 99 / 283	382 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	311 ft-lb	2' 3/4"	11362 ft-lb	0.027 (3%)	1.25D+1.5L	L
Unbraced	311 ft-lb	2' 3/4"	8938 ft-lb	0.035 (3%)	1.25D+1.5L	L
Shear	189 lb	10 3/4"	4638 lb	0.041 (4%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/40340)	2' 13/16"	0.131 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/17048)	2' 13/16"	0.131 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.004 (L/11984)	2' 13/16"	0.196 (L/240)	0.020 (2%)	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	Uniform			Top	30 PLF	80 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

READ ALL NOTES ON THIS PAGE AND ON THE
 ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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 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
 3228 Moodie Dr., Ontario
 Canada
 K2H7V1
 613-838-2775



This design is valid until 7/10/2021





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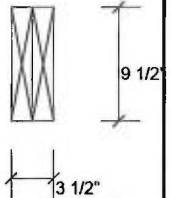
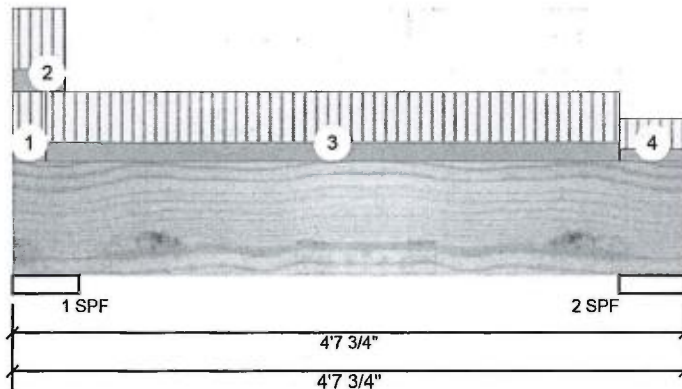
Client: GREENPARK
 Project:
 Address:

Date: 9/10/2018
 Designer: R O
 Job Name: CLOVER 12A
 Project #:

Page 1 of 1

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

Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	36	31	0	0
2	28	28	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	1%	39 / 53	92	L	1.25D+1.5L
2 - SPF	5.500"	1%	35 / 42	77	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	65 ft-lb	2'3 7/8"	22724 ft-lb	0.003 (0%)	1.25D+1.5L	L
Unbraced	65 ft-lb	2'3 7/8"	22724 ft-lb	0.003 (0%)	1.25D+1.5L	L
Shear	40 lb	3'5 1/2"	9277 lb	0.004 (0%)	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

- 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 0-2-12	(Span)0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-6	(Span)0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-12 to 4-2-4	(Span)0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	4-2-4 to 4-7-12	(Span)0-4-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

READ ALL NOTES ON THIS PAGE AND ON THE
 ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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 CONTAINS SPECIFICATIONS AND CRITERIA USED
 IN THE DESIGN OF THIS COMPONENT.

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

Notes

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

Lumber

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

chemicals

Handling & Installation

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

- 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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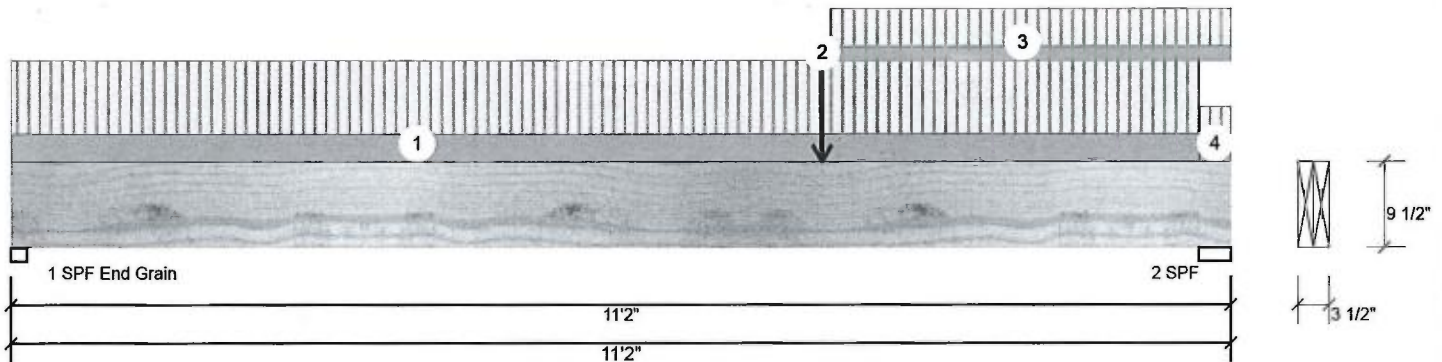
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 1

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

Level: Second Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	147	100	0	0
2	181	116	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	1.750"	8%	125 / 221	345	L	1.25D+1.5L
2 - SPF	3.500"	6%	145 / 271	416	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	972 ft-lb	5'9 9/16"	22724 ft-lb	0.043 (4%)	1.25D+1.5L	L
Unbraced	972 ft-lb	5'9 9/16"	20397 ft-lb	0.048 (5%)	1.25D+1.5L	L
Shear	336 lb	10'1 3/4"	9277 lb	0.036 (4%)	1.25D+1.5L	L
Perm Defl in. (L/10035)	0.013	5'7 1/16"	0.362 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch (L/6814)	0.019	5'7 1/16"	0.362 (L/360)	0.050 (5%)	L	L
TL Defl inch (L/4058)	0.032	5'7 1/16"	0.543 (L/240)	0.060 (6%)	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 10-10-8	(Span)1-3-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	7-5-2		Far Face	8 lb	0 lb	0 lb	0 lb	F6
3	Tie-In	7-6-0 to 11-2-0	(Span)0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	10-10-8 to 11-2-0	(Span)0-8-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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

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

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

Notes

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

Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

This design is valid until 7/10/2021



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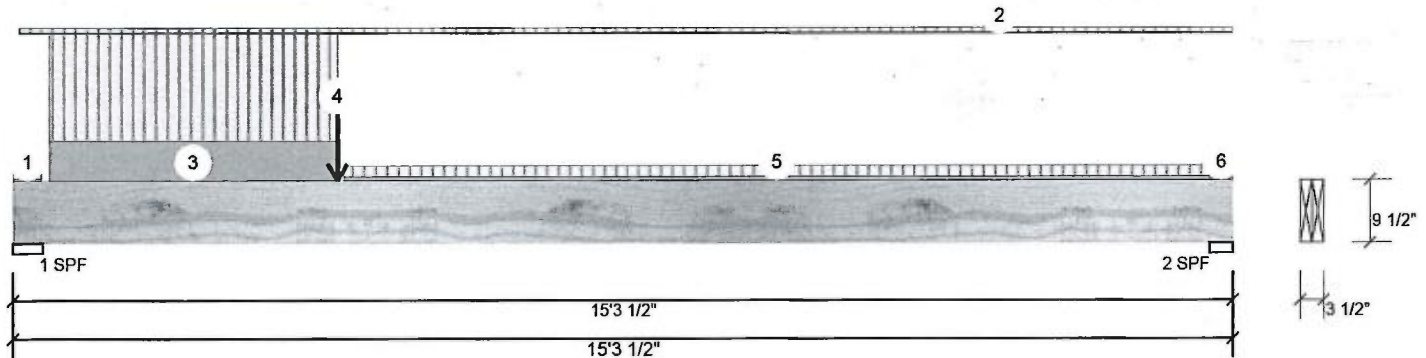
Client: GREENPARK
Project:
Address:

Date: 9/10/2018
Designer: R O
Job Name: CLOVER 12A
Project #:

Page 1 of 1

F9-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

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

Brg	Live	Dead	Snow	Wind
1	1110	478	0	0
2	424	218	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.500"	23%	598 / 1665	2263 L 1.25D+1.5L
2 - SPF	3.500"	12%	272 / 635	908 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5139 ft-lb	4' 5/8"	22724 ft-lb	0.226 (23%)	1.25D+1.5L	L
Unbraced	5139 ft-lb	4' 5/8"	18427 ft-lb	0.279 (28%)	1.25D+1.5L	L
Shear	1917 lb	1'1 1/4"	9277 lb	0.207 (21%)	1.25D+1.5L	L
Perm Defl in.	0.089 (L/2000)	7'2 5/16"	0.492 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.189 (L/937)	7' 7/8"	0.492 (L/360)	0.380 (38%)	L	L
TL Defl inch	0.277 (L/638)	7'1 3/8"	0.738 (L/240)	0.380 (38%)	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 0-4-6	(Span)0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-0 to 15-3-8	(Span)0-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-5-8 to 4-0-10		Top	90 PLF	240 PLF	0 PLF	0 PLF	
4	Point	4-0-10		Far Face	94 lb	238 lb	0 lb	0 lb	F5
5	Tie-In	4-1-8 to 15-0-0	(Span)1-2-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	15-0-0 to 15-3-8	(Span)0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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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

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

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

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

This design is valid until 7/10/2021

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

NASCOR

