# Engineering Note Page (ENP-2)

REVISION 2018-10-17

***Please read all notes prior to installation of the component***

## DESIGN INFORMATION

This building component is certified as an individual component for the loads and conditions shown on the calculation and drawing page.

The responsibility of the undersigned engineer is only limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the floor joists and LVL beams based on placement as shown on the layout. The loads applied are limited to the gravity effects of the specified loads. The structural integrity of the building and the effect of wind, uplift, seismic, lateral or other forces, calculation of adequate support and anchorage of components, as well as the dimensions and design loads used to calculate components are the responsibility of the overall building designer.

Floor joists and OSB rim board are designed to carry uniformly distributed loads only. Point loads should be transferred through the floor cavity with transfer blocks. Structural elements such as walls, posts, connectors, and transfer blocks are the responsibility of the overall building designer.

The undersigned engineer disclaims any responsibility for damages as a result of being furnished faulty or incorrect information, specifications and/or designs.

Installation of floor joists is to be carried out in accordance with the current edition of the manufacturer's literature available at http://www.kottgroup.com.

## CODE

This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

## COMPONENT

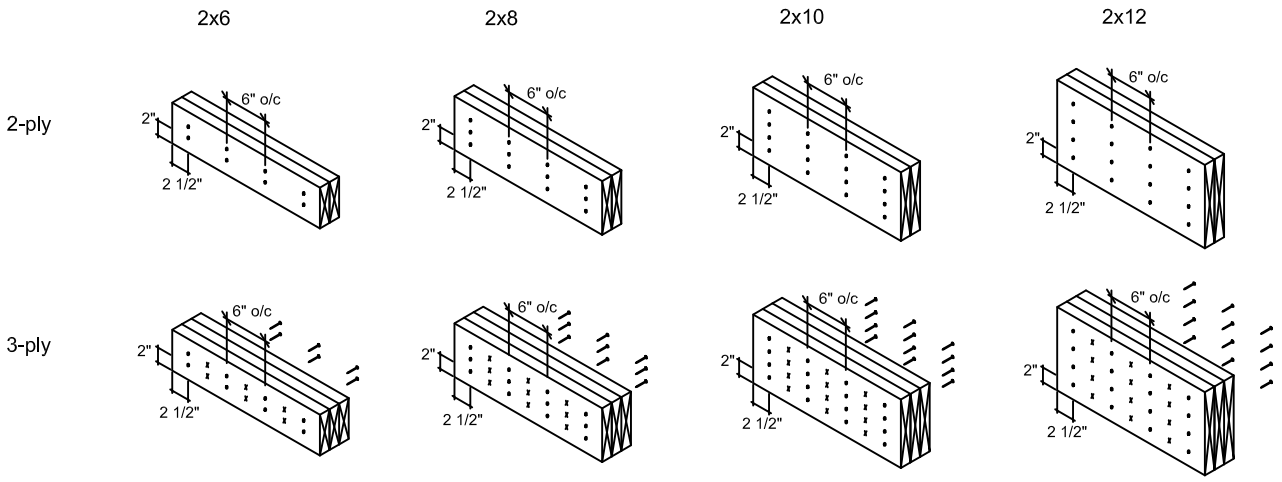
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer’s assembly and installation.
3. Members consisting of multiple plies must be connected as per the document “Multi-ply Connection Details”.
4. Pass-thru transfer block framing is required at all point loads over bearings.

## HANDLING AND INSTALLATION

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

KOTT

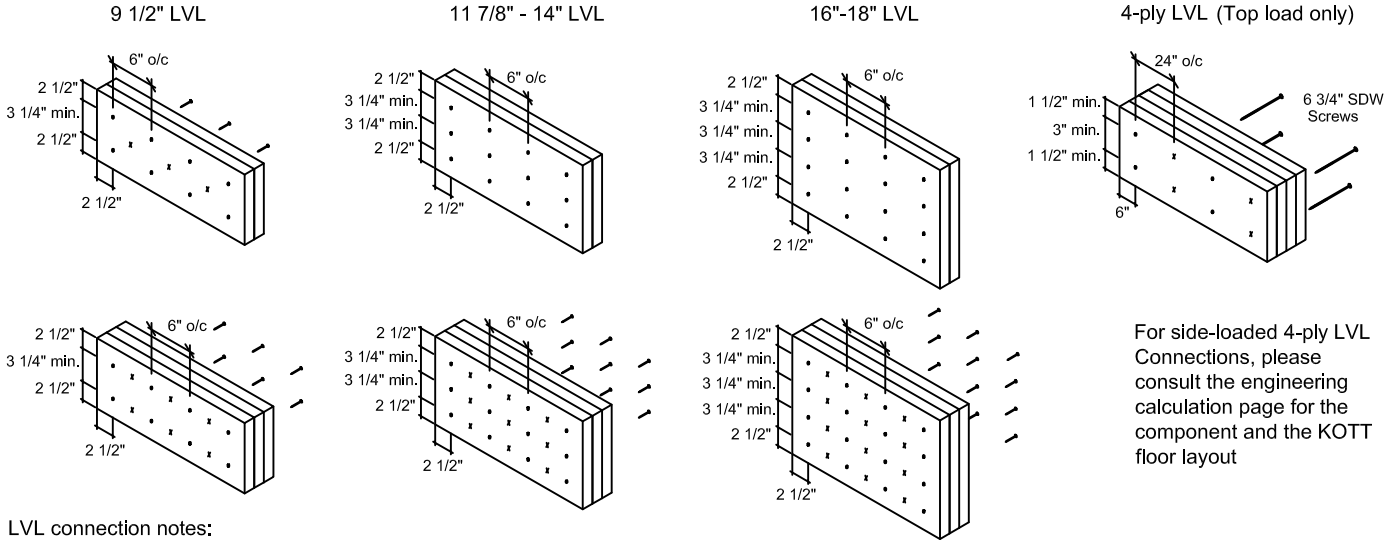
# Conventional Connections




Conventional connection notes:

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

# LVL Connections




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

LVL connection notes:

-LVL ply width is 1-3/4"
-Nails to be 3 1/2" common wire nails.
-Nails to be located 2 1/2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
-Minimum 3 1/4" spacing between rows.
-Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail or screw driven from the opposite side.

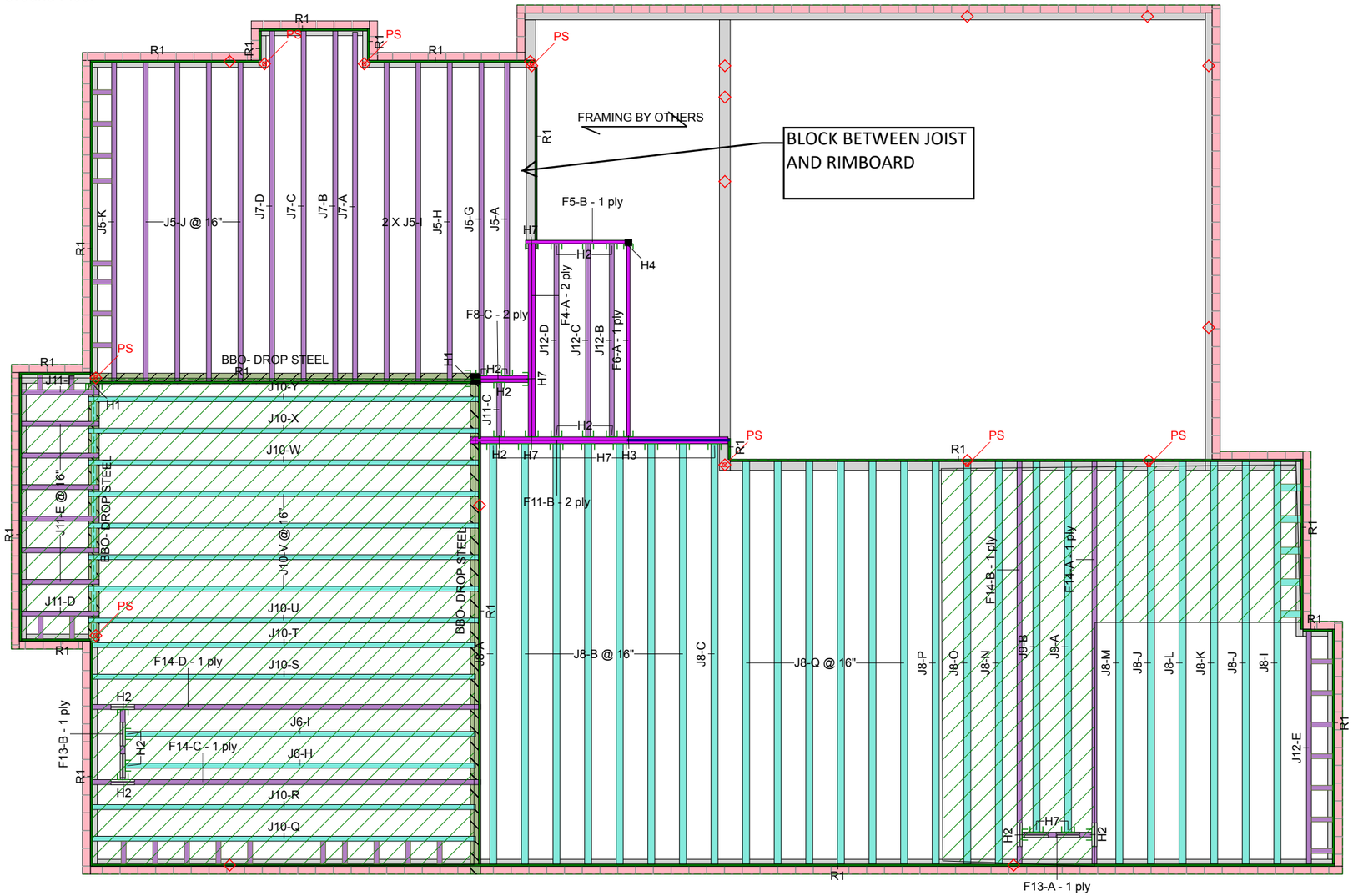
# Multiple Member Connections

All connections are for uniformly distributed loads.

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

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

## Ground Floor




Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR, SUITE 3A
VAUGHAN,ON L4K 3P3
Project # 17-55
Model: LOT-12 CELESTIAL 1 EL-1
Date: AUG 30 2018

JOISTS SPACING 16"O/C UNLESS NOTED OTHERWISE

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -12904-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

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


January 04, 2019

Ground Floor
LVL/LSL

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| F11 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 2 | 2 | 12-0-0 |
| F4 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 2 | 2 | 10-0-0 |
| F6 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | | | 1 | 10-0-0 |
| F5 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | | | 1 | 6-0-0 |
| F8 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 2 | 2 | 4-0-0 |

I Joist

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| F14 | LPI 20Plus | 2.5 | 11.875 | | | 4 | 18-0-0 |
| F13 | LPI 20Plus | 2.5 | 11.875 | | | 2 | 4-0-0 |
| J7 | LPI 20Plus | 2.5 | 11.875 | | | 4 | 16-0-0 |
| J5 | LPI 20Plus | 2.5 | 11.875 | | | 10 | 14-0-0 |
| J12 | LPI 20Plus | 2.5 | 11.875 | | | 4 | 10-0-0 |
| J11 | LPI 20Plus | 2.5 | 11.875 | | | 9 | 4-0-0 |
| J10 | NJ60H | 2.5 | 11.875 | | | 12 | 18-0-0 |
| J6 | NJ60H | 2.5 | 11.875 | | | 2 | 16-0-0 |
| J8 | NJ60U | 3.5 | 11.875 | | | 23 | 18-0-0 |
| J9 | NJ60U | 3.5 | 11.875 | | | 2 | 16-0-0 |

Rim Board

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| R1 | Norbord Rimboard Plus 1.125 X 11.875 | 1.125 | 11.875 | | | 17 | 12 |

Blocking

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| BLK1 | LPI 20 Plus | 2.5 | 11.875 | LinFt | | Varies | 26-0-0 |
| BLK1 | NJ60H | 2.5 | 11.875 | LinFt | | Varies | 7-0-0 |
| BLK3 | NJ60U | 3.5 | 11.875 | LinFt | | Varies | 5-0-0 |

Hanger

| Label | Pcs | Description | Skew | Slope | Beam/Girder fasteners | Supported Member fasteners |
|---|---|---|---|---|---|---|
| H1 | 2 | Unknown Hanger | | | | |
| H2 | 16 | LF2511 | | | 12 10dx1 1/2 | 1 #8x1 1/4WS |
| H3 | 1 | HUS1.81/10 | | | 30 16d | 10 16d |
| H4 | 1 | LS90 | | | | |
| H7 | 13 | LF3511 | | | 12 10d | 2 #8x1 1/4WS |

NOTES:

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

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

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

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

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

**Legend**

| | |
|---|---|
| PS | Point Load Support |
| ◇ | Load from Above |
| | Wall |
| | Norbord Rimboard Plus 1.125 X 11.875 |
| | LPI 20Plus 11.875 |
| | NJ60H 11.875 |
| | NJ60U 11.875 |
| | Forex 2.0E-3000Fb LVL 1.75 X 11.875 |
| | 5.25 X 10.25 (Dropped) |

NASCOR

Layout Name
LOT-12(CELESTIAL 1 EL-1 5BDRM

Design Method
LSD

Description
GREEN YORK HOMES
GRANELLI HOMES PROJECT
BRAMPTON,ON

Created
May 31, 2018

Builder

Sales Rep

Designer
S B

Shipping

Project

Builder's Project

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

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

**Floor**
Loads
Live 40
Dead 15
Deflection Joist
LL Span L/ 480
TL Span L/ 360
LL Cant 2L/ 480
TL Cant 2L/ 360
Deflection Girder
LL Span L/ 360
TL Span L/ 240
LL Cant 2L/ 480
TL Cant 2L/ 360
Decking
Deck OSB
Thickness 3/4"
Fastener Nailed & Glued
Vibration

KOTT

isDesign™

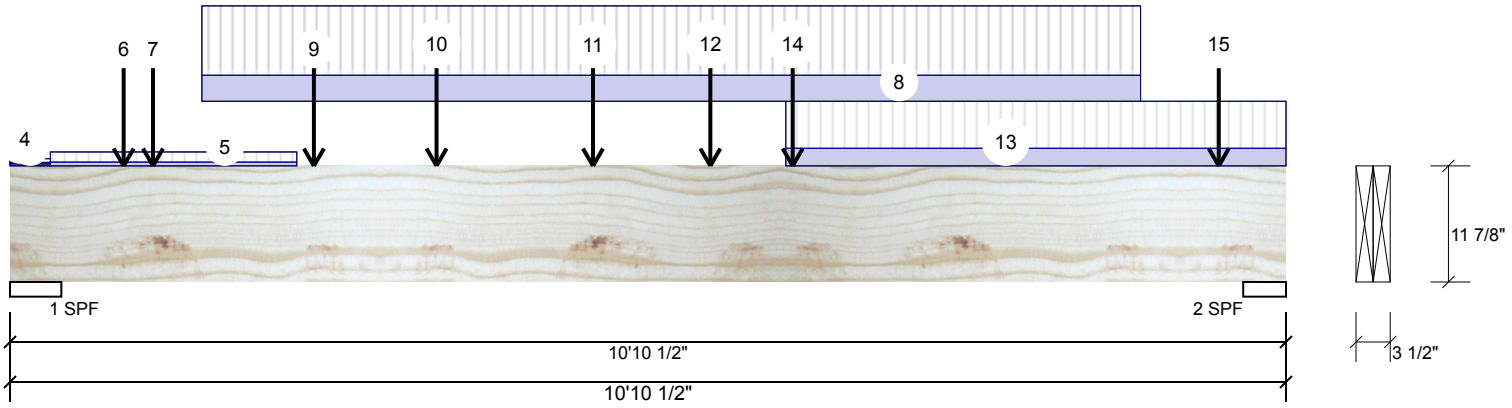
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F11-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 2989 | 1416 | 0 | 0 |
| 2 | 3270 | 1359 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 5.250" | 55% | 1770 / 4483 | 6253 | L | 1.25D+1.5L |
| 2 - SPF | 4.375" | 70% | 1699 / 4905 | 6605 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 15958 ft-lb | 5'4 9/16" | 34261 ft-lb | 0.466 (47%) | 1.25D+1.5L | L |
| Unbraced | 15958 ft-lb | 5'4 9/16" | 29422 ft-lb | 0.542 (54%) | 1.25D+1.5L | L |
| Shear | 6150 lb | 1'4 3/8" | 11596 lb | 0.530 (53%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.076 (L/1600) | 5'4 5/8" | 0.340 (L/360) | 0.220 (22%) | D | Uniform |
| LL Defl inch | 0.172 (L/710) | 5'5 9/16" | 0.340 (L/360) | 0.510 (51%) | L | L |
| TL Defl inch | 0.249 (L/492) | 5'5 1/4" | 0.510 (L/240) | 0.490 (49%) | D+L | L |

## Design Notes

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

**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.**

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 0-4-2 | (Span)0-4-13 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 0-4-2 | (Span)0-11-3 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-0-0 to 0-2-9 | | Top | 1 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-0-0 to 0-2-8 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Tie-In | 0-4-2 to 2-5-5 | (Span)2-7-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 6 | Point | 0-11-10 | | Near Face | 135 lb | 360 lb | 0 lb | 0 lb | J8 |

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

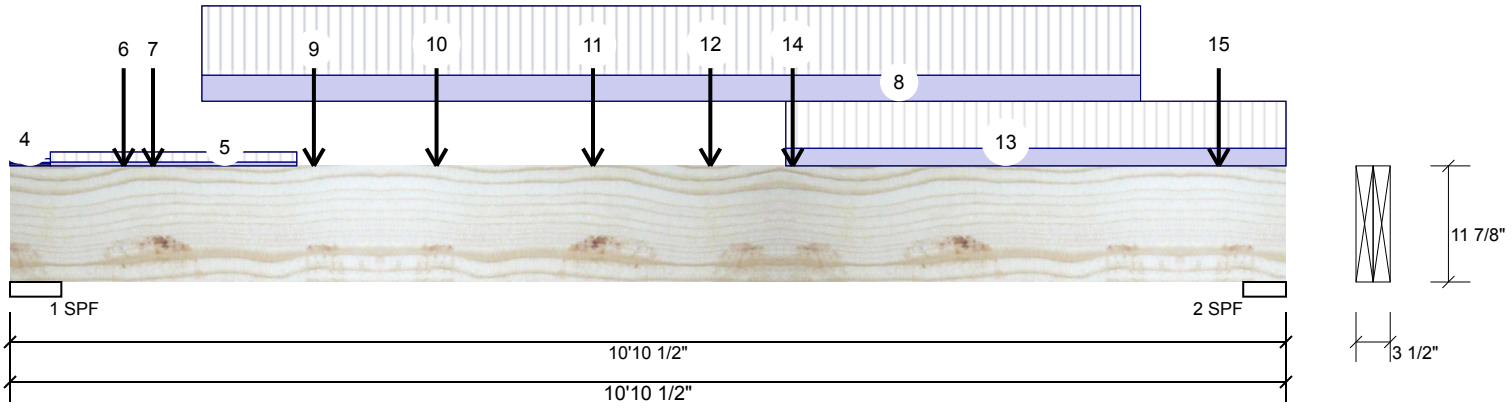
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



## F11-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor

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| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 7 | Point | 1-2-10 | | Far Face | 19 lb | 50 lb | 0 lb | 0 lb | J11 |
| 8 | Part. Uniform | 1-7-10 to 9-7-10 | | Near Face | 133 PLF | 354 PLF | 0 PLF | 0 PLF | |
| 9 | Point | 2-7-1 | | Far Face | 564 lb | 718 lb | 0 lb | 0 lb | F4 |
| 10 | Point | 3-7-10 | | Far Face | 73 lb | 194 lb | 0 lb | 0 lb | J12 |
| 11 | Point | 4-11-10 | | Far Face | 71 lb | 190 lb | 0 lb | 0 lb | J12 |
| 12 | Point | 5-11-10 | | Far Face | 52 lb | 139 lb | 0 lb | 0 lb | J12 |
| 13 | Part. Uniform | 6-7-5 to 10-10-8 | | Top | 90 PLF | 240 PLF | 0 PLF | 0 PLF | |
| 14 | Point | 6-8-1 | | Far Face | 93 lb | 177 lb | 0 lb | 0 lb | F6 |
| 15 | Point | 10-3-10 | | Near Face | 172 lb | 458 lb | 0 lb | 0 lb | J8 |
| | Self Weight | | | | 10 PLF | | | | |


January 04, 2019

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

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

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

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

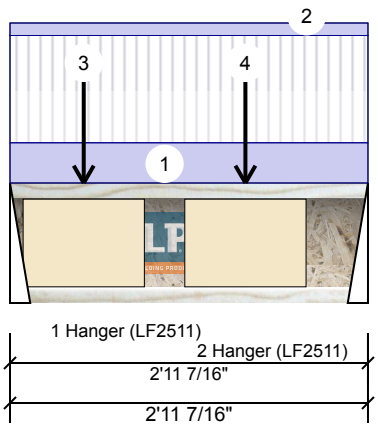
Client:
Project:
Address:

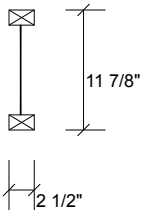
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F13-A LPI 20Plus 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 421 | 209 | 0 | 0 |
| 2 | 349 | 173 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 2.000" | 56% | 261 / 631 | 892 | L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 47% | 217 / 524 | 740 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 644 ft-lb | 1'11 5/16" | 6250 ft-lb | 0.103 (10%) | 1.25D+1.5L | L |
| Shear | 887 lb | 1 1/4" | 2345 lb | 0.378 (38%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.003 (L/9993) | 1'11 5/16" | 0.091 (L/360) | 0.040 (4%) | D | Uniform |
| LL Defl inch | 0.007 (L/4965) | 1'11 5/16" | 0.091 (L/360) | 0.070 (7%) | L | L |
| TL Defl inch | 0.010 (L/3317) | 1'11 5/16" | 0.137 (L/240) | 0.070 (7%) | D+L | L |

## Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.003", Long Term = 0.005"
3 Fill all hanger nailing holes.
4 See manufacture installation guide note E4 for installation details
5 Girders are designed to be supported on the bottom edge only.
6 Top flange braced at bearings.
7 Bottom flange braced at bearings.


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 2-11-7 | (Span)1-3-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 2-11-7 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 3 | Point | 0-7-5 | | Far Face | 157 lb | 316 lb | 0 lb | 0 lb | J9 |
| 4 | Point | 1-11-5 | | Far Face | 188 lb | 378 lb | 0 lb | 0 lb | J9 |

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

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

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

**Notes**

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.



KOTT

This design is valid until 10/31/2020

**Manufacturer Info**

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
CCMC: 12412-R APA: PR-L238C

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

NASCOR

isDesign™

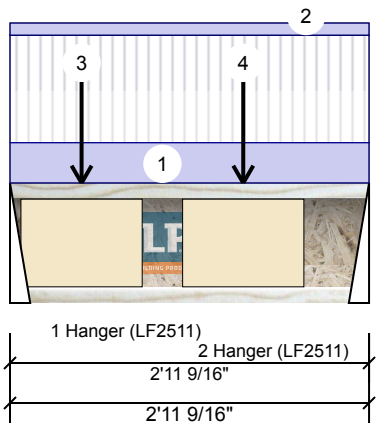
Client:
Project:
Address:

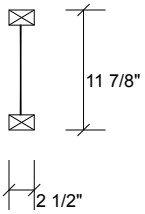
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F13-B LPI 20Plus 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 409 | 203 | 0 | 0 |
| 2 | 333 | 165 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 2.000" | 55% | 254 / 613 | 867 | L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 44% | 206 / 500 | 706 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 629 ft-lb | 1'11 1/16" | 6250 ft-lb | 0.101 (10%) | 1.25D+1.5L | L |
| Shear | 862 lb | 1 1/4" | 2345 lb | 0.367 (37%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.003 (L/10276) | 1'11 1/8" | 0.092 (L/360) | 0.040 (4%) | D | Uniform |
| LL Defl inch | 0.006 (L/5095) | 1'11 1/8" | 0.092 (L/360) | 0.070 (7%) | L | L |
| TL Defl inch | 0.010 (L/3406) | 1'11 1/8" | 0.138 (L/240) | 0.070 (7%) | D+L | L |

## Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.003", Long Term = 0.005"
3 Fill all hanger nailing holes.
4 See manufacture installation guide note E4 for installation details
5 Girders are designed to be supported on the bottom edge only.
6 Top flange braced at bearings.
7 Bottom flange braced at bearings.


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 2-11-9 | (Span)1-3-13 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 2-11-9 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 3 | Point | 0-7-1 | | Near Face | 149 lb | 299 lb | 0 lb | 0 lb | J6 |
| 4 | Point | 1-11-1 | | Near Face | 181 lb | 365 lb | 0 lb | 0 lb | J6 |

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

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

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

**Notes**

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This design is valid until 10/31/2020

**Manufacturer Info**

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CCMC: 12412-R APA: PR-L238C

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

NASCOR

isDesign™

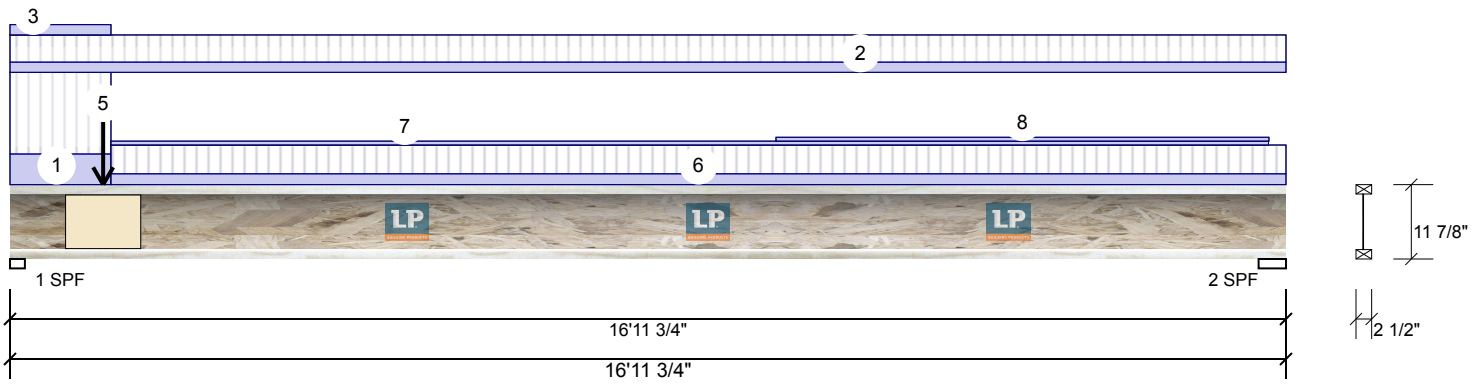
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F14-A LPI 20Plus 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 743 | 354 | 0 | 0 |
| 2 | 397 | 193 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 2.375" | 95% | 442 / 1115 | 1557 | L | 1.25D+1.5L |
| 2 - SPF | 4.375" | 46% | 241 / 595 | 836 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 3539 ft-lb | 7'10 5/16" | 6250 ft-lb | 0.566 (57%) | 1.25D+1.5L | L |
| Shear | 1533 lb | 1 5/8" | 2345 lb | 0.654 (65%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.141 (L/1410) | 8'3" | 0.551 (L/360) | 0.260 (26%) | D | Uniform |
| LL Defl inch | 0.299 (L/664) | 8'2 1/2" | 0.551 (L/360) | 0.540 (54%) | L | L |
| TL Defl inch | 0.440 (L/451) | 8'2 11/16" | 0.827 (L/240) | 0.530 (53%) | D+L | L |

## Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.141", Long Term = 0.211"
3 See manufacture installation guide note E4 for installation details
4 Girders are designed to be supported on the bottom edge only.
5 Top flange must be laterally braced at a maximum of 5'6" o.c.
6 Bottom flange braced at bearings.

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January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 1-4-2 | (Span)3-1-15 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 16-11-12 | (Span)1-0-10 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-0-0 to 1-4-2 | | Top | 8 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Point | 1-2-14 | | Far Face | 173 lb | 349 lb | 0 lb | 0 lb | F13 |
| 6 | Tie-In | 1-4-2 to 16-11-12 | (Span)1-1-6 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 7 | Part. Uniform | 1-4-2 to 16-8-15 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 8 | Part. Uniform | 10-2-5 to 16-9-0 | | Top | 3 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**

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NASCOR

isDesign™

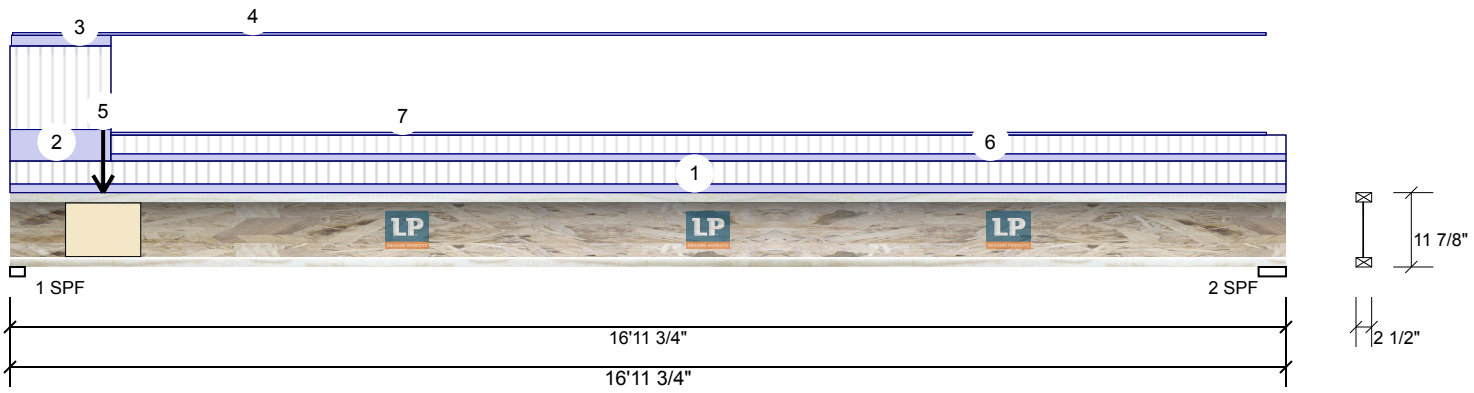
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F14-B LPI 20Plus 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 723 | 360 | 0 | 0 |
| 2 | 302 | 150 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 2.375" | 94% | 450 / 1084 | 1534 | L | 1.25D+1.5L |
| 2 - SPF | 4.375" | 35% | 188 / 453 | 640 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 2865 ft-lb | 7'5 7/16" | 6250 ft-lb | 0.458 (46%) | 1.25D+1.5L | L |
| Shear | 1511 lb | 1 5/8" | 2345 lb | 0.644 (64%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.119 (L/1662) | 8'1 1/4" | 0.551 (L/360) | 0.220 (22%) | D | Uniform |
| LL Defl inch | 0.239 (L/831) | 8'1 3/16" | 0.551 (L/360) | 0.430 (43%) | L | L |
| TL Defl inch | 0.358 (L/554) | 8'1 1/4" | 0.827 (L/240) | 0.430 (43%) | D+L | L |

## Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.119", Long Term = 0.179"
3 See manufacture installation guide note E4 for installation details
4 Girders are designed to be supported on the bottom edge only.
5 Top flange must be laterally braced at a maximum of 6'2" o.c.
6 Bottom flange braced at bearings.

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January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 16-11-12 | (Span)0-10-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 1-4-2 | (Span)3-1-15 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-0-4 to 1-4-2 | | Top | 8 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-0-7 to 16-8-9 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Point | 1-2-14 | | Near Face | 209 lb | 421 lb | 0 lb | 0 lb | E13 |
| 6 | Tie-In | 1-4-2 to 16-11-12 | (Span)0-8-9 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 7 | Part. Uniform | 1-4-2 to 16-8-10 | | 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**

**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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NASCOR

isDesign™

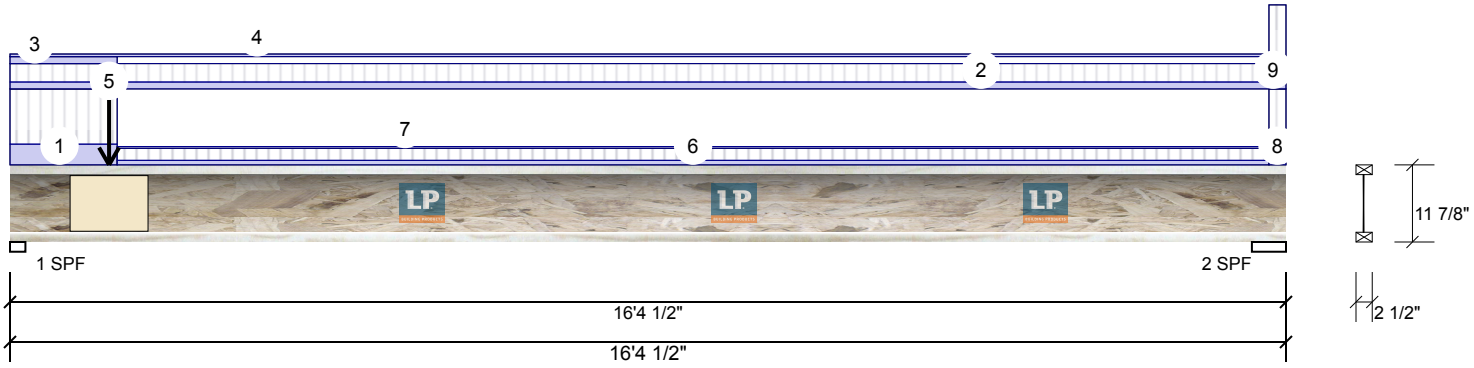
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F14-C LPI 20Plus 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 728 | 367 | 0 | 0 |
| 2 | 344 | 173 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 2.375" | 95% | 459 / 1092 | 1551 | L | 1.25D+1.5L |
| 2 - SPF | 5.250" | 40% | 216 / 516 | 732 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 2927 ft-lb | 7'2 1/16" | 6250 ft-lb | 0.468 (47%) | 1.25D+1.5L | L |
| Shear | 1526 lb | 1 5/8" | 2345 lb | 0.651 (65%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.115 (L/1651) | 7'9 7/16" | 0.529 (L/360) | 0.220 (22%) | D | Uniform |
| LL Defl inch | 0.225 (L/848) | 7'9 1/4" | 0.529 (L/360) | 0.420 (42%) | L | L |
| TL Defl inch | 0.340 (L/560) | 7'9 3/8" | 0.793 (L/240) | 0.430 (43%) | D+L | L |

## Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.115", Long Term = 0.173"
3 See manufacture installation guide note E4 for installation details
4 Girders are designed to be supported on the bottom edge only.
5 Top flange must be laterally braced at a maximum of 6'2" o.c.
6 Bottom flange braced at bearings.

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January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 1-4-8 | (Span)3-2-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 16-1-14 | (Span)1-0-11 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-0-0 to 1-4-8 | | Top | 8 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-0-0 to 16-1-3 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Point | 1-3-4 | | Far Face | 203 lb | 409 lb | 0 lb | 0 lb | E13 |
| 6 | Tie-In | 1-4-8 to 16-1-14 | (Span)0-8-5 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 7 | Part. Uniform | 1-4-8 to 16-1-3 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |

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**

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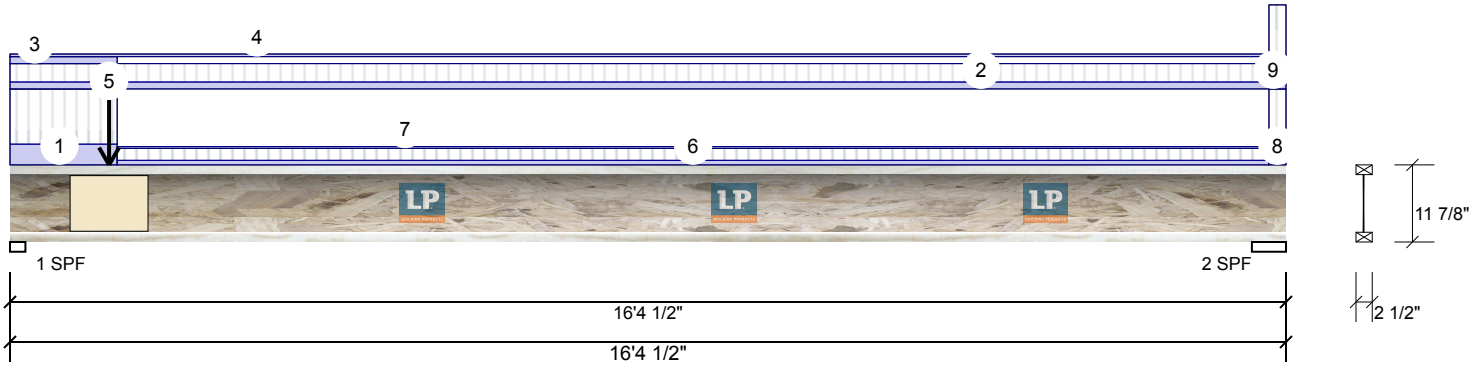
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F14-C LPI 20Plus 11.875" - PASSED

Level: Ground Floor




...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 8 | Tie-In | 16-1-14 to 16-4-8 | (Span)3-2-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 9 | Tie-In | 16-1-14 to 16-4-8 | (Span)3-6-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |


January 04, 2019

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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**

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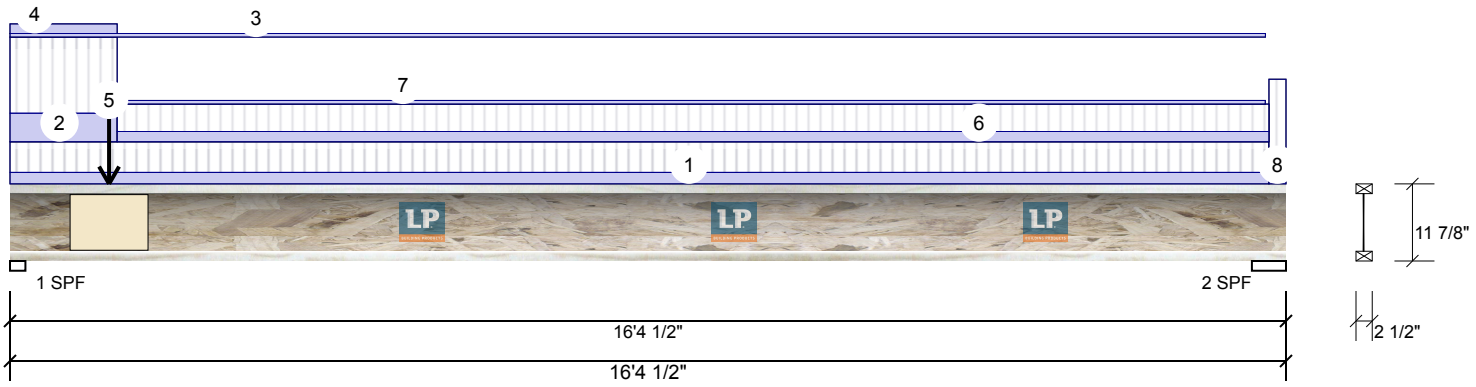
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F14-D LPI 20Plus 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 753 | 375 | 0 | 0 |
| 2 | 431 | 213 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 2.375" | 98% | 468 / 1129 | 1598 | L | 1.25D+1.5L |
| 2 - SPF | 5.250" | 50% | 266 / 646 | 912 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 3678 ft-lb | 7'6 7/16" | 6250 ft-lb | 0.589 (59%) | 1.25D+1.5L | L |
| Shear | 1572 lb | 1 5/8" | 2345 lb | 0.670 (67%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.141 (L/1349) | 7'10 5/8" | 0.529 (L/360) | 0.270 (27%) | D | Uniform |
| LL Defl inch | 0.283 (L/672) | 7'10 5/8" | 0.529 (L/360) | 0.540 (54%) | L | L |
| TL Defl inch | 0.424 (L/449) | 7'10 5/8" | 0.793 (L/240) | 0.530 (53%) | D+L | L |

## Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.141", Long Term = 0.212"
3 See manufacture installation guide note E4 for installation details
4 Girders are designed to be supported on the bottom edge only.
5 Top flange must be laterally braced at a maximum of 5'5" o.c.
6 Bottom flange braced at bearings.


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 16-1-14 | (Span)1-3-5 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 1-4-8 | (Span)3-2-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-0-0 to 16-1-5 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-0-0 to 1-4-8 | | Top | 8 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Point | 1-3-4 | | Near Face | 165 lb | 333 lb | 0 lb | 0 lb | F13 |
| 6 | Tie-In | 1-4-8 to 16-1-14 | (Span)1-1-11 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 7 | Part. Uniform | 1-4-8 to 16-1-5 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 8 | Tie-In | 16-1-14 to 16-4-8 | (Span)3-2-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |

**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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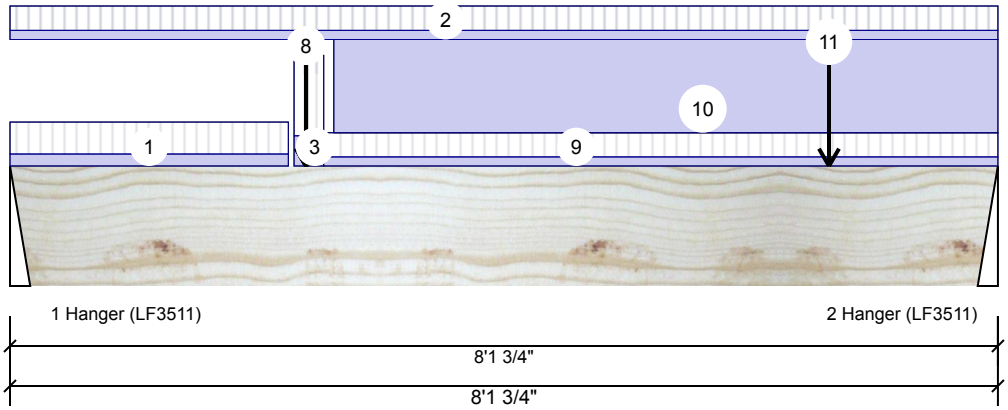
Client:
Project:
Address:

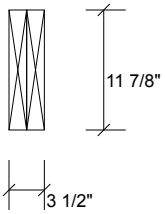
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 718 | 564 | 0 | 0 |
| 2 | 682 | 642 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 2.000" | 34% | 705 / 1076 | 1781 | L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 35% | 802 / 1023 | 1825 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 3845 ft-lb | 2'6 9/16" | 34261 ft-lb | 0.112 (11%) | 1.25D+1.5L | L |
| Unbraced | 3845 ft-lb | 2'6 9/16" | 31329 ft-lb | 0.123 (12%) | 1.25D+1.5L | L |
| Shear | 1664 lb | 1'1 1/8" | 11596 lb | 0.144 (14%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.019 (L/5107) | 3'11 7/16" | 0.265 (L/360) | 0.070 (7%) | D | Uniform |
| LL Defl inch | 0.021 (L/4600) | 3'9 7/16" | 0.265 (L/360) | 0.080 (8%) | L | L |
| TL Defl inch | 0.039 (L/2421) | 3'10 3/8" | 0.397 (L/240) | 0.100 (10%) | D+L | L |

## Design Notes

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

**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.**


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 2-3-9 | (Span)1-4-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 8-1-12 | (Span)1-0-9 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Tie-In | 2-4-2 to 2-7-1 | (Span)3-5-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 4 | Point | 2-5-5 | | Top | 85 lb | 226 lb | 0 lb | 0 lb | J5 |
| 5 | Point | 2-5-5 | | Top | 19 lb | 52 lb | 0 lb | 0 lb | J1 |
| 6 | Point | 2-5-5 | | Top | 77 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |

**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**

Continued on page 2...

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

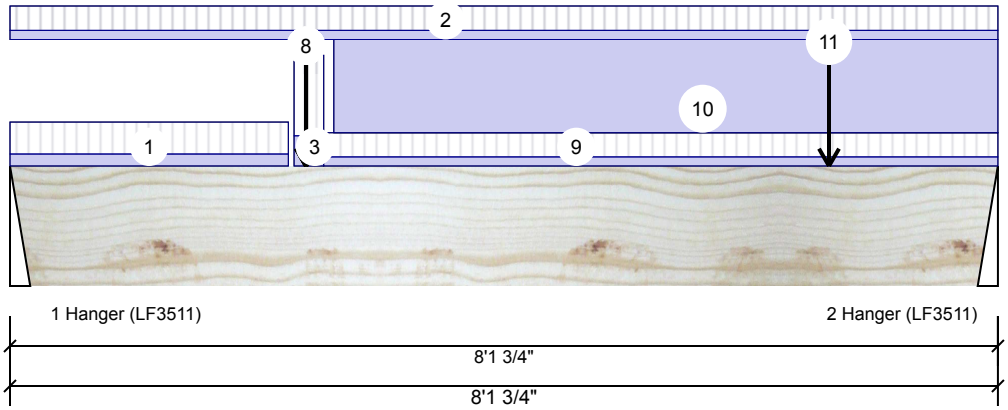
Client:
Project:
Address:

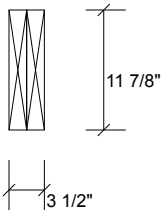
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



## F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor




...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 7 | Point | 2-5-5 | | Top | 30 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| 8 | Point | 2-5-5 | | Far Face | 191 lb | 383 lb | 0 lb | 0 lb | F8 |
| 9 | Tie-In | 2-7-1 to 8-1-12 | (Span)1-0-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 10 | Part. Uniform | 2-8-1 to 8-1-12 | | Top | 80 PLF | 0 PLF | 0 PLF | 0 PLF | Wall Self Weight |
| 11 | Point | 6-9-1 | | Top | 151 lb | 373 lb | 0 lb | 0 lb | F5 F5 |
| | Self Weight | | | | 10 PLF | | | | |


January 04, 2019

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

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

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

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

KOTT

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

NASCOR

isDesign™

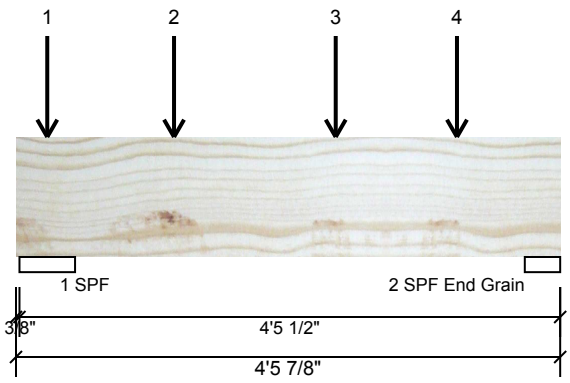
Client:
Project:
Address:

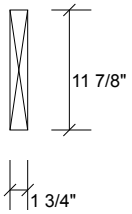
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F5-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 550 | 392 | 0 | 0 |
| 2 | 281 | 116 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 5.500" | 22% | 489 / 825 | 1314 | _L | 1.25D+1.5L |
| 2 - SPF End Grain | 3.500" | 12% | 145 / 422 | 566 | _L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 635 ft-lb | 2'7 5/8" | 17130 ft-lb | 0.037 (4%) | 1.25D+1.5L | _L |
| Unbraced | 635 ft-lb | 2'7 5/8" | 11243 ft-lb | 0.056 (6%) | 1.25D+1.5L | _L |
| Shear | 559 lb | 3'3 1/4" | 5798 lb | 0.096 (10%) | 1.25D+1.5L | _L |
| Perm Defl in. | 0.001 (L/33902) | 2'5 13/16" | 0.133 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.003 (L/13739) | 2'6 5/16" | 0.133 (L/360) | 0.030 (3%) | L | LL |
| TL Defl inch | 0.005 (L/9777) | 2'6 1/8" | 0.200 (L/240) | 0.020 (2%) | D+L | LL |
| LL Cant | -0.000 (2L/16891) | Lt Cant | 0.200 (2L/480) | 0.000 (0%) | L | LL |
| TL Cant | -0.000 (2L/12012) | Lt Cant | 0.300 (2L/360) | 0.000 (0%) | D+L | LL |


January 04, 2019

## Design Notes

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

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Point | 0-3-2 | | Near Face | 290 lb | 308 lb | 0 lb | 0 lb | F4 |
| 2 | Point | 1-3-10 | | Near Face | 73 lb | 194 lb | 0 lb | 0 lb | J12 |
| 3 | Point | 2-7-10 | | Near Face | 71 lb | 190 lb | 0 lb | 0 lb | J12 |
| 4 | Point | 3-7-10 | | Near Face | 52 lb | 139 lb | 0 lb | 0 lb | J12 |
| | Self Weight | | | | 5 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 Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

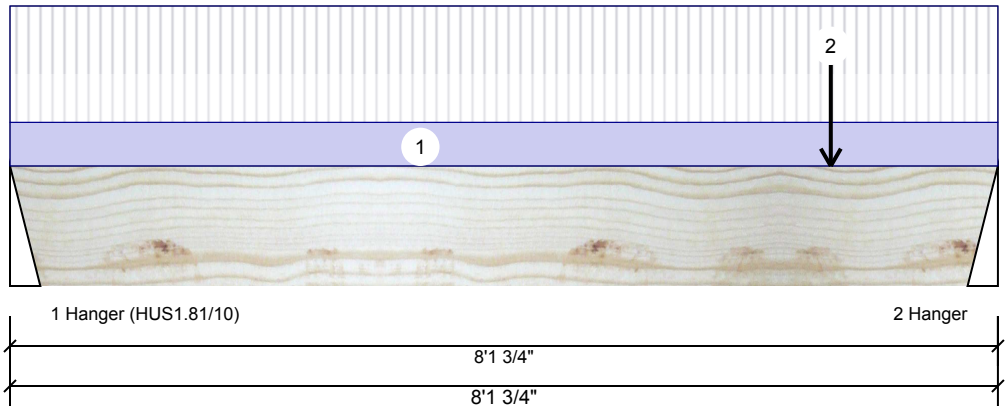
Client:
Project:
Address:

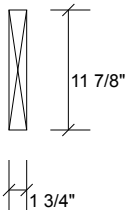
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 177 | 93 | 0 | 0 |
| 2 | 718 | 329 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 3.000" | 10% | 116 / 265 | 381 | L | 1.25D+1.5L |
| 2 - Hanger | 3.000" | 38% | 411 / 1077 | 1487 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 1740 ft-lb | 6'9 3/16" | 17130 ft-lb | 0.102 (10%) | 1.25D+1.5L | L |
| Unbraced | 1740 ft-lb | 6'9 3/16" | 5785 ft-lb | 0.301 (30%) | 1.25D+1.5L | L |
| Shear | 1448 lb | 6'11 5/8" | 5798 lb | 0.250 (25%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.009 (L/10723) | 4'8 5/8" | 0.259 (L/360) | 0.030 (3%) | D | Uniform |
| LL Defl inch | 0.018 (L/5141) | 4'9 9/16" | 0.259 (L/360) | 0.070 (7%) | L | L |
| TL Defl inch | 0.027 (L/3475) | 4'9 5/16" | 0.389 (L/240) | 0.070 (7%) | D+L | L |

## Design Notes

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 8-1-12 | (Span)0-8-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 6-9-4 | | Top | 340 lb | 780 lb | 0 lb | 0 lb | C5 |
| | Self Weight | | | | 5 PLF | | | | |

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

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

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

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

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

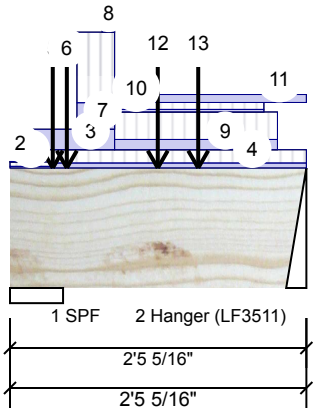
Client:
Project:
Address:

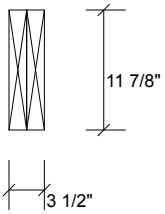
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F8-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 2902 | 1305 | 0 | 0 |
| 2 | 383 | 191 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 5.250" | 54% | 1631 / 4353 | 5984 | L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 16% | 238 / 575 | 813 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 528 ft-lb | 1'6 5/8" | 34261 ft-lb | 0.015 (2%) | 1.25D+1.5L | L |
| Unbraced | 528 ft-lb | 1'6 5/8" | 34261 ft-lb | 0.015 (2%) | 1.25D+1.5L | L |
| Shear | 853 lb | 1'4 3/8" | 11596 lb | 0.074 (7%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.000 (L/58768) | 1'5 13/16" | 0.066 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.001 (L/27132) | 1'6 5/8" | 0.066 (L/360) | 0.010 (1%) | L | L |
| TL Defl inch | 0.001 (L/18576) | 1'6 3/8" | 0.098 (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 Fill all hanger nailing holes.
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top braced at bearings.
7 Bottom braced at bearings.
8 Lateral slenderness ratio based on full section width.

**READ ALL NOTES ON THIS PAGE AND ON 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.**


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 0-4-2 | (Span)0-10-4 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 0-2-10 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 3 | Part. Uniform | 0-0-0 to 0-10-6 | | Top | 80 PLF | 0 PLF | 0 PLF | 0 PLF | Wall Self Weight |

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

Manufacturer Info
Forex
APA: PR-L318

KOTT

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

NASCOR

isDesign™

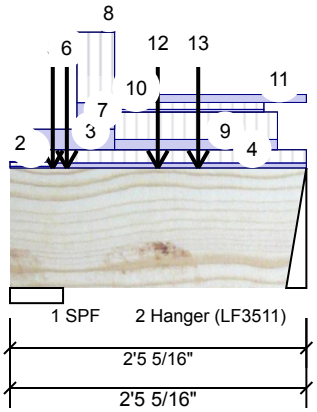
Client:
Project:
Address:

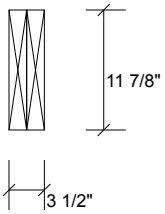
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



## F8-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor

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| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Tie-In | 0-4-2 to 2-5-5 | (Span)2-7-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 5 | Point | 0-4-4 | | Top | 965 lb | 2248 lb | 0 lb | 0 lb | F12 F12 |
| 6 | Point | 0-5-10 | | Far Face | 119 lb | 318 lb | 0 lb | 0 lb | J5 |
| 7 | Part. Uniform | 0-6-10 to 0-10-6 | | Top | 103 PLF | 275 PLF | 0 PLF | 0 PLF | J5 |
| 8 | Part. Uniform | 0-9-2 to 0-10-6 | | Top | 26 PLF | 68 PLF | 0 PLF | 0 PLF | J11 |
| 9 | Part. Uniform | 0-10-6 to 2-2-7 | | Top | 40 PLF | 107 PLF | 0 PLF | 0 PLF | J5 |
| 10 | Part. Uniform | 0-10-6 to 2-1-2 | | Top | 10 PLF | 27 PLF | 0 PLF | 0 PLF | J11 |
| 11 | Part. Uniform | 0-10-6 to 2-5-5 | | Top | 31 PLF | 0 PLF | 0 PLF | 0 PLF | Wall Self Weight |
| 12 | Point | 1-2-10 | | Near Face | 19 lb | 50 lb | 0 lb | 0 lb | J11 |
| 13 | Point | 1-6-10 | | Far Face | 107 lb | 285 lb | 0 lb | 0 lb | J5 |
| | Self Weight | | | | 10 PLF | | | | |


January 04, 2019

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

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

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

### Notes

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

### Lumber

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

### Handling & Installation

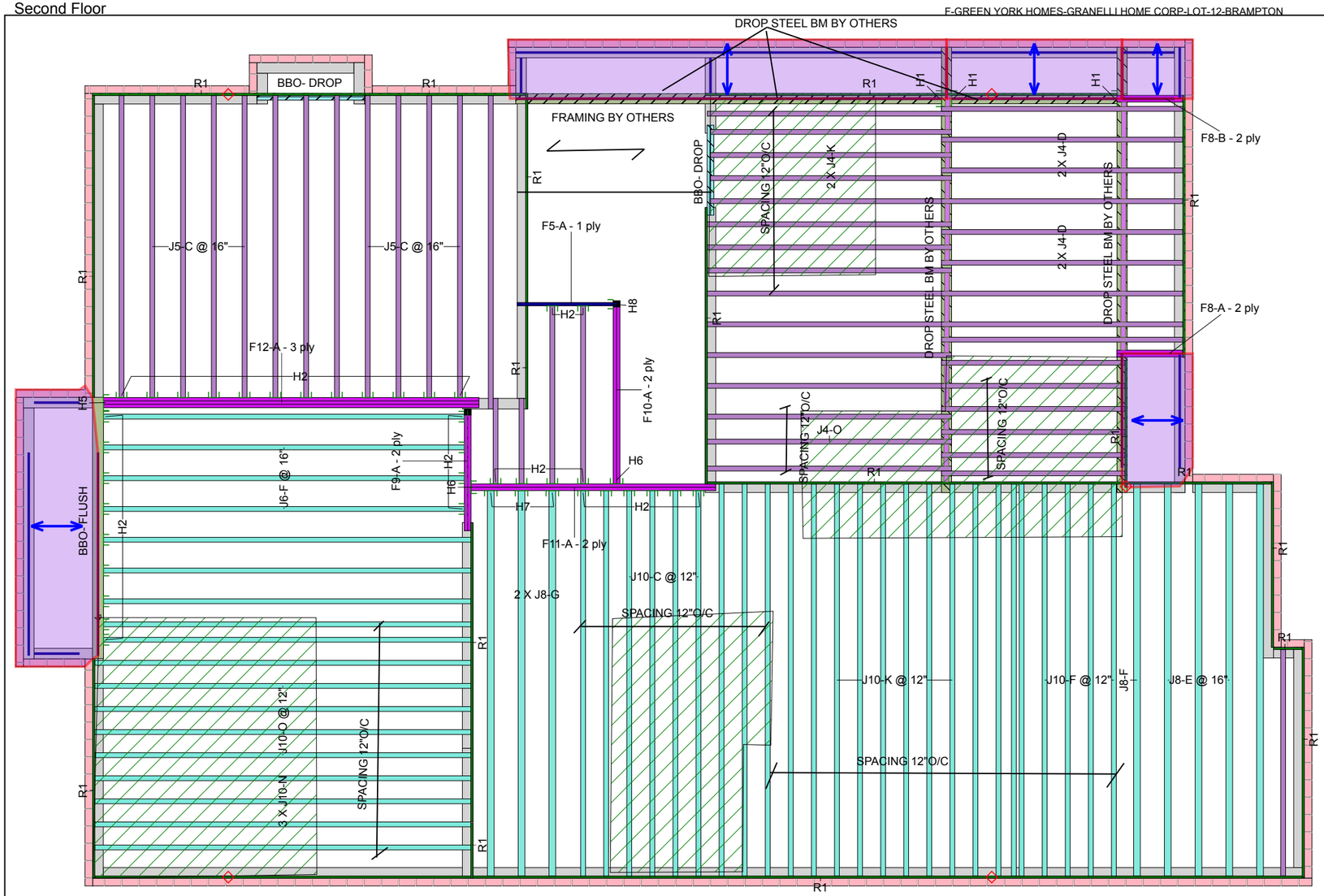
1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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




Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR, SUITE 3A
VAUGHAN,ON L4K 3P3
Project # 17-55
Model: LOT-12 (CELESTIAL 1 EL-1)
Date: AUG 30 2018

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -12904-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

JOISTS SPACING 16"O/C
UNLESS
NOTED OTHERWISE

**Legend**

| | |
|---|---|
| PS ◇ | Point Load Support |
| | Load from Above |
| | Wall |
| | Norbord Rimboard Plus 1.125 X 11.875 |
| | LPI 20Plus 11.875 |
| | NJ60H 11.875 |
| | NJ60U 11.875 |
| | Forex 2.0E-3000Fb LVL 1.75 X 11.875 |
| | 1.75 X 9.5 (Dropped) |
| | 5.25 X 10.25 (Dropped) |
| | 5.75 X 10.25 |

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

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

Second Floor
LVL/LSL

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| F12 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 3 | 3 | 18-0-0 |
| F11 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 2 | 2 | 12-0-0 |
| F10 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 2 | 2 | 8-0-0 |
| F9 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 1 | 2 | 2 | 6-0-0 |
| F5 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | | | 1 | 6-0-0 |
| F8 | Forex 2.0E-3000Fb LVL | 1.75 | 11.875 | 2 | 2 | 4 | 4-0-0 |

I Joist

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| J5 | LPI 20Plus | 2.5 | 11.875 | | | 13 | 14-0-0 |
| J4 | LPI 20Plus | 2.5 | 11.875 | | | 24 | 12-0-0 |
| J12 | LPI 20Plus | 2.5 | 11.875 | | | 1 | 10-0-0 |
| J2 | LPI 20Plus | 2.5 | 11.875 | | | 8 | 8-0-0 |
| J11 | LPI 20Plus | 2.5 | 11.875 | | | 2 | 4-0-0 |
| J10 | NJ60H | 2.5 | 11.875 | | | 34 | 18-0-0 |
| J6 | NJ60H | 2.5 | 11.875 | | | 9 | 16-0-0 |
| J8 | NJ60U | 3.5 | 11.875 | | | 8 | 18-0-0 |

Rim Board

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| R1 | Norbord Rimboard Plus 1.125 X 11.875 | 1.125 | 11.875 | | | 18 | 12 |

Blocking

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|---|---|---|---|---|---|---|---|
| BLK2 | NJH | 2.5 | 11.875 | LinFt | | Varies | 20-0-0 |

Hanger

| Label | Pcs | Description | Skew | Slope | Beam/Girder fasteners | Supported Member fasteners |
|---|---|---|---|---|---|---|
| H1 | 3 | Unknown Hanger | | | | |
| H2 | 37 | LF2511 | | | 12 10d | 1 #8x1 1/4WS |
| H5 | 1 | HUC610 (Max) | | | 18 16d | 8 16d |
| H6 | 2 | HGUS410 | | | 46 16d | 16 16d |
| H7 | 3 | LF3511 | | | 12 10d | 2 #8x1 1/4WS |
| H8 | 1 | HUCQ1.81/10-SDS | | | | |

NOTES:

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

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

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

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

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

NASCOR

Layout Name
LOT-12(CELESTIAL 1 EL-1 5BDRM
Design Method
LSD
Description
GREEN YORK HOMES
GRANELLI HOMES PROJECT
BRAMPTON,ON
Created
May 31, 2018
Builder
Sales Rep
Designer
S B
Shipping
Project
Builder's Project

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

**Second Floor**

| | |
|---|---|
| Design Method | LSD |
| Building Code | NBCC 2010 / OBC 2012 |

**Floor**

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

**Roof**

| | |
|---|---|
| Loads | |
| Live | 0 |
| Dead | 17 |
| Snow | 36 |
| Deflection Joist | |
| LL Span L/ | 360 |
| TL Span L/ | 240 |
| LL Cant 2L/ | 360 |
| TL Cant 2L/ | 360 |
| Deflection Girder | |
| LL Span L/ | 360 |
| TL Span L/ | 240 |
| LL Cant 2L/ | 360 |
| TL Cant 2L/ | 360 |
| Decking | |
| Deck | SPF Plywood |
| Thickness | 5/8" |
| Fastener | Nailed Only |

KOTT

isDesign™

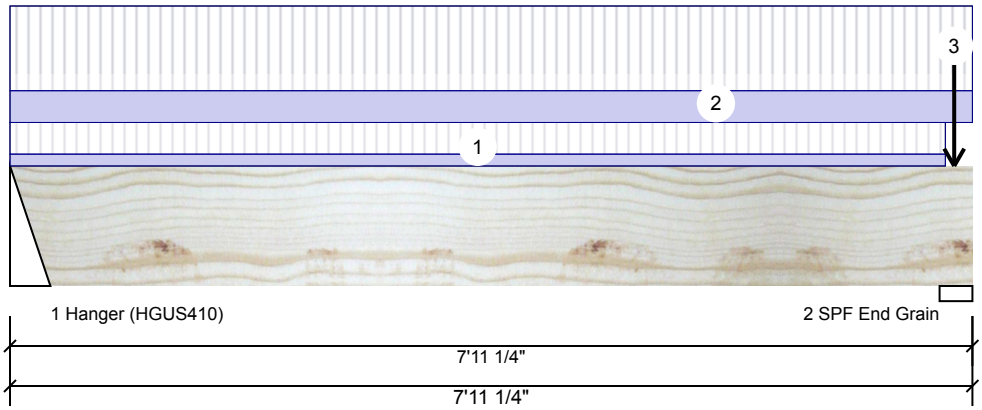
Client:
Project:
Address:

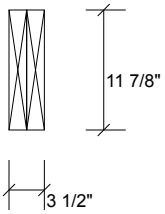
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 427 | 198 | 0 | 0 |
| 2 | 780 | 340 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 4.000" | 9% | 248 / 641 | 888 | L | 1.25D+1.5L |
| 2 - SPF End Grain | 3.250" | 19% | 425 / 1170 | 1594 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 1544 ft-lb | 4' | 34261 ft-lb | 0.045 (5%) | 1.25D+1.5L | L |
| Unbraced | 1544 ft-lb | 4' | 31673 ft-lb | 0.049 (5%) | 1.25D+1.5L | L |
| Shear | 608 lb | 6'8 7/8" | 11596 lb | 0.052 (5%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.004 (L/19948) | 4' | 0.249 (L/360) | 0.020 (2%) | D | Uniform |
| LL Defl inch | 0.010 (L/9260) | 4' | 0.249 (L/360) | 0.040 (4%) | L | L |
| TL Defl inch | 0.014 (L/6324) | 4' | 0.373 (L/240) | 0.040 (4%) | D+L | L |

## Design Notes

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


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 7-8-9 | (Span)1-5-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 7-11-4 | (Span) 3-10-10 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 7-9-7 | | Far Face | 147 lb | 366 lb | 0 lb | 0 lb | |
| | Self Weight | | | | 10 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**

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

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

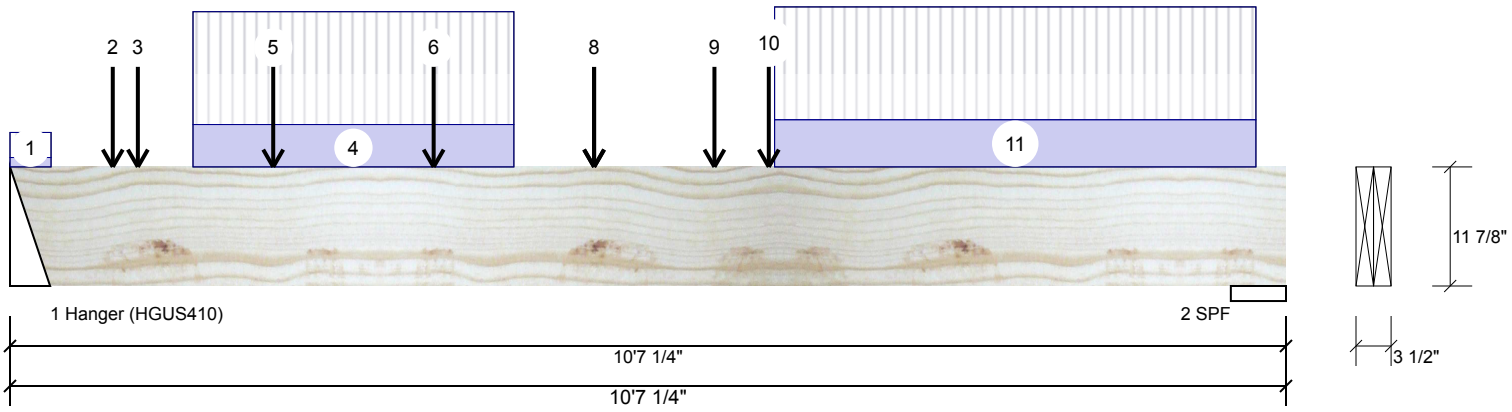
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F11-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 2173 | 893 | 0 | 0 |
| 2 | 2133 | 923 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 4.000" | 42% | 1116 / 3260 | 4376 | L | 1.25D+1.5L |
| 2 - SPF | 5.500" | 37% | 1154 / 3199 | 4353 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 11828 ft-lb | 4'10 1/4" | 34261 ft-lb | 0.345 (35%) | 1.25D+1.5L | L |
| Unbraced | 11828 ft-lb | 4'10 1/4" | 29666 ft-lb | 0.399 (40%) | 1.25D+1.5L | L |
| Shear | 4972 lb | 1'3 1/8" | 11596 lb | 0.429 (43%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.051 (L/2357) | 5'3 1/4" | 0.331 (L/360) | 0.150 (15%) | D | Uniform |
| LL Defl inch | 0.121 (L/989) | 5'2 11/16" | 0.331 (L/360) | 0.360 (36%) | L | L |
| TL Defl inch | 0.171 (L/697) | 5'2 7/8" | 0.497 (L/240) | 0.340 (34%) | D+L | L |

## Design Notes

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

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 0-4-2 | (Span)3-8-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 0-10-4 | | Near Face | 135 lb | 360 lb | 0 lb | 0 lb | J8 |
| 3 | Point | 1-0-12 | | Far Face | 30 lb | 80 lb | 0 lb | 0 lb | J11 |
| 4 | Part. Uniform | 1-6-4 to 4-2-4 | | Near Face | 124 PLF | 330 PLF | 0 PLF | 0 PLF | |
| 5 | Point | 2-2-4 | | Far Face | 31 lb | 84 lb | 0 lb | 0 lb | J11 |
| 6 | Point | 3-6-4 | | Far Face | 75 lb | 200 lb | 0 lb | 0 lb | J2 |

**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**

Continued on page 2...

**Notes**

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**Lumber**

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

**Handling & Installation**

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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14 Anderson Blvd, Ontario
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L4A 7X4
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isDesign™

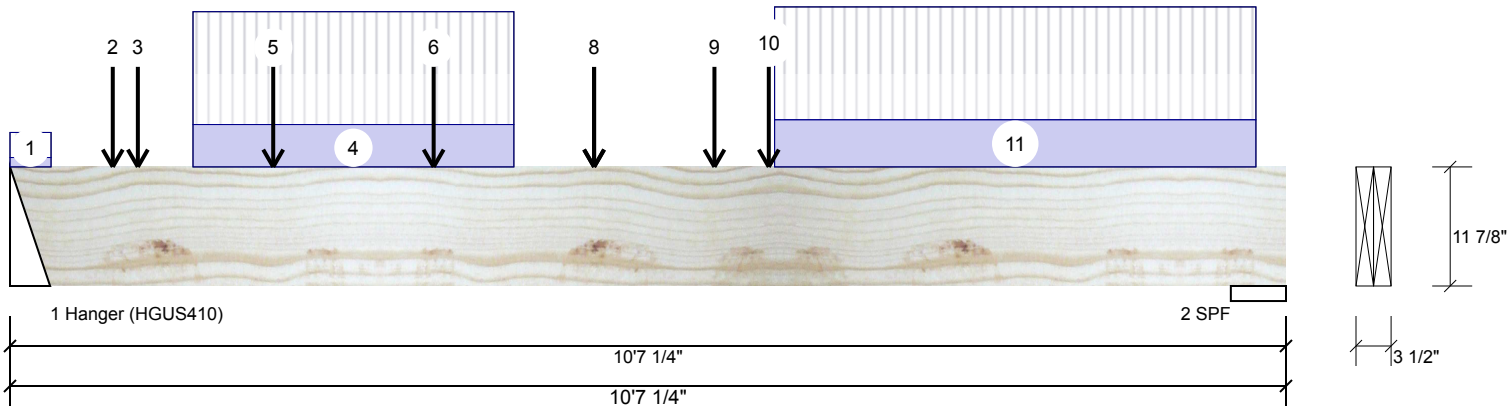
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F11-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 7 | Point | 4-10-4 | | Far Face | 81 lb | 215 lb | 0 lb | 0 lb | J2 |
| 8 | Point | 4-10-4 | | Near Face | 144 lb | 385 lb | 0 lb | 0 lb | J10 |
| 9 | Point | 5-10-4 | | Near Face | 129 lb | 330 lb | 0 lb | 0 lb | J10 |
| 10 | Point | 6-3-11 | | Far Face | 198 lb | 427 lb | 0 lb | 0 lb | F10 |
| 11 | Part. Uniform | 6-4-4 to 10-4-4 | | Near Face | 138 PLF | 330 PLF | 0 PLF | 0 PLF | |
| | Self Weight | | | | 10 PLF | | | | |

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

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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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**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
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This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

KOTT

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

NASCOR

isDesign™

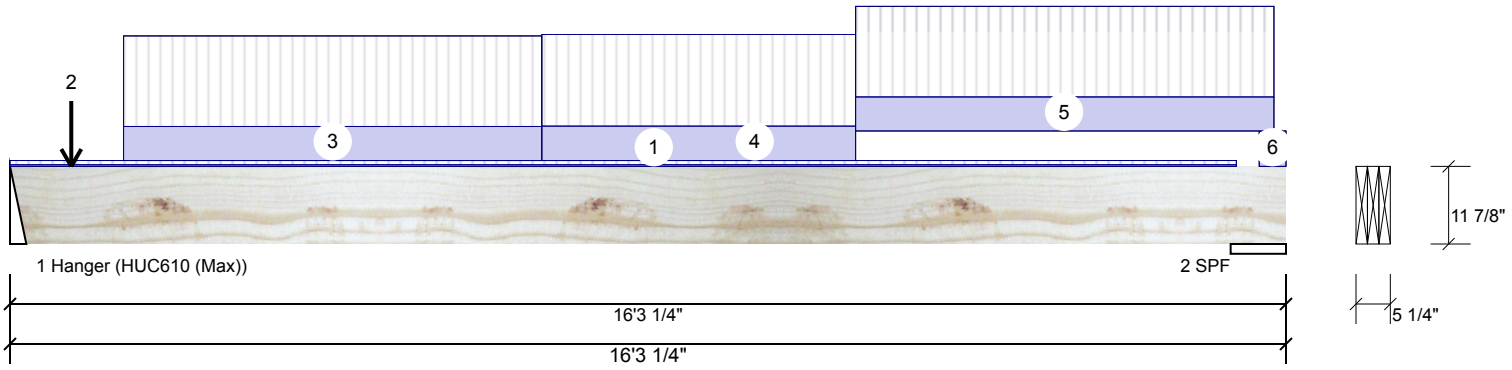
Client:
Project:
Address:

Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F12-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 3-Ply - PASSED

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 2091 | 898 | 0 | 0 |
| 2 | 2248 | 965 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - Hanger | 2.500" | 44% | 1123 / 3136 | 4259 | L | 1.25D+1.5L |
| 2 - SPF | 8.469" | 17% | 1206 / 3373 | 4578 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 16539 ft-lb | 7'10 3/4" | 53447 ft-lb | 0.309 (31%) | 1.25D+1.5L | L |
| Unbraced | 16539 ft-lb | 7'10 3/4" | 49731 ft-lb | 0.333 (33%) | 1.25D+1.5L | L |
| Shear | 4714 lb | 1'1 5/8" | 17394 lb | 0.271 (27%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.109 (L/1707) | 7'10 11/16" | 0.516 (L/360) | 0.210 (21%) | D | Uniform |
| LL Defl inch | 0.254 (L/731) | 7'10 11/16" | 0.516 (L/360) | 0.490 (49%) | L | L |
| TL Defl inch | 0.363 (L/512) | 7'10 11/16" | 0.774 (L/240) | 0.470 (47%) | D+L | L |

## Design Notes

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

**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.**

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 15-7-10 | (Span)0-7-5 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 0-9-6 | | Far Face | 123 lb | 328 lb | 0 lb | 0 lb | J5 |
| 3 | Part. Uniform | 1-5-6 to 6-9-6 | | Far Face | 97 PLF | 258 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 6-9-6 to 10-9-6 | | Far Face | 98 PLF | 261 PLF | 0 PLF | 0 PLF | |
| 5 | Part. Uniform | 10-9-6 to 16-1-6 | | Far Face | 97 PLF | 258 PLF | 0 PLF | 0 PLF | |
| 6 | Tie-In | 15-11-2 to 16-3-4 | (Span)3-8-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| | Self Weight | | | | 14 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 Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

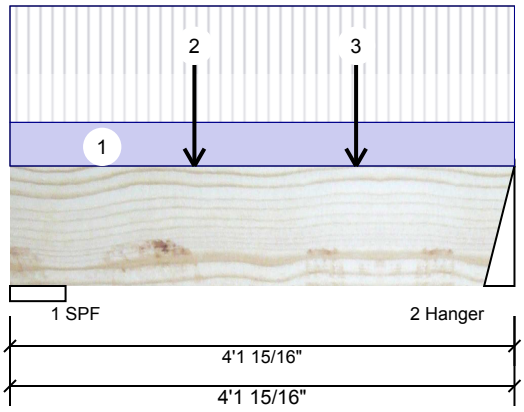
Client:
Project:
Address:

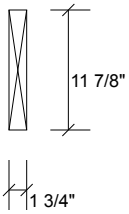
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



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

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 373 | 151 | 0 | 0 |
| 2 | 366 | 147 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 5.500" | 13% | 188 / 559 | 748 | L | 1.25D+1.5L |
| 2 - Hanger | 3.000" | 19% | 184 / 549 | 733 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 711 ft-lb | 2'3 1/4" | 17130 ft-lb | 0.041 (4%) | 1.25D+1.5L | L |
| Unbraced | 711 ft-lb | 2'3 1/4" | 12369 ft-lb | 0.057 (6%) | 1.25D+1.5L | L |
| Shear | 540 lb | 2'11 13/16" | 5798 lb | 0.093 (9%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.001 (L/29239) | 2'2 1/2" | 0.119 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.004 (L/11617) | 2'2 9/16" | 0.119 (L/360) | 0.030 (3%) | L | L |
| TL Defl inch | 0.005 (L/8314) | 2'2 9/16" | 0.179 (L/240) | 0.030 (3%) | D+L | L |

## Design Notes

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

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Part. Uniform | 0-0-0 to 4-1-15 | | Top | 30 PLF | 80 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 1-6-4 | | Near Face | 72 lb | 191 lb | 0 lb | 0 lb | J2 |
| 3 | Point | 2-10-4 | | Near Face | 81 lb | 215 lb | 0 lb | 0 lb | J2 |
| | Self Weight | | | | 5 PLF | | | | |

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

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

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

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

KOTT

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

NASCOR

isDesign™

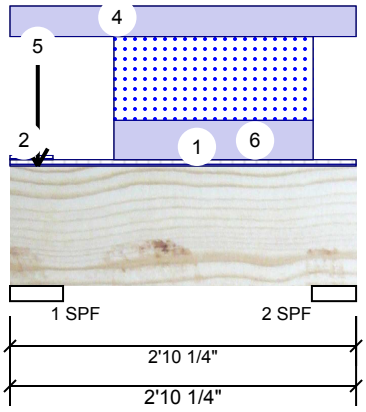
Client:
Project:
Address:

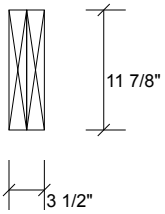
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F8-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 20 | 514 | 745 | 0 |
| 2 | 17 | 232 | 215 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 5.250" | 16% | 642 / 1128 | 1770 | L | 1.25D+1.5S +0.5L |
| 2 - SPF | 4.375" | 7% | 290 / 331 | 622 | L | 1.25D+1.5S +0.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 318 ft-lb | 1'6 1/16" | 34261 ft-lb | 0.009 (1%) | 1.25D+1.5S +0.5L | L |
| Unbraced | 318 ft-lb | 1'6 1/16" | 34261 ft-lb | 0.009 (1%) | 1.25D+1.5S +0.5L | L |
| Shear | 82 lb | 1'4 3/8" | 11596 lb | 0.007 (1%) | 1.25D+1.5S +0.5L | L |
| Perm Defl in. | 0.000 (L/64863) | 1'5 13/16" | 0.073 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.000 (L/59654) | 1'6 1/16" | 0.073 (L/360) | 0.010 (1%) | S+0.5L | L |
| TL Defl inch | 0.001 (L/31078) | 1'6" | 0.109 (L/240) | 0.010 (1%) | D+S+0.5L | L |

## Design Notes

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


January 04, 2019

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

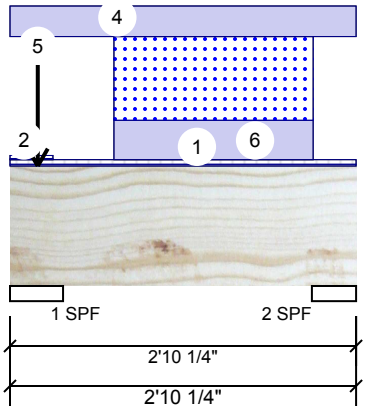
Client:
Project:
Address:

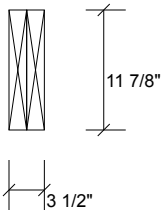
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



## F8-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 2-10-4 | (Span)0-7-3 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 0-4-4 | (Span)0-4-13 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 4 | Part. Uniform | 0-0-0 to 2-10-4 | | Top | 80 PLF | 0 PLF | 0 PLF | 0 PLF | Wall Self Weight |
| 5 | Point | 0-2-12 | | Top | 307 lb | 0 lb | 601 lb | 0 lb | F2 F2 |
| 6 | Part. Uniform | 0-10-5 to 2-6-0 | | Top | 103 PLF | 0 PLF | 219 PLF | 0 PLF | |
| | Self Weight | | | | 10 PLF | | | | |


January 04, 2019

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

KOTT

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

NASCOR

isDesign™

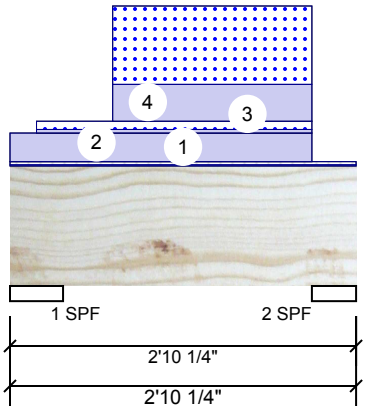
Client:
Project:
Address:

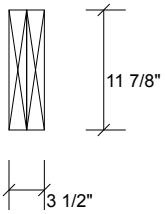
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F8-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 13 | 217 | 175 | 0 |
| 2 | 12 | 211 | 237 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 5.250" | 5% | 271 / 268 | 540 | L | 1.25D+1.5S +0.5L |
| 2 - SPF | 4.375" | 7% | 263 / 356 | 619 | L | 1.25D+1.5S |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 342 ft-lb | 1'6" | 33918 ft-lb | 0.010 (1%) | 1.25D+1.5S | L |
| Unbraced | 342 ft-lb | 1'6" | 33918 ft-lb | 0.010 (1%) | 1.25D+1.5S | L |
| Shear | 84 lb | 1'4 3/8" | 11480 lb | 0.007 (1%) | 1.25D+1.5S | L |
| Perm Defl in. | 0.000 (L/61871) | 1'5 13/16" | 0.073 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.000 (L/53786) | 1'6 1/16" | 0.073 (L/360) | 0.010 (1%) | S+0.5L | L |
| TL Defl inch | 0.001 (L/28775) | 1'5 15/16" | 0.109 (L/240) | 0.010 (1%) | D+S+0.5L | L |

## Design Notes

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

**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.**


January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tie-In | 0-0-0 to 2-10-4 | (Span)0-5-5 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 2-5-14 | | Top | 80 PLF | 0 PLF | 0 PLF | 0 PLF | Wall Self Weight |
| 3 | Part. Uniform | 0-2-10 to 2-5-14 | | Top | 10 PLF | 0 PLF | 23 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-10-3 to 2-5-14 | | Top | 103 PLF | 0 PLF | 219 PLF | 0 PLF | |
| | Self Weight | | | | 10 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 Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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

isDesign™

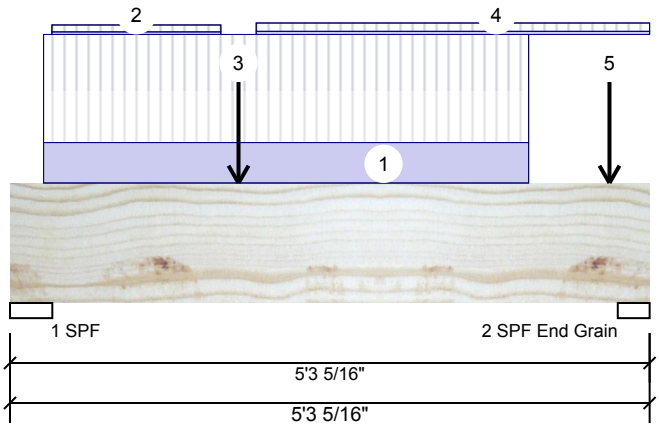
Client:
Project:
Address:

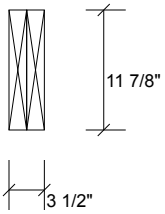
Date: 1/4/2019
Designer: S B
Job Name: LOT-12(CELESTIAL 1 EL-1 5BDRM
Project #:



# F9-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor




## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|---|---|---|---|---|
| 1 | 2234 | 915 | 0 | 0 |
| 2 | 1600 | 650 | 0 | 0 |

## Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---|---|---|---|---|---|---|
| 1 - SPF | 4.188" | 50% | 1143 / 3352 | 4495 | L | 1.25D+1.5L |
| 2 - SPF End Grain | 3.153" | 39% | 813 / 2400 | 3213 | L | 1.25D+1.5L |

## Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---|---|---|---|---|---|---|
| Moment | 6320 ft-lb | 1'10 5/8" | 34261 ft-lb | 0.184 (18%) | 1.25D+1.5L | L |
| Unbraced | 6320 ft-lb | 1'10 5/8" | 33194 ft-lb | 0.190 (19%) | 1.25D+1.5L | L |
| Shear | 3946 lb | 1'3 5/16" | 11596 lb | 0.340 (34%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.008 (L/7243) | 2'2 5/8" | 0.160 (L/360) | 0.050 (5%) | D | Uniform |
| LL Defl inch | 0.019 (L/2959) | 2'2 11/16" | 0.160 (L/360) | 0.120 (12%) | L | L |
| TL Defl inch | 0.027 (L/2101) | 2'2 5/8" | 0.239 (L/240) | 0.110 (11%) | D+L | L |

## Design Notes

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

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO

January 04, 2019

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Part. Uniform | 0-3-5 to 4-3-5 | | Far Face | 117 PLF | 313 PLF | 0 PLF | 0 PLF | |
| 2 | Tie-In | 0-4-2 to 1-8-14 | (Span)1-0-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 1-10-10 | | Near Face | 893 lb | 2173 lb | 0 lb | 0 lb | F11 |
| 4 | Tie-In | 2-0-6 to 5-3-5 | (Span)1-2-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 5 | Point | 4-11-5 | | Far Face | 114 lb | 303 lb | 0 lb | 0 lb | |
| | Self Weight | | | | 10 PLF | | | | |

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

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

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

### Notes

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

### Lumber

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

### Handling & Installation

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

This design is valid until 10/18/2021

**Manufacturer Info**

Forex
APA: PR-L318

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