

Engineering Note Page (ENP-2)

REVISION 2009-10-09

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

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

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

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

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

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

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <http://www.nascor.ca>.

CODE

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

COMPONENT

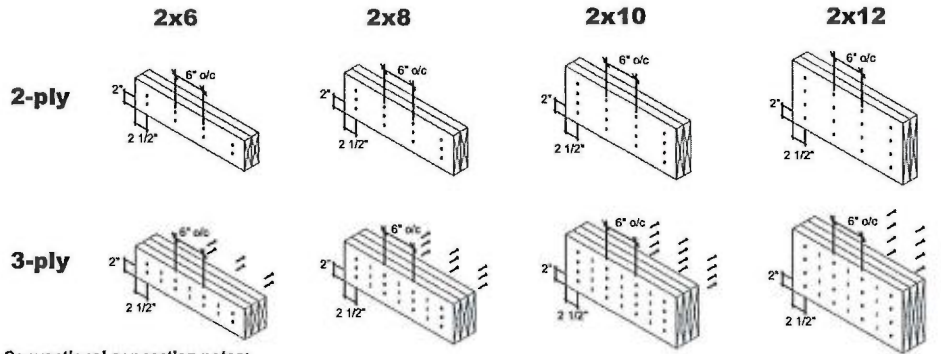
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies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

HANDLING AND INSTALLATION

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

MULTIPLE MEMBER CONNECTIONS

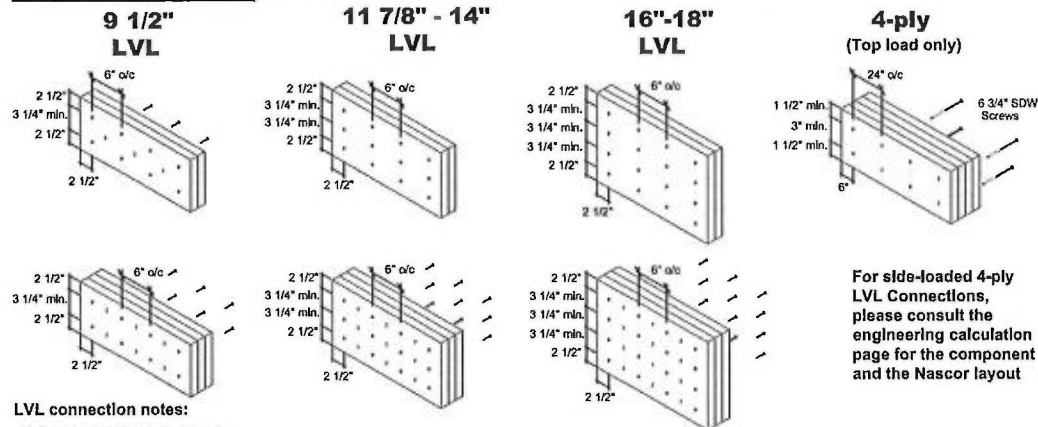
Conventional Connections (for uniform distributed loads)



Conventional connection notes:

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

LVL Connections (for uniform distributed loads)

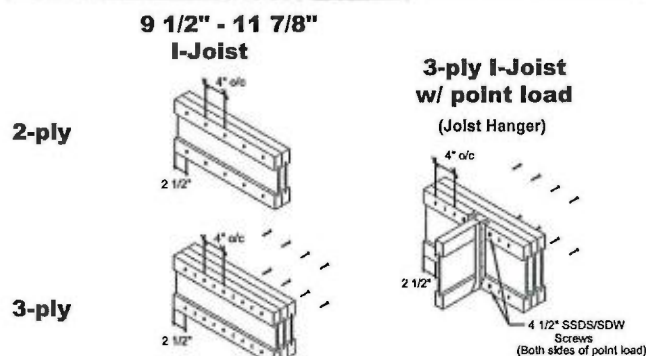


LVL connection notes:

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

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

Vertical I-Joist Connections (for uniform distributed loads)



Vertical I-Joist connection notes:

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

MULTI-PLY
CONNECTION
DETAILS

Date: November 30, 2016

Scale: NTS

KOTT

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

KOTT



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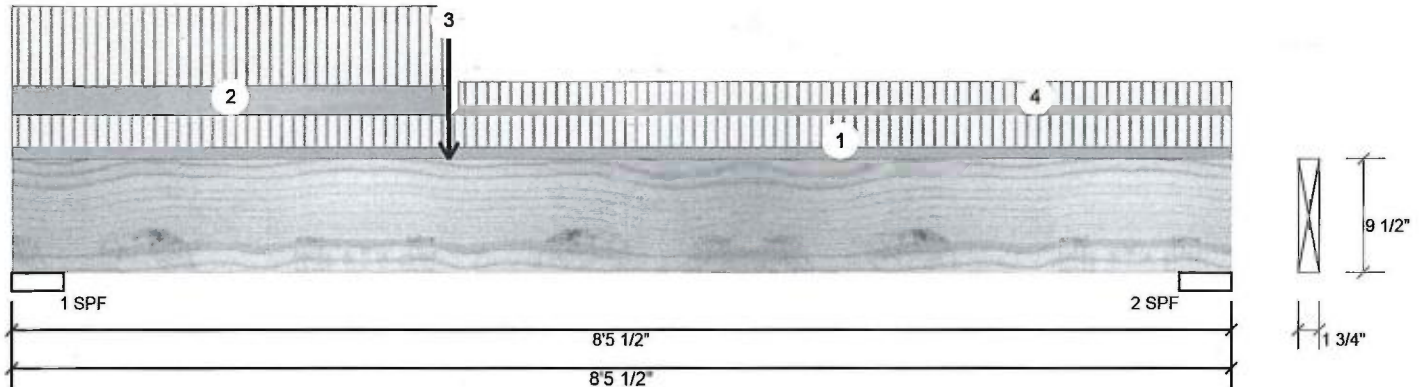
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 702 | 284 | 0 | 0 |
| 2 | 429 | 179 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total Ld. Case | Ld. Comb. |
|---------|--------|-------------------|----------------|------------|
| 1 - SPF | 4.375" | 30% 355 / 1054 | 1408 L | 1.25D+1.5L |
| 2 - SPF | 4.375" | 18% 224 / 643 | 867 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|-------------|------------|---------|
| Moment | 2951 ft-lb | 3' 3/8" | 11362 ft-lb | 0.260 (26%) | 1.25D+1.5L | L |
| Unbraced | 2951 ft-lb | 3' 3/8" | 4746 ft-lb | 0.622 (62%) | 1.25D+1.5L | L |
| Shear | 1194 lb | 1'1 1/8" | 4638 lb | 0.257 (26%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.026 (L/3560) | 3'10 5/16" | 0.262 (L/360) | 0.100 (10%) | D | Uniform |
| LL Defl inch | 0.065 (L/1443) | 3'10" | 0.262 (L/360) | 0.250 (25%) | L | L |
| TL Defl inch | 0.092 (L/1027) | 3'10 1/16" | 0.393 (L/240) | 0.230 (23%) | D+L | L |

Design Notes

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind |
|----|-------------|----------------|--------------|-----------|--------|--------|-------|---------|
| 1 | Tie-In | 0-0-0 to 8-5-8 | (Span)1-4-12 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF |
| 2 | Tie-In | 0-0-0 to 3-0-6 | (Span)3-5-9 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF |
| 3 | Point | 3-0-6 | | Near Face | 221 lb | 571 lb | 0 lb | 0 lb F7 |
| 4 | Tie-In | 3-1-4 to 8-5-8 | (Span)1-0-12 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF |
| | Self Weight | | | | 4 PLF | | | |



September 18, 2018

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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

This design

NASCOR





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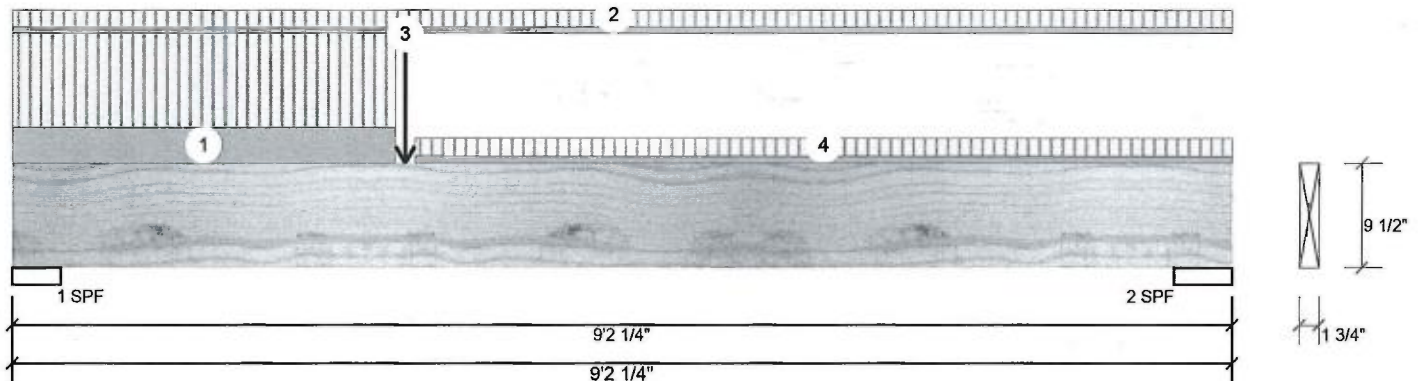
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL-2
 Project #:

Page 1 of 1

F10-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 685 | 279 | 0 | 0 |
| 2 | 335 | 146 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|-------------------|------------|----------|------------|
| 1 - SPF | 4.375" | 29% | 349 / 1027 | 1376 L | 1.25D+1.5L |
| 2 - SPF | 5.250" | 12% | 182 / 503 | 685 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment | 2902 ft-lb | 2'11 1/2" | 11362 ft-lb | 0.255 (26%) | 1.25D+1.5L | L |
| Unbraced | 2902 ft-lb | 2'11 1/2" | 4380 ft-lb | 0.663 (66%) | 1.25D+1.5L | L |
| Shear | 1186 lb | 1'1 1/8" | 4638 lb | 0.256 (26%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.029 (L/3490) | 4'1 1/16" | 0.284 (L/360) | 0.100 (10%) | D | Uniform |
| LL Defl inch | 0.071 (L/1437) | 4' 11/16" | 0.284 (L/360) | 0.250 (25%) | L | L |
| TL Defl inch | 0.100 (L/1018) | 4' 3/4" | 0.426 (L/240) | 0.240 (24%) | D+L | L |

Design Notes

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind |
|----|-------------|------------------|--------------|----------|--------|--------|-------|---------|
| 1 | Tie-In | 0-0-0 to 2-10-10 | (Span)3-7-9 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF |
| 2 | Tie-In | 0-0-0 to 9-2-4 | (Span)0-7-12 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF |
| 3 | Point | 2-11-8 | | Far Face | 235 lb | 607 lb | 0 lb | 0 lb F7 |
| 4 | Tie-In | 3-0-6 to 9-2-4 | (Span)0-8-4 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF |
| | Self Weight | | | | 4 PLF | | | |



September 18, 2018

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info
 Forex
 APA: PR-L318

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

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

This design

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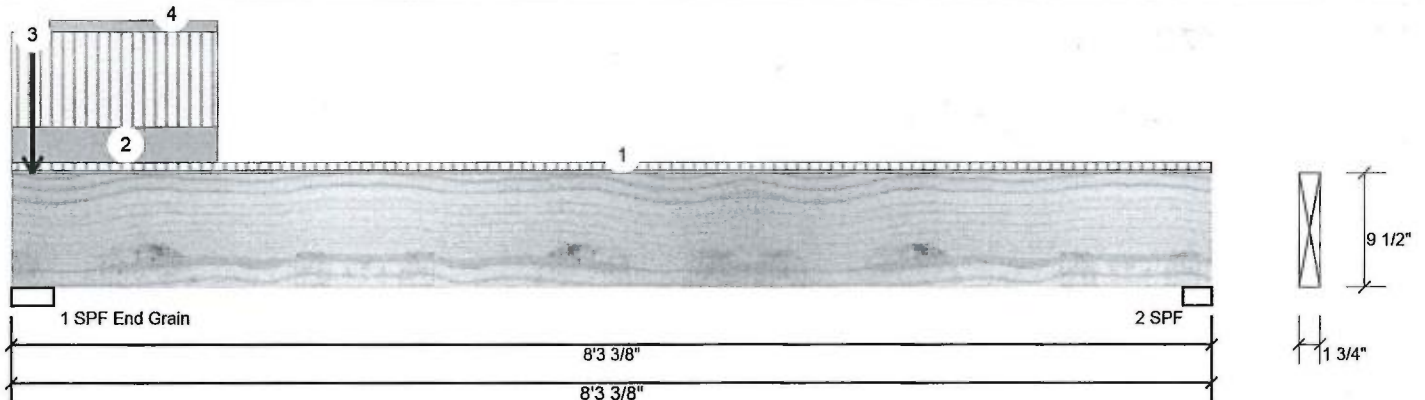
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL- 2
 Project #:

Page 1 of 1

F10-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 134 | 76 | 0 | 0 |
| 2 | 32 | 29 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|-------------------|--------|-------------------|----------|----------|------------|
| 1 - SPF End Grain | 3.500" | 6% | 94 / 201 | 295 L | 1.25D+1.5L |
| 2 - SPF | 2.375" | 3% | 36 / 48 | 84 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|-------------|---------------|------------|------------|---------|
| Moment | 197 ft-lb | 3'4" | 11362 ft-lb | 0.017 (2%) | 1.25D+1.5L | L |
| Unbraced | 197 ft-lb | 3'4" | 4709 ft-lb | 0.042 (4%) | 1.25D+1.5L | L |
| Shear | 104 lb | 1' 1/4" | 4638 lb | 0.023 (2%) | 1.25D+1.5L | L |
| Perm Defl in. (L/28618) | 0.003 | 4' 1/8" | 0.264 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/22624) | 0.004 | 3'10 13/16" | 0.264 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch (L/12638) | 0.008 | 3'11 3/8" | 0.396 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------------------|----------------|--------------|------|--------|--------|-------|-------|---|
| 1 | Tie-In | 0-0-0 to 8-3-6 | (Span)0-3-12 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 1-5-2 | (Span)3-9-12 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 0-1-12 | | Top | 2 lb | 6 lb | 0 lb | 0 lb | |
| 4 | Part. Uniform Self Weight | 0-3-2 to 1-5-2 | | Top | 9 PLF | 0 PLF | 0 PLF | 0 PLF | Pass-Thru Framing Squash Block is required at all point loads over bearings |

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info
 Forex
 APA: PR-L318

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

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This design is

NASCOR




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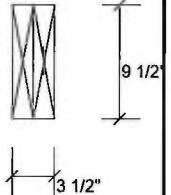
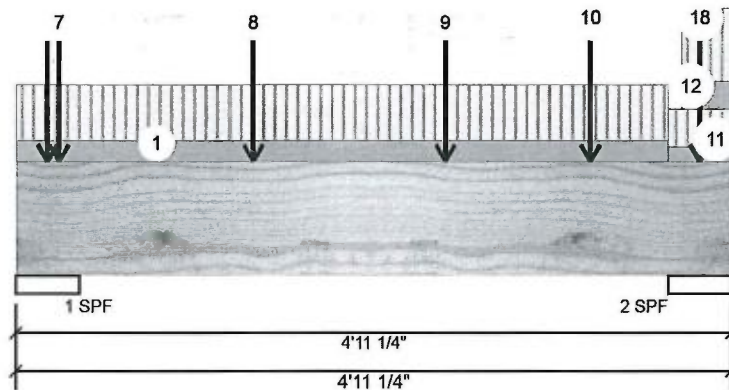
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL-2
 Project #:

Page 1 of 2

F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 1267 | 565 | 0 | 0 |
| 2 | 1072 | 503 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total Ld. Case | Ld. Comb. |
|---------|--------|-------------------|----------------|-------------------|
| 1 - SPF | 5.250" | 23% | 706 / 1901 | 2607 L 1.25D+1.5L |
| 2 - SPF | 5.250" | 20% | 629 / 1608 | 2236 L 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|-----------------|------------|---------------|-------------|------------|---------|
| Moment | 1117 ft-lb | 2'11 9/16" | 22724 ft-lb | 0.049 (5%) | 1.25D+1.5L | L |
| Unbraced | 1117 ft-lb | 2'11 9/16" | 22724 ft-lb | 0.049 (5%) | 1.25D+1.5L | L |
| Shear | 947 lb | 3'9 1/4" | 9277 lb | 0.102 (10%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.002 (L/23138) | 2'6 1/2" | 0.140 (L/360) | 0.020 (2%) | D | Uniform |
| LL Defl inch | 0.005 (L/9358) | 2'6 5/8" | 0.140 (L/360) | 0.040 (4%) | L | L |
| TL Defl inch | 0.008 (L/6663) | 2'6 5/8" | 0.209 (L/240) | 0.040 (4%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|----------------|-------------|------|--------|--------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 4-6-0 | (Span)0-8-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 0-2-10 | | Top | 253 lb | 571 lb | 0 lb | 0 lb | BM2 BM2 |
| 3 | Point | 0-2-10 | | Top | 12 lb | 32 lb | 0 lb | 0 lb | J7 |
| 4 | Point | 0-2-10 | | Top | 4 lb | 10 lb | 0 lb | 0 lb | J3 |
| 5 | Point | 0-2-10 | | Top | 0 lb | 1 lb | 0 lb | 0 lb | J7 |

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

Manufacturer Info

 Forex
 APA: PR-L318

 Kott Lumber Company
 14 Anderson Blvd, Ontario
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This design

NASCOR




isDesign™

Client:

Project:

Address:

Date: 9/11/2018

Designer: S B

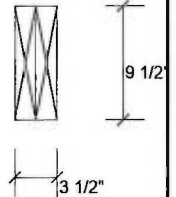
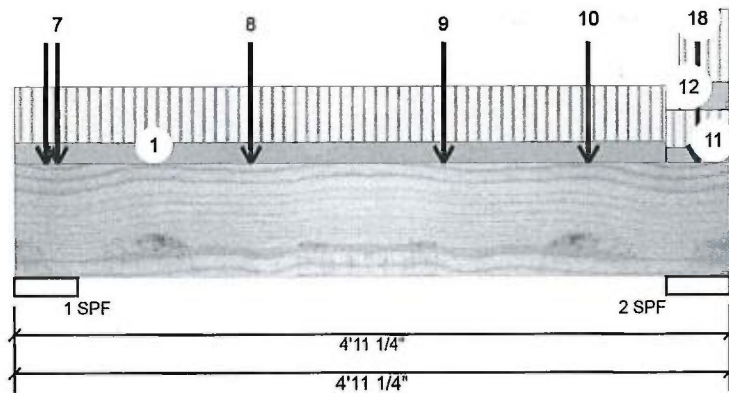
Job Name: MILLWOOD 4 EL- 2

Project #:

Page 2 of 2

F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-------------|-----------------|--------------|----------|--------|--------|-------|-------|------------------|
| 6 | Point | 0-2-10 | | Top | 28 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| 7 | Point | 0-3-9 | | Far Face | 95 lb | 241 lb | 0 lb | 0 lb | J7 |
| 8 | Point | 1-7-9 | | Far Face | 127 lb | 339 lb | 0 lb | 0 lb | J7 |
| 9 | Point | 2-11-9 | | Far Face | 111 lb | 297 lb | 0 lb | 0 lb | J7 |
| 10 | Point | 3-11-9 | | Far Face | 75 lb | 201 lb | 0 lb | 0 lb | J7 |
| 11 | Tie-In | 4-6-0 to 4-11-4 | (Span)0-5-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 12 | Tie-In | 4-7-2 to 4-11-4 | (Span)0-10-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 13 | Point | 4-8-10 | | Top | 13 lb | 34 lb | 0 lb | 0 lb | J6 |
| 14 | Point | 4-8-10 | | Top | 12 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| 15 | Point | 4-8-10 | | Top | 206 lb | 446 lb | 0 lb | 0 lb | BM2 BM2 |
| 16 | Point | 4-8-10 | | Top | 33 lb | 88 lb | 0 lb | 0 lb | J6 |
| 17 | Point | 4-8-10 | | Top | 4 lb | 9 lb | 0 lb | 0 lb | J3 |
| 18 | Point | 4-8-10 | | Top | 31 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| | Self Weight | | | | 8 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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This design is valid until 7/10/2021



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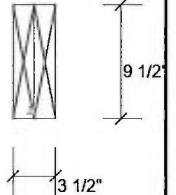
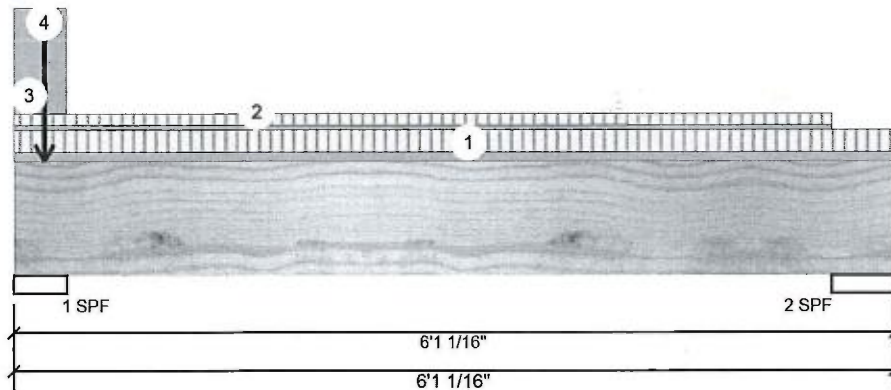
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 1

F12-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 1681 | 788 | 0 | 0 |
| 2 | 78 | 53 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|------|--------------|-------|----------|------------|
| 1 - SPF | 4.438" | 43% | 985 / 2522 | 3507 | L | 1.25D+1.5L |
| 2 - SPF | 5.250" | 2% | 66 / 117 | 183 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|-----------------|------------|---------------|------------|------------|------|
| Moment | 227 ft-lb | 3' 1/8" | 22724 ft-lb | 0.010 (1%) | 1.25D+1.5L | L |
| Unbraced | 227 ft-lb | 3' 1/8" | 22724 ft-lb | 0.010 (1%) | 1.25D+1.5L | L |
| Shear | 119 lb | 4'11 1/16" | 9277 lb | 0.013 (1%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.000 (L/999) | 0 | 999.000 (L/0) | 0.000 (0%) | | |
| LL Defl inch | 0.001 (L/47649) | 3' 1/8" | 0.180 (L/360) | 0.010 (1%) | L | L |
| TL Defl inch | 0.002 (L/28675) | 3' 1/8" | 0.270 (L/240) | 0.010 (1%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-----------------|--------------|------|--------|---------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 6-1-1 | (Span)0-10-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 5-7-13 | (Span)0-5-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-0-0 to 0-4-7 | | Top | 82 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Point | 0-2-9 | | Top | 705 lb | 1601 lb | 0 lb | | |
| | Self Weight | | | | 8 PLF | | | | |

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

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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

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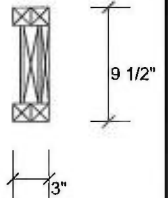
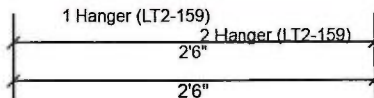
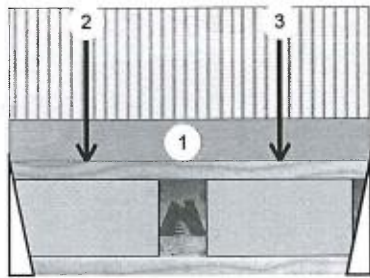
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

F15-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 266 | 100 | 0 | 0 |
| 2 | 255 | 96 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|------------|-----------|-------|----------|------------|
| 1 - Hanger | 2.000" | 20% | 125 / 398 | 523 | L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 19% | 120 / 382 | 502 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|-----------|---------------|-------------|------------|---------|
| Moment | 253 ft-lb | 1'7 9/16" | 7340 ft-lb | 0.034 (3%) | 1.25D+1.5L | L |
| Unbraced | 253 ft-lb | 1'7 9/16" | 5583 ft-lb | 0.045 (5%) | 1.25D+1.5L | L |
| Shear | 517 lb | 1 1/4" | 3080 lb | 0.168 (17%) | 1.25D+1.5L | L |
| Perm Defl in. (L/39973) | 0.001 | 1'4 3/8" | 0.076 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/15031) | 0.002 | 1'4 5/16" | 0.076 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch (L/10923) | 0.003 | 1'4 5/16" | 0.115 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|----------------|----------------------|----------|--------|--------|-------|-------|---|
| 1 | Tie-In | 0-0-0 to 2-6-0 | (Span)1-4-7 to 1-4-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 0-6-8 | | Far Face | 83 lb | 221 lb | 0 lb | 0 lb | Pass Through Framing Squash Block is required at all point loads over bearings |
| 3 | Point | 1-10-8 | | Far Face | 87 lb | 231 lb | 0 lb | 0 lb | Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements |

Notes

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

Lumber

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

Handing & Installation

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

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

Manufacturer Info

Nascor by Kott

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

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

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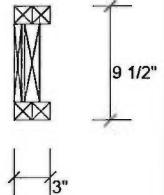
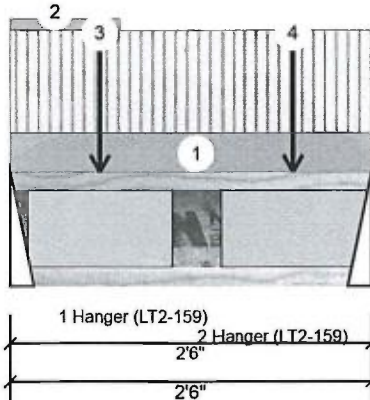
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL-2
 Project #:

Page 1 of 1

F15-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 238 | 103 | 0 | 0 |
| 2 | 249 | 97 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total Ld. Case | Ld. Comb. |
|------------|--------|------------|-----------|----------------|------------|
| 1 - Hanger | 2.000" | 19% | 129 / 357 | 486 L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 19% | 121 / 373 | 494 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|-----------|---------------|-------------|------------|---------|
| Moment | 243 ft-lb | 9 15/16" | 7340 ft-lb | 0.033 (3%) | 1.25D+1.5L | L |
| Unbraced | 243 ft-lb | 9 15/16" | 5583 ft-lb | 0.044 (4%) | 1.25D+1.5L | L |
| Shear | 488 lb | 2'4 3/4" | 3080 lb | 0.159 (16%) | 1.25D+1.5L | L |
| Perm Defl in. (L/38750) | 0.001 | 1' 5/8" | 0.076 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/16081) | 0.002 | 1'1 3/4" | 0.076 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch (L/11371) | 0.002 | 1'1 7/16" | 0.115 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|----------------|-------------|-----------|--------|--------|-------|-------|---|
| 1 | Tie-In | 0-0-0 to 2-6-0 | (Span)1-4-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 0-9-4 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 3 | Point | 0-7-8 | | Near Face | 95 lb | 213 lb | 0 lb | 0 lb | Pass-Thru Framing Squash Block is required at all point loads over bearings |
| 4 | Point | 1-11-8 | | Near Face | 77 lb | 205 lb | 0 lb | 0 lb | Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements |

Notes

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

Lumber

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

Handing & Installation

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

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

Manufacturer Info

Nascor by Kott

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

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

This design is valid

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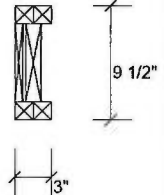
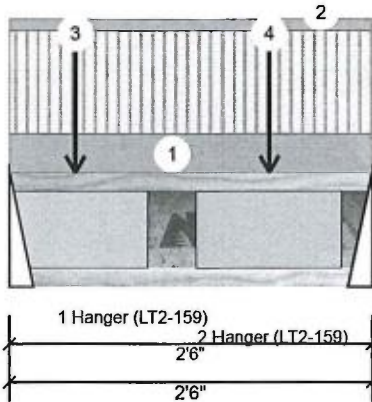
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 1

F15-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 258 | 125 | 0 | 0 |
| 2 | 228 | 111 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total Ld. Case | Ld. Comb. |
|------------|--------|-------------------|----------------|------------|
| 1 - Hanger | 2.000" | 21% 156 / 388 | 544 L | 1.25D+1.5L |
| 2 - Hanger | 2.000" | 18% 139 / 342 | 481 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|------------|---------------|-------------|------------|---------|
| Moment | 277 ft-lb | 1'9 1/2" | 7340 ft-lb | 0.038 (4%) | 1.25D+1.5L | L |
| Unbraced | 277 ft-lb | 1'9 1/2" | 5583 ft-lb | 0.050 (5%) | 1.25D+1.5L | L |
| Shear | 538 lb | 1 1/4" | 3080 lb | 0.175 (17%) | 1.25D+1.5L | L |
| Perm Defl in. (L/31860) | 0.001 | 1'6 13/16" | 0.076 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/15537) | 0.002 | 1'6 11/16" | 0.076 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch (L/10444) | 0.003 | 1'6 11/16" | 0.115 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|----------------|-------------|-----------|--------|--------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 2-6-0 | (Span)1-4-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 2-6-0 | | Top | 3 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 3 | Point | 0-5-8 | | Near Face | 94 lb | 196 lb | 0 lb | 0 lb | 0 PLF |
| 4 | Point | 1-9-8 | | Near Face | 109 lb | 222 lb | 0 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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

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

Manufacturer Info

Nascor by Kott

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

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This design is valid

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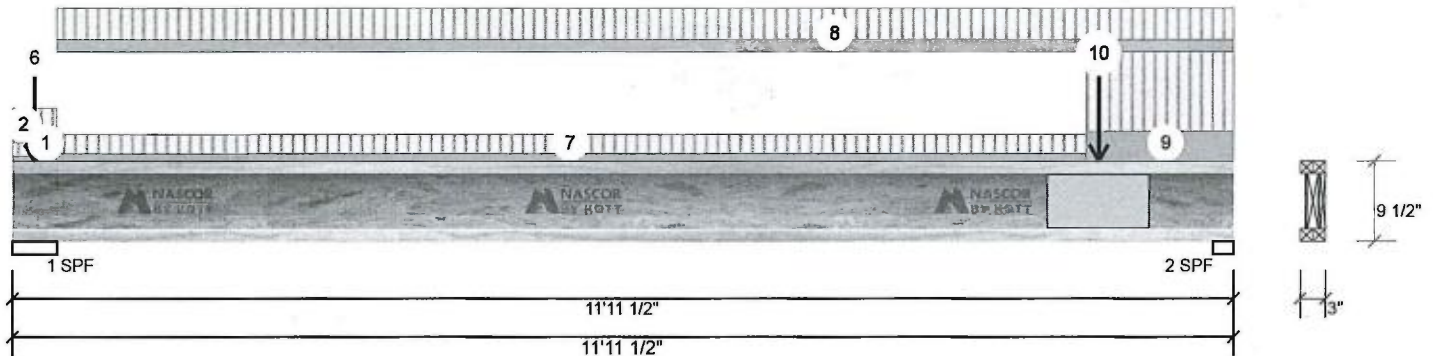
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 2

F16-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

| | | | |
|---------------------|--------|----------------|----------------------|
| Type: | Girder | Application: | Floor (Residential) |
| Piles: | 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 | 1255 | 567 | 0 | 0 |
| 2 | 485 | 185 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total Ld. Case | Ld. Comb. |
|---------|--------|-------------------|----------------|-------------------|
| 1 - SPF | 5.250" | 84% | 709 / 1882 | 2591 L 1.25D+1.5L |
| 2 - SPF | 2.375" | 36% | 232 / 728 | 960 L 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|-------------|------------|---------|
| Moment | 1482 ft-lb | 6'11 3/16" | 7340 ft-lb | 0.202 (20%) | 1.25D+1.5L | L |
| Unbraced | 1482 ft-lb | 6'11 3/16" | 1492 ft-lb | 0.993 (99%) | 1.25D+1.5L | L |
| Shear | 939 lb | 11'9 7/8" | 3080 lb | 0.305 (30%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.028 (L/4983) | 6'4 1/4" | 0.382 (L/360) | 0.070 (7%) | D | Uniform |
| LL Defl inch | 0.073 (L/1885) | 6'4 1/4" | 0.382 (L/360) | 0.190 (19%) | L | L |
| TL Defl inch | 0.100 (L/1368) | 6'4 1/4" | 0.572 (L/240) | 0.180 (18%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|-----------------|--------------|------|--------|--------|-------|-------|------------------|
| 1 | Tie-In | 0-0-0 to 0-5-4 | (Span)0-5-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 0-5-4 | (Span)0-10-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 0-2-10 | | Top | 361 lb | 838 lb | 0 lb | 0 lb | BM2 BM2 |
| 4 | Point | 0-2-10 | | Top | 15 lb | 40 lb | 0 lb | 0 lb | J3 |
| 5 | Point | 0-2-10 | | Top | 52 lb | 138 lb | 0 lb | 0 lb | J6 |
| 6 | Point | 0-2-10 | | Top | 49 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| 7 | Tie-In | 0-5-4 to 10-6-2 | (Span)0-8-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |

Continued on page 2...

Notes

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

Lumber

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

Handling & Installation

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

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

Manufacturer Info

Nascor by Kott

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

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

This design is val

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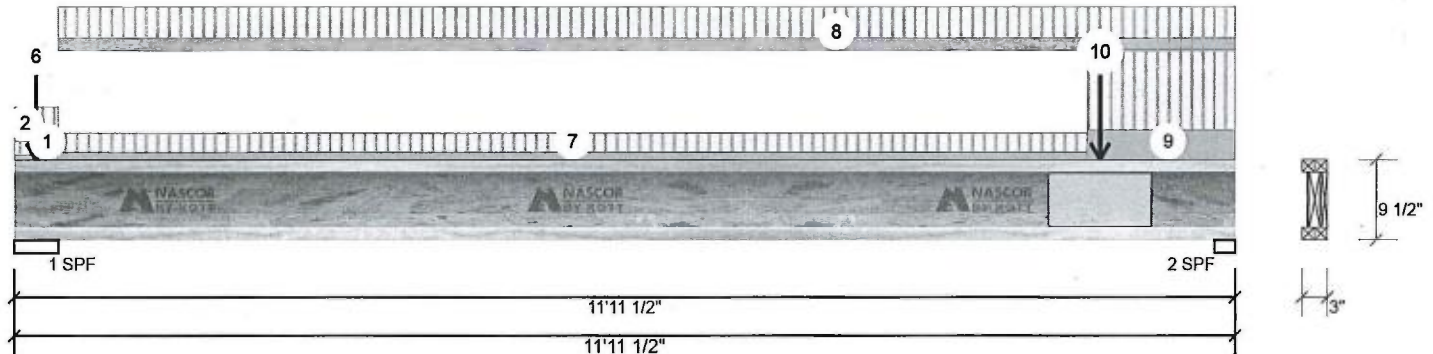
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 2 of 2

F16-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|-------------------|-------------|----------|--------|--------|-------|-------|----------|
| 8 | Tie-In | 0-5-4 to 11-11-8 | (Span)1-1-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 9 | Tie-In | 10-6-2 to 11-11-8 | (Span)2-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 10 | Point | 10-7-10 | | Far Face | 97 lb | 249 lb | 0 lb | 0 lb | F15 |

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

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

Notes

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

Lumber

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

Handling & Installation

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

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

This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott

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

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Client:

Project:

Address:

Date: 9/11/2018

Designer: S B

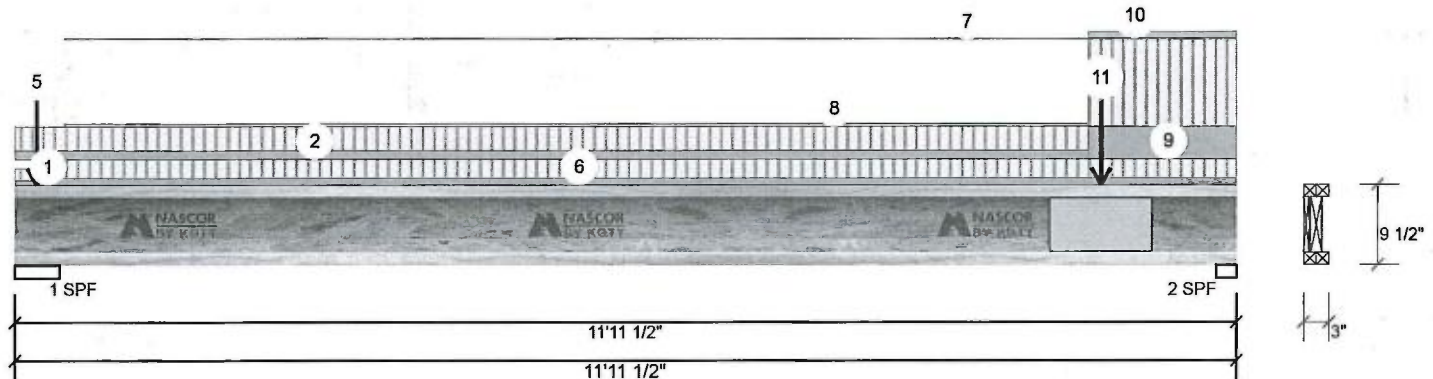
Job Name: MILLWOOD 4 EL- 2

Project #:

Page 1 of 2

F16-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 371 | 203 | 0 | 0 |
| 2 | 424 | 192 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|-------------------|-----------|----------|------------|
| 1 - SPF | 5.250" | 26% | 254 / 556 | 810 L | 1.25D+1.5L |
| 2 - SPF | 2.375" | 33% | 240 / 637 | 876 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|-------------|------------|---------|
| Moment | 1273 ft-lb | 7'1 1/4" | 7340 ft-lb | 0.173 (17%) | 1.25D+1.5L | L |
| Unbraced | 1273 ft-lb | 7'1 1/4" | 1281 ft-lb | 0.994 (99%) | 1.25D+1.5L | L |
| Shear | 858 lb | 11'9 7/8" | 3080 lb | 0.279 (28%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.028 (L/4934) | 6'4 1/2" | 0.382 (L/360) | 0.070 (7%) | D | Uniform |
| LL Defl inch | 0.059 (L/2323) | 6'4 13/16" | 0.382 (L/360) | 0.150 (15%) | L | L |
| TL Defl inch | 0.087 (L/1579) | 6'4 11/16" | 0.572 (L/240) | 0.150 (15%) | D+L | L |

Design Notes

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



| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|-------------|------|--------|--------|-------|-------|------------------|
| 1 | Tie-In | 0-0-0 to 0-5-4 | (Span)0-4-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 10-6-2 | (Span)0-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 0-2-10 | | Top | 19 lb | 51 lb | 0 lb | 0 lb | J3 |
| 4 | Point | 0-2-10 | | Top | 49 lb | 131 lb | 0 lb | 0 lb | J6 |
| 5 | Point | 0-2-10 | | Top | 46 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| 6 | Tie-In | 0-5-4 to 11-11-8 | (Span)0-7-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 7 | Part. Uniform | 0-5-13 to 11-11-7 | | Top | 1 PLF | 0 PLF | 0 PLF | 0 PLF | |

Continued on page 2...

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

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

Manufacturer Info

Nascor by Kott

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

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

This design is valid

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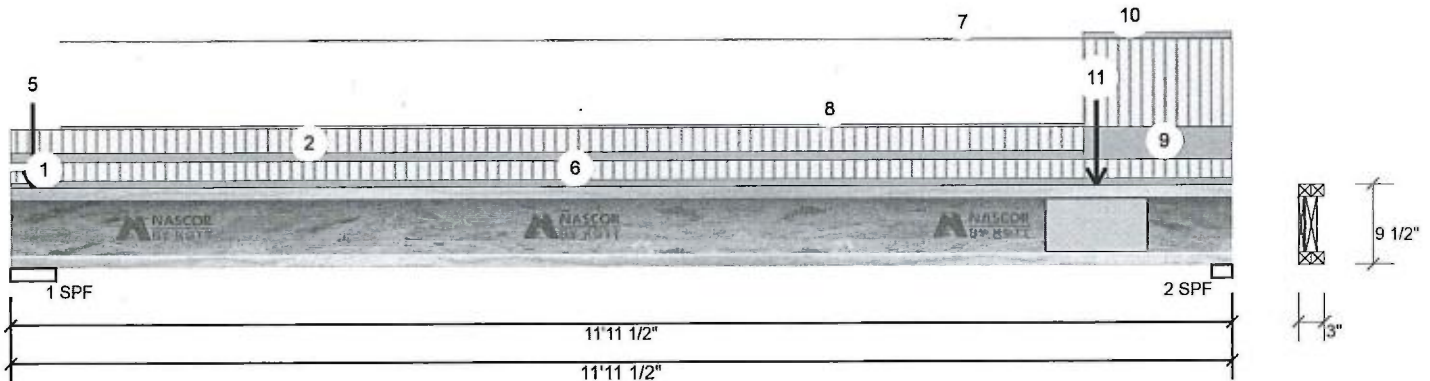
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 2 of 2

F16-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|-------------|-----------|--------|--------|-------|-------|----------|
| 8 | Part. Uniform | 0-5-13 to 10-6-2 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 9 | Tie-In | 10-6-2 to 11-11-8 | (Span)2-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 10 | Part. Uniform | 10-6-2 to 11-11-7 | | Top | 4 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 11 | Point | 10-7-10 | | Near Face | 103 lb | 238 lb | 0 lb | 0 lb | F15 |

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

Handling & Installation

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

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

This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott

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

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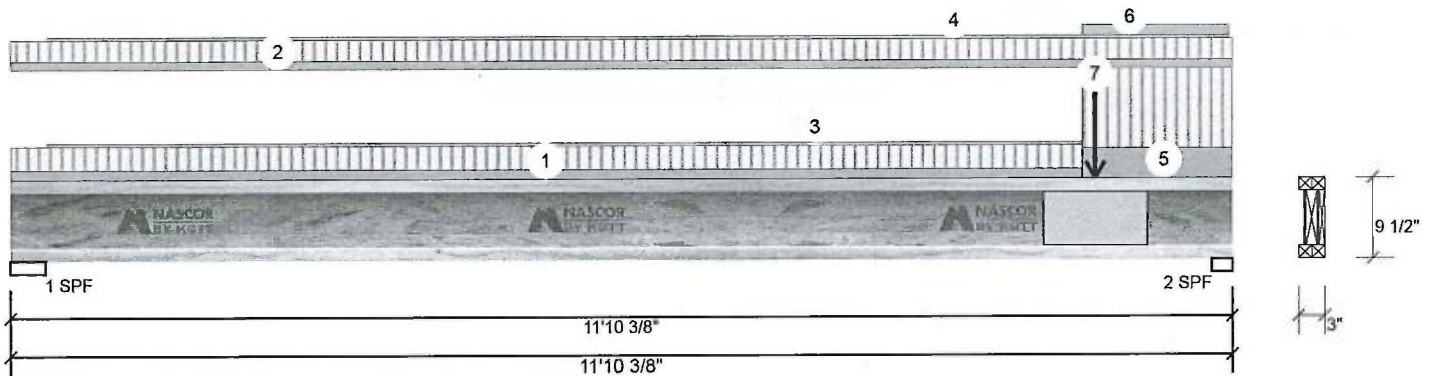
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

F16-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 217 | 107 | 0 | 0 |
| 2 | 443 | 219 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/Lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|------|------------|-------|----------|------------|
| 1 - SPF | 4.125" | 15% | 134 / 325 | 459 | L | 1.25D+1.5L |
| 2 - SPF | 2.375" | 35% | 273 / 664 | 937 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|-----------------|------------|---------|
| Moment | 1447 ft-lb | 6'10 1/16" | 7340 ft-lb | 0.197 (20%) | 1.25D+1.5L | L |
| Unbraced | 1447 ft-lb | 6'10 1/16" | 1450 ft-lb | 0.998 (100%) | 1.25D+1.5L | L |
| Shear | 917 lb | 11'8 3/4" | 3080 lb | 0.298 (30%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.033 (L/4169) | 6'3 1/16" | 0.382 (L/360) | 0.090 (9%) | D | Uniform |
| LL Defl inch | 0.066 (L/2077) | 6'3 1/8" | 0.382 (L/360) | 0.170 (17%) | L | L |
| TL Defl inch | 0.099 (L/1386) | 6'3 1/8" | 0.572 (L/240) | 0.170 (17%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|--------------|----------|--------|--------|-------|-------|--|
| 1 | Tie-In | 0-0-0 to 10-5-0 | (Span)0-10-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 11-10-6 | (Span)0-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-4-5 to 10-5-0 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-4-5 to 11-10-0 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Tie-In | 10-5-0 to 11-10-6 | (Span)2-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | Pass-Thru Framing Squash Block is required at all point loads over bearings |
| 6 | Part. Uniform | 10-5-0 to 11-9-15 | | Top | 7 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 7 | Point | 10-6-8 | | Far Face | 111 lb | 228 lb | 0 lb | | Refer to Multiple Member Connection Detail for 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. Joist not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

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

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

This design is val

| |
|---------------------------------|
| <p>Manufacturer Info</p> |
|---------------------------------|

Nascor by Kott

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

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

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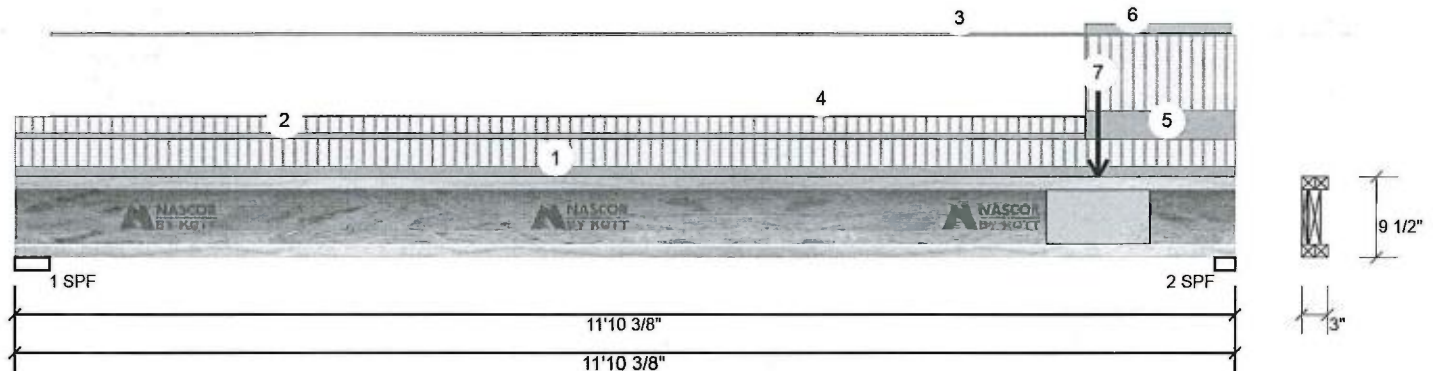
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL-2
 Project #:

Page 1 of 1

F16-D NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 220 | 103 | 0 | 0 |
| 2 | 476 | 229 | 0 | 0 |

Bearings and Factored Reactions

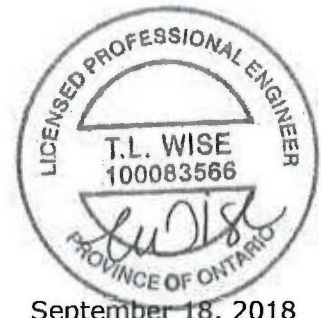
| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|-------------------|-----------|----------|------------|
| 1 - SPF | 4.125" | 15% | 129 / 330 | 459 L | 1.25D+1.5L |
| 2 - SPF | 2.375" | 37% | 287 / 714 | 1001 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|-------------|------------|---------|
| Moment | 1476 ft-lb | 6'11 9/16" | 7340 ft-lb | 0.201 (20%) | 1.25D+1.5L | L |
| Unbraced | 1476 ft-lb | 6'11 9/16" | 1492 ft-lb | 0.989 (99%) | 1.25D+1.5L | L |
| Shear | 980 lb | 11'8 3/4" | 3080 lb | 0.318 (32%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.032 (L/4231) | 6'3 1/2" | 0.382 (L/360) | 0.090 (9%) | D | Uniform |
| LL Defl inch | 0.068 (L/2009) | 6'3 7/16" | 0.382 (L/360) | 0.180 (18%) | L | L |
| TL Defl inch | 0.101 (L/1362) | 6'3 1/2" | 0.572 (L/240) | 0.180 (18%) | D+L | L |

Design Notes

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



| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|-------------|-----------|--------|--------|-------|-------|---|
| 1 | Tie-In | 0-0-0 to 11-10-6 | (Span)1-0-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 10-5-0 | (Span)0-7-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 0-4-3 to 11-9-14 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-4-3 to 10-5-0 | | Top | 1 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 5 | Tie-In | 10-5-0 to 11-10-6 | (Span)2-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | Pass-Thru Framing Squash Block is required at all point loads over bearings |
| 6 | Part. Uniform | 10-5-0 to 11-9-14 | | Top | 7 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 7 | Point | 10-6-8 | | Near Face | 125 lb | 258 lb | 0 lb | 0 lb | Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements |

Notes

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

Lumber

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

Handling & Installation

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

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

Manufacturer Info

Nascor by Kott

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

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

This design is val

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 KOTT



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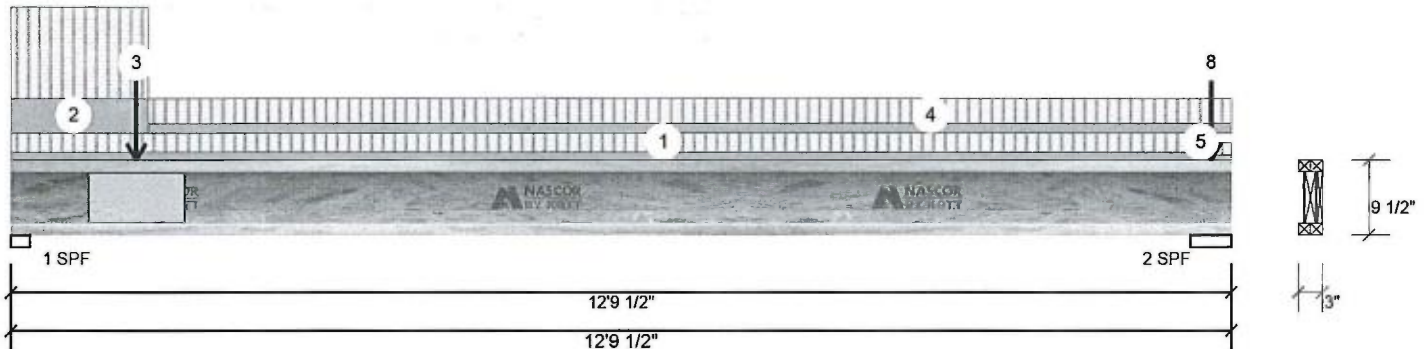
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL- 2
 Project #:

Page 1 of 1

F17-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 453 | 170 | 0 | 0 |
| 2 | 390 | 192 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total Ld. Case | Ld. Comb. |
|---------|--------|-------------------|----------------|------------------|
| 1 - SPF | 2.375" | 33% | 213 / 679 | 892 L 1.25D+1.5L |
| 2 - SPF | 5.250" | 27% | 240 / 586 | 825 L 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|--------------|------------|---------|
| Moment | 1350 ft-lb | 5'2 15/16" | 7340 ft-lb | 0.184 (18%) | 1.25D+1.5L | L |
| Unbraced | 1350 ft-lb | 5'2 15/16" | 1353 ft-lb | 0.998 (100%) | 1.25D+1.5L | L |
| Shear | 874 lb | 1 5/8" | 3080 lb | 0.284 (28%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.028 (L/5201) | 5'11 3/4" | 0.409 (L/360) | 0.070 (7%) | D | Uniform |
| LL Defl inch | 0.075 (L/1952) | 5'11 3/4" | 0.409 (L/360) | 0.180 (18%) | L | L |
| TL Defl inch | 0.104 (L/1419) | 5'11 3/4" | 0.614 (L/240) | 0.170 (17%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|------------------|-------------|----------|--------|--------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 12-4-4 | (Span)0-7-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 1-5-6 | (Span)2-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 1-3-14 | | Far Face | 96 lb | 255 lb | 0 lb | 0 lb | F15 |
| 4 | Tie-In | 1-5-6 to 12-9-8 | (Span)0-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 5 | Tie-In | 12-4-4 to 12-9-8 | (Span)0-4-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 6 | Point | 12-6-14 | | Top | 52 lb | 140 lb | 0 lb | 0 lb | |
| 7 | Point | 12-6-14 | | Top | 19 lb | 51 lb | 0 lb | 0 lb | |
| 8 | Point | 12-6-14 | | Top | 46 lb | 0 lb | 0 lb | 0 lb | |

Notes

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

Lumber

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

Handling & Installation

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

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

Manufacturer Info

Nascor by Kott

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

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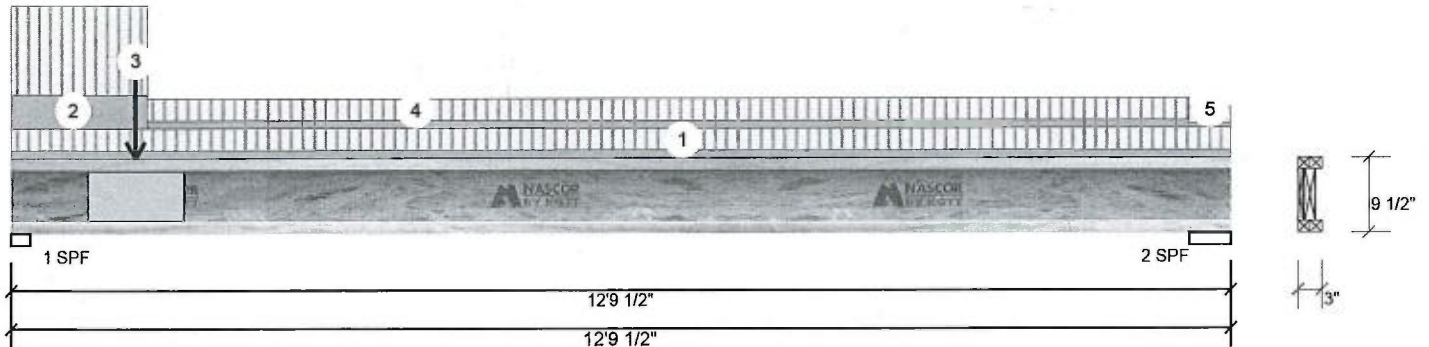
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

F17-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 465 | 175 | 0 | 0 |
| 2 | 201 | 75 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|------|--------------|-------|----------|------------|
| 1 - SPF | 2.375" | 34% | 218 / 698 | 916 | L | 1.25D+1.5L |
| 2 - SPF | 5.250" | 13% | 94 / 301 | 395 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|-------------|---------------|-----------------|------------|---------|
| Moment | 1367 ft-lb | 5'2 7/16" | 7340 ft-lb | 0.186 (19%) | 1.25D+1.5L | L |
| Unbraced | 1367 ft-lb | 5'2 7/16" | 1372 ft-lb | 0.996 (100%) | 1.25D+1.5L | L |
| Shear | 898 lb | 1 5/8" | 3080 lb | 0.291 (29%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.029 (L/5139) | 5'11 11/16" | 0.409 (L/360) | 0.070 (7%) | D | Uniform |
| LL Defl inch | 0.076 (L/1929) | 5'11 11/16" | 0.409 (L/360) | 0.190 (19%) | L | L |
| TL Defl inch | 0.105 (L/1402) | 5'11 11/16" | 0.614 (L/240) | 0.170 (17%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|------------------|-------------|-----------|--------|--------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 12-9-8 | (Span)0-8-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 1-5-6 | (Span)2-9-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 1-3-14 | | Near Face | 100 lb | 266 lb | 0 lb | 0 lb | F15 |
| 4 | Tie-In | 1-5-6 to 12-4-4 | (Span)0-8-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 5 | Tie-In | 12-4-4 to 12-9-8 | (Span)0-5-8 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |

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

Notes

Calculated 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. Moist not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

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

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

This design is val

| |
|-------------------|
| Manufacturer Info |
|-------------------|

Nascor by Kott

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

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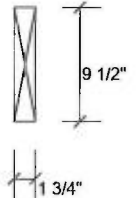
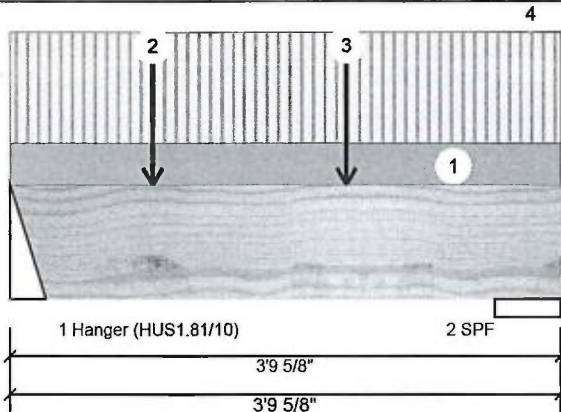
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

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

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 571 | 221 | 0 | 0 |
| 2 | 604 | 235 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|------------|-----------|-------|----------|------------|
| 1 - Hanger | 3.000" | 29% | 276 / 857 | 1133 | L | 1.25D+1.5L |
| 2 - SPF | 5.500" | 20% | 294 / 907 | 1200 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment | 866 ft-lb | 1'10 3/8" | 11362 ft-lb | 0.076 (8%) | 1.25D+1.5L | L |
| Unbraced | 866 ft-lb | 1'10 3/8" | 9725 ft-lb | 0.089 (9%) | 1.25D+1.5L | L |
| Shear | 666 lb | 11 3/4" | 4638 lb | 0.143 (14%) | 1.25D+1.5L | L |
| Perm Defl in. (L/15799) | 0.002 | 1'9 7/8" | 0.107 (L/360) | 0.020 (2%) | D | Uniform |
| LL Defl inch | 0.006 (L/6112) | 1'9 7/8" | 0.107 (L/360) | 0.060 (6%) | L | L |
| TL Defl inch | 0.009 (L/4407) | 1'9 7/8" | 0.161 (L/240) | 0.050 (5%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-----------------|------------|----------|--------|---------|-------|-------|----------|
| 1 | Part. Uniform | 0-0-0 to 3-9-10 | | Top | 90 PLF | 240 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 0-11-14 | | Far Face | 46 lb | 124 lb | 0 lb | 0 lb | J3 |
| 3 | Point | 2-3-14 | | Far Face | 53 lb | 139 lb | 0 lb | 0 lb | J3 |
| 4 | Tapered Start | 3-4-11 | | Top | 0 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | End | 3-9-10 | | | 1 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | Self Weight | | | | 4 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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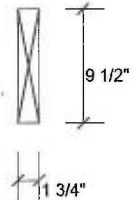
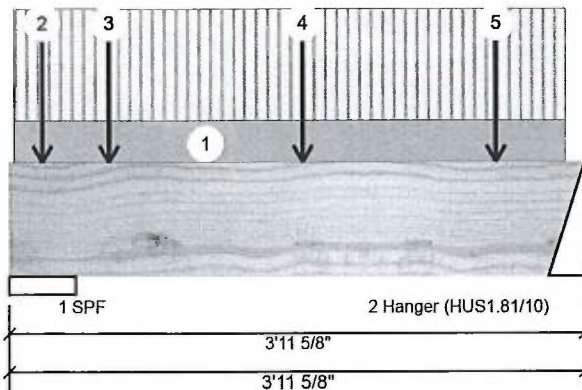
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

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

Level: Ground Floor

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

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

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

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 686 | 266 | 0 | 0 |
| 2 | 607 | 235 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|------------|------------|--------|----------|------------|
| 1 - SPF | 5.500" | 23% | 333 / 1029 | 1362 L | | 1.25D+1.5L |
| 2 - Hanger | 3.000" | 31% | 294 / 911 | 1205 L | | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|----------------|----------|---------------|-------------|------------|---------|
| Moment | 1023 ft-lb | 2' 1/4" | 11362 ft-lb | 0.090 (9%) | 1.25D+1.5L | L |
| Unbraced | 1023 ft-lb | 2' 1/4" | 9551 ft-lb | 0.107 (11%) | 1.25D+1.5L | L |
| Shear | 809 lb | 1'2 1/4" | 4638 lb | 0.174 (17%) | 1.25D+1.5L | L |
| Perm Defl in. (L/13709) | 0.003 | 2' 1/4" | 0.113 (L/360) | 0.030 (3%) | D | Uniform |
| LL Defl inch | 0.008 (L/5292) | 2' 1/4" | 0.113 (L/360) | 0.070 (7%) | L | L |
| TL Defl inch | 0.011 (L/3818) | 2' 1/4" | 0.169 (L/240) | 0.060 (6%) | 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 Top braced at bearings.
- 5 Bottom braced at bearings.



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-----------------|------------|----------|--------|---------|-------|-------|------------------|
| 1 | Part. Uniform | 0-0-6 to 3-10-0 | | Top | 90 PLF | 240 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 0-2-12 | | Top | 1 lb | 0 lb | 0 lb | 0 lb | Wall Self Weight |
| 3 | Point | 0-8-4 | | Far Face | 39 lb | 105 lb | 0 lb | 0 lb | J4 |
| 4 | Point | 2-0-4 | | Far Face | 59 lb | 157 lb | 0 lb | 0 lb | J4 |
| 5 | Point | 3-4-4 | | Far Face | 45 lb | 119 lb | 0 lb | 0 lb | J4 |
| | Self Weight | | | | 4 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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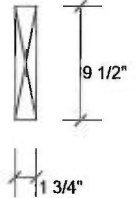
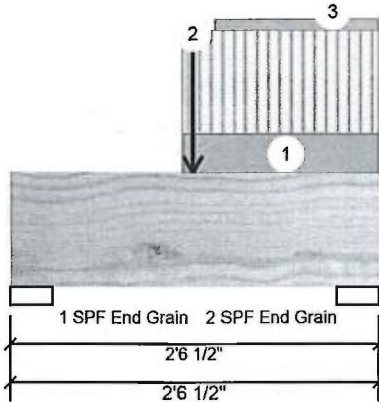
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 1 of 1

F7-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor


Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 169 | 73 | 0 | 0 |
| 2 | 224 | 100 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|-------------------|--------|------------|-----------|-------|----------|------------|
| 1 - SPF End Grain | 3.500" | 8% | 92 / 254 | 346 | L | 1.25D+1.5L |
| 2 - SPF End Grain | 3.500" | 10% | 125 / 336 | 461 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|----------|---------------|------------|------------|---------|
| Moment | 353 ft-lb | 1'3 1/8" | 11362 ft-lb | 0.031 (3%) | 1.25D+1.5L | L |
| Unbraced | 353 ft-lb | 1'3 1/8" | 10676 ft-lb | 0.033 (3%) | 1.25D+1.5L | L |
| Shear | 341 lb | 1' 1/4" | 4638 lb | 0.073 (7%) | 1.25D+1.5L | L |
| Perm Defl in. (L/36001) | 0.001 | 1'3 1/8" | 0.069 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/15079) | 0.002 | 1'3 1/8" | 0.069 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch (L/10628) | 0.002 | 1'3 1/8" | 0.104 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | C |
|----|---------------|----------------|--------------|----------|--------|--------|-------|-------|----|
| 1 | Tie-In | 1-2-4 to 2-6-8 | (Span)3-9-12 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 1-3-2 | | Far Face | 116 lb | 290 lb | 0 lb | 0 lb | F7 |
| 3 | Part. Uniform | 1-5-0 to 2-6-8 | | Top | 8 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | Self Weight | | | | 4 PLF | | | | |



September 18, 2018

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

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

Notes

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

Lumber

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

chemicals
Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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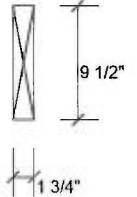
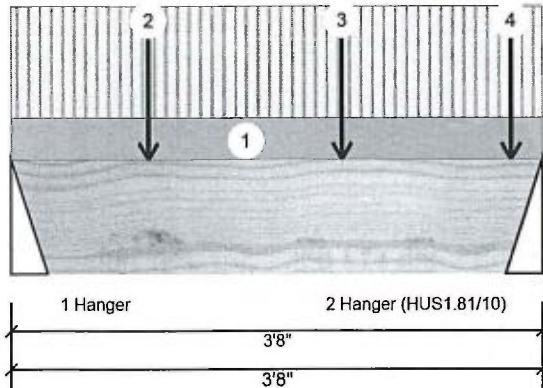
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 1

F7-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 250 | 101 | 0 | 0 |
| 2 | 290 | 116 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|------------|-----------|-------|----------|------------|
| 1 - Hanger | 3.000" | 13% | 126 / 374 | 500 | L | 1.25D+1.5L |
| 2 - Hanger | 3.000" | 15% | 145 / 434 | 579 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|------------|---------------|------------|------------|---------|
| Moment | 393 ft-lb | 1'11 7/16" | 11362 ft-lb | 0.035 (3%) | 1.25D+1.5L | L |
| Unbraced | 393 ft-lb | 1'11 7/16" | 9652 ft-lb | 0.041 (4%) | 1.25D+1.5L | L |
| Shear | 342 lb | 11 3/4" | 4638 lb | 0.074 (7%) | 1.25D+1.5L | L |
| Perm Defl in. (L/33741) | 0.001 | 1'10 3/8" | 0.110 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/13580) | 0.003 | 1'10 3/8" | 0.110 (L/360) | 0.030 (3%) | L | L |
| TL Defl inch (L/9683) | 0.004 | 1'10 3/8" | 0.164 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | C |
|----|---------------|----------------|------------|-----------|--------|--------|-------|-------|----|
| 1 | Part. Uniform | 0-0-0 to 3-8-0 | | Top | 30 PLF | 80 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 0-11-6 | | Near Face | 35 lb | 93 lb | 0 lb | 0 lb | J2 |
| 3 | Point | 2-3-6 | | Near Face | 33 lb | 87 lb | 0 lb | 0 lb | J2 |
| 4 | Point | 3-5-6 | | Near Face | 25 lb | 66 lb | 0 lb | 0 lb | J2 |
| | Self Weight | | | | 4 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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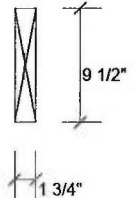
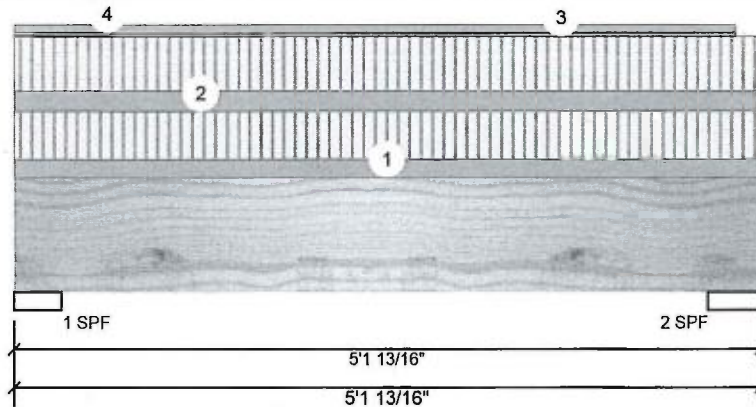
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 1

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

Level: Ground Floor


Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 136 | 75 | 0 | 0 |
| 2 | 138 | 75 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total Ld. Case | Ld. Comb. |
|---------|--------|-------------------|----------------|------------------|
| 1 - SPF | 3.938" | 7% | 93 / 205 | 298 L 1.25D+1.5L |
| 2 - SPF | 4.375" | 6% | 94 / 207 | 302 L 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|-----------------|------------|---------------|------------|------------|---------|
| Moment | 306 ft-lb | 2'6 11/16" | 11362 ft-lb | 0.027 (3%) | 1.25D+1.5L | L |
| Unbraced | 306 ft-lb | 2'6 11/16" | 8044 ft-lb | 0.038 (4%) | 1.25D+1.5L | L |
| Shear | 175 lb | 4' 11/16" | 4638 lb | 0.038 (4%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.002 (L/32402) | 2'6 11/16" | 0.153 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.003 (L/17816) | 2'6 11/16" | 0.153 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch | 0.005 (L/11495) | 2'6 11/16" | 0.229 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|------------------|-------------|------|--------|--------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 5-1-13 | (Span)1-3-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-0-0 to 5-1-13 | (Span)1-5-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Tapered Start | 0-0-0 | | Top | 1 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | End | 4-11-11 | | | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 4 | Part. Uniform | 0-0-0 to 4-11-11 | | Top | 4 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | Self Weight | | | | 4 PLF | | | | |

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



September 18, 2018

Notes

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

Lumber

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

chemicals
Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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

This design

NASCOR




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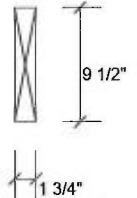
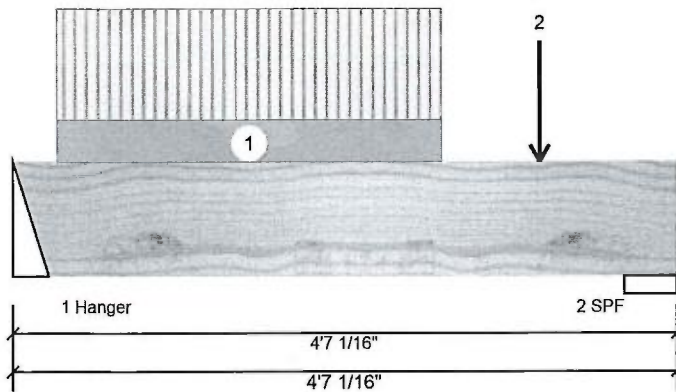
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL- 2
 Project #:

Page 1 of 1

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

Level: Ground Floor


Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 90 | 43 | 0 | 0 |
| 2 | 91 | 44 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|------------|----------|-------|----------|------------|
| 1 - Hanger | 3.000" | 5% | 54 / 134 | 188 | L | 1.25D+1.5L |
| 2 - SPF | 4.375" | 4% | 55 / 136 | 191 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|-------------------------|-----------|------------|---------------|------------|------------|---------|
| Moment | 200 ft-lb | 2'2 9/16" | 11362 ft-lb | 0.018 (2%) | 1.25D+1.5L | L |
| Unbraced | 200 ft-lb | 2'2 9/16" | 8709 ft-lb | 0.023 (2%) | 1.25D+1.5L | L |
| Shear | 248 lb | 3'5 15/16" | 4638 lb | 0.053 (5%) | 1.25D+1.5L | L |
| Perm Defl in. (L/57668) | 0.001 | 2'2 13/16" | 0.137 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch (L/26862) | 0.002 | 2'2 3/4" | 0.137 (L/360) | 0.010 (1%) | L | L |
| TL Defl inch (L/18326) | 0.003 | 2'2 3/4" | 0.205 (L/240) | 0.010 (1%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|------------|-----------|--------|--------|-------|-------|----------|
| 1 | Part. Uniform | 0-3-11 to 2-11-11 | | Near Face | 18 PLF | 47 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 3-7-11 | | Near Face | 21 lb | 55 lb | 0 lb | 0 lb | J2 |
| | Self Weight | | | | 4 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals
Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

 Forex
 APA: PR-L318

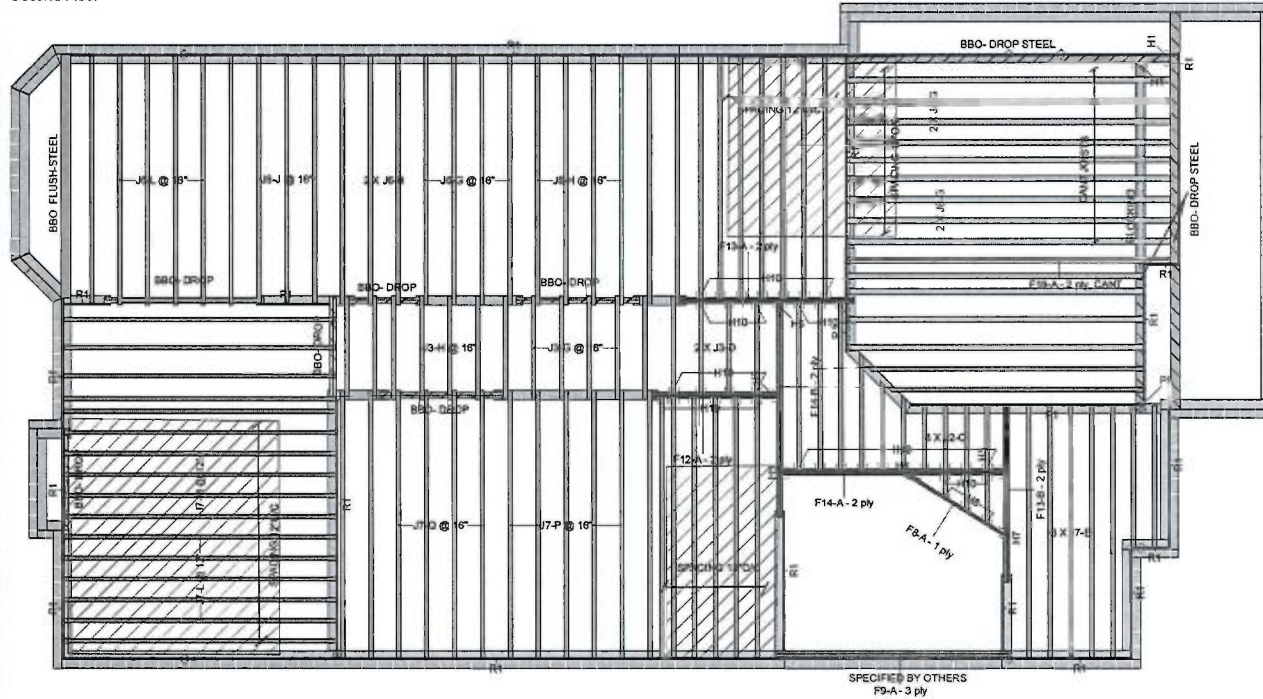
 Kott Lumber Company
 14 Anderson Blvd, Ontario
 Canada
 L4A 7X4
 905-642-4400

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

This design

NASCOR


Second Floor



SPECIFIED BY OTHERS
F14-A-3 ply

This certification is to confirm that:

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

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

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



September 18, 2018

Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR. SUITE 3A
VAUGHAN, ON L4K 3P3

Project # 18-24
Model: Millwood 4 EL-2
Date: AUGUST 09 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-Q88-08
 5. CCMC - 12787-R APA PR-L310(C)
- Version 18.40.162 Powered by IStruct™

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

Second Floor

LVL/LSL

| Label | Description | Width | Depth | Qty | Piles | Pcs | Length |
|-------|-----------------------|-------|-------|-----|-------|-----|--------|
| F14 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 2 | 2 | 4 | 12-0-0 |
| F8 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 1 | 3 | 3 | 12-0-0 |
| F13 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 2 | 2 | 4 | 10-0-0 |
| F12 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 1 | 2 | 2 | 8-0-0 |
| F8 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | | | 1 | 8-0-0 |

Joist

| Label | Description | Width | Depth | Qty | Piles | Pcs | Length |
|-------|-------------|-------|-------|-----|-------|-----|--------|
| F18 | NJ | 1.5 | 9.5 | 1 | 2 | 2 | 16-0-0 |
| J8 | NJ40U | 3.5 | 9.5 | | | 13 | 16-0-0 |
| J7 | NJH | 2.5 | 9.5 | | | 41 | 14-0-0 |
| J9 | NJH | 2.5 | 9.5 | | | 29 | 12-0-0 |
| J4 | NJH | 2.5 | 9.5 | | | 5 | 8-0-0 |
| J3 | NJH | 2.5 | 9.5 | | | 18 | 8-0-0 |
| J2 | NJH | 2.5 | 9.5 | | | 6 | 4-0-0 |
| J1 | NJH | 2.5 | 9.5 | | | 2 | 2-0-0 |

Rim Board

| Label | Description | Width | Depth | Qty | Piles | Pcs | Length |
|-------|-----------------------------------|-------|-------|-----|-------|-----|--------|
| R1 | Norbord Rimboard Plus 1.125 X 9.5 | 1.125 | 9.5 | | | 17 | 12 |

Blocking

| Label | Description | Width | Depth | Qty | Piles | Pcs | Length |
|-------|-------------|-------|-------|-------|-------|--------|--------|
| BLK2 | NJ40U | 3.5 | 9.5 | LinFt | | Varies | 7-0-0 |
| BLK1 | NJH | 2.5 | 9.5 | LinFt | | Varies | 8-0-0 |

Hanger

| Label | Pcs | Description | Skew | Slope | fasteners | Supported Member |
|-------|-----|----------------|------|-------|--------------|------------------|
| H1 | 2 | Unknown Hanger | | | | |
| H5 | 4 | HGUS410 | | | 46 18d | 16 18d |
| H8 | 1 | LSSU125-R | Var | Var | 9 10d | 7 10dx1 1/2 |
| H7 | 1 | LSSU125-L | Var | Var | 9 10d | 7 10dx1 1/2 |
| H8 | 3 | LSSU1310-R | Var | Var | 14 10dx1 1/2 | 12 10dx1 1/2 |
| H10 | 36 | LT259 | | | 4 10d | 2 10dx1 1/2 |

NOTES:

1. Frame to verify dimensions on the architectural drawings.
2. Double joist only requires filer/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/himjoist.
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 9.5 |
| ■ | NJ 9.5 |
| ■ | NJ40U 9.5 |
| ■ | NJH 9.5 |
| ■ | Forex 2.0E-3000Fb LVL 1.75 X 9.5 |
| ■ | 1.75 X 9.5 (Dropped) |
| ■ | 5.25 X 10.25 (Dropped) |
| ■ | 5.25 X 10.25 |

NASCOR

Layout Name
MILLWOOD 4 EL-2

Design Method
LSD

Description
GREEN PARK HOMES
MILLSALE, BRAMPTON, ON

Created
June 28, 2018

Builder

Sales Rep

Designer
S B

Shipping

Project

Builder's Project

Kott Lumber Company

14 Anderson Blvd

Stouffville, Ontario

Canada

L4A 7X4

905-842-4400

Second Floor

Design Method
LSD

Building Code
NBCC 2010 / OBC 2012

Floor

Loads

Live

Dead

Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Deflection Girder

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Deck

Thickness

Fastener

Vibration

Ceiling

Nailed & Glued

Gypsum 1/2"

KOTT



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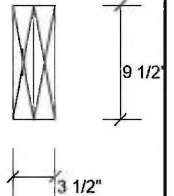
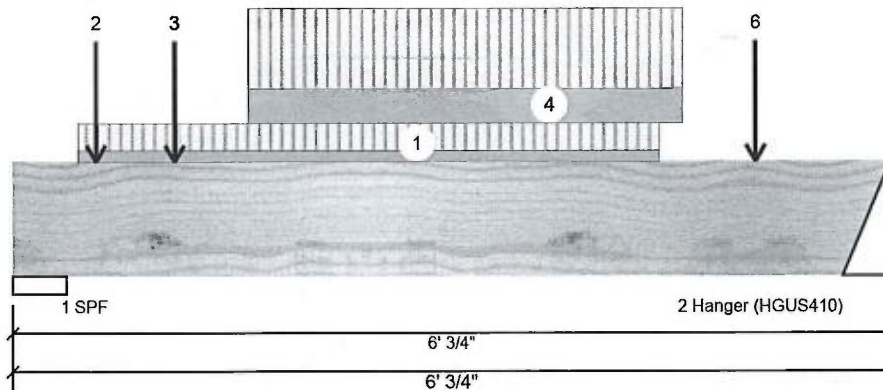
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL- 2
 Project #:

Page 1 of 1

F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 901 | 391 | 0 | 0 |
| 2 | 864 | 384 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|-------------------|------------|----------|------------|
| 1 - SPF | 4.500" | 19% | 489 / 1351 | 1841 L | 1.25D+1.5L |
| 2 - Hanger | 4.000" | 17% | 480 / 1296 | 1776 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment | 2515 ft-lb | 3' 3/4" | 22724 ft-lb | 0.111 (11%) | 1.25D+1.5L | L |
| Unbraced | 2515 ft-lb | 3' 3/4" | 22724 ft-lb | 0.111 (11%) | 1.25D+1.5L | L |
| Shear | 1874 lb | 5' | 9277 lb | 0.202 (20%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.008 (L/8550) | 3' 11/16" | 0.183 (L/360) | 0.040 (4%) | D | Uniform |
| LL Defl inch | 0.018 (L/3749) | 3' 11/16" | 0.183 (L/360) | 0.100 (10%) | L | |
| TL Defl inch | 0.025 (L/2606) | 3' 11/16" | 0.274 (L/240) | 0.090 (9%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|----------------|------------|-----------|---------|---------|-------|-------|---|
| 1 | Part. Uniform | 0-5-8 to 4-5-8 | | Far Face | 32 PLF | 85 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 0-7-0 | | Near Face | 52 lb | 138 lb | 0 lb | 0 lb | J7 |
| 3 | Point | 1-1-8 | | Near Face | 81 lb | 189 lb | 0 lb | 0 lb | J7 |
| 4 | Part. Uniform | 1-7-8 to 4-7-8 | | Near Face | 105 PLF | 245 PLF | 0 PLF | 0 PLF | Pass-Thru Framing Squash Block is required at all point loads over bearings |
| 5 | Point | 5-1-8 | | Far Face | 38 lb | 102 lb | 0 lb | 0 lb | J3 |
| 6 | Point | 5-1-8 | | Near Face | 115 lb | 261 lb | 0 lb | 0 lb | Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements |
| | Self Weight | | | | 8 PLF | | | | |

Notes

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

Lumber

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

chemicals
Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

 Forex
 APA: PR-L318

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

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

This design is

NASCOR



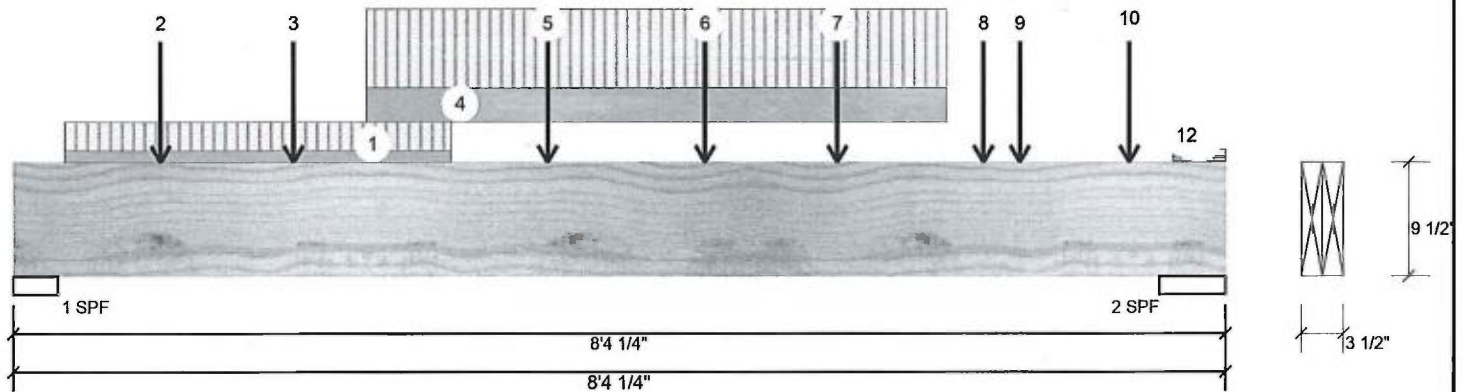

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Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 2

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 1544 | 672 | 0 | 0 |
| 2 | 1835 | 811 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|------|--------------|-------|----------|------------|
| 1 - SPF | 3.715" | 39% | 840 / 2316 | 3156 | L | 1.25D+1.5L |
| 2 - SPF | 5.500" | 32% | 1014 / 2753 | 3767 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment | 8380 ft-lb | 4'9 1/4" | 22724 ft-lb | 0.369 (37%) | 1.25D+1.5L | L |
| Unbraced | 8380 ft-lb | 4'9 1/4" | 21550 ft-lb | 0.389 (39%) | 1.25D+1.5L | L |
| Shear | 3850 lb | 7'2" | 9277 lb | 0.415 (42%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.042 (L/2207) | 4'3 1/2" | 0.257 (L/360) | 0.160 (16%) | D | Uniform |
| LL Defl inch | 0.095 (L/979) | 4'3 7/16" | 0.257 (L/360) | 0.370 (37%) | L | L |
| TL Defl inch | 0.136 (L/678) | 4'3 7/16" | 0.386 (L/240) | 0.350 (35%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|----------------|------------|-----------|--------|---------|-------|-------|----------|
| 1 | Part. Uniform | 0-4-4 to 3-0-4 | | Near Face | 32 PLF | 84 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 1-0-4 | | Far Face | 87 lb | 233 lb | 0 lb | 0 lb | J6 |
| 3 | Point | 1-11-4 | | Far Face | 84 lb | 218 lb | 0 lb | 0 lb | J6 |
| 4 | Part. Uniform | 2-5-4 to 6-5-4 | | Far Face | 98 PLF | 228 PLF | 0 PLF | 0 PLF | |
| 5 | Point | 3-8-4 | | Near Face | 38 lb | 102 lb | 0 lb | 0 lb | J3 |
| 6 | Point | 4-9-4 | | Near Face | 444 lb | 963 lb | 0 lb | 0 lb | F14 |

Continued on page 2...

Notes

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

Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

This design

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

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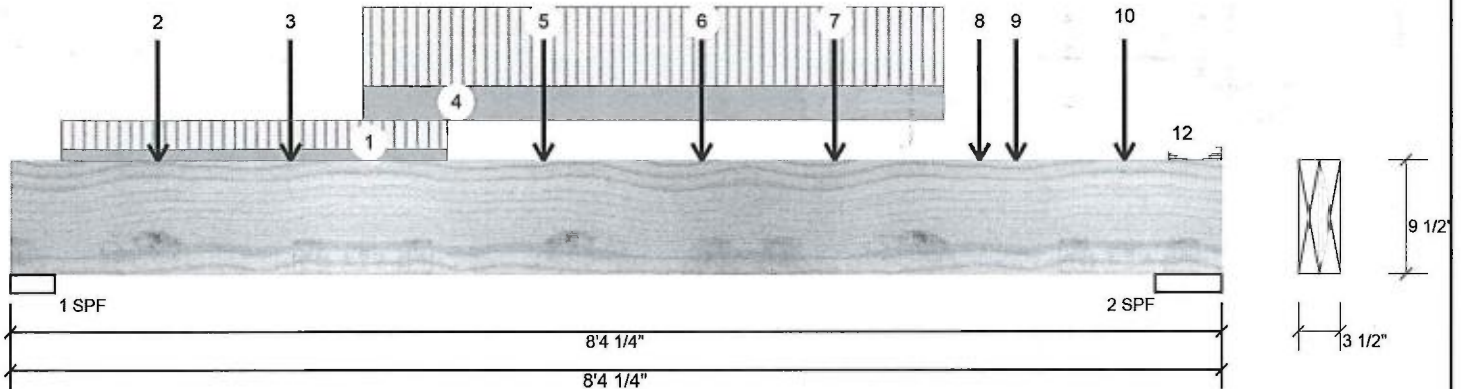
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 2 of 2

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-------------|------------------|--------------|-----------|--------|--------|-------|-------|----------|
| 7 | Point | 5-8-4 | | Near Face | 56 lb | 150 lb | 0 lb | 0 lb | J4 |
| 8 | Point | 6-8-4 | | Near Face | 59 lb | 157 lb | 0 lb | 0 lb | J4 |
| 9 | Point | 6-11-4 | | Far Face | 119 lb | 276 lb | 0 lb | 0 lb | J6 |
| 10 | Point | 7-8-4 | | Near Face | 51 lb | 135 lb | 0 lb | 0 lb | J4 |
| 11 | Tie-In | 7-11-14 to 8-4-4 | (Span)0-4-15 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 12 | Tie-In | 7-11-14 to 8-4-4 | (Span)0-11-1 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| | Self Weight | | | | 8 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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This design is valid until 7/10/2021



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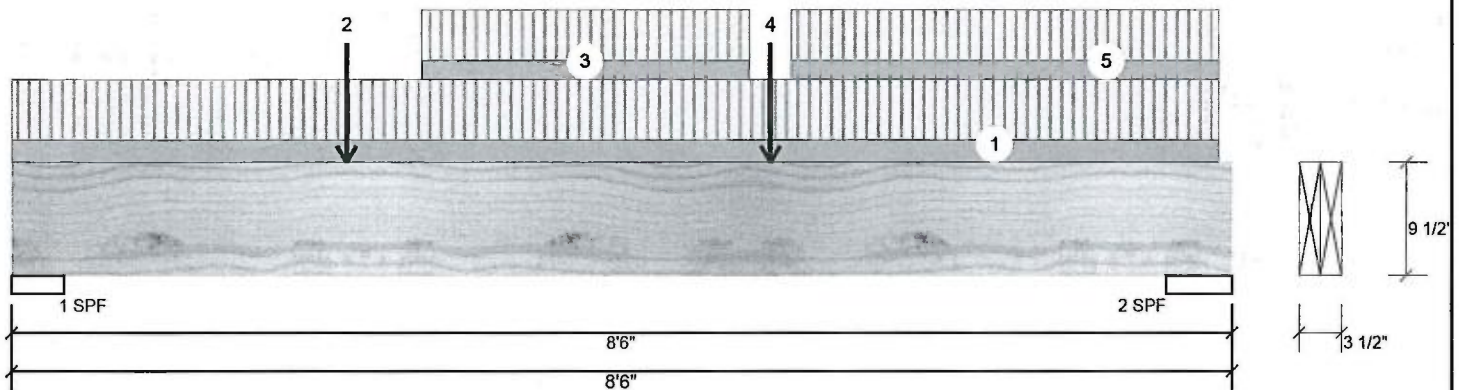
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL-2
 Project #:

Page 1 of 1

F13-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 427 | 216 | 0 | 0 |
| 2 | 597 | 289 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|------------|-----------|-------|----------|------------|
| 1 - SPF | 4.459" | 9% | 271 / 641 | 911 | L | 1.25D+1.5L |
| 2 - SPF | 5.500" | 11% | 361 / 896 | 1257 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment | 3113 ft-lb | 5'3 7/16" | 22724 ft-lb | 0.137 (14%) | 1.25D+1.5L | L |
| Unbraced | 3113 ft-lb | 5'3 7/16" | 21524 ft-lb | 0.145 (14%) | 1.25D+1.5L | L |
| Shear | 1159 lb | 7'3 3/4" | 9277 lb | 0.125 (12%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.016 (L/5986) | 4'6 1/4" | 0.260 (L/360) | 0.060 (6%) | D | Uniform |
| LL Defl inch | 0.033 (L/2865) | 4'6 5/8" | 0.260 (L/360) | 0.130 (13%) | L | L |
| TL Defl inch | 0.048 (L/1938) | 4'6 9/16" | 0.390 (L/240) | 0.120 (12%) | 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.



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-------------|------------------|--------------|----------|--------|--------|-------|-------|---|
| 1 | Tie-In | 0-0-0 to 8-4-14 | (Span)1-1-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Point | 2-4-1 | | Far Face | 46 lb | 95 lb | 0 lb | 0 lb | F8 |
| 3 | Tie-In | 2-10-5 to 5-1-11 | (Span)0-11-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 4 | Point | 5-3-7 | | Far Face | 290 lb | 651 lb | 0 lb | 0 lb | Pass-Thru Framing Squash Block is required at all point loads over bearings |
| 5 | Tie-In | 5-5-3 to 8-4-14 | (Span)0-11-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| | Self Weight | | | | 8 PLF | | | | Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements |

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

 Forex
 APA: PR-L318

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

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

This design

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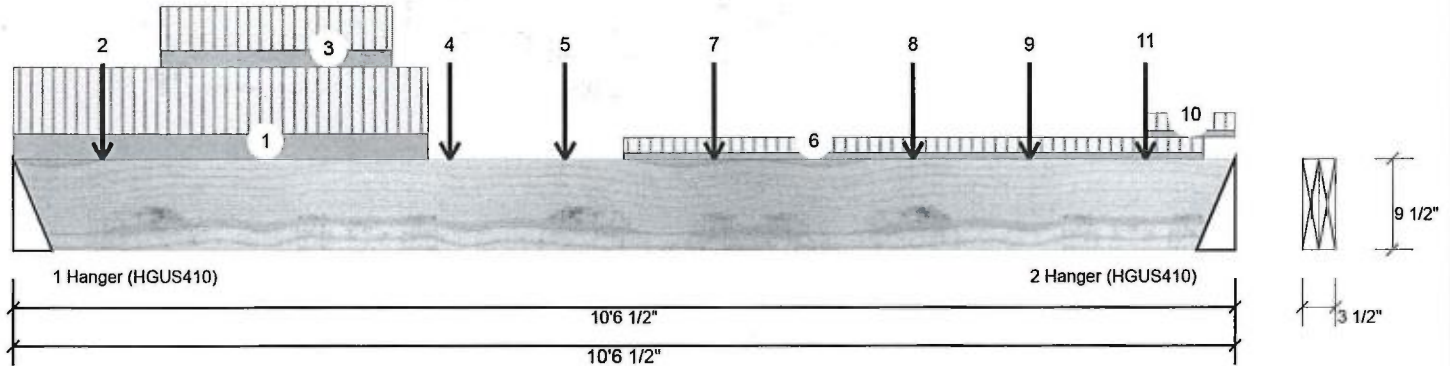

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Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 2

F14-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 1342 | 548 | 0 | 0 |
| 2 | 651 | 290 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|-------------------|-------|----------|------------|
| 1 - Hanger | 4.000" | 26% 685 / 2014 | 2699 | L | 1.25D+1.5L |
| 2 - Hanger | 4.000" | 13% 362 / 977 | 1339 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|-------------|---------------|-------------|------------|---------|
| Moment | 4233 ft-lb | 3'9 1/4" | 22724 ft-lb | 0.186 (19%) | 1.25D+1.5L | L |
| Unbraced | 4233 ft-lb | 3'9 1/4" | 20749 ft-lb | 0.204 (20%) | 1.25D+1.5L | L |
| Shear | 2274 lb | 1' 3/4" | 9277 lb | 0.245 (25%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.034 (L/3485) | 4'11 11/16" | 0.333 (L/360) | 0.100 (10%) | D | Uniform |
| LL Defl inch | 0.080 (L/1506) | 4'10 15/16" | 0.333 (L/360) | 0.240 (24%) | L | L |
| TL Defl inch | 0.114 (L/1052) | 4'11 1/8" | 0.500 (L/240) | 0.230 (23%) | 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.

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-----------------|------------|----------|--------|---------|-------|-------|----------|
| 1 | Part. Uniform | 0-0-0 to 3-7-0 | | Top | 90 PLF | 240 PLF | 0 PLF | 0 PLF | |
| 2 | Point | 0-9-4 | | Far Face | 56 lb | 150 lb | 0 lb | 0 lb | J4 |
| 3 | Part. Uniform | 1-3-4 to 3-3-4 | | Far Face | 59 PLF | 157 PLF | 0 PLF | 0 PLF | |
| 4 | Point | 3-9-4 | | Far Face | 38 lb | 100 lb | 0 lb | 0 lb | J3 |
| 5 | Point | 4-9-4 | | Far Face | 30 lb | 80 lb | 0 lb | 0 lb | J3 |
| 6 | Part. Uniform | 5-3-4 to 10-3-4 | | Far Face | 21 PLF | 56 PLF | 0 PLF | 0 PLF | |

Continued on page 2...

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA-PR-L318

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

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This design



September 18, 2018



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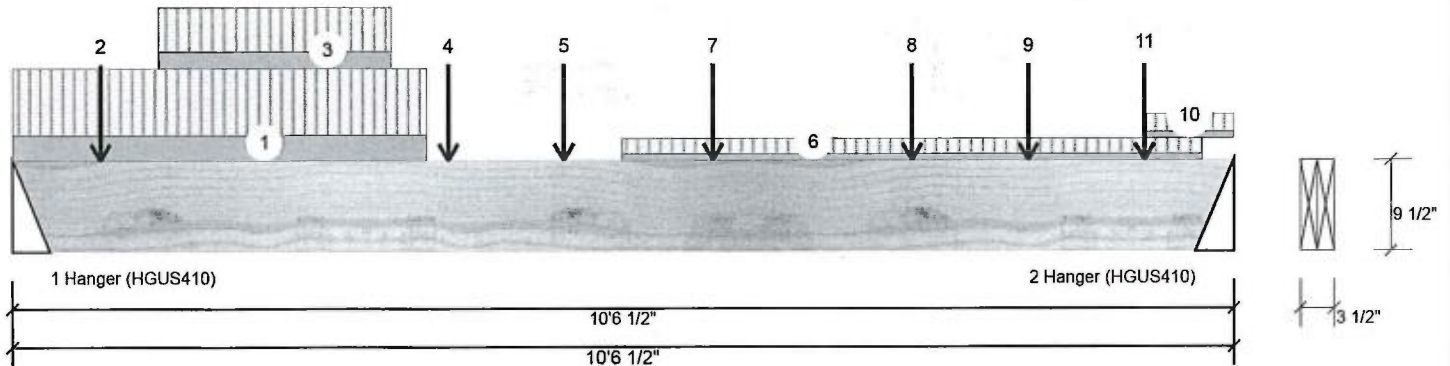
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 2 of 2

F14-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-------------|-----------------|-------------|-----------|--------|--------|-------|-------|----------|
| 7 | Point | 6-0-10 | | Near Face | 36 lb | 68 lb | 0 lb | 0 lb | F8 |
| 8 | Point | 7-9-4 | | Near Face | 8 lb | 21 lb | 0 lb | 0 lb | J1 |
| 9 | Point | 8-9-4 | | Near Face | 11 lb | 31 lb | 0 lb | 0 lb | J1 |
| 10 | Tie-In | 9-9-4 to 10-6-8 | (Span)3-2-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 11 | Point | 9-9-4 | | Near Face | 15 lb | 41 lb | 0 lb | 0 lb | J2 |
| | Self Weight | | | | 8 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

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This design is valid until 7/10/2021



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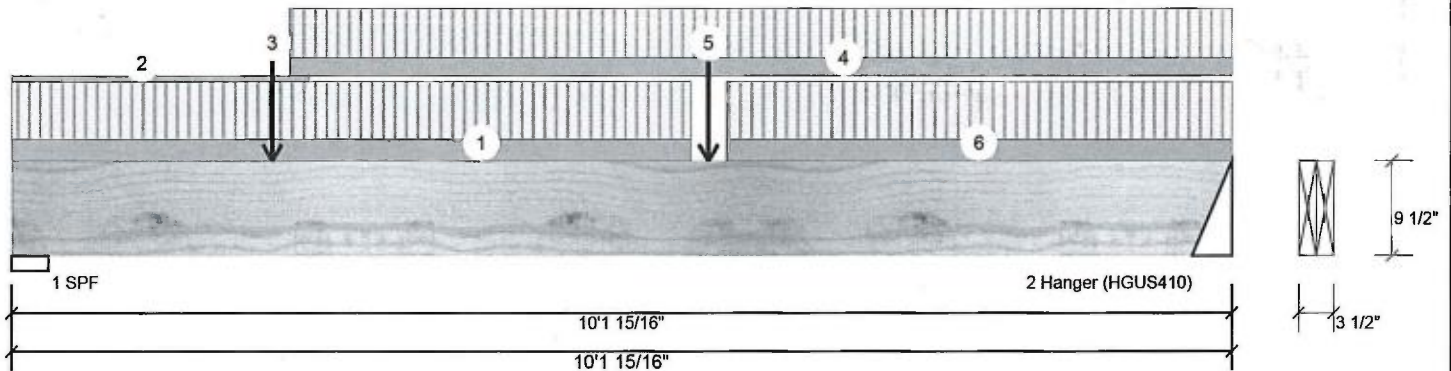
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL- 2
 Project #:

Page 1 of 1

F14-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 1601 | 705 | 0 | 0 |
| 2 | 963 | 444 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|------------|------------|-------|----------|------------|
| 1 - SPF | 3.688" | 41% | 881 / 2401 | 3282 | L | 1.25D+1.5L |
| 2 - Hanger | 4.000" | 19% | 555 / 1444 | 1999 | L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|----------------|------------|---------------|-------------|------------|---------|
| Moment | 7330 ft-lb | 5'9 11/16" | 22724 ft-lb | 0.323 (32%) | 1.25D+1.5L | L |
| Unbraced | 7330 ft-lb | 5'9 11/16" | 20887 ft-lb | 0.351 (35%) | 1.25D+1.5L | L |
| Shear | 3225 lb | 1' 7/16" | 9277 lb | 0.348 (35%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.058 (L/1996) | 4'11 7/8" | 0.321 (L/360) | 0.180 (18%) | D | Uniform |
| LL Defl inch | 0.130 (L/892) | 4'11 9/16" | 0.321 (L/360) | 0.400 (40%) | L | L |
| TL Defl inch | 0.188 (L/617) | 4'11 5/8" | 0.482 (L/240) | 0.390 (39%) | 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.



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|--------------|-----------|--------|---------|-------|-------|---|
| 1 | Tie-In | 0-0-0 to 5-7-15 | (Span)1-1-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Part. Uniform | 0-0-0 to 2-5-12 | | Top | 2 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 3 | Point | 2-2-2 | | Near Face | 548 lb | 1342 lb | 0 lb | 0 lb | Pass Through Framing Squash Block is required at all point loads over bearings |
| 4 | Tie-In | 2-3-14 to 10-1-15 | (Span)0-11-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 5 | Point | 5-9-11 | | Far Face | 384 lb | 864 lb | 0 lb | 0 lb | Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements |
| 6 | Tie-In | 5-11-7 to 10-1-15 | (Span)1-1-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| | Self Weight | | | | 8 PLF | | | | |

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

 Forex
 APA: PR-L318

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

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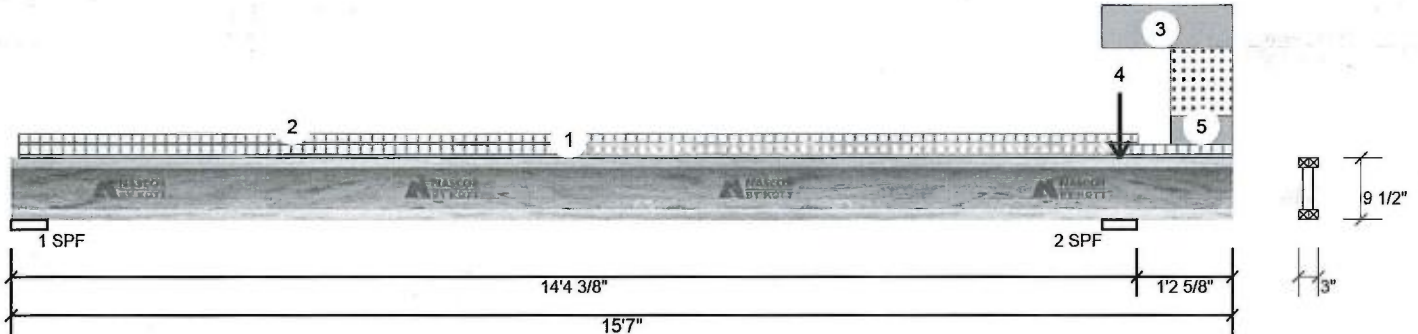
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL-2
Project #:

Page 1 of 2

F18-A NJ 9.500" 2-Ply - PASSED

Level: Second Floor

**Member Information**

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|--------|------|
| 1 | 238 | 83 | 0 (-6) | 0 |
| 2 | 260 | 343 | 213 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|-------------------|-----------|----------|---------------------|
| 1 - SPF | 5.500" | 15% | 103 / 359 | 462 L | 1.25D+1.5L |
| 2 - SPF | 5.250" | 21% | 429 / 496 | 925 LL | 1.25D+1.5L +0.5S |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|------------------|------------------|---------------|--------------|---------------------|---------|
| Neg Moment | -257 ft-lb | 14'4 3/8" | 6312 ft-lb | 0.041 (4%) | 1.25D+1.5S +0.5L | L |
| Unbraced | -222 ft-lb | 14'4 3/8" | 4158 ft-lb | 0.053 (5%) | 0.9D+1.5S +0.5L | L |
| Pos Moment | 1490 ft-lb | 7'1 5/8" | 7340 ft-lb | 0.203 (20%) | 1.25D+1.5L | L |
| Unbraced | 1490 ft-lb | 7'1 5/8" | 1492 ft-lb | 0.999 (100%) | 1.25D+1.5L | L |
| Shear | 488 lb | 14'1 3/4" | 3080 lb | 0.158 (16%) | 1.25D+1.5L +0.5S | LL |
| Perm Defl in. | 0.032 (L/5165) | 7' 3/4" | 0.458 (L/360) | 0.070 (7%) | D | Uniform |
| LL Defl inch | 0.104 (L/1584) | 7'3 5/16" | 0.458 (L/360) | 0.230 (23%) | L | L |
| TL Defl inch | 0.136 (L/1213) | 7'2 5/8" | 0.687 (L/240) | 0.200 (20%) | D+L | L |
| LL Cant | -0.027 (2L/1077) | Rt Cant (2L/480) | 0.200 | 0.136 (14%) | L | L |
| TL Cant | -0.033 (2L/898) | Rt Cant (2L/360) | 0.300 | 0.109 (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 flange must be laterally braced at a maximum of 5'4" o.c.
- 5 Bottom flange must be laterally braced at a maximum of 6'3" o.c.



September 18, 2018

Notes

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Lumber

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

Handling & Installation

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

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.6 inches
7. For flat roofs provide ponding

Manufacturer Info

Nascor by Kott

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

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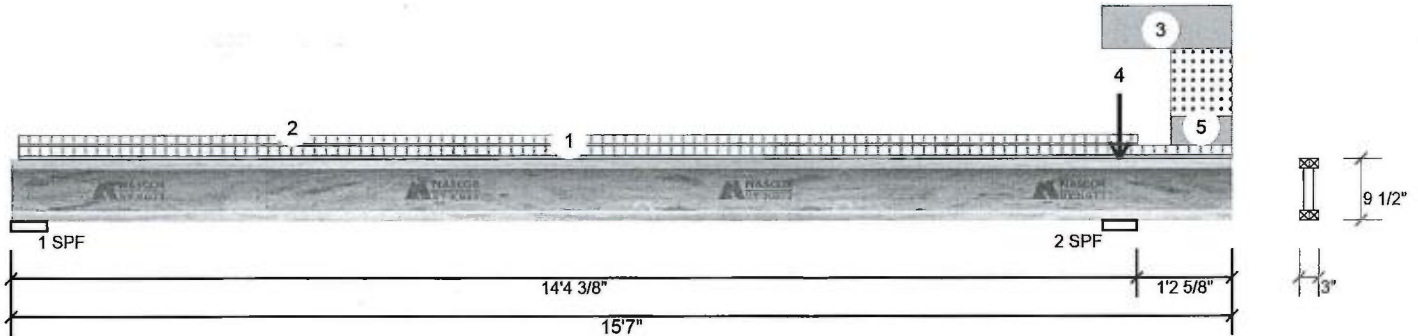
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Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 2 of 2

F18-A NJ 9.500" 2-Ply - PASSED

Level: Second Floor



| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|---------------|-------------------|-------------------|------|--------|--------|---------|-------|------------------|
| 1 | Tie-In | 0-1-2 to 15-7-0 | (Span) 0-10-13 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 0-1-2 to 14-4-8 | (Span)0-9-3 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Part. Uniform | 13-11-0 to 15-7-0 | | Top | 80 PLF | 0 PLF | 0 PLF | 0 PLF | Wall Self Weight |
| 4 | Point | 14-1-12 | | Top | 62 lb | 0 lb | 106 lb | 0 lb | F4 F4 |
| 5 | Part. Uniform | 14-9-8 to 15-7-0 | | Top | 55 PLF | 0 PLF | 128 PLF | 0 PLF | |

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

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

Notes

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

Handling & Installation

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

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

This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott

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

NASCOR



isDesign™

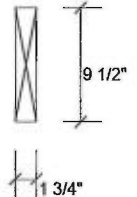
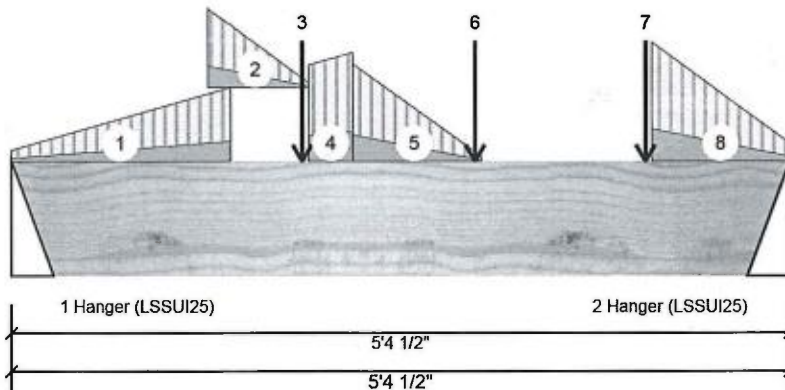
 Client:
 Project:
 Address:

 Date: 9/11/2018
 Designer: S B
 Job Name: MILLWOOD 4 EL-2
 Project #:

Page 1 of 2

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

Level: Second Floor


Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1 | 68 | 36 | 0 | 0 |
| 2 | 95 | 46 | 0 | 0 |

Bearings and Factored Reactions

| Bearing | Length | Cap. React D/L lb | Total | Ld. Case | Ld. Comb. |
|------------|--------|-------------------|----------|----------|------------|
| 1 - Hanger | 3.500" | 3% | 45 / 102 | 147 L | 1.25D+1.5L |
| 2 - Hanger | 3.500" | 4% | 58 / 143 | 201 L | 1.25D+1.5L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|---------------|-----------------|------------|---------------|------------|------------|---------|
| Moment | 222 ft-lb | 2'10 7/16" | 11362 ft-lb | 0.020 (2%) | 1.25D+1.5L | L |
| Unbraced | 222 ft-lb | 2'10 7/16" | 7579 ft-lb | 0.029 (3%) | 1.25D+1.5L | L |
| Shear | 157 lb | 4'4 1/4" | 4638 lb | 0.034 (3%) | 1.25D+1.5L | L |
| Perm Defl in. | 0.001 (L/47231) | 2'8 13/16" | 0.164 (L/360) | 0.010 (1%) | D | Uniform |
| LL Defl inch | 0.003 (L/23039) | 2'8 7/8" | 0.164 (L/360) | 0.020 (2%) | L | L |
| TL Defl inch | 0.004 (L/15485) | 2'8 7/8" | 0.246 (L/240) | 0.020 (2%) | D+L | L |

Design Notes

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



September 18, 2018

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-----------|-----------------|-----------------------|----------|--------|--------|-------|-------|----------|
| 1 | Tie-In | 0-0-0 to 1-6-4 | (Span)0-2-1 to 1-1-7 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 2 | Tie-In | 1-4-6 to 2-0-12 | (Span)1-2-6 to 0-0-14 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 3 | Point | 2-0-4 | | Far Face | 7 lb | 19 lb | 0 lb | 0 lb | J1 |
| 4 | Tie-In | 2-0-12 to 2-4-6 | (Span)1-5-9 to 1-7-13 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |

Continued on page 2...

Notes

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

Lumber

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

chemicals
Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

 Forex
 APA: PR-L318

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

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

This design

NASCOR




isDesign™

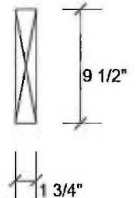
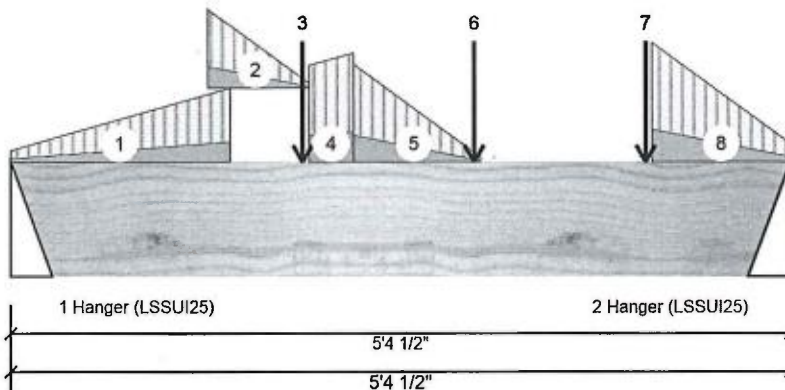
Client:
Project:
Address:

Date: 9/11/2018
Designer: S B
Job Name: MILLWOOD 4 EL- 2
Project #:

Page 2 of 2

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

Level: Second Floor



...Continued from page 1

| ID | Load Type | Location | Trib Width | Side | Dead | Live | Snow | Wind | Comments |
|----|-------------|-----------------|------------------------|----------|--------|--------|-------|-------|----------|
| 5 | Tie-In | 2-4-6 to 3-2-15 | (Span)1-5-12 to 0-0-14 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| 6 | Point | 3-2-6 | | Far Face | 12 lb | 31 lb | 0 lb | 0 lb | J1 |
| 7 | Point | 4-4-9 | | Far Face | 16 lb | 42 lb | 0 lb | 0 lb | J2 |
| 8 | Tie-In | 4-5-1 to 5-4-8 | (Span)1-9-10 to 0-3-5 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | |
| | Self Weight | | | | 4 PLF | | | | |

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

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

Notes

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

Lumber

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

chemicals**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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

NASCOR

This design is valid until 7/10/2021

This architectural floor plan illustrates a building section with various structural and framing details. The plan includes the following elements:

- Structural Framing:**
 - Columns:** Labeled with 'R1' at various locations along the perimeter and interior.
 - Beams:** Labeled with 'H1', 'H2', 'H3', and 'H4'.
 - Drop Steel:** Indicated by hatched areas and labels such as 'BBO-DROP STEEL' and 'BBQ-DROP STEEL'.
- Framing Details:**
 - F15-C - 2 ply** and **F15-B - 2 ply** are shown at the top.
 - F16-D - 2 ply** and **F16-C - 2 ply** are on the left.
 - F16-A - 2 ply** and **F17-B - 2 ply** are in the center.
 - F17-A - 2 ply** and **F12-B - 2 ply** are on the right.
 - F10-C - 1 ply** and **F10-B - 1 ply** are on the far right.
 - F7-D - 1 ply** and **F7-C - 1 ply** are in the upper right corner.
 - F8-C - 1 ply** and **F7-A - 1 ply** are in the lower right corner.
 - F8-B - 1 ply** is on the bottom right.
- Other Annotations:**
 - FRAMING BY OTHERS:** A label with an arrow pointing to a specific area in the upper right.
 - 2 X J6-W** and **2 X J7-AB** are labels for specific structural members.
 - 3 X J7-AC** and **J7-AB @ 16"** are labels for another set of members.
 - J3-S @ 16"** is a label for a vertical member.
 - PS** (Post-Tensioning) is indicated at several locations.
 - S** is a label in the upper left corner.

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

This certification is to confirm that:

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

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

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



September 18, 2018

| Hanger | | | | | Beam/Girder | Supported Member |
|--------|-----|----------------|------|-------|-------------|------------------|
| Label | Pcs | Description | Skew | Slope | fasteners | fasteners |
| H1 | 1 | Unknown Hanger | | | | |
| H2 | 3 | HUS1.81/10 | | | 30 16d | 10 16d |
| H3 | 6 | LT2-159 | | | 4 10d | 2 10dx1 1/2 |
| H4 | 21 | LT259 | | | 4 10d | 2 10dx1 1/2 |
| H9 | 2 | HUS1.81/10 | | | | |

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 PSE.

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 9.5 |
| | NJ 9.5 |
| | NJH 9.5 |
| | Forex 2.0E-3000Fb LVL 1.75 X 9.5 |
| | 5.25 X 10.25 (Dropped) |

NASCOR

| |
|---|
| Layout Name |
| MILLWOOD 4 EL- 2 |
| Design Method |
| LSD |
| Description |
| GREEN PARK HOMES MINNISALE, BRAMPTON,ON |
| Created |
| June 28, 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 | | |

LOT 10

Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR, SUITE 3A
VAUGHAN, ON L4K 3P3

Project # 18-24
Model: Millwood 4 EL-2
Date: August 09 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)

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

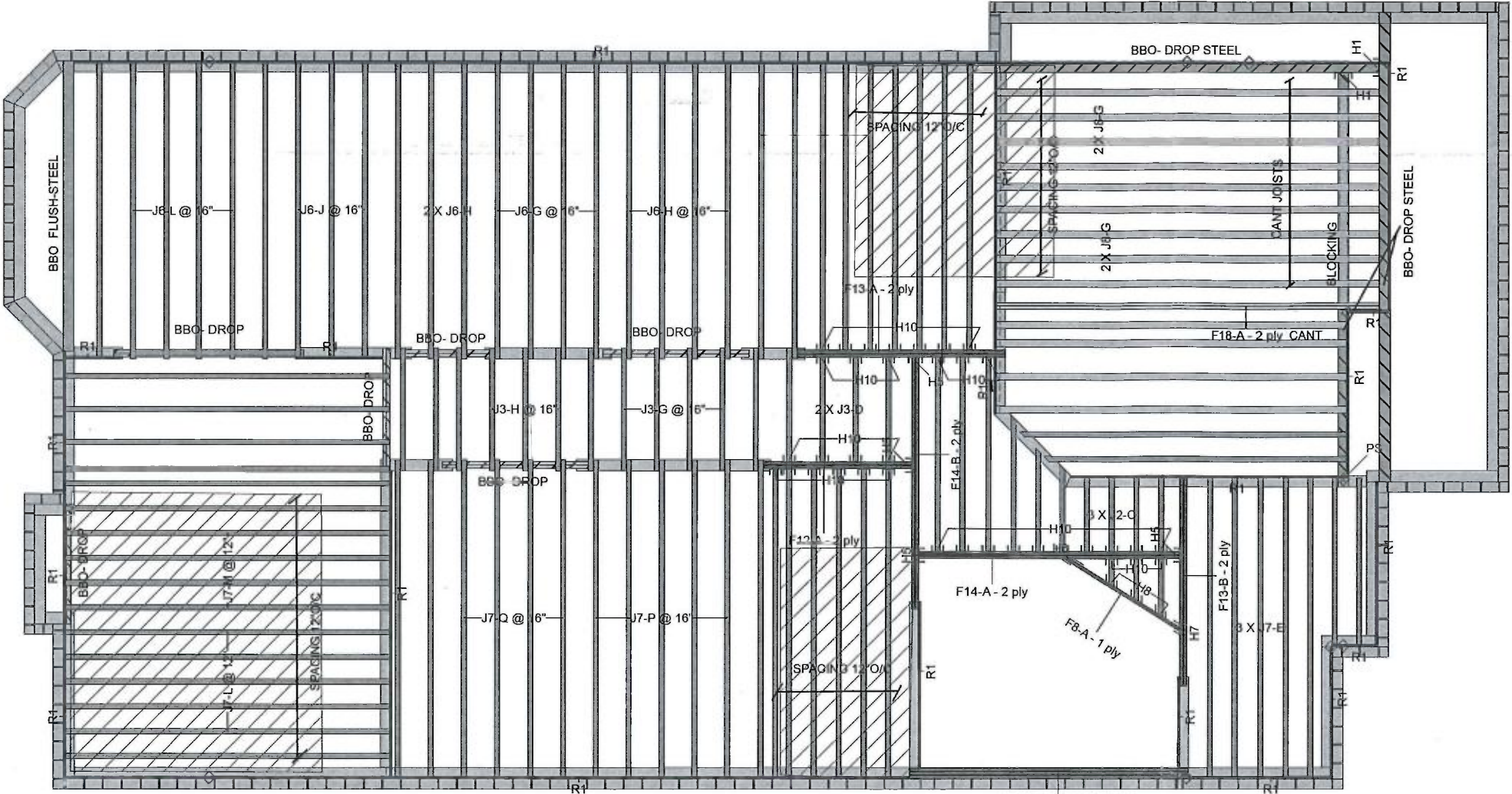
Version 18.40.162 Powered by iStruct™

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

KOTT

18-331265-000-00 RR-FLOOR

Second Floor



SPECIFIED BY OTHERS
F9-A - 3 ply

This certification is to confirm that:
1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the Nascor span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the Nascor Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.
All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



September 18, 2018

Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR, SUITE 3A
VAUGHAN, ON L4K 3P3

Project # 18-24
Model: Millwood 4 EL- 2
Date: AUGUST 09 2018

JOISTS SPACING 16"O/C
UNLESS
NOTED OTHERWISE

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

Version 18.40.162 Powered by iStruct™

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

Second Floor
LVL/LSL

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|-------|-----------------------|-------|-------|-----|-------|-----|--------|
| F14 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 2 | 2 | 4 | 12-0-0 |
| F9 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 1 | 3 | 3 | 12-0-0 |
| F13 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 2 | 2 | 4 | 10-0-0 |
| F12 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | 1 | 2 | 2 | 8-0-0 |
| F8 | Forex 2.0E-3000Fb LVL | 1.75 | 9.5 | | | 1 | 6-0-0 |

I Joist

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|-------|-------------|-------|-------|-----|-------|-----|--------|
| F18 | NJ | 1.5 | 9.5 | 1 | 2 | 2 | 16-0-0 |
| J8 | NJ40U | 3.5 | 9.5 | | | 13 | 16-0-0 |
| J7 | NJH | 2.5 | 9.5 | | | 41 | 14-0-0 |
| J6 | NJH | 2.5 | 9.5 | | | 29 | 12-0-0 |
| J4 | NJH | 2.5 | 9.5 | | | 5 | 8-0-0 |
| J3 | NJH | 2.5 | 9.5 | | | 18 | 6-0-0 |
| J2 | NJH | 2.5 | 9.5 | | | 6 | 4-0-0 |
| J1 | NJH | 2.5 | 9.5 | | | 2 | 2-0-0 |

Rim Board

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|-------|-----------------------------------|-------|-------|-----|-------|-----|--------|
| R1 | Norbord Rimboard Plus 1.125 X 9.5 | 1.125 | 9.5 | | | 17 | 12 |

Blocking

| Label | Description | Width | Depth | Qty | Plies | Pcs | Length |
|-------|-------------|-------|-------|-------|-------|--------|--------|
| BLK2 | NJ40U | 3.5 | 9.5 | LinFt | | Varies | 7-0-0 |
| BLK1 | NJH | 2.5 | 9.5 | LinFt | | Varies | 6-0-0 |

Hanger

| | | Beam/Girder | | Supported Member | |
|-------|-----|----------------|------|------------------|--------------|
| Label | Pcs | Description | Skew | Slope | fasteners |
| H1 | 2 | Unknown Hanger | | | |
| H5 | 4 | HGUS410 | | | 46 16d |
| H6 | 1 | LSSUI25-R | Var | Var | 9 10d |
| H7 | 1 | LSSUI25-L | Var | Var | 9 10d |
| H8 | 3 | LSSUH310-R | Var | Var | 14 10dx1 1/2 |
| H10 | 36 | LT259 | | | 4 10d |

NOTES:

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

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

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

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

The framing shown on this layout may 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 9.5 |
| | NJ 9.5 |
| | NJ40U 9.5 |
| | NJH 9.5 |
| | Forex 2.0E-3000Fb LVL 1.75 X 9.5 |
| | 1.75 X 9.5 (Dropped) |
| | 5.25 X 10.25 (Dropped) |
| | 5.25 X 10.25 |

NASCOR

Layout Name

MILLWOOD 4 EL- 2

Design Method

LSD

Description

GREEN PARK HOMES
MINNISALE, BRAMPTON, ON

Created

June 28, 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

Live

Dead

Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Deflection Girder

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Deck

Thickness

Fastener

Vibration

Ceiling:

40

15

480

360

480

360

360

240

480

360

OSB

5/8"

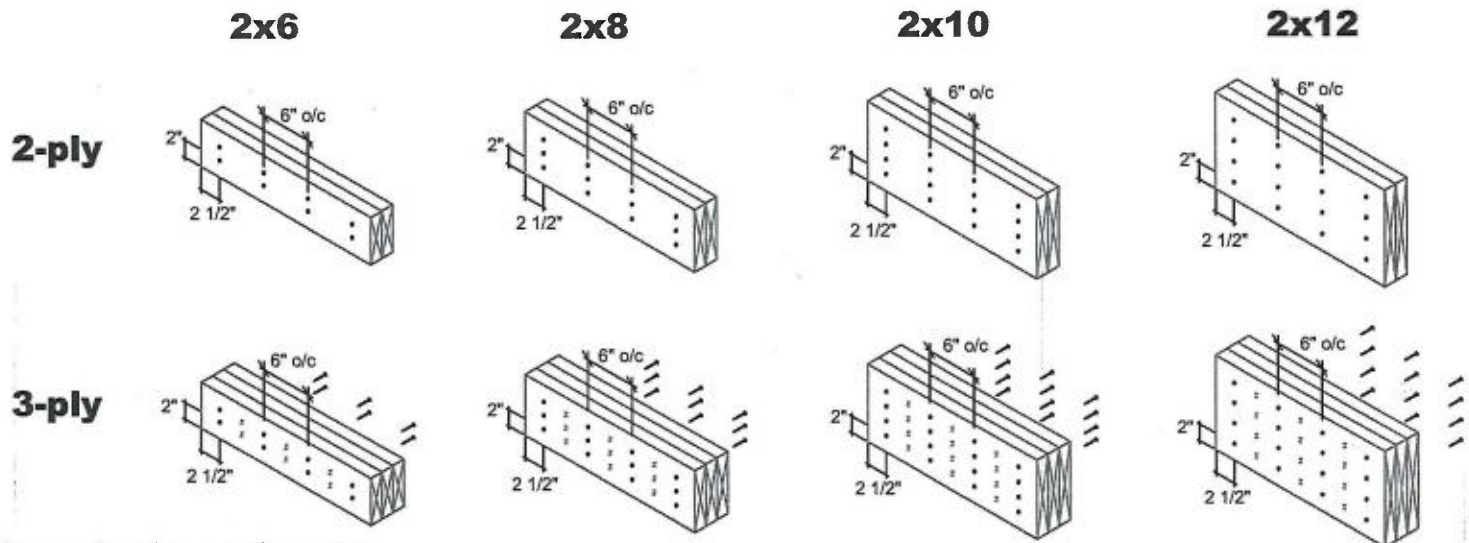
Nailed & Glued

Gypsum 1/2"

KOTT

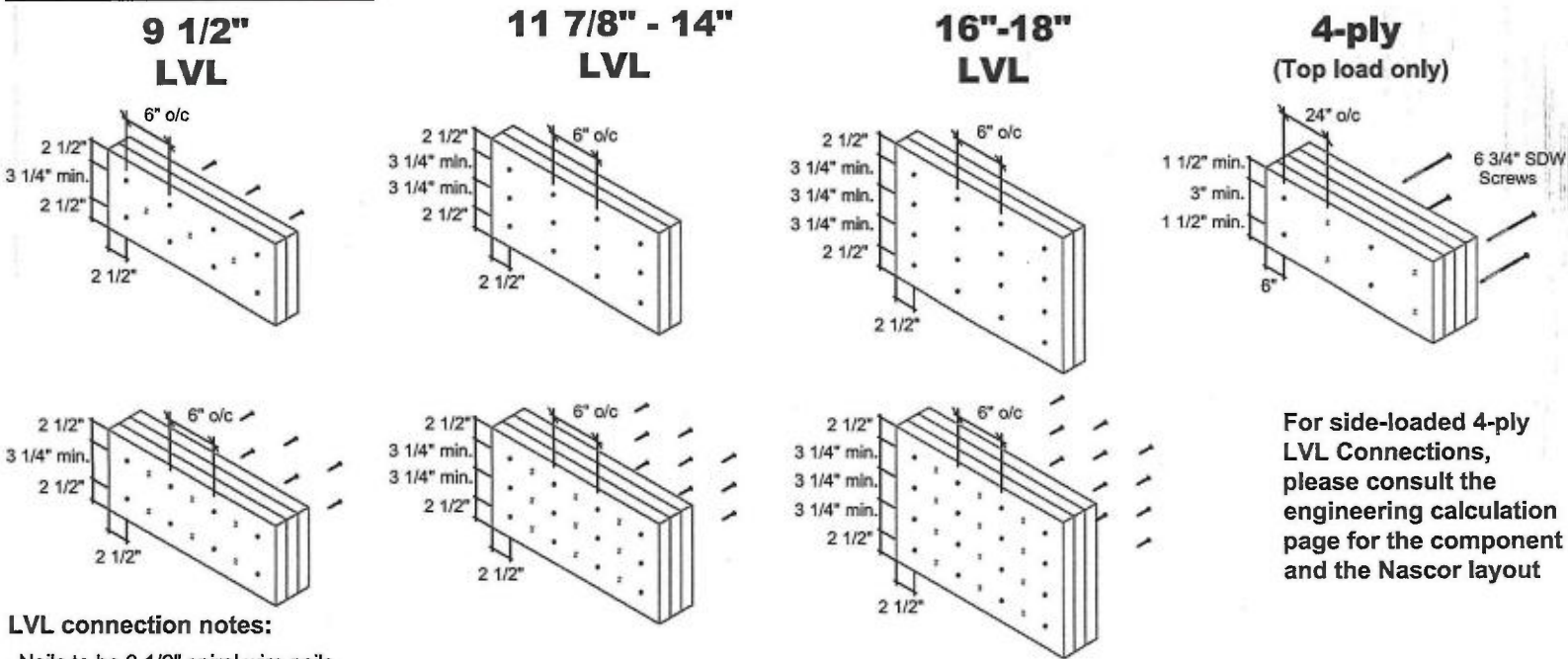
MULTIPLE MEMBER CONNECTIONS

Conventional Connections (for uniform distributed loads)



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

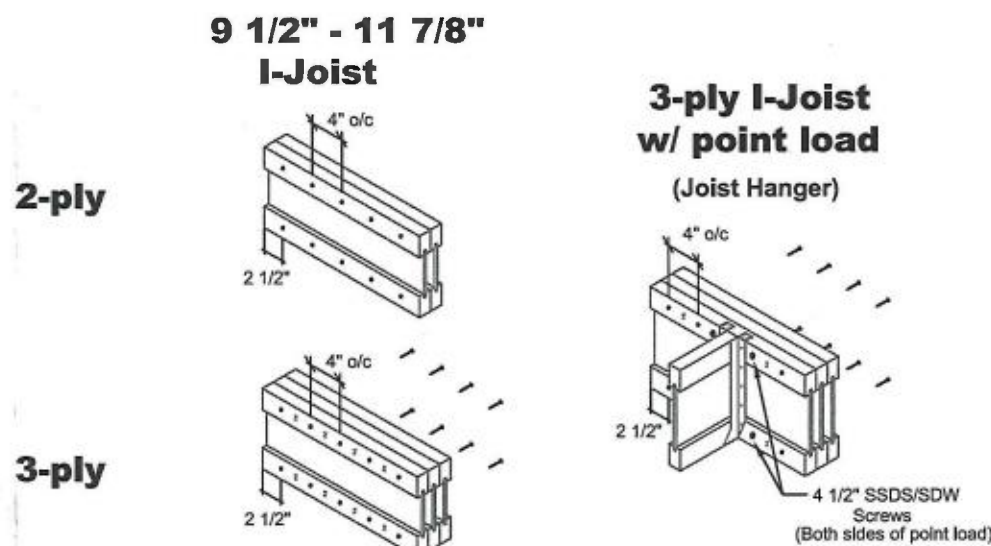
LVL Connections (for uniform distributed loads)



LVL connection notes:
-Nails to be 3 1/2" spiral wire nails.
-Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
-Minimum 3 1/4" spacing between rows.
-Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail or screw driven from the opposite side.

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

Vertical I-Joist Connections (for uniform distributed loads)



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