



EWP Studio
Simpson Strong-Tie®
Component Solutions™

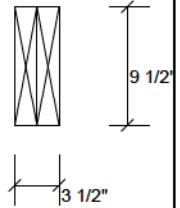
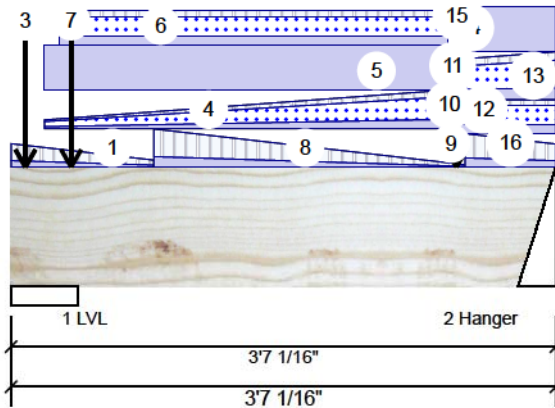
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 2 of 2

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

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
3	Point	0-1-2		Top	10 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Tapered Start	0-2-10		Top	4 PLF	3 PLF	9 PLF	0 PLF	
	End	2-10-8			17 PLF	12 PLF	40 PLF	0 PLF	
5	Part. Uniform	0-2-10 to 2-10-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	0-3-12 to 2-10-8		Top	15 PLF	10 PLF	35 PLF	0 PLF	
7	Point	0-4-12		Top	222 lb	95 lb	329 lb	0 lb	F11 F11
8	Tie-In	0-11-4 to 2-11-14	(Span)2-5-7 to 0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Part. Uniform	2-10-8 to 2-11-0		Top	15 PLF	10 PLF	35 PLF	0 PLF	
10	Tapered Start	2-10-8		Top	17 PLF	12 PLF	40 PLF	0 PLF	
	End	2-11-0			18 PLF	12 PLF	41 PLF	0 PLF	
11	Part. Uniform	2-10-8 to 2-11-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
12	Part. Uniform	2-11-0 to 3-7-1		Top	15 PLF	10 PLF	35 PLF	0 PLF	
13	Tapered Start	2-11-0		Top	18 PLF	12 PLF	41 PLF	0 PLF	
	End	3-7-1			21 PLF	15 PLF	49 PLF	0 PLF	
14	Part. Uniform	2-11-0 to 3-7-1		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
15	Point	2-11-3		Near Face	-17 lb	-44 lb	0 lb	0 lb	J6
16	Tie-In	2-11-14 to 3-7-1	(Span)2-1-13 to 1-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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

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

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



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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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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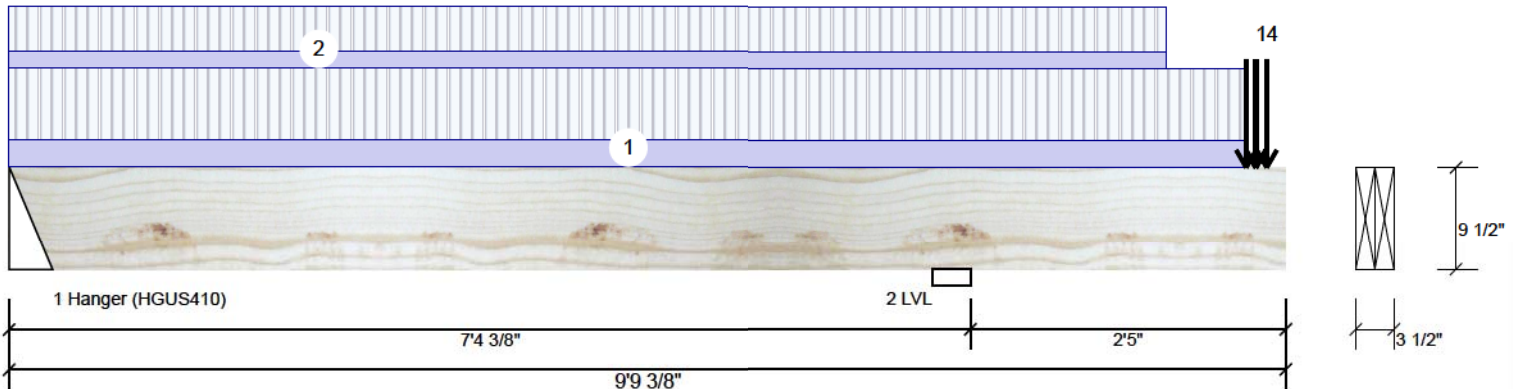
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Page 1 of 2

F16-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	104	(-97)	0 (-87)	0
2	354 (-81)	808	355	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	1%	-87 / 197	109 L_	0.9D+1.5L
2 - LVL	3.500"	22%	1010 / 266	1277 L_	1.25D+1.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2427 ft-lb	7'4 3/8"	17952 ft-lb	0.135 (14%)	1.25D+1.5S	L_
Unbraced	-2427 ft-lb	7'4 3/8"	17482 ft-lb	0.139 (14%)	1.25D+1.5S	L_
Pos Moment	57 ft-lb	1'6 3/8"	17725 ft-lb	0.003 (0%)	0.9D+1.5L	L_
Unbraced	57 ft-lb	1'6 3/8"	17725 ft-lb	0.003 (0%)	0.9D+1.5L	L_
Shear	1079 lb	8'1 7/8"	7329 lb	0.147 (15%)	1.25D+1.5S	L_
Perm Defl in.	0.010 (L/7953)	4'5 1/16"	0.232 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.008 (L/10174)	4'3 7/16"	0.232 (L/360)	0.040 (4%)	S+0.5L	L_
TL Defl inch	0.019 (L/4466)	4'4 5/16"	0.347 (L/240)	0.050 (5%)	D+S+0.5L	L_
LL Cant	0.023 (2L/2491)	Rt Cant	0.200 (2L/480)	0.116 (12%)	S+0.5L	L_
TL Cant	0.058 (2L/1002)	Rt Cant	0.300 (2L/360)	0.193 (19%)	D+S+0.5L	L_

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



Design Notes

- Fill all hanger nailing holes.
- 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.
- Tie-down connection required at bearing 1 for uplift 271 lb (Combination 1.25D+1.5S+0.5L, Load Case L_).
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.

Notes

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Lumber

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

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, 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



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Discipline	Reviewer	BCIN	Date
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Sewage System			
Zoning			





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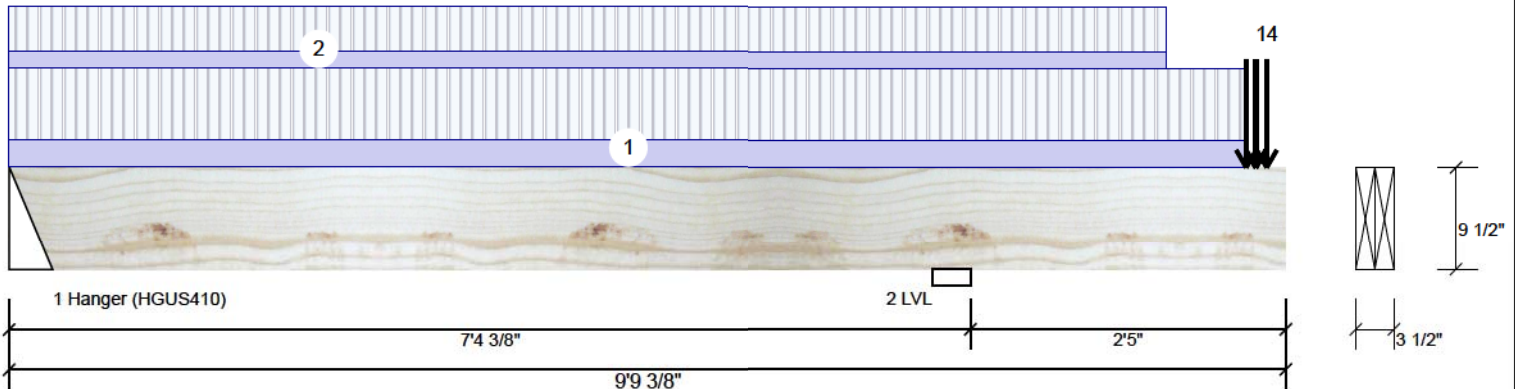
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Project #:

Page 2 of 2

F16-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 9-5-14	(Span)1-0-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 8-10-7	(Span)0-8-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	9-5-12		Near Face	201 lb	71 lb	123 lb	0 lb	F3
4	Point	9-5-12		Near Face	0 lb	-41 lb	0 lb	0 lb	F3
5	Point	9-6-10		Top	1 lb	1 lb	3 lb	0 lb	
6	Point	9-6-10		Top	5 lb	0 lb	0 lb	0 lb	Wall Self Weight
8	Point	9-6-10		Top	1 lb	0 lb	1 lb	0 lb	
9	Point	9-6-10		Top	3 lb	0 lb	0 lb	0 lb	Wall Self Weight
10	Point	9-6-10		Top	1 lb	1 lb	2 lb	0 lb	
11	Point	9-6-10		Top	1 lb	0 lb	1 lb	0 lb	
12	Point	9-6-10		Top	3 lb	0 lb	0 lb	0 lb	Wall Self Weight
13	Point	9-7-10		Far Face	299 lb	42 lb	138 lb	0 lb	F3
14	Point	9-7-10		Far Face	0 lb	-20 lb	0 lb	0 lb	F3
	Self Weight				8 PLF				

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Town of East Gwillimbury
Building Standards Branch BCIN #16487

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Lumber

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2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

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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
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6. For flat roofs provide proper drainage to prevent ponding

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Forex
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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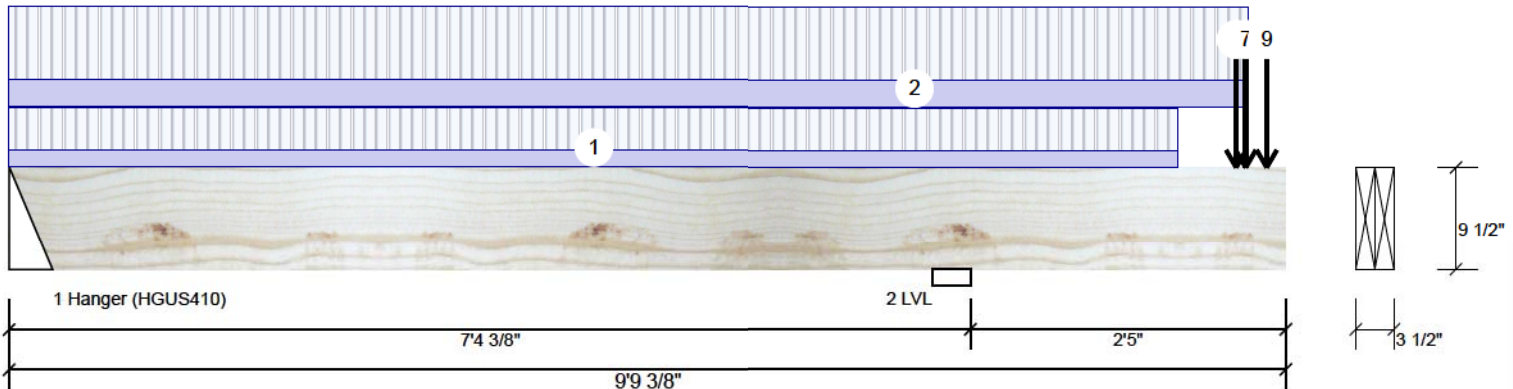
Client:
Project:
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Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 1 of 2

F16-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	75	(-101)	0 (-83)	0
2	314 (-86)	770	343	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	1%	-91 / 150 59 (-270)	L	0.9D+1.5L
2 - LVL	3.500"	21%	962 / 257	L	1.25D+1.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2320 ft-lb	7'4 3/8"	17952 ft-lb	0.129 (13%)	1.25D+1.5S	L
Unbraced	-2320 ft-lb	7'4 3/8"	17482 ft-lb	0.133 (13%)	1.25D+1.5S	L
Pos Moment	17 ft-lb	1' 5/8"	16588 ft-lb	0.001 (0%)	0.9D+1.5L	L
Unbraced	17 ft-lb	1' 5/8"	16588 ft-lb	0.001 (0%)	0.9D+1.5L	L
Shear	1046 lb	8'1 7/8"	7329 lb	0.143 (14%)	1.25D+1.5S	L
Perm Defl in.	0.010 (L/8099)	4'4 13/16"	0.232 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.008 (L/10599)	4'3 7/16"	0.232 (L/360)	0.030 (3%)	S+0.5L	L
TL Defl inch	0.018 (L/4592)	4'4 3/16"	0.347 (L/240)	0.050 (5%)	D+S+0.5L	L
LL Cant	0.022 (2L/2598)	Rt Cant	0.200 (2L/480)	0.112 (11%)	S+0.5L	L
TL Cant	0.056 (2L/1043)	Rt Cant	0.300 (2L/360)	0.185 (19%)	D+S+0.5L	L

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Design Notes

- Fill all hanger nailing holes.
- 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.
- Tie-down connection required at bearing 1 for uplift 270 lb (Combination 1.25D+1.5S+0.5L, Load Case L).
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.

Notes

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Lumber

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

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
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Manufacturer Info

Forex
APA: PR-L318



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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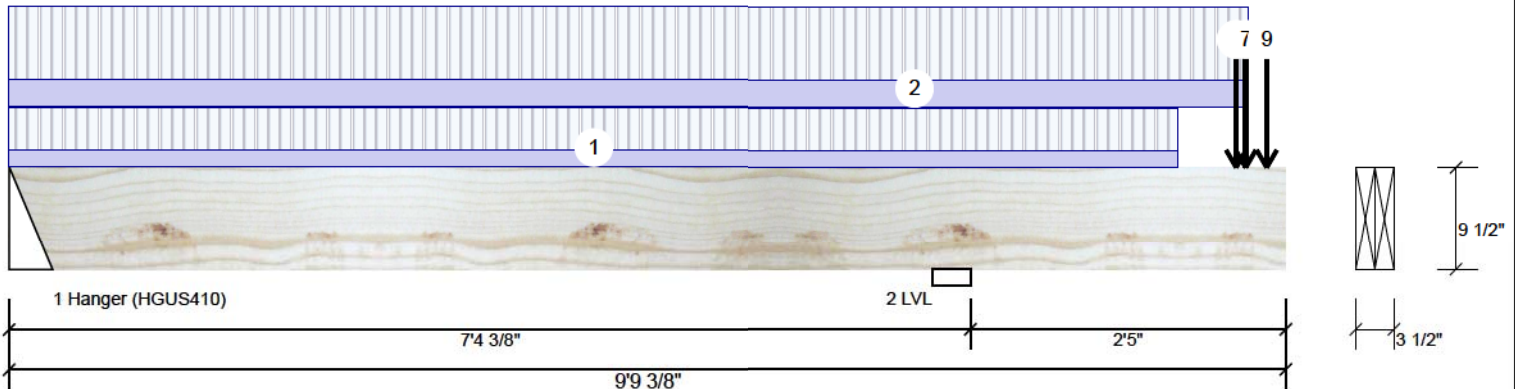
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Page 2 of 2

F16-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-11-6	(Span)0-5-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 9-5-14	(Span)0-10-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	9-4-13		Far Face	203 lb	79 lb	121 lb	0 lb	F15
4	Point	9-4-13		Far Face	0 lb	-37 lb	0 lb	0 lb	F15
5	Point	9-5-11		Top	0 lb	0 lb	1 lb	0 lb	
7	Point	9-5-11		Top	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
8	Point	9-7-10		Near Face	296 lb	42 lb	138 lb	0 lb	F3
9	Point	9-7-10		Near Face	0 lb	-28 lb	0 lb	0 lb	F3
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Lumber

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2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
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Forex
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Sewage System			
Zoning			





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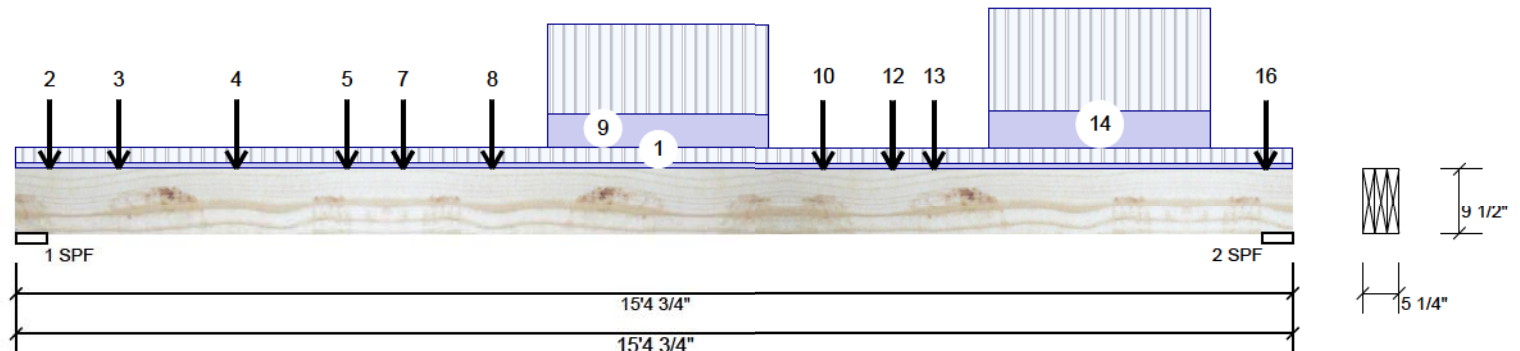
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F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1170	392	0 (-87)	0
2	1062	356	0 (-83)	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	16%	490 / 1755	2244	L	1.25D+1.5L
2 - SPF	4.375"	14%	446 / 1593	2038	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7741 ft-lb	7'8 7/16"	35449 ft-lb	0.218 (22%)	1.25D+1.5L	L
Unbraced	7741 ft-lb	7'8 7/16"	34009 ft-lb	0.228 (23%)	1.25D+1.5L	L
Shear	2211 lb	1'1 1/8"	13915 lb	0.159 (16%)	1.25D+1.5L	L
Perm Defl in.	0.068 (L/2615)	7'8 9/16"	0.493 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.226 (L/786)	7'8 7/16"	0.493 (L/360)	0.460 (46%)	L	
TL Defl inch	0.294 (L/604)	7'8 7/16"	0.740 (L/240)	0.400 (40%)	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.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 15-4-12	(Span)1-1-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-4-13		Near Face	34 lb	91 lb	0 lb	0 lb	J2
3	Point	1-2-13		Near Face	60 lb	159 lb	0 lb	0 lb	J2
4	Point	2-7-13		Near Face	75 lb	199 lb	0 lb	0 lb	J2
5	Point	3-11-13		Near Face	49 lb	131 lb	0 lb	0 lb	J6

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
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Manufacturer Info

Forex
APA: PR-L318



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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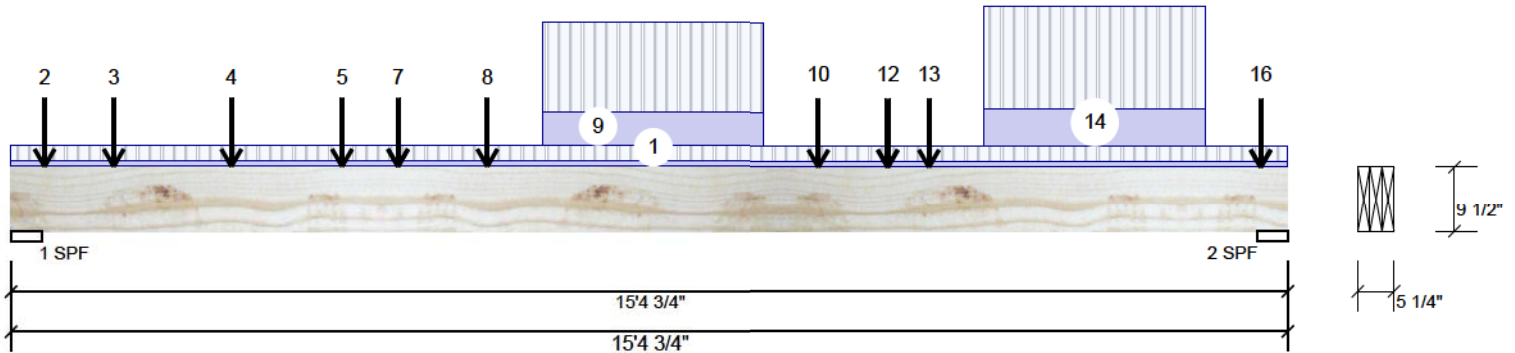
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 2 of 2

F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	4-7-15		Near Face	-97 lb	104 lb	0 lb	0 lb	F16
7	Point	4-7-15		Near Face	0 lb	0 lb	-87 lb	0 lb	F16
8	Point	5-8-13		Near Face	57 lb	153 lb	0 lb	0 lb	J6
9	Part. Uniform	6-4-13 to 9-0-13		Near Face	48 PLF	128 PLF	0 PLF	0 PLF	
10	Point	9-8-13		Near Face	52 lb	139 lb	0 lb	0 lb	J6
11	Point	10-6-14		Near Face	-101 lb	75 lb	0 lb	0 lb	F16
12	Point	10-6-14		Near Face	0 lb	0 lb	-83 lb	0 lb	F16
13	Point	11-0-13		Near Face	45 lb	119 lb	0 lb	0 lb	J6
14	Part. Uniform	11-8-13 to 14-4-13		Near Face	54 PLF	144 PLF	0 PLF	0 PLF	
15	Point	15-0-13		Top	0 lb	1 lb	0 lb	0 lb	
16	Point	15-0-13		Top	1 lb	2 lb	0 lb	0 lb	
	Self Weight				11 PLF				

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

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



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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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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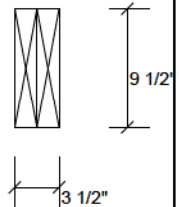
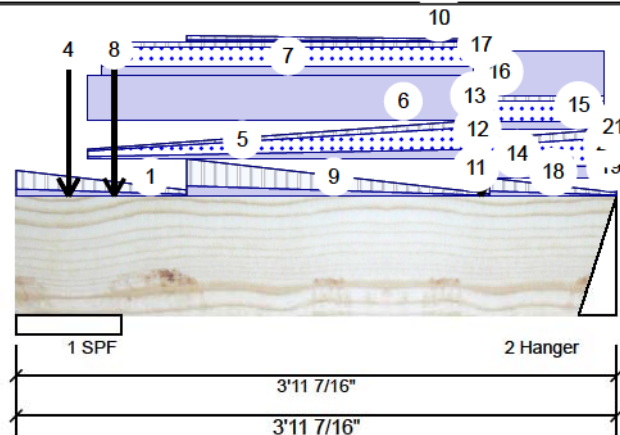
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 1 of 2

F3-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	191 (-12)	465	448	0
2	71 (-41)	201	123	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	8.279"	9%	582 / 768	1350 L	1.25D+1.5S+0.5L
2 - Hanger	3.000"	6%	252 / 220	472 L	1.25D+1.5S+0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	273 ft-lb	2'1 9/16"	18179 ft-lb	0.015 (1%)	1.25D+1.5L	L
Unbraced	273 ft-lb	2'1 9/16"	18179 ft-lb	0.015 (1%)	1.25D+1.5L	L
Shear	175 lb	1'5"	7421 lb	0.024 (2%)	1.25D+1.5L	L
Perm Defl in. (L/36358)	0.001	2'2 1/8"	0.105 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/49429)	0.001	2'2 1/2"	0.105 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch (L/20952)	0.002	2'2 5/16"	0.157 (L/240)	0.010 (1%)	D+S+0.5L	L

Design Notes

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-1-8	(Span)1-7-12 to 0-4-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-4-2		Top	25 lb	11 lb	37 lb	0 lb	F11 F11

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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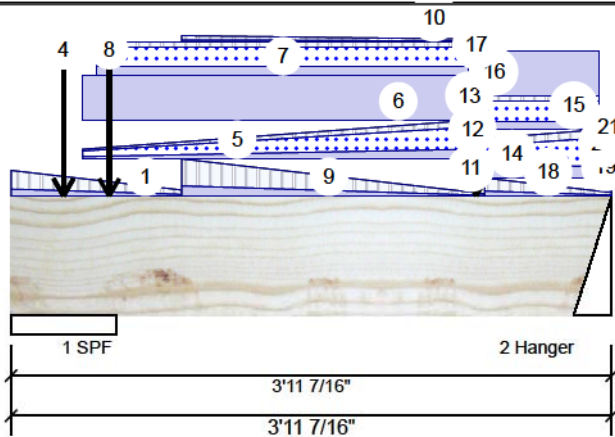
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 2 of 2

F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

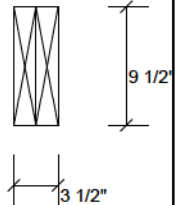
Level: Second Floor



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

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



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
3	Point	0-4-2		Top	1 lb	1 lb	3 lb	0 lb	
4	Point	0-4-2		Top	10 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Tapered Start	0-5-10		Top	4 PLF	3 PLF	10 PLF	0 PLF	
	End	3-0-1			17 PLF	12 PLF	39 PLF	0 PLF	
6	Part. Uniform	0-5-10 to 3-0-1		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	0-6-12 to 3-0-1		Top	15 PLF	10 PLF	35 PLF	0 PLF	
8	Point	0-7-12		Top	215 lb	90 lb	312 lb	0 lb	F11 F11
9	Tie-In	1-1-8 to 3-1-7	(Span)2-4-11 to 0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Tie-In	1-1-8 to 3-1-7	(Span)0-4-10 to 0-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
11	Tapered Start	3-0-1		Top	17 PLF	12 PLF	39 PLF	0 PLF	
	End	3-0-9			17 PLF	12 PLF	39 PLF	0 PLF	
12	Part. Uniform	3-0-1 to 3-0-9		Top	15 PLF	10 PLF	35 PLF	0 PLF	
13	Part. Uniform	3-0-1 to 3-0-9		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Tapered Start	3-0-9		Top	17 PLF	12 PLF	39 PLF	0 PLF	
	End	3-10-8			22 PLF	15 PLF	49 PLF	0 PLF	
15	Part. Uniform	3-0-9 to 3-10-8		Top	15 PLF	10 PLF	35 PLF	0 PLF	
16	Part. Uniform	3-0-9 to 3-10-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
17	Point	3-0-12		Far Face	-20 lb	-53 lb	0 lb	0 lb	J6
18	Tie-In	3-1-7 to 3-11-7	(Span)1-1-15 to 0-2-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
19	Tapered Start	3-10-8		Top	11 PLF	7 PLF	24 PLF	0 PLF	
	End	3-11-7			11 PLF	7 PLF	24 PLF	0 PLF	
20	Part. Uniform	3-10-8 to 3-11-7		Top	7 PLF	5 PLF	17 PLF	0 PLF	
21	Part. Uniform	3-10-8 to 3-11-7		Top	39 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				8 PLF				

Notes

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Lumber

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

chemicals

Handling & Installation

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

Manufacturer Info

Forex
APA: PR-L318



Town of
East Gwillimbury
Building Standards Branch BCIN #16487

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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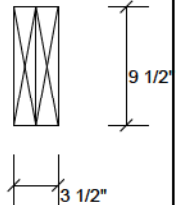
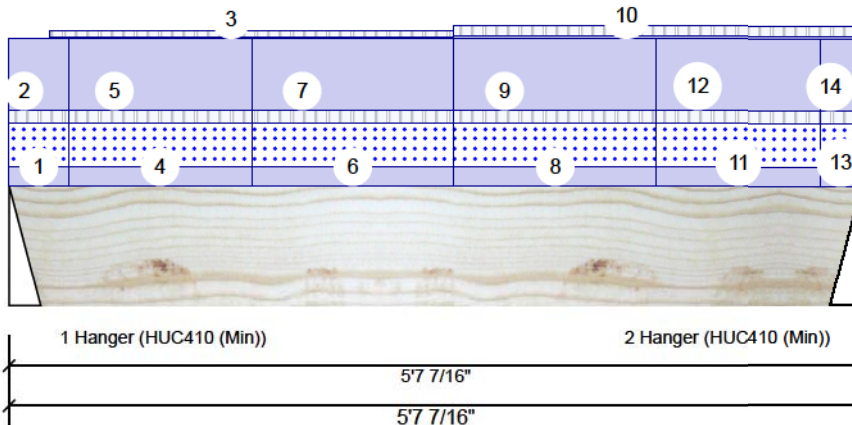
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 1 of 2

F3-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	42 (-20)	299	138	0
2	42 (-28)	296	138	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	11% 374 / 228	601	L	1.25D+1.5S +0.5L
2 - Hanger	2.500"	11% 369 / 228	597	L	1.25D+1.5S +0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	757 ft-lb	2'9 5/8"	19543 ft-lb	0.039 (4%)	1.25D+1.5S +0.5L	L
Unbraced	757 ft-lb	2'9 5/8"	19543 ft-lb	0.039 (4%)	1.25D+1.5S +0.5L	L
Shear	397 lb	4'8 3/16"	7978 lb	0.050 (5%)	1.25D+1.5S +0.5L	L
Perm Defl in.	0.005 (L/12451)	2'9 11/16"	0.178 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.003 (L/23292)	2'9 3/4"	0.178 (L/360)	0.020 (2%)	S+0.5L	L
TL Defl inch	0.008 (L/8114)	2'9 11/16"	0.266 (L/240)	0.030 (3%)	D+S+0.5L	L

Design Notes

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

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



Design Notes

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-4-11		Top	21 PLF	15 PLF	49 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 0-4-11		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Wt
3	Part. Uniform	0-3-3 to 2-11-3		Far Face	-2 PLF	-7 PLF	0 PLF	0 PLF	

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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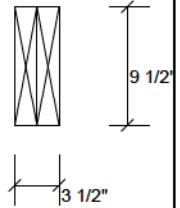
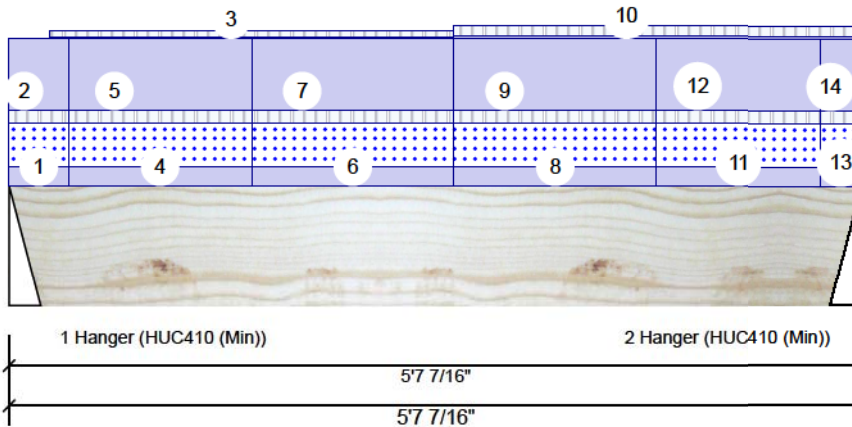
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 2 of 2

F3-B 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
4	Part. Uniform	0-4-11 to 1-7-3		Top	21 PLF	15 PLF	49 PLF	0 PLF	
5	Part. Uniform	0-4-11 to 1-7-3		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	1-7-3 to 2-11-3		Top	21 PLF	15 PLF	49 PLF	0 PLF	
7	Part. Uniform	1-7-3 to 2-11-3		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part. Uniform	2-11-3 to 4-3-3		Top	21 PLF	15 PLF	49 PLF	0 PLF	
9	Part. Uniform	2-11-3 to 4-3-3		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	2-11-3 to 5-7-3		Far Face	-4 PLF	-11 PLF	0 PLF	0 PLF	
11	Part. Uniform	4-3-3 to 5-4-3		Top	21 PLF	15 PLF	49 PLF	0 PLF	
12	Part. Uniform	4-3-3 to 5-4-3		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
13	Part. Uniform	5-4-3 to 5-7-7		Top	21 PLF	15 PLF	49 PLF	0 PLF	
14	Part. Uniform	5-4-3 to 5-7-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				8 PLF				

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Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

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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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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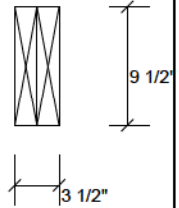
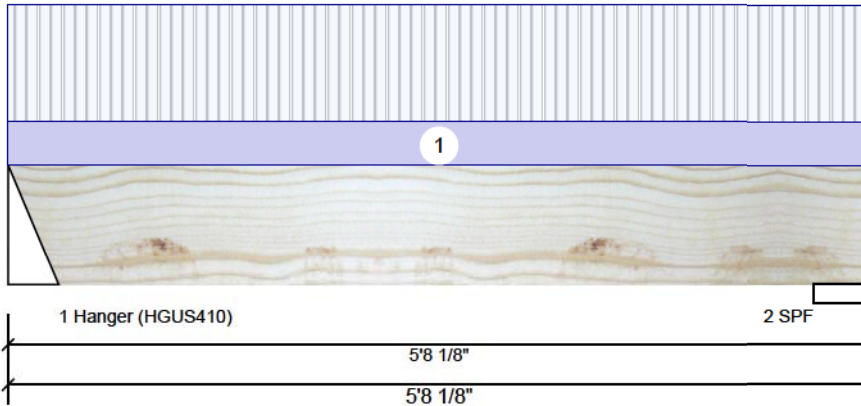
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 1 of 1

F3-C 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	38	36	0	0
2	38	36	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	1%	45 / 56	101 L	1.25D+1.5L
2 - SPF	4.375"	1%	45 / 57	102 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	117 ft-lb	2'9 7/8"	22724 ft-lb	0.005 (1%)	1.25D+1.5L	L
Unbraced	117 ft-lb	2'9 7/8"	22724 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	63 lb	4'7"	9277 lb	0.007 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

Design Notes

- Fill all hanger nailing holes.
- 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.

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-8-2	(Span)0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

Notes

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Lumber

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

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, 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



Town of East Gwillimbury
Building Standards Branch BCIN #16487

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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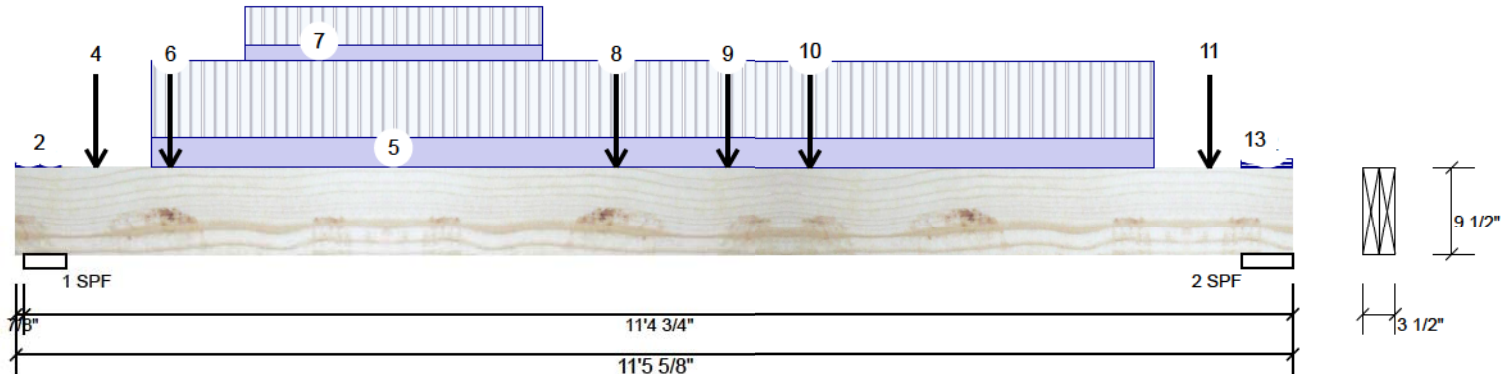
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 1 of 2

F5-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	2556	1007	0	0
2	2438	968	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.500"	53%	1259 / 3834	5093	LL	1.25D+1.5L
2 - SPF	5.500"	41%	1210 / 3657	4866	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14608 ft-lb	5'6 7/8"	22724 ft-lb	0.643 (64%)	1.25D+1.5L	L
Unbraced	14608 ft-lb	5'6 7/8"	20415 ft-lb	0.716 (72%)	1.25D+1.5L	L
Shear	5063 lb	1' 5/8"	9277 lb	0.546 (55%)	1.25D+1.5L	LL
Perm Defl in.	0.130 (L/996)	5'7 7/8"	0.360 (L/360)	0.360 (36%)	D	Uniform
LL Defl inch	0.330 (L/393)	5'7 3/4"	0.360 (L/360)	0.920 (92%)	L	L
TL Defl inch	0.461 (L/282)	5'7 13/16"	0.541 (L/240)	0.850 (85%)	D+L	L
LL Cant	-0.007 (2L/266)	Lt Cant	0.200 (2L/480)	0.033 (3%)	L	L
TL Cant	-0.009 (2L/191)	Lt Cant	0.300 (2L/360)	0.031 (3%)	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.
- Cantilever Upward Deflection Live Load 0.0065865 greater than recommended 0.004
- Cantilever Upward Deflection Total Load 0.0091801 greater than recommended 0.005

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Notes

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Lumber

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

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, 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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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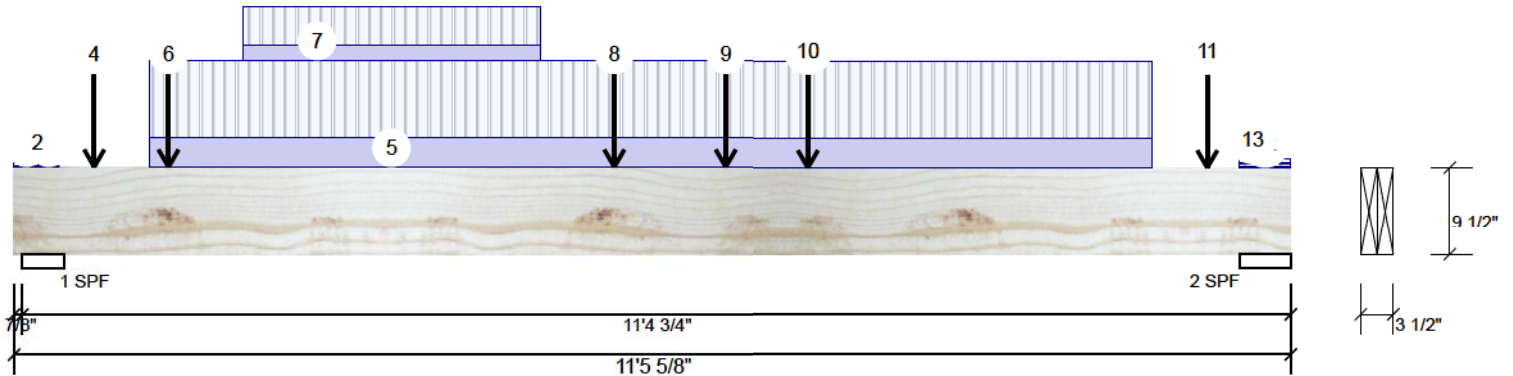
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 2 of 2

F5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-10	(Span)0-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-6	(Span)0-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-10 to 0-4-13	(Span)0-9-0 to 0-2-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-8-10		Near Face	84 lb	224 lb	0 lb	0 lb	J7
5	Part. Uniform	1-2-10 to 10-2-10		Near Face	126 PLF	336 PLF	0 PLF	0 PLF	
6	Point	1-4-10		Far Face	81 lb	215 lb	0 lb	0 lb	J6
7	Part. Uniform	2-0-10 to 4-8-10		Far Face	63 PLF	169 PLF	0 PLF	0 PLF	
8	Point	5-4-10		Far Face	74 lb	197 lb	0 lb	0 lb	J6
9	Point	6-4-10		Far Face	55 lb	148 lb	0 lb	0 lb	J6
10	Point	7-1-9		Far Face	163 lb	392 lb	0 lb	0 lb	F9
11	Point	10-8-10		Near Face	120 lb	321 lb	0 lb	0 lb	J7
12	Tie-In	11-0-2 to 11-5-10	(Span)0-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
13	Tie-In	11-0-2 to 11-5-10	(Span)0-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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Lumber

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2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

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Zoning			



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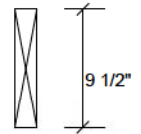
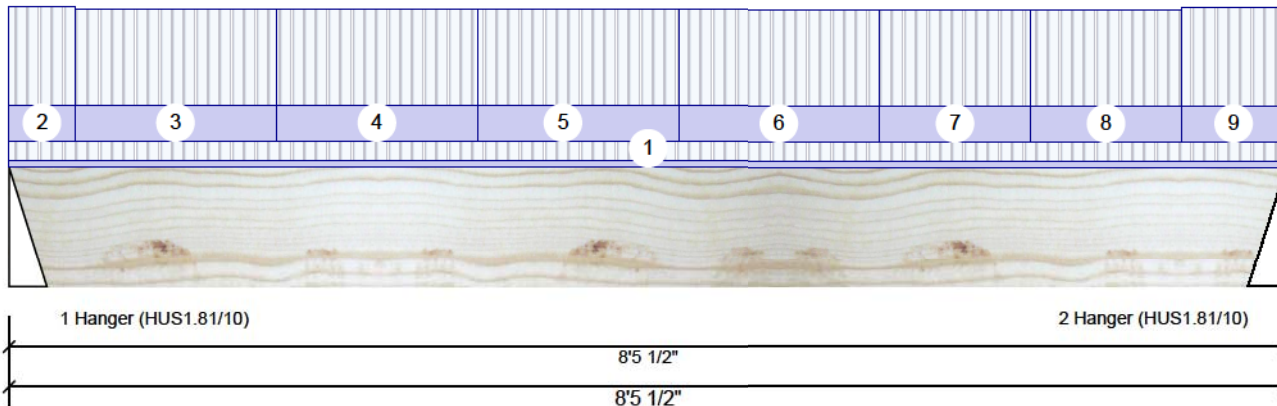
Client:
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Address:

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Job Name: GLENWAY 2A EL- 2
Project #:

Page 1 of 2

F9-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	392	163	0	0
2	392	163	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	20%	204 / 587	791 L	1.25D+1.5L
2 - Hanger	3.000"	20%	204 / 588	792 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1526 ft-lb	4'2 3/4"	11362 ft-lb	0.134 (13%)	1.25D+1.5L	L
Unbraced	1526 ft-lb	4'2 3/4"	4612 ft-lb	0.331 (33%)	1.25D+1.5L	L
Shear	607 lb	11 3/4"	4638 lb	0.131 (13%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/5716)	4'2 13/16"	0.269 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.041 (L/2379)	4'2 13/16"	0.269 (L/360)	0.150 (15%)	L	
TL Defl inch	0.058 (L/1680)	4'2 13/16"	0.404 (L/240)	0.140 (14%)	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.

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

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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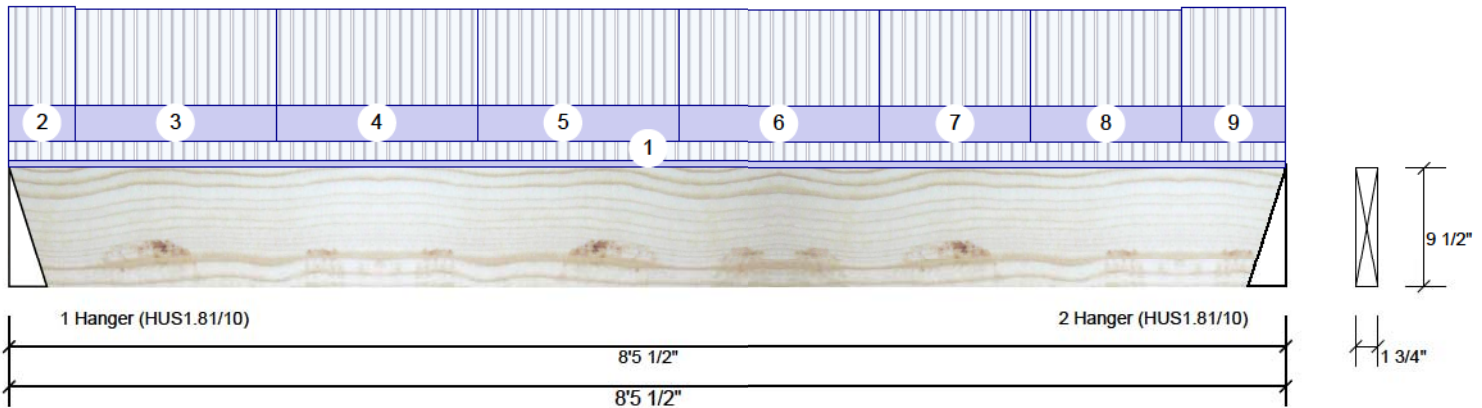
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 2
Project #:

Page 2 of 2

F9-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
9	Tie-In	7-9-3 to 8-5-8	(Span)3-11-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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Town of East Gwillimbury
Building Standards Branch BCIN #16487

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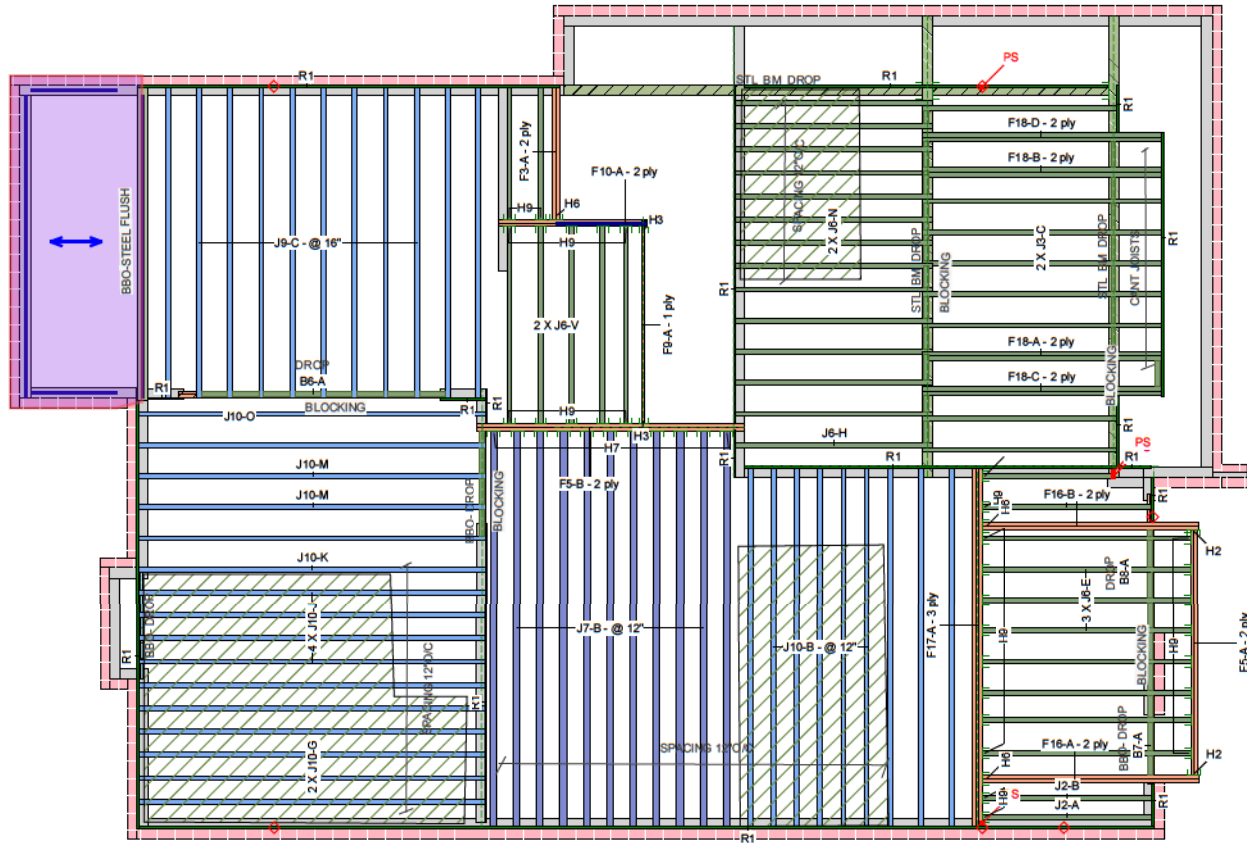
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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East Gwillimbury

Building Standards Branch BCIN #16487

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Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			

Second Floor LVL/SL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F17	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	16-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	12-0-0
F16	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	10-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

LVL/SL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
B6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
B8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J3	AJS 140	2.5	9.5			5	12-0-0
J6	AJS 140	2.5	9.5			30	10-0-0
J2	AJS 140	2.5	9.5			3	8-0-0
J5	AJS 140	2.5	9.5			3	6-0-0
F18	AJS 140	2.5	9.5	4	2	8	12-0-0
J10	AJS 20	2.5	9.5			25	16-0-0
J9	AJS 20	2.5	9.5			11	14-0-0
J7	AJS 25	3.5	9.5			11	18-0-0

Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			14	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK2	AJS 140	2.5	9.5	Lin Ft		Varies	42-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	Unknown Hanger				
H1	3	Unknown Hanger				
H2	2	HUC410 (Min)			14 16d	6 10d
H3	2	HUS1.81/10			30 16d	10 16d
H6	3	HGUS410			46 16d	16 16d
H7	11	LF359			10 10d	2 #8x1 1/4WS
H9	31	LF259			10 10d	1 #8x1 1/4WS

- All blocking to be cut from 12" joists
- 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- Ends of joists to be laterally supported
- Packing of Steel beams and attachment by others
- Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
- Beams identified as "B" are dropped and supplied by others
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
- Load transfer blocks to be installed under all point loads
- Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
- Hangers and Fasteners to be installed as per manufacturer
- Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.

Legend

PS	Point Load Support
◊	Load from Above
Wall	Wall
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
AJS 140 9.5	AJS 140 9.5
AJS 20 9.5	AJS 20 9.5
AJS 25 9.5	AJS 25 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
1.5 X 9.5 (Dropped)	1.5 X 9.5 (Dropped)
1.75 X 9.5 (Dropped)	1.75 X 9.5 (Dropped)

JOB INFORMATION

Builder	
Project	
Shipping	GREENPARK HOMES TRINAR HALL, EAST GWILLIMBURY, ON
Sales Rep	
Designer	S.B.
Plotted	December 17, 2020
Layout Name	GLENWAY 2A EL-3
Job Path	C:\Data\SAUML\GREENPARK HOMES\TRINAR HALL\GLENWAY 2A\FLOOR\EL 3\W140\GLENWAY 2A EL-3.jal

DESIGN CRITERIA

Second Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / 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

Decking	OSB
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling:	Gypsum 1/2"

Roof Loads

Live	0
Dead	17
Snow	36

Deflection Joist

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

Deflection Girder

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

Decking

Decking	SPF Plywood
Thickness	5/8"
Fastener	Nailed Only

CCMC References

Boise - 12472-R, 12787-R
LP - 12412-R
Forex - 14056-R

Kott Inc.

3228 Moodie Dr, Ottawa
14 Anderson Blvd, Uxbridge
Ontario

613-838-2775 /
905-642-4400





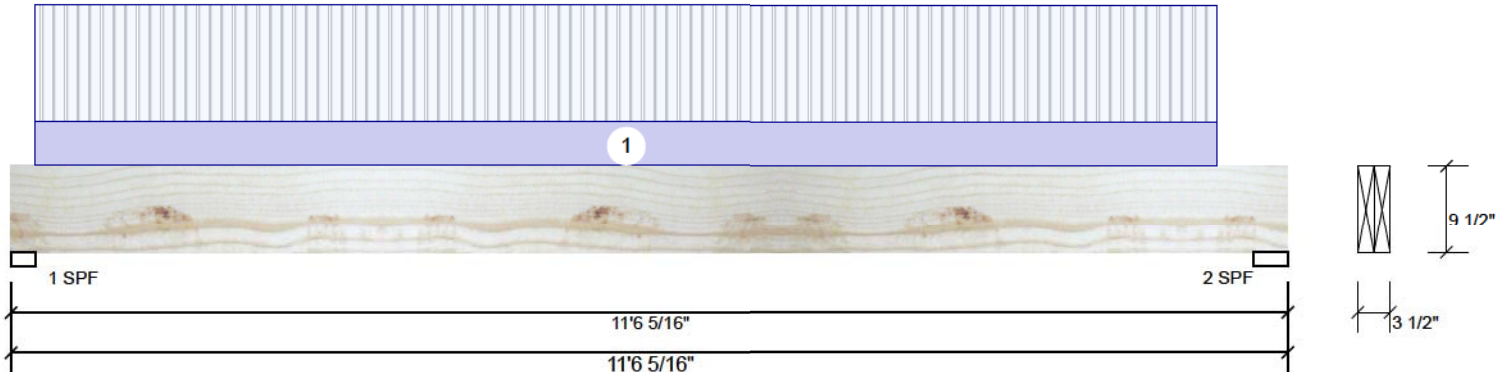
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Address:

Date: 5/15/2018
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Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 1

BM6-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	1456	587	0	0
2	1371	556	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.583"	52%	734 / 2183	2918 L	1.25D+1.5L
2 - SPF	3.750"	34%	696 / 2057	2752 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8190 ft-lb	5'8 1/2"	22724 ft-lb	0.360 (36%)	1.25D+1.5L	L
Unbraced	8190 ft-lb	5'8 1/2"	20280 ft-lb	0.404 (40%)	1.25D+1.5L	L
Shear	2536 lb	10'5 13/16"	9277 lb	0.273 (27%)	1.25D+1.5L	L
Perm Defl in.	0.079 (L/1691)	5'8 9/16"	0.371 (L/360)	0.210 (21%)	D	Uniform
LL Defl inch	0.196 (L/680)	5'8 9/16"	0.371 (L/360)	0.530 (53%)	L	
TL Defl inch	0.275 (L/485)	5'8 9/16"	0.556 (L/240)	0.490 (49%)	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.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-2-9 to 10-10-9		Top	99 PLF	265 PLF	0 PLF	0 PLF	
	Self Weight				8 PLF				

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

- 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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





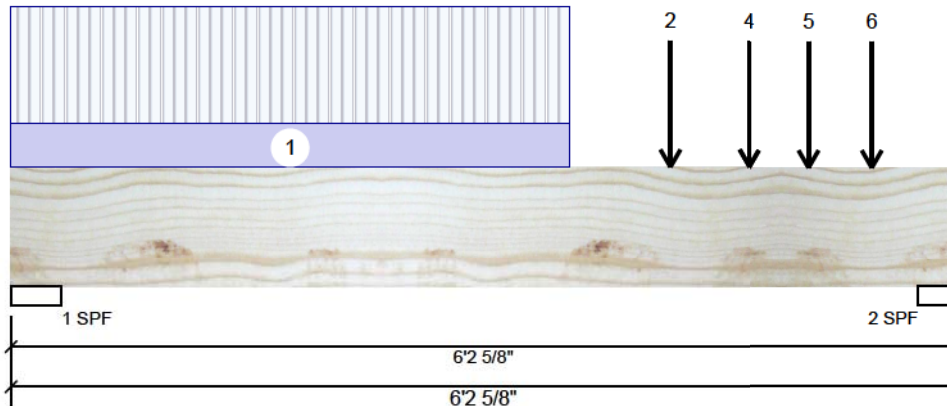
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Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

BM8-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	953 (-49)	552	59	0
2	1176 (-189)	1255	383	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	25%	690 / 1459	2149	L	1.25D+1.5L +0.5S
2 - SPF	2.843"	58%	1569 / 1956	3525	L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3435 ft-lb	4'4 1/8"	22724 ft-lb	0.151 (15%)	1.25D+1.5L +0.5S	L
Unbraced	3435 ft-lb	4'4 1/8"	22066 ft-lb	0.156 (16%)	1.25D+1.5L +0.5S	L
Shear	3248 lb	5'3"	9277 lb	0.350 (35%)	1.25D+1.5L +0.5S	L
Perm Defl in.	0.017 (L/4086)	3'6 1/8"	0.192 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.022 (L/3095)	3'3 3/16"	0.192 (L/360)	0.120 (12%)	L+0.5S	L
TL Defl inch	0.039 (L/1764)	3'4 3/8"	0.289 (L/240)	0.140 (14%)	D+L+0.5S	L

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



Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-8-2		Top	109 PLF	289 PLF	0 PLF	0 PLF	
2	Point	4-4-2		Top	93 lb	247 lb	0 lb	0 lb	J6
3	Point	4-10-6		Top	710 lb	127 lb	41 lb	0 lb	F16
4	Point	4-10-6		Top	0 lb	-238 lb	0 lb	0 lb	F16

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



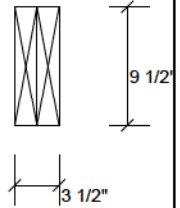
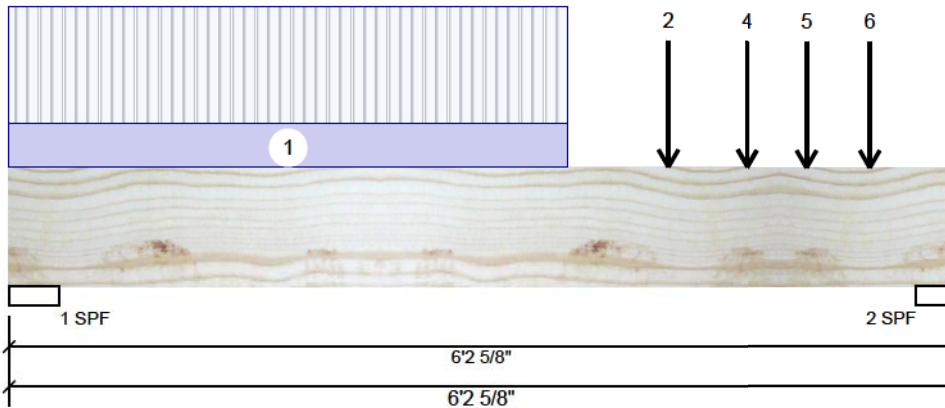
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Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

BM8-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
5	Point	5-3-2		Top	398 lb	526 lb	342 lb	0 lb	F11 F11
6	Point	5-8-2		Top	158 lb	167 lb	59 lb	0 lb	J2
	Self Weight				8 PLF				

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Town of
East Gwillimbury
Building Standards Branch BCIN #16487

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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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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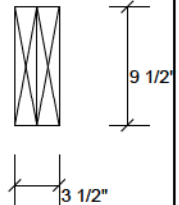
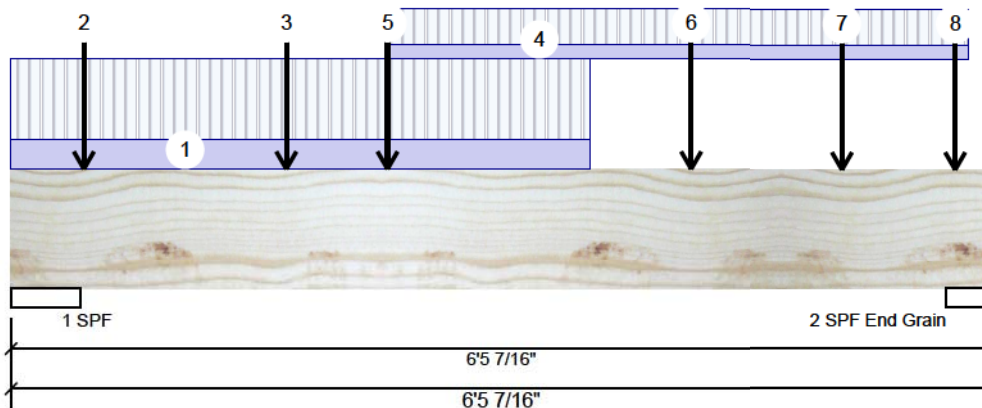
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F10-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	924	385	0	0
2	1089	455	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	16% 481 / 1386	1867	L	1.25D+1.5L
2 - SPF	3.465"	24% 569 / 1633	2202	L	1.25D+1.5L
End Grain					

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2234 ft-lb	3'2 7/16"	22724 ft-lb	0.098 (10%)	1.25D+1.5L	L
Unbraced	2234 ft-lb	3'2 7/16"	22052 ft-lb	0.101 (10%)	1.25D+1.5L	L
Shear	1538 lb	5'5 1/4"	9277 lb	0.166 (17%)	1.25D+1.5L	L
Perm Defl in.	0.007 (L/9538)	3'3 3/16"	0.194 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.017 (L/4042)	3'3 7/16"	0.194 (L/360)	0.090 (9%)	L	L
TL Defl inch	0.025 (L/2839)	3'3 5/16"	0.292 (L/240)	0.080 (8%)	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.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-9-12		Near Face	66 PLF	177 PLF	0 PLF	0 PLF	
2	Point	0-5-12		Far Face	55 lb	146 lb	0 lb	0 lb	J5
3	Point	1-9-12		Far Face	41 lb	110 lb	0 lb	0 lb	J5
4	Part. Uniform	2-5-12 to 6-3-12		Top	30 PLF	80 PLF	0 PLF	0 PLF	
5	Point	2-5-12		Far Face	36 lb	38 lb	0 lb	0 lb	F3
6	Point	4-5-12		Near Face	74 lb	197 lb	0 lb	0 lb	J6

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, 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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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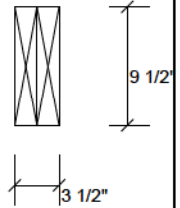
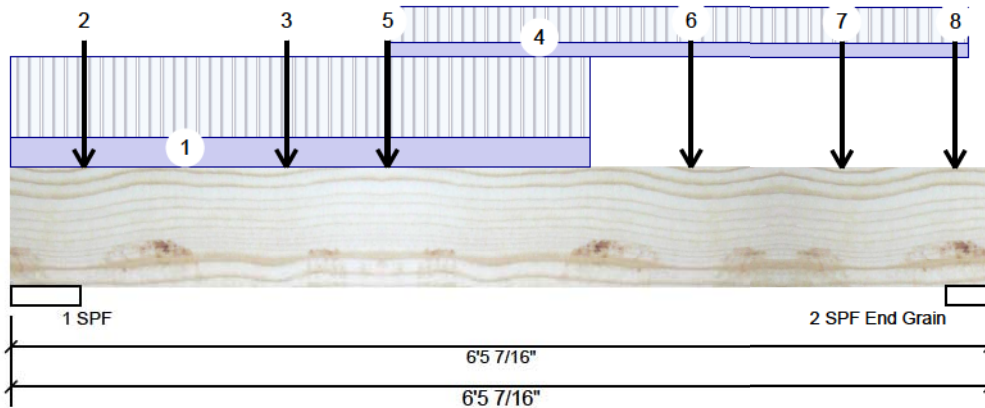
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F10-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	5-5-12		Near Face	55 lb	148 lb	0 lb	0 lb	J6
8	Point	6-2-11		Near Face	163 lb	392 lb	0 lb	0 lb	F9
	Self Weight				8 PLF				

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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

Discipline	Reviewer	BCIN	Date
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Sewage System			
Zoning			





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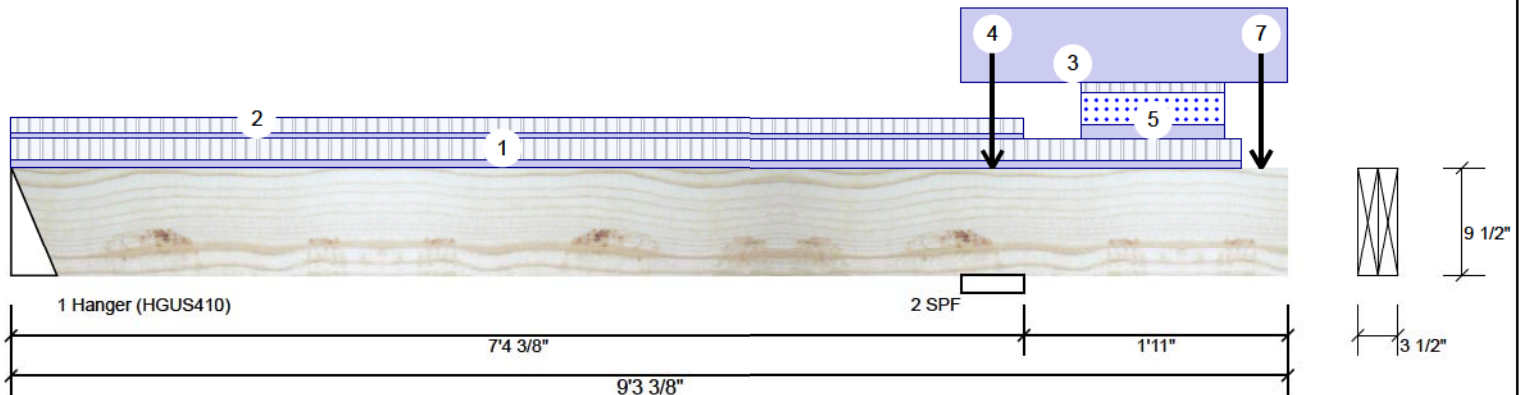
Client:
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Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F16-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	181	(-47)	0 (-5)	0
2	730 (-219)	1245	410	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	3%	-42 / 272 230 (-66)	LL	0.9D+1.5L
2 - SPF	5.500"	25%	1556 / 1103	2659 _L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1238 ft-lb	7'4 3/8"	14770 ft-lb	0.084 (8%)	1.4D	Uniform
Unbraced	-1238 ft-lb	7'4 3/8"	14515 ft-lb	0.085 (9%)	1.4D	Uniform
Pos Moment	283 ft-lb	2'11 3/4"	19997 ft-lb	0.014 (1%)	0.9D+1.5L	LL
Unbraced	283 ft-lb	2'11 3/4"	19997 ft-lb	0.014 (1%)	0.9D+1.5L	LL
Shear	708 lb	8'1 7/8"	6030 lb	0.117 (12%)	1.4D	Uniform
Perm Defl in.	0.007 (L/12348)	4'5 3/8"	0.229 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.007 (L/11117)	3'10 13/16"	0.229 (L/360)	0.030 (3%)	L	LL
TL Defl inch	0.007 (L/11384)	4'5 3/16"	0.343 (L/240)	0.020 (2%)	D+L+0.5S	_L
LL Cant	-0.010 (2L/4630)	Rt Cant	0.200 (2L/480)	0.050 (5%)	L	LL
TL Cant	0.020 (2L/2304)	Rt Cant	0.300 (2L/360)	0.067 (7%)	D+L+0.5S	_L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Tie-down connection required at bearing 1 for uplift 66 lb (Combination 1.25D+1.5S, Load Case _L).
- 7 Top braced at bearings.
- 8 Bottom braced at bearings.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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Town of
East Gwillimbury
Building Standards Branch BCIN #16487

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Sewage System			
Zoning			





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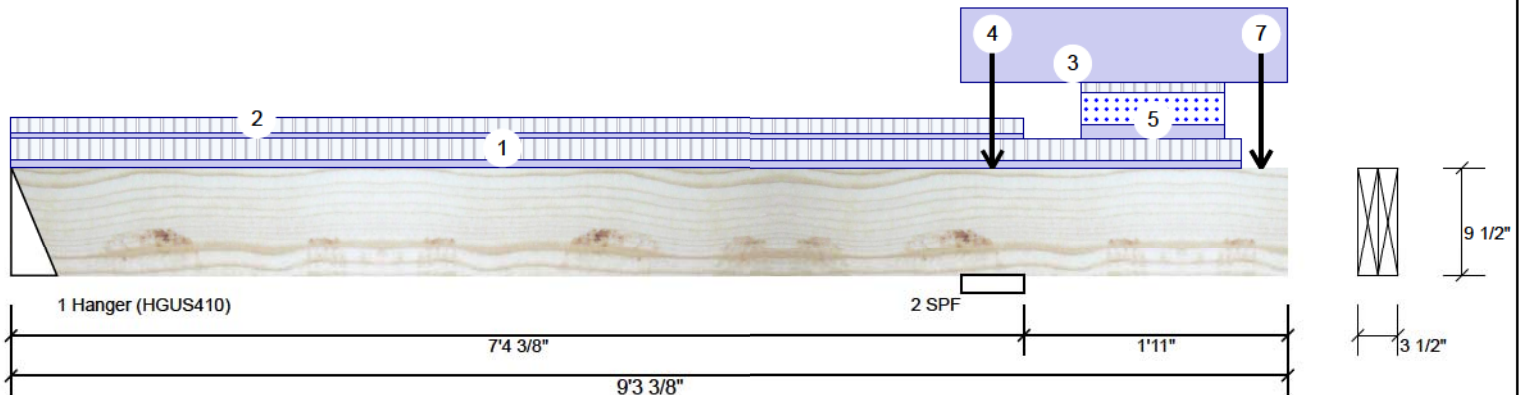
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Project #:

Page 2 of 2

F16-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



9 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-11-5	(Span)1-1-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 7-4-6	(Span)0-9-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	6-10-14 to 9-3-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	7-1-10		Top	412 lb	539 lb	369 lb	0 lb	F11 F11
5	Part. Uniform	7-9-6 to 8-9-14		Top	15 PLF	10 PLF	35 PLF	0 PLF	
6	Point	9-1-1		Far Face	391 lb	0 lb	0 lb	0 lb	F5
7	Point	9-1-1		Far Face	0 lb	-174 lb	0 lb	0 lb	F5
	Self Weight				8 PLF				

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

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

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



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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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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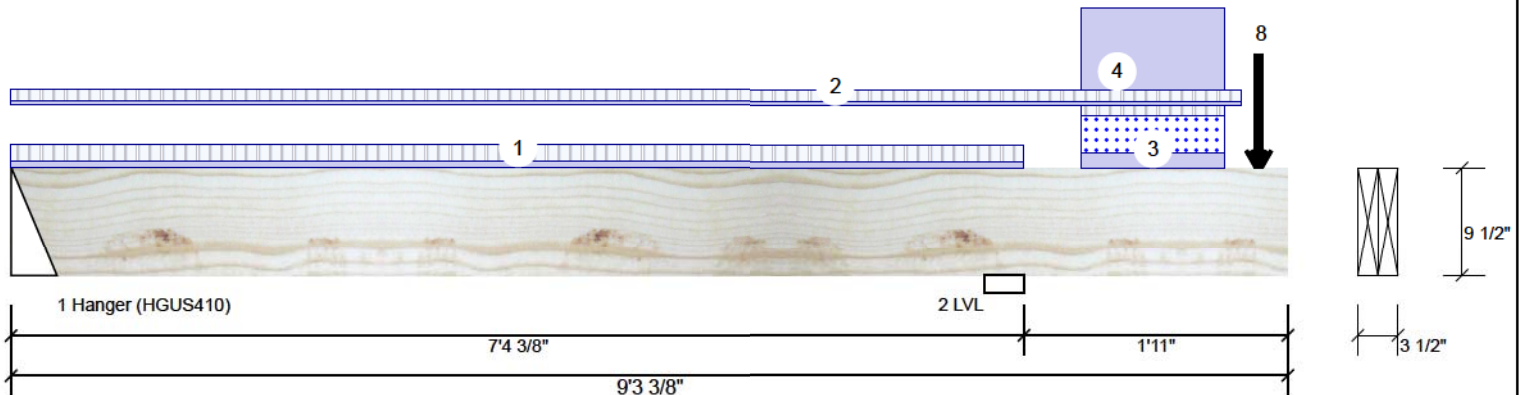
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F16-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	145	(-54)	0 (-5)	0
2	127 (-238)	710	41	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	2%	-49 / 218	169 (-76)	LL	0.9D+1.5L
2 - LVL	3.500"	17%	994 / 0	994	Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1171 ft-lb	7'4 3/8"	14770 ft-lb	0.079 (8%)	1.4D	Uniform
Unbraced	-1171 ft-lb	7'4 3/8"	14509 ft-lb	0.081 (8%)	1.4D	Uniform
Pos Moment	211 ft-lb	3' 1/4"	14770 ft-lb	0.014 (1%)	0.9D+1.5L	LL
Unbraced	211 ft-lb	3' 1/4"	14770 ft-lb	0.014 (1%)	0.9D+1.5L	LL
Shear	673 lb	8'1 7/8"	6030 lb	0.112 (11%)	1.4D	Uniform
Perm Defl in.	0.007 (L/12237)	4'5 1/2"	0.232 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.007 (L/12489)	4' 1/8"	0.232 (L/360)	0.030 (3%)	L	LL
TL Defl inch	0.007 (L/11422)	4'5 3/8"	0.347 (L/240)	0.020 (2%)	D+S+0.5L	_L
LL Cant	-0.010 (2L/4599)	Rt Cant	0.200 (2L/480)	0.050 (5%)	L	LL
TL Cant	0.019 (2L/2398)	Rt Cant	0.300 (2L/360)	0.064 (6%)	D+S+0.5L	_L

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

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

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



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 Tie-down connection required at bearing 1 for uplift 76 lb (Combination 1.4D, Load Case Uniform).
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.
- 8 Lateral slenderness ratio based on full section width.

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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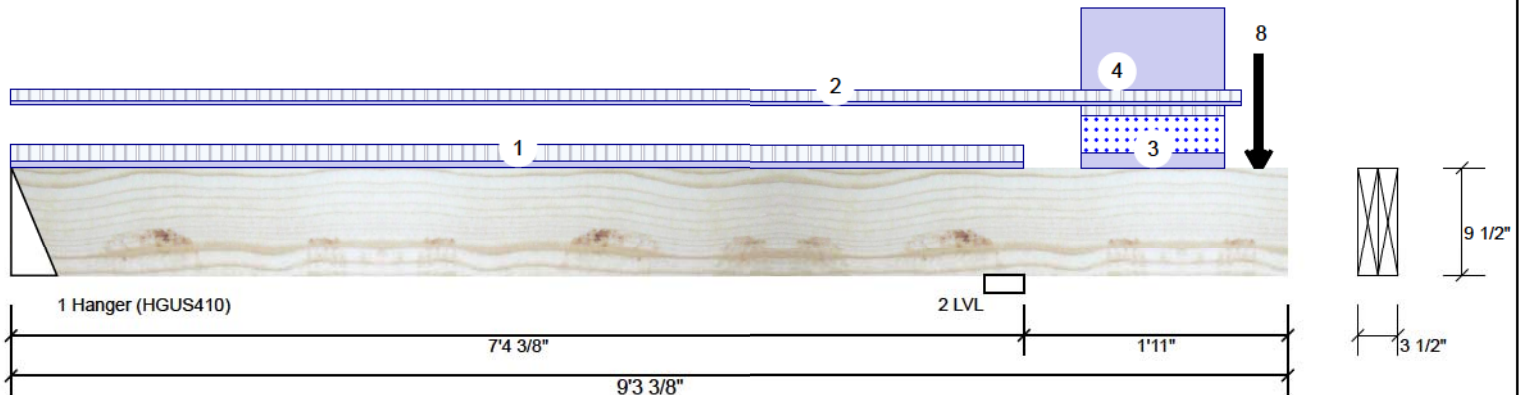
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F16-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 7-4-6	(Span)0-9-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 8-11-5	(Span)0-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	7-9-6 to 8-9-14		Top	15 PLF	10 PLF	35 PLF	0 PLF	
4	Part. Uniform	7-9-6 to 8-9-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Point	9-0-10		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	9-0-10		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Point	9-1-1		Near Face	388 lb	0 lb	0 lb	0 lb	F5
8	Point	9-1-1		Near Face	0 lb	-189 lb	0 lb	0 lb	F5
	Self Weight				8 PLF				

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Town of East Gwillimbury
Building Standards Branch BCIN #16487

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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

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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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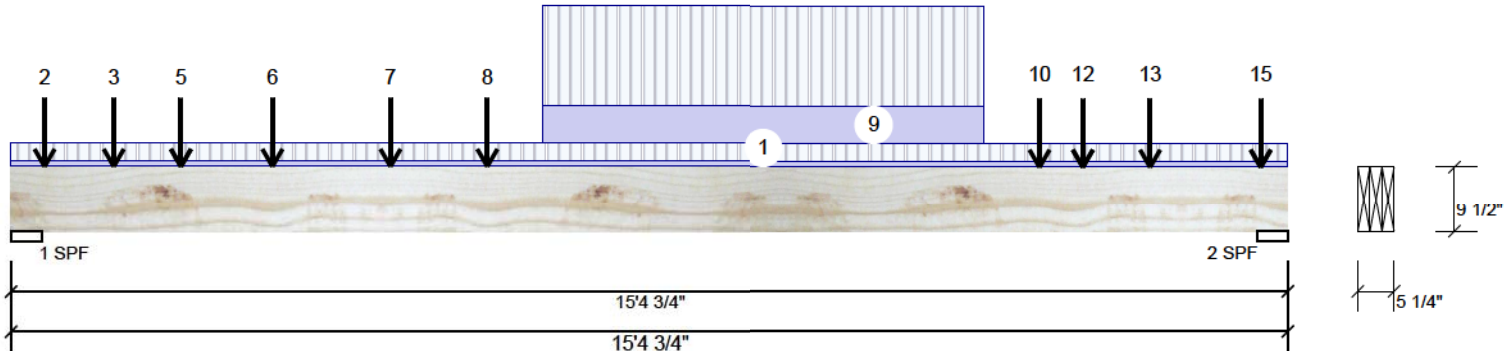
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1216	426	0 (-5)	0
2	1107	396	0 (-5)	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	17%	532 / 1824	2357	L	1.25D+1.5L
2 - SPF	4.375"	15%	495 / 1661	2156	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8425 ft-lb	7'8 7/16"	35449 ft-lb	0.238 (24%)	1.25D+1.5L	L
Unbraced	8425 ft-lb	7'8 7/16"	34009 ft-lb	0.248 (25%)	1.25D+1.5L	L
Shear	2294 lb	1'1 1/8"	13915 lb	0.165 (16%)	1.25D+1.5L	L
Perm Defl in.	0.090 (L/1968)	7'8 1/4"	0.493 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.233 (L/763)	7'8 7/16"	0.493 (L/360)	0.470 (47%)	L	
TL Defl inch	0.323 (L/550)	7'8 5/16"	0.740 (L/240)	0.440 (44%)	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.

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 15-4-12	(Span)1-1-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-4-13		Near Face	34 lb	91 lb	0 lb	0 lb	J2
3	Point	1-2-13		Near Face	44 lb	116 lb	0 lb	0 lb	J2
4	Point	2-0-9		Near Face	-47 lb	181 lb	0 lb	0 lb	F16
5	Point	2-0-9		Near Face	0 lb	0 lb	-5 lb	0 lb	F16

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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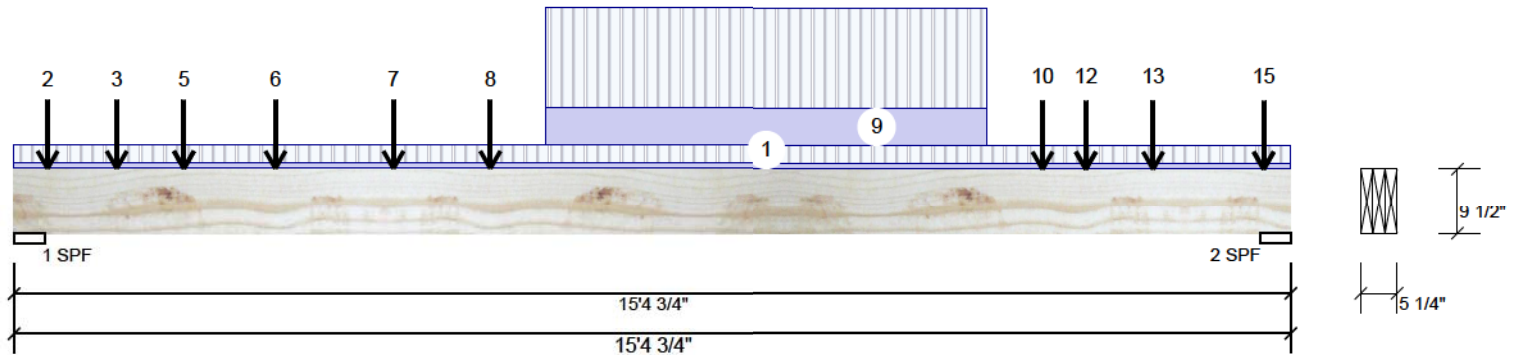
Client:
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Date: 5/15/2018
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Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-1-12		Near Face	61 lb	164 lb	0 lb	0 lb	J6
7	Point	4-6-13		Near Face	63 lb	168 lb	0 lb	0 lb	J6
8	Point	5-8-13		Near Face	60 lb	160 lb	0 lb	0 lb	J6
9	Part. Uniform	6-4-13 to 11-8-13		Near Face	48 PLF	129 PLF	0 PLF	0 PLF	
10	Point	12-4-13		Near Face	45 lb	120 lb	0 lb	0 lb	J6
11	Point	12-11-2		Near Face	-54 lb	145 lb	0 lb	0 lb	F16
12	Point	12-11-2		Near Face	0 lb	0 lb	-5 lb	0 lb	F16
13	Point	13-8-13		Near Face	58 lb	154 lb	0 lb	0 lb	J2
14	Point	15-0-13		Top	0 lb	1 lb	0 lb	0 lb	
15	Point	15-0-13		Top	1 lb	2 lb	0 lb	0 lb	
Self Weight					11 PLF				

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Lumber

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chemicals

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Manufacturer Info

Forex
APA: PR-L318

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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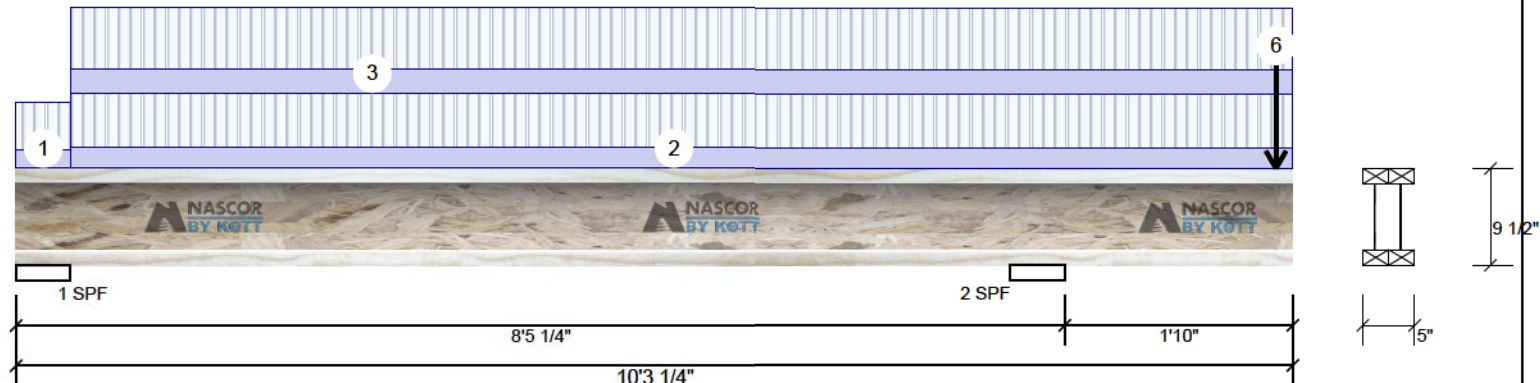
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F18-A NJH 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	205	35	0 (-34)	0
2	400	381	185	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	12%	43 / 340	384 (-26)	L	1.25D+1.5L
2 - SPF	5.250"	18%	477 / 693	1170	LL	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-894 ft-lb	8'5 1/4"	5975 ft-lb	0.150 (15%)	1.25D+1.5S	L
Unbraced	-979 ft-lb	8'5 1/4"	1983 ft-lb	0.494 (49%)	1.25D+1.5S +0.5L	L
Pos Moment	626 ft-lb	3'10 5/16"	7660 ft-lb	0.082 (8%)	0.9D+1.5L	L
Unbraced	626 ft-lb	3'10 5/16"	2635 ft-lb	0.237 (24%)	0.9D+1.5L	L
Shear	531 lb	8'5 1/4"	2465 lb	0.215 (22%)	1.25D+1.5S	L
Perm Defl in.	0.002 (L/60709)	6'5 1/2"	0.261 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.018 (L/5280)	4'3 5/8"	0.261 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.017 (L/5439)	4' 7/8"	0.392 (L/240)	0.040 (4%)	D+L	L
LL Cant	0.014 (2L/3050)	Rt Cant	0.200 (2L/480)	0.072 (7%)	S+0.5L	L
TL Cant	0.027 (2L/1628)	Rt Cant	0.300 (2L/360)	0.090 (9%)	D+S+0.5L	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.
- Tie-down connection required at bearing 1 for uplift 26 lb (Combination 0.9D+1.5S+0.5L, Load Case L).
- Top flange unbraced.
- Bottom flange braced at bearings.

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

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Notes

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Lumber

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

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 proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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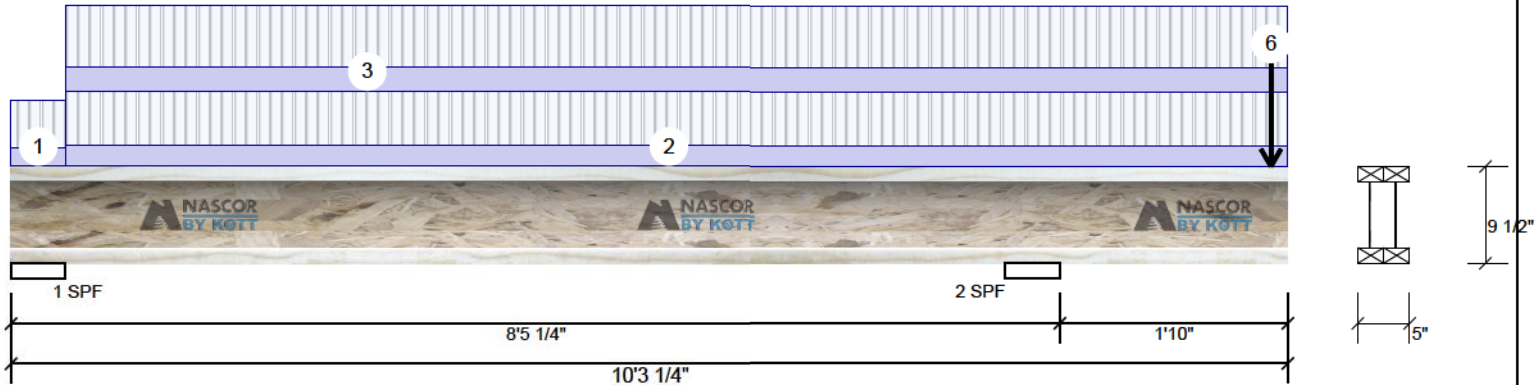
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F18-A NJH 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)1-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-4 to 10-3-4	(Span)1-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 10-3-4	(Span)1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	10-1-10		Top	121 lb	37 lb	131 lb	0 lb	BM9 BM9
5	Point	10-1-10		Top	9 lb	6 lb	20 lb	0 lb	
6	Point	10-1-10		Top	75 lb	0 lb	0 lb	0 lb	Wall Self Weight

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Notes

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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 proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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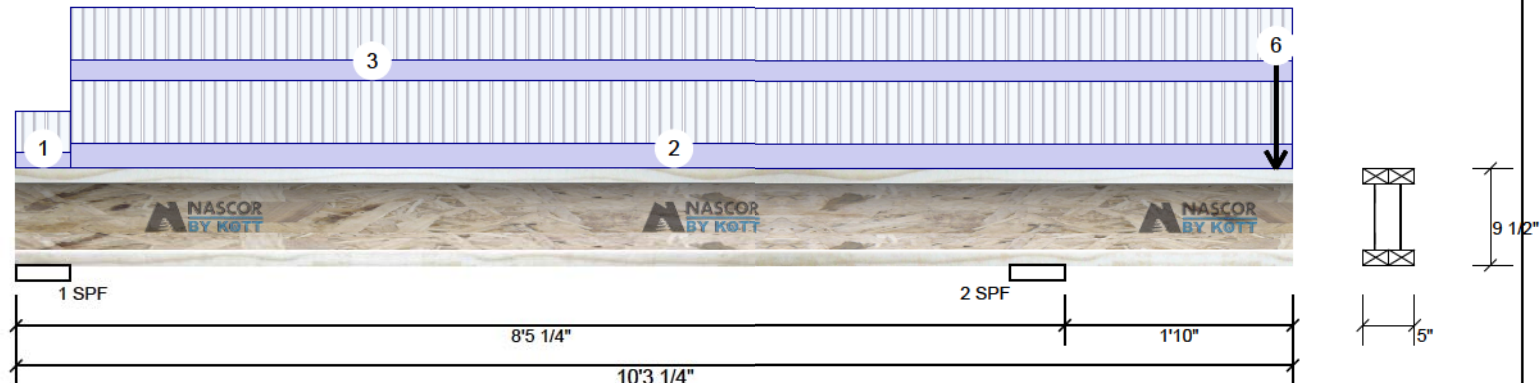
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F18-B NJH 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	198	32	0 (-35)	0
2	393	379	190	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	12%	40 / 329 369 (-31)	L		1.25D+1.5L
2 - SPF	5.250"	18%	474 / 685	1159 LL		1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-906 ft-lb	8'5 1/4"	6051 ft-lb	0.150 (15%)	1.25D+1.5S	L
Unbraced	-991 ft-lb	8'5 1/4"	1983 ft-lb	0.500 (50%)	1.25D+1.5S +0.5L	L
Pos Moment	604 ft-lb	3'10 1/8"	7660 ft-lb	0.079 (8%)	0.9D+1.5L	L
Unbraced	604 ft-lb	3'10 1/8"	2656 ft-lb	0.227 (23%)	0.9D+1.5L	L
Shear	537 lb	8'5 1/4"	2496 lb	0.215 (22%)	1.25D+1.5S	L
Perm Defl in.	0.002 (L/55819)	6'4 1/2"	0.261 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.017 (L/5429)	4'3 5/8"	0.261 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.017 (L/5662)	4' 3/4"	0.392 (L/240)	0.040 (4%)	D+L	L
LL Cant	0.015 (2L/2986)	Rt Cant	0.200 (2L/480)	0.074 (7%)	S+0.5L	L
TL Cant	0.027 (2L/1601)	Rt Cant	0.300 (2L/360)	0.092 (9%)	D+S+0.5L	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.
- Tie-down connection required at bearing 1 for uplift 31 lb (Combination 0.9D+1.5S+0.5L, Load Case L).
- Top flange unbraced.
- Bottom flange braced at bearings.

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

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

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



These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

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

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 proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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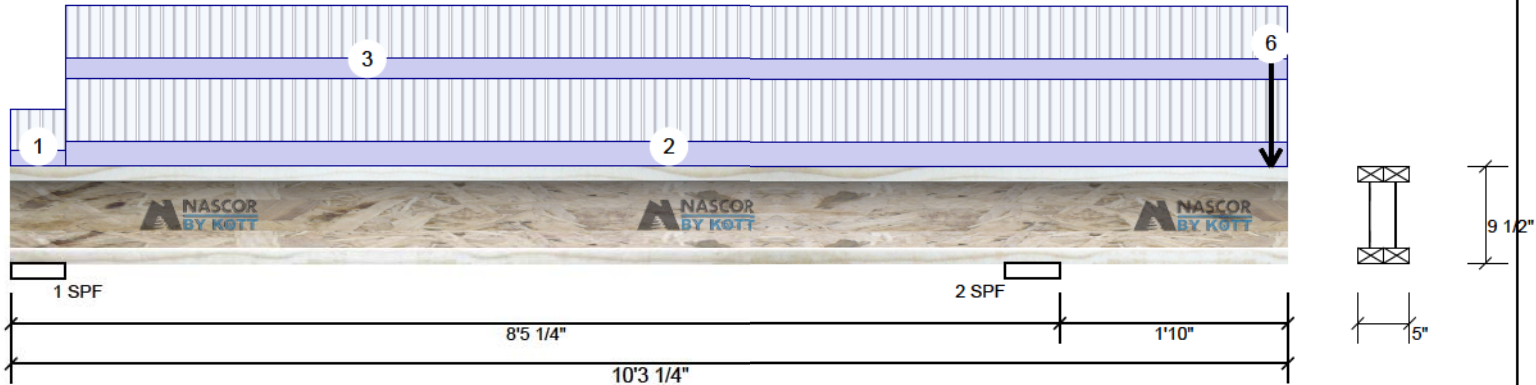
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F18-B NJH 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span) 0-11-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-4 to 10-3-4	(Span) 1-5-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 10-3-4	(Span) 1-2-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	10-1-10		Top	121 lb	38 lb	132 lb	0 lb	BM9 BM9
5	Point	10-1-10		Top	10 lb	7 lb	23 lb	0 lb	
6	Point	10-1-10		Top	75 lb	0 lb	0 lb	0 lb	Wall Self Weight

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

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Notes

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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 proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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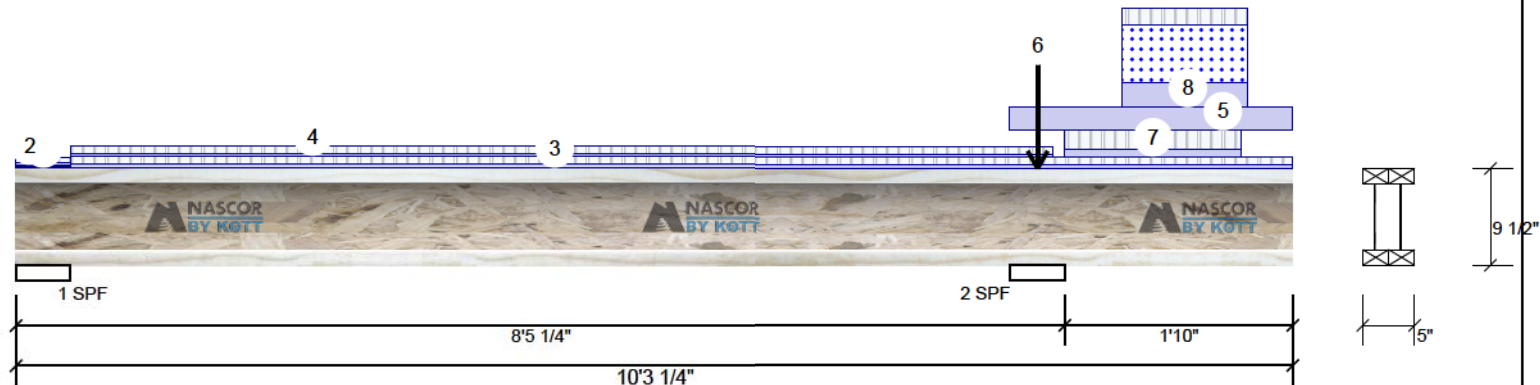
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F18-C NJH 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	197	49	0 (-24)	0
2	666	836	938	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	13%	62 / 329	390 L	1.25D+1.5L
2 - SPF	5.250"	44%	1045 / 1740	2785 LL	1.25D+1.5S +0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-700 ft-lb	8'5 1/4"	7660 ft-lb	0.091 (9%)	1.25D+1.5S +0.5L	L
Unbraced	-700 ft-lb	8'5 1/4"	2056 ft-lb	0.341 (34%)	1.25D+1.5S +0.5L	L
Pos Moment	660 ft-lb	3'10 7/8"	7124 ft-lb	0.093 (9%)	1.25D+1.5L	L
Unbraced	648 ft-lb	3'11 15/16"	2377 ft-lb	0.273 (27%)	0.9D+1.5L	L
Shear	771 lb	8'5 1/4"	3160 lb	0.244 (24%)	1.25D+1.5L +0.5S	LL
Perm Defl in.	0.002 (L/50277)	3'3 5/8"	0.261 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.017 (L/5517)	4'3 5/8"	0.261 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.019 (L/5020)	4'1 15/16"	0.392 (L/240)	0.050 (5%)	D+L	L
LL Cant	0.011 (2L/3975)	Rt Cant	0.200 (2L/480)	0.055 (6%)	S+0.5L	L
TL Cant	0.018 (2L/2463)	Rt Cant	0.300 (2L/360)	0.060 (6%)	D+S+0.5L	L

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

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

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



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 unbraced.
- Bottom flange braced at bearings.

Notes

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

Lumber

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

chemicals

Handling & Installation

- Joist flanges must not be cut or drilled
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- Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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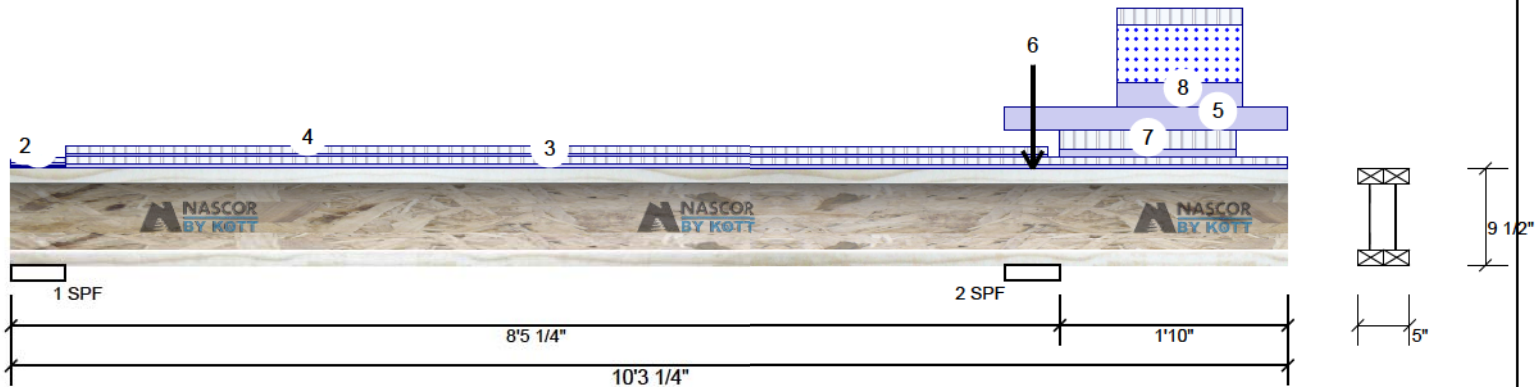
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F18-C NJH 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)0-4-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 10-3-4	(Span)1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-5-4 to 8-4-2	(Span)1-2-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Part. Uniform	7-11-14 to 10-3-4		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Point	8-2-10		Top	397 lb	215 lb	715 lb	0 lb	F11 F11
7	Tie-In	8-5-4 to 9-10-4	(Span)3-3-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Part. Uniform	8-10-12 to 9-10-14		Top	85 PLF	60 PLF	197 PLF	0 PLF	

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Lumber

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

Manufacturer Info

Nascor by Kott

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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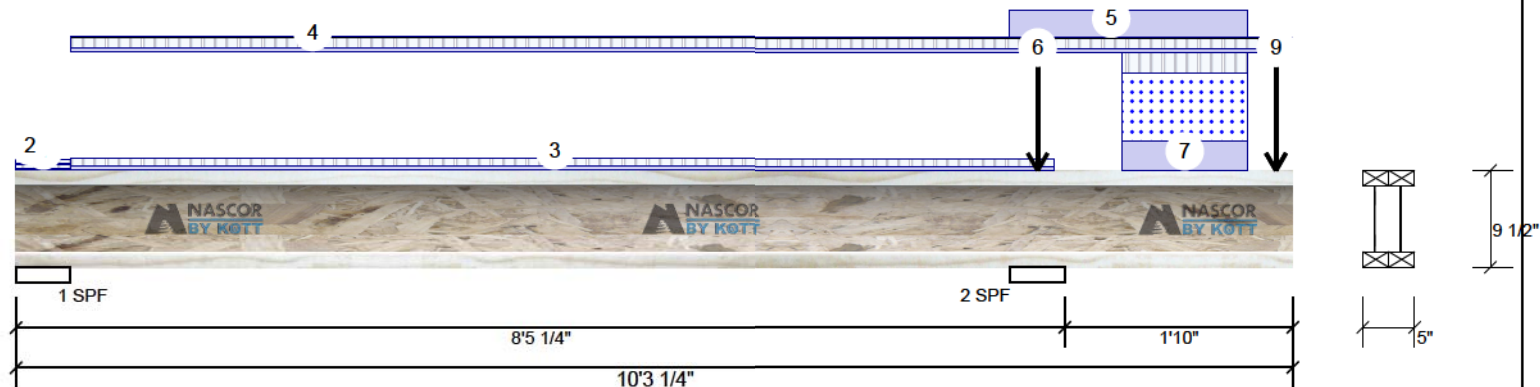
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F18-D NJH 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	207	44	0 (-28)	0
2	569	835	931	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	13%	56 / 333	388 (-6)	L	1.25D+1.5L
2 - SPF	5.250"	43%	1044 / 1681	2725 LL		1.25D+1.5S +0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-773 ft-lb	8'5 1/4"	7660 ft-lb	0.101 (10%)	1.25D+1.5S +0.5L	L
Unbraced	-773 ft-lb	8'5 1/4"	2056 ft-lb	0.376 (38%)	1.25D+1.5S +0.5L	L
Pos Moment	657 ft-lb	3'10 1/4"	7200 ft-lb	0.091 (9%)	1.25D+1.5L	L
Unbraced	650 ft-lb	3'11 7/16"	2445 ft-lb	0.266 (27%)	0.9D+1.5L	L
Shear	747 lb	8'5 1/4"	3160 lb	0.236 (24%)	1.25D+1.5S +0.5L	L
Perm Defl in.	0.001 (L/69874)	2'11 7/16"	0.261 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.018 (L/5373)	4'3 5/8"	0.261 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.019 (L/5071)	4'1 5/8"	0.392 (L/240)	0.050 (5%)	D+L	L
LL Cant	0.011 (2L/3933)	Rt Cant	0.200 (2L/480)	0.056 (6%)	S+0.5L	L
TL Cant	0.020 (2L/2221)	Rt Cant	0.300 (2L/360)	0.066 (7%)	D+S+0.5L	L

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

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

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



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.
- Tie-down connection required at bearing 1 for uplift 6 lb (Combination 0.9D+1.5S+0.5L, Load Case L).
- Top flange unbraced.
- Bottom flange braced at bearings.

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

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

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

Manufacturer Info

Nascor by Kott



Town of East Gwillimbury
Building Standards Branch BCIN #16487

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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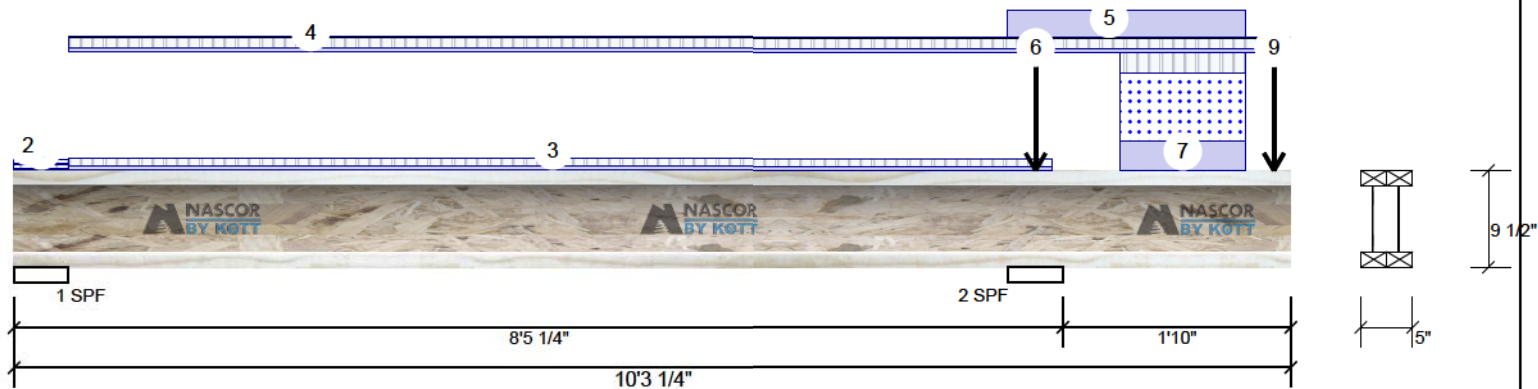
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F18-D NJH 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)0-5-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-6-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 8-4-4	(Span)1-3-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-5-4 to 10-3-4	(Span)1-5-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Part. Uniform	7-11-14 to 9-10-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Point	8-2-10		Top	385 lb	207 lb	687 lb	0 lb	F11 F11
7	Part. Uniform	8-10-12 to 9-10-14		Top	85 PLF	60 PLF	197 PLF	0 PLF	
8	Point	10-1-10		Top	7 lb	5 lb	17 lb	0 lb	
9	Point	10-1-10		Top	60 lb	0 lb	0 lb	0 lb	Wall Self Weight

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USED IN THE DESIGN OF THIS COMPONENT.**

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

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



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Lumber

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2. Lumber not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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Nascor by Kott

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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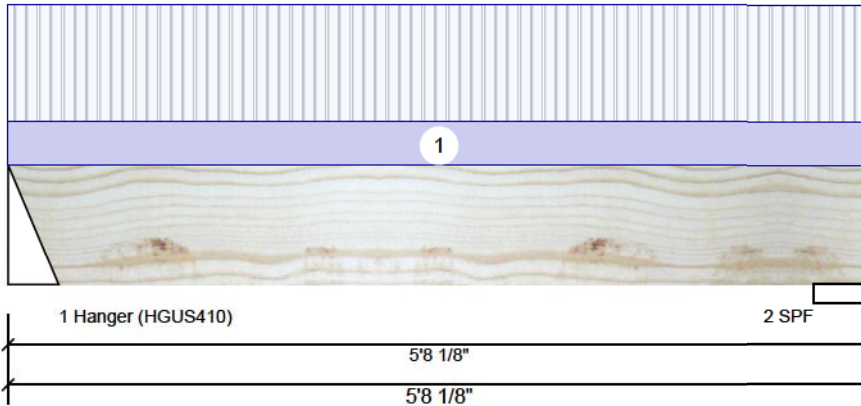
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

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F3-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	38	36	0	0
2	38	36	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	1%	45 / 56	101	L	1.25D+1.5L
2 - SPF	4.375"	1%	45 / 57	102	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	117 ft-lb	2'9 7/8"	22724 ft-lb	0.005 (1%)	1.25D+1.5L	L
Unbraced	117 ft-lb	2'9 7/8"	22724 ft-lb	0.005 (1%)	1.25D+1.5L	L
Shear	63 lb	4'7"	9277 lb	0.007 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

Design Notes

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-8-2	(Span)0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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



Town of East Gwillimbury
Building Standards Branch BCIN #16487

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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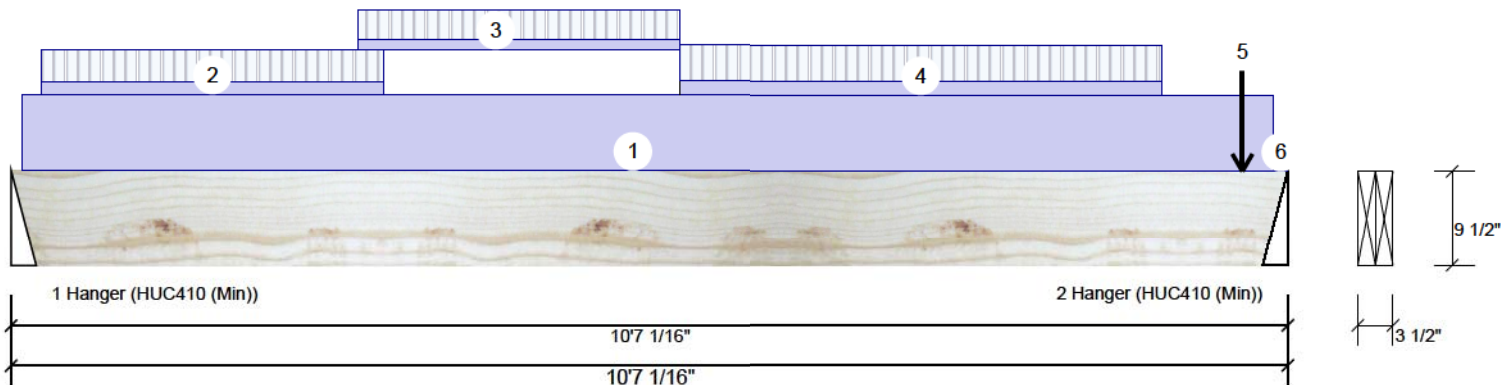
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 1

F5-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	0 (-174)	391	0	0
2	0 (-189)	388	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	13%	548 / 0	548 Uniform	1.4D
2 - Hanger	2.500"	13%	543 / 0	543 Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1388 ft-lb	5'3 1/4"	14770 ft-lb	0.094 (9%)	1.4D	Uniform
Unbraced	1388 ft-lb	5'3 1/4"	14196 ft-lb	0.098 (10%)	1.4D	Uniform
Shear	456 lb	11 1/4"	6030 lb	0.076 (8%)	1.4D	Uniform
Perm Defl in.	0.041 (L/2998)	5'3 1/2"	0.343 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.019 (L/6434)	5'3 13/16"	0.343 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.041 (L/2998)	5'3 1/2"	0.515 (L/240)	0.080 (8%)	D	Uniform

Design Notes

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-1-1 to 10-5-11		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-2-15 to 3-1-1		Far Face	-13 PLF	-34 PLF	0 PLF	0 PLF	
3	Part. Uniform	2-10-9 to 5-6-9		Far Face	-11 PLF	-30 PLF	0 PLF	0 PLF	
4	Part. Uniform	5-6-9 to 9-6-9		Far Face	-14 PLF	-38 PLF	0 PLF	0 PLF	
5	Point	10-2-9		Far Face	-13 lb	-35 lb	0 lb	0 lb	J6
6	Part. Uniform	10-5-11 to 10-7-1		Top	31 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				8 PLF				

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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			





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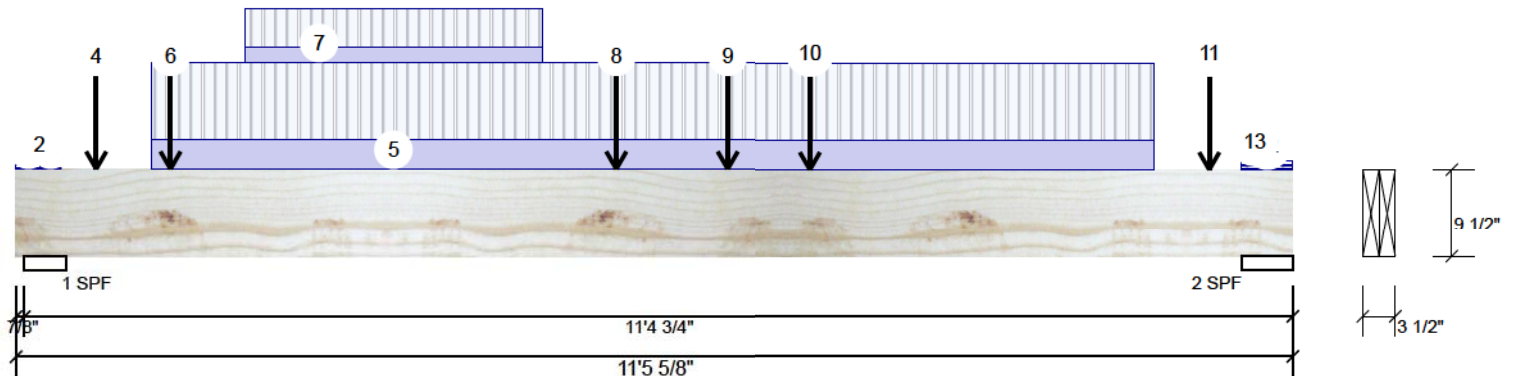
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F5-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	2556	1007	0	0
2	2438	968	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.500"	53%	1259 / 3834	5093	LL	1.25D+1.5L
2 - SPF	5.500"	41%	1210 / 3657	4866	_L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14608 ft-lb	5'6 7/8"	22724 ft-lb	0.643 (64%)	1.25D+1.5L	_L
Unbraced	14608 ft-lb	5'6 7/8"	20415 ft-lb	0.716 (72%)	1.25D+1.5L	_L
Shear	5063 lb	1' 5/8"	9277 lb	0.546 (55%)	1.25D+1.5L	LL
Perm Defl in.	0.130 (L/996)	5'7 7/8"	0.360 (L/360)	0.360 (36%)	D	Uniform
LL Defl inch	0.330 (L/393)	5'7 3/4"	0.360 (L/360)	0.920 (92%)	L	_L
TL Defl inch	0.461 (L/282)	5'7 13/16"	0.541 (L/240)	0.850 (85%)	D+L	_L
LL Cant	-0.007 (2L/266)	Lt Cant	0.200 (2L/480)	0.033 (3%)	L	_L
TL Cant	-0.009 (2L/191)	Lt Cant	0.300 (2L/360)	0.031 (3%)	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.
- Cantilever Upward Deflection Live Load 0.0065865 greater than recommended 0.004
- Cantilever Upward Deflection Total Load 0.0091801 greater than recommended 0.005

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Notes

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Lumber

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

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, 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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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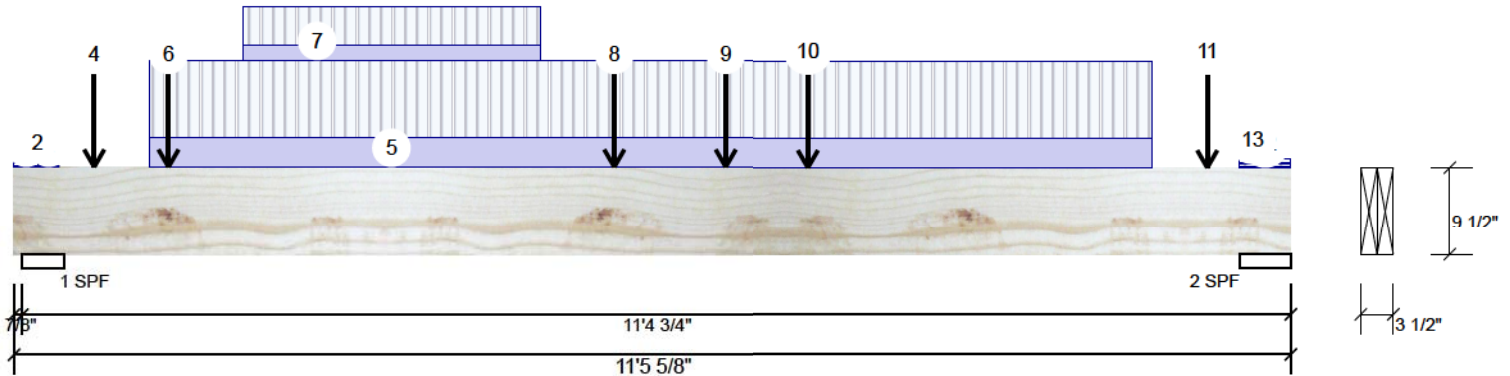
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 2 of 2

F5-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-10	(Span)0-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-6	(Span)0-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-10 to 0-4-13	(Span)0-9-0 to 0-2-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-8-10		Near Face	84 lb	224 lb	0 lb	0 lb	J7
5	Part. Uniform	1-2-10 to 10-2-10		Near Face	126 PLF	336 PLF	0 PLF	0 PLF	
6	Point	1-4-10		Far Face	81 lb	215 lb	0 lb	0 lb	J6
7	Part. Uniform	2-0-10 to 4-8-10		Far Face	63 PLF	169 PLF	0 PLF	0 PLF	
8	Point	5-4-10		Far Face	74 lb	197 lb	0 lb	0 lb	J6
9	Point	6-4-10		Far Face	55 lb	148 lb	0 lb	0 lb	J6
10	Point	7-1-9		Far Face	163 lb	392 lb	0 lb	0 lb	F9
11	Point	10-8-10		Near Face	120 lb	321 lb	0 lb	0 lb	J7
12	Tie-In	11-0-2 to 11-5-10	(Span)0-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
13	Tie-In	11-0-2 to 11-5-10	(Span)0-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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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
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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

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			



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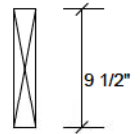
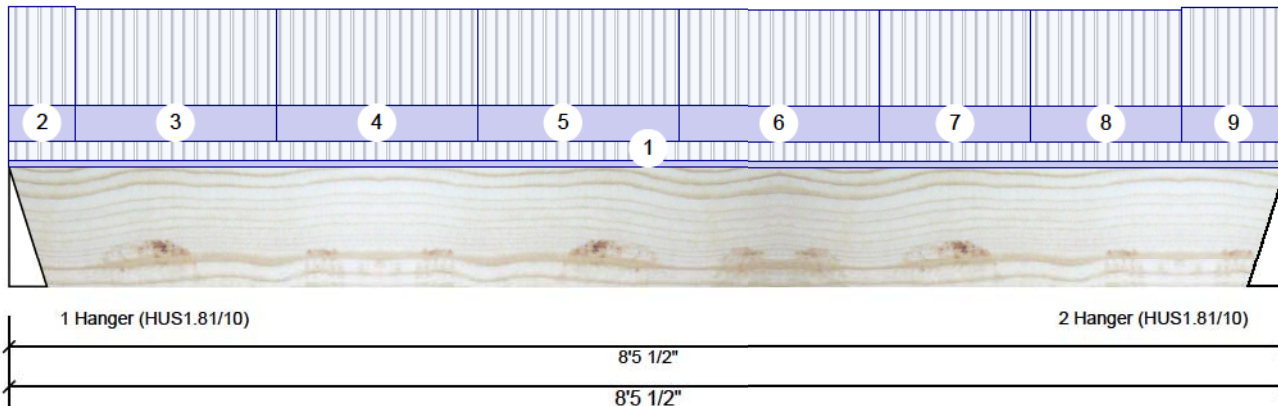
Client:
Project:
Address:

Date: 5/15/2018
Designer: S B
Job Name: GLENWAY 2A EL- 3
Project #:

Page 1 of 2

F9-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	392	163	0	0
2	392	163	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	20%	204 / 587	791 L	1.25D+1.5L
2 - Hanger	3.000"	20%	204 / 588	792 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1526 ft-lb	4'2 3/4"	11362 ft-lb	0.134 (13%)	1.25D+1.5L	L
Unbraced	1526 ft-lb	4'2 3/4"	4612 ft-lb	0.331 (33%)	1.25D+1.5L	L
Shear	607 lb	11 3/4"	4638 lb	0.131 (13%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/5716)	4'2 13/16"	0.269 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.041 (L/2379)	4'2 13/16"	0.269 (L/360)	0.150 (15%)	L	
TL Defl inch	0.058 (L/1680)	4'2 13/16"	0.404 (L/240)	0.140 (14%)	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.

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



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

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



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Zoning			





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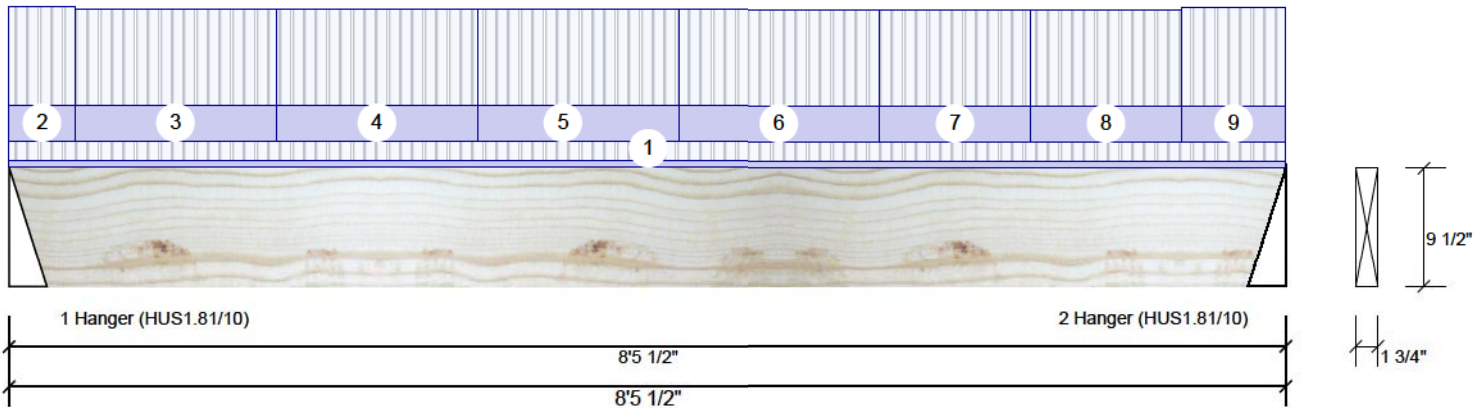
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Project:
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Job Name: GLENWAY 2A EL- 3
Project #:

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F9-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
9	Tie-In	7-9-3 to 8-5-8	(Span)3-11-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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Lumber

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chemicals

Handling & Installation

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Forex
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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-08
Sewage System			
Zoning			

