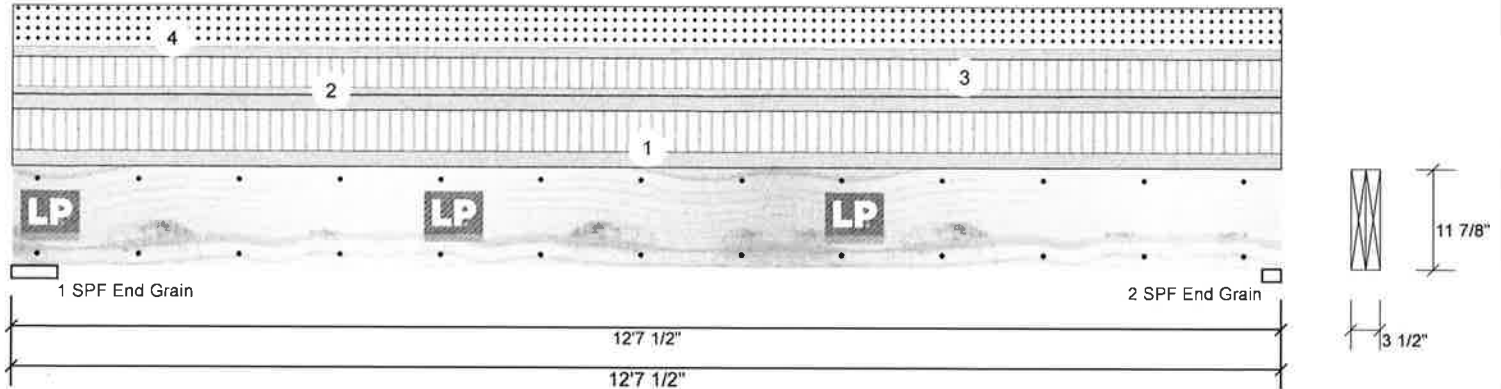




Client: Wood Creek (Hanson)
 Project: Upper Flush Floor Beam (Above Dining Rm)
 Address: 1020 - 17th Ave S.E.
 Salmon Arm

Date: 2/2/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

Beam#"B2" LP-LVL 2900Fb-2.0E 1.750" X 11.875" 2-Ply - PASSED Level: Level



Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal - II
General Load	
Floor Live:	40 PSF
Dead:	15 PSF

Application:	Floor (Residential)
Design Method:	LSD
Building Code:	NBCC 2015 / BCBC 2018
Load Sharing:	No
Deck:	Not Checked
Vibration:	Not Checked

Unfactored Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	3011	2134	1760	0
2	Vertical	2885	2044	1686	0

Bearings and Factored Reactions

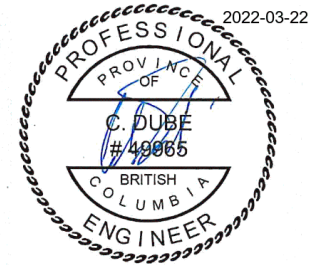
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	Vert	43%	2667 / 6277	8944	L	1.25D+1.5L +S
2 - SPF End Grain	2.250"	Vert	100%	2555 / 6013	8568	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	25403 ft-lb	6'5 3/8"	33100 ft-lb	0.767 (77%)	1.25D+1.5L +S	L
Shear	7830 lb	1'5 3/8"	13217 lb	0.592 (59%)	1.25D+1.5L +S	L
Perm Defl in.	0.180 (L/805)	6'5 3/8"	0.403 (L/360)	0.447 (45%)	D	Uniform
LL Defl inch	0.329 (L/441)	6'5 3/8"	0.403 (L/360)	0.815 (82%)	L+0.5S	L
TL Defl inch	0.509 (L/285)	6'5 3/8"	0.605 (L/240)	0.842 (84%)	D+L+0.5S	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Dead Load Deflection: Instant = 0.180", Long Term = 0.271".
- Fasten all plies using 2 rows of 12d Box nails (.128x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- Refer to last page of calculations for fasteners required for specified loads.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be continuously laterally braced.
- Bottom must be laterally braced at bearings.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Uniform			Far Face	102 PLF	270 PLF	0 PLF	0 PLF	
2	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	
3	Uniform			Near Face	49 PLF	197 PLF	0 PLF	0 PLF	
4	Uniform			Top	68 PLF	0 PLF	273 PLF	0 PLF	
	Self Weight				12 PLF				

Notes
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 CA
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 250 632 8238

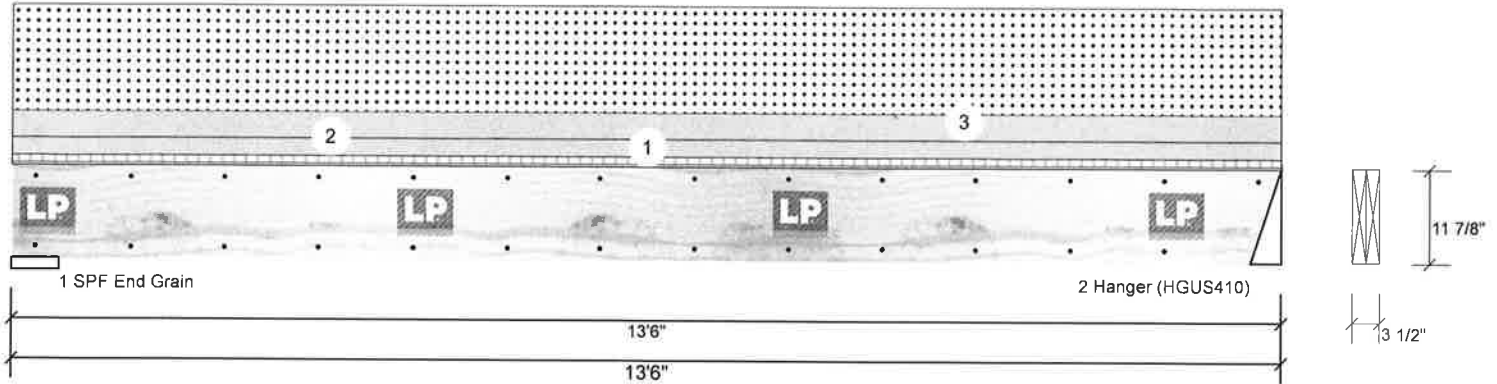
This design is valid until 5/24/2024



Client: Wood Creek (Hanson)
 Project: Upper Flush Floor Beam (Above Living Rm)
 Address: 1020 - 17th Ave S.E.
 Salmon Arm

Date: 2/2/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

Beam#"B3" LP-LVL 2900Fb-2.0E 1.750" X 11.875" 2-Ply - PASSED Level: Level



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / BCBC 2018
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	273	1892	4121	0
2	Vertical	267	1846	4020	0

Bearings and Factored Reactions

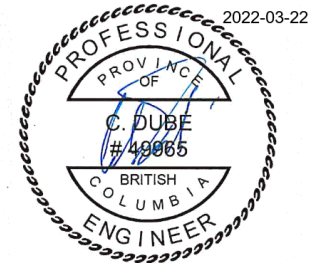
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	6.000"	Vert	38%	2365 / 6454	8819	L	1.25D+1.5S +L
2 - Hanger	4.000"	Vert	56%	2307 / 6297	8604	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	26397 ft-lb	6'10"	33100 ft-lb	0.797 (80%)	1.25D+1.5S +L	L
Shear	6970 lb	1'5 7/8"	13217 lb	0.527 (53%)	1.25D+1.5S +L	L
Perm Defl in.	0.186 (L/823)	6'10"	0.426 (L/360)	0.437 (44%)	D	Uniform
LL Defl inch	0.420 (L/366)	6'10"	0.426 (L/360)	0.984 (98%)	S+0.5L	L
TL Defl inch	0.606 (L/253)	6'10"	0.640 (L/240)	0.947 (95%)	D+S+0.5L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Dead Load Deflection: Instant = 0.186", Long Term = 0.280".
- Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- Refer to last page of calculations for fasteners required for specified loads.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Uniform			Near Face	15 PLF	40 PLF	0 PLF	0 PLF	
2	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	
3	Uniform			Top	150 PLF	0 PLF	603 PLF	0 PLF	
	Self Weight				12 PLF				

Notes

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Manufacturer Info

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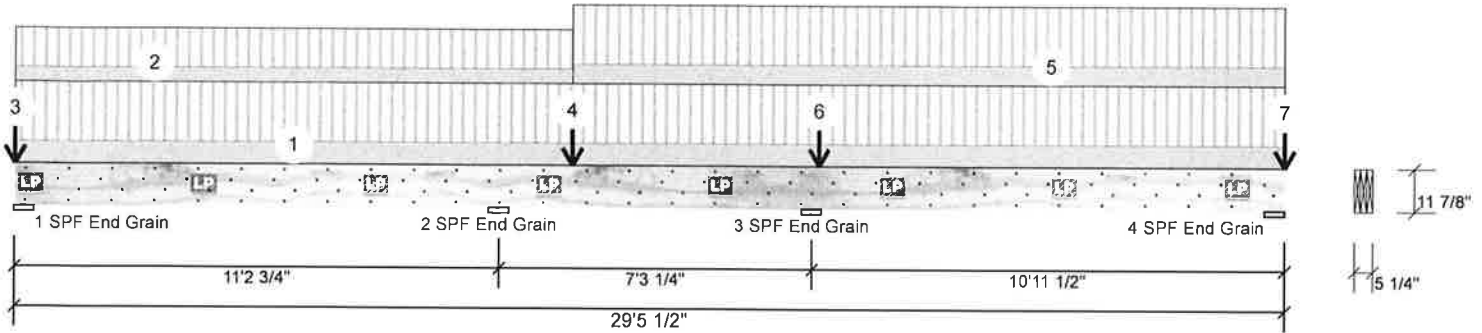
This design is valid until 5/24/2024



Client: Wood Creek (Hanson)
 Project: Upper Flush Floor Beam (Above Ensuite / Hall)
 Address: 1020 - 17th Ave S.E.,
 Salmon Arm

Date: 2/2/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

Beam#"B4" LP-LVL 2900Fb-2.0E 1.750" X 11.875" 3-Ply - PASSED Level: Level



Member Information

Type: Girder	Application: Floor (Residential)
Plies: 3	Design Method: LSD
Moisture Condition: Dry	Building Code: NBCC 2015 / BCBC 2018
Deflection LL: 360	Load Sharing: Yes
Deflection TL: 240	Deck: Not Checked
Importance: Normal - II	Vibration: Not Checked
General Load	
Floor Live: 40 PSF	
Dead: 15 PSF	

Unfactored Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	3513	1479	559	0
2	Vertical	8612 (-1133)	4539	2992	0
3	Vertical	9266 (-1006)	4599	4464	0
4	Vertical	4117	1924	1720	0

Bearings and Factored Reactions

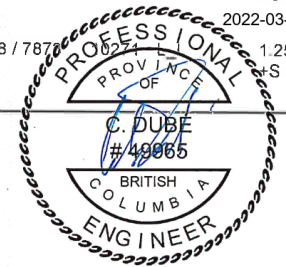
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	Vert	24%	1840 / 5067	6906	L_	1.25D+1.5L
2 - SPF End Grain	5.500"	Vert	69%	5686 / 16159	21844	LL_	1.25D+1.5L +S
3 - SPF End Grain	5.500"	Vert	77%	5753 / 18621	24373	_LL	1.25D+1.5L +S
4 - SPF End Grain	5.500"	Vert	33%	2398 / 7870	10271	_LL	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-18582 ft-lb	18'6"	51637 ft-lb	0.360 (36%)	1.25D+1.5L +S	_LL
Pos Moment	15713 ft-lb	24'7 3/4"	48022 ft-lb	0.327 (33%)	1.25D+1.5L +S	_L
Shear	11940 lb	12'5 3/8"	19825 lb	0.602 (60%)	1.25D+1.5L +S	LL_
Perm Defl in.	0.040 (L/3166)	24'2 13/16"	0.352 (L/360)	0.114 (11%)	D	Uniform
LL Defl inch	0.132 (L/962)	24' 3/8"	0.352 (L/360)	0.374 (37%)	L	L_L
TL Defl inch	0.172 (L/738)	24' 15/16"	0.528 (L/240)	0.325 (33%)	D+L	L_L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 5.25.
- 2 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 3 Dead Load Deflection: Instant = 0.040", Long Term = 0.060".
- 4 Fasten all plies using 4 rows of 12d Box nails (.128x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 5 Refer to last page of calculations for fasteners required for specified loads.
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be continuously laterally braced.
- 9 Bottom must be laterally braced at bearings.



Notes

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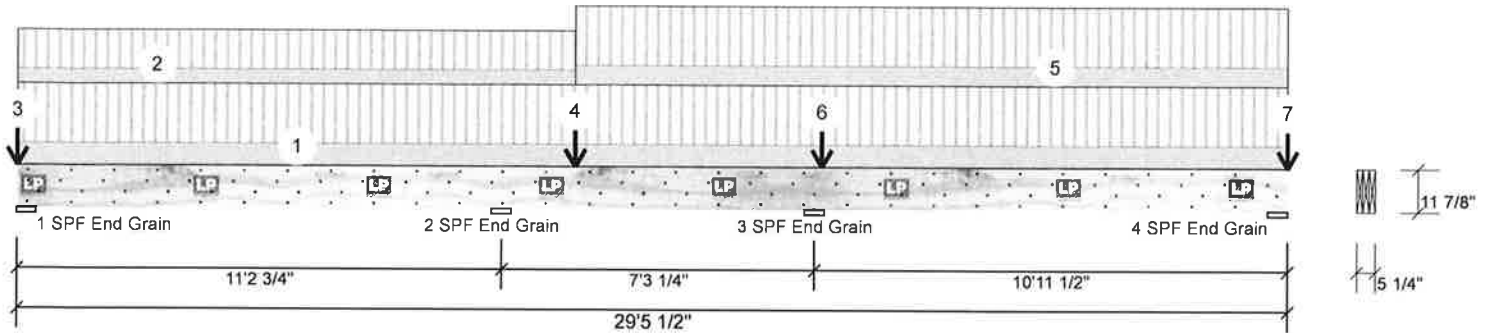
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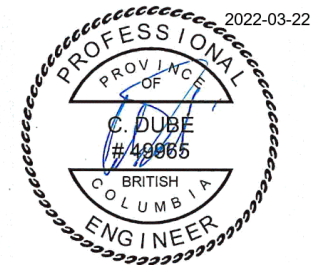
Client: Wood Creek (Hanson)
 Project: Upper Flush Floor Beam (Above Ensuite / Hall)
 Address: 1020 - 17th Ave S.E.,
 Salmon Arm

Date: 2/2/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

Beam#"B4" LP-LVL 2900Fb-2.0E 1.750" X 11.875" 3-Ply - PASSED Level: Level



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Uniform			Far Face	154 PLF	410 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 12-11-0		Top	102 PLF	270 PLF	0 PLF	0 PLF	
3	Point	0-0-0		Top	205 lb	0 lb	625 lb	0 lb	
	Bearing Length	0-3-8							
4	Point	12-11-0		Top	2146 lb	672 lb	3625 lb	0 lb	
	Bearing Length	0-3-8							
5	Part. Uniform	12-11-0 to 29-5-8		Top	135 PLF	409 PLF	0 PLF	0 PLF	
6	Point	18-8-0		Top	1085 lb	0 lb	3615 lb	0 lb	
	Bearing Length	0-3-8							
7	Point	29-5-8		Top	492 lb	0 lb	1762 lb	0 lb	
	Bearing Length	0-3-8							
	Self Weight				18 PLF				



Notes

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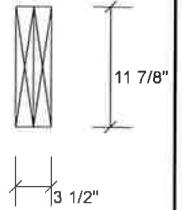
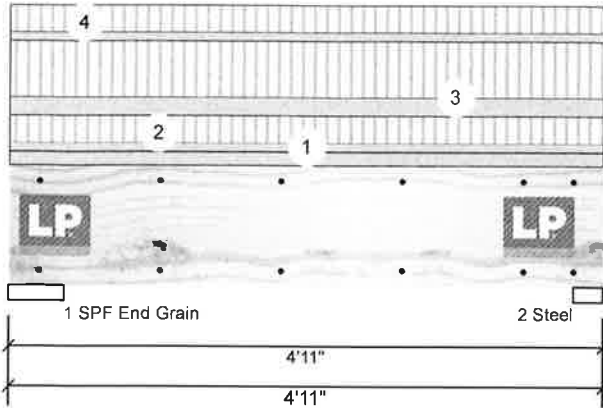
This design is valid until 5/24/2024



Client: Wood Creek (Hanson)
 Project: Lower Flush Floor Beam (Above Stairwell / Foyer)
 Address: 1020 - 17th Ave S.E.
 Salmon Arm

Date: 2/2/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

Beam#"B11" LP-LVL 2900Fb-2.0E 1.750" X 11.875" 2-Ply - PASSED Level: Level



Member Information

Type: Girder	Application: Floor (Residential)
Plies: 2	Design Method: LSD
Moisture Condition: Dry	Building Code: NBCC 2015 / BCBC 2018
Deflection LL: 480	Load Sharing: No
Deflection TL: 240	Deck: Not Checked
Importance: Normal - II	Vibration: Not Checked
General Load	
Floor Live: 40 PSF	
Dead: 15 PSF	

Unfactored Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	2058	966	0	0
2	Vertical	1890	887	0	0

Bearings and Factored Reactions

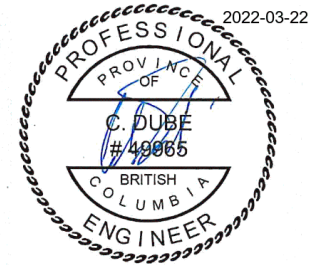
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	Vert	20%	1207 / 3087	4294	L	1.25D+1.5L
2 - Steel	3.000"	Vert	34%	1109 / 2836	3945	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3933 ft-lb	2'6 3/4"	33100 ft-lb	0.119 (12%)	1.25D+1.5L	L
Shear	1882 lb	1'5 3/8"	13217 lb	0.142 (14%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/9432)	2'6 3/4"	0.144 (L/360)	0.038 (4%)	D	Uniform
LL Defl inch	0.012 (L/4427)	2'6 3/4"	0.108 (L/480)	0.108 (11%)	L	L
TL Defl inch	0.017 (L/3013)	2'6 3/4"	0.217 (L/240)	0.080 (8%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.006", Long Term = 0.008".
- 3 Fasten all plies using 2 rows of 12d Box nails (.128x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be continuously laterally braced.
- 8 Bottom must be laterally braced at bearings.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	
2	Uniform			Top	65 PLF	197 PLF	0 PLF	0 PLF	
3	Uniform			Top	135 PLF	409 PLF	0 PLF	0 PLF	
4	Uniform			Top	65 PLF	197 PLF	0 PLF	0 PLF	
	Self Weight				12 PLF				

Notes
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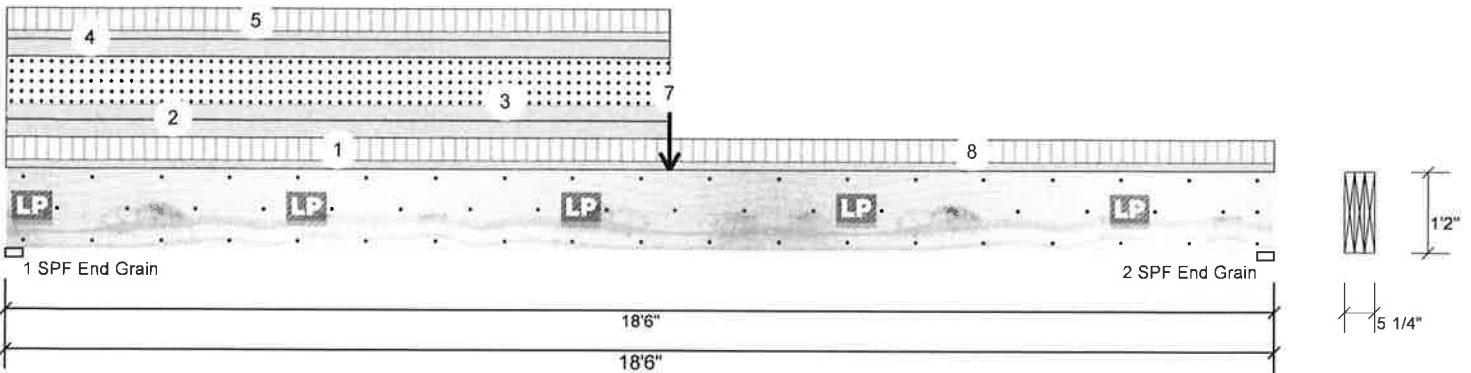
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Client: Wood Creek (Hanson)
 Project: Garage Door Header
 Address: 1020 - 17th Ave S.E.
 Salmon Arm

Date: 2/7/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

Beam#"H3" LP-LVL 2900Fb-2.0E 1.750" X 14.000" 3-Ply - PASSED Level: Level



Member Information

Type: Girder	Application: Floor (Residential)
Plies: 3	Design Method: LSD
Moisture Condition: Dry	Building Code: NBCC 2015 / BCBC 2018
Deflection LL: 360	Load Sharing: Yes
Deflection TL: 240	Deck: Not Checked
Importance: Normal - II	Vibration: Not Checked
General Load	
Floor Live: 40 PSF	
Dead: 15 PSF	

Unfactored Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	3107	3524	1962	0
2	Vertical	2588	1970	677	0

Bearings and Factored Reactions

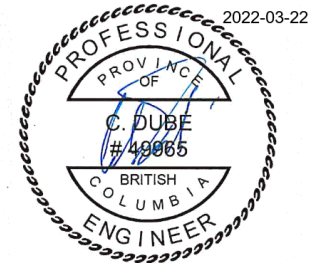
Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	64%	4405 / 6623	11028	L	1.25D+1.5L +S
2 - SPF End Grain	3.000"	Vert	41%	2462 / 4559	7022	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	49734 ft-lb	9'4 11/16"	70126 ft-lb	0.709 (71%)	1.25D+1.5L +S	L
Shear	9395 lb	1'5"	23373 lb	0.402 (40%)	1.25D+1.5L +S	L
Perm Defl in.	0.360 (L/604)	8'10 7/8"	0.604 (L/360)	0.596 (60%)	D	Uniform
LL Defl inch	0.489 (L/445)	9'1 7/8"	0.604 (L/360)	0.809 (81%)	L+0.5S	L
TL Defl inch	0.849 (L/256)	9' 9/16"	0.906 (L/240)	0.936 (94%)	D+L+0.5S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.360", Long Term = 0.540".
- 3 Fasten all plies using 3 rows of 12d Box nails (.128x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 4' o.c.
- 8 Bottom must be laterally braced at end bearings.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 9-8-0		Top	49 PLF	130 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 9-8-0		Top	100 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 9-8-0		Top	90 PLF	0 PLF	273 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 9-8-0		Top	100 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed. Copyright 2020 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219	Manufacturer Info Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 11518-R, APA: PR-L280 (C)	Salmon Arm Truss Systems LTD 5231 46th Ave SE, BC CA V1E 1X2 250 832 8238

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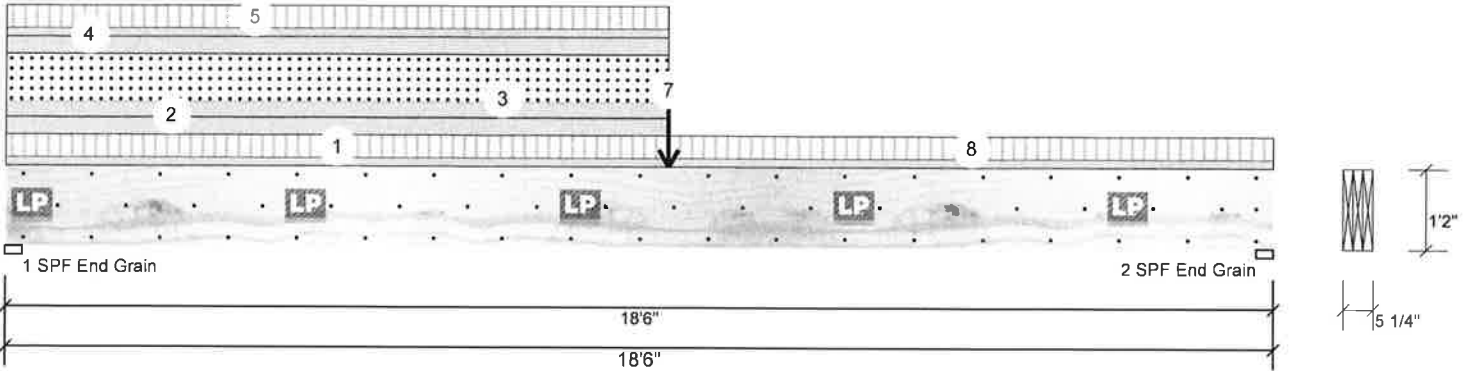


Client: Wood Creek (Hanson)
 Project: Garage Door Header
 Address: 1020 - 17th Ave S.E.
 Salmon Arm

Date: 2/7/2022
 Input by: Andy Andreasen
 Job Name: 44761-F
 Project #:

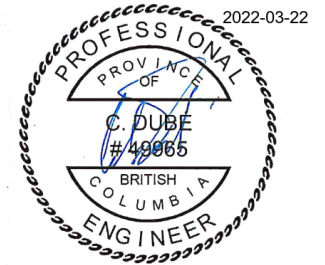
Beam#"H3" LP-LVL 2900Fb-2.0E 1.750" X 14.000" 3-Ply - PASSED

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Part. Uniform	0-0-0 to 9-8-0		Top	49 PLF	130 PLF	0 PLF	0 PLF	
6	Point	9-8-0		Top	505 lb	360 lb	0 lb	0 lb	
	Bearing Length	0-3-8							
7	Point	9-8-0		Top	416 lb	1674 lb	0 lb	0 lb	
	Bearing Length	0-3-8							
8	Part. Uniform	9-8-0 to 18-6-0		Top	49 PLF	130 PLF	0 PLF	0 PLF	
	Self Weight				21 PLF				



Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.
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This design is valid until 5/24/2024