

BC CALC® Member Report

BM1 (Floor Beam)

February 25, 2019 14:31:20

Build 7082

Dry | 1 span | No cant.

Job name: The Hampton Plan

File name: LOT 21 Sweetwater

Address:

Description:

City, State, Zip:

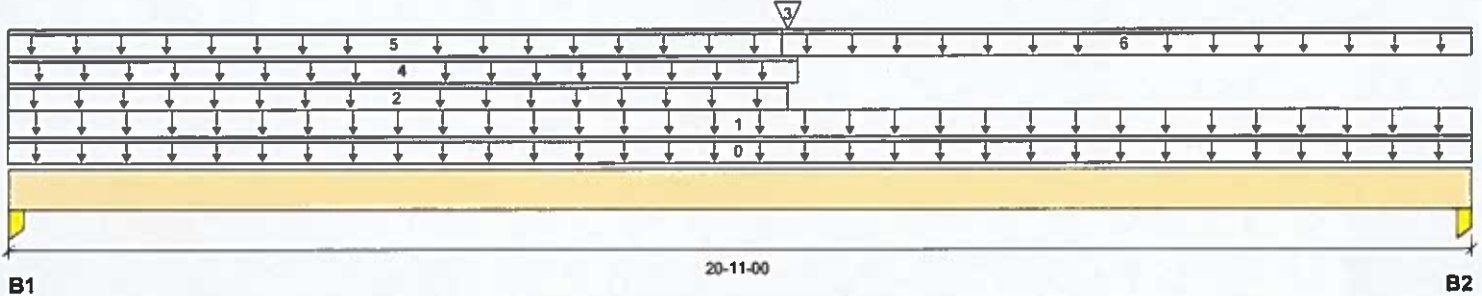
Specifier:

Builder: Ivercon Construction

Designer: Russell Culbreth

Code reports: ESR-1040

Company: Builders FirstSource



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	418 / 0	5366 / 0	4031 / 0		
B2, 3-1/2"	418 / 0	3940 / 0	3114 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	20-11-00	Top		36				00-00-00
1	Standard Load	Unf. Area (lb/ft ²)	L	00-00-00	20-11-00	Top	40	15				01-00-00
2	A02	Unf. Lin. (lb/ft)	L	00-00-00	11-01-12	Top		313	313			n/a
3	C01	Conc. Pt. (lbs)	L	11-01-12	11-01-12	Top		1710	1710			n/a
4	WALL	Unf. Lin. (lb/ft)	L	00-00-00	11-03-08	Top		96				n/a
5	D04	Unf. Lin. (lb/ft)	L	00-00-00	11-00-12	Top		37	37			n/a
6	D03	Unf. Lin. (lb/ft)	L	11-00-12	20-11-00	Top		156	156			n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	49967 ft-lbs	46.5 %	115%	2	11-00-12
End Shear	7879 lbs	28.6 %	115%	2	01-09-08
Total Load Deflection	L/471 (0.521")	76.4 %	n/a	2	10-02-05
Live Load Deflection	L/1068 (0.23")	45.0 %	n/a	5	10-05-12
Max Defl.	0.521"	52.1 %	n/a	2	10-02-05
Span / Depth	13.6				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 3-1/2" x 7"	9397 lbs	52.9 %	51.1 %	Spruce-Pine-Fir
B2	Column 3-1/2" x 7"	7054 lbs	39.7 %	38.4 %	Spruce-Pine-Fir

Notes

Design meets User specified (L/360) Total load deflection criteria.
 Design meets User specified (L/480) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 BC CALC® analysis is based on IBC 2015.
 Design based on Dry Service Condition.
 Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
 Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.
 Bolts are assumed to be Grade A307 or Grade 2 or higher.
 Member has no side loads.

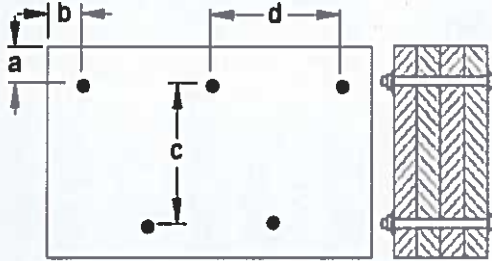
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 File name: *Lot 21 Sweetwater*
 Description:
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 Designer: Russell Culbreth
 Company: Builders FirstSource

Connection Diagram: Full Length of Member

 a minimum = 2" c = 14"
 b minimum = 2-1/2" d = 24"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.

Bolts are assumed to be Grade A307 or Grade 2 or higher.

Member has no side loads.

Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

GDH (RoofHeader)

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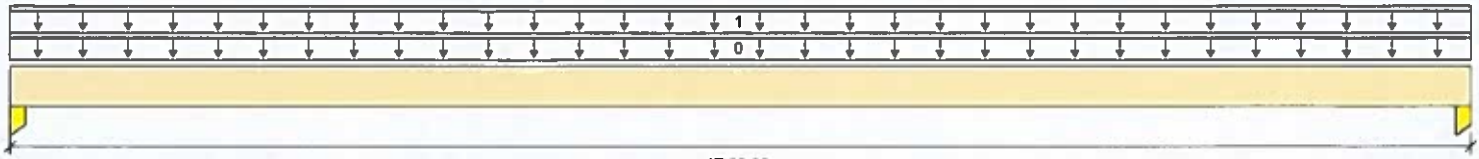
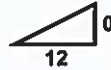
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B1 17-03-00 B2
 Total Horizontal Product Length = 17-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 6"		1208 / 0	1104 / 0		
B2, 6"		1208 / 0	1104 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live	125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	17-03-00	Top		12					00-00-00
1	D03	Unf. Lin. (lb/ft)	L	00-00-00	17-03-00	Top		128	128				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	8984 ft-lbs	36.7 %	115%	4	08-07-08
End Shear	1913 lbs	21.1 %	115%	4	01-05-14
Total Load Deflection	L/443 (0.444")	54.2 %	n/a	4	08-07-08
Live Load Deflection	L/927 (0.212")	38.8 %	n/a	5	08-07-08
Max Defl.	0.444"	44.4 %	n/a	4	08-07-08
Span / Depth	16.5				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 6" x 3-1/2"	2312 lbs	15.2 %	14.7 %	Spruce-Pine-Fir
B2	Column 6" x 3-1/2"	2312 lbs	15.2 %	14.7 %	Spruce-Pine-Fir

Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

- Design meets User specified (L/240) Total load deflection criteria.
- Design meets User specified (L/360) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Calculations assume member is fully braced.
- BC CALC® analysis is based on IBC 2015.
- Design based on Dry Service Condition.
- Member has no side loads.

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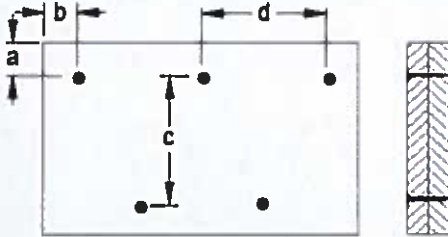
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Lot 21 Sweetwater

Connection Diagram: Full Length of Member



a minimum = 2" c = 7-7/8"
 b minimum = 3" d = 24"

Member has no side loads.
 Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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