

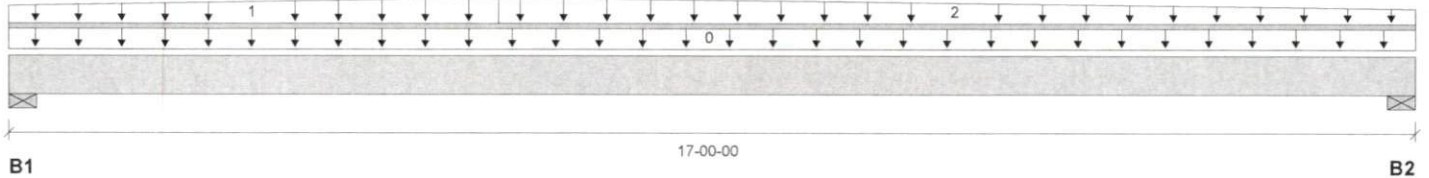
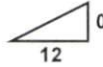
**BM6-2 (Roof Beam)**

Dry | 1 span | No cant.

July 10, 2019 07:26:27

BC CALC® Member Report  
 Build 7082  
 Job name: Ellington  
 Address:  
 City, State, Zip:  
 Builder: LAMCO  
 Code reports: ESR-1040

File name:  
 Description:  
 Specifier:  
 Designer:  
 Company: BFS



Total Horizontal Product Length = 17-00-00

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		959 / 0			
B2, 3-1/2"		893 / 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	17-00-00	Top		12				00-00-00
1	Gable	Trapezoidal (lb/ft)	L	00-00-00	05-11-04	Top		80				n/a
2	Gable	Trapezoidal (lb/ft)	L	05-11-04	17-00-00	Top		120				n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3954 ft-lbs	20.6 %	90%	0	08-02-05
End Shear	920 lbs	12.9 %	90%	0	01-03-06
Total Load Deflection	L/806 (0.246")	22.3 %	n/a	2	08-06-00
Live Load Deflection	L/999 (0.048")	n/a	n/a	5	08-06-00
Max Defl.	0.246"	24.6 %	n/a	2	08-06-00
Span / Depth	16.7				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	1228 lbs	n/a	13.4 %	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	1163 lbs	n/a	12.7 %	Unspecified

**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 Code minimum (L/180) Total load deflection criteria.  
 Design meets Code minimum (L/240) 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 2009.  
 Design based on Dry Service Condition.  
 Member has no side loads.

**BM6-2 (Roof Beam)**

Dry | 1 span | No cant.

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BC CALC® Member Report

Build 7082

Job name: Ellington

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Address:

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City, State, Zip:

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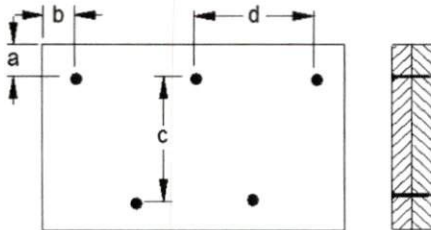
Builder: LAMCO

Designer:

Code reports: ESR-1040

Company: BFS

**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: 16d Sinker Nails

**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® ,

**BM7-4 (Roof Beam)**

Dry | 1 span | No cant.

July 10, 2019 07:28:30

BC CALC® Member Report

Build 7082

Job name: Ellington

Address:

City, State, Zip:

Builder: LAMCO

Code reports: ESR-1040

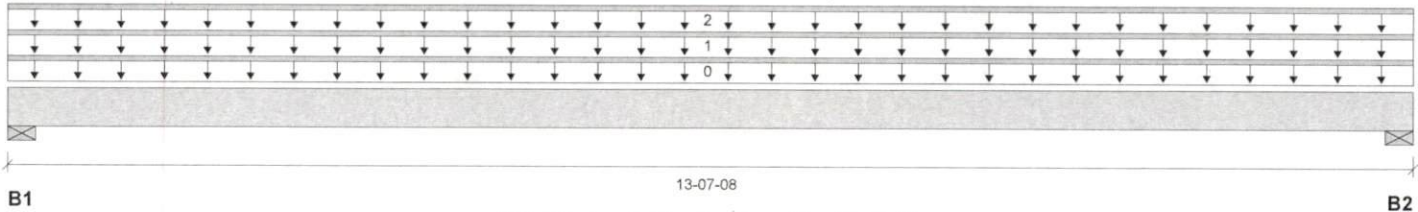
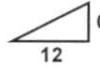
File name:

Description:

Specifier:

Designer:

Company: BFS



Total Horizontal Product Length = 13-07-08

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		5474 / 0			5310 / 0
B2, 3-1/2"		5474 / 0			5310 / 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	13-07-08	Top		24				00-00-00
1	A02 Trusses	Unf. Lin. (lb/ft)	L	00-00-00	13-07-08	Top		734			734	n/a
2	J02 Trusses	Unf. Lin. (lb/ft)	L	00-00-00	13-07-08	Top		46			46	n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	34305 ft-lbs	64.5 %	125%	4	06-09-12
End Shear	8756 lbs	44.4 %	125%	4	01-03-06
Total Load Deflection	L/288 (0.548")	62.4 %	n/a	4	06-09-12
Live Load Deflection	L/586 (0.27")	41.0 %	n/a	5	06-09-12
Max Defl.	0.548"	54.8 %	n/a	4	06-09-12
Span / Depth	13.3				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 7"	10785 lbs	n/a	58.7 %	Unspecified
B2	Wall/Plate 3-1/2" x 7"	10785 lbs	n/a	58.7 %	Unspecified

**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 Code minimum (L/180) Total load deflection criteria.

Design meets Code minimum (L/240) 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 2009.

Design based on Dry Service Condition.

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.

**BM7-4 (Roof Beam)**

Dry | 1 span | No cant.

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Build 7082

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Address:

City, State, Zip:

Builder: LAMCO

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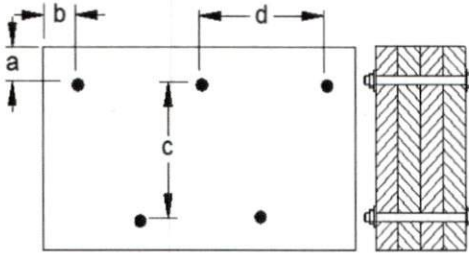
Description:

Specifier:

Designer:

Company: BFS

**Connection Diagram: Full Length of Member**



a minimum = 2"      c = 7-7/8"  
 b minimum = 2-1/2"      d = 24"

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

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