

2nd Floor Layout\Dropped Beams\BM4-2(i1896)

BC CALC® Member Report

Dry | 2 spans | No cant.

October 1, 2019 15:21:35

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM4-2(i1896)

City, State, Zip:

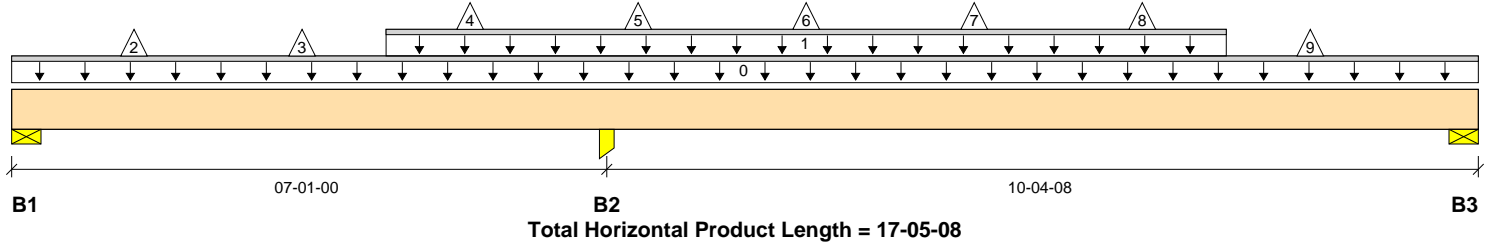
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	2,053 / 718	418 / 0			22 / 54
B2, 8-1/16"	7,259 / 0	1,711 / 0			0 / 212
B3, 3-1/2"	2,292 / 165	414 / 0			4 / 78

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	17-05-08	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	04-05-08	14-05-08	Top	652	126				n/a
2	J1(i1945)	Conc. Pt. (lbs)	L	01-05-08	01-05-08	Top	1,489	254			-38	n/a
3	J6(i1985)	Conc. Pt. (lbs)	L	03-05-08	03-05-08	Top	1,424	641			-38	n/a
4	J1(i1944)	Conc. Pt. (lbs)	L	05-05-08	05-05-08	Top					-38	n/a
5	J1(i1943)	Conc. Pt. (lbs)	L	07-05-08	07-05-08	Top					-38	n/a
6	J1(i1942)	Conc. Pt. (lbs)	L	09-05-08	09-05-08	Top					-38	n/a
7	J1(i1941)	Conc. Pt. (lbs)	L	11-05-08	11-05-08	Top					-38	n/a
8	J1(i1940)	Conc. Pt. (lbs)	L	13-05-08	13-05-08	Top					-38	n/a
9	J1(i1939)	Conc. Pt. (lbs)	L	15-05-08	15-05-08	Top	1,286	218			-51	n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	7,121 ft-lbs	54.5%	100%	3	13-05-08
Neg. Moment	-8,133 ft-lbs	62.7%	100%	1	07-01-00
End Shear	2,696 lbs	43.8%	100%	3	16-04-12
Cont. Shear	3,753 lbs	61.0%	100%	1	08-02-04
Total Load Deflection	L/497 (0.245")	48.2%	n/a	3	12-07-00
Live Load Deflection	L/572 (0.213")	63.0%	n/a	13	12-05-08
Total Neg. Defl.	L/999 (-0.05")	n/a	n/a	3	04-05-08
Max Defl.	0.245"	24.5%	n/a	3	12-07-00
Span / Depth	13.2				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	2,470 lbs	25.2%	26.9%	Unspecified
B1	Uplift	300 lbs			
B2	Column 8-1/16" x 3-1/2"	8,970 lbs	39.8%	42.5%	Unspecified
B3	Wall/Plate 3-1/2" x 3-1/2"	2,706 lbs	27.6%	29.5%	Unspecified

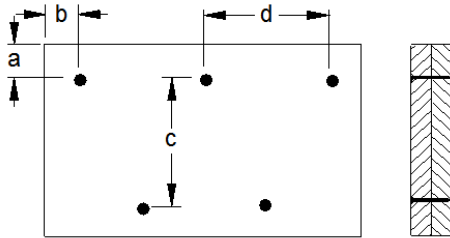
Cautions

Uplift of -300 lbs found at bearing B1.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Design meets arbitrary (0.75") Maximum live load deflection criteria.
 Calculations assume unbraced length of Top: 01-10-04, Bottom: 01-10-04.
 BC CALC® analysis is based on IBC 2009.
 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.
 Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/4"
 b minimum = 3" 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.
 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.

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2nd Floor Layout\Dropped Beams\BM5-2(i2003)

BC CALC® Member Report

Dry | 1 span | No cant.

October 1, 2019 15:21:39

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM5-2(i2003)

City, State, Zip:

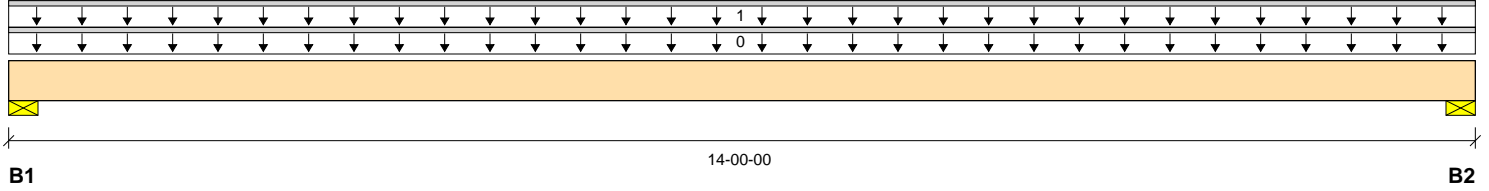
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"		1,046 / 0			980 / 0
B2, 4"		1,046 / 0			980 / 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	14-00-00	Top		9				00-00-00
1	Trusses	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	Top		140			140	n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6,552 ft-lbs	81.7%	125%	1	07-00-00
End Shear	1,706 lbs	22.2%	125%	1	01-01-04
Total Load Deflection	L/349 (0.463")	68.8%	n/a	1	07-00-00
Live Load Deflection	L/722 (0.224")	49.9%	n/a	2	07-00-00
Max Defl.	0.463"	46.3%	n/a	1	07-00-00
Span / Depth	17.5				

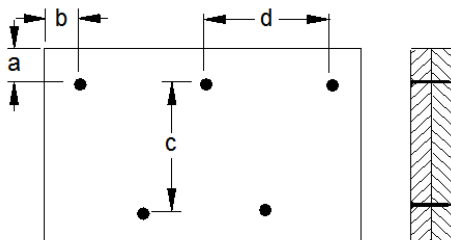
Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4" x 3-1/2"	2,026 lbs	34.0%	19.3%	Unspecified
B2	Wall/Plate 4" x 3-1/2"	2,026 lbs	34.0%	19.3%	Unspecified

Notes

- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Design meets arbitrary (0.75") Maximum live load deflection criteria.
- Calculations assume unbraced length of Top: 13-04-00, Bottom: 13-04-00.
- BC CALC® analysis is based on IBC 2009.
- Design based on Dry Service Condition.
- Member has no side loads.

Connection Diagram: Full Length of Member



BC CALC® Member Report

Dry | 1 span | No cant.

October 1, 2019 15:21:39

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM5-2(i2003)

City, State, Zip:

Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development

Connection Diagram: Full Length of Member

a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Member has no side loads.

Connectors are: 16d Sinker Nails

Disclosure

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2nd Floor Layout\Dropped Beams\BM5-2(i2003)

BC CALC® Member Report

Dry | 1 span | No cant.

October 1, 2019 15:21:43

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM5-2(i2003)

City, State, Zip:

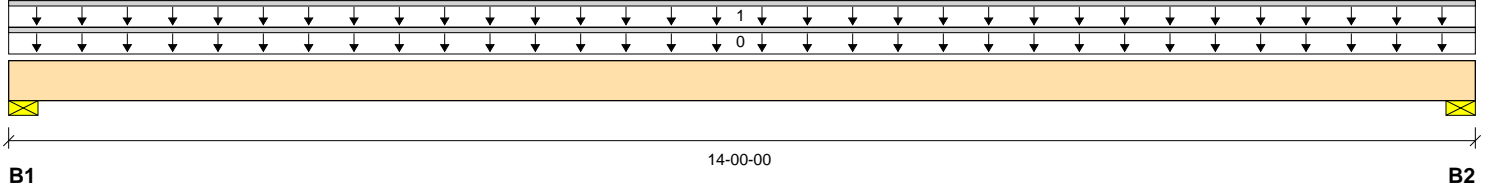
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"		1,046 / 0			980 / 0
B2, 4"		1,046 / 0			980 / 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	14-00-00	Top		9				00-00-00
1	Trusses	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	Top		140			140	n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6,552 ft-lbs	81.7%	125%	1	07-00-00
End Shear	1,706 lbs	22.2%	125%	1	01-01-04
Total Load Deflection	L/349 (0.463")	68.8%	n/a	1	07-00-00
Live Load Deflection	L/722 (0.224")	49.9%	n/a	2	07-00-00
Max Defl.	0.463"	46.3%	n/a	1	07-00-00
Span / Depth	17.5				

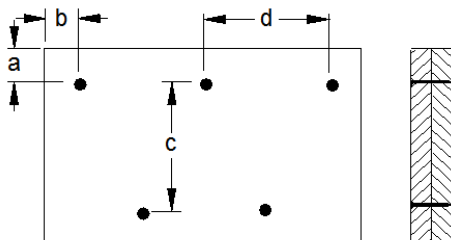
Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4" x 3-1/2"	2,026 lbs	34.0%	19.3%	Unspecified
B2	Wall/Plate 4" x 3-1/2"	2,026 lbs	34.0%	19.3%	Unspecified

Notes

- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Design meets arbitrary (0.75") Maximum live load deflection criteria.
- Calculations assume unbraced length of Top: 13-04-00, Bottom: 13-04-00.
- BC CALC® analysis is based on IBC 2009.
- Design based on Dry Service Condition.
- Member has no side loads.

Connection Diagram: Full Length of Member



BC CALC® Member Report

Dry | 1 span | No cant.

October 1, 2019 15:21:43

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM5-2(i2003)

City, State, Zip:

Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development

Connection Diagram: Full Length of Member

a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Member has no side loads.

Connectors are: 16d Sinker Nails

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2nd Floor Layout\Dropped Beams\BM6-2(i2009)

BC CALC® Member Report

Dry | 1 span | No cant.

October 1, 2019 15:21:48

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM6-2(i2009)

City, State, Zip:

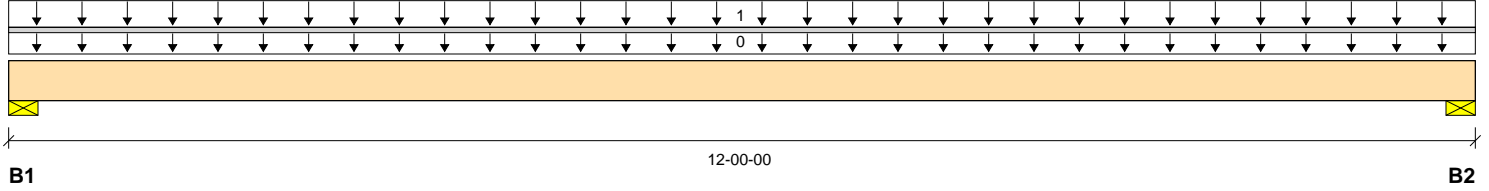
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"		330 / 0			566 / 0
B2, 4"		622 / 0			274 / 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	12-00-00	Top		9				00-00-00
1	Trusses	Trapezoidal (lb/ft)	L	00-00-00	12-00-00	Top		0			140	n\
								140			140	

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2,452 ft-lbs	26.4%	125%	1	06-00-00
End Shear	839 lbs	10.9%	125%	1	01-01-04
Total Load Deflection	L/1,096 (0.125")	21.9%	n\	1	06-00-00
Live Load Deflection	L/999 (0.059")	n\	n\	2	05-10-03
Max Defl.	0.125"	12.5%	n\	1	06-00-00
Span / Depth	14.9				

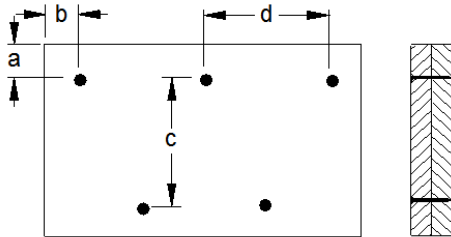
Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4" x 3-1/2"	896 lbs	15.1%	8.5%	Unspecified
B2	Wall/Plate 4" x 3-1/2"	896 lbs	15.1%	8.5%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Design meets arbitrary (0.75") Maximum live load deflection criteria.
 Calculations assume unbraced length of Top: 11-04-00, Bottom: 11-04-00.
 BC CALC® analysis is based on IBC 2009.
 Design based on Dry Service Condition.
 Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/4"
 b minimum = 3" d = 24"

Member has no side loads.
 Connectors are: 16d Sinker Nails

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2nd Floor Layout\Dropped Beams\BM7-2(i1998)

BC CALC® Member Report

Dry | 1 span | No cant.

October 1, 2019 15:21:53

Build 7118

Job name: CL-2977 w CP

File name: CL-2977 w CP.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM7-2(i1998)

City, State, Zip:

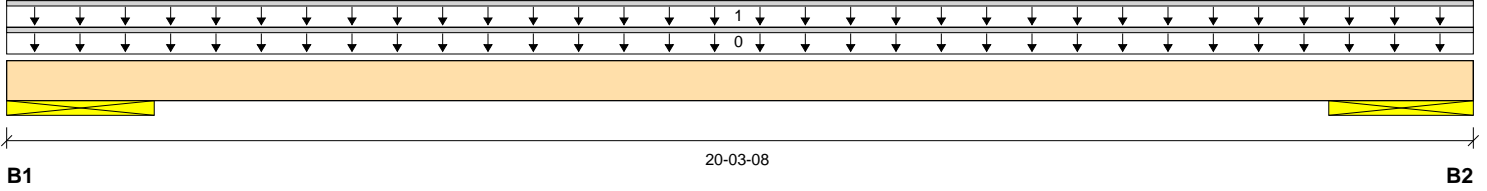
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 20-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 24-1/2"		4,842 / 0	4,677 / 0		
B2, 24"		4,822 / 0	4,658 / 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	20-03-08	Top		16				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	20-03-08	Top	460	460				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	31,380 ft-lbs	73.0%	115%	1	10-02-00
End Shear	6,358 lbs	52.0%	115%	1	03-04-08
Total Load Deflection	L/310 (0.634")	77.4%	n/a	1	10-02-00
Live Load Deflection	L/631 (0.311")	57.1%	n/a	6	10-02-00
Max Defl.	0.634"	63.4%	n/a	1	10-02-00
Span / Depth	12.3				
Dist. Load (B1)	920.00 lb/ft	2.9%	100%		
Dist. Load (B2)	920.00 lb/ft	2.9%	100%		

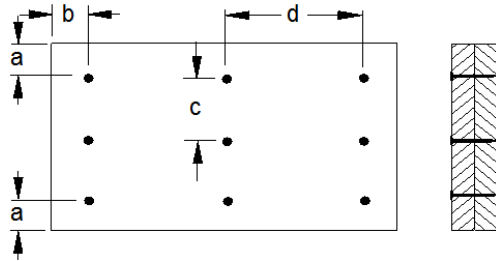
Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 24-1/2" x 3-1/2"	9,518 lbs	13.9%	14.8%	Unspecified
B2	Wall/Plate 24" x 3-1/2"	9,479 lbs	14.1%	15.0%	Unspecified

Notes

- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Design meets arbitrary (0.75") Maximum live load deflection criteria.
- Calculations assume member is fully braced.
- BC CALC® analysis is based on IBC 2009.
- Unbalanced snow loads determined from building geometry were used in selected product's verification.
- Design based on Dry Service Condition.
- Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 2" c = 6"
 b minimum = 3" d = 24"

Member has no side loads.
 Connectors are: 16d Sinker Nails

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