

**2nd Floor Layout\Dropped Beams\BM6-2(i4125)**

BC CALC® Member Report

Dry | 1 span | No cant.

September 21, 2018 14:31:50

Build 6621

Job name: CL-3090- w/ CP (GR)

File name: CL 3090 wCP GOR.mmdl

Address:

Description: 2nd Floor Layout\Dropped Beams\BM6-2(i4125)

City, State, Zip: Repla...umber

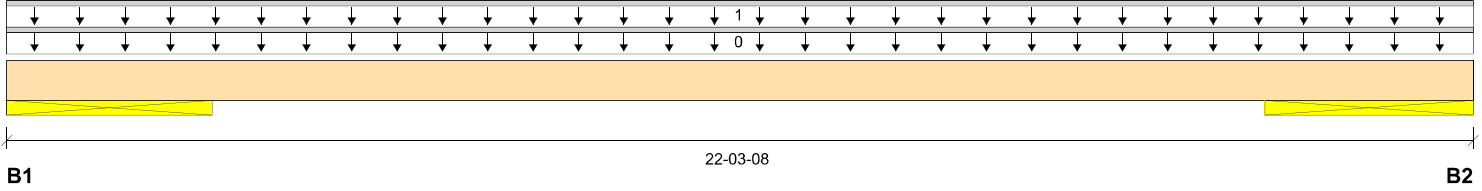
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 22-03-08

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 37-1/2"		1,246 / 0	1,113 / 0		
B2, 38"		1,251 / 0	1,117 / 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	22-03-08	Top		12				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	22-03-08	Top	100		100			n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6,892 ft-lbs	85.4%	115%	1	11-01-08
End Shear	1,486 lbs	16.4%	115%	1	04-01-06
Total Load Deflection	L/586 (0.33")	41.0%	n/a	1	11-01-08
Live Load Deflection	L/1,243 (0.156")	29.0%	n/a	6	11-01-08
Max Defl.	0.33"	33.0%	n/a	1	11-01-08
Span / Depth	16.3				
Dist. Load (B1)	200.00 lb/ft	0.6%	100%		
Dist. Load (B2)	200.00 lb/ft	0.6%	100%		

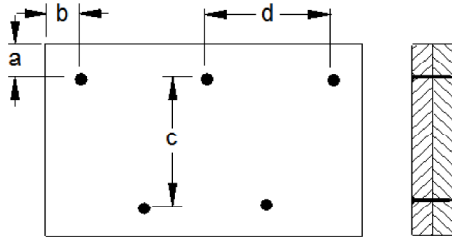
**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 37-1/2" x 3-1/2"	2,359 lbs	2.2%	2.4%	Unspecified
B2	Wall/Plate 38" x 3-1/2"	2,368 lbs	2.2%	2.4%	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: 16-00-00, Bottom: 16-00-00.
- 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 = 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.

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**2nd Floor Layout\Flush Beams\BM9-3(i4204)**

BC CALC® Member Report

Dry | 1 span | No cant.

September 21, 2018 14:32:02

Build 6621

Job name: CL-3090- w/ CP (GR)

File name: CL 3090 wCP GOR.mmdl

Address:

Description: 2nd Floor Layout\Flush Beams\BM9-3(i4204)

City, State, Zip: Repla...umber

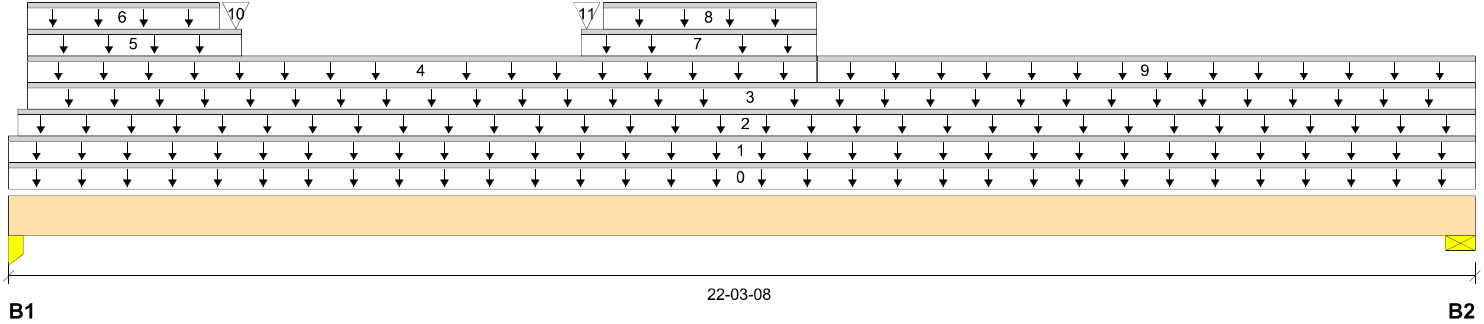
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 22-03-08

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	224 / 0	5,031 / 0	4,326 / 0		
B2, 3-1/2"	198 / 0	3,019 / 0	2,703 / 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	22-03-08	Top		24				00-00-00
1	Trusses	Unf. Lin. (lb/ft)	L	00-00-00	22-03-08	Top		40	40			n\A
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-01-12	22-03-08	Top	12	6				n\A
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	22-03-08	Top	4					n\A
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	12-03-07	Top	5					n\A
5	E20(i1055)	Unf. Lin. (lb/ft)	L	00-03-08	03-06-07	Top		62				n\A
6	E20(i1055)	Unf. Lin. (lb/ft)	L	00-03-08	03-02-07	Top		420	420			n\A
7	E19(i1054)	Unf. Lin. (lb/ft)	L	08-08-07	12-03-07	Top		62				n\A
8	E19(i1054)	Unf. Lin. (lb/ft)	L	09-00-07	12-03-07	Top		420	420			n\A
9	Stick Built Trusses	Unf. Lin. (lb/ft)	L	12-03-08	22-03-08	Top		83	110			n\A
10	E20(i1055)	Conc. Pt. (lbs)	L	03-05-07	03-05-07	Top		1,269	1,225			n\A
11	E19(i1054)	Conc. Pt. (lbs)	L	08-09-07	08-09-07	Top		1,269	1,225			n\A

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	44,068 ft-lbs	68.4%	115%	2	09-09-12
End Shear	7,952 lbs	43.3%	115%	2	01-07-08
Total Load Deflection	L/263 (0.998")	91.4%	n\A	2	10-11-11
Live Load Deflection	L/564 (0.465")	63.9%	n\A	13	10-11-11
Max Defl.	0.998"	99.8%	n\A	2	10-11-11
Span / Depth	16.4				

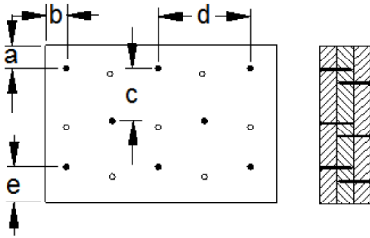
**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 3-1/2" x 5-1/4"	9,357 lbs	63.7%	67.9%	Unspecified
B2	Wall/Plate 3-1/2" x 5-1/4"	5,722 lbs	73.3%	41.5%	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 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.  
 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.  
 Nailing schedule applies to both sides of the member.  
 Member has no side loads.

**Connection Diagram: Full Length of Member**



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

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.  
 Nailing schedule applies to both sides of the member.  
 Member has no side loads.  
 Connectors are: 16d Sinker Nails

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**2nd Floor Layout\Flush Beams\BM7-3(i4200)**

BC CALC® Member Report

Dry | 1 span | No cant.

September 21, 2018 14:32:08

Build 6621

Job name: CL-3090- w/ CP (GR)

File name: CL 3090 wCP GOR.mmdl

Address:

Description: 2nd Floor Layout\Flush Beams\BM7-3(i4200)

City, State, Zip: Repla...umber

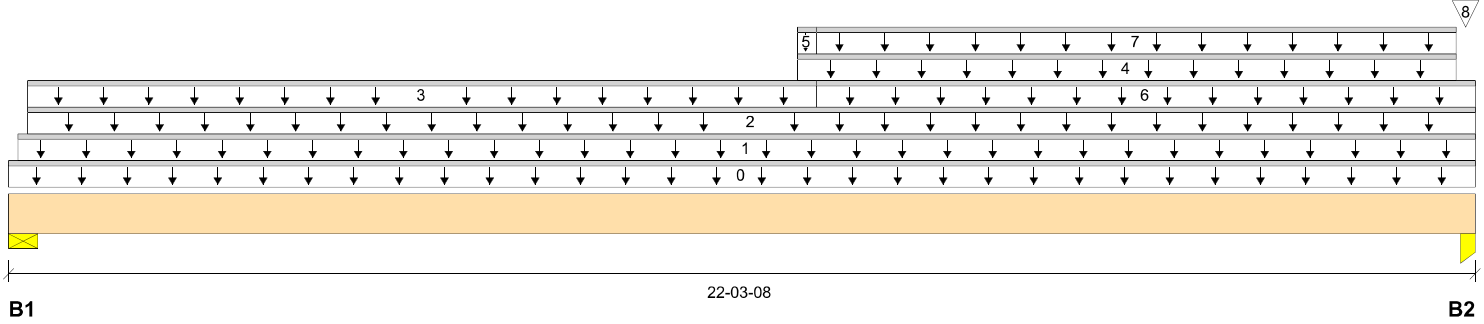
Specifier:

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"	515 / 0	1,399 / 0	902 / 0		
B2, 3-1/2"	479 / 0	3,868 / 0	3,159 / 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	22-03-08	Top		21				00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-01-12	22-03-08	Top	32	16				n\A
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	22-03-08	Top	7					n\A
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	12-03-07	Top	9					n\A
4	E17(i1052)	Unf. Lin. (lb/ft)	L	11-11-15	22-00-00	Top		62				n\A
5	E17(i1052)	Unf. Lin. (lb/ft)	L	11-11-15	12-03-07	Top		186	200			n\A
6	FC1 Floor Material	Unf. Lin. (lb/ft)	L	12-03-07	22-03-08	Top	2					n\A
7	E17(i1052)	Unf. Lin. (lb/ft)	L	12-03-07	22-00-00	Top		373	400			n\A
8	E15(i972)	Conc. Pt. (lbs)	L	22-01-12	22-01-12	Top		136	117			n\A

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	26,621 ft-lbs	53.2%	115%	2	14-01-14
End Shear	5,745 lbs	35.8%	115%	2	20-10-00
Total Load Deflection	L/309 (0.849")	77.7%	n\A	2	11-11-15
Live Load Deflection	L/712 (0.368")	50.6%	n\A	13	12-03-06
Max Defl.	0.849"	84.9%	n\A	2	11-11-15
Span / Depth	18.7				

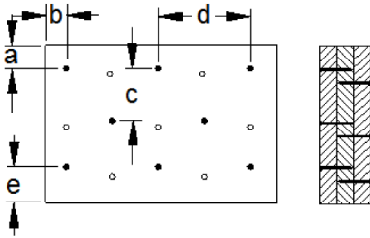
**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 5-1/4"	2,461 lbs	31.5%	17.9%	Unspecified
B2	Column 3-1/2" x 5-1/4"	7,027 lbs	47.8%	51.0%	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.  
 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.  
 Nailing schedule applies to both sides of the member.  
 Member has no side loads.

**Connection Diagram: Full Length of Member**



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

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.  
 Nailing schedule applies to both sides of the member.  
 Member has no side loads.  
 Connectors are: 16d Sinker Nails

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**2nd Floor Layout\Flush Beams\BM8-3(i4213)**

BC CALC® Member Report

Dry | 2 spans | No cant.

September 21, 2018 14:32:14

Build 6621

Job name: CL-3090- w/ CP (GR)

File name: CL 3090 wCP GOR.mmdl

Address:

Description: 2nd Floor Layout\Flush Beams\BM8-3(i4213)

City, State, Zip: Repla...umber

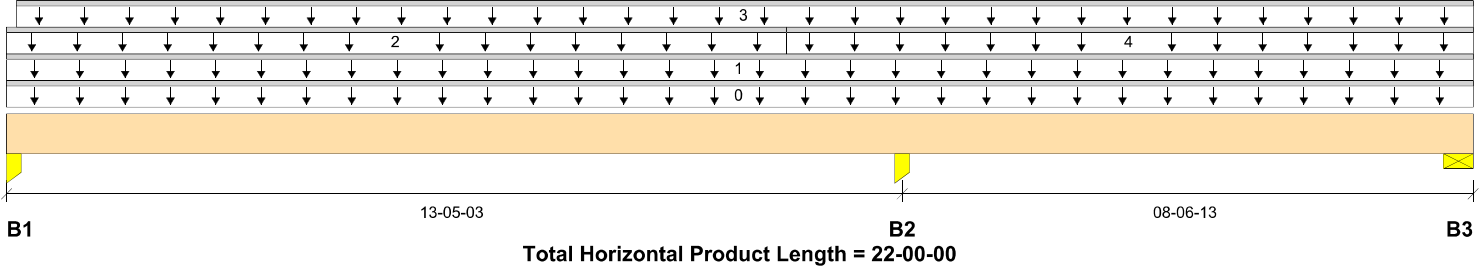
Specifier:

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"	85 / 4	2,741 / 0	2,285 / 0		
B2, 3-1/2"	211 / 0	6,136 / 0	4,891 / 0		
B3, 3-1/2"	60 / 24	767 / 0	843 / 51		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	22-00-00	Top		21				00-00-00
1	E16(i973)	Unf. Lin. (lb/ft)	L	00-00-00	22-00-00	Top		62				n/a
2	E16(i973)	Unf. Lin. (lb/ft)	L	00-00-00	11-08-07	Top		400	400			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-01-12	22-00-00	Top	15	5				n/a
4	E16(i973)	Unf. Lin. (lb/ft)	L	11-08-07	22-00-00	Top		290	290			n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	13,088 ft-lbs	26.1%	115%	8	05-07-07
Neg. Moment	-13,945 ft-lbs	27.8%	115%	4	13-05-03
End Shear	3,731 lbs	23.2%	115%	8	01-05-08
Cont. Shear	5,690 lbs	35.4%	115%	4	12-01-07
Total Load Deflection	L/1,080 (0.147")	22.2%	n/a	8	06-03-02
Live Load Deflection	L/999 (0.068")	n/a	n/a	39	06-03-02
Total Neg. Defl.	L/999 (-0.021")	n/a	n/a	8	16-03-07
Max Defl.	0.147"	14.7%	n/a	8	06-03-02
Span / Depth	11.3				

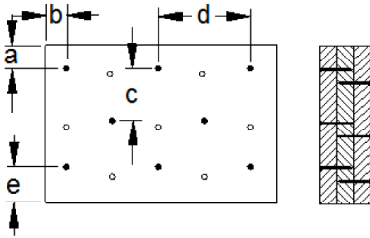
**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 3-1/2" x 5-1/4"	5,027 lbs	64.2%	36.4%	Unspecified
B2	Column 3-1/2" x 5-1/4"	11,027 lbs	75.0%	80.0%	Unspecified
B3	Wall/Plate 3-1/2" x 5-1/4"	1,610 lbs	20.6%	11.7%	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.  
 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.  
 Nailing schedule applies to both sides of the member.  
 Member has no side loads.

**Connection Diagram: Full Length of Member**



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

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.  
 Nailing schedule applies to both sides of the member.  
 Member has no side loads.  
 Connectors are: 16d Sinker Nails

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**2nd Floor Layout\Dropped Beams\BM5-2(i4163)**

BC CALC® Member Report

Dry | 1 span | No cant.

September 21, 2018 14:32:20

Build 6621

Job name: CL-3090- w/ CP (GR)

File name: CL 3090 wCP GOR.mmdl

Address: Description: 2nd Floor Layout\Dropped Beams\BM5-2(i4163)

City, State, Zip: Repla...umber

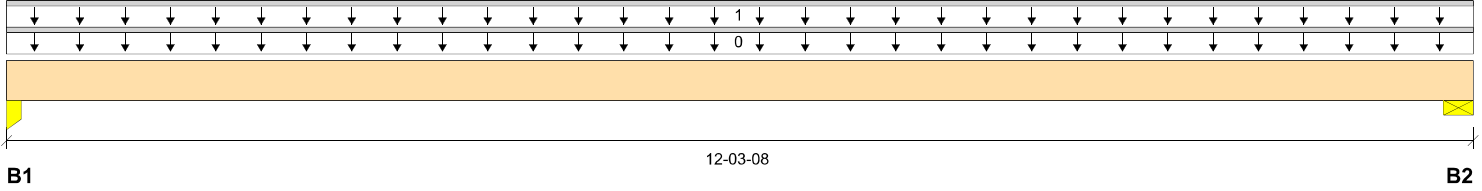
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company: Caviness Land Development



Total Horizontal Product Length = 12-03-08

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"		736 / 0	678 / 0		
B2, 3-1/2"		731 / 0	674 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-03-08	Top		9				00-00-00
1	Trusses	Unf. Lin. (lb/ft)	L	00-00-00	12-03-08	Top	110		110			n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3,986 ft-lbs	49.1%	115%	1	06-02-00
End Shear	1,161 lbs	16.4%	115%	1	01-01-04
Total Load Deflection	L/655 (0.216")	36.7%	n/a	1	06-02-00
Live Load Deflection	L/999 (0.104")	n/a	n/a	6	06-02-00
Max Defl.	0.216"	21.6%	n/a	1	06-02-00
Span / Depth	15.3				

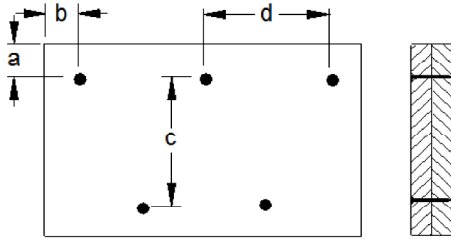
**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 4" x 3-1/2"	1,414 lbs	12.6%	13.5%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	1,405 lbs	27.0%	15.3%	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: 12-00-00, Bottom: 12-00-00.
- 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 = 5-1/4"  
 b minimum = 3"      d = 24"

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

**Disclosure**

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