BYKONEN
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STRUCTURAL
ENGINEERING

STRUCTURAL CALCULATIONS

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September 11, 2020

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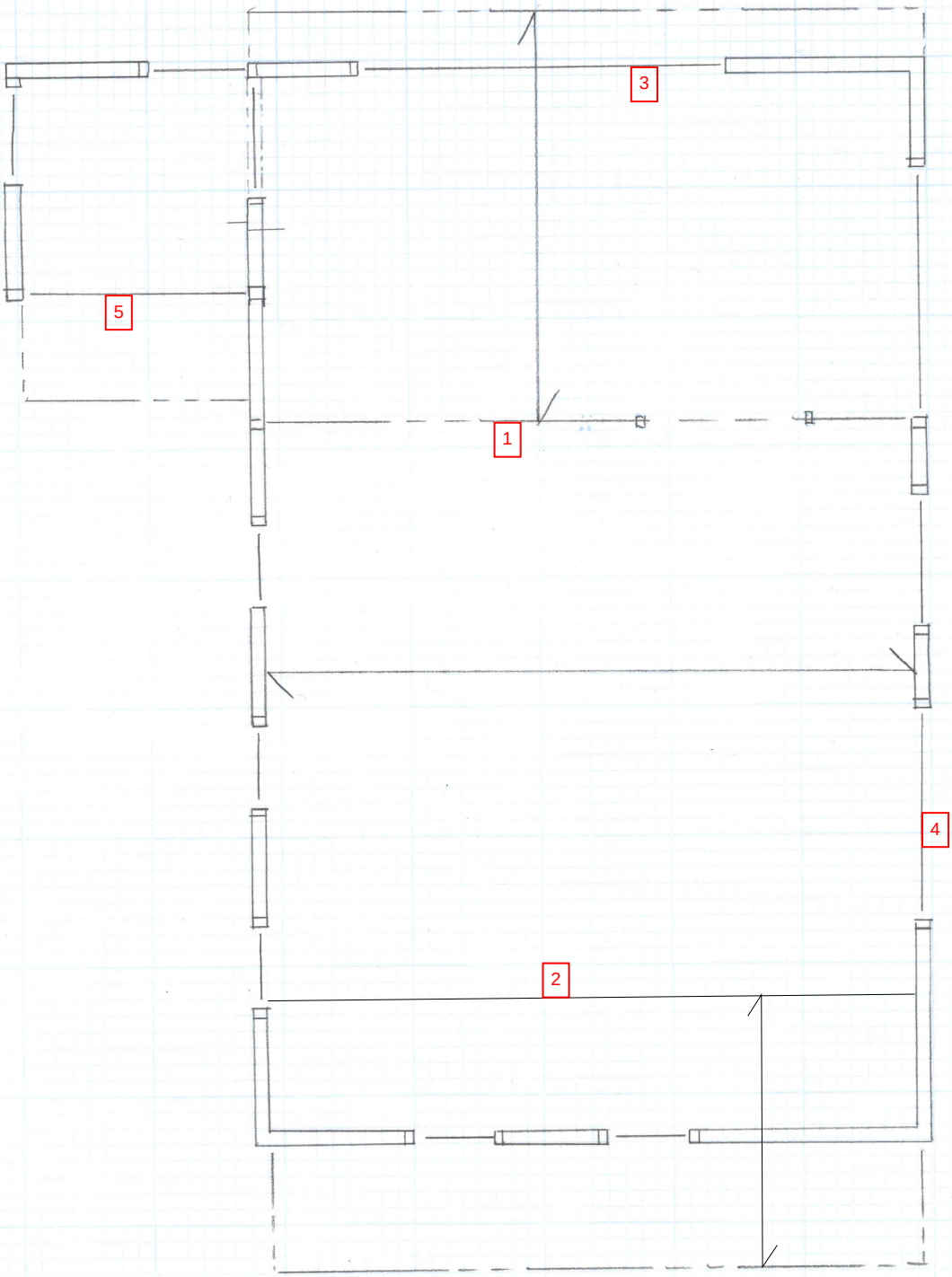
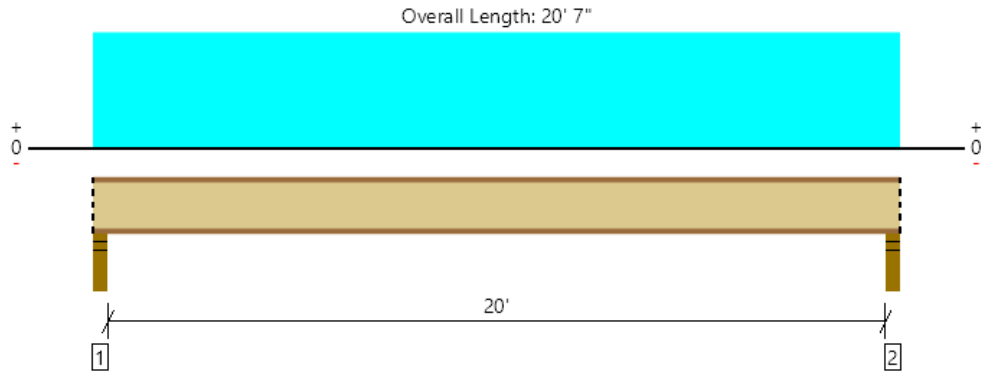
FRAMING KEY - ROOF



Roof, Roof: Joist, typ
1 piece(s) 11 7/8" TJI® 210 @ 24" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	823 @ 2 1/2"	1679 (3.50")	Passed (49%)	1.15	1.0 D + 1.0 S (All Spans)
Shear (lbs)	800 @ 3 1/2"	1903	Passed (42%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	4067 @ 10' 3 1/2"	4364	Passed (93%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.637 @ 10' 3 1/2"	0.672	Passed (L/380)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	1.019 @ 10' 3 1/2"	1.009	Passed (L/238)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0.25/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Stud wall - SPF	3.50"	3.50"	1.75"	309	515	824	Blocking
2 - Stud wall - SPF	3.50"	3.50"	1.75"	309	515	824	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 6" o/c	
Bottom Edge (Lu)	20' 7" o/c	

•TJI joists are only analyzed using Maximum Allowable bracing solutions.
•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 20' 7"	24"	15.0	25.0	Default Load

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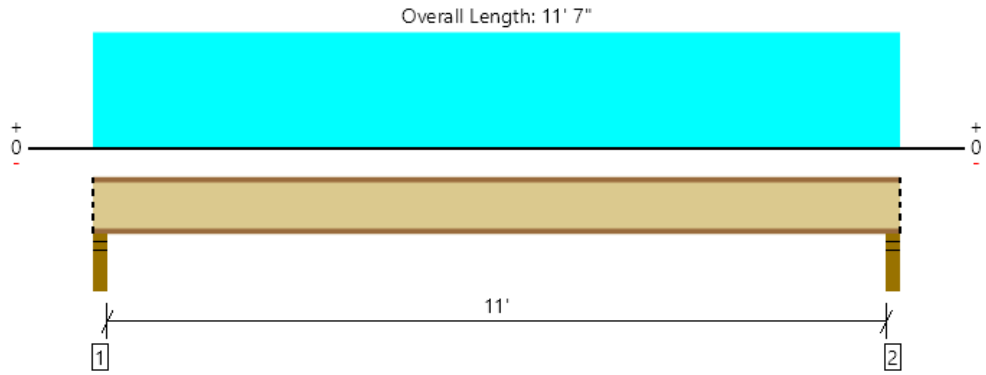
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Roof, Roof: Joist, solar
1 piece(s) 11 7/8" TJI® 110 @ 24" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	579 @ 2 1/2"	1581 (3.50")	Passed (37%)	1.15	1.0 D + 1.0 S (All Spans)
Shear (lbs)	550 @ 3 1/2"	1794	Passed (31%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	1559 @ 5' 9 1/2"	3634	Passed (43%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.080 @ 5' 9 1/2"	0.372	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.159 @ 5' 9 1/2"	0.558	Passed (L/842)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0.25/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Stud wall - SPF	3.50"	3.50"	1.75"	290	290	580	Blocking
2 - Stud wall - SPF	3.50"	3.50"	1.75"	290	290	580	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' 7" o/c	
Bottom Edge (Lu)	11' 7" o/c	

•TJI joists are only analyzed using Maximum Allowable bracing solutions.
•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 11' 7"	24"	25.0	25.0	Solar zone

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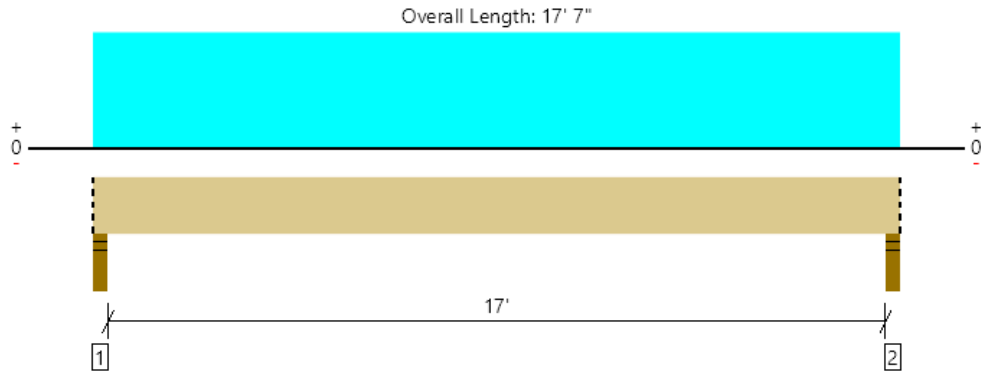
Roof, 1-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 2.0E Parallam® PSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2861 @ 2"	7656 (3.50")	Passed (37%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	2444 @ 1' 3 3/8"	9241	Passed (26%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	12106 @ 8' 9 1/2"	22888	Passed (53%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.335 @ 8' 9 1/2"	0.575	Passed (L/618)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.697 @ 8' 9 1/2"	0.863	Passed (L/297)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Stud wall - DF	3.50"	3.50"	1.50"	1488	1374	2862	Blocking
2 - Stud wall - DF	3.50"	3.50"	1.50"	1488	1374	2862	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	17' 7" o/c	
Bottom Edge (Lu)	17' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 17' 7"	N/A	13.0	--	
1 - Uniform (PSF)	0 to 17' 7" (Front)	6' 3"	25.0	25.0	Roof, solar

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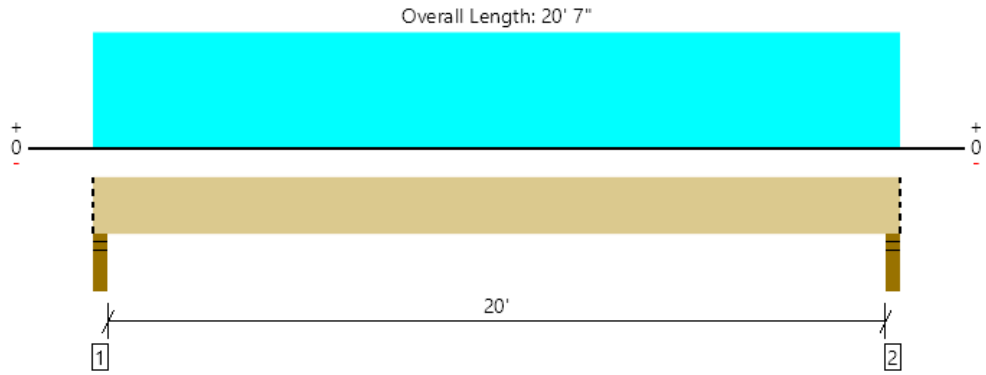
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, 2-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 1.55E TimberStrand® LSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1369 @ 2"	7656 (3.50")	Passed (18%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	1198 @ 1' 3 3/8"	9878	Passed (12%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	6817 @ 10' 3 1/2"	18346	Passed (37%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.389 @ 10' 3 1/2"	1.013	Passed (L/625)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.689 @ 10' 3 1/2"	1.350	Passed (L/353)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Stud wall - DF	3.50"	3.50"	1.50"	597	772	1369	Blocking
2 - Stud wall - DF	3.50"	3.50"	1.50"	597	772	1369	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	20' 7" o/c	
Bottom Edge (Lu)	20' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 20' 7"	N/A	13.0	--	
1 - Uniform (PSF)	0 to 20' 7" (Front)	3'	15.0	25.0	Roof

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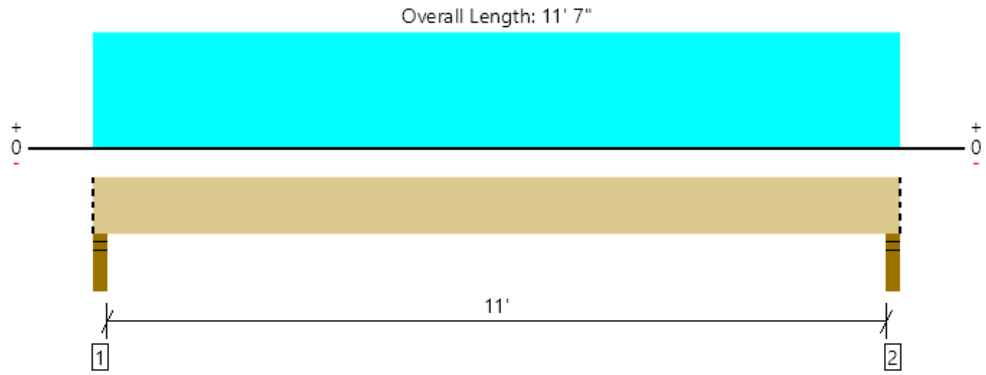
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, Portico Roof

1 piece(s) 2 x 8 Hem-Fir No. 2 @ 24" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	463 @ 2 1/2"	2126 (3.50")	Passed (22%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	392 @ 10 3/4"	1251	Passed (31%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	1247 @ 5' 9 1/2"	1477	Passed (84%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.283 @ 5' 9 1/2"	0.372	Passed (L/474)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.452 @ 5' 9 1/2"	0.558	Passed (L/296)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0.25/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Stud wall - SPF	3.50"	3.50"	1.50"	174	290	464	Blocking
2 - Stud wall - SPF	3.50"	3.50"	1.50"	174	290	464	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 1" o/c	
Bottom Edge (Lu)	11' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 11' 7"	24"	15.0	25.0	Default Load

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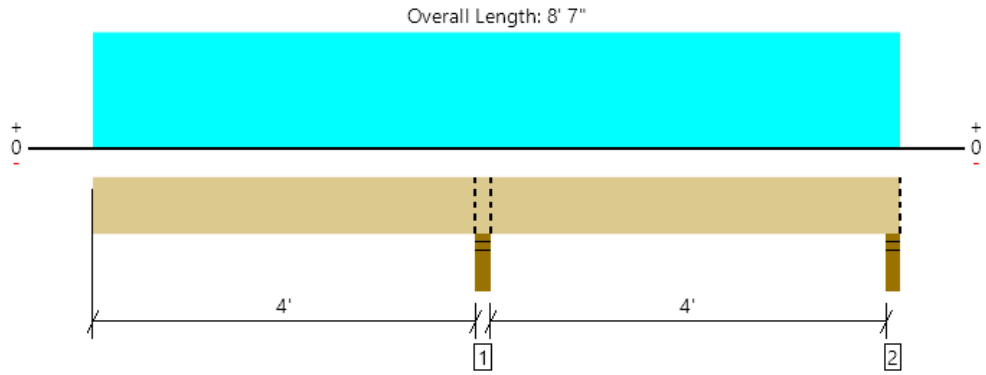
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, Joist at 4 ft overhang
1 piece(s) 2 x 8 Hem-Fir No. 2 @ 24" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	663 @ 4' 1 3/4"	2127 (3.50")	Passed (31%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	272 @ 4' 10 3/4"	1251	Passed (22%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	-688 @ 4' 1 3/4"	1477	Passed (47%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.113 @ 0	0.276	Passed (2L/884)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.175 @ 0	0.415	Passed (2L/570)	--	1.0 D + 1.0 S (Alt Spans)

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0.25/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Overhang deflection criteria: LL (2L/360) and TL (2L/240).
- Left cantilever length exceeds 1/3 member length or 1/2 back span length. Additional bracing should be considered.
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Stud wall - SPF	3.50"	3.50"	1.50"	249	415	664	Blocking
2 - Stud wall - SPF	3.50"	3.50"	1.50"	9	65/-44	74/-44	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	8' 7" o/c	
Bottom Edge (Lu)	8' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 8' 7"	24"	15.0	25.0	Default Load

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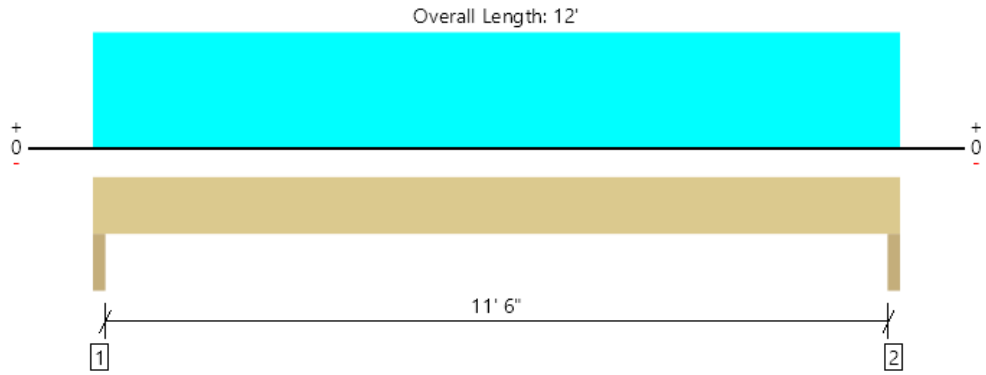
Roof, 3-Header

3 piece(s) 2 x 10 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1743 @ 1 1/2"	5468 (3.00")	Passed (32%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	1447 @ 1' 1/4"	4787	Passed (30%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	5014 @ 6'	5750	Passed (87%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.195 @ 6'	0.392	Passed (L/725)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.323 @ 6'	0.587	Passed (L/437)	--	1.0 D + 1.0 S (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Trimmer - DF	3.00"	3.00"	1.50"	693	1050	1743	None
2 - Trimmer - DF	3.00"	3.00"	1.50"	693	1050	1743	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	10' 2" o/c	
Bottom Edge (Lu)	12' o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 12'	N/A	10.6	--	
1 - Uniform (PSF)	0 to 12'	7'	15.0	25.0	Snow

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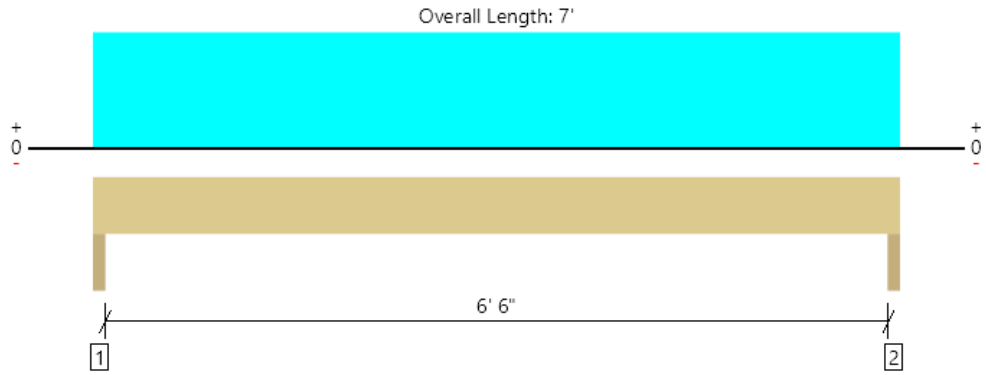
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, 4-Header
2 piece(s) 2 x 8 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1419 @ 1 1/2"	3645 (3.00")	Passed (39%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	1073 @ 10 1/4"	2501	Passed (43%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	2310 @ 3' 6"	2569	Passed (90%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.094 @ 3' 6"	0.225	Passed (L/859)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.153 @ 3' 6"	0.313	Passed (L/530)	--	1.0 D + 1.0 S (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/5/16").
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Trimmer - DF	3.00"	3.00"	1.50"	544	875	1419	None
2 - Trimmer - DF	3.00"	3.00"	1.50"	544	875	1419	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	7' o/c	
Bottom Edge (Lu)	7' o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 7'	N/A	5.5	--	
1 - Uniform (PSF)	0 to 7'	10'	15.0	25.0	Snow

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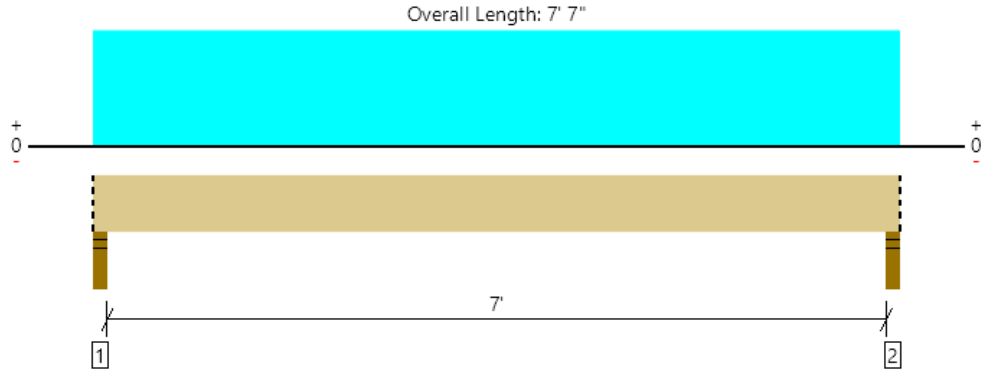
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, 5-Drop Beam

1 piece(s) 4 x 8 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	953 @ 2"	4961 (3.50")	Passed (19%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	728 @ 10 3/4"	3172	Passed (23%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	1652 @ 3' 9 1/2"	3529	Passed (47%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.060 @ 3' 9 1/2"	0.363	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.108 @ 3' 9 1/2"	0.483	Passed (L/804)	--	1.0 D + 1.0 Lr (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Roof Live	Total	
1 - Stud wall - SPF	3.50"	3.50"	1.50"	422	531	953	Blocking
2 - Stud wall - SPF	3.50"	3.50"	1.50"	422	531	953	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	7' 7" o/c	
Bottom Edge (Lu)	7' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Comments
0 - Self Weight (PLF)	0 to 7' 7"	N/A	6.4	--	
1 - Uniform (PSF)	0 to 7' 7" (Front)	7'	15.0	20.0	Default Load

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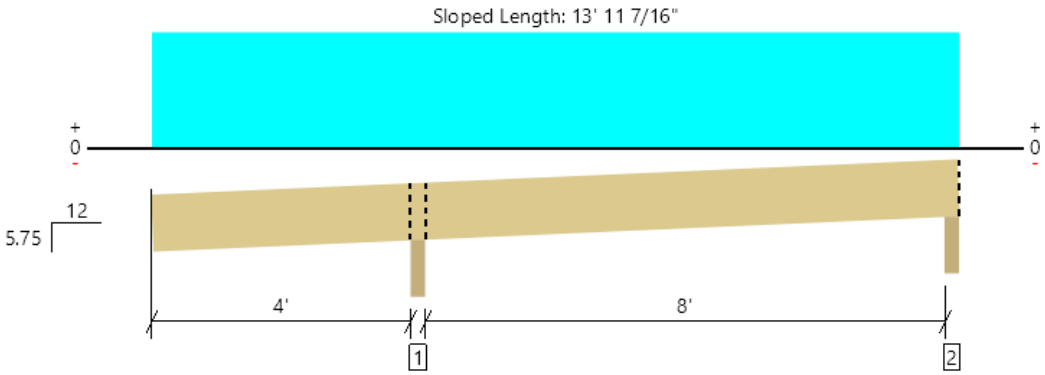
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, Roof: Joist, Overhang
1 piece(s) 2 x 6 Hem-Fir No. 2 @ 24" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Member Length : 14' 2 1/16"

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 5.75/12

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	775 @ 4' 1 3/4"	2358 (3.50")	Passed (33%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	383 @ 4' 8 7/16"	949	Passed (40%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	-716 @ 4' 1 3/4"	921	Passed (78%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.340 @ 0	0.460	Passed (2L/324)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.440 @ 0	0.613	Passed (2L/250)	--	1.0 D + 1.0 S (Alt Spans)

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Beveled Plate - SPF	3.50"	3.50"	1.50"	310	465	775	Blocking
2 - Beveled Plate - SPF	3.50"	3.50"	1.50"	109	190	299	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	13' 1" o/c	
Bottom Edge (Lu)	7' 10" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 12' 7"	24"	15.0	25.0	Default Load

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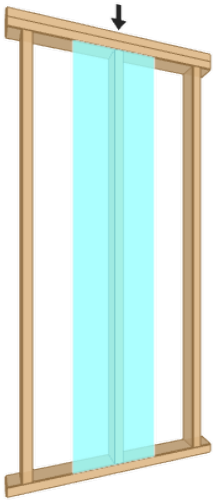
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Roof, Wall: Stud

1 piece(s) 1 3/4" x 5 1/2" 1.55E TimberStrand® LSL @ 12" OC

Wall Height: 21' 6" | Member Height: 21' 1 1/2" | O. C. Spacing: 12.00"



Drawing is Conceptual

Design Results	Actual	Allowed	Result	LDF	Load: Combination
Slenderness	39	50	Passed (78%)	--	--
Compression (lbs)	866	3982	Passed (22%)	1.15	1.0 D + 1.0 S
Plate Bearing (lbs)	866	4967	Passed (17%)	--	1.0 D + 1.0 S
Lateral Reaction (lbs)	250	--	--	1.60	1.0 D + 0.6 W
Lateral Shear (lbs)	239	3183	Passed (8%)	1.60	1.0 D + 0.6 W
Lateral Moment (ft-lbs)	1322 @ mid-span	3020	Passed (44%)	1.60	1.0 D + 0.6 W
Total Deflection (in)	2.03 @ mid-span	2.11	Passed (L/125)	--	1.0 D + 0.6 W
Bending/Compression	0.51	1	Passed (51%)	1.60	1.0 D + 0.6 W

- Lateral deflection criteria: Wind (L/120)
- Input axial load eccentricity for this design is 16.67% of applicable member side dimension.
- Applicable calculations are based on NDS.
- A bearing area factor of 1.214286 has been applied to base plate bearing capacity.
- A 4% increase in the moment capacity has been added to account for repetitive member usage.

Supports	Type	Material
Top	Dbl 2X	Spruce-Pine-Fir
Base	2X	Spruce-Pine-Fir

System : Wall
Member Type : Stud
Building Code : IBC 2015
Design Methodology : ASD

Max Unbraced Length	Comments
1'	

Lateral Connections

Supports	Connector	Type/Model	Quantity	Connector Nailing
Top	Nails	8d x 2.5" Box (Toe)	4	N/A
Base	Nails	8d x 2.5" Box (Toe)	4	N/A

- Nailed connection at the top of the member is assumed to be nailed through the bottom 2x plate prior to placement of the top 2x of the double top plate assembly.

Vertical Load	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Point (lb)	N/A	433	433	Roof, solar

Lateral Load	Location	Spacing	Wind (1.60)	Comments
1 - Uniform (PSF)	Full Length	12.00"	39.5	

- IBC Table 1604.3, footnote f: Deflection checks are performed using 42% of this lateral wind load.

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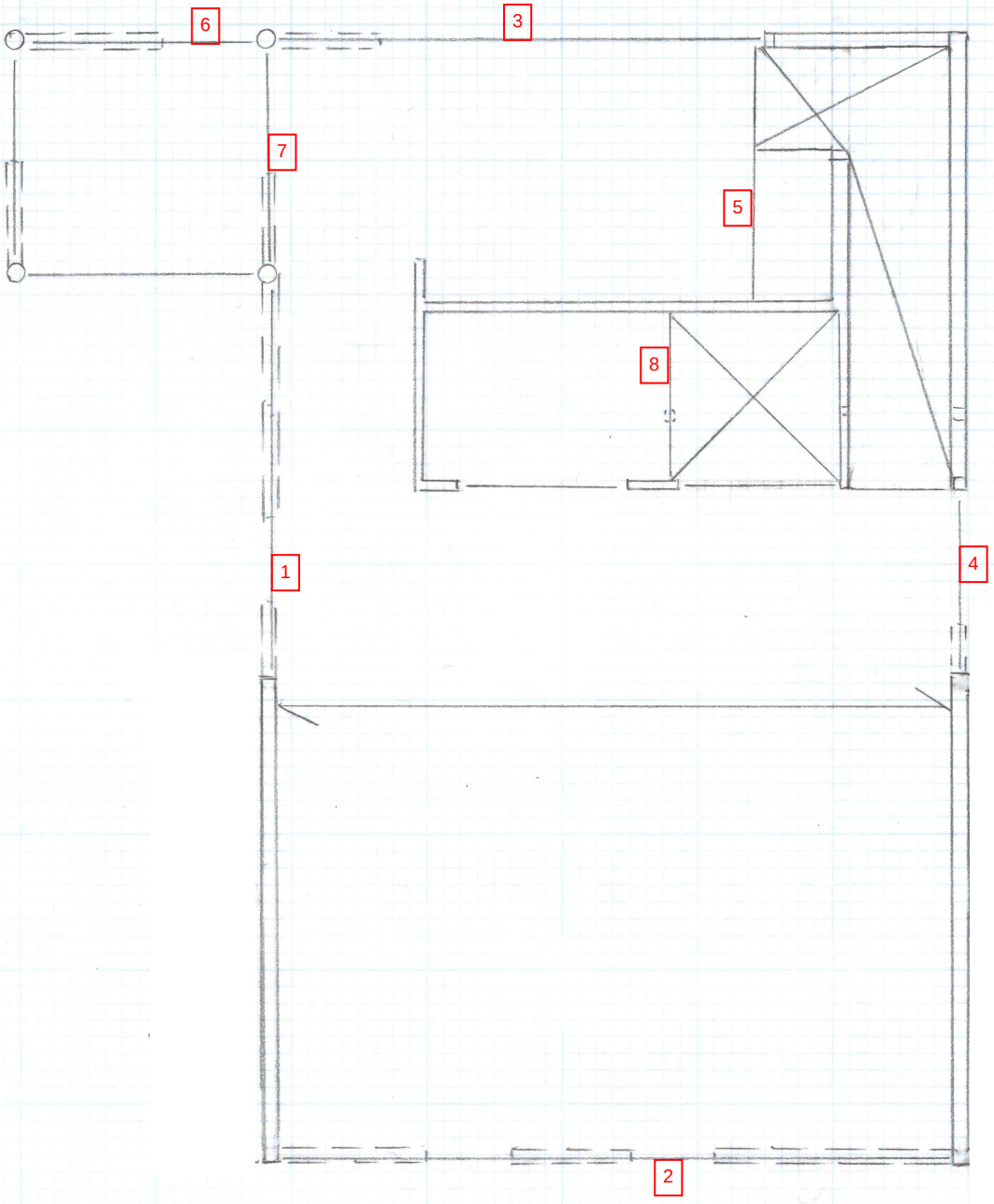
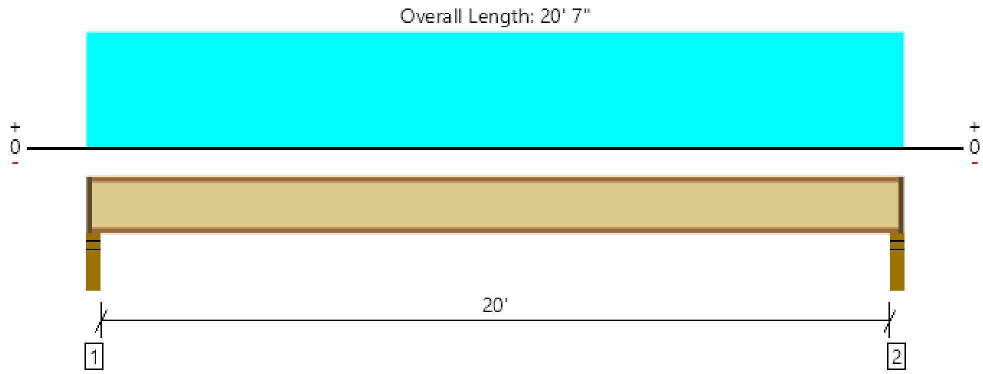
Weyerhaeuser

FRAMING KEY - UPPER FLOOR



Upper Floor, Floor: Joist, typ

1 piece(s) 11 7/8" TJI® 360 @ 12" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	560 @ 2 1/2"	1202 (2.25")	Passed (47%)	1.00	1.0 D + 1.0 L (All Spans)
Shear (lbs)	550 @ 3 1/2"	1705	Passed (32%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2796 @ 10' 3 1/2"	6180	Passed (45%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.346 @ 10' 3 1/2"	0.504	Passed (L/700)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.475 @ 10' 3 1/2"	1.008	Passed (L/509)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	42	40	Passed	--	--

System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A structural analysis of the deck has not been performed.
- Deflection analysis is based on composite action with a single layer of 23/32" Weyerhaeuser Edge™ Panel (24" Span Rating) that is glued and nailed down.
- Additional considerations for the TJ-Pro™ Rating include: None.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Stud wall - SPF	3.50"	2.25"	1.75"	154	412	566	1 1/4" Rim Board
2 - Stud wall - SPF	3.50"	2.25"	1.75"	154	412	566	1 1/4" Rim Board

• Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 8" o/c	
Bottom Edge (Lu)	20' 5" o/c	

•TJI joists are only analyzed using Maximum Allowable bracing solutions.
•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 20' 7"	12"	15.0	40.0	Default Load

Weyerhaeuser Notes

ForteWEB Software Operator	Job Notes
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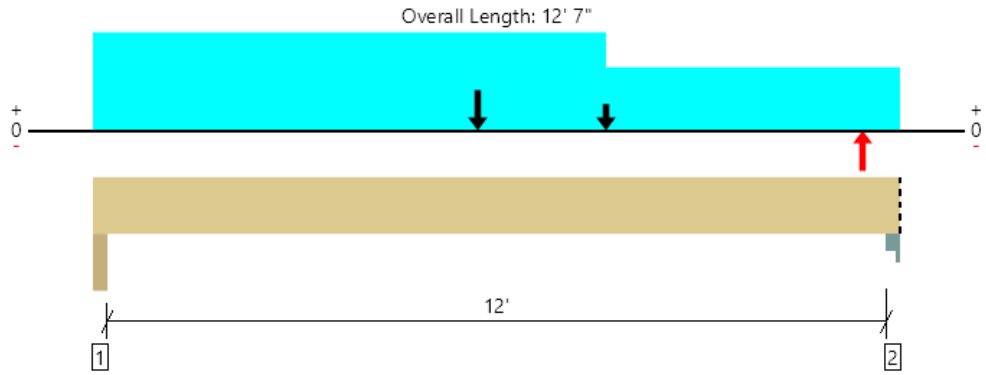
Upper Floor, 1-Flush Beam

1 piece(s) 5 1/4" x 14" 2.0E Parallam® PSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7999 @ 2"	11484 (3.50")	Passed (70%)	--	1.0 D + 0.525 E + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	4918 @ 11' 1 1/2"	14210	Passed (35%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	22516 @ 6' 11 5/16"	46854	Passed (48%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Live Load Defl. (in)	0.204 @ 6' 3 1/16"	0.306	Passed (L/721)	--	1.0 D + 0.525 E + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.354 @ 6' 3 5/8"	0.613	Passed (L/415)	--	1.0 D + 0.525 E + 0.75 L + 0.75 S (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Seismic	Total	
1 - Trimmer - SPF	3.50"	3.50"	2.44"	3519	2517	1869	2268/-2268	10173/-2268	None
2 - Column Cap - steel	3.50"	3.50"	2.34"	3485	2517	1505	2268/-2268	9775/-2268	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	12' 7" o/c	
Bottom Edge (Lu)	12' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Seismic (1.60)	Comments
0 - Self Weight (PLF)	0 to 12' 7"	N/A	23.0	--	--	--	
1 - Uniform (PSF)	0 to 12' 7" (Front)	10'	15.0	40.0	-	-	Default Load
2 - Uniform (PSF)	0 to 8' (Front)	10'	15.0	-	25.0	-	Roof
3 - Point (lb)	6' (Front)	N/A	-	-	-	4630	Omega = 2.5
4 - Uniform (PLF)	0 to 12' 7" (Front)	N/A	170.0	-	-	-	Wall/window weight
5 - Point (lb)	12' (Front)	N/A	-	-	-	-4630	Omega = 2.5
6 - Point (lb)	8' (Front)	N/A	1488	-	1374	-	Linked from: Roof 1 -Flush Beam, Support 1

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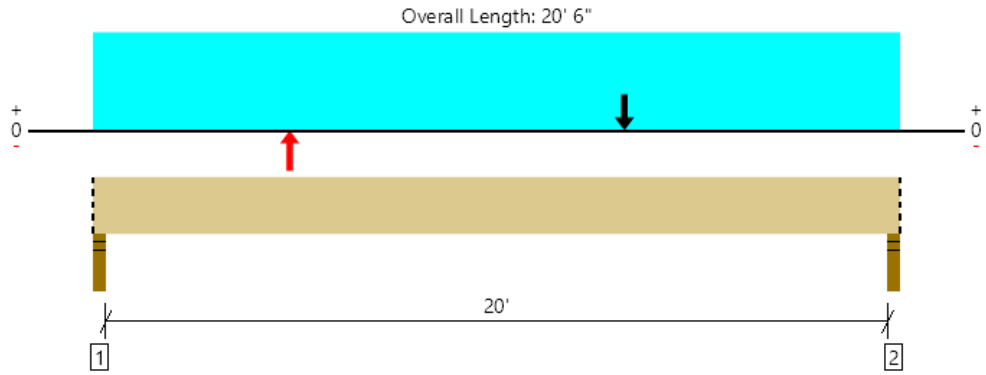
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Upper Floor, 2-Flush Beam

1 piece(s) 7" x 11 7/8" 2.0E Parallam® PSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	5217 @ 1 1/2"	8505 (3.00")	Passed (61%)	--	1.0 D - 0.525 E + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	4019 @ 1' 2 7/8"	18481	Passed (22%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	22862 @ 10' 3"	45776	Passed (50%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.310 @ 11' 6"	0.506	Passed (L/784)	--	1.0 D + 0.525 E + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.899 @ 10' 8 1/2"	1.013	Passed (L/270)	--	1.0 D + 0.525 E + 0.75 L + 0.75 S (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Member should be side-loaded from both sides of the member or braced to prevent rotation.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Seismic	Total	
1 - Stud wall - HF	3.00"	3.00"	1.84"	3034	273	1538	1571/-1571	6416/-1571	Blocking
2 - Stud wall - HF	3.00"	3.00"	1.78"	3034	273	1538	1271/-1271	6116/-1271	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	20' 6" o/c	
Bottom Edge (Lu)	20' 6" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Seismic (1.60)	Comments
0 - Self Weight (PLF)	0 to 20' 6"	N/A	26.0	--	--	--	
1 - Uniform (PSF)	0 to 20' 6" (Front)	8"	15.0	40.0	-	-	Default Load
2 - Uniform (PSF)	0 to 20' 6" (Front)	6'	15.0	-	25.0	-	Roof
3 - Point (lb)	5' (Front)	N/A	-	-	-	-3500	Omega = 2.5
4 - Point (lb)	13' 6" (Front)	N/A	-	-	-	3200	Omega = 2.5
5 - Uniform (PLF)	0 to 20' 6" (Front)	N/A	170.0	-	-	-	Wall weight

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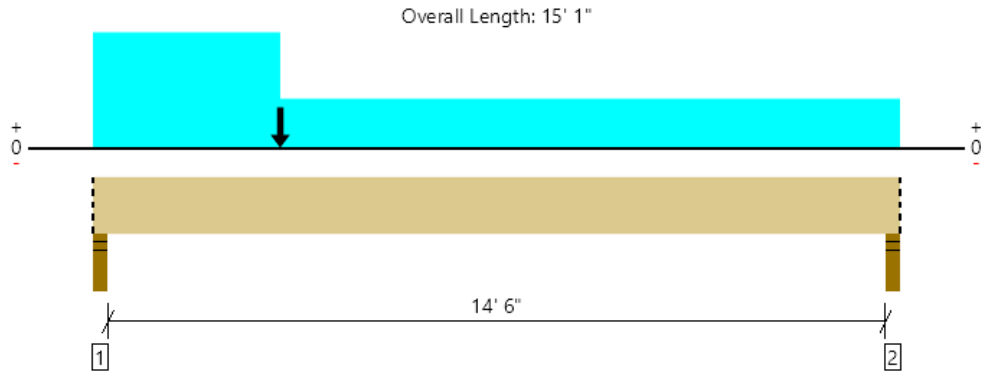
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Upper Floor, 3-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 1.55E TimberStrand® LSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3576 @ 2"	4961 (3.50")	Passed (72%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	2970 @ 1' 3 3/8"	9878	Passed (30%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	9280 @ 5' 1 5/16"	18346	Passed (51%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.137 @ 6' 7 5/16"	0.369	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.507 @ 7' 1 7/8"	0.738	Passed (L/349)	--	1.0 D + 1.0 S (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Total	
1 - Stud wall - HF	3.50"	3.50"	2.52"	2251	201	1325	3777	Blocking
2 - Stud wall - HF	3.50"	3.50"	1.50"	1632	201	293	2126	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	15' 1" o/c	
Bottom Edge (Lu)	15' 1" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 15' 1"	N/A	13.0	--	--	
1 - Uniform (PSF)	0 to 15' 1" (Front)	8"	15.0	40.0	-	Default Load
2 - Uniform (PSF)	0 to 3' 6" (Front)	7'	15.0	-	25.0	Roof
3 - Point (lb)	3' 6" (Front)	N/A	604	-	1006	Post above
4 - Uniform (PLF)	0 to 15' 1" (Front)	N/A	170.0	-	-	Wall/window weight

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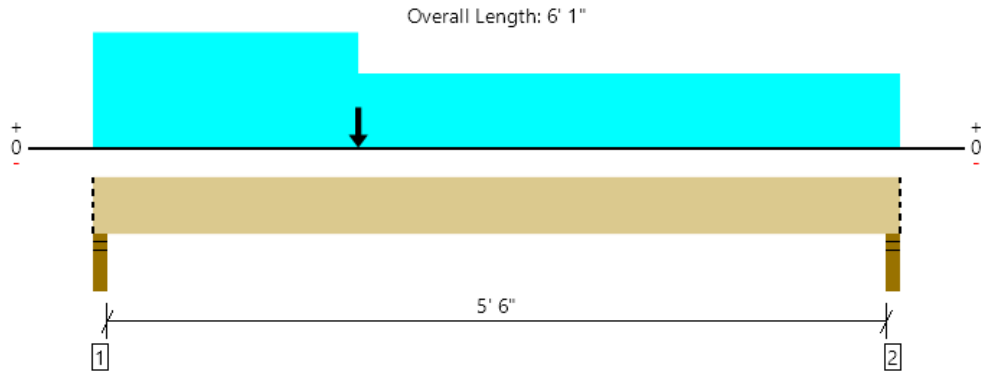
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Upper Floor, 4-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 1.55E TimberStrand® LSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2961 @ 2"	4961 (3.50")	Passed (60%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	1559 @ 1' 3 3/8"	8590	Passed (18%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	3444 @ 2' 10 3/16"	15953	Passed (22%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.020 @ 2' 11 1/2"	0.144	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.041 @ 2' 11 5/8"	0.287	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Total	
1 - Stud wall - HF	3.50"	3.50"	2.09"	1473	1217	768	3458	Blocking
2 - Stud wall - HF	3.50"	3.50"	1.67"	1152	1217	232	2601	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6' 1" o/c	
Bottom Edge (Lu)	6' 1" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 6' 1"	N/A	13.0	--	--	
1 - Uniform (PSF)	0 to 6' 1" (Front)	10'	15.0	40.0	-	Default Load
2 - Uniform (PSF)	0 to 2' (Front)	10'	15.0	-	25.0	Roof
3 - Point (lb)	2' (Front)	N/A	300	-	500	Post above
4 - Uniform (PLF)	0 to 6' 1" (Front)	N/A	170.0	-	-	Wall/window weight

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

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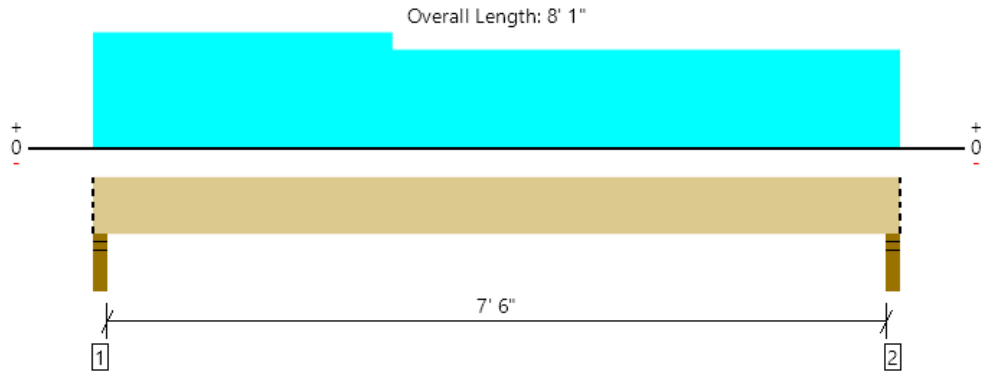
Weyerhaeuser

Upper Floor, 5-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 1.55E TimberStrand® LSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2147 @ 2"	4961 (3.50")	Passed (43%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1425 @ 1' 3 3/8"	8590	Passed (17%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	3775 @ 3' 11 7/16"	15953	Passed (24%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.048 @ 4' 3/16"	0.194	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.068 @ 4' 3/16"	0.387	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Stud wall - HF	3.50"	3.50"	1.51"	624	1523	2147	Blocking
2 - Stud wall - HF	3.50"	3.50"	1.50"	579	1405	1984	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	8' 1" o/c	
Bottom Edge (Lu)	8' 1" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 8' 1"	N/A	13.0	--	
1 - Uniform (PSF)	0 to 8' 1" (Front)	8' 6"	15.0	40.0	Default Load
2 - Uniform (PSF)	0 to 3' (Front)	1' 6"	15.0	40.0	Upper stair

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

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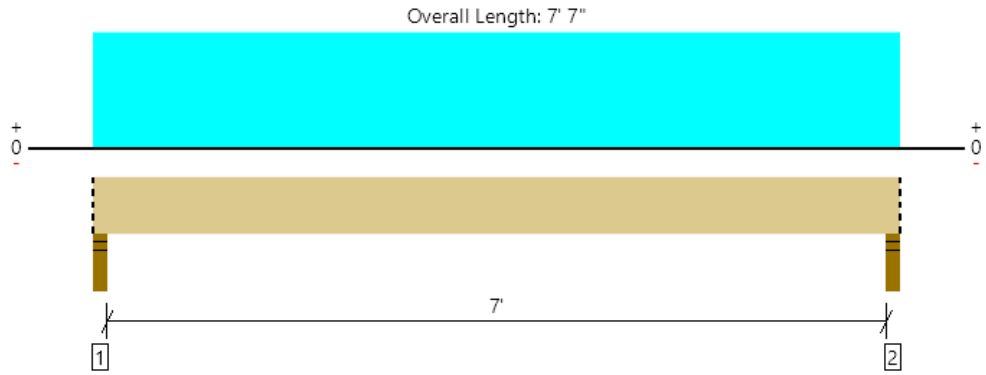
Weyerhaeuser

Upper Floor, 6-Flush Beam

1 piece(s) 4 x 8 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1638 @ 2"	4961 (3.50")	Passed (33%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	1162 @ 10 3/4"	2538	Passed (46%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2638 @ 3' 9 1/2"	2823	Passed (93%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.073 @ 3' 9 1/2"	0.181	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.186 @ 3' 9 1/2"	0.363	Passed (L/468)	--	1.0 D + 0.75 L + 0.75 S (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Total	
1 - Stud wall - HF	3.50"	3.50"	1.50"	991	531	332	1854	Blocking
2 - Stud wall - HF	3.50"	3.50"	1.50"	991	531	332	1854	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	7' 7" o/c	
Bottom Edge (Lu)	7' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 7' 7"	N/A	6.4	--	--	
1 - Uniform (PSF)	0 to 7' 7" (Front)	3' 6"	15.0	40.0	-	Default Load
2 - Uniform (PSF)	0 to 7' 7" (Front)	3' 6"	15.0	-	25.0	Roof
3 - Uniform (PLF)	0 to 7' 7" (Front)	N/A	150.0	-	-	Wall/window weight

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

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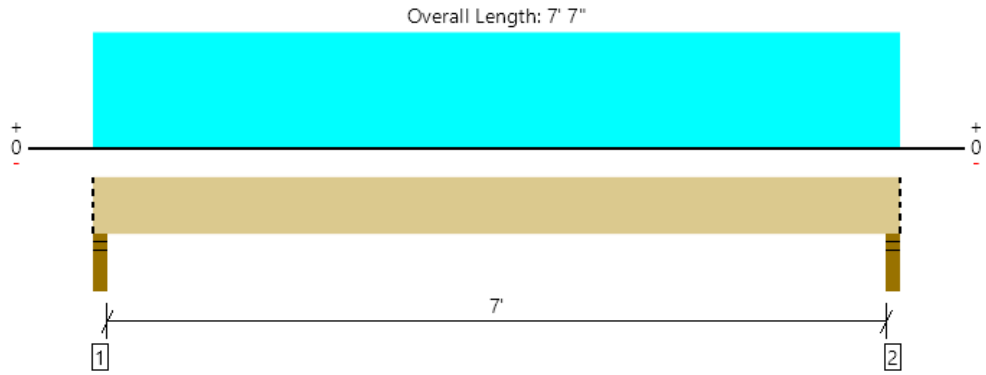
Weyerhaeuser

Upper Floor, 7-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 1.55E TimberStrand® LSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2580 @ 2"	4961 (3.50")	Passed (52%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1708 @ 1' 3 3/8"	8590	Passed (20%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	4471 @ 3' 9 1/2"	15953	Passed (28%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.036 @ 3' 9 1/2"	0.181	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.072 @ 3' 9 1/2"	0.363	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Total	
1 - Stud wall - HF	3.50"	3.50"	1.82"	1291	1289	190	2770	Blocking
2 - Stud wall - HF	3.50"	3.50"	1.82"	1291	1289	190	2770	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	7' 7" o/c	
Bottom Edge (Lu)	7' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 7' 7"	N/A	13.0	--	--	
1 - Uniform (PSF)	0 to 7' 7" (Front)	8' 6"	15.0	40.0	-	Default Load
2 - Uniform (PSF)	0 to 7' 7" (Front)	2'	15.0	-	25.0	Roof
3 - Uniform (PLF)	0 to 7' 7" (Front)	N/A	170.0	-	-	Wall/window weight

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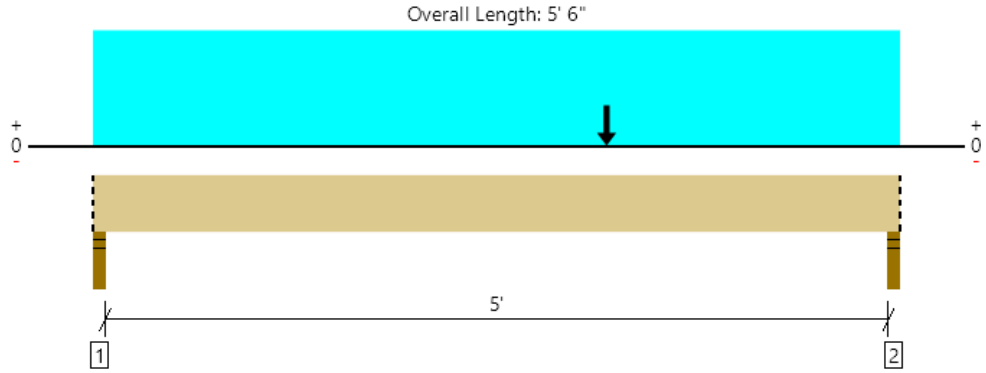
Weyerhaeuser

Upper Floor, 8-Flush Beam

1 piece(s) 3 1/2" x 11 7/8" 1.55E TimberStrand® LSL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2087 @ 5' 4 1/2"	4253 (3.00")	Passed (49%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	1736 @ 4' 3 1/8"	9878	Passed (18%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Moment (Ft-lbs)	3349 @ 3' 6"	18346	Passed (18%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Live Load Defl. (in)	0.015 @ 2' 10 1/16"	0.131	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.030 @ 3' 6"	0.262	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Total	
1 - Stud wall - HF	3.00"	3.00"	1.50"	699	660	415	1774	Blocking
2 - Stud wall - HF	3.00"	3.00"	1.50"	1031	660	748	2439	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 6" o/c	
Bottom Edge (Lu)	5' 6" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 5' 6"	N/A	13.0	--	--	
1 - Uniform (PSF)	0 to 5' 6" (Front)	6'	15.0	40.0	-	Default Load
2 - Point (lb)	3' 6" (Front)	N/A	1163	-	1163	Post above, solar

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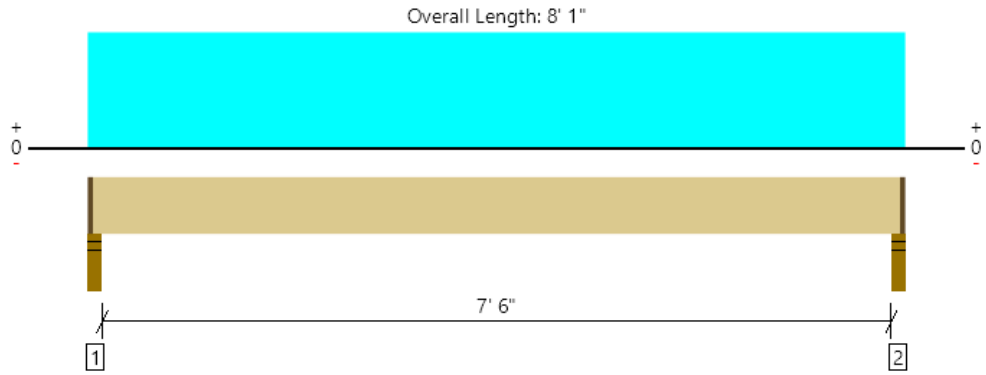
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Upper Floor, Deck Joist

1 piece(s) 2 x 8 Hem-Fir No. 2 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	525 @ 2 1/2"	1367 (2.25")	Passed (38%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	419 @ 10 3/4"	1088	Passed (39%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	980 @ 4' 1/2"	1284	Passed (76%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.100 @ 4' 1/2"	0.192	Passed (L/916)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.167 @ 4' 1/2"	0.383	Passed (L/550)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Stud wall - SPF	3.50"	2.25"	1.50"	216	323	539	1 1/4" Rim Board
2 - Stud wall - SPF	3.50"	2.25"	1.50"	216	323	539	1 1/4" Rim Board

• Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	7' 6" o/c	
Bottom Edge (Lu)	7' 11" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 8' 1"	16"	40.0	60.0	Deck

Weyerhaeuser Notes

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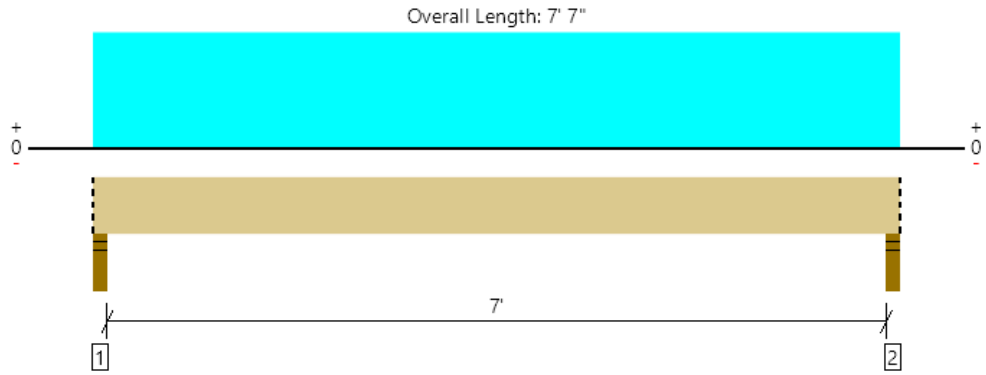
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Upper Floor, Deck Beam

1 piece(s) 4 x 8 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1446 @ 2"	4961 (3.50")	Passed (29%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1105 @ 10 3/4"	2538	Passed (44%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2506 @ 3' 9 1/2"	2823	Passed (89%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.097 @ 3' 9 1/2"	0.181	Passed (L/899)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.164 @ 3' 9 1/2"	0.363	Passed (L/530)	--	1.0 D + 1.0 L (All Spans)

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Stud wall - HF	3.50"	3.50"	1.50"	593	853	1446	Blocking
2 - Stud wall - HF	3.50"	3.50"	1.50"	593	853	1446	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	7' 7" o/c	
Bottom Edge (Lu)	7' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 7' 7"	N/A	6.4	--	
1 - Uniform (PSF)	0 to 7' 7" (Front)	3' 9"	40.0	60.0	Deck

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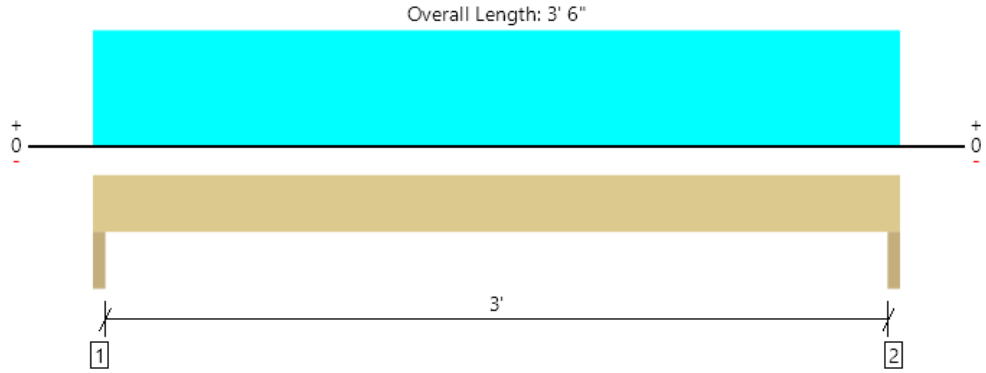
ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

Weyerhaeuser

Upper Floor, Wall: Header - stair opening
1 piece(s) 2 x 8 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	149 @ 1 1/2"	1823 (3.00")	Passed (8%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	76 @ 10 1/4"	1088	Passed (7%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	113 @ 1' 9"	1117	Passed (10%)	1.00	1.0 D + 1.0 L (All Spans)
Vert Live Load Defl. (in)	0.002 @ 1' 9"	0.108	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Vert Total Load Defl. (in)	0.003 @ 1' 9"	0.162	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Lat Member Reaction (lbs)	424 @ 3' 4 1/2"	N/A	Passed (N/A)	1.60	1.0 D + 0.6 W
Lat Shear (lbs)	358 @ 4 1/2"	1740	Passed (21%)	1.60	1.0 D + 0.6 W
Lat Moment (Ft-lbs)	344 @ mid-span	425	Passed (81%)	1.60	1.0 D + 0.6 W
Lat Deflection (in)	0.173 @ mid-span	0.325	Passed (L/226)	--	1.0 D + 0.6 W
Bi-Axial Bending	0.83	1.00	Passed (83%)	1.60	1.0 D + 0.6 W

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Lateral deflection criteria: Wind (L/120)
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Trimmer - DF	3.00"	3.00"	1.50"	44	105	149	None
2 - Trimmer - DF	3.00"	3.00"	1.50"	44	105	149	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 6" o/c	
Bottom Edge (Lu)	3' 6" o/c	

•Maximum allowable bracing intervals based on applied load.

Lateral Connections						
Supports	Plate Size	Plate Material	Connector	Type/Model	Quantity	Nailing
Left	2X	Douglas Fir-Larch		N/A	N/A	N/A
Right	2X	Douglas Fir-Larch		N/A	N/A	N/A

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 3' 6"	N/A	2.8	--	
1 - Uniform (PSF)	0 to 3' 6"	1' 6"	15.0	40.0	

Lateral Load	Location	Tributary Width	Wind (1.60)	Comments
1 - Uniform (PSF)	Full Length	11'	39.5	

• IBC Table 1604.3, footnote f: Deflection checks are performed using 42% of this lateral wind load.

ForteWEB Software Operator	Job Notes
Jane Johnson Bykonen Carter Quinn (206) 264-7784 jaj@bcq-se.com	

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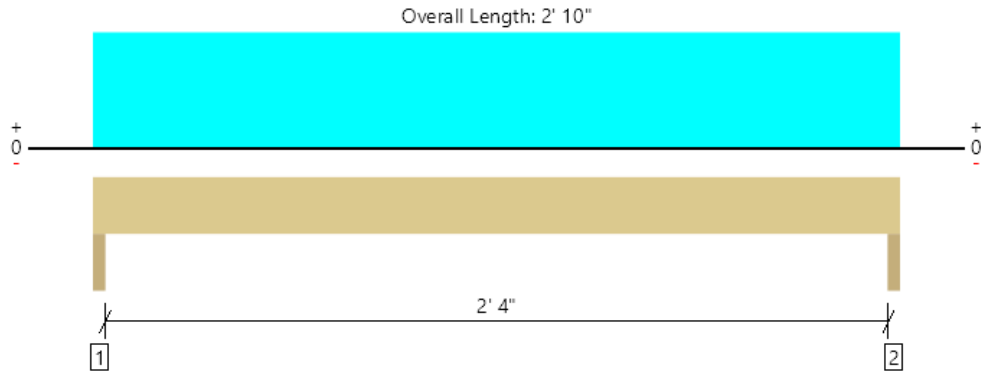
Upper Floor, Wall: Header - Existing building
2 piece(s) 2 x 8 Hem-Fir No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	46 @ 1 1/2"	3645 (3.00")	Passed (1%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	18 @ 10 1/4"	2501	Passed (1%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	27 @ 1' 5"	2569	Passed (1%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.000 @ 1' 5"	0.086	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.000 @ 1' 5"	0.129	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Trimmer - DF	3.00"	3.00"	1.50"	22	24	46	None
2 - Trimmer - DF	3.00"	3.00"	1.50"	22	24	46	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	2' 10" o/c	
Bottom Edge (Lu)	2' 10" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 2' 10"	N/A	5.5	--	
1 - Uniform (PSF)	0 to 2' 10"	8"	15.0	25.0	Snow

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Augustin Carport ADU

3360 W Mercer Way, Mercer Island, WA 98040, USA

Latitude, Longitude: 47.5805291, -122.2477902

Date	2/24/2020, 2:14:00 PM
Design Code Reference Document	ASCE7-10
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.395	MCE_R ground motion. (for 0.2 second period)
S_1	0.537	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.395	Site-modified spectral acceleration value
S_{M1}	0.806	Site-modified spectral acceleration value
S_{DS}	0.93	Numeric seismic design value at 0.2 second SA
S_{D1}	0.537	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.575	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.575	Site modified peak ground acceleration
T_L	6	Long-period transition period in seconds
SsRT	1.395	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.455	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.734	Factored deterministic acceleration value. (0.2 second)
S1RT	0.537	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.575	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	1.133	Factored deterministic acceleration value. (1.0 second)
PGAd	1.048	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.959	Mapped value of the risk coefficient at short periods
C_{R1}	0.934	Mapped value of the risk coefficient at a period of 1 s

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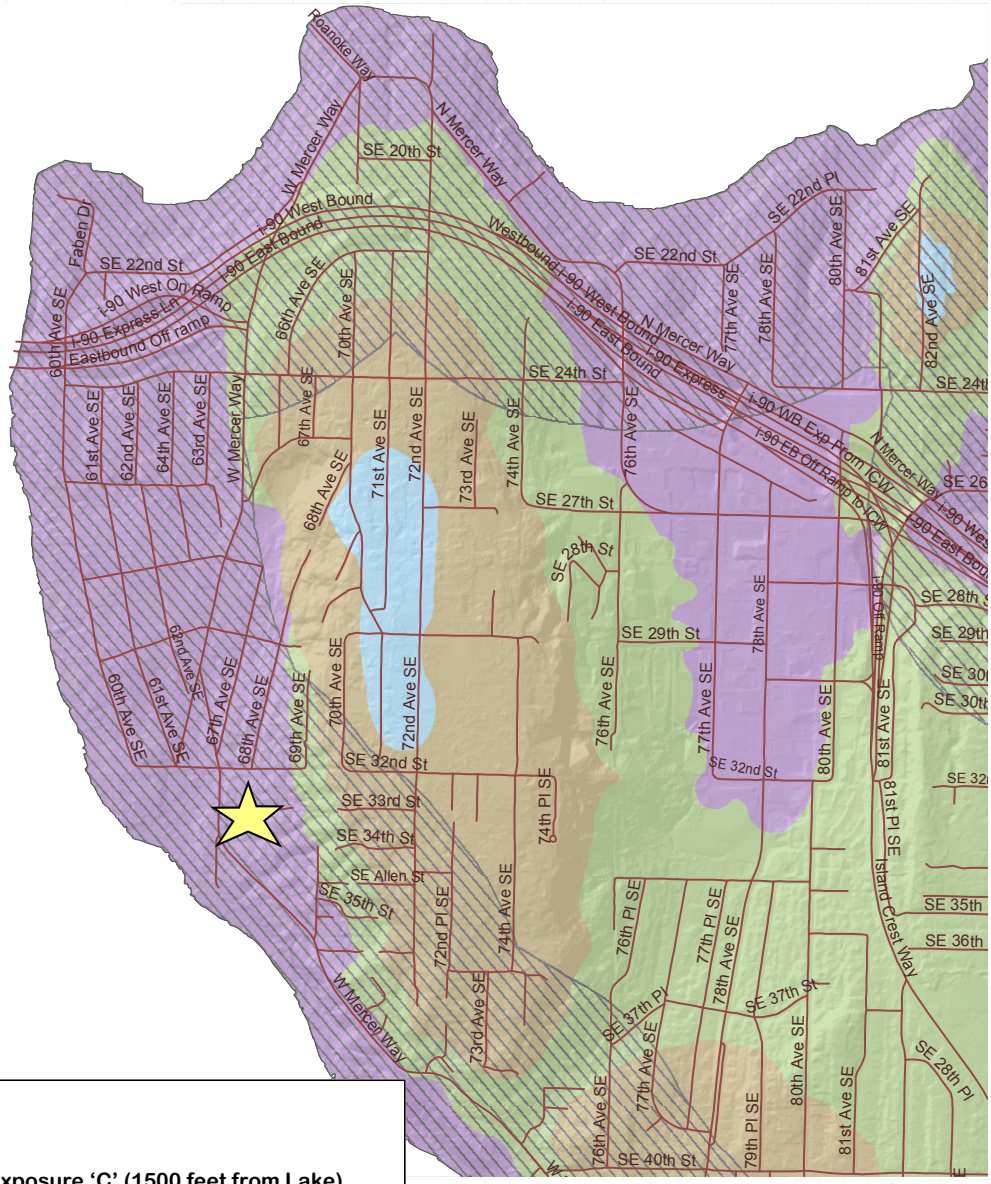


WIND EXPOSURE CATEGORIES:

Wind Exposure Category	
	Exposure 'C' (1500 feet from Lake)
	Exposure 'B' (all other areas)

WIND SPEED-UP (TOPOGRAPHIC EFFECT) - K_zt Factor :

K_zt Factor	
	$K_zt = 1.0$
	$K_zt = 1.3$
	$K_zt = 1.6$
	$K_zt = 1.9$

BYKONEN CARTER QUINN
STRUCTURAL ENGINEERING

▶ 2033 Sixth Avenue #995 Seattle, WA 98121 206-264-7784 www.BCQ-SE.com

PROJECT: Augustine DATE: 4/8/2020

DESIGNER: JAJ SHEET #: 1/1

BYKONEN CARTER QUINN STRUCTURAL ENGINEERING

MASSING	Uniform Loads (PSF)		Area (SF)		w (k)	(PSF)	Area (sf)
ROOF	*Misc*	*Partitions*		*Solar*		*Solar*	
	15	6.0	726	0.8	16.0	5	157.5
	Uniform Loads (PSF)		Area (SF)		w (k)		
FLOORS	*Misc*	*Partitions*					
	15	12	726		19.6		

SEISMIC

DESIGN PARAMETERS					
	Site Class =	D	S_S =	1.395	
	Risk Cat. =	II	S_1 =	0.537	
	S_{DS} =	0.930	f_a =	1.00	
	R =	6.50	f_v =	1.50	
	Cs =	0.143	k =	1.0	

ASCE 7-10 Equivalent Lateral Force Procedure, 12.8

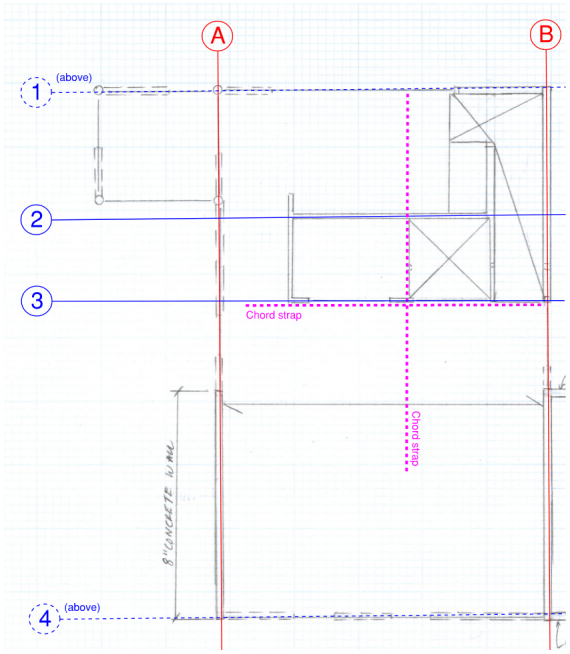
Level	**Area (SF)**	**Unit DL (PSF)**	**w (k)**	**h^k (ft)**	**(w)(h^k)**	**C_{vx}**	**F_x (k)**	**ASD 0.7E (k)**
ROOF	726	21.0	16.0	21.5	345	65%	3.3	2.3
UPPER FLOOR	726	27.0	19.6	9.5	186	35%	1.8	1.3
Base Shear							**5.1**	

WIND											
DESIGN PARAMETERS	**V (mph) =**	110	**G =**	0.85	**L/B =**	0.62		**L/B =**	1.61		
	Exposure Cat. =	C	**Gcpi =**	0.18	**Cp =**	*Windward Wall*	0.80	**Cp =**	*Windward Wall*	0.80	
	K_{zt} =	1.00	K_z=	0.90		*Leeward Wall*	-0.05		*Leeward Wall*	-0.38	
	K_d =	0.85	q_z=	23.7		*Side Wall*	-0.70		*Side Wall*	-0.70	
	Roof Slope (in/ft) =	5				*Roof*	-0.90		*Roof*	-0.90	

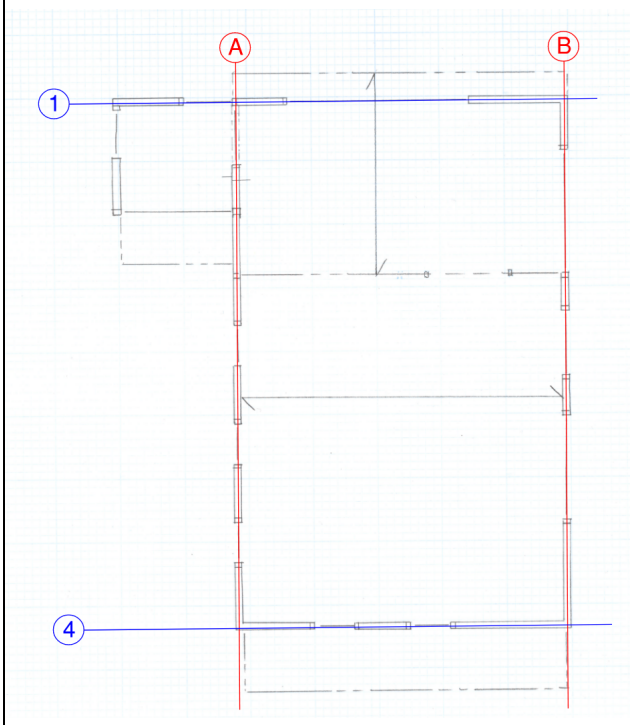
ASCE 7-10 MWFRS Directional Procedure, 27.4-1

ROOF	**h (ft)**	**Direction**	**Wall Area**	**K_h**	**q_h**	**Wall (PSF)**	**Roof (k)**	**F_x (k)**	**ASD 06W (k)**
HORIZONTAL PROJECTION	21.5	*PARALLEL TO WL-A*	126	0.90	23.7	17.1	0.0	2.1	1.3
		PARALLEL TO WL-1	202	0.90	23.7	23.7	0.0	4.8	2.9
UPPER FLOOR	**h (ft)**	**Direction**	**Wall Area**		**q_h**	**Wall (PSF)**	**Roof (k)**	**F_x (k)**	**06W (k)**
HORIZONTAL PROJECTION	9.5	*PARALLEL TO WL-A*	225	0.85	22.4	17.1	0.0	3.8	2.3
		PARALLEL TO WL-1	361	0.85	22.4	23.3	0.0	8.4	5.1
Base Shear - Parallel to Grid A								**6.0**	
Base Shear - Parallel to Grid 1								**13.2**	

UPPER FLOOR KEY



ROOF KEY



BYKONEN CARTER QUINN STRUCTURAL ENGINEERING

WALL LINE 1

ROOF		**WIND TRIB =**	50%		**ΣL =**	5.50						
		0.6W (k) =	1.44									
		SEISMIC TRIB =	50%									
		0.7E (k) =	1.16								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	11.4	5.5	2.07	0.97	186	218	SW 1	240	2.4	0.47	0.3	2.25

WALL LINE 2

UPPER FLOOR		**WIND TRIB =**	32%		**ΣL =**	8.00						
		0.6W (k) =	3.05									
		SEISMIC TRIB =	32%									
		0.7E (k) =	1.56								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	8.9	8.0	1.11	1.00	272	195	SW 1	240	2.4	0.47	0.3	2.25
	Load in wall line A&B due to rotation =				*1436*	*734*	*lb*					

WALL LINE 3

UPPER FLOOR		**WIND TRIB =**	68%		**ΣL =**	12.00						
		0.6W (k) =	4.87									
		SEISMIC TRIB =	68%									
		0.7E (k) =	3.17								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	8.9	12.0	0.74	1.00	290	264	SW 2	455	2.6	0.47	0.5	2.32
	Load in wall line A&B due to rotation =				*4871*	*3168*	*lb*					

WALL LINE 4

ROOF		**WIND TRIB =**	50%		**ΣL =**	11.50						
		0.6W (k) =	1.44									
		SEISMIC TRIB =	50%									
		0.7E (k) =	1.16								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	11.4	7.0	1.63	1.00	89	101	SW 1	240	1.1	0.47	0.4	0.96
1	11.4	4.5	2.53	0.79	89	127	SW 1	240	1.1	0.47	0.2	1.03

BYKONEN CARTER QUINN STRUCTURAL ENGINEERING

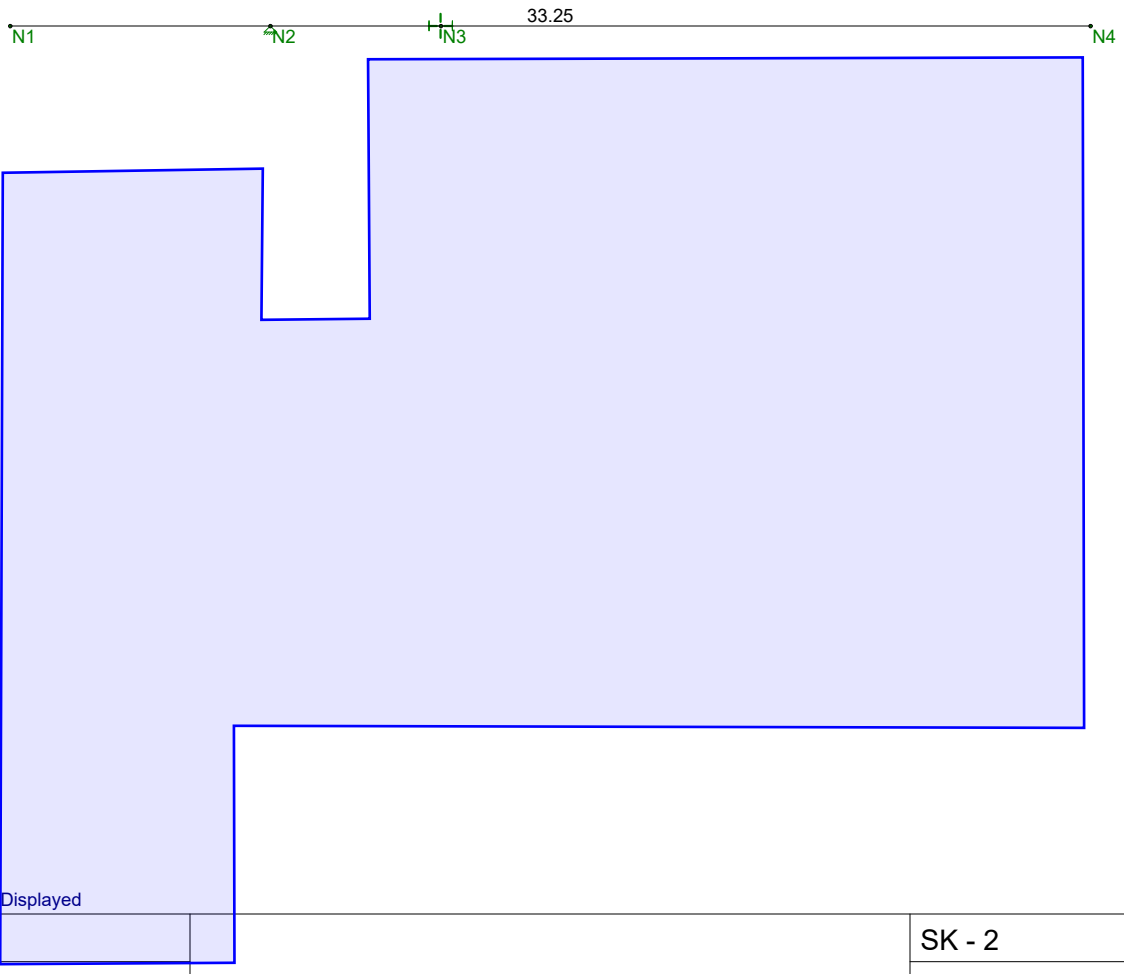
WALL LINE A

ROOF		**WIND TRIB =**	50%		**ΣL =**	10.00						
		0.6W (k) =	0.64									
		SEISMIC TRIB =	54%									
		0.7E (k) =	1.25								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	11.4	6.0	1.90	1.00	46	125	SW 1	240	1.4	0.47	0.3	1.26
1	11.4	4.0	2.84	0.70	46	178	SW 1	240	1.4	0.47	0.2	1.32
UPPER FLOOR		**WIND TRIB =**	50%		**ΣL =**	14.00						
		0.6W (k) =	1.80									
		SEISMIC TRIB =	54%									
		0.7E (k) =	1.93								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	8.9	14.0	0.63	1.00	92	138	SW 2	455	1.2	0.47	0.6	0.93
	Load in wall line A&B due to rotation =				*6307*	*3902*	*lb*					
					322	279	plf	OK	2.9	0.47	0.6	2.56

WALL LINE B

ROOF		**WIND TRIB =**	50%		**ΣL =**	6.00						
		0.6W (k) =	0.64									
		SEISMIC TRIB =	50%									
		0.7E (k) =	1.16								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	11.4	6.0	1.90	1.00	77	193	SW 1	240	2.2	0.47	0.3	2.04
UPPER FLOOR		**WIND TRIB =**	50%		**ΣL =**	14.00						
		0.6W (k) =	1.80									
		SEISMIC TRIB =	46%									
		0.7E (k) =	1.73								*Wall weight*	
Segment Count	HT (ft)	LENGTH (ft)	h/L	2/(h/L)[1]	0.6W (plf)	0.7E (plf)	SW	SW Cap (plf)	Tension (k)	0.6-0.14Sds	[0.6-0.14Sds]D (k)	Net T (k)
1	8.9	14.0	0.63	1.00	92	124	SW 2	455	1.1	0.47	0.6	0.81
	Load in wall line A&B due to rotation =				*6307*	*3902*	*lb*					
					322	279	plf	OK	2.9	0.47	0.6	2.56

UPPER FLOOR DIAPHRAGM



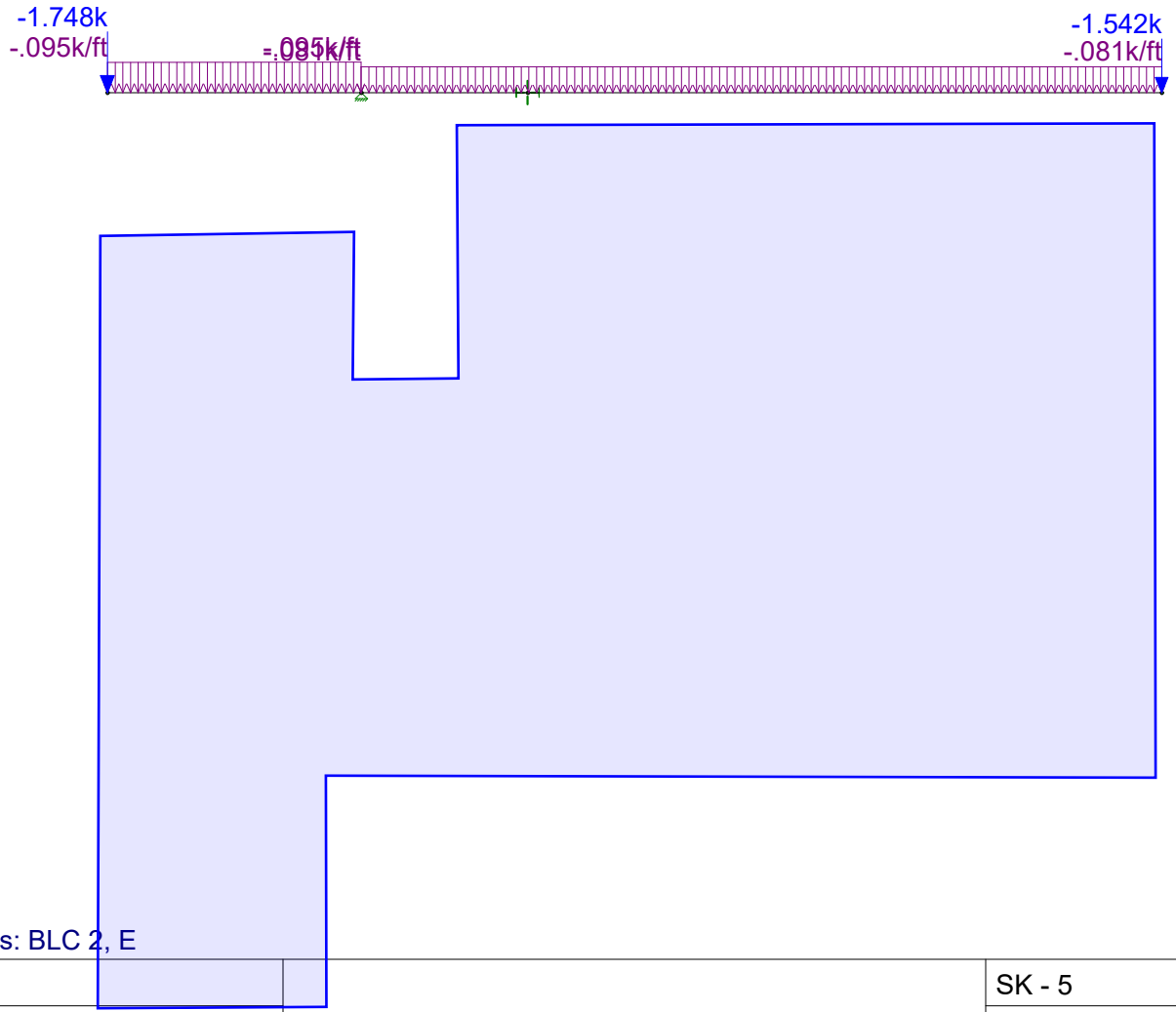
Member Length (ft) Displayed

	SK - 2
	Sept 4, 2020 at 10:37 AM
	Diaphragm beam model - Upper flo...

UPPER FLOOR DIAPHRAGM

ASD		DIAPHRAGM			
F_x (k)	0.7E (k)	w (k)	F_{px} (k)	$(0.4)S_{DS}$ w	0.7E
3.3	2.3	16.0	3.3		2.3
1.8	1.3	19.6	2.8	7.3	2.0
5.1			**6.1**	**7.3**	

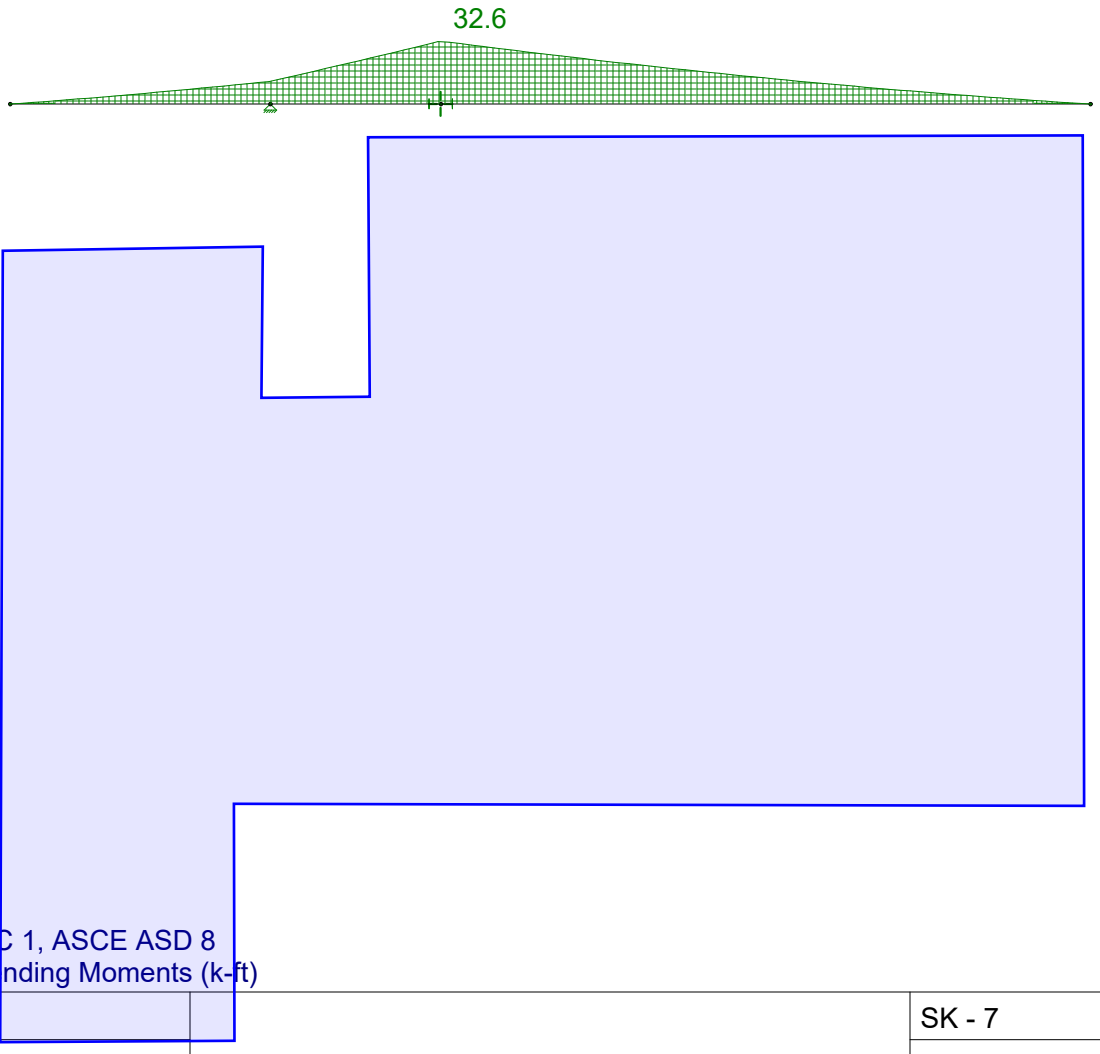
Roof
Upper



	LOADS	SK - 5
		Sept 4, 2020 at 10:39 AM
		Diaphragm beam model - Upper flo...

UPPER FLOOR DIAPHRAGM

CHORD FORCE = 32.6 k-ft / 13 ft = 2.5k --> CS14 ok.

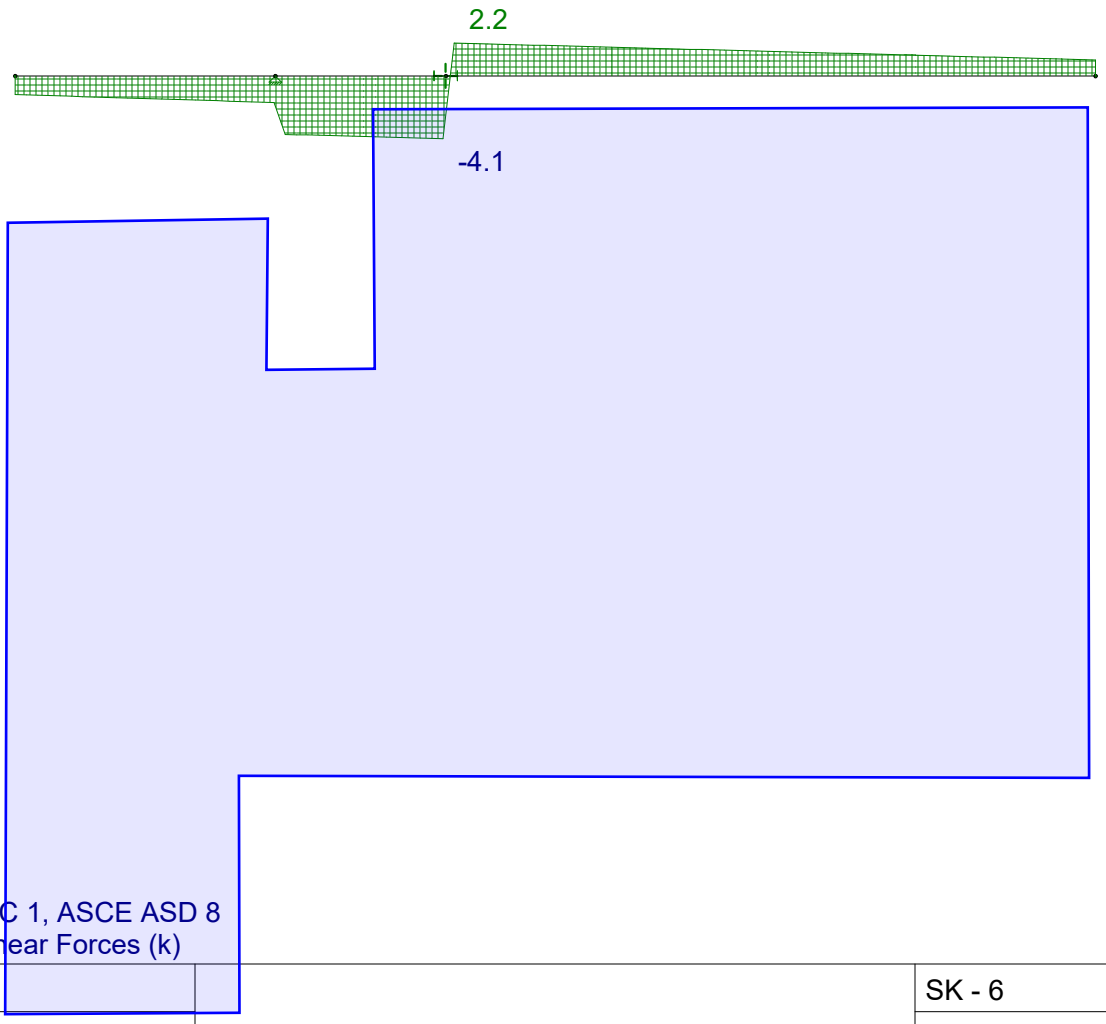


Results for LC 1, ASCE ASD 8
Member z Bending Moments (k-ft)

	MOMENT/ CHORD FORCE	SK - 7
		Sept 4, 2020 at 10:41 AM
		Diaphragm beam model - Upper flo...

UPPER FLOOR DIAPHRAGM

SHEAR = 2.2k /13 ft = 169 plf
-4.1k / 13 ft = -319 plf --> ok.



Results for LC 1, ASCE ASD 8
Member y Shear Forces (k)

	SHEAR	SK - 6
		Sept 4, 2020 at 10:40 AM
		Diaphragm beam model - Upper flo...