PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 9.5	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 25.5 Member Slope: 8.5/12 Actual Length (ft): 31.25 Roof Pitch: 8.5/12 O.C. Spacing(in): 19.2

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
42.75	321.52	72.14	9.75	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	2.125				
2	8.5	0	8.5	6.020833				
3	14	0	14	9.916667				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (61.5%)	75.3	195.5	11.73	D+S	1.15
Bending Stress Y (psi)	PASS (10.8%)	1022.9	1146.4	11.475	D+S	1.15
Deflection Y (in)	PASS (62.7%)	0.426 (=L/645)	1.144 (=L/240)	19.125	S	0
Compressive Stress (psi)	PASS (93.9%)	35.5	584.8	11.73	D+S	1.15
Tensile Stress (psi)	PASS (94.8%)	25.6	488.8	11.475	D+S	1.15
Bearing Stress (psi)	PASS (85.5%)	90.8	625.0	11.5	D+S	1.15
Bending-Compression (Unit)	PASS (15.9%)	0.84	1.00	11.73	D+S	1.15
Bending-Tension (Unit)	PASS (6.4%)	0.94	1.00	11.475	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	186	1672	1858
C	462	4143	4605
D	188	1685	1873

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	25.5	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	25.5	Dead	Y
Self Weight (lbf/ft)	-	9.75	9.75	0	25.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope: 8.5/12 Actual Length (ft): 20.83 Roof Pitch: 8.5/12 O.C. Spacing(in): 19.2

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	9.916667				
2	3	0	3	2.125				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (71.3%)	56.1	195.5	13.94	D+S	1.15
Bending Stress Y (psi)	PASS (7.9%)	1066.0	1157.2	6.63	D+S	1.15
Deflection Y (in)	PASS (32.9%)	0.329 (=L/357)	0.490 (=L/240)	17	S	0
Compressive Stress (psi)	PASS (95.8%)	24.3	584.8	0	D+S	1.15
Tensile Stress (psi)	PASS (94.6%)	26.5	488.8	13.94	D+S	1.15
Bearing Stress (psi)	PASS (87.8%)	76.1	625.0	0	D+S	1.15
Bending-Compression (Unit)	PASS (7.9%)	0.92	1.00	6.63	D+S	1.15
Bending-Tension (Unit)	PASS (7.8%)	0.92	1.00	6.8	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	237	1964	2201
B	366	3036	3402
C	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	17	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	17	Dead	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	17	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #3	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 9.5	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 26 Member Slope: 8.5/12 Actual Length (ft): 31.86 Roof Pitch: 8.5/12 O.C. Spacing(in): 19.2

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
42.75	321.52	72.14	9.75	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	2.125				
2	5	0	5	3.541667				
3	10.5	0	10.5	7.4375				
4	7.5	0	7.5	5.3125				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (73.9%)	51.0	195.5	18.46	D+S	1.15
Bending Stress Y (psi)	PASS (55.2%)	511.9	1143.3	18.46	D+S	1.15
Deflection Y (in)	PASS (89.8%)	0.050 (=L/2352)	0.490 (=L/240)	0	S	0
Compressive Stress (psi)	PASS (96.6%)	21.9	637.8	8.06	D+S	1.15
Tensile Stress (psi)	PASS (95.1%)	24.1	488.8	18.46	D+S	1.15
Bearing Stress (psi)	PASS (86.2%)	91.9	667.6	18.5	D+S	1.15
Bending-Compression (Unit)	PASS (59.4%)	0.41	1.00	18.72	D+S	1.15
Bending-Tension (Unit)	PASS (50.8%)	0.49	1.00	18.46	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	167	1497	1664
C	260	2330	2590
D	342	3072	3414
E	83	748	831

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	26	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	26	Dead	Y
Self Weight (lbf/ft)	-	9.75	9.75	0	26	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #4	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 9.5	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 20.5 Member Slope: 8.5/12 Actual Length (ft): 25.12 Roof Pitch: 8.5/12 O.C. Spacing(in): 19.2

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
42.75	321.52	72.14	9.75	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥(psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	2.125				
2	10.5	0	10.5	7.4375				
3	7	0	7	4.958333				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (73.5%)	51.8	195.5	13.325	D+S	1.15
Bending Stress Y (psi)	PASS (53.5%)	534.2	1148.5	13.53	D+S	1.15
Deflection Y (in)	PASS (88.4%)	0.057 (=L/2063)	0.490 (=L/240)	0	S	0
Compressive Stress (psi)	PASS (96.7%)	20.8	637.8	3.075	D+S	1.15
Tensile Stress (psi)	PASS (95.0%)	24.5	488.8	13.325	D+S	1.15
Bearing Stress (psi)	PASS (78.9%)	145.8	692.0	13.5	D+S	1.15
Bending-Compression (Unit)	PASS (53.2%)	0.47	1.00	13.53	D+S	1.15
Bending-Tension (Unit)	PASS (53.0%)	0.47	1.00	13.325	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	255	2290	2545
C	346	3103	3449
D	71	636	707

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	20.5	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	20.5	Dead	Y
Self Weight (lbf/ft)	-	9.75	9.75	0	20.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #5	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope: 8.5/12 Actual Length (ft): 20.83 Roof Pitch: 8.5/12 O.C. Spacing(in): 19.2

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥(psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	9.916667				
2	3	0	3	2.125				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (71.3%)	56.1	195.5	13.94	D+S	1.15
Bending Stress Y (psi)	PASS (7.9%)	1066.0	1157.2	6.63	D+S	1.15
Deflection Y (in)	PASS (32.9%)	0.329 (=L/357)	0.490 (=L/240)	17	S	0
Compressive Stress (psi)	PASS (95.8%)	24.3	584.8	0	D+S	1.15
Tensile Stress (psi)	PASS (94.6%)	26.5	488.8	13.94	D+S	1.15
Bearing Stress (psi)	PASS (87.8%)	76.1	625.0	0	D+S	1.15
Bending-Compression (Unit)	PASS (7.9%)	0.92	1.00	6.63	D+S	1.15
Bending-Tension (Unit)	PASS (7.8%)	0.92	1.00	6.8	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	237	1964	2201
B	366	3036	3402
C	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	17	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	17	Dead	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	17	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #6	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 7.5	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope: 8.5/12 Actual Length (ft): 11.64 Roof Pitch: 8.5/12 O.C. Spacing(in): 19.2

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
33.75	158.2	56.95	7.7	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	2.125				
2	6.5	0	6.5	4.604167				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (76.5%)	45.9	195.5	3.04	D+S	1.15
Bending Stress Y (psi)	PASS (65.2%)	400.7	1151.1	3.04	D+S	1.15
Deflection Y (in)	PASS (93.4%)	0.035 (=L/3641)	0.531 (=L/240)	6.65	S	0
Compressive Stress (psi)	PASS (96.7%)	21.7	660.1	3.04	D+S	1.15
Tensile Stress (psi)	PASS (96.7%)	16.4	488.8	2.945	D+S	1.15
Bearing Stress (psi)	PASS (90.9%)	60.6	667.6	3	D+S	1.15
Bending-Compression (Unit)	PASS (64.9%)	0.35	1.00	3.04	D+S	1.15
Bending-Tension (Unit)	PASS (62.1%)	0.38	1.00	2.945	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	210	2042	2252
C	77	752	829

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	9.5	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	9.5	Dead	Y
Self Weight (lbf/ft)	-	7.7	7.7	0	9.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #7	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 7.5	24(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope: 3/12 Actual Length (ft): 10.31 Roof Pitch: 3/12 O.C. Spacing(in): 24

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
33.75	158.2	56.95	7.7	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0.75				
2	7	0	7	1.75				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (70.2%)	58.3	195.5	3.1	D+S	1.15
Bending Stress Y (psi)	PASS (62.9%)	428.4	1153.8	3	D+S	1.15
Deflection Y (in)	PASS (90.1%)	0.047 (=L/2456)	0.481 (=L/240)	6.8	S	0
Compressive Stress (psi)	PASS (98.5%)	9.7	654.7	3.1	D+S	1.15
Tensile Stress (psi)	PASS (98.5%)	7.2	488.8	3	D+S	1.15
Bearing Stress (psi)	PASS (86.4%)	90.9	667.6	3	D+S	1.15
Bending-Compression (Unit)	PASS (66.0%)	0.34	1.00	3.1	D+S	1.15
Bending-Tension (Unit)	PASS (61.5%)	0.39	1.00	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	182	2209	2391
C	73	884	957

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	10	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	10	Dead	Y
Self Weight (lbf/ft)	-	7.7	7.7	0	10	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #8	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 7.5	24(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope: 3/12 Actual Length (ft): 9.28 Roof Pitch: 3/12 O.C. Spacing(in): 24

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
33.75	158.2	56.95	7.7	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0.75				
2	6	0	6	1.5				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (72.8%)	53.3	195.5	3.06	D+S	1.15
Bending Stress Y (psi)	PASS (63.6%)	419.9	1153.8	2.97	D+S	1.15
Deflection Y (in)	PASS (93.4%)	0.027 (=L/3662)	0.412 (=L/240)	0	S	0
Compressive Stress (psi)	PASS (98.7%)	8.9	664.9	3.06	D+S	1.15
Tensile Stress (psi)	PASS (98.5%)	7.1	488.8	2.97	D+S	1.15
Bearing Stress (psi)	PASS (87.1%)	85.9	667.6	3	D+S	1.15
Bending-Compression (Unit)	PASS (64.6%)	0.35	1.00	3.06	D+S	1.15
Bending-Tension (Unit)	PASS (62.3%)	0.38	1.00	2.97	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	172	2087	2259
C	57	696	753

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	9	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	9	Dead	Y
Self Weight (lbf/ft)	-	7.7	7.7	0	9	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Rafters #9	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 4.5 X 7.5	24(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 8 Member Slope: 4/12 Actual Length (ft): 8.43 Roof Pitch: 4/12 O.C. Spacing(in): 24

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
33.75	158.2	56.95	7.7	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	1006	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	1.666667				
2	3	0	3	1				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (75.2%)	48.5	195.5	4.96	D+S	1.15
Bending Stress Y (psi)	PASS (63.0%)	426.5	1153.8	5.04	D+S	1.15
Deflection Y (in)	PASS (88.7%)	0.048 (=L/2110)	0.422 (=L/240)	8	S	0
Compressive Stress (psi)	PASS (98.6%)	9.5	684.2	5.04	D+S	1.15
Tensile Stress (psi)	PASS (97.8%)	10.8	488.8	4.96	D+S	1.15
Bearing Stress (psi)	PASS (81.9%)	125.2	692.0	5	D+S	1.15
Bending-Compression (Unit)	PASS (63.0%)	0.37	1.00	5.04	D+S	1.15
Bending-Tension (Unit)	PASS (61.1%)	0.39	1.00	4.96	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	42	506	548
B	167	2024	2191
C	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	8	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	8	Dead	Y
Self Weight (lbf/ft)	-	7.7	7.7	0	8	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 13.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 13.5 Member Slope: 0/12 Actual Length (ft): 13.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
101.25	1537.73	474.61	23.09	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	864	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9869983	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	10.5	0	10.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (50.0%)	97.8	195.5	3.105	D+S	1.15
Bending Stress Y (psi)	PASS (27.0%)	725.3	993.2	8.64	D+S	1.15
Deflection Y (in)	PASS (80.3%)	0.079 (=L/1215)	0.400 (=L/240)	0	S	0
Bearing Stress (psi)	PASS (70.8%)	182.8	625.0	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	1211	9	9070	10290
C	673	5	5039	5717

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	13.5	Live	Y
Self Weight (lbf/ft)	-	23.09	23.09	0	13.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	B	116.491	116.491	0	13.5	Dead	Y
Uniform (lbf/ft)	Rafters #1	B	1045.154	1045.154	0	13.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 9.5 X 21.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 13 Member Slope: 0/12 Actual Length (ft): 13

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
204.25	7867.88	1536.13	46.58	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	820	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9372605	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				
2	10.5	0	10.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (10.4%)	175.2	195.5	2.6	D+S	1.15
Bending Stress Y (psi)	PASS (45.4%)	515.1	943.1	7.67	D+S	1.15
Deflection Y (in)	PASS (88.3%)	0.039 (=L/2049)	0.333 (=L/240)	0	S	0
Bearing Stress (psi)	PASS (58.6%)	258.8	625.0	2.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	4136	8	25372	29516
C	1511	5	10173	11689

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	13	Live	Y
Self Weight (lbf/ft)	-	46.58	46.58	0	13	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #2	B	228.595	228.595	0	13	Dead	Y
Uniform (lbf/ft)	Rafters #2	B	1897.273	1897.273	0	13	Snow	Y
Point (lbf)	Timber Truss #1	A	2068.95	-	3.25	-	Dead	Y
Point (lbf)	Timber Truss #1	A	10881.05	-	3.25	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #3	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 8.75 X 16.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 55 Member Slope: 0/12 Actual Length (ft): 55

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
144.38	3275.51	921.14	32.93	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.25	0	3.25	0				
2	9.25	0	9.25	0				
3	11	0	11	0				
4	14.5	0	14.5	0				
5	14.5	0	14.5	0				
6	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (12.2%)	267.7	304.8	37.95	D+S	1.15
Bending Stress Y (psi)	PASS (45.4%)	1257.8	2301.6	37.95	D+S	1.15
Deflection Y (in)	PASS (87.0%)	0.126 (=L/1842)	0.967 (=L/240)	30.8	S	0
Bearing Stress (psi)	PASS (31.3%)	410.9	598.2	3.25	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	2288	8	17487	19783
C	2799	10	21475	24284
D	4639	23	35211	39873
E	4653	31	33366	38050
F	1433	8	9632	11073
G	0	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	55	Live	Y
Self Weight (lbf/ft)	-	32.93	32.93	0	55	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	D	117.374	117.374	0	38	Dead	Y
Uniform (lbf/ft)	Rafters #1	D	1053.072	1053.072	0	38	Snow	Y
Uniform (lbf/ft)	Rafters #2	A	147.913	147.913	0	27	Dead	Y
Uniform (lbf/ft)	Rafters #2	A	1227.632	1227.632	0	27	Snow	Y
Uniform (lbf/ft)	Rafters #5	A	147.913	147.913	38.5	55	Dead	Y
Uniform (lbf/ft)	Rafters #5	A	1227.632	1227.632	38.5	55	Snow	Y
Point (lbf)	Beam #6	A	992.3123	-	26.5	-	Dead	Y
Point (lbf)	Beam #6	A	7.000002	-	26.5	-	Live	Y
Point (lbf)	Beam #6	A	7721.895	-	26.5	-	Snow	Y
Point (lbf)	Beam #9	A	985.5769	-	32.5	-	Dead	Y
Point (lbf)	Beam #9	A	6.518494	-	32.5	-	Live	Y
Point (lbf)	Beam #9	A	7274.813	-	32.5	-	Snow	Y
Point (lbf)	Beam #10	A	1128.317	-	37.75	-	Dead	Y
Point (lbf)	Beam #10	A	8.584867	-	37.75	-	Live	Y
Point (lbf)	Beam #10	A	8753.799	-	37.75	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #4	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.5 X 13.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope: 0/12 Actual Length (ft): 9.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
74.25	1127.67	187.17	16.93	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9.5	0	9.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (8.9%)	277.8	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (15.0%)	2345.6	2760.0	4.75	D+S	1.15
Deflection Y (in)	PASS (63.1%)	0.234 (=L/649)	0.633 (=L/240)	4.75	S	0
Bearing Stress (psi)	PASS (18.8%)	454.5	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	1451	5	12298	13754
B	1451	5	12298	13754

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9.5	Live	Y
Self Weight (lbf/ft)	-	16.93	16.93	0	9.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	C	288.58	288.58	0	9.5	Dead	Y
Uniform (lbf/ft)	Rafters #1	C	2589.133	2589.133	0	9.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #5	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 9.5 X 21.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 13 Member Slope: 0/12 Actual Length (ft): 13

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
204.25	7867.88	1536.13	46.58	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	820	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9372605	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				
2	10.5	0	10.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (10.4%)	175.2	195.5	2.6	D+S	1.15
Bending Stress Y (psi)	PASS (45.4%)	515.1	943.1	7.67	D+S	1.15
Deflection Y (in)	PASS (88.3%)	0.039 (=L/2049)	0.333 (=L/240)	0	S	0
Bearing Stress (psi)	PASS (33.7%)	414.1	625.0	2.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	4136	8	25372	29516
C	1511	5	10173	11689

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	13	Live	Y
Self Weight (lbf/ft)	-	46.58	46.58	0	13	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #2	B	228.595	228.595	0	13	Dead	Y
Uniform (lbf/ft)	Rafters #2	B	1897.273	1897.273	0	13	Snow	Y
Point (lbf)	Timber Truss #1	B	2068.95	-	3.25	-	Dead	Y
Point (lbf)	Timber Truss #1	B	10881.05	-	3.25	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #6	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 15	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 8.5/12 Actual Length (ft): 17.16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
82.5	1546.88	207.97	18.82	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (36.7%)	192.8	304.8	14	D+S	1.15
Bending Stress Y (psi)	PASS (16.9%)	2292.6	2760.0	6.58	D+S	1.15
Deflection Y (in)	PASS (52.6%)	0.443 (=L/505)	0.933 (=L/240)	7	S	0
Bearing Stress (psi)	PASS (37.4%)	350.5	560.0	14	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	992	7	7722	8721
B	1133	7	9469	10609

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	14	Live	Y
Self Weight (lbf/ft)	-	18.82	18.82	0	14	Dead	Y

LINKED LOAD LIST

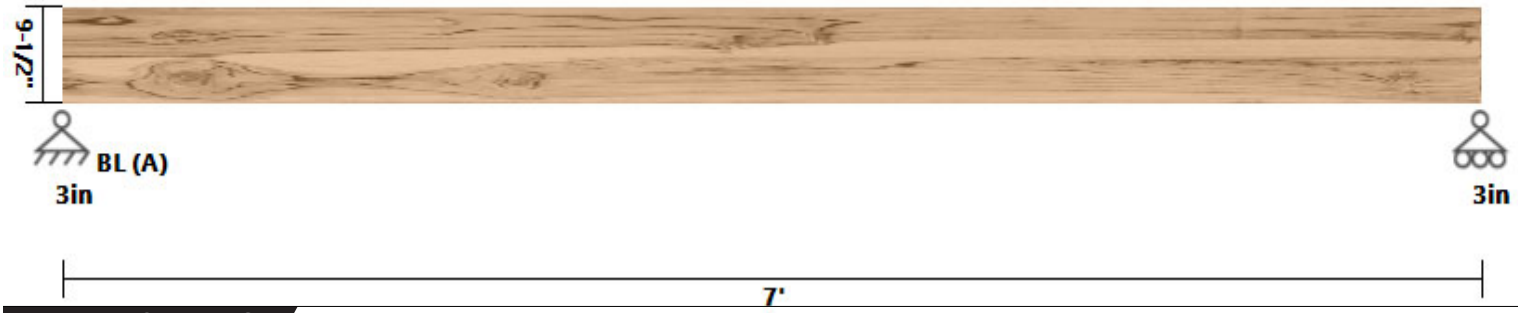
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #6	B	131.32	131.32	4	14	Dead	Y
Uniform (lbf/ft)	Rafters #6	B	1276.121	1276.121	4	14	Snow	Y
Point (lbf)	Beam #7	B	548.2443	-	4	-	Dead	Y
Point (lbf)	Beam #7	B	4430.041	-	4	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #7	CODE:	2018 International Building Code
MEMBER TYPE:	HIP BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY		

Beam #7 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 7 Member Slope: 5.71/12 Actual Length (ft): 7.752

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7	0	7	-3.33				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.0%)	129.1	195.5	7	D+S	1.15
Bending Stress Y (psi)	PASS (3.1%)	975.2	1006.3	4.06	D+S	1.15
Deflection Y (in)	PASS (78.4%)	0.112 (=L/1108)	0.517 (=L/240)	3.64	S	0
Compressive Stress (psi)	PASS (93.9%)	40.9	669.0	7	D+S	1.15
Tensile Stress (psi)	PASS (95.8%)	20.7	488.8	0	D+S	1.15
Bearing Stress (psi)	PASS (60.6%)	246.0	625.0	7	D+S	1.15
Bending-Compression (Unit)	PASS (3.1%)	0.97	1.00	4.06	D+S	1.15
Bending-Tension (Unit)	PASS (3.0%)	0.97	1.00	3.92	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	297	2215	2512
B	548	4430	4978

Reaction Location

A B

LOAD LIST

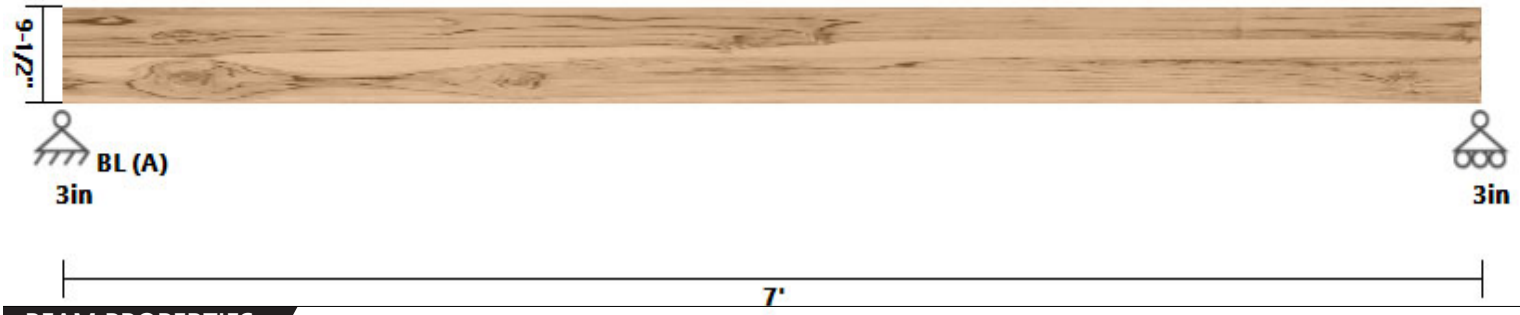
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Trapezoidal (lbf/ft)	Trapezoidal	0	87.73	0	7	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	774.11	0	7	Snow	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	87.73	0	7	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	774.11	0	7	Snow	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	7	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #8	CODE:	2018 International Building Code
MEMBER TYPE:	HIP BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY		

Beam #8 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 7 Member Slope: 5.71/12 Actual Length (ft): 7.752

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7	0	7	-3.33				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.0%)	129.1	195.5	7	D+S	1.15
Bending Stress Y (psi)	PASS (3.1%)	975.2	1006.3	4.06	D+S	1.15
Deflection Y (in)	PASS (78.4%)	0.112 (=L/1108)	0.517 (=L/240)	3.64	S	0
Compressive Stress (psi)	PASS (93.9%)	40.9	669.0	7	D+S	1.15
Tensile Stress (psi)	PASS (95.8%)	20.7	488.8	0	D+S	1.15
Bearing Stress (psi)	PASS (60.6%)	246.0	625.0	7	D+S	1.15
Bending-Compression (Unit)	PASS (3.1%)	0.97	1.00	4.06	D+S	1.15
Bending-Tension (Unit)	PASS (3.0%)	0.97	1.00	3.92	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	297	2215	2512
B	548	4430	4978

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Trapezoidal (lbf/ft)	Trapezoidal	0	87.73	0	7	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	774.11	0	7	Snow	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	87.73	0	7	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	774.11	0	7	Snow	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	7	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #9	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 15.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope: 0/12 Actual Length (ft): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
116.25	2327.42	544.92	26.51	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	850	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9719635	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	13.5	0	13.5	0				
2	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (45.5%)	106.6	195.5	0	D+S	1.15
Bending Stress Y (psi)	PASS (3.4%)	944.5	978.0	6.4	D+S	1.15
Deflection Y (in)	PASS (63.5%)	0.122 (=L/655)	0.333 (=L/240)	16	S	0
Bearing Stress (psi)	PASS (62.8%)	248.0	667.6	13.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	986	7	7275	8268
B	1187	9	9045	10241
C	0	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	16	Live	Y
Self Weight (lbf/ft)	-	26.51	26.51	0	16	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #6	C	48.381	48.381	1	16	Dead	Y
Uniform (lbf/ft)	Rafters #6	C	48.381	48.381	1	16	Dead	Y
Uniform (lbf/ft)	Rafters #6	C	470.15	470.15	1	16	Snow	Y
Uniform (lbf/ft)	Rafters #6	C	470.15	470.15	1	16	Snow	Y
Point (lbf)	Beam #7	A	297.216	-	1	-	Dead	Y

LINKED LOAD LIST CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #7	A	2215.02	-	1	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #10	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 15	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 8.5/12 Actual Length (ft): 17.16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
82.5	1546.88	207.97	18.82	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	9.94				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (38.3%)	188.0	304.8	14	D+S	1.15
Bending Stress Y (psi)	PASS (2.2%)	2674.1	2734.6	6.72	D+S	1.15
Deflection Y (in)	PASS (44.6%)	0.634 (=L/433)	1.145 (=L/240)	7	S	0
Compressive Stress (psi)	PASS (96.2%)	69.3	1822.1	0	D+S	1.15
Tensile Stress (psi)	PASS (93.0%)	89.0	1265.0	14	D+S	1.15
Bearing Stress (psi)	PASS (50.2%)	278.7	560.0	14	D+S	1.15
Bending-Compression (Unit)	PASS (2.2%)	0.98	1.00	6.72	D+S	1.15
Bending-Tension (Unit)	PASS (3.0%)	0.97	1.00	7	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	1128	9	8754	9891
B	1354	9	11327	12690

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	14	Live	Y
Self Weight (lbf/ft)	-	18.82	18.82	0	14	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #6	B	131.32	131.32	4	14	Dead	Y
Uniform (lbf/ft)	Rafters #6	B	1276.121	1276.121	4	14	Snow	Y
Point (lbf)	Beam #7	B	548.244	-	4	-	Dead	Y
Point (lbf)	Beam #7	B	4430.041	-	4	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Timber Truss #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 8.75 X 24	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 28.5 Member Slope: 0/12 Actual Length (ft): 28.5

Area	Ix	Iy	BSW	Lams	G	Kcr
(in^2)	(in^4)	(in^4)	(lbf/ft)			Creep Factor
210	10080	1339.84	47.9	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	28.5	0	28.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (69.6%)	92.5	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (1.8%)	2324.6	2367.6	14.25	D+S	1.15
Deflection Y (in)	PASS (51.3%)	0.926 (=L/492)	1.900 (=L/240)	14.25	S	0
Bearing Stress (psi)	PASS (24.5%)	422.9	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	2069	4	10881	12954
B	2069	4	10881	12954

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	150	150	0	28.5	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	28.5	Dead	Y
Self Weight (lbf/ft)	-	47.9	47.9	0	28.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #3	B	2288.399	-	14.25	-	Dead	Y
Point (lbf)	Beam #3	B	8.009	-	14.25	-	Live	Y
Point (lbf)	Beam #3	B	17487.11	-	14.25	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Timber Truss #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 8.75 X 36	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 28.5 Member Slope: 0/12 Actual Length (ft): 28.5

Area	Ix	Iy	BSW	Lams	G	Kcr
(in^2)	(in^4)	(in^4)	(lbf/ft)			Creep Factor
315	34020	2009.77	71.84	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	28.5	0	28.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (63.5%)	111.1	304.8	28.5	D+S	1.15
Bending Stress Y (psi)	PASS (13.9%)	1956.7	2273.5	14.25	D+S	1.15
Deflection Y (in)	PASS (72.9%)	0.516 (=L/884)	1.900 (=L/240)	14.25	S	0
Bearing Stress (psi)	PASS (13.4%)	484.7	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	3585	11	19743	23339
B	3585	11	19743	23339

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	150	150	0	28.5	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	28.5	Dead	Y
Self Weight (lbf/ft)	-	71.84	71.84	0	28.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #3	D	4638.659	-	14.25	-	Dead	Y
Point (lbf)	Beam #3	D	22.883	-	14.25	-	Live	Y
Point (lbf)	Beam #3	D	35210.9	-	14.25	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #17	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 13.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 39.5 Member Slope: 0/12 Actual Length (ft): 39.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
101.25	1537.73	474.61	23.09	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	864	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9869983	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				
2	11.5	0	11.5	0				
3	11.5	0	11.5	0				
4	11.5	0	11.5	0				
5	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (40.9%)	115.5	195.5	13.825	D+S	1.15
Bending Stress Y (psi)	PASS (25.5%)	735.8	988.0	13.825	D+S	1.15
Deflection Y (in)	PASS (81.9%)	0.060 (=L/1332)	0.333 (=L/240)	0	S	0
Bearing Stress (psi)	PASS (57.3%)	266.9	625.0	14	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	847	7	8201	9055
C	1405	12	13610	15027
D	1405	12	13610	15027
E	847	7	8201	9055
F	0	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	39.5	Live	Y
Self Weight (lbf/ft)	-	23.09	23.09	0	39.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #7	B	90.92	90.92	0	39.5	Dead	Y
Uniform (lbf/ft)	Rafters #7	B	1104.403	1104.403	0	39.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #18	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 9.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 10.5 Member Slope: 0/12 Actual Length (ft): 10.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
71.25	535.86	333.98	16.25	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10.5	0	10.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (72.1%)	54.6	195.5	10.5	D+S	1.15
Bending Stress Y (psi)	PASS (16.0%)	724.7	862.5	5.25	D+S	1.15
Deflection Y (in)	PASS (75.2%)	0.173 (=L/971)	0.700 (=L/240)	5.25	S	0
Bearing Stress (psi)	PASS (89.9%)	62.9	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	276	5	2319	2600
B	276	5	2319	2600

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	10.5	Live	Y
Self Weight (lbf/ft)	-	16.25	16.25	0	10.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #7	C	36.368	36.368	0	10.5	Dead	Y
Uniform (lbf/ft)	Rafters #7	C	441.761	441.761	0	10.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - Loft	LOADING:	ASD
MEMBER NAME:	Joist #8	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 560	(1) 14	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 18 Member Slope: 0/12 Actual Length (ft): 18 O.C. Spacing(in): 16

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
926	4.2	1	5.3	11275	2390	1265	1725	1740	2200	3000	3455	3475	3930

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	18	0	18	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (72.3%)	661.8	2390.0	18	D+L	1
Bending Moment (lbf-ft)	PASS (73.6%)	2978.1	11275.0	9	D+L	1
Deflection Y (in)	PASS (77.3%)	0.136 (=L/1588)	0.600 (=L/360)	9	L	0
Bearing Load (lbf)	PASS (61.6%)	661.8	1725.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	182	480	662
B	182	480	662

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A B

NSR NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	18	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	18	Dead	Y
Self Weight (lbf/ft)	-	4.2	4.2	0	18	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - Loft	LOADING:	ASD
MEMBER NAME:	Joist #9	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 560	(1) 14	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 22 Member Slope: 0/12 Actual Length (ft): 22 O.C. Spacing(in): 16

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
926	4.2	1	5.3	11275	2390	1265	1725	1740	2200	3000	3455	3475	3930

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	4	0	4	0
2	18	0	18	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (71.5%)	681.2	2390.0	4.18	D+L	1
Bending Moment (lbf-ft)	PASS (76.1%)	2691.2	11275.0	13.42	D+L	1
Deflection Y (in)	PASS (72.1%)	0.074 (=L/1299)	0.267 (=L/360)	0	L	0
Bearing Load (lbf)	PASS (63.5%)	629.1	1725.0	22	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	0	0	0
B	272	717	989
C	173	456	629

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C
NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	22	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	22	Dead	Y
Self Weight (lbf/ft)	-	4.2	4.2	0	22	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - Loft	LOADING:	ASD
MEMBER NAME:	Beam #29	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 15.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 13 Member Slope: 0/12 Actual Length (ft): 13

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
116.25	2327.42	544.92	26.51	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	850	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9719635	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	13	0	13	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (57.1%)	73.0	170.0	0	D+L	1
Bending Stress Y (psi)	PASS (2.7%)	827.2	850.5	6.89	D+L	1
Deflection Y (in)	PASS (77.1%)	0.149 (=L/1047)	0.650 (=L/240)	6.5	L	0
Bearing Stress (psi)	PASS (78.1%)	137.1	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	1492	4162	5654
B	1289	3739	5028

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	13	Live	Y
Self Weight (lbf/ft)	-	26.51	26.51	0	13	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #8	A	136.35	136.35	7	13	Dead	Y
Uniform (lbf/ft)	Joist #8	A	360	360	7	13	Live	Y
Uniform (lbf/ft)	Joist #9	B	203.683	203.683	0	7	Dead	Y
Uniform (lbf/ft)	Joist #9	B	537.778	537.778	0	7	Live	Y
Point (lbf)	Beam #35	B	192.1447	-	7	-	Dead	Y
Point (lbf)	Beam #35	B	1963.44	-	7	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - Loft	LOADING:	ASD
MEMBER NAME:	Beam #30	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 10.5 Member Slope: 0/12 Actual Length (ft): 10.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
86.25	950.55	404.3	19.67	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10.5	0	10.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (85.2%)	25.2	170.0	0	D+L	1
Bending Stress Y (psi)	PASS (61.3%)	338.6	875.0	3.57	D+L	1
Deflection Y (in)	PASS (88.9%)	0.058 (=L/2172)	0.525 (=L/240)	4.83	L	0
Bearing Stress (psi)	PASS (94.4%)	35.1	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	103	1343	1446
B	103	777	880

Reaction Location

A B

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support A	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	HU810 (Min)	Hanger	30.62	(14) 0.162 x 3.5	(6) 0.148 x 3	N/A

Hanger at support A has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

SIMPSON Strong-Tie

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	40	40	0	10.5	Live	Y
Point (lbf)	Point	1700	-	3.5	-	Live	Y
Self Weight (lbf/ft)	-	19.67	19.67	0	10.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - Loft	LOADING:	ASD
MEMBER NAME:	Beam #35	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 14	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 22 Member Slope: 0/12 Actual Length (ft): 22

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
49	800.33	12.51	14.29	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4	0	4	0				
2	18	0	18	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (80.0%)	57.0	285.0	3.96	D+L	1
Bending Stress Y (psi)	PASS (86.5%)	290.7	2158.3	4.18	D+L	1
Deflection Y (in)	PASS (80.8%)	0.077 (=L/1247)	0.400 (=L/240)	0	L	0
Bearing Stress (psi)	PASS (86.0%)	112.0	801.1	4	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	0	0	0
B	192	1963	2155
C	122	-141	-19

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	22	Live	Y
Point (lbf)	Point	1800	-	2.5	-	Live	Y
Self Weight (lbf/ft)	-	14.29	14.29	0	22	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 8.75 X 21	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 11.5 Member Slope: 0/12 Actual Length (ft): 11.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
183.75	6752.81	1172.36	41.91	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	11.5	0	11.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (6.8%)	283.9	304.8	11.5	D+S	1.15
Bending Stress Y (psi)	PASS (70.2%)	781.9	2627.4	6.21	D+S	1.15
Deflection Y (in)	PASS (90.5%)	0.073 (=L/2522)	0.767 (=L/240)	5.865	S	0
Bearing Stress (psi)	PASS (5.4%)	530.0	560.0	11.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	1711	0	6	11768	13485
B	4985	11	6	29794	34796

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	11.5	RoofLive	Y
Self Weight (lbf/ft)	-	41.91	41.91	0	11.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #2	B	228.595	228.595	0	11.5	Dead	Y
Uniform (lbf/ft)	Rafters #2	B	1897.273	1897.273	0	11.5	Snow	Y
Point (lbf)	Timber Truss #2	B	3585.331	-	11	-	Dead	Y
Point (lbf)	Timber Truss #2	B	11.442	-	11	-	Live	Y
Point (lbf)	Timber Truss #2	B	19742.95	-	11	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.5 X 18	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 8.5 Member Slope: 0/12 Actual Length (ft): 8.5

Area	Ix	Iy	BSW	Lams	G	Kcr
(in^2)	(in^4)	(in^4)	(lbf/ft)			Creep Factor
99	2673	249.56	22.58	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8.5	0	8.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (39.2%)	185.3	304.8	8.5	D+S	1.15
Bending Stress Y (psi)	PASS (24.2%)	2092.3	2760.0	4.25	D+S	1.15
Deflection Y (in)	PASS (82.6%)	0.099 (=L/1375)	0.567 (=L/240)	4.25	S	0
Bearing Stress (psi)	PASS (11.7%)	494.2	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	1495	5	4	10737	12241
B	1495	5	4	10737	12241

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	8.5	RoofLive	Y
Self Weight (lbf/ft)	-	22.58	22.58	0	8.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #3	C	2798.675	-	4.25	-	Dead	Y
Point (lbf)	Beam #3	C	9.98	-	4.25	-	Live	Y
Point (lbf)	Beam #3	C	21474.53	-	4.25	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #3	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 2.5 Member Slope: 0/12 Actual Length (ft): 2.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (43.0%)	118.0	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (63.7%)	488.2	1345.5	1.25	D+S	1.15
Deflection Y (in)	PASS (95.8%)	0.007 (=L/5726)	0.167 (=L/240)	1.25	S	0
Bearing Stress (psi)	PASS (39.2%)	380.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	207	1	1789	1997
B	207	1	1789	1997

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #4	B	159.54	159.54	0	2.5	Dead	Y
Uniform (lbf/ft)	Rafters #4	B	1431.387	1431.387	0	2.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #5	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.5 X 21	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope: 0/12 Actual Length (ft): 3

Area	Ix	Iy	BSW	Lams	G	Kcr
(in^2)	(in^4)	(in^4)	(lbf/ft)			Creep Factor
115.5	4244.62	291.16	26.34	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (18.8%)	247.4	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (69.3%)	847.3	2760.0	1.5	D+S	1.15
Deflection Y (in)	PASS (97.9%)	0.004 (=L/12000)	0.200 (=L/240)	1.5	S	0
Bearing Stress (psi)	PASS (17.5%)	461.8	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	2366	15	2	16683	19066
B	2366	15	2	16683	19066

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	26.34	26.34	0	3	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #3	E	4652.594	-	1.5	-	Dead	Y
Point (lbf)	Beam #3	E	30.819	-	1.5	-	Live	Y
Point (lbf)	Beam #3	E	33365.95	-	1.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #4	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 2.5 Member Slope: 0/12 Actual Length (ft): 2.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (23.9%)	157.5	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (51.6%)	651.8	1345.5	1.25	D+S	1.15
Deflection Y (in)	PASS (94.4%)	0.009 (=L/4453)	0.167 (=L/240)	1.25	S	0
Bearing Stress (psi)	PASS (18.8%)	507.5	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	293	1	2372	2666
B	293	1	2372	2666

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #5	B	228.595	228.595	0	2.5	Dead	Y
Uniform (lbf/ft)	Rafters #5	B	1897.273	1897.273	0	2.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #15	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope: 0/12 Actual Length (ft): 3

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (7.4%)	191.6	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (29.3%)	951.6	1345.5	1.5	D+S	1.15
Deflection Y (in)	PASS (90.1%)	0.020 (=L/2400)	0.200 (=L/240)	1.5	S	0
Bearing Stress (psi)	PASS (1.2%)	617.5	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	333	2	2909	3244
B	333	2	2909	3244

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #4	C	216.157	216.157	0	3	Dead	Y
Uniform (lbf/ft)	Rafters #4	C	1939.355	1939.355	0	3	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Deck Joists #1	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch(North)	No. 2	(1) 1.5 X 9.25	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope: 0/12 Actual Length (ft): 10 O.C. Spacing(in): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
13.88	98.93	2.6	3.1	1	0.49	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	850	500	180	1400	625	1600	580
Adjusted Values	1075	550	180	1400	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10	0	10	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (68.9%)	64.4	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (32.5%)	835.2	1236.5	5	D+S	1.15
Deflection Y (in)	PASS (71.6%)	0.142 (=L/1268)	0.500 (=L/360)	5	S	0
Bearing Stress (psi)	PASS (81.9%)	113.4	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	96	500	596
B	96	500	596

Reaction Location

A B

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support B	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	LUS28	Hanger	51.77	(6) 0.148 x 3	(4) 0.148 x 3	N/A

Hanger at support B has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

SIMPSON Strong-Tie

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	75	75	0	10	Snow	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	10	Dead	Y
Self Weight (lbf/ft)	-	3.1	3.1	0	10	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Deck Joists #2	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch(North)	No. 2	(1) 1.5 X 7.25	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope: 0/12 Actual Length (ft): 10 O.C. Spacing(in): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
10.88	47.63	2.04	2.43	1	0.49	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	850	500	180	1400	625	1600	580
Adjusted Values	1173	600	180	1470	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.2	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	0	8	0				
2	2	0	2	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (66.5%)	69.4	207.0	8	D+S	1.15
Bending Stress Y (psi)	PASS (43.6%)	760.3	1349.0	3.7	D+S	1.15
Deflection Y (in)	PASS (66.0%)	0.068 (=L/1059)	0.200 (=L/360)	10	S	0
Bearing Stress (psi)	PASS (86.5%)	84.6	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	69	375	444
B	115	625	740
C	0	0	0

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	75	75	0	10	Snow	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	10	Dead	Y
Self Weight (lbf/ft)	-	2.43	2.43	0	10	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Joist #4	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 360	(1) 11.875	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 0/12 Actual Length (ft): 14 O.C. Spacing(in): 19.2

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
419	3	1	4.5	6180	1705	1080	1505	1440	1705	2460	3000	2815	3360

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	14	0	14	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (64.6%)	603.4	1705.0	0	D+L	1
Bending Moment (lbf-ft)	PASS (65.8%)	2111.9	6180.0	7	D+L	1
Deflection Y (in)	PASS (71.7%)	0.132 (=L/1274)	0.467 (=L/360)	7	L	0
Bearing Load (lbf)	PASS (59.9%)	603.4	1505.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	155	448	603
B	155	448	603

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A B

NSR NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	14	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	14	Dead	Y
Self Weight (lbf/ft)	-	3	3	0	14	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Joist #5	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 360	(1) 11.875	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 31 Member Slope: 0/12 Actual Length (ft): 31 O.C. Spacing(in): 19.2

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
419	3	1	4.5	6180	1705	1080	1505	1440	1705	2460	3000	2815	3360

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	14	0	14	0
2	17	0	17	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (49.2%)	866.8	1705.0	14.26	D+L	1
Bending Moment (lbf-ft)	PASS (57.6%)	2621.2	6180.0	13.95	D+L	1
Deflection Y (in)	PASS (74.8%)	0.143 (=L/1427)	0.567 (=L/360)	23.56	L	0
Bearing Load (lbf)	PASS (43.9%)	1682.7	3000.0	14	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	106	307	413
B	433	1249	1682
C	148	428	576

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C
NSR	NSR	NSR

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support A	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	IUS2.37/11.88	Hanger	65.12	(10) 0.148 x 3	(NULL) NULL	N/A

Hanger at support A has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

SIMPSON Strong-Tie

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	31	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	31	Dead	Y
Self Weight (lbf/ft)	-	3	3	0	31	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Joist #6	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 360	(1) 11.875	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 12 Member Slope: 0/12 Actual Length (ft): 12 O.C. Spacing(in): 19.2

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
419	3	1	4.5	6180	1705	1080	1505	1440	1705	2460	3000	2815	3360

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	12	0	12	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (69.7%)	517.2	1705.0	12	D+L	1
Bending Moment (lbf-ft)	PASS (74.9%)	1551.6	6180.0	6	D+L	1
Deflection Y (in)	PASS (82.2%)	0.071 (=L/2028)	0.400 (=L/360)	6	L	0
Bearing Load (lbf)	PASS (65.6%)	517.2	1505.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	133	384	517
B	133	384	517

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A B

NSR NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	12	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	12	Dead	Y
Self Weight (lbf/ft)	-	3	3	0	12	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Joist #7	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 360	(1) 11.875	19.2(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 14.5 Member Slope: 0/12 Actual Length (ft): 14.5 O.C. Spacing(in): 19.2

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
419	3	1	4.5	6180	1705	1080	1505	1440	1705	2460	3000	2815	3360

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	14.5	0	14.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (63.3%)	625.0	1705.0	14.5	D+L	1
Bending Moment (lbf-ft)	PASS (63.3%)	2265.4	6180.0	7.25	D+L	1
Deflection Y (in)	PASS (68.6%)	0.152 (=L/1144)	0.483 (=L/360)	7.25	L	0
Bearing Load (lbf)	PASS (58.5%)	625.0	1505.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	161	464	625
B	161	464	625

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A B

NSR NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	14.5	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	14.5	Dead	Y
Self Weight (lbf/ft)	-	3	3	0	14.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #11	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 6.75 X 18	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 15 Member Slope: 0/12 Actual Length (ft): 15

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
121.5	3280.5	461.32	27.71	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.5	0	3.5	0				
2	11.5	0	11.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (50.8%)	150.0	304.8	3.6	D+S	1.15
Bending Stress Y (psi)	PASS (65.3%)	926.1	2666.6	9.75	D+S	1.15
Deflection Y (in)	PASS (84.5%)	0.072 (=L/1557)	0.467 (=L/240)	0	S	0
Bearing Stress (psi)	PASS (18.4%)	487.8	598.2	3.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	2008	10	16103	18121
C	1140	5	9455	10600

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	15	Live	Y
Self Weight (lbf/ft)	-	27.71	27.71	0	15	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #3	C	162.309	162.309	0	3.5	Dead	Y
Uniform (lbf/ft)	Rafters #3	C	1456.228	1456.228	0	3.5	Snow	Y
Uniform (lbf/ft)	Rafters #4	B	159.54	159.54	3.5	15	Dead	Y
Uniform (lbf/ft)	Rafters #4	B	1431.387	1431.387	3.5	15	Snow	Y
Uniform (lbf/ft)	Rafters #8	C	28.64	28.64	3.5	15	Dead	Y
Uniform (lbf/ft)	Rafters #8	C	347.887	347.887	3.5	15	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #12	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope: 0/12 Actual Length (ft): 9

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
63.25	697.07	159.44	14.43	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9	0	9	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (54.2%)	77.8	170.0	9	D+L	1
Bending Stress Y (psi)	PASS (16.5%)	730.9	875.0	4.5	D+L	1
Deflection Y (in)	PASS (80.2%)	0.119 (=L/908)	0.600 (=L/180)	4.5	D+L	1
Bearing Stress (psi)	PASS (82.6%)	108.5	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	892	2390	3282
B	892	2390	3282

Reaction Location

A B

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support B	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	HUCQ610-SDS	Hanger	29.88	(12) 1/4 x 2.5 SDS	(6) 1/4 x 2.5 SDS	N/A

Hanger at support B has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

SIMPSON Strong-Tie

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9	Live	Y
Self Weight (lbf/ft)	-	14.43	14.43	0	9	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #6	B	83.25	83.25	0	9	Dead	Y
Uniform (lbf/ft)	Joist #6	B	240	240	0	9	Live	Y
Uniform (lbf/ft)	Joist #7	A	100.594	100.594	0	9	Dead	Y
Uniform (lbf/ft)	Joist #7	A	290	290	0	9	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #13	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.125 X 10.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope: 0/12 Actual Length (ft): 5.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
53.81	494.4	117.79	12.27	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1573	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (99.6%)	0.9	238.5	0	D	0.9
Bending Stress Y (psi)	PASS (99.7%)	5.9	2160.0	2.75	D	0.9
Deflection Y (in)	PASS (99.9%)	0.000 (=L/∞)	0.367 (=L/180)	2.75	D+L	1
Bearing Stress (psi)	PASS (79.0%)	117.7	560.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	926	2392	3318
B	34	3	37

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	Live	Y
Self Weight (lbf/ft)	-	12.27	12.27	0	5.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #12	B	892.211	-	0.125	-	Dead	Y
Point (lbf)	Beam #12	B	2389.5	-	0.125	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #14	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 8.75 X 22.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope: 0/12 Actual Length (ft): 17

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
196.88	8305.66	1256.1	44.9	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	17	0	17	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (21.0%)	240.7	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (32.1%)	1704.4	2509.3	7.82	D+S	1.15
Deflection Y (in)	PASS (71.1%)	0.328 (=L/829)	1.133 (=L/240)	8.33	S	0
Bearing Stress (psi)	PASS (14.0%)	481.4	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	3656	16	27938	31610
B	2701	10	19943	22654

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	17	Live	Y
Self Weight (lbf/ft)	-	44.9	44.9	0	17	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #5	B	228.595	228.595	0	17	Dead	Y
Uniform (lbf/ft)	Rafters #5	B	1897.273	1897.273	0	17	Snow	Y
Uniform (lbf/ft)	Rafters #9	A	20.827	20.827	0	17	Dead	Y
Uniform (lbf/ft)	Rafters #9	A	252.982	252.982	0	17	Snow	Y
Point (lbf)	Beam #10	B	1353.517	-	2.5	-	Dead	Y
Point (lbf)	Beam #10	B	8.585	-	2.5	-	Live	Y
Point (lbf)	Beam #10	B	11326.83	-	2.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #15	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 6.75 X 10.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope: 0/12 Actual Length (ft): 5.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
70.88	651.16	269.1	16.16	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1573	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (27.5%)	220.8	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (9.6%)	2493.9	2760.0	2.53	D+S	1.15
Deflection Y (in)	PASS (77.0%)	0.084 (=L/1049)	0.367 (=L/240)	2.695	S	0
Bearing Stress (psi)	PASS (34.2%)	368.4	560.0	5.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	1335	11	9100	10446
B	1120	10	7583	8713

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	Live	Y
Self Weight (lbf/ft)	-	16.16	16.16	0	5.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #5	A	2365.809	-	2.5	-	Dead	Y
Point (lbf)	Header #5	A	15.41	-	2.5	-	Live	Y
Point (lbf)	Header #5	A	16682.98	-	2.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #16	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 6.75 X 10.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope: 0/12 Actual Length (ft): 5.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
70.88	651.16	269.1	16.16	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1472	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (27.5%)	220.8	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (9.6%)	2493.9	2760.0	2.53	D+S	1.15
Deflection Y (in)	PASS (77.0%)	0.084 (=L/1049)	0.367 (=L/240)	2.695	S	0
Bearing Stress (psi)	PASS (34.2%)	368.4	560.0	5.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	1335	11	9100	10446
B	1120	10	7583	8713

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	Live	Y
Self Weight (lbf/ft)	-	16.16	16.16	0	5.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #5	B	2365.81	-	2.5	-	Dead	Y
Point (lbf)	Header #5	B	15.41	-	2.5	-	Live	Y
Point (lbf)	Header #5	B	16682.97	-	2.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #19	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 9.5 X 21.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 28 Member Slope: 0/12 Actual Length (ft): 28

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
204.25	7867.88	1536.13	46.58	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	820	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9372605	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	28	0	28	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (74.1%)	50.7	195.5	0	D+S	1.15
Bending Stress Y (psi)	PASS (16.0%)	792.5	943.1	14	D+S	1.15
Deflection Y (in)	PASS (72.8%)	0.507 (=L/884)	1.867 (=L/240)	14	S	0
Bearing Stress (psi)	PASS (78.9%)	132.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	1655	14	5250	6919
B	1655	14	5250	6919

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	28	Live	Y
Self Weight (lbf/ft)	-	46.58	46.58	0	28	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #1	A	71.639	71.639	0	28	Dead	Y
Uniform (lbf/ft)	Deck Joists #1	A	375	375	0	28	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #27	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 6.75 X 27	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 28.5 Member Slope: 0/12 Actual Length (ft): 28.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
182.25	11071.69	691.98	41.57	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	28.5	0	28.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (55.7%)	117.5	265.0	0	D+L	1
Bending Stress Y (psi)	PASS (23.8%)	1591.1	2088.2	11.115	D+L	1
Deflection Y (in)	PASS (59.9%)	0.761 (=L/449)	1.900 (=L/180)	13.965	D+L	1
Bearing Stress (psi)	PASS (31.3%)	384.5	560.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	3922	10354	14276
B	3522	8627	12149

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	28.5	Live	Y
Self Weight (lbf/ft)	-	41.57	41.57	0	28.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #4	B	97.125	97.125	0	28.5	Dead	Y
Uniform (lbf/ft)	Joist #4	B	280	280	0	28.5	Live	Y
Uniform (lbf/ft)	Joist #5	A	66.533	66.533	0	28.5	Dead	Y
Uniform (lbf/ft)	Joist #5	A	191.808	191.808	0	28.5	Live	Y
Point (lbf)	Beam #29	A	1491.729	-	11	-	Dead	Y
Point (lbf)	Beam #29	A	4162.106	-	11	-	Live	Y
Point (lbf)	Beam #30	A	103.273	-	6	-	Dead	Y
Point (lbf)	Beam #30	A	1343.332	-	6	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #28	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 13.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope: 0/12 Actual Length (ft): 9

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
74.25	1127.67	187.17	16.93	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	864	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9869983	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9	0	9	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (81.8%)	31.0	170.0	9	D+L	1
Bending Stress Y (psi)	PASS (71.3%)	248.1	863.6	4.5	D+L	1
Deflection Y (in)	PASS (94.3%)	0.034 (=L/3176)	0.600 (=L/180)	4.5	D+L	1
Bearing Stress (psi)	PASS (91.9%)	50.8	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	451	1084	1535
B	451	1084	1535

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9	Live	Y
Self Weight (lbf/ft)	-	16.93	16.93	0	9	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #6	A	83.25	83.25	0	9	Dead	Y
Uniform (lbf/ft)	Joist #6	A	240	240	0	9	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #6	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 3.5 X 12	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 2.5 Member Slope: 0/12 Actual Length (ft): 2.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
42	504	42.88	9.58	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (18.3%)	249.1	304.8	2.5	D+S	1.15
Bending Stress Y (psi)	PASS (82.0%)	498.0	2760.0	2	D+S	1.15
Deflection Y (in)	PASS (98.4%)	0.003 (=L/13360)	0.167 (=L/240)	1.425	S	0
Bearing Stress (psi)	PASS (40.4%)	333.8	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	236	2	1	1517	1756
B	908	8	1	6067	6984

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2.5	RoofLive	Y
Self Weight (lbf/ft)	-	9.58	9.58	0	2.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #15	B	1119.82	-	2	-	Dead	Y
Point (lbf)	Beam #15	B	7583.172	-	2	-	Snow	Y
Point (lbf)	Beam #15	B	9.754	-	2	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #7	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope: 0/12 Actual Length (ft): 3

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (29.5%)	145.9	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (46.2%)	724.5	1345.5	1.5	D+S	1.15
Deflection Y (in)	PASS (92.4%)	0.015 (=L/3200)	0.200 (=L/240)	1.5	S	0
Bearing Stress (psi)	PASS (24.8%)	470.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	238	2	2230	2470
B	238	2	2230	2470

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	B	116.491	116.491	0	3	Dead	Y
Uniform (lbf/ft)	Rafters #1	B	1045.154	1045.154	0	3	Snow	Y
Uniform (lbf/ft)	Rafters #7	C	36.368	36.368	0	3	Dead	Y
Uniform (lbf/ft)	Rafters #7	C	441.761	441.761	0	3	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #8	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope: 0/12 Actual Length (ft): 3

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
63.25	697.07	159.44	14.43	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (55.0%)	88.1	195.5	0	D+0.75L+0.75S	1.15
Bending Stress Y (psi)	PASS (69.8%)	303.6	1006.3	1.02	D+0.75L+0.75S	1.15
Deflection Y (in)	PASS (98.3%)	0.003 (=L/12000)	0.200 (=L/180)	1.38	D+L	1
Bearing Stress (psi)	PASS (64.0%)	225.0	625.0	0	D+0.75L+0.75S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	846	1593	2	2230	4671
B	548	796	2	2230	3576

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	14.43	14.43	0	3	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	B	116.491	116.491	0	3	Dead	Y
Uniform (lbf/ft)	Rafters #1	B	1045.154	1045.154	0	3	Snow	Y
Uniform (lbf/ft)	Rafters #7	C	36.368	36.368	0	3	Dead	Y
Uniform (lbf/ft)	Rafters #7	C	441.761	441.761	0	3	Snow	Y
Point (lbf)	Beam #12	A	892.211	-	1	-	Dead	Y
Point (lbf)	Beam #12	A	2389.5	-	1	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #9	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 6.5 Member Slope: 0/12 Actual Length (ft): 6.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6.5	0	6.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (45.5%)	106.5	195.5	0	D+S	1.15
Bending Stress Y (psi)	PASS (13.1%)	874.4	1006.3	3.25	D+S	1.15
Deflection Y (in)	PASS (81.1%)	0.082 (=L/1267)	0.433 (=L/240)	3.25	S	0
Bearing Stress (psi)	PASS (28.1%)	449.7	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	318	3	3392	3713
B	318	3	3392	3713

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	6.5	RoofLive	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	6.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #8	B	85.919	85.919	0	6.5	Dead	Y
Uniform (lbf/ft)	Rafters #8	B	1043.661	1043.661	0	6.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #10	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.5 X 12	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 6 Member Slope: 0/12 Actual Length (ft): 6

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
66	792	166.38	15.05	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (52.9%)	143.6	304.8	6	D+S	1.15
Bending Stress Y (psi)	PASS (44.2%)	1539.7	2760.0	3	D+S	1.15
Deflection Y (in)	PASS (86.4%)	0.054 (=L/1778)	0.400 (=L/240)	3	S	0
Bearing Stress (psi)	PASS (38.7%)	343.5	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	730	220	3	4939	5892
B	958	655	3	5360	6976

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	6	RoofLive	Y
Self Weight (lbf/ft)	-	15.05	15.05	0	6	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #2	A	51.842	51.842	3	6	Dead	Y
Uniform (lbf/ft)	Deck Joists #2	A	281.25	281.25	3	6	Snow	Y
Uniform (lbf/ft)	Joist #7	B	100.594	100.594	3	6	Dead	Y
Uniform (lbf/ft)	Joist #7	B	290	290	3	6	Live	Y
Point (lbf)	Beam #11	C	1140.162	-	3	-	Dead	Y
Point (lbf)	Beam #11	C	5.217	-	3	-	Live	Y
Point (lbf)	Beam #11	C	9455.227	-	3	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #11	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.5 X 12	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope: 0/12 Actual Length (ft): 3

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
66	792	166.38	15.05	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (11.8%)	268.7	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (43.2%)	1567.2	2760.0	1.5	D+S	1.15
Deflection Y (in)	PASS (93.1%)	0.014 (=L/3429)	0.200 (=L/240)	1.5	S	0
Bearing Stress (psi)	PASS (14.7%)	477.7	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	1536	306	2	10288	12132
B	1427	105	2	10077	11611

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	15.05	15.05	0	3	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #2	A	51.842	51.842	0	1.5	Dead	Y
Uniform (lbf/ft)	Deck Joists #2	A	281.25	281.25	0	1.5	Snow	Y
Uniform (lbf/ft)	Joist #5	C	92.744	92.744	0	1.5	Dead	Y
Uniform (lbf/ft)	Joist #5	C	267.371	267.371	0	1.5	Live	Y
Point (lbf)	Beam #14	B	2700.79	-	1.5	-	Dead	Y
Point (lbf)	Beam #14	B	9.762	-	1.5	-	Live	Y
Point (lbf)	Beam #14	B	19942.87	-	1.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #12	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 6 Member Slope: 0/12 Actual Length (ft): 6

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (62.2%)	78.3	207.0	6	D+0.75L+0.75S	1.15
Bending Stress Y (psi)	PASS (50.9%)	609.6	1242.0	3	D+0.75L+0.75S	1.15
Deflection Y (in)	PASS (91.7%)	0.033 (=L/2182)	0.400 (=L/180)	3	D+L	1
Bearing Stress (psi)	PASS (48.5%)	322.0	625.0	0	D+0.75L+0.75S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	456	802	3	844	2105
B	456	802	3	844	2105

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	6	RoofLive	Y
Self Weight (lbf/ft)	-	7.38	7.38	0	6	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #2	A	51.842	51.842	0	6	Dead	Y
Uniform (lbf/ft)	Deck Joists #2	A	281.25	281.25	0	6	Snow	Y
Uniform (lbf/ft)	Joist #5	C	92.744	92.744	0	6	Dead	Y
Uniform (lbf/ft)	Joist #5	C	267.371	267.371	0	6	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #13	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 5.5 X 21	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 16.5 Member Slope: 0/12 Actual Length (ft): 16.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
115.5	4244.62	291.16	26.34	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	16.5	0	16.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (26.2%)	224.8	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (26.9%)	1941.2	2654.7	8.91	D+S	1.15
Deflection Y (in)	PASS (66.4%)	0.370 (=L/714)	1.100 (=L/240)	8.25	S	0
Bearing Stress (psi)	PASS (25.1%)	419.6	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	3150	2310	8	14156	19624
B	3060	2310	8	13506	18884

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	16.5	RoofLive	Y
Self Weight (lbf/ft)	-	26.34	26.34	0	16.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #1	B	71.639	71.639	0	16.5	Dead	Y
Uniform (lbf/ft)	Deck Joists #1	B	375	375	0	16.5	Snow	Y
Uniform (lbf/ft)	Joist #4	A	97.125	97.125	0	16.5	Dead	Y
Uniform (lbf/ft)	Joist #4	A	280	280	0	16.5	Live	Y
Point (lbf)	Header #2	A	1495.298	-	3.5	-	Dead	Y
Point (lbf)	Header #2	B	1495.298	-	12.5	-	Dead	Y
Point (lbf)	Header #2	A	10737.26	-	3.5	-	Snow	Y
Point (lbf)	Header #2	B	10737.27	-	12.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #14	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope: 0/12 Actual Length (ft): 3

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (47.9%)	93.8	180.0	3	D+L	1
Bending Stress Y (psi)	PASS (60.2%)	465.6	1170.0	1.5	D+L	1
Deflection Y (in)	PASS (94.6%)	0.011 (=L/3273)	0.200 (=L/180)	1.5	D+L	1
Bearing Stress (psi)	PASS (51.7%)	302.1	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	TOTAL
A	415	1171	2	1588
B	415	1171	2	1588

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #5	B	270.847	270.847	0	3	Dead	Y
Uniform (lbf/ft)	Joist #5	B	780.821	780.821	0	3	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Deck Joists #3	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch(North)	No. 2	(1) 1.5 X 9.25	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 8 Member Slope: 0/12 Actual Length (ft): 8 O.C. Spacing(in): 16

Area	Ix	Iy	BSW	Lams	G	Kcr
(in^2)	(in^4)	(in^4)	(lbf/ft)			Creep Factor
13.88	98.93	2.6	3.1	1	0.49	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	850	500	180	1400	625	1600	580
Adjusted Values	1075	550	180	1400	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	0	8	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (54.2%)	94.7	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (20.5%)	983.3	1236.5	4	D+S	1.15
Deflection Y (in)	PASS (70.9%)	0.116 (=L/1241)	0.400 (=L/360)	4	S	0
Bearing Stress (psi)	PASS (73.3%)	166.9	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	76	800	876
B	76	800	876

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	150	150	0	8	Snow	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	8	Dead	Y
Self Weight (lbf/ft)	-	3.1	3.1	0	8	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Deck Joists #4	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch(North)	No. 2	(1) 1.5 X 7.25	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope: 0/12 Actual Length (ft): 10 O.C. Spacing(in): 12

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
10.88	47.63	2.04	2.43	1	0.49	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	850	500	180	1400	625	1600	580
Adjusted Values	1173	600	180	1470	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.2	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10	0	10	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (70.2%)	61.7	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (24.3%)	1020.9	1349.0	5	D+S	1.15
Deflection Y (in)	PASS (55.7%)	0.221 (=L/814)	0.500 (=L/360)	5	S	0
Bearing Stress (psi)	PASS (86.4%)	85.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	72	375	447
B	72	375	447

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	75	75	0	10	Snow	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	10	Dead	Y
Self Weight (lbf/ft)	-	2.43	2.43	0	10	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Joists #1	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 110	(1) 9.5	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope: 0/12 Actual Length (ft): 9 O.C. Spacing(in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	9	0	9	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (60.8%)	478.4	1220.0	9	D+L	1
Bending Moment (lbf-ft)	PASS (56.9%)	1076.3	2500.0	4.5	D+L	1
Deflection Y (in)	PASS (74.9%)	0.075 (=L/1440)	0.300 (=L/360)	4.5	L	0
Bearing Load (lbf)	PASS (60.8%)	478.4	1220.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	118	360	478
B	118	360	478

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A B

NSR NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	9	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	9	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	9	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Joists #2	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 110	(1) 9.5	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 41.5 Member Slope: 0/12 Actual Length (ft): 41.5 O.C. Spacing(in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	8.5	0	8.5	0
2	11	0	11	0
3	11	0	11	0
4	11	0	11	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (43.8%)	685.5	1220.0	30.71	D+L	1
Bending Moment (lbf-ft)	PASS (50.7%)	1231.3	2500.0	30.295	D+L	1
Deflection Y (in)	PASS (76.9%)	0.085 (=L/1554)	0.367 (=L/360)	36.52	L	0
Bearing Load (lbf)	PASS (31.6%)	1324.0	1935.0	30.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	81	248	329
B	287	874	1161
C	281	854	1135
D	328	996	1324
E	114	347	461

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D	E
NSR	NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	41.5	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	41.5	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	41.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Joists #3	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Weyerhaeuser	TJI 110	(1) 9.5	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 42.5 Member Slope: 0/12 Actual Length (ft): 42.5 O.C. Spacing(in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
EI x10^6	BSW	Lams	K x10^6	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in^2)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	9.5	0	9.5	0
2	11	0	11	0
3	11	0	11	0
4	11	0	11	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (45.2%)	668.7	1220.0	31.875	D+L	1
Bending Moment (lbf-ft)	PASS (46.7%)	1332.2	2500.0	31.45	D+L	1
Deflection Y (in)	PASS (77.1%)	0.084 (=L/1573)	0.367 (=L/360)	37.825	L	0
Bearing Load (lbf)	PASS (31.4%)	1328.2	1935.0	31.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	95	288	383
B	304	924	1228
C	277	842	1119
D	329	1000	1329
E	114	347	461

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D	E
NSR	NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	42.5	Live	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	42.5	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	42.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Deck Joists #5	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch(North)	No. 2	(1) 1.5 X 7.25	0(in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 4.5 Member Slope: 0/12 Actual Length (ft): 4.5 O.C. Spacing(in): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
10.88	47.63	2.04	2.43	1	0.49	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	850	500	180	1400	625	1600	580
Adjusted Values	1173	600	180	1470	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.2	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.5	0	4.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (82.2%)	36.8	207.0	4.5	D+S	1.15
Bending Stress Y (psi)	PASS (79.7%)	273.8	1349.0	2.25	D+S	1.15
Deflection Y (in)	PASS (94.6%)	0.012 (=L/6750)	0.225 (=L/360)	2.25	S	0
Bearing Stress (psi)	PASS (91.9%)	50.8	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	41	225	266
B	41	225	266

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	75	75	0	4.5	Snow	Y
Uniform (lbf/ft^2)	Uniform	12	12	0	4.5	Dead	Y
Self Weight (lbf/ft)	-	2.43	2.43	0	4.5	Dead	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #20	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 3.5 Member Slope: 0/12 Actual Length (ft): 3.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.5	0	3.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (89.7%)	21.3	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (90.8%)	123.2	1345.5	1.75	D+S	1.15
Deflection Y (in)	PASS (98.6%)	0.003 (=L/18640)	0.233 (=L/240)	1.75	S	0
Bearing Stress (psi)	PASS (97.0%)	18.7	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	65	2	295	362
B	65	2	295	362

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3.5	Live	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #5	A	31.10527	31.10527	0	3.5	Dead	Y
Uniform (lbf/ft)	Deck Joists #5	A	168.75	168.75	0	3.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #21	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 10.5 Member Slope: 0/12 Actual Length (ft): 10.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10.5	0	10.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (93.7%)	12.9	207.0	10.5	D+S	1.15
Bending Stress Y (psi)	PASS (70.5%)	397.4	1345.5	5.46	D+S	1.15
Deflection Y (in)	PASS (90.1%)	0.069 (=L/2435)	0.700 (=L/240)	5.355	S	0
Bearing Stress (psi)	PASS (98.2%)	11.4	625.0	10.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	61	5	141	207
B	64	5	155	224

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	10.5	Live	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	10.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #20	A	64.561	-	5.5	-	Dead	Y
Point (lbf)	Beam #20	A	295.313	-	5.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #22	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope: 0/12 Actual Length (ft): 9

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥(psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9	0	9	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (61.1%)	80.5	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (35.7%)	798.4	1242.0	3.78	D+S	1.15
Deflection Y (in)	PASS (83.6%)	0.098 (=L/1469)	0.600 (=L/240)	4.23	S	0
Bearing Stress (psi)	PASS (85.6%)	90.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	321	7	1417	1745
B	167	7	599	773

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9	Live	Y
Self Weight (lbf/ft)	-	7.38	7.38	0	9	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #4	A	72.164	72.164	0	5	Dead	Y
Uniform (lbf/ft)	Deck Joists #4	A	375	375	0	5	Snow	Y
Point (lbf)	Beam #21	A	61.127	-	5	-	Dead	Y
Point (lbf)	Beam #21	A	5.25	-	5	-	Live	Y
Point (lbf)	Beam #21	A	140.625	-	5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #23	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope: 0/12 Actual Length (ft): 10

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
63.25	697.07	159.44	14.43	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	1	0	1	0				
2	9	0	9	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (63.7%)	71.0	195.5	1.1	D+S	1.15
Bending Stress Y (psi)	PASS (34.7%)	656.7	1006.3	5.6	D+S	1.15
Deflection Y (in)	PASS (75.3%)	0.033 (=L/967)	0.133 (=L/240)	0	S	0
Bearing Stress (psi)	PASS (81.5%)	123.4	667.6	1	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	399	6	3333	3738
C	319	4	2667	2990

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	10	Live	Y
Self Weight (lbf/ft)	-	14.43	14.43	0	10	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #3	B	57.312	57.312	0	10	Dead	Y
Uniform (lbf/ft)	Deck Joists #3	B	600	600	0	10	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #24	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 13.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 13.5 Member Slope: 0/12 Actual Length (ft): 13.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
101.25	1537.73	474.61	23.09	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	864	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9869983	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	13.5	0	13.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (65.2%)	68.0	195.5	0	D+S	1.15
Bending Stress Y (psi)	PASS (17.8%)	816.5	993.2	6.75	D+S	1.15
Deflection Y (in)	PASS (75.1%)	0.224 (=L/964)	0.900 (=L/240)	6.75	S	0
Bearing Stress (psi)	PASS (82.2%)	111.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	543	7	4050	4600
B	543	7	4050	4600

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	13.5	Live	Y
Self Weight (lbf/ft)	-	23.09	23.09	0	13.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #3	B	57.312	57.312	0	13.5	Dead	Y
Uniform (lbf/ft)	Deck Joists #3	B	600	600	0	13.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #25	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 13.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 13.5 Member Slope: 0/12 Actual Length (ft): 13.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
101.25	1537.73	474.61	23.09	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	864	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	0.9869983	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	13.5	0	13.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (65.2%)	68.0	195.5	0	D+S	1.15
Bending Stress Y (psi)	PASS (17.8%)	816.5	993.2	6.75	D+S	1.15
Deflection Y (in)	PASS (75.1%)	0.224 (=L/964)	0.900 (=L/240)	6.75	S	0
Bearing Stress (psi)	PASS (82.2%)	111.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	543	7	4050	4600
B	543	7	4050	4600

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	13.5	Live	Y
Self Weight (lbf/ft)	-	23.09	23.09	0	13.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #3	B	57.312	57.312	0	13.5	Dead	Y
Uniform (lbf/ft)	Deck Joists #3	B	600	600	0	13.5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #26	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 5.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 5 Member Slope: 0/12 Actual Length (ft): 5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
63.25	697.07	159.44	14.43	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (79.6%)	39.8	195.5	0	D+S	1.15
Bending Stress Y (psi)	PASS (79.4%)	207.8	1006.3	2.5	D+S	1.15
Deflection Y (in)	PASS (97.2%)	0.009 (=L/8880)	0.333 (=L/240)	2.5	S	0
Bearing Stress (psi)	PASS (91.1%)	55.5	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	179	2	1500	1681
B	179	2	1500	1681

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5	Live	Y
Self Weight (lbf/ft)	-	14.43	14.43	0	5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #3	B	57.312	57.312	0	5	Dead	Y
Uniform (lbf/ft)	Deck Joists #3	B	600	600	0	5	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #31	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 31 Member Slope: 0/12 Actual Length (ft): 31

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
86.25	950.55	404.3	19.67	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4	0	4	0				
2	13.5	0	13.5	0				
3	13.5	0	13.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (58.5%)	81.2	195.5	17.67	D+S	1.15
Bending Stress Y (psi)	PASS (17.8%)	822.4	1000.9	17.36	D+S	1.15
Deflection Y (in)	PASS (85.3%)	0.132 (=L/1636)	0.900 (=L/240)	25.11	S	0
Bearing Stress (psi)	PASS (76.9%)	153.9	667.6	4	D+0.75L+0.75S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	1040	2484	4595	8119
C	1696	1279	7493	10468
D	553	417	2443	3413

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	80	80	0	31	Live	Y
Point (lbf)	Point	1700	-	4	-	Live	Y
Self Weight (lbf/ft)	-	19.67	19.67	0	31	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #2	B	86.404	86.404	0	31	Dead	Y
Uniform (lbf/ft)	Deck Joists #2	B	468.75	468.75	0	31	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #32	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V8 DF/DF	(1) 6.75 X 21	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope: 0/12 Actual Length (ft): 17

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
141.75	5209.31	538.21	32.33	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	2400	1550	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	17	0	17	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (35.4%)	196.8	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (26.3%)	1911.7	2593.1	8.5	D+S	1.15
Deflection Y (in)	PASS (65.7%)	0.389 (=L/699)	1.133 (=L/240)	8.5	S	0
Bearing Stress (psi)	PASS (10.6%)	500.9	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	2112	8	16485	18605
B	2112	8	16485	18605

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	17	Live	Y
Self Weight (lbf/ft)	-	32.33	32.33	0	17	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #4	C	216.157	216.157	0	17	Dead	Y
Uniform (lbf/ft)	Rafters #4	C	1939.355	1939.355	0	17	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #33	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		

Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 12	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope: 0/12 Actual Length (ft): 5.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
66	792	166.38	15.05	1	0.5	1

STRENGTH PROPERTIES

	Fbx+ (psi)	Fbx- (psi)	Fby (psi)	Ft (psi)	Fvx (psi)	Fvy (psi)	Fc (psi)	Fc⊥ (psi)	Ex (psi)	Exmin (psi)	Ey (psi)	Eymin (psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C_M	1	1	1	1	1	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (24.0%)	231.5	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (17.1%)	2287.5	2760.0	2.53	D+S	1.15
Deflection Y (in)	PASS (81.3%)	0.069 (=L/1277)	0.367 (=L/240)	2.695	S	0
Bearing Stress (psi)	PASS (39.9%)	336.7	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	1193	7	8992	10192
B	1001	7	7493	8501

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	Live	Y
Self Weight (lbf/ft)	-	15.05	15.05	0	5.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #32	A	2112.133	-	2.5	-	Dead	Y
Point (lbf)	Beam #32	A	8.5	-	2.5	-	Live	Y
Point (lbf)	Beam #32	A	16484.52	-	2.5	-	Snow	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #34	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 7.5 X 11.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope: 0/12 Actual Length (ft): 5.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
86.25	950.55	404.3	19.67	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (69.0%)	52.7	170.0	0	D+L	1
Bending Stress Y (psi)	PASS (44.0%)	490.0	875.0	2.255	D+L	1
Deflection Y (in)	PASS (93.5%)	0.024 (=L/2753)	0.367 (=L/180)	2.585	D+L	1
Bearing Stress (psi)	PASS (88.3%)	73.4	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	816	2212	3028
B	581	1532	2113

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	Live	Y
Self Weight (lbf/ft)	-	19.67	19.67	0	5.5	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #29	B	1288.971	-	2.25	-	Dead	Y
Point (lbf)	Beam #29	B	3738.779	-	2.25	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #36	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 9.5	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 7 Member Slope: 0/12 Actual Length (ft): 7

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
33.25	250.07	8.49	9.7	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.03 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7	0	7	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (28.2%)	204.6	285.0	7	D+L	1
Bending Stress Y (psi)	PASS (42.9%)	1533.7	2684.0	3.57	D+L	1
Deflection Y (in)	PASS (74.4%)	0.119 (=L/706)	0.467 (=L/180)	3.5	D+L	1
Bearing Stress (psi)	PASS (68.6%)	235.6	750.0	7	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	989	2792	3781
B	1078	3458	4536

Reaction Location

A B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	7	Live	Y
Self Weight (lbf/ft)	-	9.7	9.7	0	7	Dead	Y

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #5	B	270.847	270.847	0	7	Dead	Y
Uniform (lbf/ft)	Joist #5	B	780.821	780.821	0	7	Live	Y
Point (lbf)	Beam #30	B	103.273	-	6.5	-	Dead	Y
Point (lbf)	Beam #30	B	776.667	-	6.5	-	Live	Y

PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #1	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (3) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
2	10	241.6667	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (28.9%)	1067.0	1500.0	D+S	ASD
One-Way Shear (lbf)	PASS (96.6%)	542.4	15774.4	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (97.2%)	312.7	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	2.0	2.0	D	LRFD

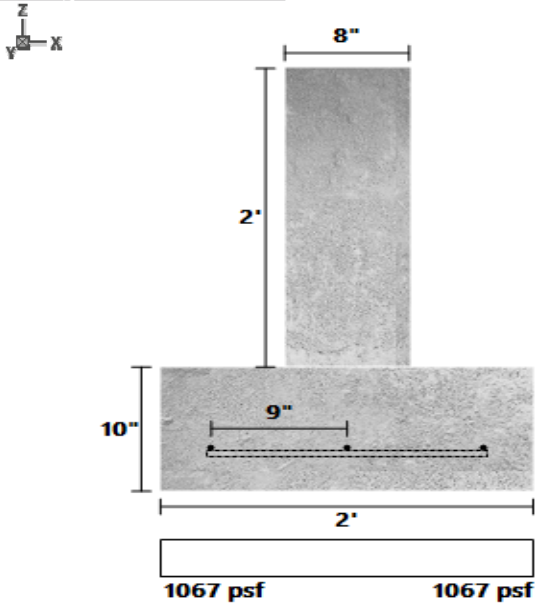
LOAD LIST

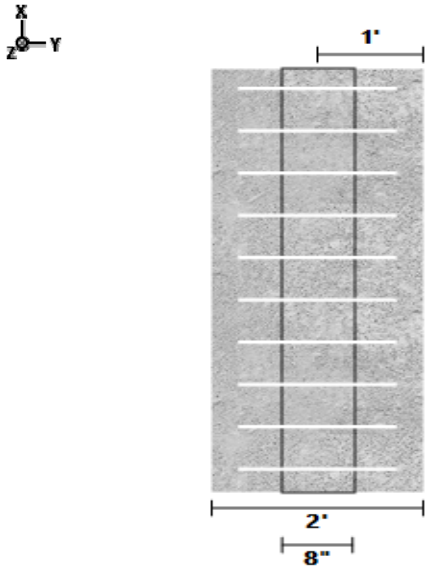
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	B	116.4912	116.4912	0	1	Dead	Z
Uniform (lbf/ft)	Rafters #1	B	1045.154	1045.154	0	1	Snow	Z
Uniform (lbf/ft)	Rafters #7	C	36.3678	36.3678	0	1	Dead	Z
Uniform (lbf/ft)	Rafters #7	C	441.7613	441.7613	0	1	Snow	Z
Uniform (lbf/ft)	Joists #1	A	59.175	59.175	0	1	Dead	Z
Uniform (lbf/ft)	Joists #1	A	180	180	0	1	Live	Z

Footing #1 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #2	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2.5 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (4) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
2.5	10	302.0833	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (8.5%)	1372.9	1500.0	D+S	ASD
One-Way Shear (lbf)	PASS (93.9%)	1205.0	19718.0	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (92.9%)	796.7	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	2.5	2.5	D	LRFD

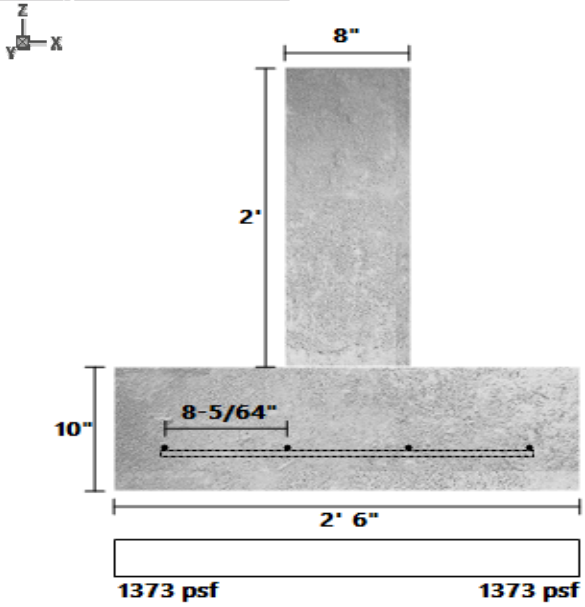
LOAD LIST

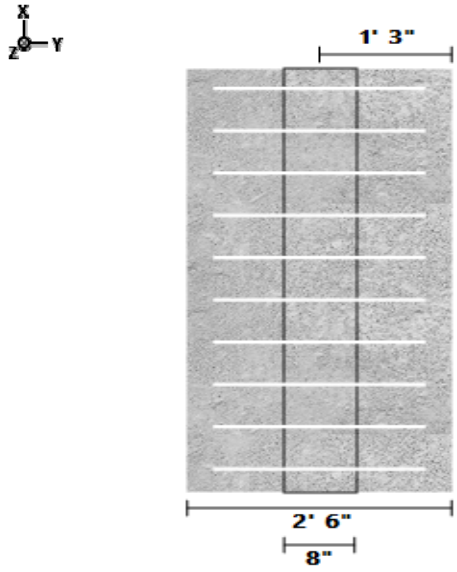
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	C	288.5805	288.5805	0	1	Dead	Z
Uniform (lbf/ft)	Rafters #1	C	2589.133	2589.133	0	1	Snow	Z
Uniform (lbf/ft)	Joists #1	B	59.175	59.175	0	1	Dead	Z
Uniform (lbf/ft)	Joists #1	B	180	180	0	1	Live	Z

Footing #2 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #3	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.333 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (2) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
1.333	10	161.0708	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (49.2%)	761.6	1500.0	D+0.75L+0.75S	ASD
One-Way Shear (lbf)	PASS (99.6%)	42.2	10513.6	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (99.6%)	45.1	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	1.3	1.3	D	LRFD

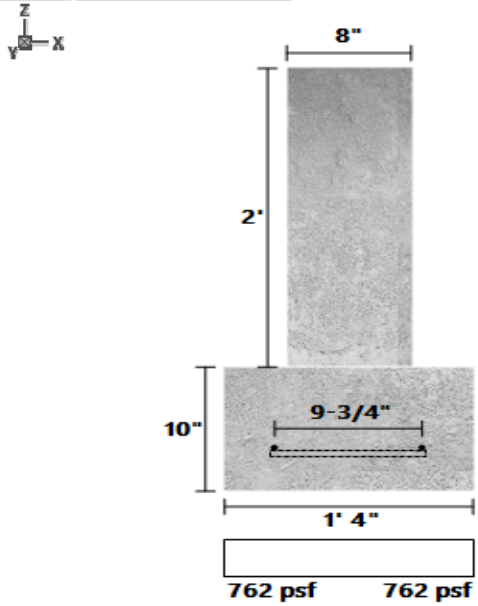
LOAD LIST

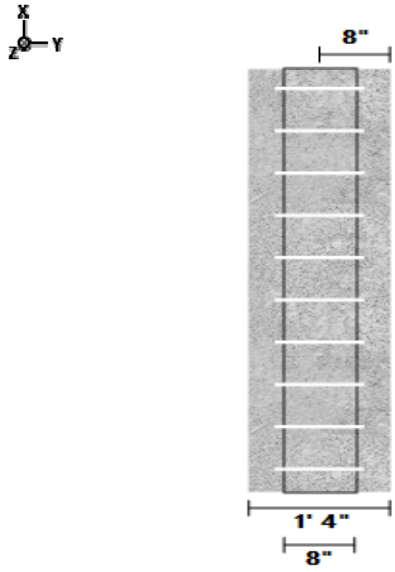
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #1	B	71.63947	71.63947	0	1	Dead	Z
Uniform (lbf/ft)	Deck Joists #1	B	375	375	0	1	Snow	Z
Uniform (lbf/ft)	Joist #4	A	97.125	97.125	0	1	Dead	Z
Uniform (lbf/ft)	Joist #4	A	280	280	0	1	Live	Z

Footing #3 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #4	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (3) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
2	10	241.6667	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (14.6%)	1280.4	1500.0	D+S	ASD
One-Way Shear (lbf)	PASS (96.0%)	638.1	15774.4	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (96.7%)	367.9	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	2.0	2.0	D	LRFD

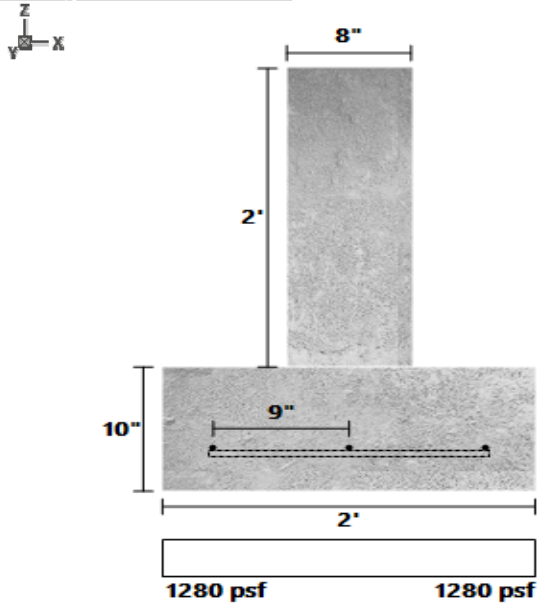
LOAD LIST

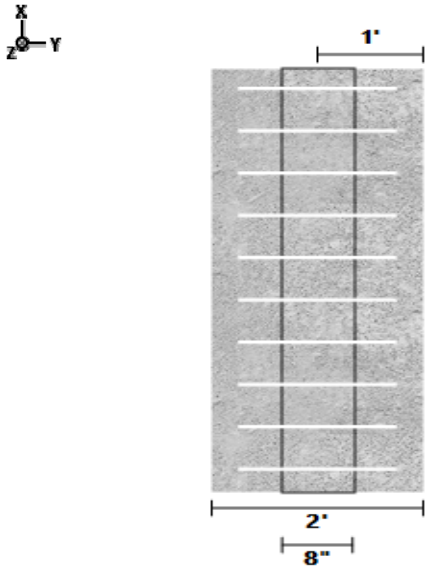
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #2	B	228.595	228.595	0	1	Dead	Z
Uniform (lbf/ft)	Rafters #2	B	1897.273	1897.273	0	1	Snow	Z

Footing #4 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #5	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.333 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (2) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
1.333	10	161.0708	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (23.4%)	1148.8	1500.0	D+S	ASD
One-Way Shear (lbf)	PASS (99.3%)	76.9	10513.6	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (99.3%)	82.2	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	1.3	1.3	D	LRFD

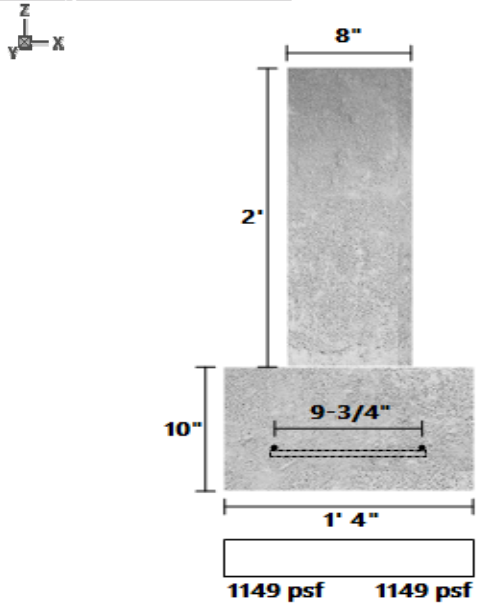
LOAD LIST

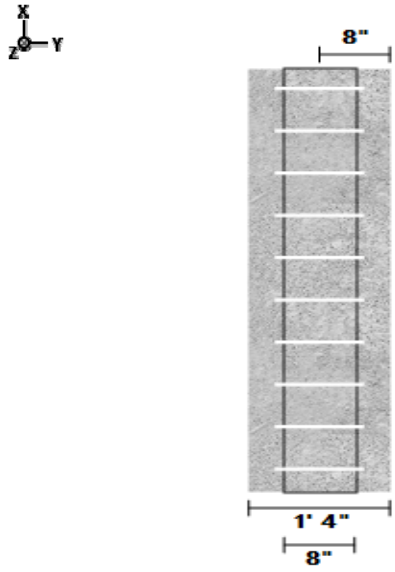
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #8	B	85.91892	85.91892	0	1	Dead	Z
Uniform (lbf/ft)	Rafters #8	B	1043.661	1043.661	0	1	Snow	Z
Uniform (lbf/ft)	Joists #3	A	47.41124	47.41124	0	1	Dead	Z
Uniform (lbf/ft)	Joists #3	A	144.2167	144.2167	0	1	Live	Z

Footing #5 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #6	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.333 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (2) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
1.333	10	161.0708	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (29.6%)	1055.6	1500.0	D+L	ASD
One-Way Shear (lbf)	PASS (99.4%)	61.4	10513.6	1.2D+1.6L+0.5Lr	LRFD
Moment (lbf-ft)	PASS (99.4%)	65.6	11245.8	1.2D+1.6L+0.5Lr	LRFD
Compression (ft^2)	PASS (100.0%)	1.3	1.3	D	LRFD

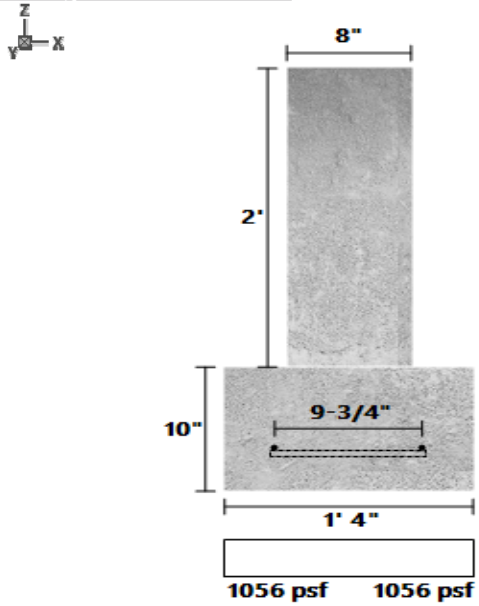
LOAD LIST

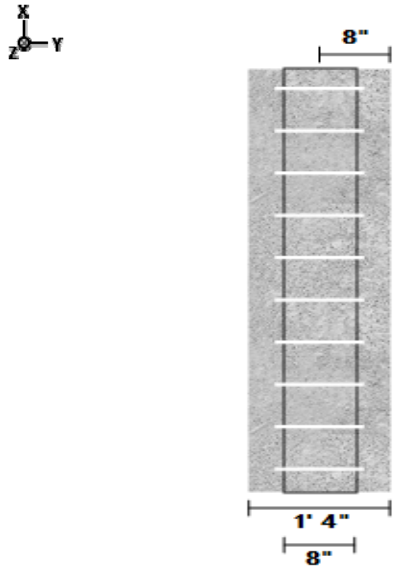
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #5	B	270.8473	270.8473	0	1	Dead	Z
Uniform (lbf/ft)	Joist #5	B	780.8211	780.8211	0	1	Live	Z

Footing #6 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #7	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.333 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (2) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
1.333	10	161.0708	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (28.1%)	1078.4	1500.0	D+S	ASD
One-Way Shear (lbf)	PASS (99.3%)	74.8	10513.6	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (99.3%)	80.0	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	1.3	1.3	D	LRFD

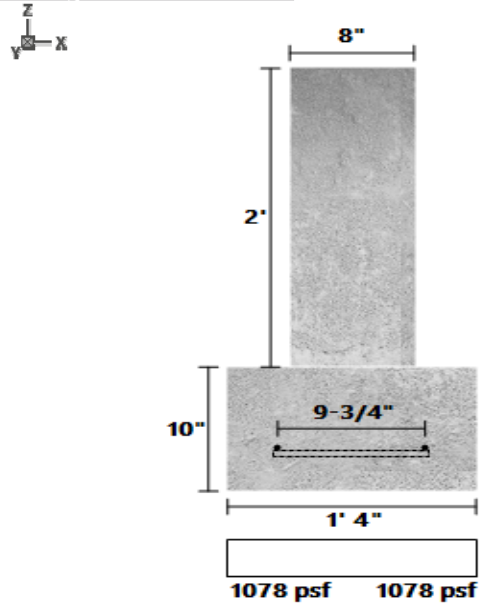
LOAD LIST

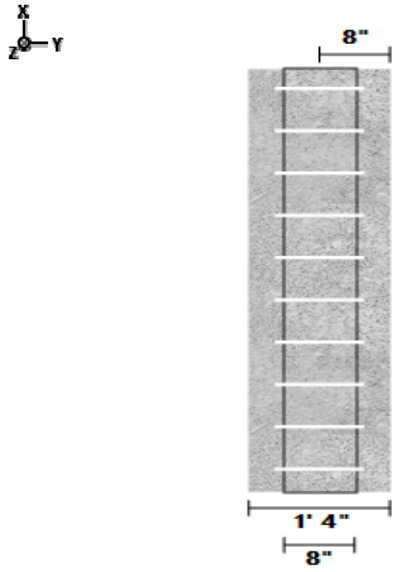
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Deck Joists #2	A	51.84211	51.84211	0	1	Dead	Z
Uniform (lbf/ft)	Deck Joists #2	A	281.2499	281.2499	0	1	Snow	Z
Uniform (lbf/ft)	Deck Joists #3	A	57.31157	57.31157	0	1	Dead	Z
Uniform (lbf/ft)	Deck Joists #3	A	600	600	0	1	Snow	Z
Uniform (lbf/ft)	Joist #5	C	92.74435	92.74435	0	1	Dead	Z
Uniform (lbf/ft)	Joist #5	C	267.3711	267.3711	0	1	Live	Z

Footing #7 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #8	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.333 (ft) Wide X 10 (in) Deep	Soil Depth TOF: 0 (ft)	Long. (2) #4 Bars, Transv: #4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING

Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)
1.333	10	161.0708	193.3333

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	3122019	145	0.75

STEM WALL

Width (in)	Height (in)	Material	Stemwall Offset (in)
8	24	Concrete	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	Bottom Bar Spacing (in.)	fy (psi)	Es (psi)
4	6	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (24.6%)	1130.3	1500.0	D+S	ASD
One-Way Shear (lbf)	PASS (99.3%)	76.4	10513.6	1.2D+1.6S+L	LRFD
Moment (lbf-ft)	PASS (99.3%)	81.7	11245.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	1.3	1.3	D	LRFD

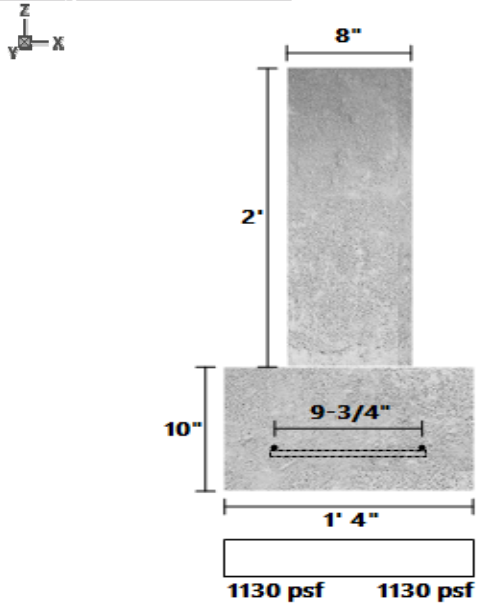
LOAD LIST

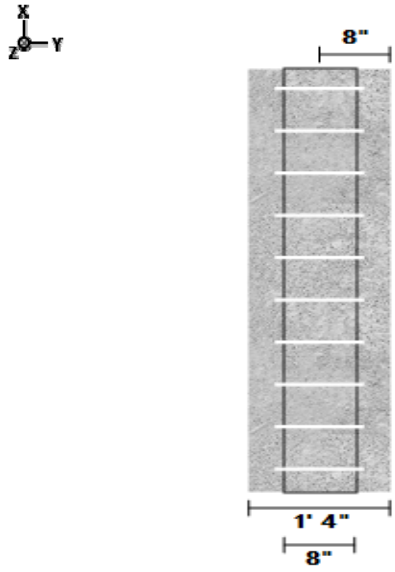
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	1	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #9	B	83.30666	83.30666	0	1	Dead	Z
Uniform (lbf/ft)	Rafters #9	B	1011.929	1011.929	0	1	Snow	Z
Uniform (lbf/ft)	Joists #3	E	56.99624	56.99624	0	1	Dead	Z
Uniform (lbf/ft)	Joists #3	E	173.3726	173.3726	0	1	Live	Z

Footing #8 DIAGRAMS





PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #1-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3.5 (ft) X 3.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (12.4%)	1313.9	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (94.9%)	1417.6	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (94.9%)	1417.6	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (97.2%)	5316.2	193236.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (96.5%)	810.1	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (96.5%)	810.1	23076.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (98.9%)	22682.3	2088450.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	12.3	12.3	D	LRFD

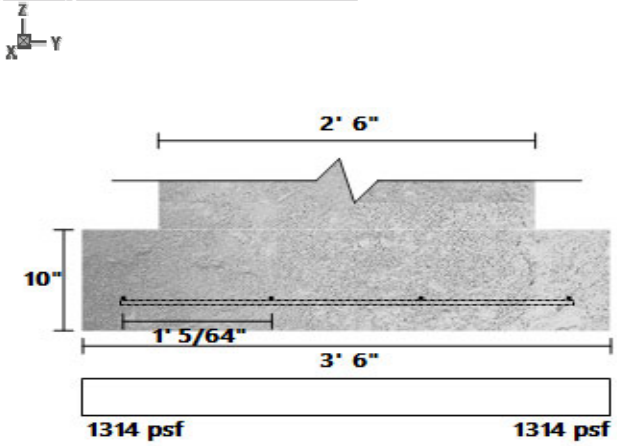
LOAD LIST

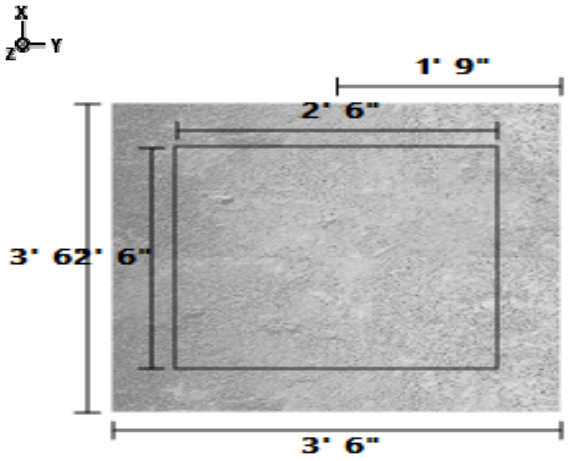
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

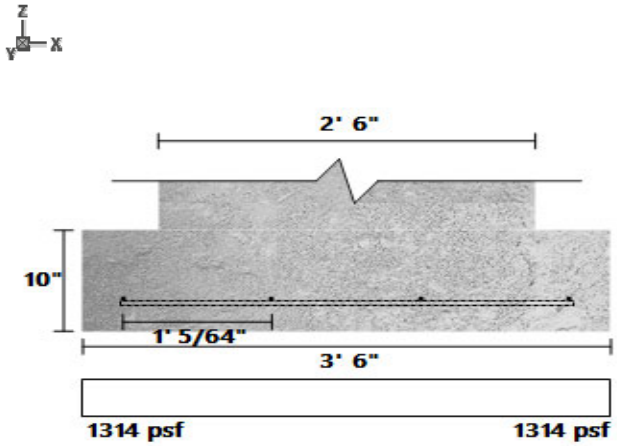
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #1	B	1211.383	-	0	-	Dead	Z
Point (lbf)	Beam #1	B	8.678568	-	0	-	Live	Z
Point (lbf)	Beam #1	B	9070.438	-	0	-	Snow	Z
Point (lbf)	Beam #18	A	276.2434	-	0	-	Dead	Z
Point (lbf)	Beam #18	A	5.25	-	0	-	Live	Z
Point (lbf)	Beam #18	A	2319.247	-	0	-	Snow	Z
Point (lbf)	Beam #22	A	320.9858	-	0	-	Dead	Z
Point (lbf)	Beam #22	A	1416.667	-	0	-	Snow	Z
Point (lbf)	Beam #22	A	6.833334	-	0	-	Live	Z

SpotFtg Bm #1-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #1-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2.5 (ft) X 2.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2.5	2.5	10	5.21	755.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (3.3%)	1450.1	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (83.3%)	3283.5	19718.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (83.3%)	3283.5	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (87.4%)	9795.8	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (87.4%)	2171.1	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (87.4%)	2171.1	17278.2	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (93.9%)	12918.8	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	6.3	6.3	D	LRFD

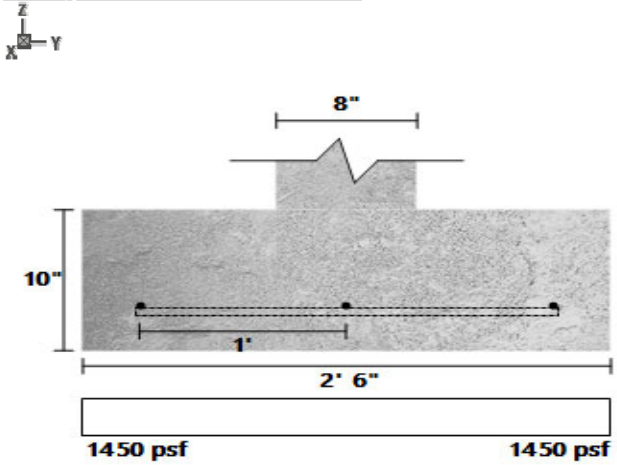
LOAD LIST

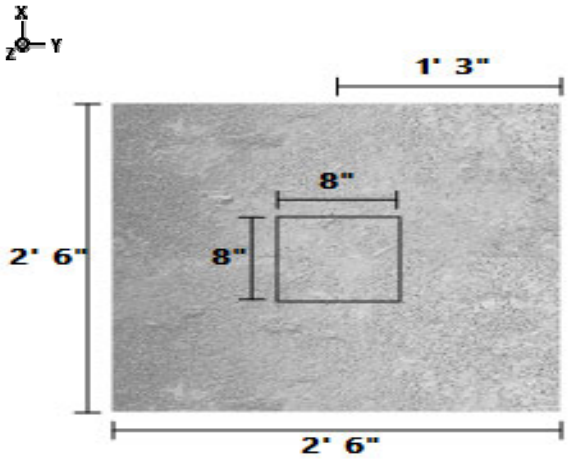
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

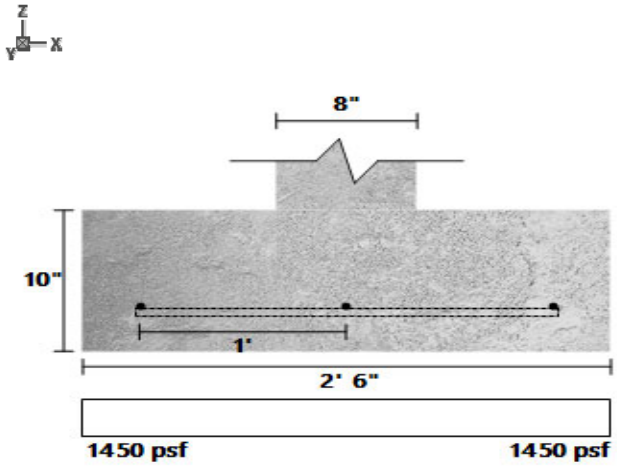
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #1	C	672.9912	-	0	-	Dead	Z
Point (lbf)	Beam #1	C	5039.138	-	0	-	Snow	Z
Point (lbf)	Beam #18	B	276.2434	-	0	-	Dead	Z
Point (lbf)	Beam #18	B	5.25	-	0	-	Live	Z
Point (lbf)	Beam #18	B	2319.247	-	0	-	Snow	Z

SpotFtg Bm #1-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #2-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

5.5 (ft) X 5.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (7) #4 Long, (7) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
5.5	5.5	10	25.21	3655.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
36	36	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (11.7%)	1324.6	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (77.3%)	9858.0	43379.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (77.3%)	9858.0	43379.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (85.1%)	32486.4	217555.4	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (80.2%)	7950.0	40229.0	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (80.2%)	7950.0	40229.0	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (98.5%)	55967.7	3759210.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	30.3	30.3	D	LRFD

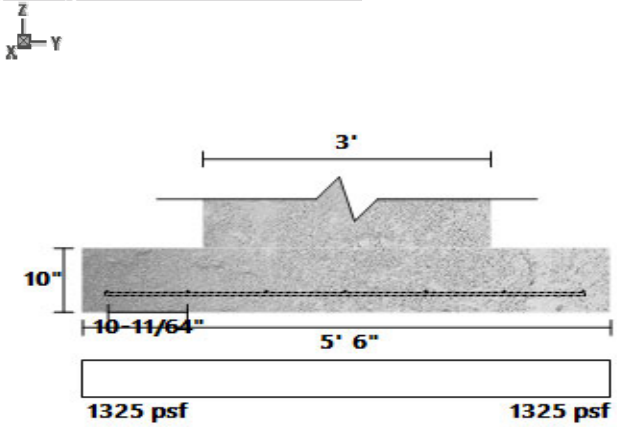
LOAD LIST

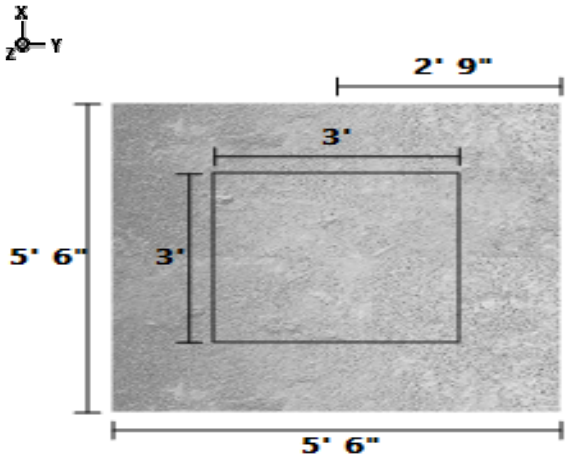
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

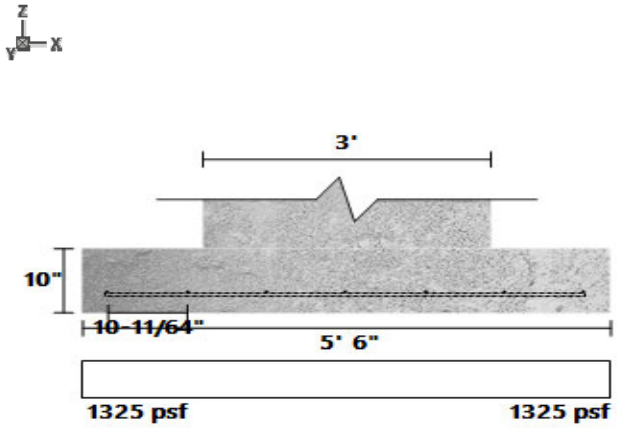
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #2	B	4135.681	-	0	-	Dead	Z
Point (lbf)	Beam #2	B	8.047607	-	0	-	Live	Z
Point (lbf)	Beam #2	B	25372.32	-	0	-	Snow	Z
Point (lbf)	Beam #19	A	1655.119	-	0	-	Dead	Z
Point (lbf)	Beam #19	A	14	-	0	-	Live	Z
Point (lbf)	Beam #19	A	5250	-	0	-	Snow	Z

SpotFtg Bm #2-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #2-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (5.4%)	1419.0	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (77.4%)	5339.3	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (77.4%)	5339.3	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (80.6%)	15053.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (82.1%)	4104.0	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (82.1%)	4104.0	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (91.5%)	18090.9	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

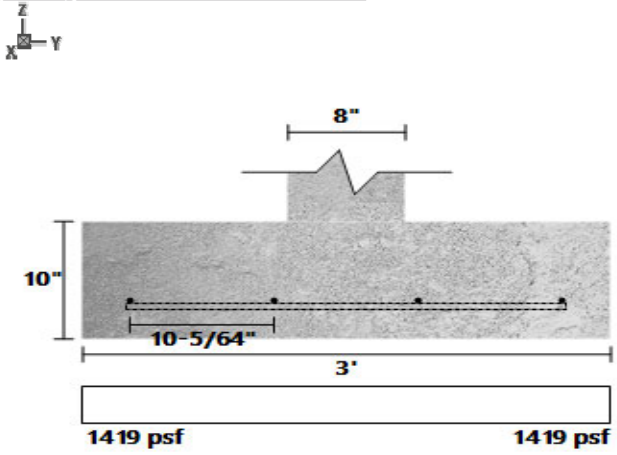
LOAD LIST

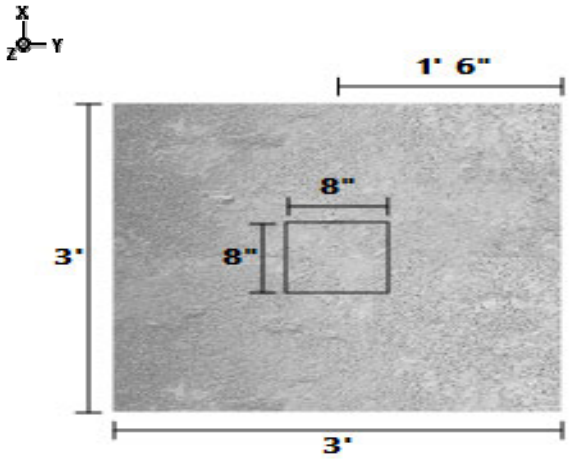
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

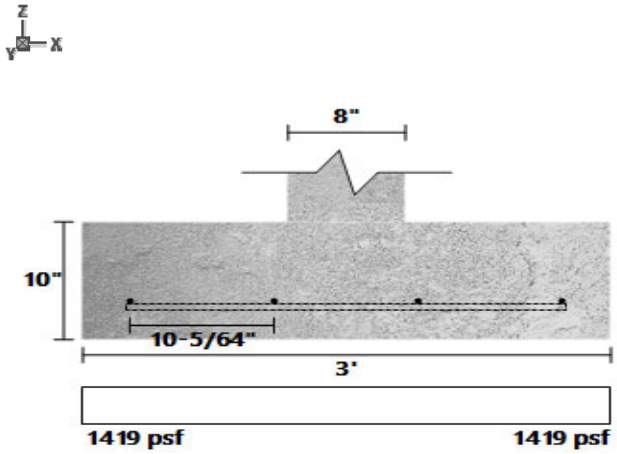
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #2	C	1510.573	-	0	-	Dead	Z
Point (lbf)	Beam #2	C	10173.25	-	0	-	Snow	Z

SpotFtg Bm #2-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #13-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4 (ft) X 4 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (19.8%)	1202.5	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (89.3%)	3368.2	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (89.3%)	3368.2	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (78.8%)	21979.5	103804.4	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (65.3%)	9979.7	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (93.0%)	2020.9	28754.4	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (96.4%)	28741.5	795600.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	16.0	16.0	D	LRFD

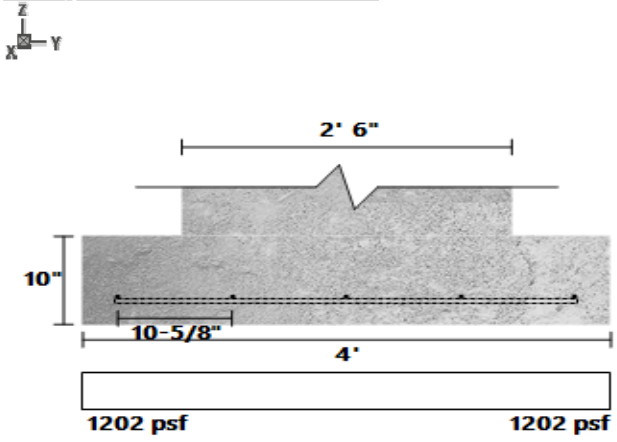
LOAD LIST

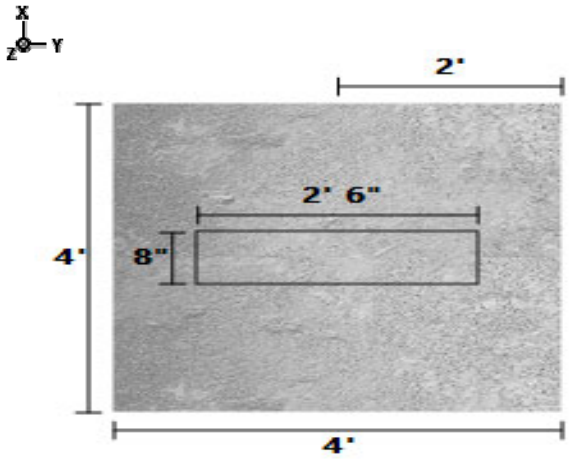
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

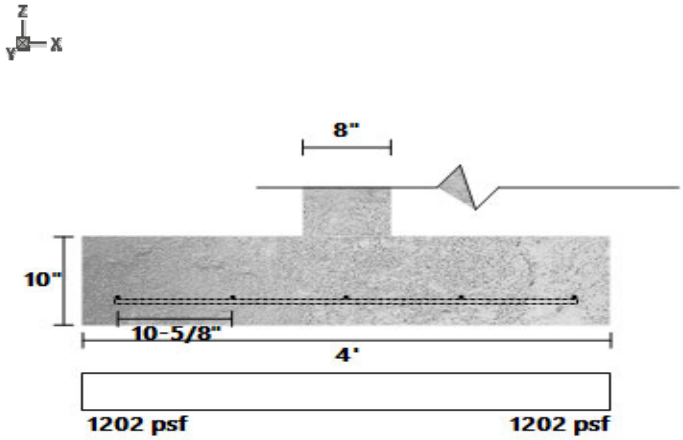
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #13	A	3150.245	-	0	-	Dead	Z
Point (lbf)	Header #13	A	2310.004	-	0	-	Live	Z
Point (lbf)	Header #13	A	14156.4	-	0	-	Snow	Z
Point (lbf)	Header #13	A	8.250015	-	0	-	RoofLive	Z

SpotFtg Hdr #13-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #13-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4 (ft) X 4 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (22.9%)	1156.2	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (89.8%)	3233.4	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (89.8%)	3233.4	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (79.7%)	21100.1	103804.4	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (66.7%)	9580.4	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (93.3%)	1940.0	28754.4	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (96.5%)	27591.6	795600.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	16.0	16.0	D	LRFD

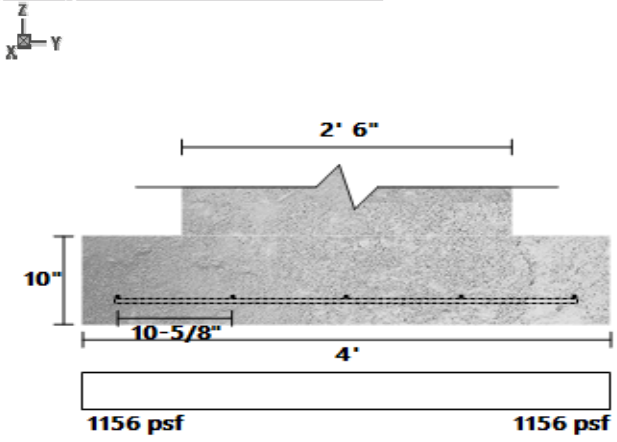
LOAD LIST

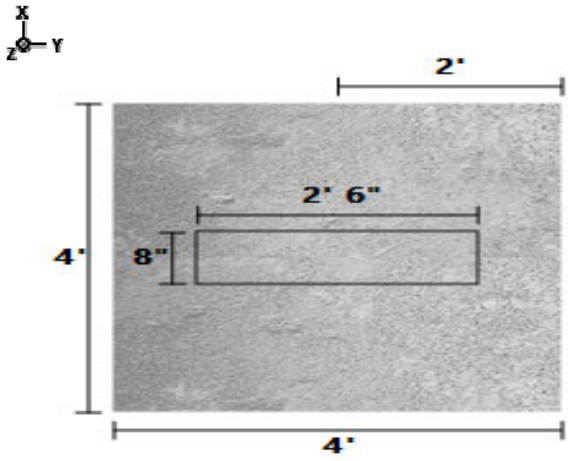
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

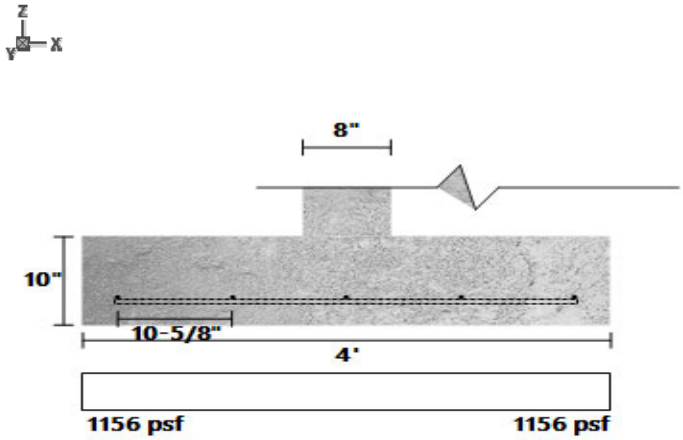
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #13	B	3059.619	-	0	-	Dead	Z
Point (lbf)	Header #13	B	2310	-	0	-	Live	Z
Point (lbf)	Header #13	B	13505.66	-	0	-	Snow	Z
Point (lbf)	Header #13	B	8.25	-	0	-	RoofLive	Z

SpotFtg Hdr #13-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #15-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (14.7%)	1280.2	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (79.8%)	4773.5	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (79.8%)	4773.5	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (82.6%)	13458.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (84.0%)	3669.0	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (84.0%)	3669.0	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (92.4%)	16173.7	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

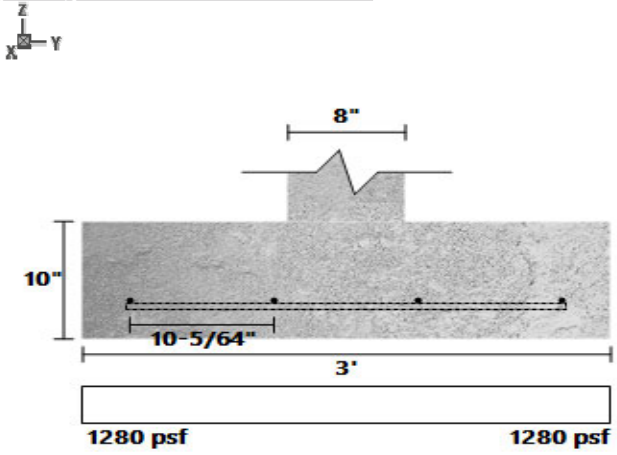
LOAD LIST

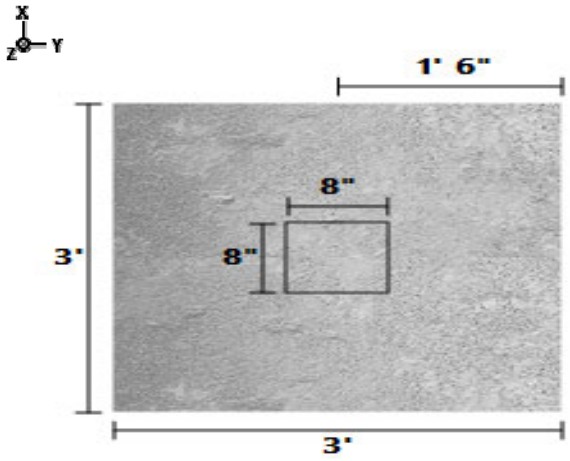
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

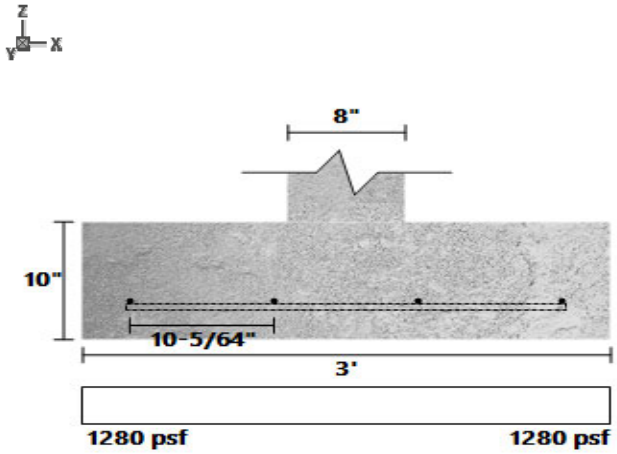
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #15	A	1334.894	-	0	-	Dead	Z
Point (lbf)	Beam #15	A	9099.806	-	0	-	Snow	Z
Point (lbf)	Beam #15	A	11.15519	-	0	-	Live	Z

SpotFtg Bm #15-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #6-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) X 2 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2	2	10	3.33	483.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
6	3.5	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (62.7%)	559.0	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (96.0%)	635.3	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (96.0%)	635.3	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (96.5%)	2095.7	60468.6	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (96.6%)	582.5	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (97.0%)	518.9	17124.7	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (96.1%)	2710.7	69615.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	4.0	4.0	D	LRFD

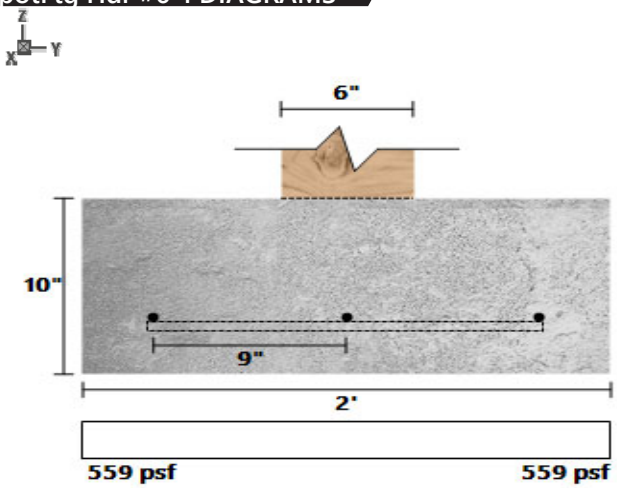
LOAD LIST

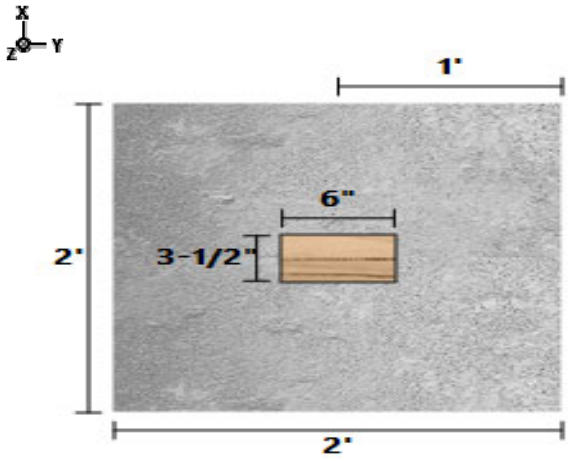
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

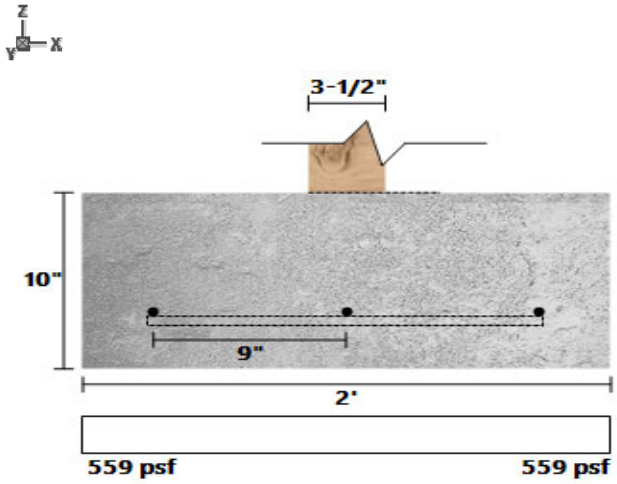
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #6	A	235.9377	-	0	-	Dead	Z
Point (lbf)	Header #6	A	1516.635	-	0	-	Snow	Z

SpotFtg Hdr #6-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #6-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2.5 (ft) X 2.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2.5	2.5	10	5.21	755.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
6	3.5	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (17.6%)	1236.7	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (84.2%)	3106.3	19718.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (84.2%)	3106.3	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (84.7%)	9235.7	60468.6	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (82.7%)	2994.0	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (84.2%)	2734.9	17278.2	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (84.5%)	10804.7	69615.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	6.3	6.3	D	LRFD

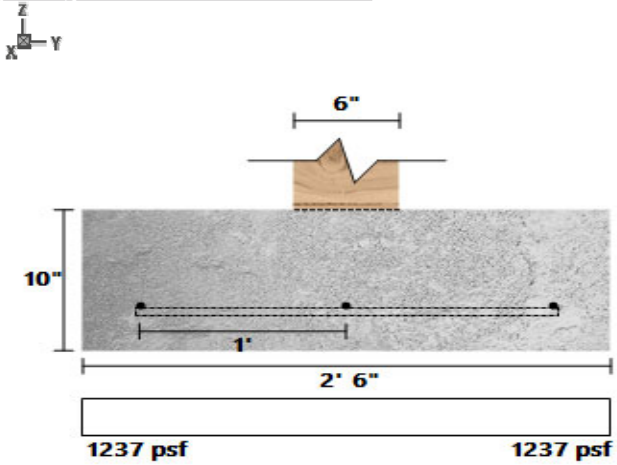
LOAD LIST

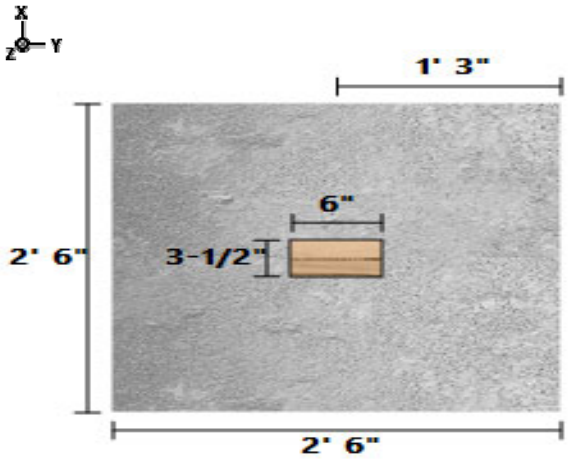
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

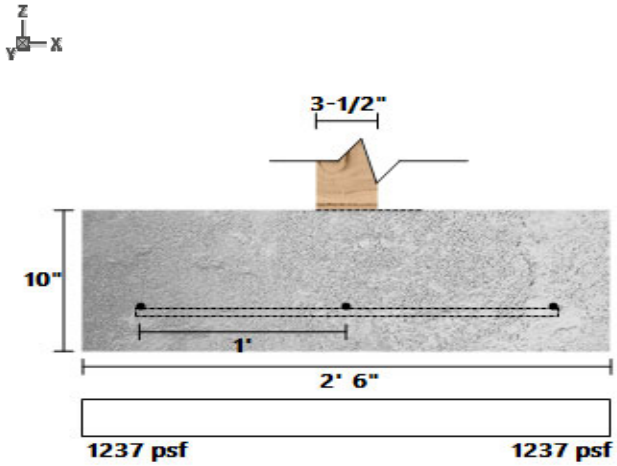
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #6	B	907.8303	-	0	-	Dead	Z
Point (lbf)	Header #6	B	7.803467	-	0	-	Live	Z
Point (lbf)	Header #6	B	6066.539	-	0	-	Snow	Z

SpotFtg Hdr #6-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #16-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (14.7%)	1280.2	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (79.8%)	4773.5	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (79.8%)	4773.5	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (82.6%)	13458.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (84.0%)	3669.0	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (84.0%)	3669.0	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (92.4%)	16173.7	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

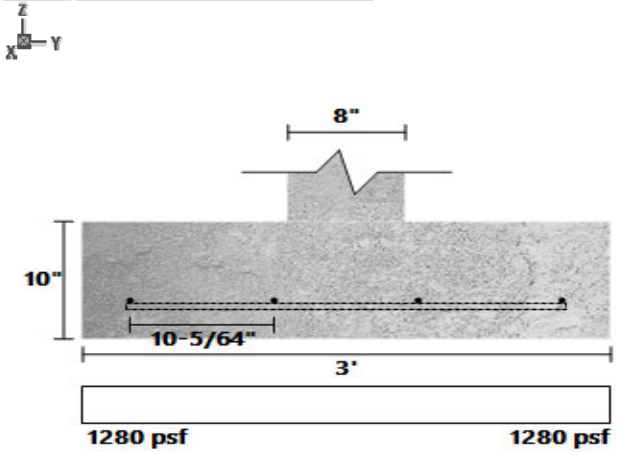
LOAD LIST

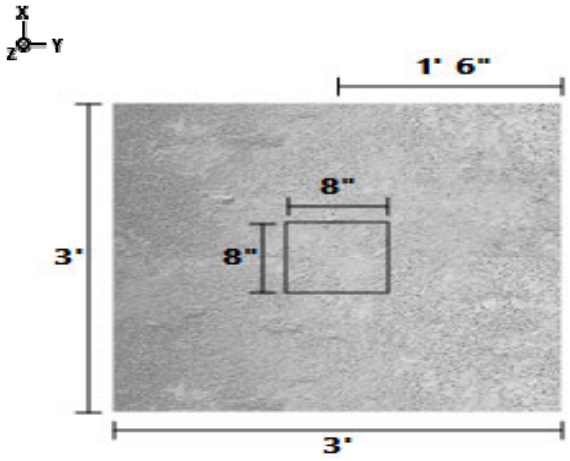
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

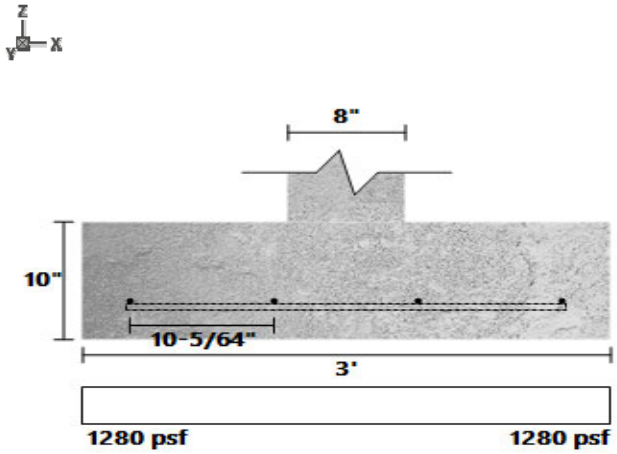
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #16	A	1334.894	-	0	-	Dead	Z
Point (lbf)	Beam #16	A	9099.803	-	0	-	Snow	Z
Point (lbf)	Beam #16	A	11.15519	-	0	-	Live	Z

SpotFtg Bm #16-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #16-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
6	3.5	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (27.5%)	1087.8	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (81.6%)	4355.4	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (81.6%)	4355.4	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (79.9%)	12127.5	60468.6	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (80.0%)	4578.1	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (81.5%)	4250.0	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (80.6%)	13487.6	69615.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

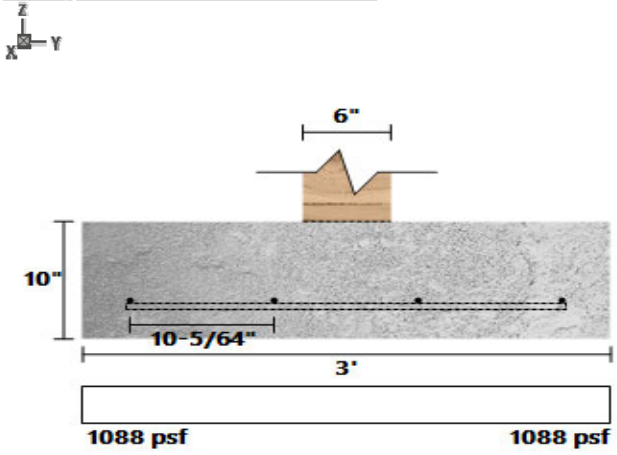
LOAD LIST

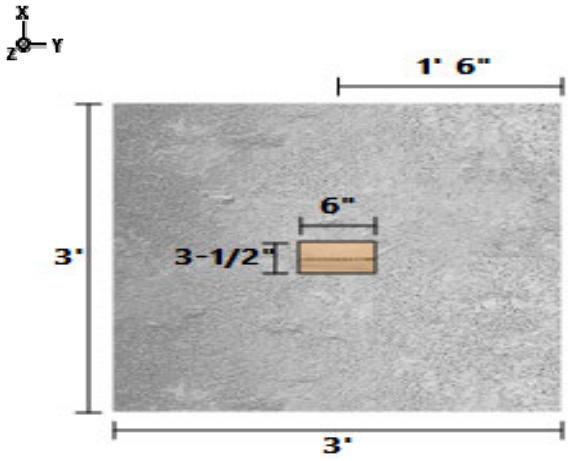
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

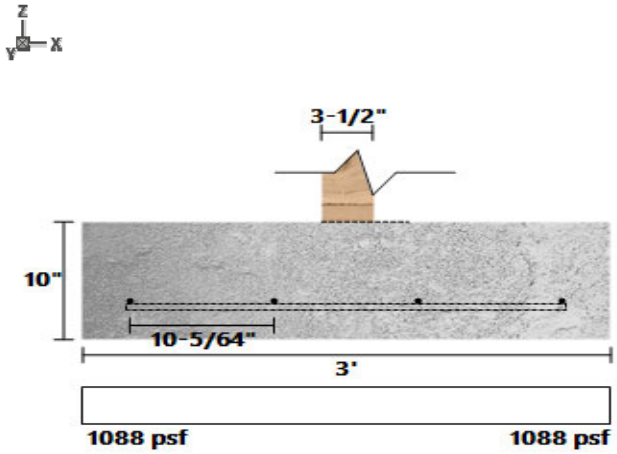
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #16	B	1119.821	-	0	-	Dead	Z
Point (lbf)	Beam #16	B	7583.168	-	0	-	Snow	Z
Point (lbf)	Beam #16	B	9.754322	-	0	-	Live	Z

SpotFtg Bm #16-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #3-5	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (10.0%)	1350.3	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (78.6%)	5058.9	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (78.6%)	5058.9	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (81.6%)	14263.3	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (83.1%)	3888.4	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (83.1%)	3888.4	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (91.9%)	17140.8	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

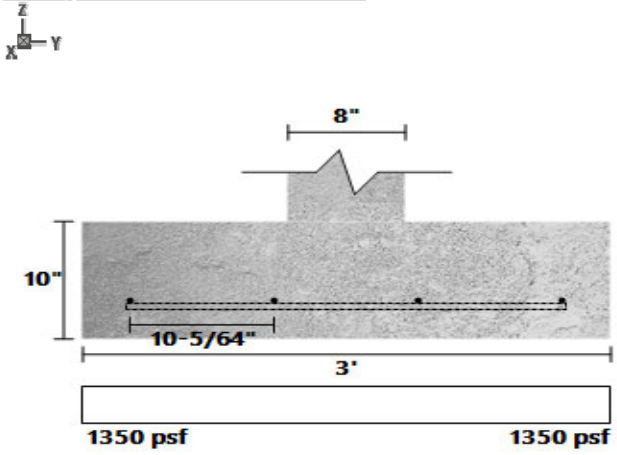
LOAD LIST

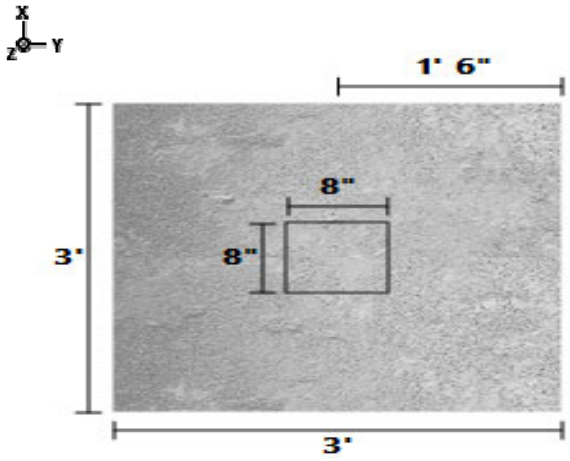
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

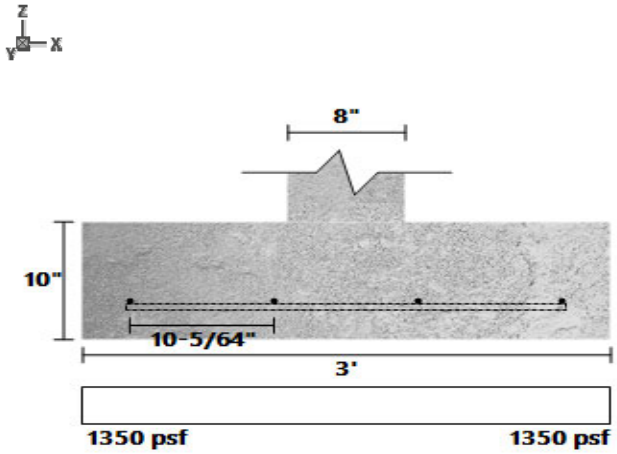
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #3	F	1433.373	-	0	-	Dead	Z
Point (lbf)	Beam #3	F	8.437878	-	0	-	Live	Z
Point (lbf)	Beam #3	F	9632.049	-	0	-	Snow	Z

SpotFtg Bm #3-5 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #1-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4.5 (ft) X 4.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4.5	4.5	10	16.88	2446.88

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (9.1%)	1363.4	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (60.1%)	14163.7	35492.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (60.1%)	14163.7	35492.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (53.5%)	36065.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (44.9%)	15907.9	28872.8	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (44.9%)	15907.9	28872.8	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (81.6%)	38972.8	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	20.3	20.3	D	LRFD

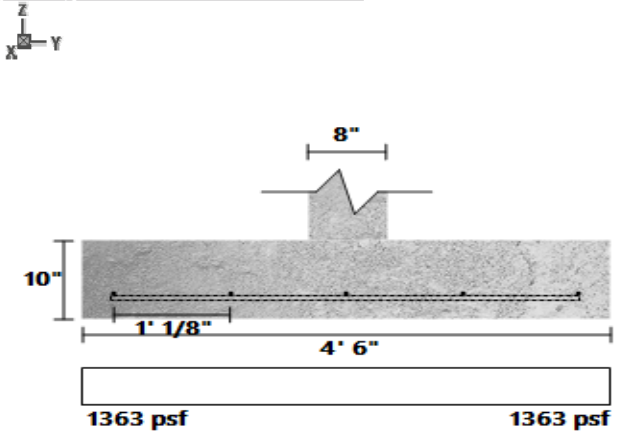
LOAD LIST

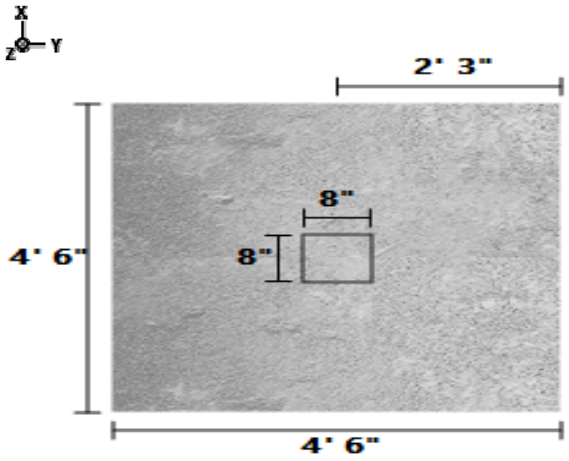
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

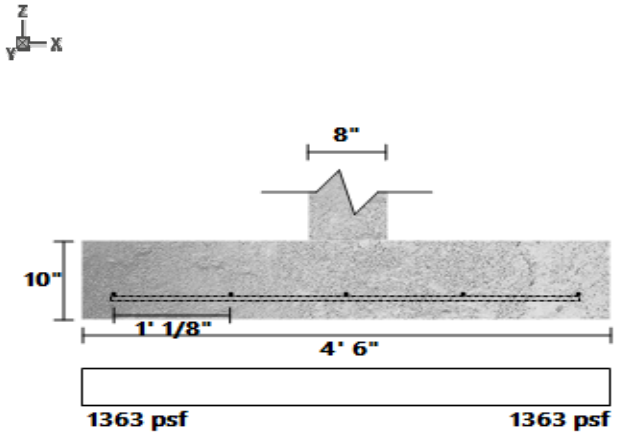
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #5	C	1510.573	-	0	-	Dead	Z
Point (lbf)	Beam #5	C	10173.25	-	0	-	Snow	Z
Point (lbf)	Header #1	A	1711.278	-	0	-	Dead	Z
Point (lbf)	Header #1	A	11767.72	-	0	-	Snow	Z
Point (lbf)	Header #1	A	5.750005	-	0	-	RoofLive	Z

SpotFtg Hdr #1-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #1-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

5.5 (ft) X 7.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (9) #4 Long, (7) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
5.5	7.5	10	34.37	4984.38

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	36	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (12.9%)	1306.4	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (45.5%)	32238.8	59154.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (25.7%)	32238.8	43379.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (32.0%)	74219.9	109179.4	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (30.3%)	28024.1	40229.0	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (14.9%)	44085.8	51834.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (91.3%)	83034.5	954720.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	41.3	41.3	D	LRFD

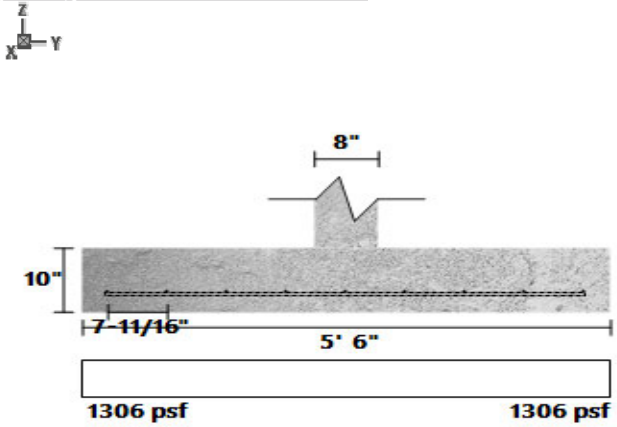
LOAD LIST

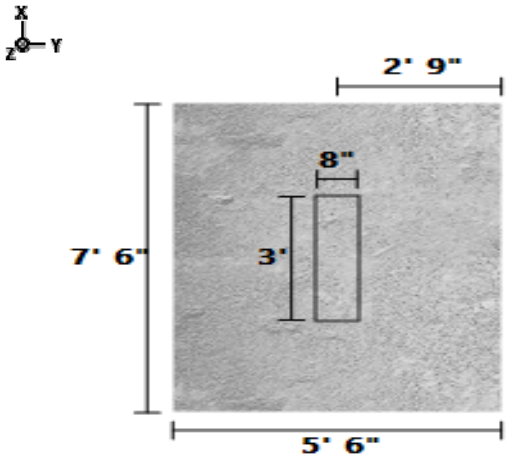
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

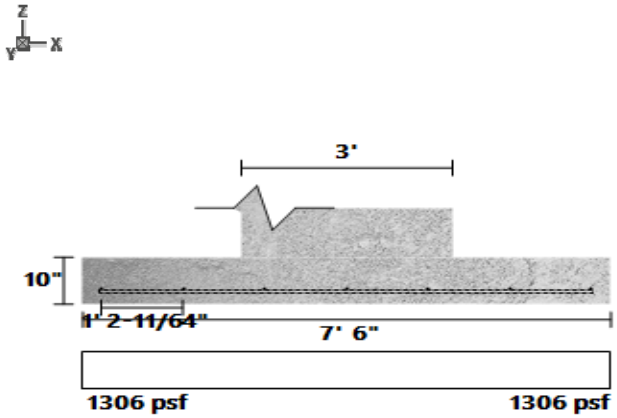
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #6	B	1132.553	-	0	-	Dead	Z
Point (lbf)	Beam #6	B	7.000002	-	0	-	Live	Z
Point (lbf)	Beam #6	B	9469.361	-	0	-	Snow	Z
Point (lbf)	Header #1	B	4984.876	-	0	-	Dead	Z
Point (lbf)	Header #1	B	10.94415	-	0	-	Live	Z
Point (lbf)	Header #1	B	29794.07	-	0	-	Snow	Z
Point (lbf)	Header #1	B	5.75	-	0	-	RoofLive	Z
Point (lbf)	Beam #27	B	3521.949	-	0	-	Dead	Z
Point (lbf)	Beam #27	B	8626.766	-	0	-	Live	Z

SpotFtg Hdr #1-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Tbr #2-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4.5 (ft) X 8 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (9) #4 Long, (6) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4.5	8	10	30	4350

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	36	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (14.1%)	1288.3	1500.0	D+0.75L+0.75S	ASD
One-Way Shear X (lbf)	PASS (57.4%)	26896.4	63097.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (24.2%)	26896.4	35492.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (40.5%)	65005.9	109179.4	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (16.0%)	28909.4	34419.9	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (41.9%)	30208.5	51949.8	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (92.2%)	74008.0	954720.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	36.0	36.0	D	LRFD

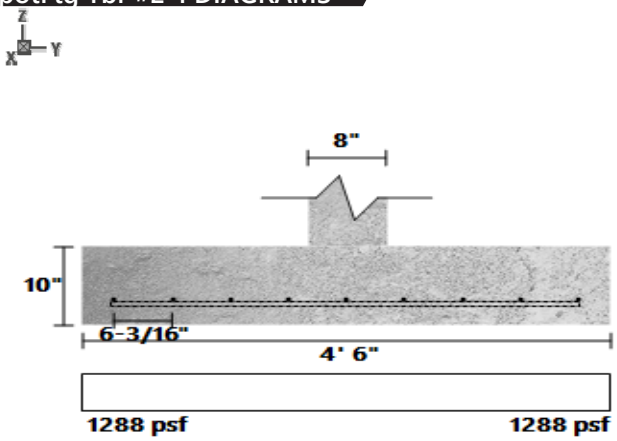
LOAD LIST

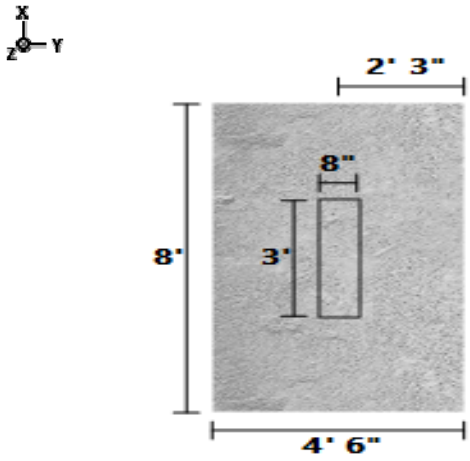
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

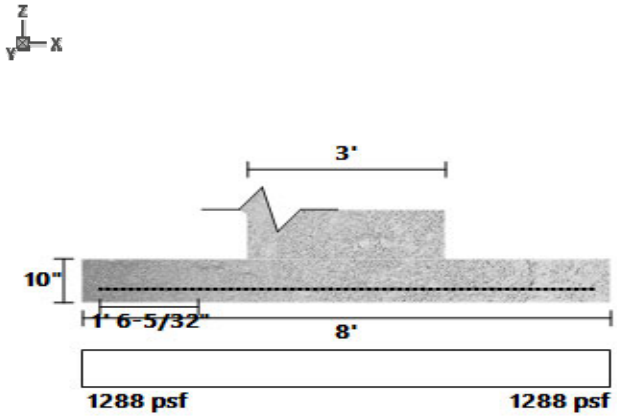
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #4	A	1451.195	-	0	-	Dead	Z
Point (lbf)	Beam #4	A	12298.38	-	0	-	Snow	Z
Point (lbf)	Timber Truss #2	A	3585.33	-	0	-	Dead	Z
Point (lbf)	Timber Truss #2	A	11.44159	-	0	-	Live	Z
Point (lbf)	Timber Truss #2	A	19742.95	-	0	-	Snow	Z
Point (lbf)	Beam #27	A	3921.954	-	0	-	Dead	Z
Point (lbf)	Beam #27	A	10353.73	-	0	-	Live	Z
Point (lbf)	Beam #28	B	450.829	-	0	-	Dead	Z
Point (lbf)	Beam #28	B	1084.5	-	0	-	Live	Z

SpotFtg Tbr #2-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #4-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3.5 (ft) X 3.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (17.1%)	1243.3	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (74.8%)	6948.7	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (74.8%)	6948.7	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (75.8%)	18778.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (73.4%)	6141.2	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (73.4%)	6141.2	23076.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (89.9%)	21419.8	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	12.3	12.3	D	LRFD

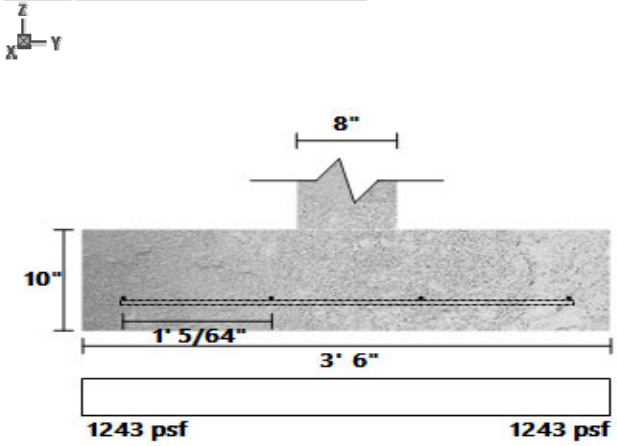
LOAD LIST

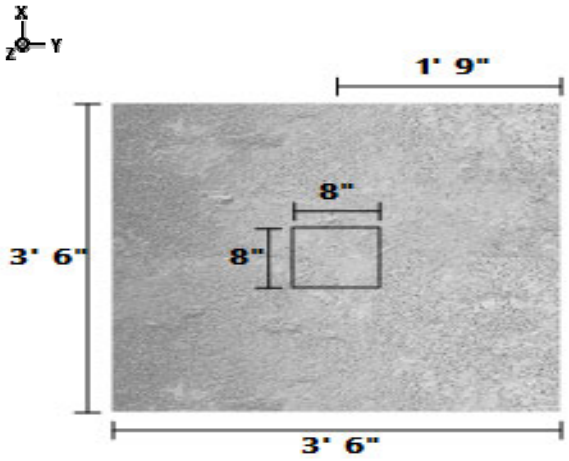
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

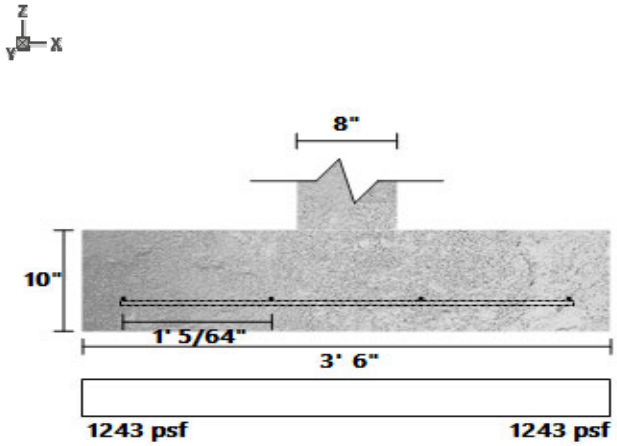
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #4	B	1451.195	-	0	-	Dead	Z
Point (lbf)	Beam #4	B	12298.38	-	0	-	Snow	Z

SpotFtg Bm #4-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #5-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

5.5 (ft) X 5.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (7) #4 Long, (7) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
5.5	5.5	10	25.21	3655.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (11.7%)	1324.6	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (49.9%)	21729.8	43379.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (49.9%)	21729.8	43379.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (31.4%)	53172.2	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (26.1%)	29715.1	40229.0	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (26.1%)	29715.1	40229.0	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (73.6%)	55967.5	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	30.3	30.3	D	LRFD

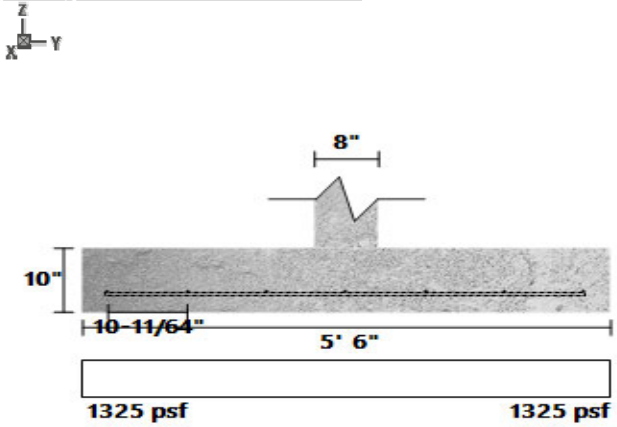
LOAD LIST

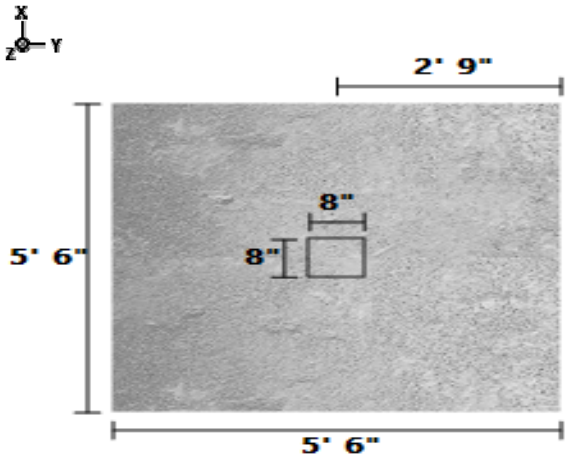
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

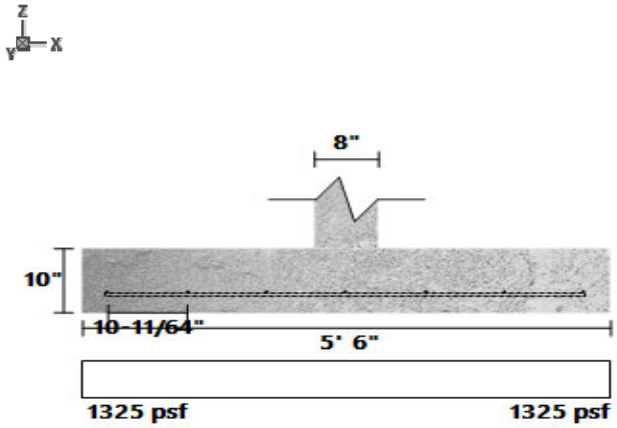
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #5	B	4135.681	-	0	-	Dead	Z
Point (lbf)	Beam #5	B	8.047607	-	0	-	Live	Z
Point (lbf)	Beam #5	B	25372.19	-	0	-	Snow	Z
Point (lbf)	Beam #19	B	1655.119	-	0	-	Dead	Z
Point (lbf)	Beam #19	B	14	-	0	-	Live	Z
Point (lbf)	Beam #19	B	5249.999	-	0	-	Snow	Z

SpotFtg Bm #5-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #9-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (16.2%)	1257.7	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (80.2%)	4694.7	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (80.2%)	4694.7	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (82.9%)	13236.4	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (84.3%)	3608.5	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (84.3%)	3608.5	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (92.5%)	15906.7	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

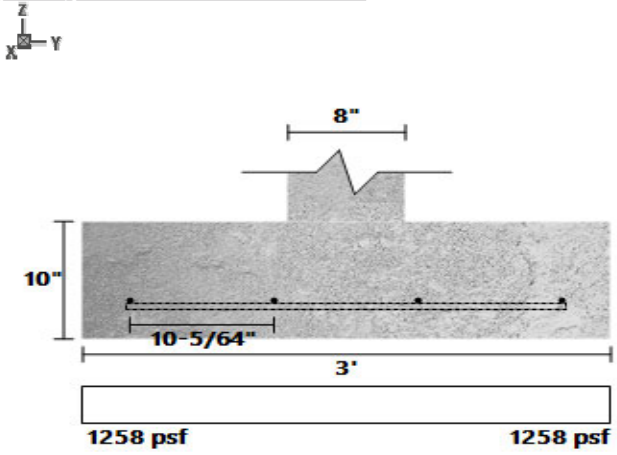
LOAD LIST

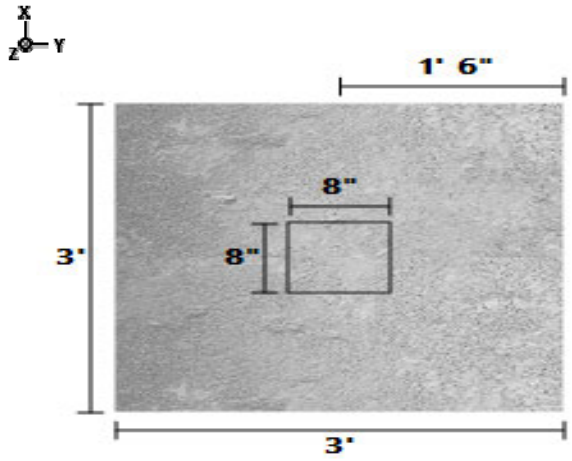
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

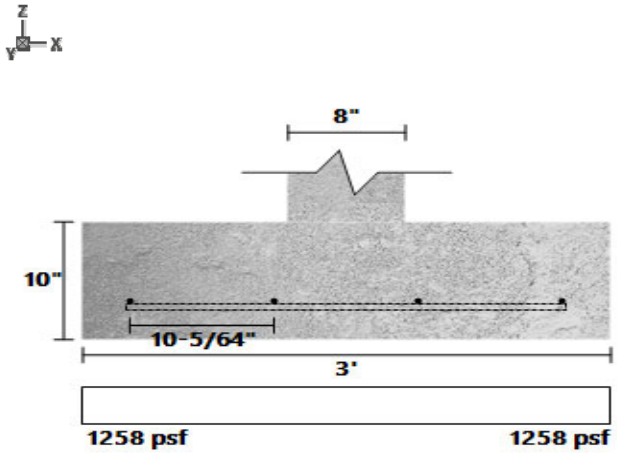
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #9	B	1187.266	-	0	-	Dead	Z
Point (lbf)	Beam #9	B	9.481491	-	0	-	Live	Z
Point (lbf)	Beam #9	B	9044.695	-	0	-	Snow	Z

SpotFtg Bm #9-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #8-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2	3	10	5	725

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (50.7%)	739.8	1500.0	D+0.75L+0.75S	ASD
One-Way Shear X (lbf)	PASS (95.0%)	1190.5	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (92.5%)	1190.5	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (94.0%)	4621.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (91.8%)	1401.4	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (97.0%)	686.4	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (97.1%)	6177.5	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	6.0	6.0	D	LRFD

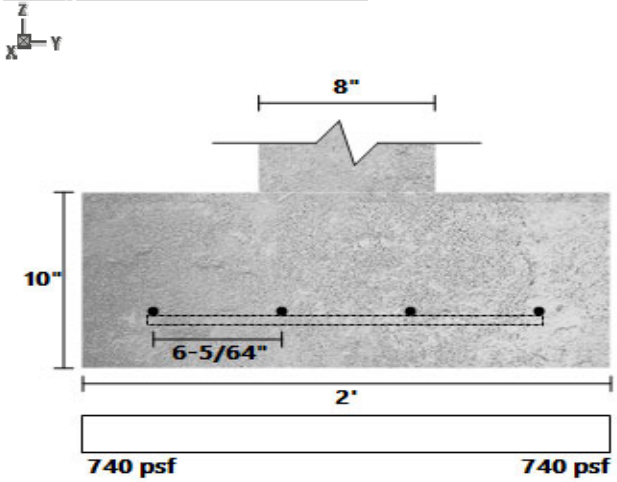
LOAD LIST

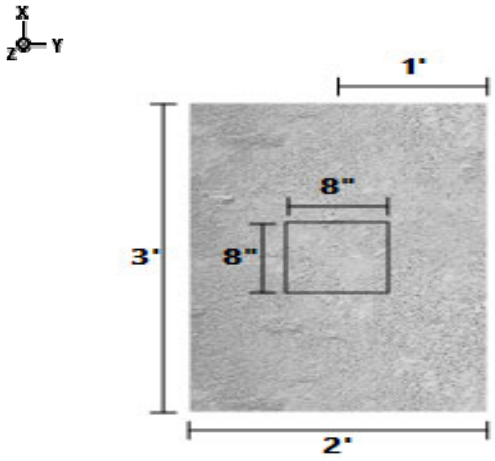
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

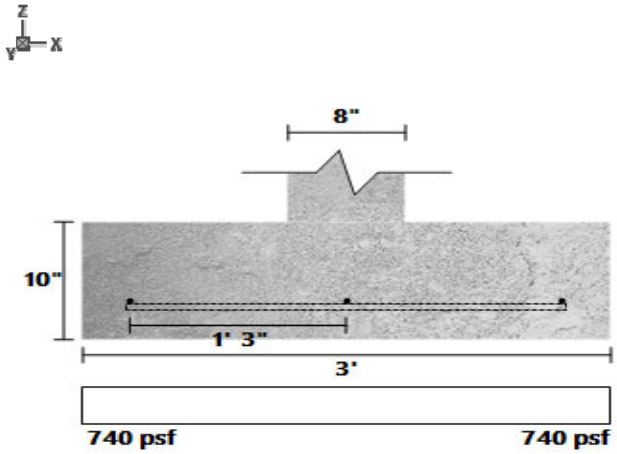
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #8	A	845.734	-	0	-	Dead	Z
Point (lbf)	Header #8	A	1593	-	0	-	Live	Z
Point (lbf)	Header #8	A	2230.374	-	0	-	Snow	Z

SpotFtg Hdr #8-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #13-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) X 2 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2	2	10	3.33	483.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (36.6%)	950.6	1500.0	D+L	ASD
One-Way Shear X (lbf)	PASS (94.0%)	952.1	15774.4	1.2D+1.6L+0.5Lr	LRFD
One-Way Shear Y (lbf)	PASS (94.0%)	952.1	15774.4	1.2D+1.6L+0.5Lr	LRFD
Two-Way Shear (lbf)	PASS (96.0%)	3074.3	77557.5	1.2D+1.6L+0.5Lr	LRFD
Moment X (lbf-ft)	PASS (96.8%)	548.9	17124.7	1.2D+1.6L+0.5Lr	LRFD
Moment Y (lbf-ft)	PASS (96.8%)	548.9	17124.7	1.2D+1.6L+0.5Lr	LRFD
Crushing (lbf)	PASS (97.7%)	4940.4	212160.0	1.2D+1.6L+0.5Lr	LRFD
Compression (ft^2)	PASS (100.0%)	4.0	4.0	D	LRFD

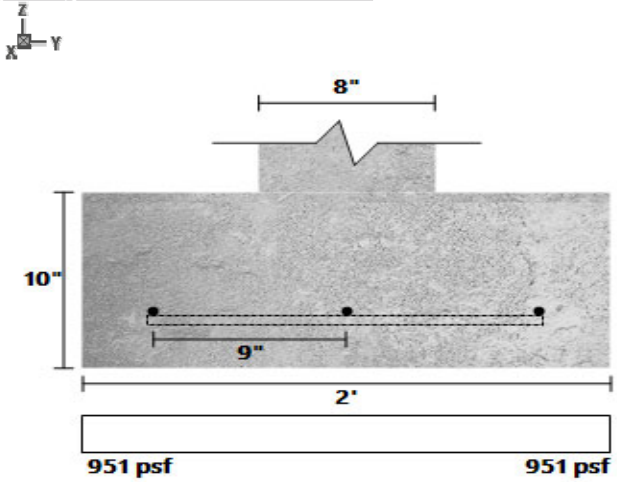
LOAD LIST

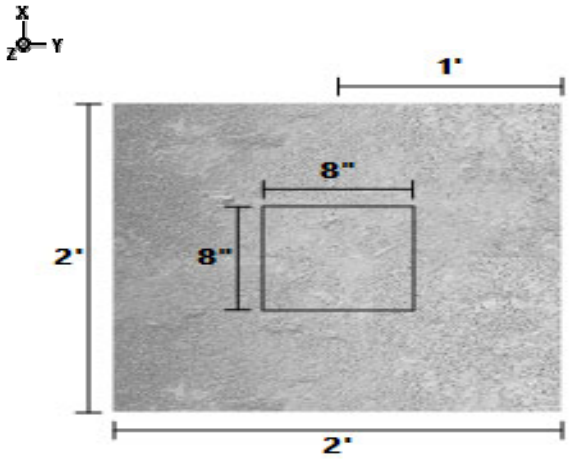
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

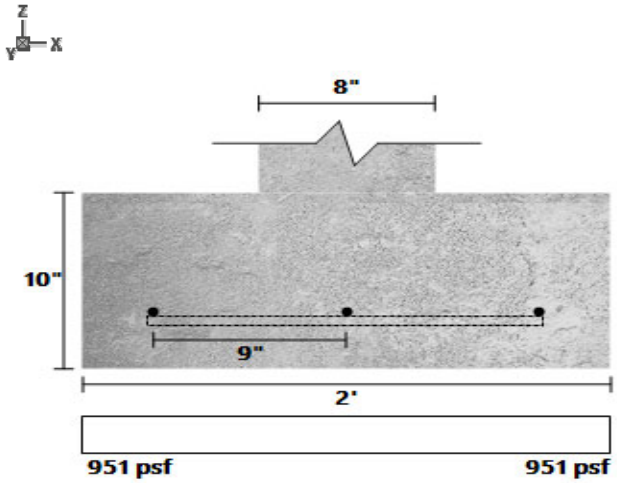
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #13	A	925.9622	-	0	-	Dead	Z
Point (lbf)	Beam #13	A	2392.25	-	0	-	Live	Z

SpotFtg Bm #13-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #13-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.3334 (ft) X 1.3334 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (2) #4 Long, (2) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
1.3334	1.3334	10	1.48	214.84

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
16.0008	16.0008	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (90.6%)	140.4	1500.0	D+L	ASD
Moment X (lbf-ft)	PASS (100.0%)	2.0	11416.5	1.4D	LRFD
Moment Y (lbf-ft)	PASS (100.0%)	2.0	11416.5	1.4D	LRFD
Crushing (lbf)	PASS (100.0%)	47.3	424362.4	1.4D	LRFD
Compression (ft^2)	PASS (100.0%)	1.8	1.8	D	LRFD

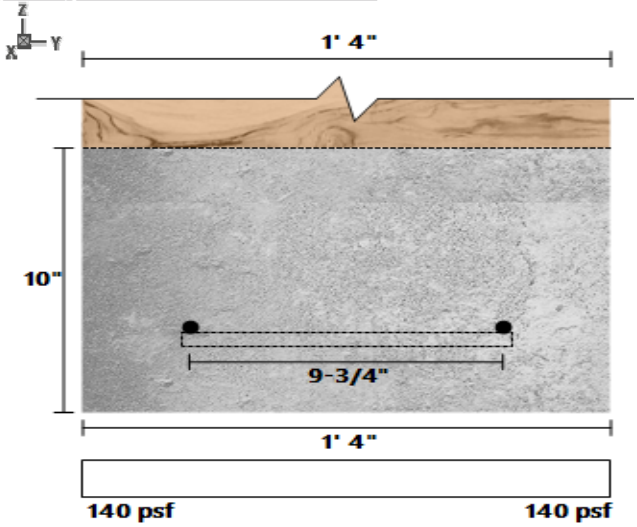
LOAD LIST

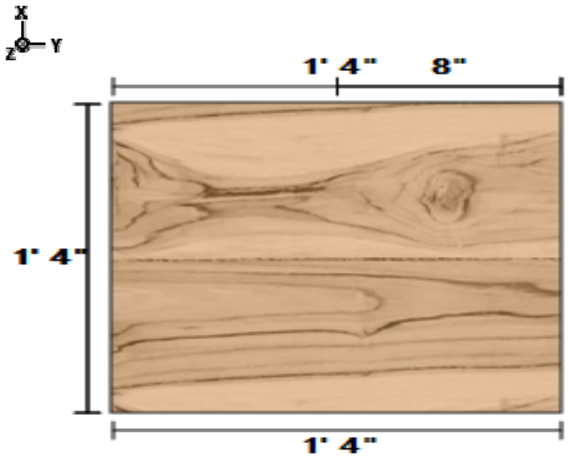
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

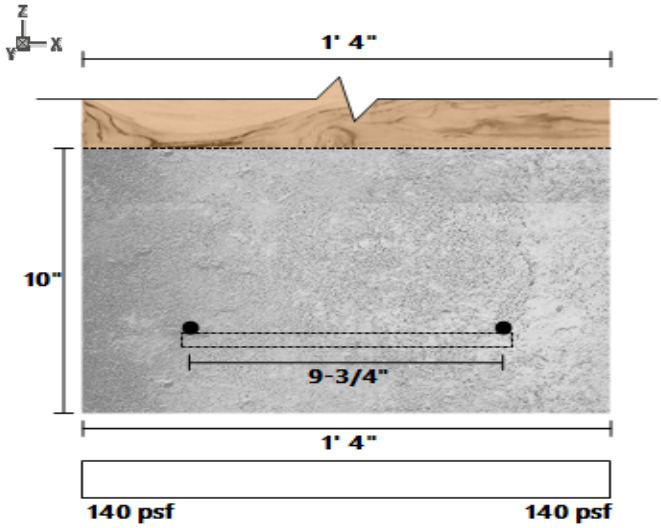
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #13	B	33.75082	-	0	-	Dead	Z

SpotFtg Bm #13-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #10-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (50.0%)	750.6	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (88.8%)	2655.7	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (88.8%)	2655.7	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (90.3%)	7487.7	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (91.1%)	2041.3	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (91.1%)	2041.3	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (95.8%)	8998.3	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

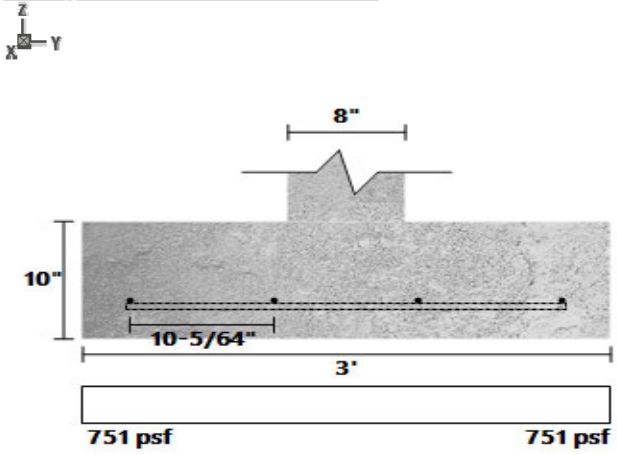
LOAD LIST

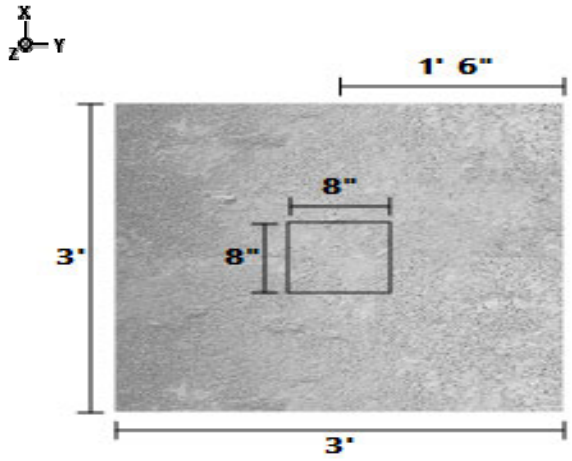
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

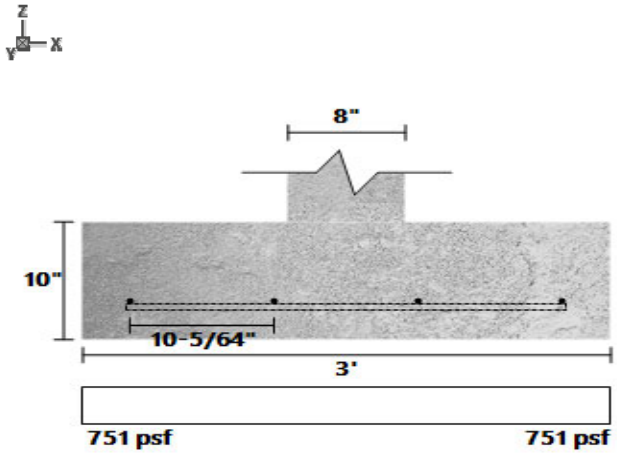
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #10	A	729.5658	-	0	-	Dead	Z
Point (lbf)	Header #10	A	220.1086	-	0	-	Live	Z
Point (lbf)	Header #10	A	4938.551	-	0	-	Snow	Z

SpotFtg Hdr #10-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #10-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (45.1%)	822.9	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (87.0%)	3064.3	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (87.0%)	3064.3	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (88.9%)	8639.7	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (89.7%)	2355.3	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (89.7%)	2355.3	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (95.1%)	10382.7	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

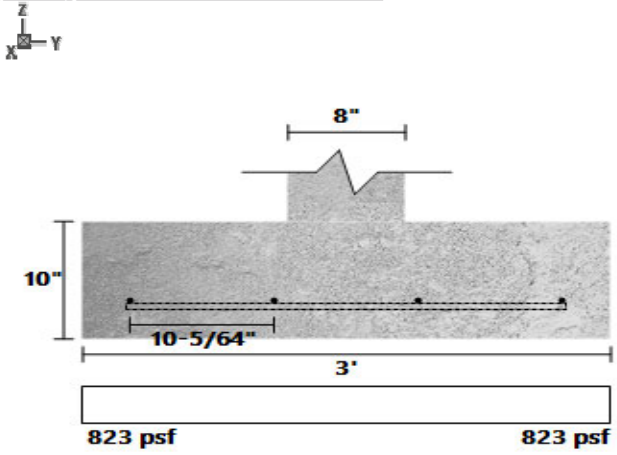
LOAD LIST

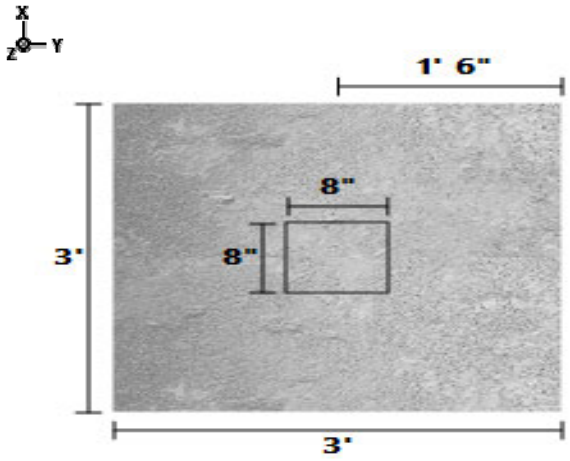
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

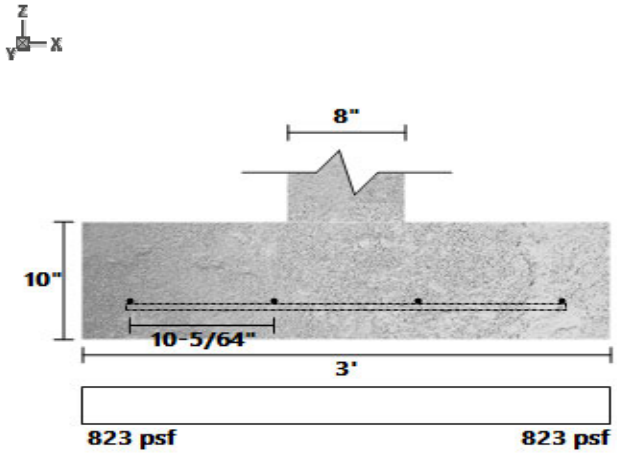
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #10	B	958.2198	-	0	-	Dead	Z
Point (lbf)	Header #10	B	655.1087	-	0	-	Live	Z
Point (lbf)	Header #10	B	5360.425	-	0	-	Snow	Z

SpotFtg Hdr #10-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #11-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (4.4%)	1434.6	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (76.8%)	5492.5	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (76.8%)	5492.5	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (80.0%)	15485.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (81.6%)	4221.7	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (81.6%)	4221.7	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (91.2%)	18610.0	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

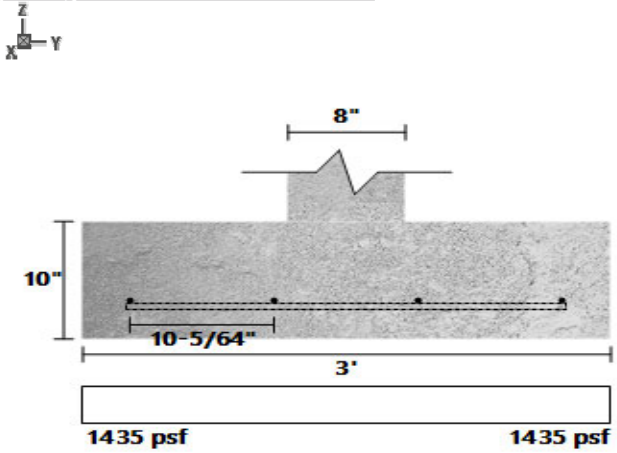
LOAD LIST

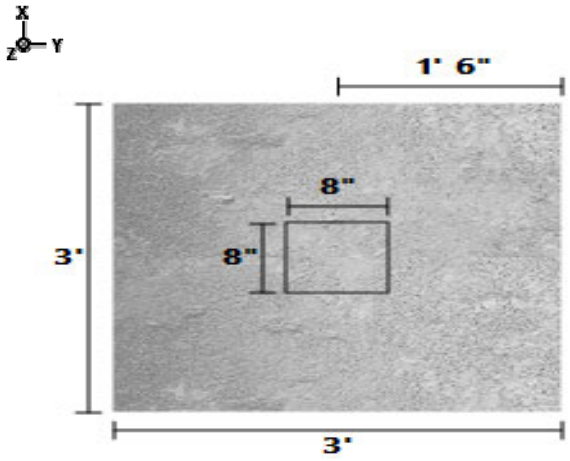
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

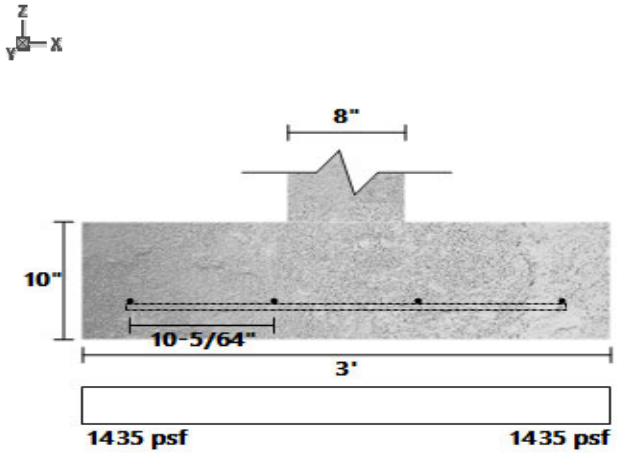
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #11	A	1535.634	-	0	-	Dead	Z
Point (lbf)	Header #11	A	305.6738	-	0	-	Live	Z
Point (lbf)	Header #11	A	10287.84	-	0	-	Snow	Z

SpotFtg Hdr #11-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #11-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (6.7%)	1399.1	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (77.6%)	5295.3	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (77.6%)	5295.3	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (80.7%)	14929.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (82.3%)	4070.1	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (82.3%)	4070.1	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (91.5%)	17941.8	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

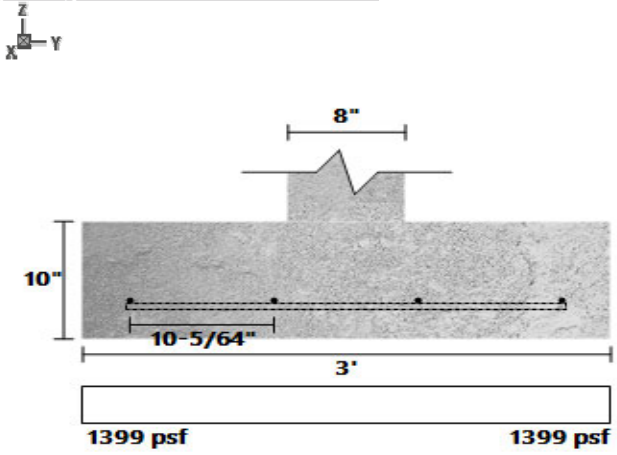
LOAD LIST

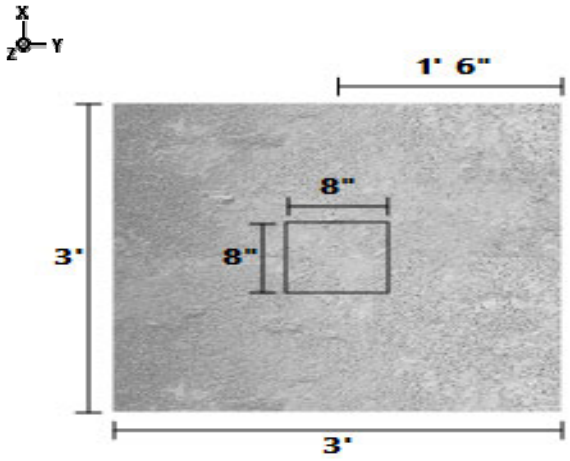
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

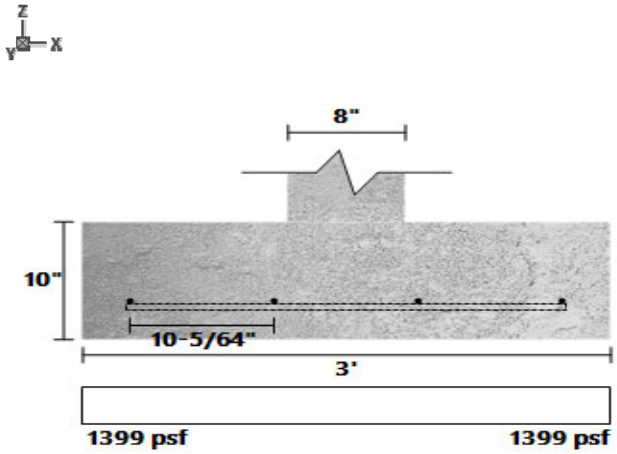
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #11	B	1427.194	-	0	-	Dead	Z
Point (lbf)	Header #11	B	105.1455	-	0	-	Live	Z
Point (lbf)	Header #11	B	10076.9	-	0	-	Snow	Z

SpotFtg Hdr #11-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #17-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (24.9%)	1126.2	1500.0	D+S	ASD
Moment X (lbf-ft)	PASS (99.4%)	147.4	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (99.4%)	147.4	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (99.2%)	14146.8	1790100.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

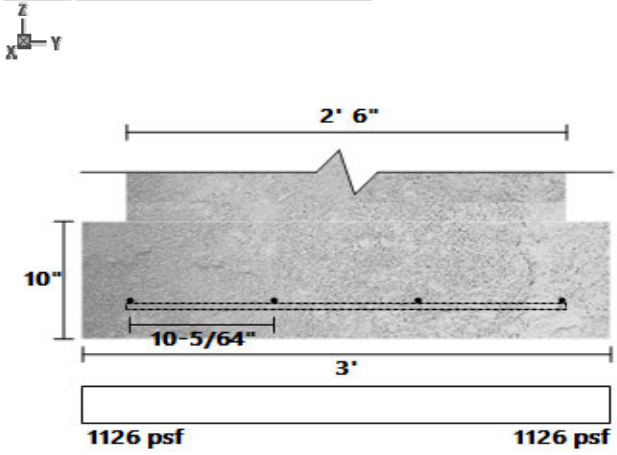
LOAD LIST

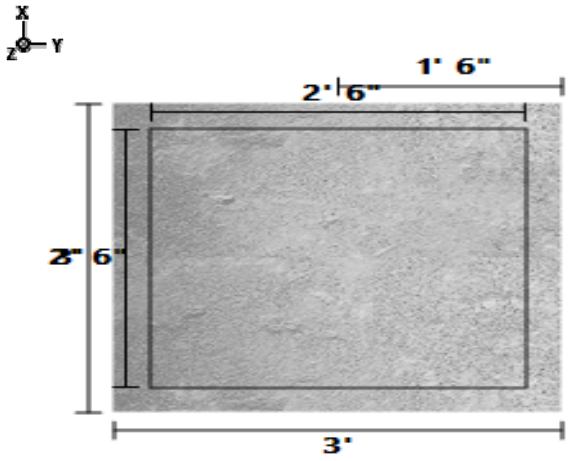
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

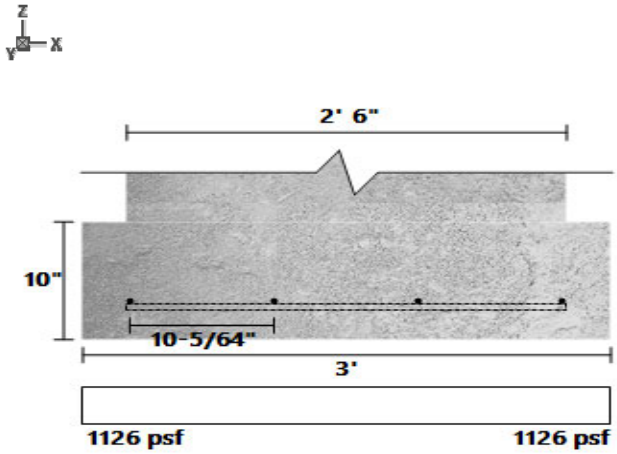
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #17	B	846.6694	-	0	-	Dead	Z
Point (lbf)	Beam #17	B	7.426171	-	0	-	Live	Z
Point (lbf)	Beam #17	B	8201.483	-	0	-	Snow	Z

SpotFtg Bm #17-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #17-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3.5 (ft) X 3.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (10.2%)	1346.6	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (94.7%)	1467.3	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (94.7%)	1467.3	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (97.2%)	5502.2	193236.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (96.4%)	838.4	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (96.4%)	838.4	23076.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (98.9%)	23476.2	2088450.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	12.3	12.3	D	LRFD

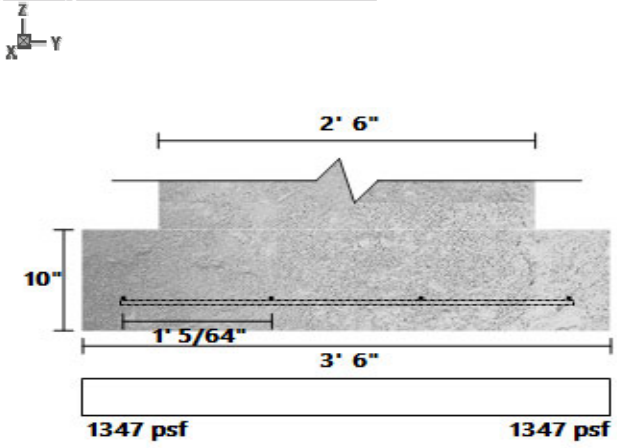
LOAD LIST

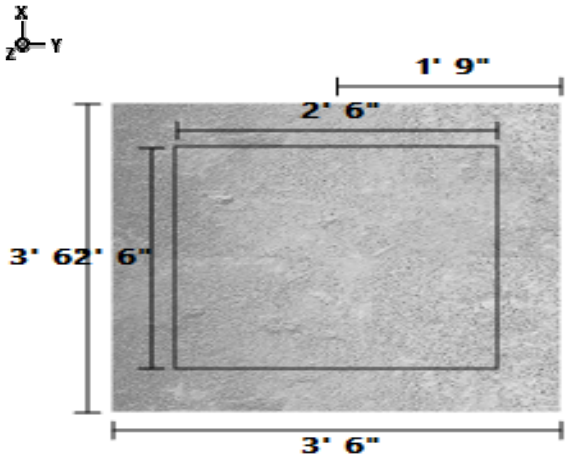
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

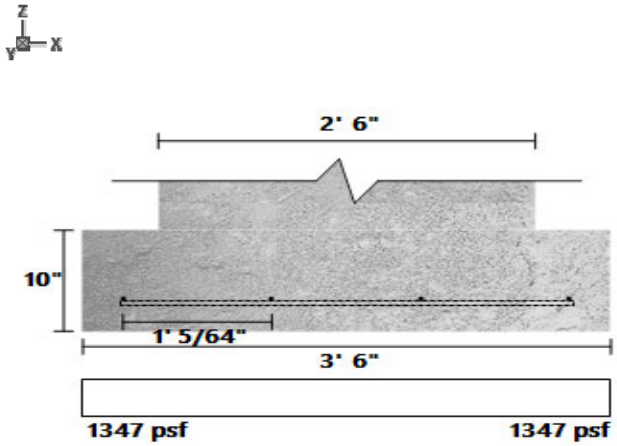
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #17	C	1405.06	-	0	-	Dead	Z
Point (lbf)	Beam #17	C	12.32383	-	0	-	Live	Z
Point (lbf)	Beam #17	C	13610.48	-	0	-	Snow	Z

SpotFtg Bm #17-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #17-3	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3.5 (ft) X 3.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (10.2%)	1346.6	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (94.7%)	1467.3	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (94.7%)	1467.3	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (97.2%)	5502.2	193236.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (96.4%)	838.4	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (96.4%)	838.4	23076.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (98.9%)	23476.2	2088450.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	12.3	12.3	D	LRFD

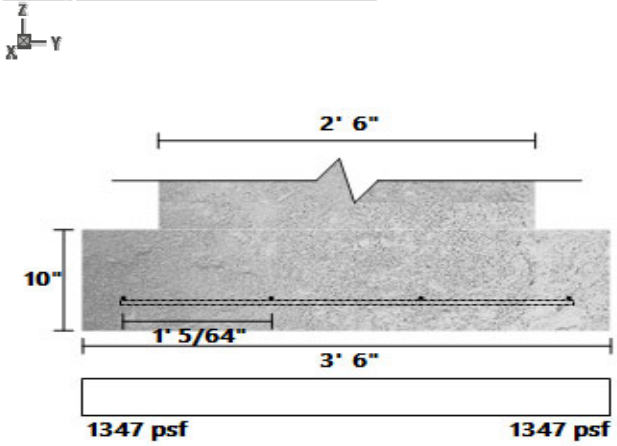
LOAD LIST

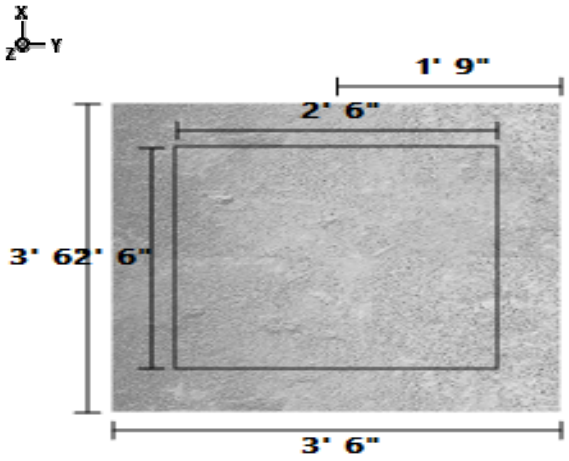
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

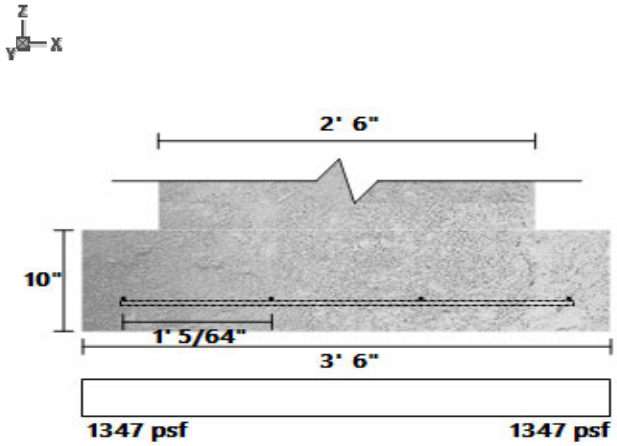
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #17	D	1405.06	-	0	-	Dead	Z
Point (lbf)	Beam #17	D	12.32383	-	0	-	Live	Z
Point (lbf)	Beam #17	D	13610.48	-	0	-	Snow	Z

SpotFtg Bm #17-3 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #17-4	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (24.9%)	1126.2	1500.0	D+S	ASD
Moment X (lbf-ft)	PASS (99.4%)	147.4	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (99.4%)	147.4	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (99.2%)	14146.8	1790100.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

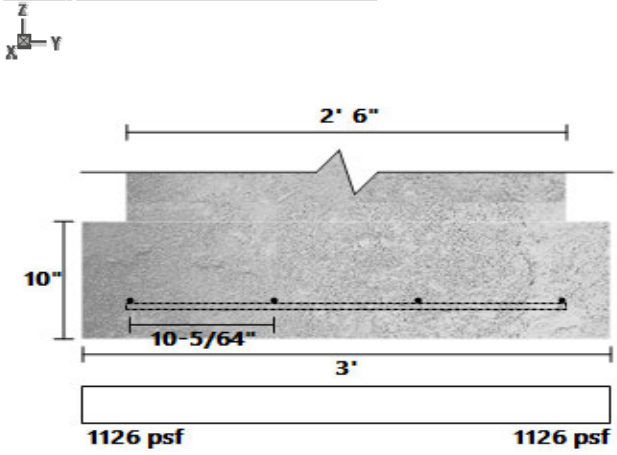
LOAD LIST

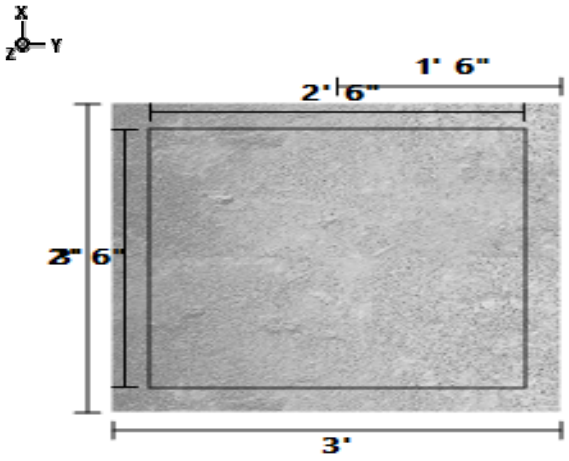
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

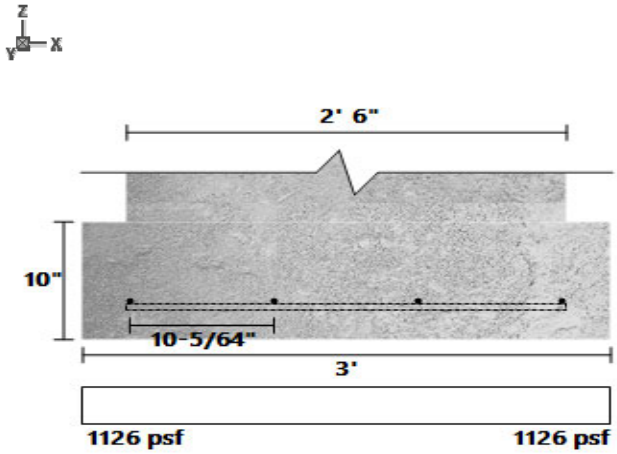
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #17	E	846.6695	-	0	-	Dead	Z
Point (lbf)	Beam #17	E	7.42617	-	0	-	Live	Z
Point (lbf)	Beam #17	E	8201.481	-	0	-	Snow	Z

SpotFtg Bm #17-4 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #20-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) X 2 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2	2	10	3.33	483.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (85.9%)	210.8	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (99.3%)	106.2	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (99.3%)	106.2	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (99.6%)	342.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (99.6%)	61.2	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (99.6%)	61.2	17124.7	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (99.7%)	551.0	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	4.0	4.0	D	LRFD

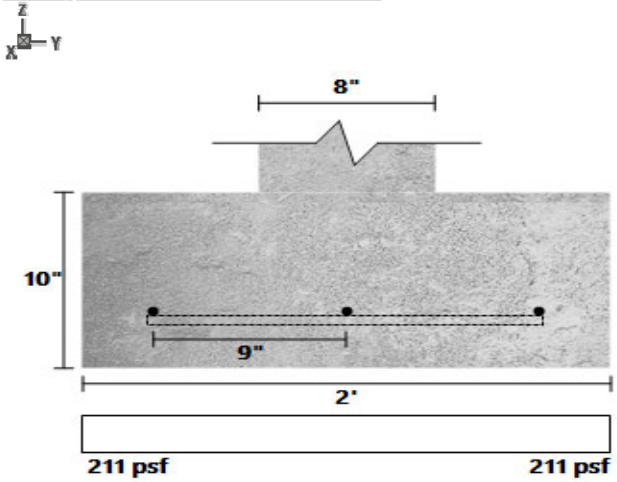
LOAD LIST

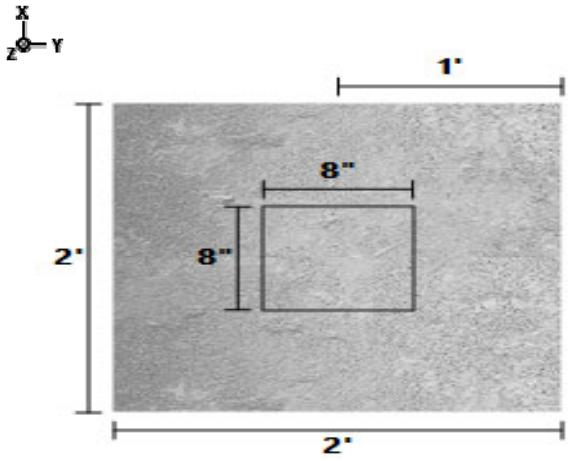
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

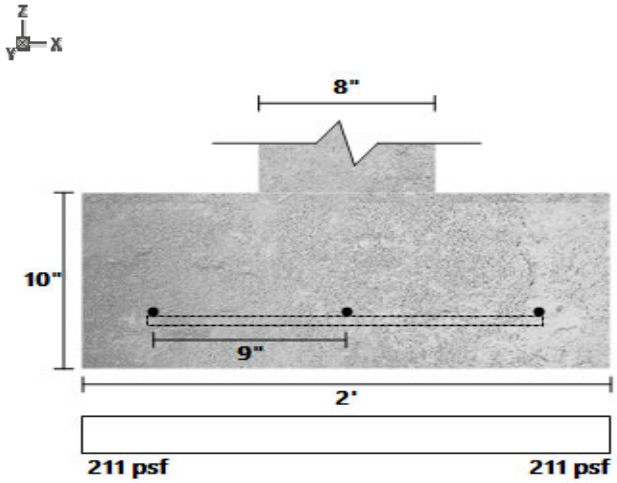
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #20	B	64.56149	-	0	-	Dead	Z
Point (lbf)	Beam #20	B	295.3125	-	0	-	Snow	Z

SpotFtg Bm #20-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #23-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (64.3%)	535.5	1500.0	D+S	ASD
Moment X (lbf-ft)	PASS (99.7%)	60.6	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (99.7%)	60.6	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (99.7%)	5818.1	1790100.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

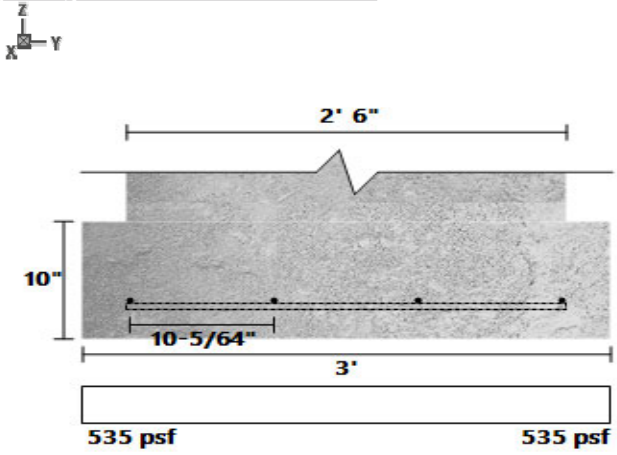
LOAD LIST

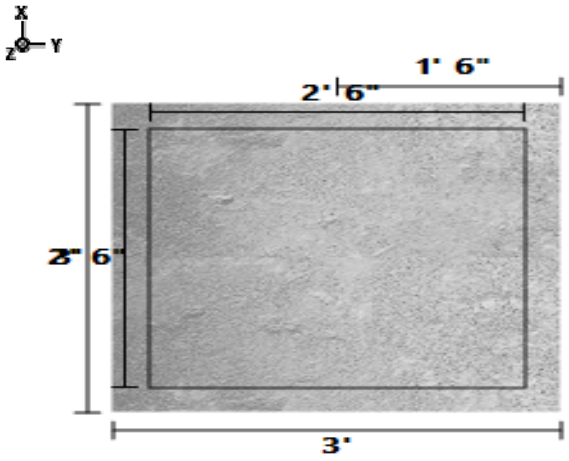
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

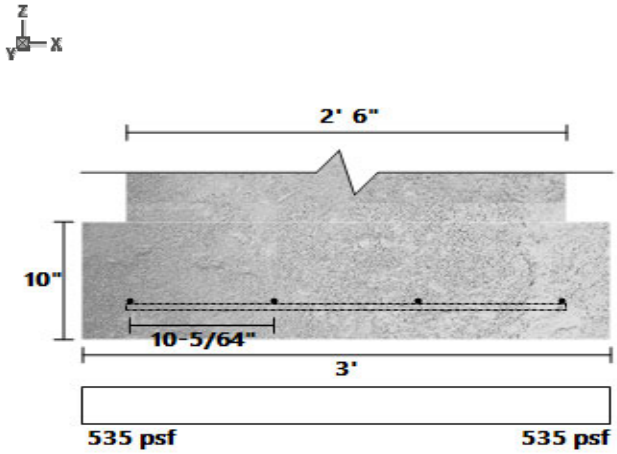
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #23	B	398.5377	-	0	-	Dead	Z
Point (lbf)	Beam #23	B	5.555547	-	0	-	Live	Z
Point (lbf)	Beam #23	B	3333.33	-	0	-	Snow	Z

SpotFtg Bm #23-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #23-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3.5 (ft) X 3.5 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (20.0%)	1199.5	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (94.8%)	1429.6	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (94.8%)	1429.6	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (97.2%)	5360.9	193236.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (96.5%)	816.9	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (96.5%)	816.9	23076.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (98.9%)	22873.1	2088450.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	12.3	12.3	D	LRFD

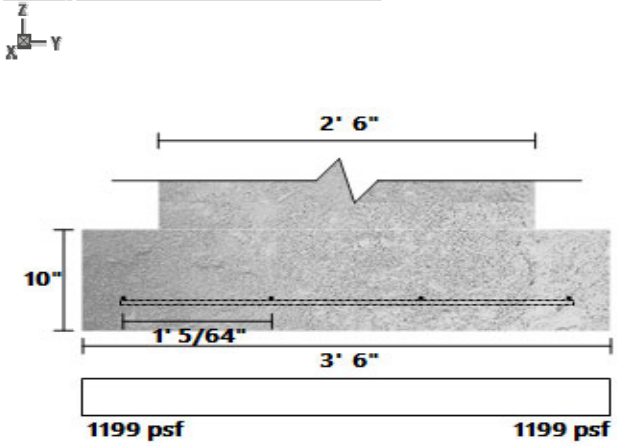
LOAD LIST

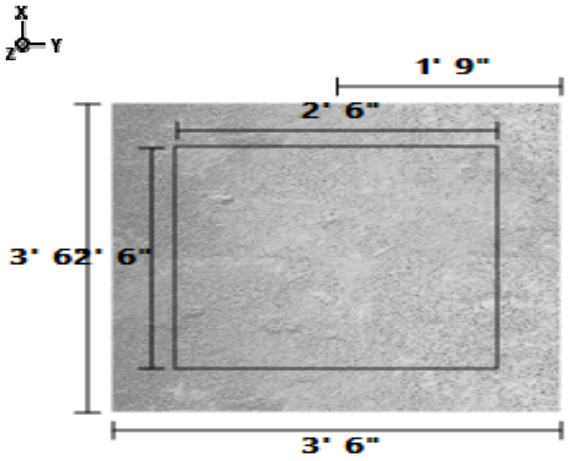
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

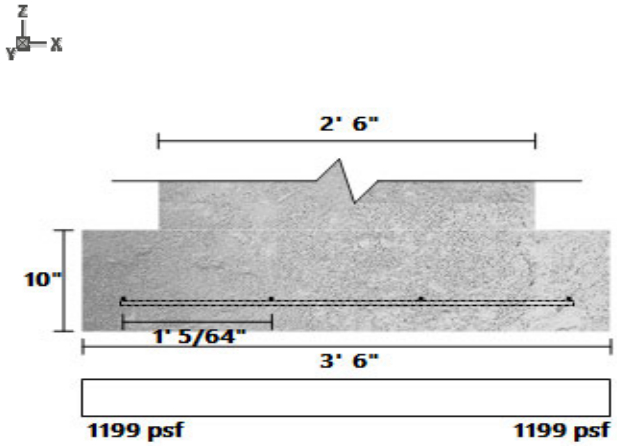
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #23	C	318.8312	-	0	-	Dead	Z
Point (lbf)	Beam #23	C	2666.667	-	0	-	Snow	Z
Point (lbf)	Beam #24	A	542.7249	-	0	-	Dead	Z
Point (lbf)	Beam #24	A	6.75	-	0	-	Live	Z
Point (lbf)	Beam #24	A	4050	-	0	-	Snow	Z
Point (lbf)	Beam #31	B	1039.907	-	0	-	Dead	Z
Point (lbf)	Beam #31	B	2484.284	-	0	-	Live	Z
Point (lbf)	Beam #31	B	4595.414	-	0	-	Snow	Z

SpotFtg Bm #23-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #24-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4 (ft) X 4 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (15.4%)	1269.2	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (89.0%)	3466.4	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (89.0%)	3466.4	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (93.7%)	12240.7	193236.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (92.8%)	2079.8	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (92.8%)	2079.8	28754.4	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (98.8%)	29579.8	2386800.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	16.0	16.0	D	LRFD

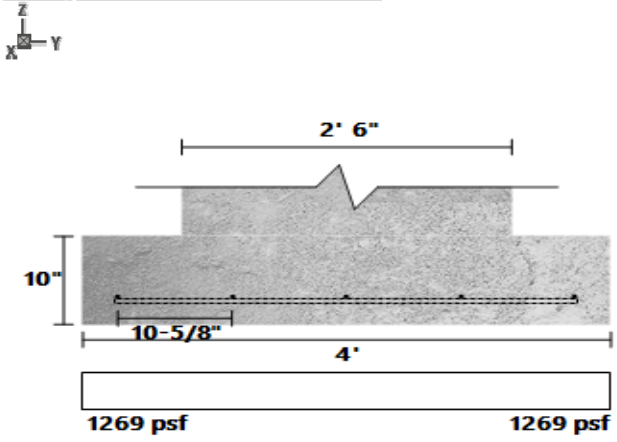
LOAD LIST

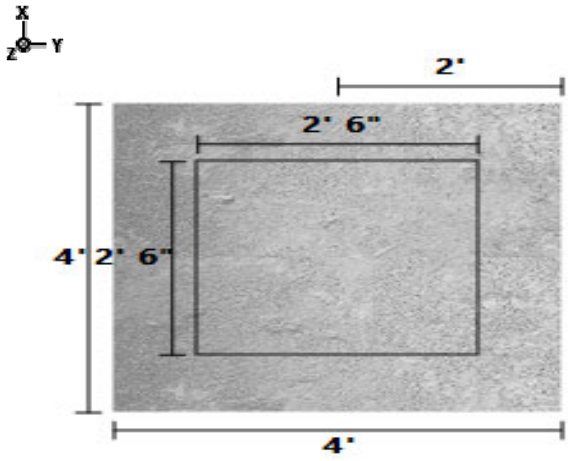
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

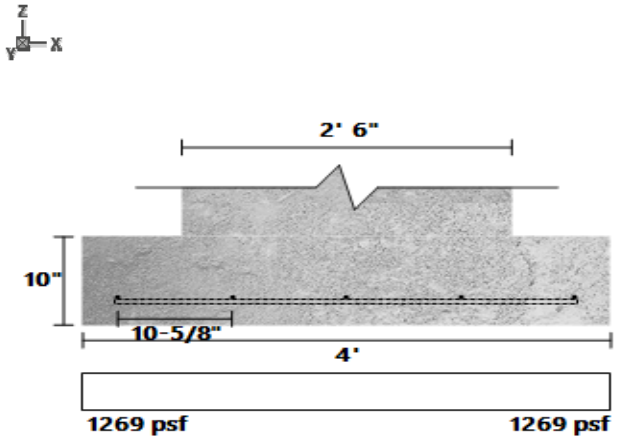
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #24	B	542.7249	-	0	-	Dead	Z
Point (lbf)	Beam #24	B	6.75	-	0	-	Live	Z
Point (lbf)	Beam #24	B	4050	-	0	-	Snow	Z
Point (lbf)	Beam #25	A	542.7249	-	0	-	Dead	Z
Point (lbf)	Beam #25	A	6.75	-	0	-	Live	Z
Point (lbf)	Beam #25	A	4050	-	0	-	Snow	Z
Point (lbf)	Beam #31	C	1695.654	-	0	-	Dead	Z
Point (lbf)	Beam #31	C	1278.839	-	0	-	Live	Z
Point (lbf)	Beam #31	C	7493.199	-	0	-	Snow	Z

SpotFtg Bm #24-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #25-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
30	30	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (23.3%)	1150.6	1500.0	D+S	ASD
Moment X (lbf-ft)	PASS (99.3%)	153.6	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (99.3%)	153.6	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (99.2%)	14742.6	1790100.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

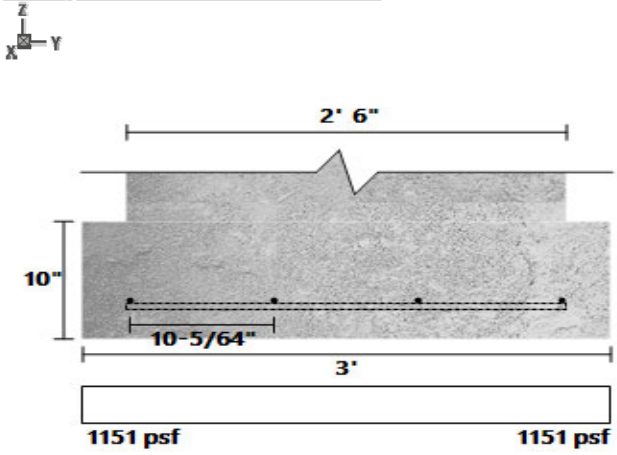
LOAD LIST

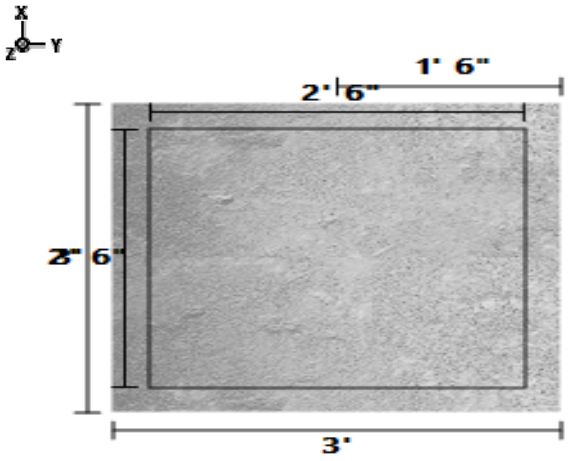
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

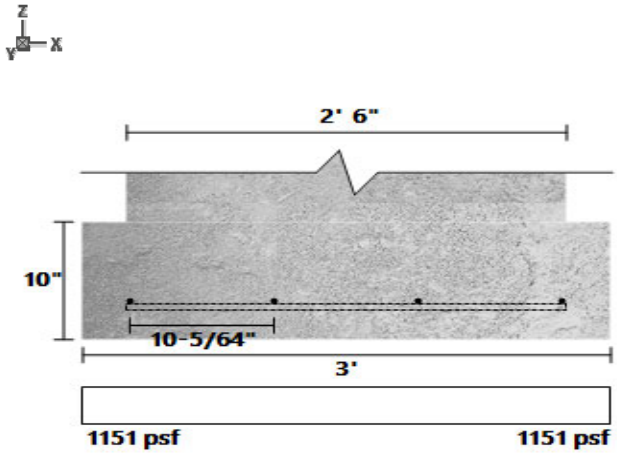
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #25	B	542.7249	-	0	-	Dead	Z
Point (lbf)	Beam #25	B	6.75	-	0	-	Live	Z
Point (lbf)	Beam #25	B	4050	-	0	-	Snow	Z
Point (lbf)	Beam #26	A	179.3425	-	0	-	Dead	Z
Point (lbf)	Beam #26	A	1500	-	0	-	Snow	Z
Point (lbf)	Beam #31	D	552.7502	-	0	-	Dead	Z
Point (lbf)	Beam #31	D	416.8767	-	0	-	Live	Z
Point (lbf)	Beam #31	D	2442.637	-	0	-	Snow	Z

SpotFtg Bm #25-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #26-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

1.3333 (ft) X 1.3333 (ft) X 36 (in)	Soil Depth TOF: 0 (ft)	Unreinforced (Plain) Concrete

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
1.3333	1.3333	36	5.33	773.29

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
5.5	5.5	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
None	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (8.0%)	1379.7	1500.0	D+S	ASD
Moment X (lbf-ft)	PASS (99.6%)	299.0	70983.1	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (99.6%)	299.0	70983.1	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (97.4%)	2616.2	100278.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	1.8	1.8	D	LRFD

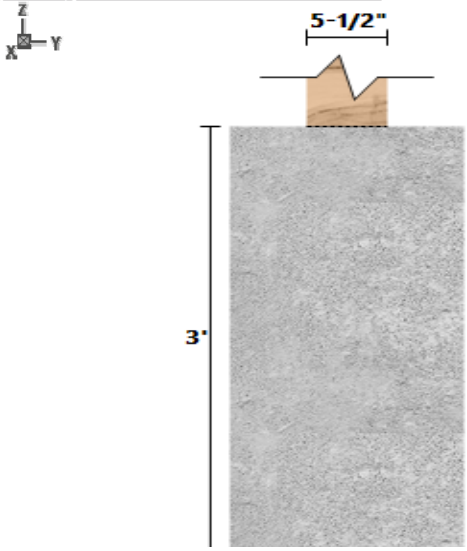
LOAD LIST

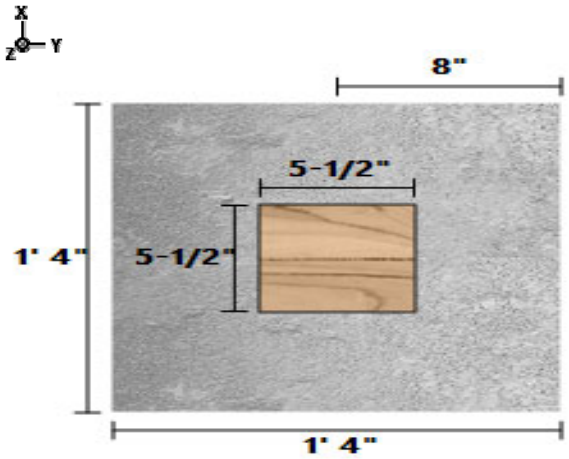
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

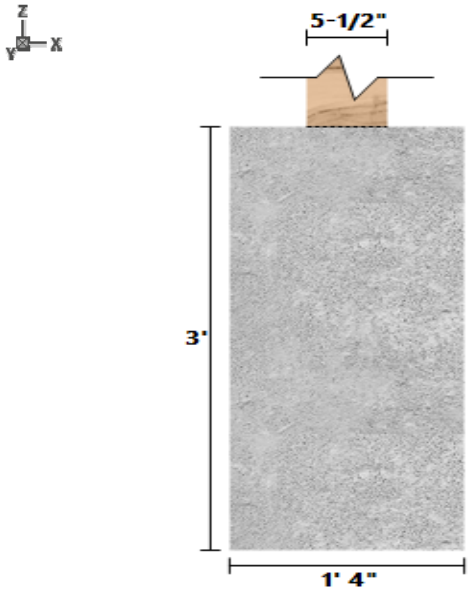
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #26	B	179.3425	-	0	-	Dead	Z
Point (lbf)	Beam #26	B	1500	-	0	-	Snow	Z

SpotFtg Bm #26-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #34-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

2 (ft) X 1.3334 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (2) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
2	1.3334	10	2.22	322.24

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
16.0008	16.0008	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (16.2%)	1256.6	1500.0	D+L	ASD
One-Way Shear X (lbf)	PASS (98.9%)	117.6	10516.8	1.4D	LRFD
One-Way Shear Y (lbf)	PASS (99.3%)	117.6	15774.4	1.2D+1.6L+0.5Lr	LRFD
Moment Y (lbf-ft)	PASS (98.9%)	125.5	11416.5	1.2D+1.6L+0.5Lr	LRFD
Crushing (lbf)	PASS (99.1%)	4519.8	519722.7	1.2D+1.6L+0.5Lr	LRFD
Compression (ft^2)	PASS (100.0%)	2.7	2.7	D	LRFD

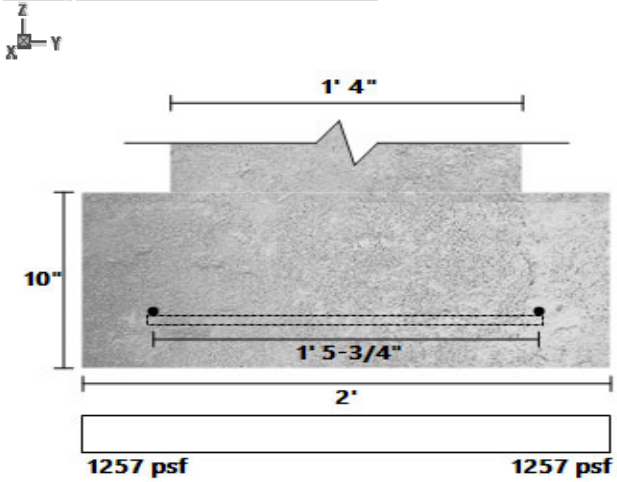
LOAD LIST

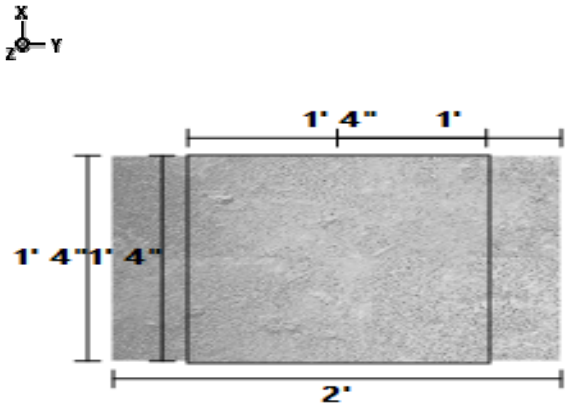
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

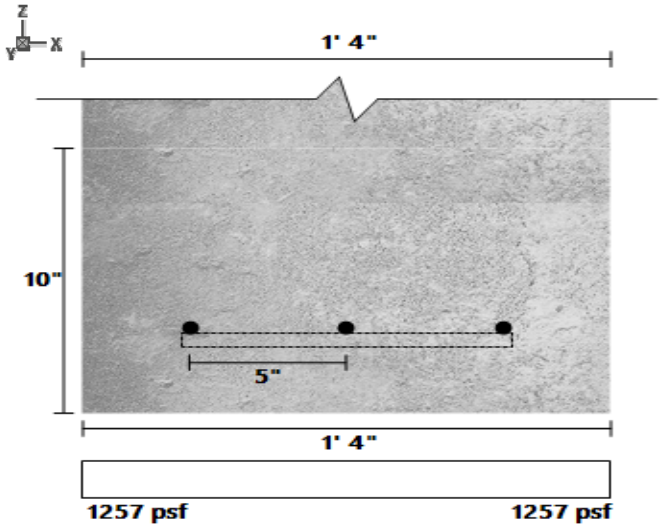
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #34	A	815.7599	-	0	-	Dead	Z
Point (lbf)	Beam #34	A	2212.03	-	0	-	Live	Z

SpotFtg Bm #34-1 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #32-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4 (ft) X 4 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (14.5%)	1283.1	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (68.3%)	10016.3	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (68.3%)	10016.3	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (66.2%)	26188.5	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (65.1%)	10041.4	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (65.1%)	10041.4	28754.4	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (86.4%)	28919.3	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	16.0	16.0	D	LRFD

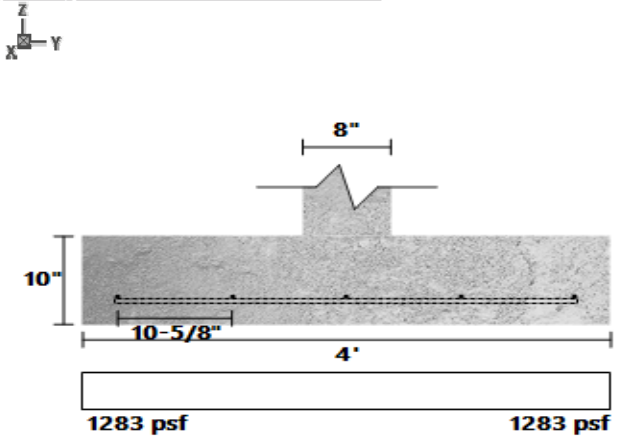
LOAD LIST

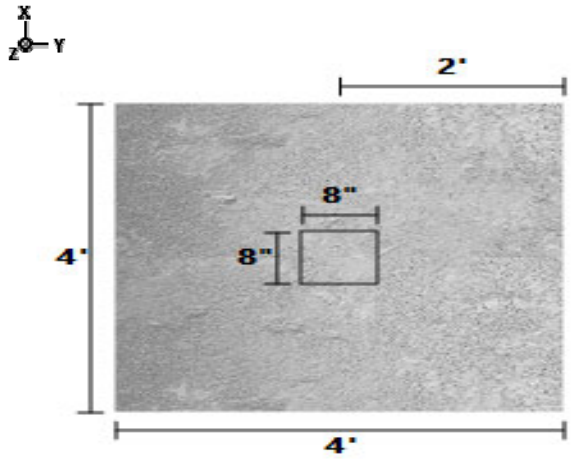
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

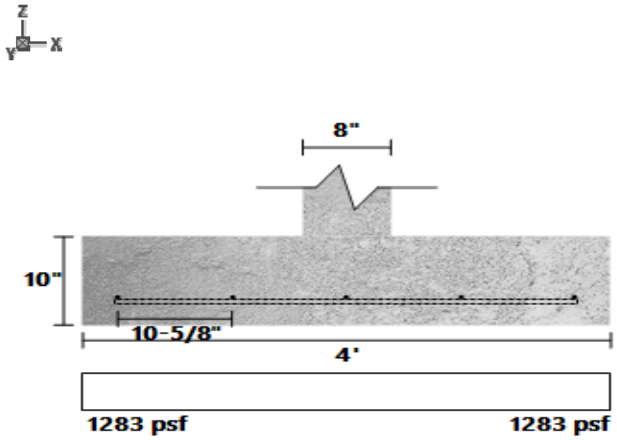
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #32	B	2112.133	-	0	-	Dead	Z
Point (lbf)	Beam #32	B	8.5	-	0	-	Live	Z
Point (lbf)	Beam #32	B	16484.52	-	0	-	Snow	Z

SpotFtg Bm #32-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #30-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (15.7%)	1264.0	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (79.1%)	4937.0	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (79.1%)	4937.0	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (82.1%)	13919.5	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (83.5%)	3794.7	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (83.5%)	3794.7	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (92.1%)	16727.6	212160.0	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

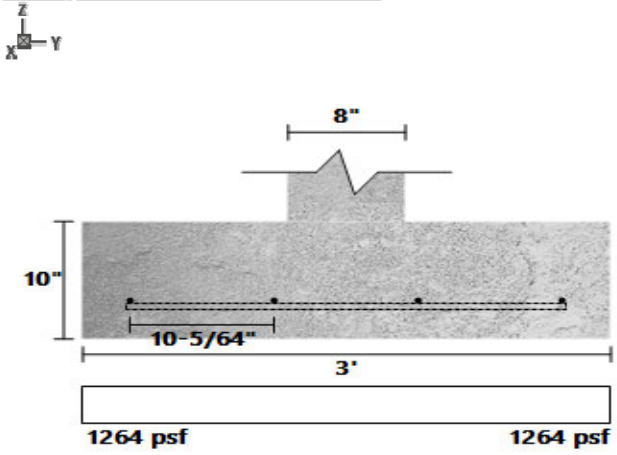
LOAD LIST

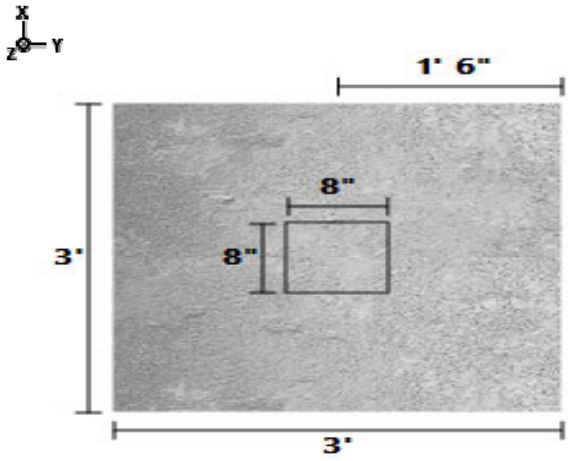
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

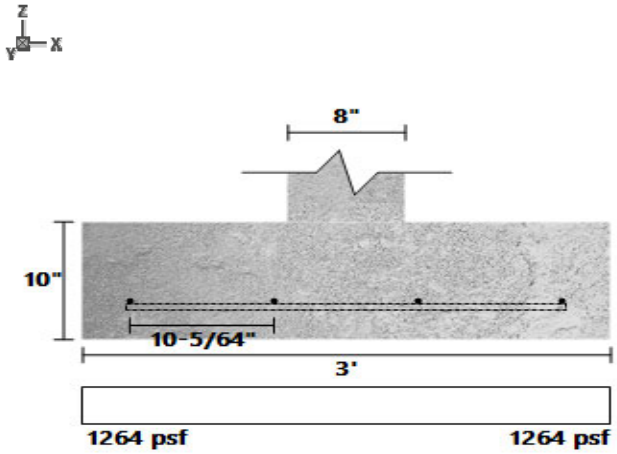
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #30	B	103.273	-	0	-	Dead	Z
Point (lbf)	Beam #30	B	776.6665	-	0	-	Live	Z
Point (lbf)	Beam #33	A	1193.467	-	0	-	Dead	Z
Point (lbf)	Beam #33	A	8991.556	-	0	-	Snow	Z
Point (lbf)	Beam #33	A	7.386366	-	0	-	Live	Z

SpotFtg Bm #30-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	23-022 Joras
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #33-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

3 (ft) X 3 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
5.5	5.5	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (29.0%)	1064.7	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (81.6%)	4353.5	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (81.6%)	4353.5	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (81.9%)	11669.9	64412.2	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (81.6%)	4222.0	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (81.6%)	4222.0	22946.6	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (86.8%)	13198.1	100278.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	9.0	9.0	D	LRFD

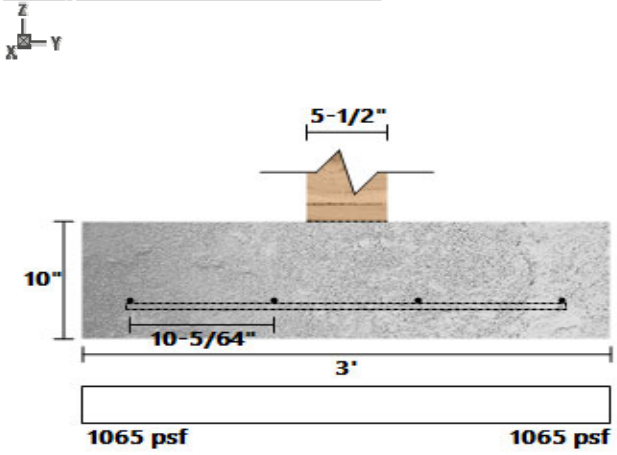
LOAD LIST

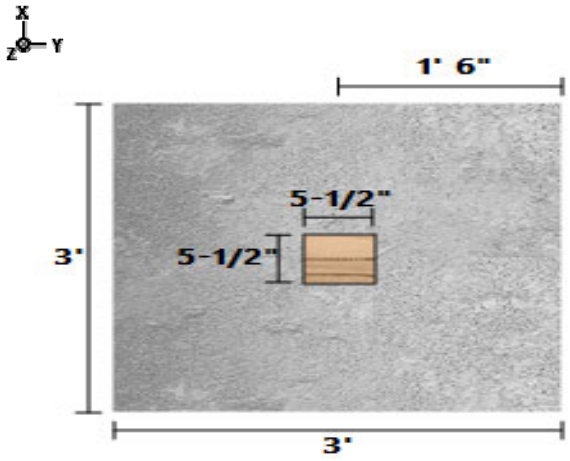
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

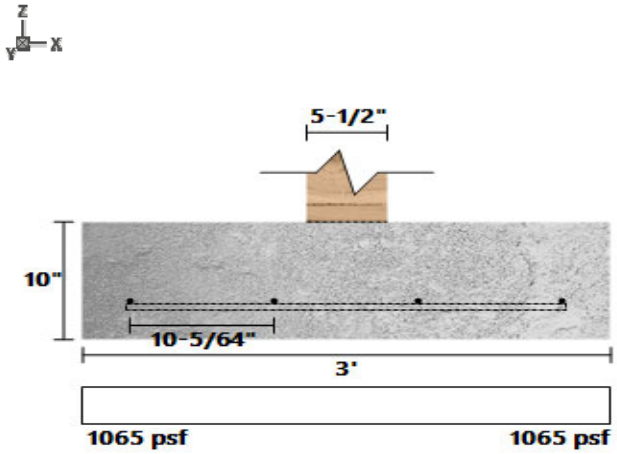
LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #33	B	1001.455	-	0	-	Dead	Z
Point (lbf)	Beam #33	B	7492.961	-	0	-	Snow	Z
Point (lbf)	Beam #33	B	6.613634	-	0	-	Live	Z

SpotFtg Bm #33-2 DIAGRAMS







PASS

DATE:	12/11/2023	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	-- --	PROJECT NAME:	23-022 Joras
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #11-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		

4 (ft) X 4 (ft) X 10 (in)	Soil Depth TOF: 0 (ft)	Bot. (5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING

Width (ft)	Length (ft)	Depth (in)	Volume (ft^3)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft^3)	Agg. Dia. (in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)
0

COLUMN

Width (in)	Length (in)	Material	Offset X (in)	Offset Y (in)
5.5	5.5	Wood	0	0

SOIL

Bearing Strength (lbf/ft^2)	Density (lbf/ft^3)	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)
1500	140	0	30	0	3

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in.	Bottom Cover (in.	Side Cover (in.
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft^2)	PASS (16.5%)	1252.8	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (66.7%)	10496.0	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (66.7%)	10496.0	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf)	PASS (59.1%)	26349.4	64412.2	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (56.4%)	12524.0	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (56.4%)	12524.0	28754.4	1.2D+1.6S+L	LRFD
Crushing (lbf)	PASS (71.9%)	28185.1	100278.8	1.2D+1.6S+L	LRFD
Compression (ft^2)	PASS (100.0%)	16.0	16.0	D	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

LINKED LOAD LIST

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #11	B	2007.641	-	0	-	Dead	Z
Point (lbf)	Beam #11	B	9.78261	-	0	-	Live	Z
Point (lbf)	Beam #11	B	16103.22	-	0	-	Snow	Z

SpotFtg Bm #11-1 DIAGRAMS