

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 9809039

Insp Area: 2

Site Address: 1 RIVERGLADE CT SAC

Parcel No: 0310260007

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO, CA

95826

OWNER

FREEMAN ROBERT EDWIN
1 RIVERGLADE CT
SACRAMENTO CA

58310

ARCHITECT

**Nature of Work: REMOVE OLD ROOF & REROOF W/PIONEER TILE 4/12 PITCH SFR
(35SQS)**

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____

Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class C39 License Number 557559 Date 9-21-98 Contractor Signature Lilly Coy

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than fivehundred dollars (\$500.00);

_____, I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

_____, I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

_____, I am exempt under Sec. _____ B & PC for this reason: _____

Date _____ Owner Signature _____

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 9-21-98 Applicant/Agent Signature Lilly Coy

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

_____, I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier State Fund Policy Number 713 97002021 Exp. 10-1-98

_____, (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 9-21-98 Applicant Signature Lilly Coy

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 200
SACRAMENTO, CA
95814-2998

Permit Service
916-264-7619
FAX 916-264-7096

Freeman at
I Riverglade Ct
95831

TILE ROOF WORKSHEET

This worksheet must be filled out whenever any type of tile roof is applied for.

If the answer to question #5 is yes, a written engineering report from a registered engineer must be provided with each application.

1. BRAND AND MODEL OF TILE Pioneer Haverdoo
2. TILE WEIGHT PER SQUARE: 600
3. WEIGHT OF ROOF SYSTEM PER SQUARE 180
4. TOTAL WEIGHT OF ROOF SYSTEM 780
5. DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO
6. ROOF SLOPE 4/12

PLEASE PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE ROOF.

see attached report

*ok per attached report, verify structural
modifications in the field. ok. Math P. 9/15/93*

Freeman

Paul Zacher-Structural Engineers

4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.3960
e-mail: pzacher@softcom.net

September 1, 1998

Zimmerman Roofing
3560 Ramona Avenue
Sacramento, CA 95826
TEL: 916.454.3667
FAX: 916.455.3784
TEL (Jeff): 916.392.1971
FAX (Jeff): 916.392.6853
FAX (Framer) : 916.383.5308

Attn.: Mr. Jeff Tucker,

re: Job 98195: FREEMAN

Subject: Structural Investigation Report of the Roof for the Residence located at 1 Riverglade Court, Sacramento, CA 95831.

As requested by Mr. Jeff Tucker, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site August 26, 1998. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report is based on the 1994 Uniform Building Code.

The following is based on visual observations with no subsurface investigation being made.

DESCRIPTION:

Type of Facility: Residence.
Year Built: Estimated 1980's vintage.
Occupancy: Residential.
No. of Stories: One.
Dimensions: Approximately 2000 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:
The roof covering will consist of Pioneer Light Weight Concrete Tile over 1/2" solid sheathing. The living and garage areas are framed with pre-engineered trusses spaced at 24" on center with 2x4 in-fill framing.

Freeman

CONCLUSIONS:

Roof:

The living area has sufficient structural capacity for the applied live and dead loads. The garage lacks sufficient structural capacity for the applied live and dead loads.

RECOMMENDATIONS:

If any of the following recommendations do not correspond to actual field conditions, the engineer of record shall be notified for further investigation and evaluation before continuing work.


Garage:

1. Scab a 2x6 rafter to the existing 2x4 rafters with 16d's @ 12" on center where the span is greater than 7'-9". See detail 1.

The inspection consisted of visual observation only, made solely to determine the structural capacity of the existing roof. Analysis does not determine any effects on the overall structure under lateral forces or effects on the foundation unless specifically noted in the calculations and in this document. No warranties, expressed or implied, are made or intended in conjunction with this report. The inspection was made only to the portions that were accessible. The specific items noted were those that were observable and there may be defects which are not observable, or are hidden by architectural and structural materials.

If you have any questions on the above, do not hesitate to call.

Sincerely,



Paul Zacher, P.E., S.E.
file



DESIGN LOADING:

Roof Pitch 4 in 12
Pitch Adjustment Factor 1.05

LOCATION: TOP CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
Pioneer Hacienda Light Wt	5.60	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x4 truss @ 24" oc	<u>1.28</u>	psf
Load	9.8	psf
Roof Pitch Adjustment	<u>0.53</u>	psf
Total Load	10.3	psf

LOCATION: BOTTOM CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
Batt/blown insul	0.50	psf
2x4 truss @ 24" oc	0.64	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	3.6	psf

LOCATION: ROOF

<u>MATERIAL</u>	<u>WEIGHT</u>	
Pioneer Hacienda Light Wt	5.60	psf
Roofing felt	0.30	psf
1x4 skip sht'g	1.09	psf
1/2" OSB/ plywood	1.50	psf
2x6 rafters @ 24" oc	<u>1.00</u>	psf
Load	9.5	psf
Roof Pitch Adjustment	<u>0.51</u>	psf
Total Load	10.0	psf

BEAM DESIGN FOR UNIFORM LOAD: 2x4

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	3.5 inches
Length of beam	7.75 feet
Dead load roof	10.3 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	20.6 plf
Total live load	32 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.50
Repetitive factor, Cr	1.15

Dead load reaction	80 lbs
Live load reaction	124 lbs
Total load reaction	204 lbs

Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	54 psi	
Allowable bending, Fb'	1887 psi	Bending OK
Actual bending, fb	1547 psi	
Allowable live load defl	0.39 inches	Live Load Deflection OK
Actual live load defl	0.30 inches	
Allowable total load defl	0.52 inches	Total Load Deflection OK
Actual total load defl	0.50 inches	
Bearing length req'd	0.22 inches	

BEAM DESIGN FOR UNIFORM LOAD: 2x6

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	5.5 inches
Length of beam	12.25 feet
Dead load roof	10.3 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	20.6 plf
Total live load	32 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.30
Repetitive factor, Cr	1.15

Dead load reaction	126 lbs
Live load reaction	196 lbs
Total load reaction	322 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	54 psi
Allowable bending, Fb'	1635 psi
Actual bending, fb	1566 psi
Allowable live load defl	0.61 inches
Actual live load defl	0.49 inches
Allowable total load defl	0.82 inches
Actual total load defl	0.80 inches

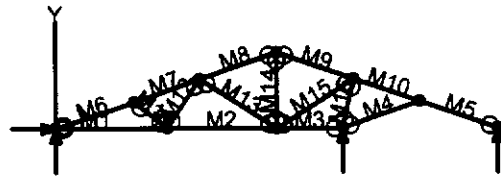
Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

Bearing length req'd	0.34 inches
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VisualAnalysis 3.12.c Report

September 1, 1998 1:07 PM

Project:

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Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Nodes

Node	X ft	Y ft	Fix	DX	Fix	DY	Fix	RZ
N1	0.00	0.00	Yes		Yes		No	
N2	10.00	0.00	No		No		"	
N3	20.00	0.00	"		"		"	
N4	26.00	0.00	"		Yes		"	
N5	40.00	0.00	"		"		"	
N6	7.00	2.33	"		No		"	
N7	33.00	2.33	"		"		"	
N8	13.00	4.33	"		"		"	
N9	27.00	4.33	"		"		"	
N10	20.00	6.67	"		"		"	

Spring Elements

This item is empty. Check the selection state, or report properties.

Member Elements

Member	Section	Material	Length ft	Weight lbs	Theta deg
M1	SS2x4	Wood	10.00	14.75	0.00
M2	"	"	10.00	14.75	0.00
M3	"	"	6.00	8.85	0.00
M4	SS2x6	"	7.38	17.10	0.00
M5	"	"	7.38	17.10	0.00
M6	SS2x4	"	7.38	10.88	0.00
M7	"	"	6.32	9.33	0.00
M8	"	"	7.38	10.89	0.00
M9	SS2x6	"	7.38	17.11	0.00
M10	"	"	6.32	14.66	0.00
M11	SS2x3	"	3.80	4.00	0.00
M12	"	"	5.27	5.55	0.00
M13	"	"	8.23	8.67	0.00
M14	"	"	6.67	7.03	0.00
M15	"	"	8.23	8.67	0.00
M16	"	"	4.44	4.68	0.00

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood	Sha SS2x3	3.75	1.95	1.56	1.56
"	SS2x4	5.25	5.36	3.06	3.06
"	SS2x6	8.25	20.80	7.56	7.56

Material Properties

Material	Strength ksi	Elasticity ksi	Poisson	Density lb/ft ³	Therm. /F
Wood	-NA-	1700.00	0.36	40.47	0.00

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September 1, 1998 1:07 PM

Project:

File: D:\Paul\d_and_d\zzfolder\free\truss1.VAP

Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Load Cases

Load Case	Strength Service Results		
(1)Service Case 1	Yes	Yes	1st Ord
(2)Service Case 2	"	"	"
(3)Equation Case 1	"	"	"

Service Load Cases

Load Case	Load Source	Self Weight	Loads
Service Case 1	Dead loads	None	
Service Case 2	Roof Live	1	"

Load Combination Summary

Equation Case: Equation Case 1

Combination: +1D+1L+1Lr+1R+1W+1S+1E+1H+1F+1TS+1T+1TC+1I+1U+1LE

Contributing Cases & Source

Service Case 1 (Dead loads)

Service Case 2 (Roof Live loads)

Equation Case Combinations

Load Case	Cases Equation	
Equation Case 1	0.00	0.00

Factored Case Combinations

This item is empty. Check the selection state, or report properties.

Nodal Loads

This item is empty. Check the selection state, or report properties.

Member Point Loads

This item is empty. Check the selection state, or report properties.

Member Uniform Loads

Load Case	Member	Direction	Offset ft	End Off ft	Magnitude
Service Case 1	M1	DY proj.	0.00	10.00	-0.01 K/ft
"	M2	"	0.00	10.00	-0.01 K/ft
"	M3	"	0.00	6.00	-0.01 K/ft
"	M4	"	0.00	7.38	-0.01 K/ft
"	M5	"	0.00	7.38	-0.02 K/ft
"	M6	"	0.00	7.38	-0.02 K/ft
"	M7	"	0.00	6.32	-0.02 K/ft
"	M8	"	0.00	7.38	-0.02 K/ft
"	M9	"	0.00	7.38	-0.02 K/ft
"	M10	"	0.00	6.32	-0.02 K/ft
Service Case 2	M5	"	0.00	7.38	-0.03 K/ft

"	M6	"	0.00	7.38	-0.03 K/ft
"	M7	"	0.00	6.32	-0.03 K/ft
"	M8	"	0.00	7.38	-0.03 K/ft
"	M9	"	0.00	7.38	-0.03 K/ft
"	M10	"	0.00	6.32	-0.03 K/ft

Member Linear Loads

This item is empty. Check the selection state, or report properties.

Member Temperature Changes

This item is empty. Check the selection state, or report properties.

Member Gradient Temperatures

This item is empty. Check the selection state, or report properties.

VisualAnalysis 3.12.c Report

September 1, 1998 1:07 PM

Project:

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Engineer: Paul Zacher

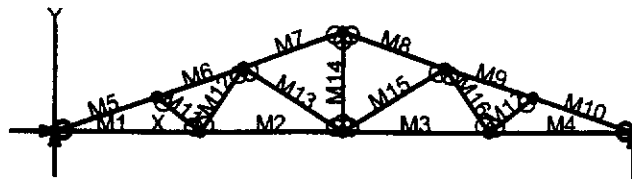
Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Load Cases

Load Case	Strength Service Results		
(1)Service Case 1	Yes	Yes	1st Ord
(2)Service Case 2	"	"	"
(3)Equation Case 1	"	"	"

Member Extreme Results

Member	Fx(lc) K	Fy(lc) K	Mz(lc) K-ft	fc max(lc) ksi	fc min(lc) ksi	Dx(lc) in	Dy(lc) in
M1	0.65(1)	-0.04(1)	-0.07(1)	0.12(1)	-0.16(1)	0.00(1)	-0.17(3)
"	1.41(3)	0.03(3)	0.06(3)	0.52(3)	0.27(3)	0.02(3)	0.00(1)
M2	0.40(1)	-0.03(3)	-0.07(1)	0.08(1)	-0.21(1)	0.01(1)	-0.15(3)
"	0.84(3)	0.04(1)	0.04(3)	0.41(3)	0.15(3)	0.03(3)	-0.03(1)
M3	-0.90(3)	-0.01(3)	-0.04(1)	-0.17(3)	-0.34(3)	0.01(1)	-0.07(3)
"	-0.39(1)	0.03(1)	0.01(3)	0.09(1)	-0.08(1)	0.03(3)	0.00(1)
M4	-0.63(3)	-0.04(3)	-0.09(3)	-0.08(3)	-0.22(3)	0.01(1)	-0.01(3)
"	-0.26(1)	0.02(1)	0.02(1)	0.07(3)	-0.03(1)	0.02(3)	0.00(2)
M5	-0.05(3)	-0.14(3)	-0.26(3)	-0.01(3)	-0.40(3)	0.01(1)	-0.04(3)
"	0.07(3)	0.21(3)	0.21(3)	0.42(3)	0.00(3)	0.02(3)	0.01(3)
M6	-1.53(3)	-0.20(3)	-0.21(3)	-0.29(3)	-1.17(3)	-0.01(3)	-0.27(3)
"	-0.66(1)	0.15(3)	0.23(3)	0.60(3)	-0.13(1)	0.00(1)	0.00(1)
M7	-1.18(3)	-0.15(3)	-0.23(3)	-0.21(3)	-1.10(3)	-0.02(3)	-0.13(3)
"	-0.53(1)	0.15(3)	0.02(3)	0.69(3)	-0.11(1)	-0.01(1)	-0.05(1)
M8	-0.24(3)	-0.14(3)	-0.23(3)	-0.03(3)	-0.94(3)	-0.03(3)	-0.29(3)
"	-0.05(2)	0.21(3)	0.22(3)	0.85(3)	-0.01(2)	-0.01(1)	-0.03(1)
M9	-0.25(3)	-0.21(3)	-0.28(3)	-0.02(3)	-0.47(3)	0.01(1)	-0.09(3)
"	-0.05(2)	0.14(3)	0.20(3)	0.41(3)	-0.01(2)	0.02(3)	0.00(1)
M10	0.26(1)	-0.13(3)	-0.28(3)	0.03(1)	-0.36(3)	0.01(1)	0.00(3)
"	0.69(3)	0.17(3)	0.02(3)	0.53(3)	0.07(3)	0.02(3)	0.01(3)
M11	-0.42(3)	0.00(3)	0.00(3)	-0.11(3)	-0.11(3)	0.04(1)	-0.09(3)
"	-0.16(1)	0.00(2)	0.00(1)	-0.04(1)	-0.04(1)	0.10(3)	-0.04(1)
M12	0.19(2)	0.00(3)	0.00(3)	0.05(2)	0.05(2)	-0.09(3)	-0.09(3)
"	0.41(3)	0.00(2)	0.00(1)	0.11(3)	0.11(3)	-0.04(1)	-0.04(1)
M13	-0.79(3)	0.00(3)	0.00(3)	-0.21(3)	-0.21(3)	0.03(1)	-0.09(3)
"	-0.36(1)	0.00(1)	0.00(1)	-0.10(1)	-0.10(1)	0.07(3)	-0.02(1)
M14	-0.18(3)	0.00(1)	0.00(1)	-0.05(3)	-0.05(3)	-0.07(3)	-0.03(3)
"	-0.05(1)	0.00(3)	0.00(3)	-0.01(1)	-0.01(1)	-0.03(1)	0.00(3)
M15	0.57(1)	0.00(3)	0.00(3)	0.15(1)	0.15(1)	-0.01(3)	-0.08(3)
"	1.26(3)	0.00(1)	0.00(1)	0.34(3)	0.34(3)	0.01(3)	-0.01(1)
M16	-1.35(3)	0.00(1)	0.00(1)	-0.36(3)	-0.36(3)	-0.01(3)	0.01(1)
"	-0.60(1)	0.00(1)	0.00(1)	-0.16(1)	-0.16(1)	0.01(3)	0.02(3)



VisualAnalysis 3.12.c Report

September 1, 1998 1:18 PM

Project:

File: D:\Paul\d_and d\zzfolder\free\truss2.VAP

Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Nodes

Node	X ft	Y ft	Fix	DX Fix	DY Fix	RZ Fix
N1	0.00	0.00	Yes	Yes	No	
N2	10.00	0.00	No	No	"	
N3	20.00	0.00	"	"	"	
N4	30.00	0.00	"	"	"	
N5	40.00	0.00	"	Yes	"	
N6	7.00	2.33	"	No	"	
N7	33.00	2.33	"	"	"	
N8	13.00	4.33	"	"	"	
N9	27.00	4.33	"	"	"	
N10	20.00	6.67	"	"	"	

Spring Elements

This item is empty. Check the selection state, or report properties.

Member Elements

Member	Section	Material	Length ft	Weight lbs	Theta deg
M1	SS2x4	Wood	10.00	14.75	0.00
M2	"	"	10.00	14.75	0.00
M3	"	"	10.00	14.75	0.00
M4	"	"	10.00	14.75	0.00
M5	"	"	7.38	10.88	0.00
M6	"	"	6.32	9.33	0.00
M7	"	"	7.38	10.89	0.00
M8	"	"	7.38	10.89	0.00
M9	"	"	6.32	9.33	0.00
M10	"	"	7.38	10.88	0.00
M11	SS2x3	"	3.80	4.00	0.00
M12	"	"	5.27	5.55	0.00
M13	"	"	8.23	8.67	0.00
M14	"	"	6.67	7.03	0.00
M15	"	"	8.23	8.67	0.00
M16	"	"	5.27	5.55	0.00
M17	"	"	3.80	4.00	0.00

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood Sha	SS2x3	3.75	1.95	1.56	1.56
"	SS2x4	5.25	5.36	3.06	3.06

Material Properties

Material	Strength ksi	Elasticity ksi	Poisson	Density lb/ft ³	Therm. /F
Wood	-NA-	1700.00	0.36	40.47	0.00

VisualAnalysis 3.12.c Report

September 1, 1998 1:18 PM

Project:

File: D:\Paul\d_and_d\zzfolder\free\truss2.VAP

Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Load Cases

Load Case	Strength Service Results		
(1)Service Case 1	Yes	Yes	1st Ord
(2)Service Case 2	"	"	"
(3)Equation Case 1	"	"	"

Service Load Cases

Load Case	Load Source	Self Weight	Loads
Service Case 1	Dead loads	None	
Service Case 2	Roof Live	1	"

Load Combination Summary

Equation Case: Equation Case 1

Combination: +1D+1L+1Lr+1R+1W+1S+1E+1H+1F+1TS+1T+1TC+1I+1U+1LE

Contributing Cases & Source

Service Case 1 (Dead loads)

Service Case 2 (Roof Live loads)

Equation Case Combinations

Load Case	Cases Equation	
Equation Case 1	0.00	0.00

Factored Case Combinations

This item is empty. Check the selection state, or report properties.

Nodal Loads

This item is empty. Check the selection state, or report properties.

Member Point Loads

This item is empty. Check the selection state, or report properties.

Member Uniform Loads

Load Case	Member	Direction	Offset ft	End Off ft	Magnitude
Service Case 1	M1	DY proj.	0.00	10.00	-0.01 K/ft
"	M2	"	0.00	10.00	-0.01 K/ft
"	M3	"	0.00	10.00	-0.01 K/ft
"	M4	"	0.00	10.00	-0.01 K/ft
"	M5	"	0.00	7.38	-0.02 K/ft
"	M6	"	0.00	6.32	-0.02 K/ft
"	M7	"	0.00	7.38	-0.02 K/ft
"	M8	"	0.00	7.38	-0.02 K/ft
"	M9	"	0.00	6.32	-0.02 K/ft
"	M10	"	0.00	7.38	-0.02 K/ft
Service Case 2	M5	"	0.00	7.38	-0.03 K/ft

"	M6	"	0.00	6.32	-0.03 K/ft
"	M7	"	0.00	7.38	-0.03 K/ft
"	M8	"	0.00	7.38	-0.03 K/ft
"	M9	"	0.00	6.32	-0.03 K/ft
"	M10	"	0.00	7.38	-0.03 K/ft

Member Linear Loads

This item is empty. Check the selection state, or report properties.

Member Temperature Changes

This item is empty. Check the selection state, or report properties.

Member Gradient Temperatures

This item is empty. Check the selection state, or report properties.

VisualAnalysis 3.12.c Report

September 1, 1998 1:19 PM

Project:

File: D:\Paul\d_and_d\zzfolder\free\truss2.VAP

Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Load Cases

Load Case	Strength Service Results		
(1)Service Case 1	Yes	Yes	1st Ord
(2)Service Case 2	"	"	"
(3)Equation Case 1	"	"	"

Member Extreme Results

Member	Fx(lc) K	Fy(lc) K	Mz(lc) K-ft	fc max(lc) ksi	fc min(lc) ksi	Dx(lc) in	Dy(lc) in
M1	1.39(1)	-0.04(1)	-0.06(1)	0.27(1)	0.02(1)	0.00(1)	-0.43(3)
"	3.03(3)	0.03(3)	0.07(3)	0.85(3)	0.58(3)	0.04(3)	0.00(1)
M2	1.14(1)	-0.04(3)	-0.06(1)	0.22(1)	-0.02(1)	0.02(1)	-0.50(3)
"	2.47(3)	0.04(1)	0.04(3)	0.71(3)	0.47(3)	0.07(3)	-0.20(1)
M3	1.14(1)	-0.04(1)	-0.06(1)	0.22(1)	-0.02(1)	0.03(1)	-0.50(3)
"	2.47(3)	0.04(3)	0.04(3)	0.71(3)	0.47(3)	0.11(3)	-0.20(1)
M4	1.39(1)	-0.03(3)	-0.06(1)	0.27(1)	0.02(1)	0.05(1)	-0.43(3)
"	3.03(3)	0.04(1)	0.07(3)	0.85(3)	0.58(3)	0.15(3)	0.00(1)
M5	-3.24(3)	-0.20(3)	-0.19(3)	-0.62(3)	-1.53(3)	-0.03(3)	-0.43(3)
"	-1.44(1)	0.15(3)	0.23(3)	0.31(3)	-0.28(1)	0.00(1)	0.00(1)
M6	-2.89(3)	-0.16(3)	-0.22(3)	-0.54(3)	-1.40(3)	-0.06(3)	-0.47(3)
"	-1.31(1)	0.14(3)	0.03(3)	0.34(3)	-0.26(1)	-0.01(1)	-0.18(1)
M7	-1.97(3)	-0.14(3)	-0.22(3)	-0.35(3)	-1.25(3)	-0.08(3)	-0.67(3)
"	-0.87(1)	0.20(3)	0.22(3)	0.50(3)	-0.17(1)	-0.03(1)	-0.21(1)
M8	-1.97(3)	-0.20(3)	-0.22(3)	-0.35(3)	-1.25(3)	0.09(1)	-0.62(3)
"	-0.87(1)	0.14(3)	0.22(3)	0.50(3)	-0.17(1)	0.22(3)	-0.19(1)
M9	-2.89(3)	-0.14(3)	-0.22(3)	-0.54(3)	-1.40(3)	0.08(1)	-0.42(3)
"	-1.31(1)	0.16(3)	0.03(3)	0.34(3)	-0.26(1)	0.20(3)	-0.15(1)
M10	-3.24(3)	-0.15(3)	-0.19(3)	-0.62(3)	-1.53(3)	0.06(1)	-0.39(3)
"	-1.44(1)	0.20(3)	0.23(3)	0.31(3)	-0.28(1)	0.17(3)	0.05(3)
M11	-0.42(3)	0.00(3)	0.00(3)	-0.11(3)	-0.11(3)	0.14(1)	-0.31(3)
"	-0.16(1)	0.00(1)	0.00(1)	-0.04(1)	-0.04(1)	0.30(3)	-0.11(1)
M12	0.18(2)	0.00(1)	0.00(1)	0.05(2)	0.05(2)	-0.33(3)	-0.34(3)
"	0.40(3)	0.00(3)	0.00(3)	0.11(3)	0.11(3)	-0.15(1)	-0.13(1)
M13	-0.78(3)	0.00(1)	0.00(1)	-0.21(3)	-0.21(3)	0.14(1)	-0.36(3)
"	-0.35(1)	0.00(3)	0.00(3)	-0.09(1)	-0.09(1)	0.32(3)	-0.16(1)
M14	0.44(1)	0.00(1)	0.00(1)	0.12(1)	0.12(1)	-0.47(3)	-0.07(3)
"	0.90(3)	0.00(3)	0.00(3)	0.24(3)	0.24(3)	-0.21(1)	-0.03(1)
M15	-0.78(3)	0.00(3)	0.00(3)	-0.21(3)	-0.21(3)	-0.20(3)	-0.44(3)
"	-0.35(1)	0.00(1)	0.00(1)	-0.09(1)	-0.09(1)	-0.09(1)	-0.19(1)
M16	0.18(2)	0.00(3)	0.00(3)	0.05(2)	0.05(2)	0.19(1)	-0.22(3)
"	0.40(3)	0.00(1)	0.00(1)	0.11(3)	0.11(3)	0.41(3)	-0.07(1)
M17	-0.42(3)	0.00(1)	0.00(1)	-0.11(3)	-0.11(3)	-0.18(3)	-0.40(3)
"	-0.16(1)	0.00(3)	0.00(3)	-0.04(1)	-0.04(1)	-0.08(1)	-0.15(1)

BENDING & COMP: TRUSS 2; MEMBER 10

Grading:

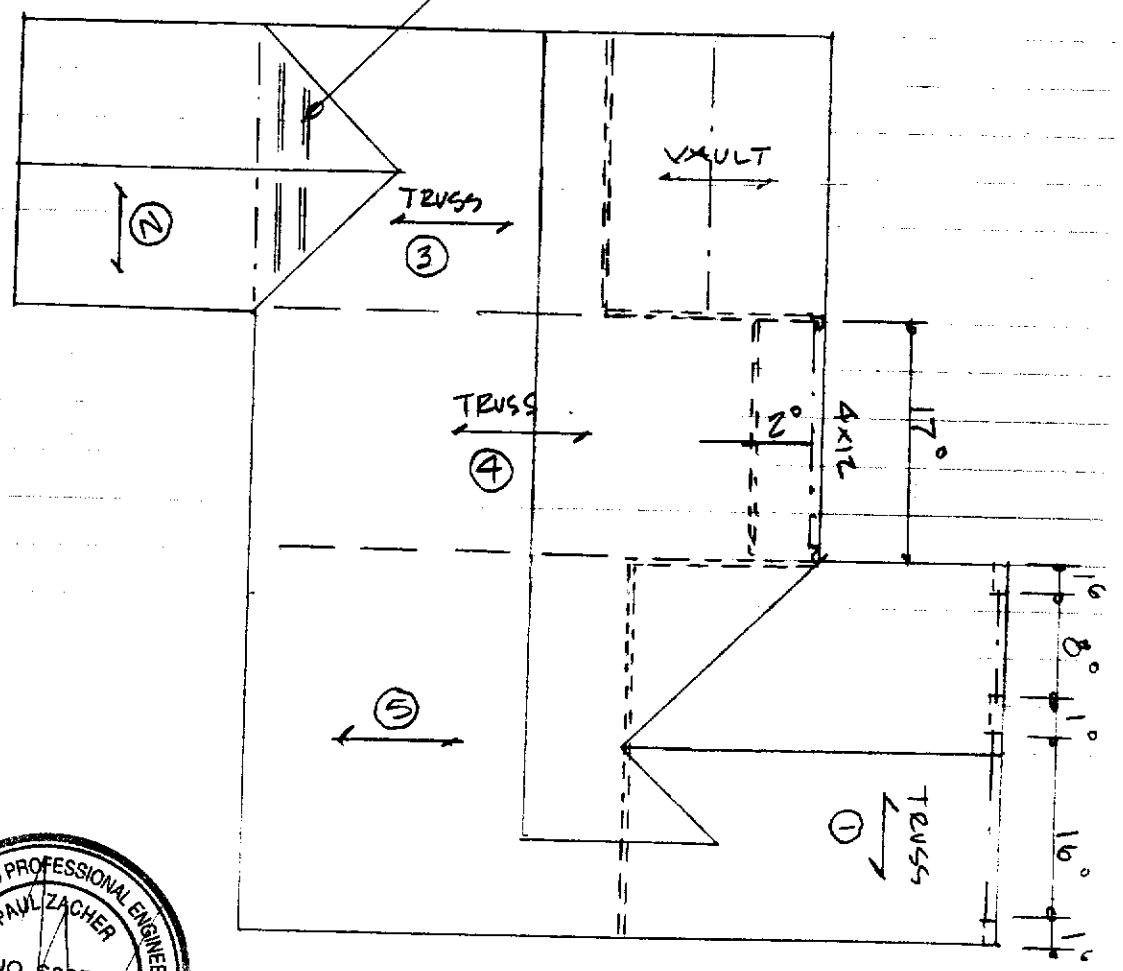
2x or 4x Doug-fir larch: No. 2

Assumptions:

Lateral support at points of bearing
SPS or gypboard attached to compression face
Maximum center-center spacing = 24"

Width, b	1.5 inches
Depth, d	3.5 inches
Length	7.38 feet
Max Axial Comp, C	3240 lbs
Max Reaction, R	150 lbs
Max Moment, M	190 ft-lbs
Max LL Deflection	0.2 inches
Max TL Deflection	0.39 inches
LL Defl Criteria = L/	240
TL Defl Criteria = L/	180
Duration factor, Cd	1.25
Repetitive Factor, Cr	1.15
fc =	617 psi
Fce =	1171 psi
Fc* =	1094 psi
F'c =	781 psi
fb =	62 psi
F'b =	1258 psi
Shear D/C ratio	0.36 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb / (F'b(1-fc/Fce)) =	0.73 < 1.0, Member OK
Live Load defl ratio	0.54 < 1.0, Member OK
Total Load defl ratio	0.79 < 1.0, Member OK

SCAB 2x6 TO 2x4 W HOPS
 LENGTH IS 7' 7 9/16"
 (TOTAL 4)



① ROOF PLAN - FREEMAN
 N.T.S.

