

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0105785
Insp Area: 2

Site Address: 885 SHELLWOOD WY SAC
Parcel No: 031-0730-053

Sub-Type: RES
Housing (Y/N): N

CONTRACTOR
ZIMMERMAN ROOFING, INC
3675 R STREET
SACRAMENTO, CA 95816

OWNER
RICHARDS SANDRA
885 SHELLWOOD WY
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: 24 SQ T/O SHAKE & REROOF W PIONEER TILE

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. 4097, 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 5-11-01 Contractor Signature Alme Gonzalez

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 five hundred 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 5-11-01 Applicant/Agent Signature Alme Gonzalez

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 713-00-2021 Exp Date 10/01/2001

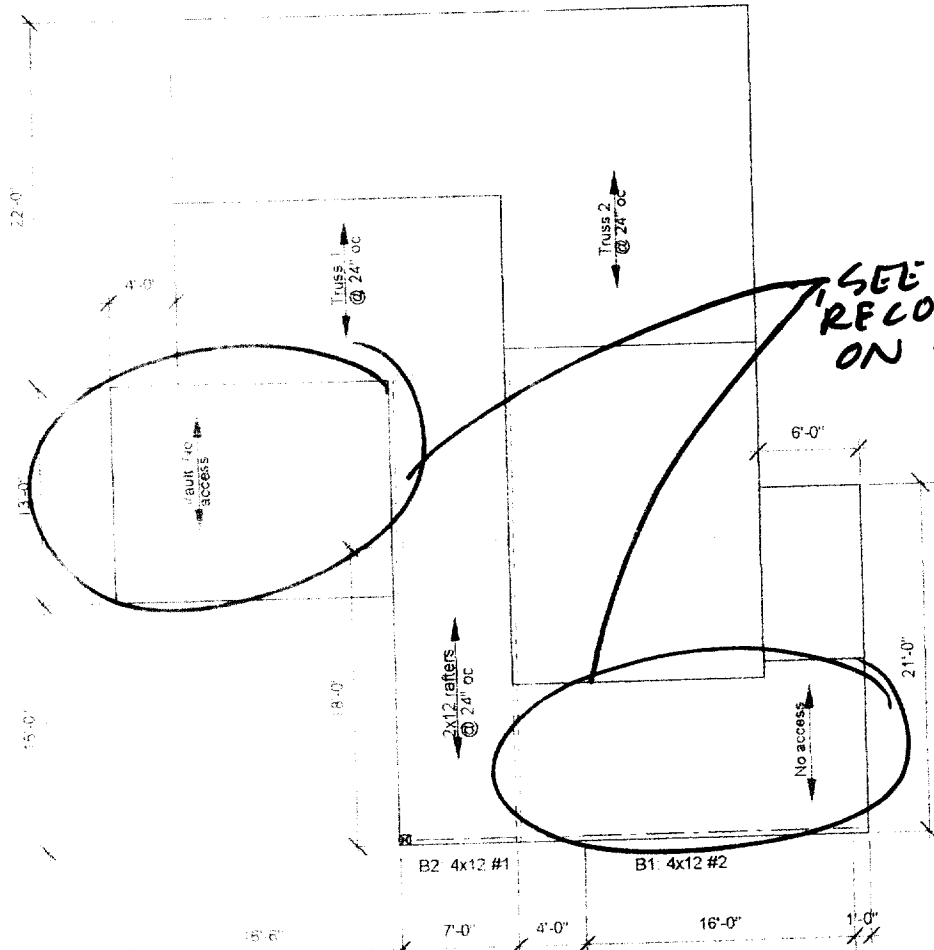
_____, (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in this manner so as to be liable subject to the workers' compensation laws of California and agree that if I should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

Date 5-11-01 Applicant Signature Alme Gonzalez

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.

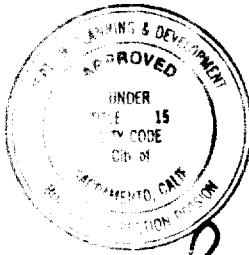
885 SHELLWOOD WAY



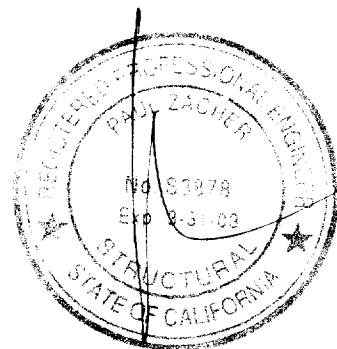
SEE RECOMMENDATION ON SHT 2

This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.

The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.



[Handwritten Signature] 5/8/01



Notes

- 1 This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile. The tile shall weigh less than or equal to 7.0 psf.
- 2 All structural wood members that were observed appear to be in sound condition and without structural defect

1

ROOF PLAN - RICHARDS

Not to Scale

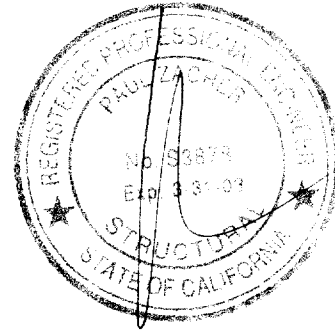
Richards

Paul Zacher -- Structural Engineers
4701 Lakeside Way
Fair Oaks CA 95628

TEL: 916.961.3960
FAX: 916.961.6552

May 2, 2001

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: 916 454 3667
FAX: 916 454 3784



Attn: Mr. Jeff Tucker

re: Job 2001-094: RICHARDS

Subject: Structural Investigation Report of the Roof for the Residence located at 885 Shellwood Way, 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 May 2, 2001. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report are based on the 1997 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	Two.
Dimensions	Approximately 3000 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:
The roof covering will consist of a Light Weight Concrete Tile over 1/2" solid sheathing. The living area is framed with pre-engineered wood trusses spaced at 24" on center except for the areas that were inaccessible.

CONCLUSIONS:

Roof:
The living area has sufficient structural capacity for the applied live and dead loads. Except for the areas that were inaccessible. See "Recommendations" for location and applicable rafter spans for the inaccessible areas.

Richards

Paul Zacher - Structural Engineers
4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.6552

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.

Living Area

1. After the roofing material has been removed, the contractor shall verify that the framing in the inaccessible portion of the structure does not exceed the following:

Vaulted Ceiling Portion

a. 2x8 @ 24" oc - max span = 13'-0"

Flat Ceiling Portion

b. 2x6 @ 24" oc - max span = 11'-9"

If the framing differs from the above, the contractor shall supply the engineer with diagrams showing the member sizes and span lengths. The engineer shall then determine if the structure can adequately support the applied dead and live loads and a supplemental report shall be issued. See detail.

It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and are not an indication of a structural hazard or failure.

It shall be noted that some deflection of the rafters may be evident after installation of the tile. The existing roof framing has deflected but this may not be readily evident due to the uneven nature of the existing roofing material. Concrete tile is a very consistent and uniform product and when installed in an even plane, even small deflections can become apparent. This is only a cosmetic issue and not a structural concern.

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 that 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 6 in 12
Pitch Adjustment Factor 1.12

LOCATION: ROOF

<u>MATERIAL</u>	<u>WEIGHT</u>	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sh't'g	1.09	psf
2x12 rafters @ 24" oc	2.05	psf
Load	13.9	psf
Roof Pitch Adjustment	1.41	psf
Total Load	15.4	psf

LOCATION: VAULT

<u>MATERIAL</u>	<u>WEIGHT</u>	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sh't'g	1.09	psf
2x8 rafters @ 24" oc	1.32	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	2.50	psf
Load	14.2	psf
Roof Pitch Adjustment	1.68	psf
Total Load	15.9	psf

LOCATION: TOP CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1x4 skip sh't'g	1.09	psf
1/2" OSB/ plywood	1.50	psf
2x4 truss @ 24" oc	0.64	psf
Load	10.5	psf
Roof Pitch Adjustment	1.24	psf
Total Load	11.8	psf

LOCATION: BOTTOM CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
Batt/blown insul	0.50	psf
2x4 truss @ 24" oc	1.28	psf
1/2" Gypboard	2.50	psf
Load	4.3	psf

4701 Lakeside Way
Fair Oaks, CA 95628
TEL: (916) 961-3960
FAX: (916) 961-6552

P K Zacher S E

Job # _____

Date: _____

1000	1000	1000	1000	1000	1000	24 2/32
1000	1000	1000	1000	1000	1000	1000
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1000	1000	1000	1000	1000	1000	1000

Paul Zacher - Structural Engineers
 4701 Lakeside Way
 Fair Oaks
 TEL: (916) 961-3960
 FAX: (916) 961-6552

Title :
 Dsgnr:
 Description :
 Scope :

Job #
 Date: 3:35PM, 2 MAY 01

File: 010304
 User: RW 06/28/01 10:11:12 AM 1997 Ver: 32
 © 1983-99 ENERCALC

Timber Beam & Joist

c:\enercalc\test.ecw\Calculations

Description RAFTERS AND BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

	rafter	rafter	vault	rafter	B1	B2
Timber Section	2x6	2x12	2x8	2-2x8	4x12	4x12
Beam Width	in 1.500	1.500	1.500	3.000	3.500	3.500
Beam Depth	in 5.500	11.250	7.250	7.250	11.250	11.250
L.e. Unbraced Length:	ft 0.00	0.00	0.00	0.00	0.00	0.00
Timber Grade	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch
Fb - Basic Allow	psi 875.0	875.0	875.0	875.0	875.0	875.0
Fv - Basic Allow	psi 95.0	95.0	95.0	95.0	95.0	95.0
Elastic Modulus	ksi 1,600.0	1,600.0	1,600.0	1,600.0	1,600.0	1,600.0
Load Duration Factor	1.250	1.250	1.250	1.250	1.250	1.250
Member Type	Sawn	Sawn	Sawn	Sawn	Sawn	Sawn
Repetitive Status	Repetitive	Repetitive	Repetitive	Repetitive	No	No

Center Span Data

Span	ft	11.75	21.00	13.75	16.50	16.00	7.00
Dead Load	#/ft	26.80	26.80	31.80	48.30	81.00	121.00
Live Load	#/ft	32.00	32.00	32.00	48.00	80.00	144.00

Results

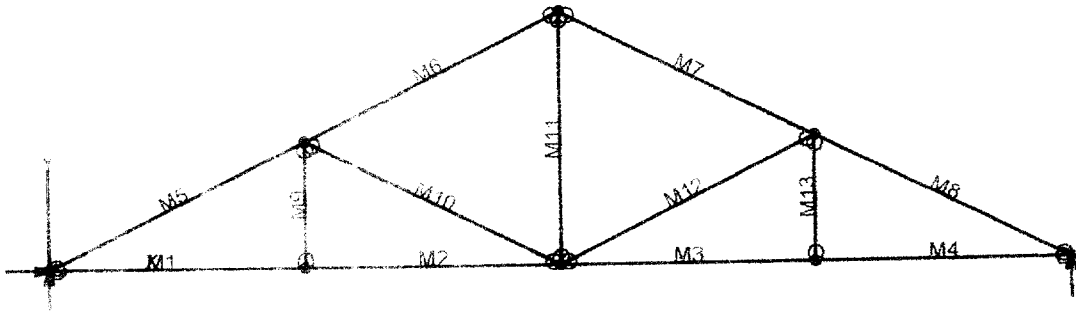
	Ratio						
Mmax @ Center	in-k	12.18	38.90	18.09	39.33	61.82	19.48
@ X =	ft	5.87	10.50	6.87	8.25	8.00	3.50
Fb Actual	psi	1,610.2	1,229.3	1,376.9	1,496.4	837.4	263.8
Fb Allowable	psi	1,635.2	1,257.8	1,509.4	1,509.4	1,203.1	1,203.1
		Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
Fv Actual	psi	58.3	50.1	55.7	50.8	43.6	26.0
Fv Allowable	psi	118.8	118.8	118.8	118.8	118.8	118.8
		Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

@ Left End	DL	lbs	157.45	281.40	218.62	398.47	648.00	423.50
	LL	lbs	188.00	336.00	220.00	396.00	640.00	504.00
	Max DL+LL	lbs	345.45	617.40	438.62	794.47	1,288.00	927.50
@ Right End	DL	lbs	157.45	281.40	218.62	398.47	648.00	423.50
	LL	lbs	188.00	336.00	220.00	396.00	640.00	504.00
	Max DL+LL	lbs	345.45	617.40	438.62	794.47	1,288.00	927.50

Deflections

		Ratio OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK
Center DL Defl	in	0.345	-0.412	-0.336	-0.528	-0.180	-0.010
L/Defl Ratio		408.2	611.9	491.7	374.7	1,068.1	8,538.8
Center LL Defl	in	-0.412	-0.492	-0.338	-0.525	-0.178	-0.012
L/Defl Ratio		341.9	512.5	488.6	377.0	1,081.5	7,174.9
Center Total Defl	in	0.758	-0.904	-0.673	-1.054	-0.357	-0.022
Location	ft	5.875	10.500	6.875	8.250	8.000	3.500
L/Defl Ratio		186.1	278.9	245.1	187.9	537.4	3,898.8



VisualAnalysis 3.50.c Report

5/02/01 15:00:50

Project: Truss 1

File: C:\Program Files\IHS\VA\5\truss1.vap

Company: PK Associates Engineers

Engineer: Paul Zahner

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

Nodes

Node	X ft	Y ft	Fix	DX	Fix	DY	Fix	RZ
1	0.00	0.00	Yes		Yes			No
2	5.50	0.00	No		No			"
3	11.00	0.00	"		"			"
4	16.50	0.00	"		"			"
45	22.00	0.00	"		Yes			"
46	5.50	2.75	"		No			"
47	16.50	2.75	"		"			"
48	11.00	5.50	"		"			"

Member Elements

Member	Section	Material	Length ft
41	SS2x4	Wood	5.50
42	"	"	5.50
43	"	"	5.50
44	"	"	5.50
45	"	"	5.50
46	"	"	5.50
47	"	"	5.50
48	"	"	5.50
49	"	"	5.50
410	"	"	5.50
411	"	"	5.50
412	"	"	5.50
413	"	"	5.50

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood Sha	SS2x4	5.27	0.18	3.06	3.06

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft ³
Wood	-NA-	1700000.00	0.36	40.47

Load Combination Summary

Equation Case: Equation Case 1
 Combination: 1D+1L+1Lr
 Contributing Cases & Source

Service Case: Dead Loads
 Service Case: Roof Live Loads

Member Uniform Loads

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

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
81	Equation Case	0.00	178.39	-NA-
82	"	NA	178.39	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
81	1249.30	24.92	-7.0130	0.0776
81	1249.30	9.1584	24.1579	0.0661
81	1249.30	6.6081	26.4956	0.0407
81	1249.30	12.3747	0.0000	0.0000
82	1249.30	-27.14	-26.29	0.0828
82	1249.30	11.33	8.9659	0.0867
82	1249.30	4.3777	15.3931	0.0863
82	1249.30	20.1447	-7.0130	0.0776
83	1249.30	-29.14	-7.0130	0.0776
83	1249.30	4.3777	15.3931	0.0863
83	1249.30	11.389	8.9659	0.0867
83	1249.30	17.155	-36.29	0.0828
84	1249.30	-22.3	-0.0000	0.0000
84	1249.30	6.608	26.4956	0.0407
84	1249.30	9.1584	24.1579	0.0661
84	1249.30	24.925	-7.0130	0.0776
85	-1455.51	117.49	0.0000	0.0000
85	-1404.55	15.5608	135.84	0.1024
85	-1253.58	-86.37	63.2685	0.1101
85	-1302.41	-188.31	-217.72	0.0809
86	-918.86	188.31	-217.72	0.0809
86	-918.86	46.3727	63.2685	0.1363
86	-867.83	-15.56	135.84	-0.1548
86	-816.86	117.49	0.0000	0.0789
87	-918.86	188.31	-217.72	0.0644
87	-918.86	-86.37	63.2685	0.1198
87	-867.83	15.5608	135.84	0.1383
87	-816.86	117.49	0.0000	0.0624
88	-1455.51	-117.49	0.0000	0.0165
88	-1404.55	-15.56	135.84	0.0857
88	-1253.58	86.3715	63.2685	0.0935
88	-1302.41	188.31	-217.72	0.0644
89	45.0694	-0.0000	-0.0000	0.0092
89	45.0694	-0.0000	-0.0000	0.0148
89	45.0694	-0.0000	-0.0000	0.0204
89	45.0694	-0.0000	0.0000	0.0260
91.0	-521.15	0.0000	0.0000	-0.0658
91	-521.15	0.0000	0.0000	-0.0631
91	-521.15	0.0000	0.0000	-0.0604
91	-521.15	0.0000	0.0000	0.0577
91E	520.45	-0.0000	-0.0000	0.0185
91E	520.45	-0.0000	-0.0000	0.0185
91E	520.45	-0.0000	-0.0000	-0.0185
91E	520.45	-0.0000	-0.0000	0.0185

	-52.11	0.0000	0.0000	-0.0823
	-52.11	0.0000	-0.0000	-0.0796
	52.11	0.0000	-0.0000	-0.0769
	-52.11	0.0000	-0.0000	0.0742
01	45.0494	0.0000	0.0000	0.0110
	45.0494	0.0000	0.0000	0.0166
	45.0494	0.0000	0.0000	0.0221
	45.0494	0.0000	0.0000	0.0277

BENDING & COMP: TRUSS 1 - MEMBER 5

Design based on 1997 UBC 2321 Division V and ANSI/TPI 1-1995

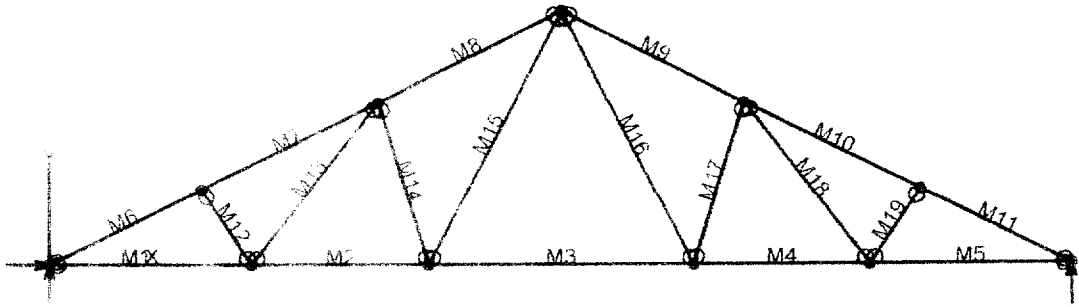
Grading:

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

Assumptions:

Solid sheathing on top chord of truss. Therefore,
continuous lateral support is provided along compression face
Maximum center-center spacing = 24"

Width, b	1.5 inches
Depth, d	3.5 inches
Length	6.15 feet
Max Axial Comp. C	1302 lbs
Max Reaction, R	188 lbs
Max Moment, M	217 ft-lbs
Max LL Deflection	0.04 inches
Max TL Deflection	0.08 inches
LL Defl Criteria = $L/240$	240
TL Defl Criteria = $L/180$	180
Duration factor, Cd	1.25
Repetitive Factor, Cr	1.15
Size Factor, Cf bending	1.5 1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.15 1.15 for 2x4, 1.1 for 2x6
Buckling Factor, CT =	1.0
$f_c =$	248 psi
$F_{ce} =$	1341 psi
$F_c^* =$	2084 psi
$F'_{ce} =$	1097 psi
$f_b =$	850 psi
$F'_b = F_b^* =$	2156 psi
Shear D/C ratio	0.45 < 1.0, Member OK
Interaction equation $(f_c/F'_{ce})^2 +$	
$f_b/(F'_b(1-f_c/F_{ce})) =$	0.55 < 1.0, Member OK
Live Load defl ratio	0.13 < 1.0, Member OK
Total Load defl ratio	0.20 < 1.0, Member OK



VisualAnalysis 3.50.c Report

5/02/01 15:14:14

Project: Truss 2

File: C:\Program Files\IBS\VA3\Truss 2.vap

Company: PK Associates Engineer

Engineer: Paul Zacher

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

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
1	0.00	0.00	Yes	Yes	No
2	8.00	0.00	No	No	"
3	16.00	0.00	"	"	"
4	24.00	0.00	"	"	"
5	32.00	0.00	"	"	"
6	40.00	0.00	"	Yes	"
7	8.00	3.00	"	No	"
8	16.00	3.00	"	"	"
9	24.00	3.00	"	"	"
10	32.00	3.00	"	"	"
11	40.00	3.00	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	3.00
M2	"	"	3.00
M3	"	"	8.00
M4	"	"	8.00
M5	"	"	8.00
M6	"	"	8.00
M7	"	"	8.00
M8	"	"	8.00
M9	"	"	8.00
M10	"	"	8.00
M11	"	"	8.00
M12	"	"	8.00
M13	"	"	8.00
M14	"	"	8.00
M15	"	"	11.41
M16	"	"	11.41
M17	"	"	8.00
M18	"	"	8.00
M19	"	"	11.41

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood Sha	SS2x4	5.25	5.26	3.06	3.06

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft ³
Wood				

Fixed NA= 1700000.00 0.00 40.47

Load Combination Summary

Equation Case: Equation Case 1
 Combination: +1D+1L+1Lr
 Contributing Cases & Source
 Service Case 1 (Dead loads)
 Service Case 1 (Roof Live loads)

Member Uniform Loads

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

Nodal Reactions

Node	Load Case	EX lbs	FY lbs	MZ lb-ft
81	Equation Case 1	-0.00	1432.94	-NA-
82	"	NA-	1432.94	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	2501.52	-36.94	-30.30	-0.2451
"	2501.52	-14.00	47.4721	-0.2236
"	2501.52	8.9297	54.2374	-0.1450
"	2501.52	31.8630	0.0000	-0.0000
M2	1998.28	-36.30	-63.71	-0.2861
"	1998.28	-16.24	-21.5323	-0.2709
"	1998.28	3.8318	11.9385	-0.2621
"	1998.28	23.8982	-10.30	-0.2451
M3	1427.53	-45.15	-63.71	-0.2861
"	1427.53	-15.05	41.3783	-0.3623
"	1427.53	15.0500	41.3783	-0.3622
"	1427.53	45.1500	-63.71	-0.2861
M4	1998.28	-23.90	-30.30	-0.2451
"	1998.28	3.8318	11.9385	-0.2622
"	1998.28	16.2351	-2.5323	-0.2709
"	1998.28	36.3018	-63.71	-0.2861
M5	2501.52	-31.86	-0.0000	-0.0000
"	2501.52	8.9297	54.2374	-0.1450
"	2501.52	14.0036	47.4721	-0.2236
"	2501.52	36.9370	-30.30	-0.2451
M6	-2864.01	134.45	0.0000	-0.0000
"	-2808.41	23.2534	175.70	-0.1995
"	-2752.81	-87.95	103.37	-0.2520
"	-2697.21	-199.15	-216.99	-0.2255
M7	-2649.83	179.95	-216.99	-0.2255
"	-2584.95	50.2133	82.3803	-0.3008
"	-2520.09	-79.52	44.1534	-0.3055
"	-2455.22	-209.25	-331.67	-0.2884
M8	-2135.32	242.47	-331.67	-0.2884
"	-2068.14	108.10	141.03	-0.4885
"	-2000.95	-26.27	251.58	-0.5340
"	-1933.77	-160.43	-0.0000	-0.2730
M9	-2135.32	-242.47	-331.67	-0.2385
"	-2068.14	-108.10	141.03	-0.4386
"	-2000.95	26.2766	251.58	-0.4841

	-1931	160.60	0.0000	0.0000
M17	2544.80	179.90	-210.89	0.0756
	-2584.00	50.20	82.3602	0.0510
	-2520.00	19.5200	44.1574	0.0356
	-2458.00	209.00	-331.67	0.2385
M18	-2864.01	-134.45	0.0000	0.0499
	-2808.40	-23.05	178.70	0.1496
	-2750.80	37.9460	103.37	0.1021
	-2690.00	199.15	-218.89	0.1756
M19	-382.04	0.0000	0.0000	-0.0135
	-382.04	0.0000	0.0000	-0.0932
	-382.04	0.0000	0.0000	-0.0731
	-382.04	0.0000	0.0000	-0.0529
M20	477.80	0.0000	-0.0000	-0.0369
	477.80	-0.0000	-0.0000	-0.1148
	477.80	-0.0000	-0.0000	-0.1928
	477.80	-0.0000	-0.0000	-0.1707
M21	-669.28	0.0000	-0.0000	-0.0404
	-669.28	0.0000	-0.0000	-0.0280
	-669.28	-0.0000	-0.0000	0.0160
	-669.28	0.0000	-0.0000	-0.0038
M22	812.31	-0.0000	-0.0000	-0.1772
	812.31	0.0000	-0.0000	0.1755
	812.31	0.0000	-0.0000	-0.1739
	812.31	0.0000	0.0000	0.1723
M23	812.31	0.0000	0.0000	0.0781
	812.31	0.0000	0.0000	0.0765
	812.31	0.0000	0.0000	0.0749
	812.31	0.0000	0.0000	0.0732
M24	-669.28	0.0000	0.0000	0.1471
	-669.28	0.0000	0.0000	-0.1349
	-669.28	0.0000	0.0000	-0.1227
	-669.28	0.0000	0.0000	-0.1105
M25	477.80	0.0000	0.0000	-0.1484
	477.80	0.0000	0.0000	-0.1264
	477.80	0.0000	0.0000	-0.1043
	477.80	0.0000	0.0000	-0.0823
M26	-382.04	-0.0000	0.0000	-0.2064
	-382.04	-0.0000	-0.0000	-0.1862
	-382.04	-0.0000	-0.0000	-0.1659
	-382.04	-0.0000	-0.0000	-0.1457

BENDING & COMP: TRUSS 2 - MEMBER 6

Design based on 1997 UBC 2321 Division V and ANSI/TPI 1-1995

Grading:

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

Assumptions:

Solid sheathing on top chord of truss. Therefore,
continuous lateral support is provided along compression face
Maximum center-center spacing = 24"

Width, b	1.5 inches
Depth, d	3.5 inches
Length	6.71 feet
Max Axial Comp. C	2697 lbs
Max Reaction, R	199 lbs
Max Moment, M	216 ft-lbs
Max LL Deflection	0.1 inches
Max TL Deflection	0.12 inches
LL Defl Criteria = L/240	240
TL Defl Criteria = L/180	180
Duration factor, Cd	1.25
Repetitive Factor, Cr	1.15
Size Factor, Cf bending	1.5 1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.15 1.15 for 2x4, 1.1 for 2x6
Buckling Factor, CT	1.18
fc =	514 psi
Fce =	1142 psi
Fc* =	2084 psi
F'c =	972 psi
fb =	846 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.48 < 1.0, Member OK
Interaction equation (fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.99 < 1.0, Member OK
Live Load defl ratio	0.30 < 1.0, Member OK
Total Load defl ratio	0.49 < 1.0, Member OK