

**CITY OF SACRAMENTO**  
1231 I Street, Sacramento, CA 95814

**Permit No: 0013381**  
**Insp Area: 4**

**Site Address: 1591 PEBBLESTONE WY SAC**  
Parcel No: 225-0410-001

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

CONTRACTOR

OWNER

ARCHITECT

GONZALES REBECCA X  
1591 PEBBLESTONE WY  
SACRAMENTO CA 95833

**Nature of Work:** TWO SHEET REROOF WITH LIGHTWEIGHT 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. 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 \_\_\_\_\_ License Number \_\_\_\_\_ Date \_\_\_\_\_ Contractor Signature \_\_\_\_\_

**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 10/06/2000  Owner Signature [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 10/06/2000  Applicant/Agent Signature [Signature]

**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 \_\_\_\_\_ Policy Number \_\_\_\_\_ Exp Date \_\_\_\_\_

(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 10/06/2000  Applicant Signature [Signature]

**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.**

OWNER-BUILDER VERIFICATION

ATTENTION PROPERTY OWNERS

An owner-builder building permit has been applied for in your name and bearing your signature.

Please complete and return this information in the envelope provided at your earliest opportunity to avoid unnecessary delay in processing and issuing your building permit. No building permit will be issued until this verification is received.

1. I personally plan to provide the major labor and materials for construction of the proposed Improvement (yes or no) \_\_\_\_\_
2. I (have have not) \_\_\_\_\_ signed an application for A building permit for the proposed work.
3. I have contracted with the following person (firm) to provide the proposed construction:

Name \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ Telephone \_\_\_\_\_

Contractors License No. \_\_\_\_\_

4. I plan to provide portions of the work, but I have hired the following person to coordinate, Supervise, and provide the major work.

Name \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ Telephone \_\_\_\_\_

Contractors License No. \_\_\_\_\_

5. I will provide some of the work but I have contracted (hired) the following to provide the Work indicated:

Name	Address	Phone	Type of work

x Signed Jay Vignier 10/00/2000 x DATE  
Job Address 1591 PEBBLE STONE WY  
Permit No: 0013381



DEPARTMENT OF  
NEIGHBORHOODS, PLANNING  
AND DEVELOPMENT SERVICES

CITY OF SACRAMENTO  
CALIFORNIA

1231 I STREET  
ROOM 200  
SACRAMENTO, CA  
95814-2904

DEVELOPMENT SERVICES  
DIVISION

916-264-7619  
FAX 916-264-7046

EXHIBIT 1

I have read and am familiar with the contents of the City's Standard  
Owner-Builder Notification and Owner-Builder Verification, as required by  
California Health and Safety Code Section 19830 and 19831. I authorize my  
agent(s) Jorge Vasquez

to sign the Owner-Builder Verification on my behalf.

Signature: *Rebecca Gonzales*  
Print Name: Rebecca Gonzales  
Address: 1591 Pebblestone way  
Sacramento CA 95833  
Telephone: (916) 925-9025

00 13381 R

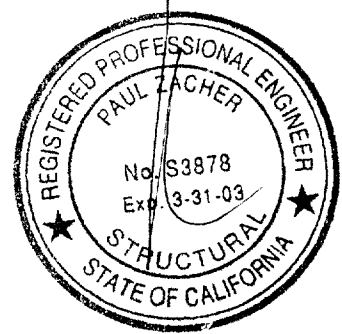
Vasquez

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

TEL: 916.961.3960  
FAX: 916.961.6552

November 1, 2000

Jorge Vasquez  
1591 Pebblestone Way  
Sacramento, CA 95833  
TEL: (916) 798-0584  
FAX:



Attn: Mr. Jorge Vasquez,

re: Job 2000\_009: GONZALES

Subject: Structural Investigation Report of the Roof for the Residence located at 1591 Pebblestone Way, Sacramento, CA 95831.

As requested by Mr. Jorge Vasquez, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site November 1, 2000. 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

**ISSUED**

**NOV 06 2000**

DESCRIPTION:

Type of Facility: Residence.  
Year Built: Estimated 1970's vintage.  
Occupancy: Residential.  
No. of Stories: One.  
Dimensions: Approximately 2000 square feet with a first story plate height of 8 feet.

Sacramento Building Division

CONSTRUCTION:

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

CONCLUSIONS:

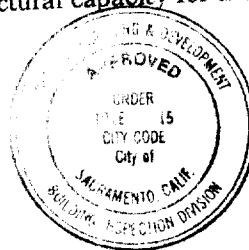
Roof:  
The living and garage areas have sufficient structural capacity for the applied live and dead loads.

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.

RECOMMENDATIONS:

None



15

REVIEWED BY:

*[Signature]*  
11/6/00

Vasquez



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

TEL: 916.961.3960  
FAX: 916.961.6552

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	4	in 12
Pitch Adjustment Factor	1.05	

**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 sht'g	1.09	psf	
2x4 rafters @ 24" oc	0.64	psf	
	Load	10.5	psf
Roof Pitch Adjustment	0.57	psf	
Total Load	11.1	psf	

**LOCATION: TOP CHORD**

<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 sht'g	1.09	psf	
2x4 truss @ 24" oc	0.64	psf	
	Load	10.5	psf
Roof Pitch Adjustment	0.57	psf	
Total Load	11.1	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

P. K. Zacher, S E

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

Job # 20-472

Date 7/1/00

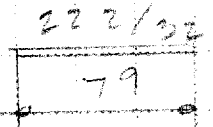
2000

2000

to 11/11/00 4" 4" 4" 4"

to 11/11/00 4" 4" 4" 4"

2-4" 2

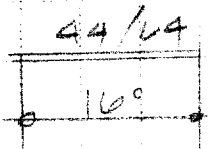


4000

to 11/11/00 4" 4" 4" 4"

to 11/11/00 4" 4" 4" 4"

4-2" 2



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

Title :  
 Dsgnr:  
 Description :  
 Scope :

Job #  
 Date: 12:09PM, 1 NOV 00

Rev: 510304  
 User: RW-0602844, Ver: 1.1.3, 12 Jun 1999, Win32  
 1993-99 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	B1
<b>Timber Section</b>		2x4	4x12
Beam Width	in:	1.500	3.500
Beam Depth	in:	3.500	11.250
Le - Unbraced Length	ft:	0.00	0.00
Timber Grade		Douglas Fir - Larch	Douglas Fir - Larch
Fb - Basic Allow	psi:	875.0	875.0
Fv - Basic Allow	psi:	95.0	95.0
Elastic Modulus	ksi:	1,600.0	1,600.0
Load Duration Factor		1.250	1.250
Member Type		Sawn	Sawn
Repetitive Status		Repetitive	No

#### Center Span Data

Span	ft	7.75	16.00
Dead Load	#/ft	22.20	44.00
Live Load	#/ft	32.00	64.00

#### Results

Ratio = 0.8451 0.4669

Mmax @ Center	in-k	4.88	41.47
@ X =	ft	3.87	8.00
fb - Actual	psi	1,594.5	561.7
Fb - Allowable	psi	1,886.7	1,203.1
		Bending OK	Bending OK
fv - Actual	psi	55.7	29.2
Fv - Allowable	psi	118.8	118.8
		Shear OK	Shear OK

#### Reactions

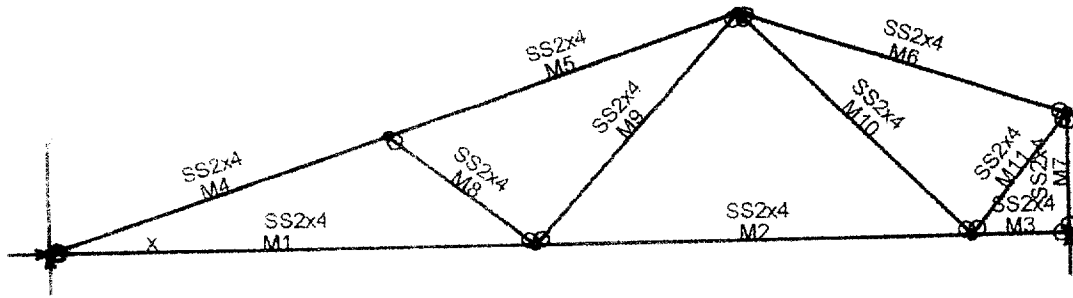
@ Left End	DL	lbs	86.02	352.00
	LL	lbs	124.00	512.00
	Max. DL+LL	lbs	210.02	864.00
@ Right End	DL	lbs	86.02	352.00
	LL	lbs	124.00	512.00
	Max. DL+LL	lbs	210.02	864.00

#### Deflections

Ratio OK Deflection OK

Center DL Defl	in	-0.210	-0.098
L/Defl Ratio		442.6	1,966.4
Center LL Defl	in	-0.303	-0.142
L/Defl Ratio		307.0	1,351.9
Center Total Defl	in	-0.513	-0.240
Location	ft	3.875	8.000
L/Defl Ratio		181.3	801.1





# VisualAnalysis 3.50.c Report

11/21/00 12:53:11

Project: Truss 1

File: D:\Program Files\IES\VA35\truss - var

Company: PK Associates Engineers

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	19.00	0.00	"		"			
N4	21.00	0.00	"		Yes			
N5	7.00	7.33	"		No			
N6	14.25	4.75	"		"			
N7	21.00	2.50	"		"			

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	10.00
M2	"	"	9.00
M3	"	"	2.00
M4	"	"	7.38
M5	"	"	7.64
M6	"	"	7.12
M7	"	"	2.50
M8	"	"	3.80
M9	"	"	6.37
M10	"	"	6.72
M11	"	"	3.20

## Section Properties

Category	Section	Ax in <sup>2</sup>	Iz in <sup>4</sup>	Sy+ in <sup>3</sup>	Sy- in <sup>3</sup>
Wood	Sha SS2x4	5.25	5.36	3.06	3.06

## Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft <sup>3</sup>
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 1 (Dead loads)  
 Service Case 2 (Roof Live loads)

## Member Uniform Loads

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

## Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	-0.00	690.16	-NA-
N4	"	-NA-	690.20	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1512.48	-50.38	-73.84	-0.0950
"	1512.48	-21.72	46.0892	-0.1613
"	1512.48	6.9492	70.7029	-0.1468
"	<b>1512.48</b>	35.6159	0.0000	-0.0000
M2	659.35	-34.81	-38.83	-0.0207
"	659.35	-9.0095	26.7084	-0.0736
"	659.35	16.7905	15.0368	-0.0918
"	659.35	42.5905	-73.84	-0.0950
M3	0.0000	10.8133	-0.0000	-0.0000
"	0.0000	16.5466	-9.1295	-0.0057
"	0.0000	22.2800	-22.07	-0.0123
"	0.0000	28.0133	-38.83	-0.0207
M4	<b>-1641.79</b>	143.38	0.0000	-0.0000
"	-1599.69	16.9099	196.31	-0.1867
"	-1557.59	-109.56	82.3922	-0.1780
"	-1515.50	<b>-236.02</b>	<b>-341.76</b>	-0.1034
M5	-1196.11	<b>241.19</b>	-341.76	-0.1034
"	-1152.39	110.21	105.04	-0.2306
"	-1108.67	-20.78	218.96	-0.2616
"	-1064.95	-151.76	0.0000	-0.0572
M6	-399.30	-182.92	0.0000	0.0006
"	-358.65	-60.97	288.51	-0.3025
"	-318.00	60.9750	<b>288.51</b>	<b>-0.3234</b>
"	-277.35	182.93	0.0000	-0.0622
M7	-701.02	0.0000	0.0000	0.0089
"	-701.02	0.0000	0.0000	0.0154
"	-701.02	0.0000	0.0000	0.0219
"	-701.02	0.0000	0.0000	<b>0.0283</b>
M8	-575.18	-0.0000	0.0000	-0.0705
"	-575.18	-0.0000	-0.0000	-0.0679
"	-575.18	-0.0000	-0.0000	-0.0652
"	-575.18	-0.0000	-0.0000	-0.0626
M9	598.18	0.0000	0.0000	-0.0785
"	598.18	0.0000	0.0000	-0.0644
"	598.18	0.0000	0.0000	-0.0503
"	598.18	0.0000	0.0000	-0.0361
M10	-478.55	0.0000	0.0000	-0.0501
"	-478.55	0.0000	0.0000	-0.0316
"	-478.55	0.0000	0.0000	-0.0131
"	-478.55	0.0000	0.0000	0.0054
M11	513.80	-0.0000	0.0000	-0.0350
"	513.80	-0.0000	-0.0000	-0.0262
"	513.80	-0.0000	-0.0000	-0.0173
"	513.80	-0.0000	-0.0000	-0.0085

### **BENDING & COMP: TRUSS 1 - MEMBER 4**

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

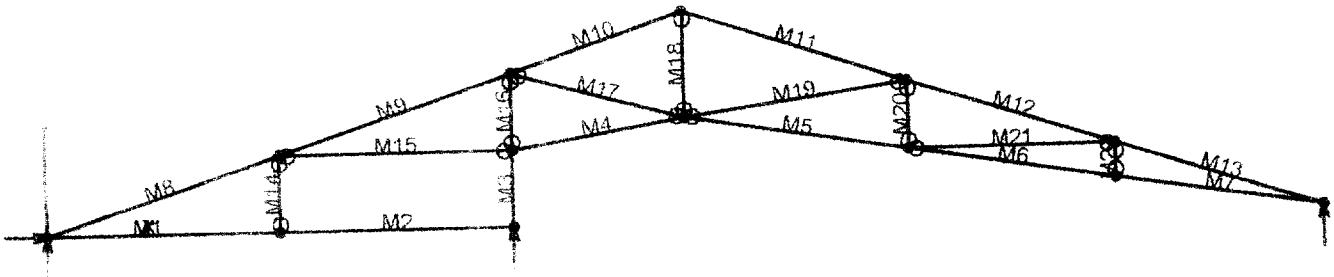
#### Grading:

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	7.38 feet	
Max Axial Comp. C	1515 lbs	
Max Reaction, R	236 lbs	
Max Moment, M	341 ft-lbs	
Max LL Deflection	0.04 inches	
Max TL Deflection	0.10 inches	
LL Defl Criteria = L/	240	
TL Defl Criteria = L/	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 =	1.20	
fc =	289 psi	
Fce =	958 psi	
Fc* =	2084 psi	
F'c =	844 psi	
fb =	1336 psi	
F'b = Fb* =	2156 psi	
Shear D/C ratio	0.57 < 1.0, Member OK	
Interaction equation:		
$(fc/F'c)^2 +$		
$fb/(F'b(1-fc/Fce)) =$	1.00 > 1.0, Member No Good.	OK, less than 1% over
Live Load defl ratio	0.11 < 1.0, Member OK	
Total Load defl ratio	0.20 < 1.0, Member OK	



# VisualAnalysis 3.50.c Report

11/01/00 12:40:00

Project: Truss 2

File: C:\Program Files\IES\VA35\truss 2.vap

Company: PK Associates Engineers

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	6.75	0.00	No	No	"
N3	13.50	0.00	"	Yes	"
N4	13.50	2.25	"	No	"
N5	18.50	3.08	"	"	"
N6	25.00	2.00	"	"	"
N7	31.00	1.00	"	"	"
N8	37.00	0.00	"	Yes	"
N9	6.75	2.25	"	No	"
N10	13.50	4.50	"	"	"
N11	18.50	5.17	"	"	"
N12	25.00	4.00	"	"	"
N13	31.00	2.00	"	"	"

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	6.75
M2	"	"	6.75
M3	"	"	2.25
M4	"	"	5.07
M5	"	"	6.59
M6	"	"	6.08
M7	"	"	6.08
M8	"	"	7.12
M9	"	"	7.12
M10	"	"	5.27
M11	"	"	6.85
M12	"	"	6.32
M13	"	"	6.32
M14	"	"	2.25
M15	"	"	6.75
M16	"	"	2.25
M17	"	"	5.20
M18	"	"	3.09
M19	"	"	6.56
M20	"	"	2.00
M21	"	"	6.00
M22	"	"	1.00

## Section Properties

Category	Section	Ax in <sup>2</sup>	Iz in <sup>4</sup>	Sy+ in <sup>3</sup>	Sy- in <sup>3</sup>
Wood	Sha SS2x4	5.25	5.36	3.06	3.06

## Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft <sup>3</sup>
Woods	-NA-	1700000.00	0.36	40.47

## Load Combination Summary

Equation Case: Equation Case 1  
 Combination: +1D+1L+1Lr  
 Contributing Cases & Source  
 Service Case 1 (Dead loads)  
 Service Case 2 (Roof Live loads)

## Member Uniform Loads

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

## Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	-0.00	155.82	-NA-
N3	"	-NA-	1670.76	-NA-
N8	"	-NA-	608.39	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	-47.86	-54.96	-79.10	0.0054
"	-47.86	-35.61	22.6707	-0.0334
"	-47.86	-16.26	81.0162	-0.0537
"	-47.86	3.0937	95.9330	-0.0000
M2	-47.86	-14.78	17.0477	-0.0000
"	-47.86	4.5696	28.4260	-0.0118
"	-47.86	23.9196	-3.6244	0.0002
"	-47.86	43.2696	-79.10	0.0054
M3	-1655.98	-47.86	-90.63	0.0154
"	-1655.98	-47.86	-54.74	0.0151
"	-1655.98	-47.86	-18.84	0.0090
"	-1655.98	-47.86	17.0477	0.0009
M4	-1632.23	37.8919	-90.63	-0.0024
"	-1629.84	23.5585	-38.78	-0.0306
"	-1627.46	9.2252	-11.09	-0.0807
"	-1625.08	-5.1081	-7.5482	-0.1379
M5	1411.58	-31.93	-33.76	-0.3101
"	1414.67	-13.29	15.8000	-0.2672
"	1417.77	5.3385	24.5376	-0.2129
"	1420.86	23.9718	-7.5482	-0.1392
M6	2544.29	-12.31	48.3028	-0.3770
"	2547.16	4.8912	55.7355	-0.3887
"	2550.02	22.0912	28.3809	-0.3594
"	<b>2552.89</b>	39.2912	-33.76	-0.3101
M7	2542.73	-21.65	73.5245	0.0122
"	2545.60	-4.4536	99.9046	-0.1908
"	2548.47	12.7464	91.4974	-0.3184
"	2551.33	29.9464	48.3028	-0.3770
M8	-0.8946	160.02	-95.93	-0.0000

	87.7854	38.0689	138.25	-0.1009
	-8.4054	-83.88	83.9207	-0.0799
	119.06	<b>-205.83</b>	<b>-258.91</b>	0.0058
M9	1526.38	<b>193.07</b>	-258.91	0.0058
	1667.03	71.1229	53.6619	-0.0419
	1107.68	-56.83	77.7296	-0.0574
	1748.33	-172.78	-186.71	-0.0152
M10	-86.66	143.50	-186.71	-0.0152
	-66.49	52.1636	-16.08	-0.0472
	-36.32	-38.17	-3.7852	-0.0961
	-6.1471	-128.50	-149.82	-0.1548
M11	110.42	-183.79	-202.20	-0.2920
	-71.22	-66.36	82.8336	-0.2987
	-32.01	51.0741	100.29	-0.2451
	7.1907	168.51	-149.82	-0.1139
M12	-1521.87	-145.64	-94.95	-0.3700
"	-1485.74	-37.24	97.2562	<b>-0.4002</b>
"	-1449.61	71.1570	61.5078	-0.3642
"	-1413.47	179.56	-202.20	-0.2920
M13	<b>-2700.63</b>	-159.21	-73.52	<b>0.0235</b>
"	-2664.50	-50.81	<b>147.29</b>	-0.2140
"	-2628.36	57.5879	140.15	-0.3431
"	-2592.23	165.99	-94.95	-0.3700
M14	98.2259	0.0000	0.0000	-0.0013
"	98.2259	0.0000	0.0000	-0.0010
"	98.2259	0.0000	0.0000	-0.0007
"	98.2259	0.0000	0.0000	-0.0004
M15	1556.12	0.0000	0.0000	-0.0050
"	-1556.12	0.0000	0.0000	-0.0014
"	-1556.12	0.0000	0.0000	0.0021
"	-1556.12	0.0000	0.0000	0.0057
M16	-1351.31	0.0000	0.0000	-0.0206
"	-1351.31	0.0000	0.0000	-0.0086
"	-1351.31	0.0000	0.0000	0.0034
"	-1351.31	0.0000	0.0000	0.0154
M17	1715.79	0.0000	0.0000	-0.1363
"	1715.79	0.0000	0.0000	-0.0919
"	1715.79	0.0000	0.0000	-0.0475
"	1715.79	0.0000	0.0000	-0.0031
M18	-282.05	0.0000	0.0000	-0.0645
"	-282.05	0.0000	0.0000	-0.0416
"	-282.05	0.0000	0.0000	-0.0187
"	-282.05	0.0000	0.0000	0.0042
M19	-1364.65	-0.0000	-0.0000	-0.3084
"	-1364.65	-0.0000	-0.0000	-0.2517
"	-1364.65	-0.0000	-0.0000	-0.1951
"	-1364.65	-0.0000	0.0000	-0.1385
M20	258.58	-0.0000	-0.0000	-0.0198
"	258.58	-0.0000	-0.0000	-0.0107
"	258.58	-0.0000	-0.0000	-0.0015
"	258.58	-0.0000	0.0000	0.0077
M21	1113.98	-0.0000	-0.0000	-0.3804
"	-1113.98	-0.0000	-0.0000	-0.3573
"	-1113.98	-0.0000	-0.0000	-0.3342
"	-1113.98	-0.0000	0.0000	-0.3111
M22	42.8380	0.0000	0.0000	-0.0288
"	42.8380	0.0000	0.0000	-0.0226
"	42.8380	0.0000	0.0000	-0.0165
"	42.8380	0.0000	0.0000	-0.0103



### **BENDING & COMP: TRUSS 2 - MEMBER 13**

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

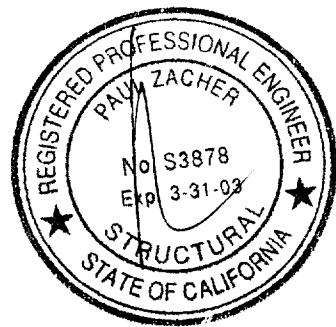
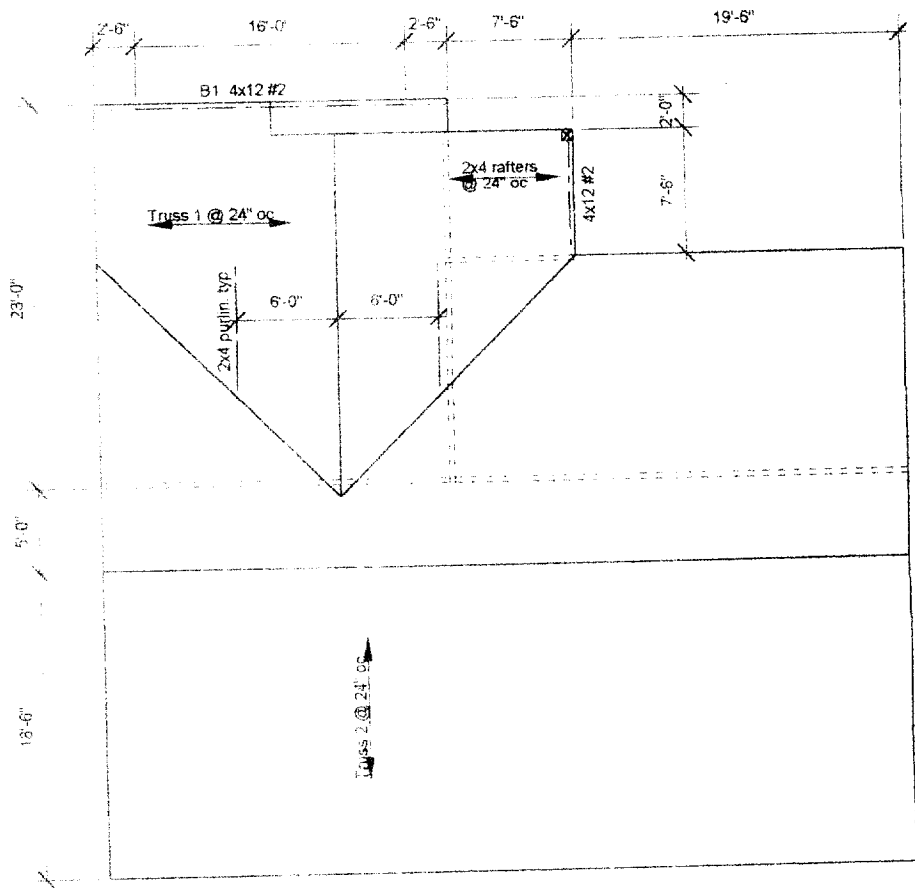
#### Grading:

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	6.32 feet
Max Axial Comp, C	2664 lbs
Max Reaction, R	51 lbs
Max Moment, M	147 ft-lbs
Max LL Deflection	0.09 inches
Max TL Deflection	0.21 inches
LL Defl Criteria = L/	240
TL Defl Criteria = L/	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 =	1.17
fc =	507 psi
Fce=	1275 psi
Fc*=	2084 psi
F'c=	1057 psi
fb=	576 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.12 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.67 < 1.0, Member OK
Live Load defl ratio	0.28 < 1.0, Member OK
Total Load defl ratio	0.50 < 1.0, Member OK



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.
- 4 All structural wood members that were observed appear to be in sound condition and without structural defect.



1

**ROOF PLAN - VASQUEZ**

Not to Scale

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