

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0008671

Insp Area: 2

Site Address: 34 VIERRA CT SAC

Parcel No: 031-0750-047

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3675 R ST
SACRAMENTO CA 95816

OWNER

KONG EDMOND G/SUSANNA Y
34 VIERRA CT
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: TILE REROOF

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 7/28/00 Contractor Signature Billy 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 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 7/28/00 Applicant/Agent Signature Billy 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 COMP INS PUND Policy Number 713-99-2021 Exp Date 10/01/2000

(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 7/28/00 Applicant Signature Billy 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.

kong

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

TEL: 916.961.3960
FAX: 916.961.6552

ISSUED

July 24, 2000

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: 916.454.3667
FAX: 916.455.3784

This set of plans are to be used only for the project kept on the job. It is the responsibility of the engineer to make any changes or additions to the plans. The approval of this report is not a violation of any City Ordinance or State Law.



JUL 29 2000

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DIV

Attn: Mr. Jeff Tucker,

re Job 2000_209: KONG

Subject: Structural Investigation Report of the Roof for the Residence located at 34 Vierra 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 July 24, 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.

DESCRIPTION:

- Type of Facility: Residence.
- Year Built: Estimated 1970's vintage.
- Occupancy: Residential.
- No. of Stories: Two.
- Dimensions: Approximately 2500 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 conventionally framed with 2x6 rafters spaced at 24" on center except for the vaulted ceiling areas. The vaulted ceiling is constructed of 2x6 and 2x10 rafters spaced at 16" on center supported mid-span and at the ridge by 4x and 6x beams. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x6 cross ties spaced at 4'-0" on center.

CONCLUSIONS:

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

*This is a truss & conventional frame roof.
Verify w/ plan on sheet 16.
Report requires no work w/pt P. 7/28/00*

kong



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RECOMMENDATIONS:

None.

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
2x6 rafters (@ 24" oc	<u>1.00</u>	psf
Load	10.9	psf
Roof Pitch Adjustment	<u>0.59</u>	psf
Total Load	11.5	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 sht'g	1.09	psf
2x6 rafters (@ 24" oc	1.00	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	13.9	psf
Roof Pitch Adjustment	<u>0.75</u>	psf
Total Load	14.6	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	<u>1.28</u>	psf
Load	11.2	psf
Roof Pitch Adjustment	<u>0.60</u>	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	0.64	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	3.6	psf

Job # 00-259

Date: 7/24/00

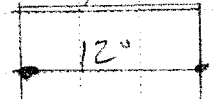
LOADING

ROOF

DE: 11.5 D.F. = 31' 2.5 PVF

2x6[#] 2

23/32



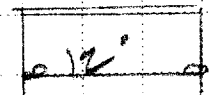
LE: 10.0 D.F. = 28'

9.5/21.3

VAULT

DE: 14 D.F. = 4/3 = 19.5 PVF

2x6[#] 2



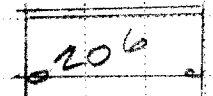
LE: 10.0 D.F. = 21.3'

9.5/21.3

VAULT

DE: 14 D.F. = 4/3 = 19.5 PVF

2x10[#] 2



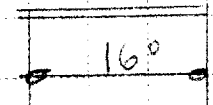
LE: 10.0 D.F. = 21.3'

58/80

B1

DE: 11.5 D.F. = 5' = 58 PVF

4x12[#] 2



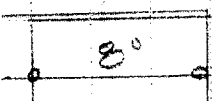
LE: 10.0 D.F. = 31'

158/192

B2

DE: 11.5 D.F. = 12' = 138 PVF

4x12[#] 2



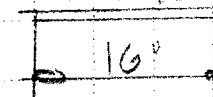
LE: 10.0 D.F. = 193'

69/90

B3

DE: 11.5 D.F. = 6' = 69 PVF

4x12[#] 1



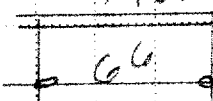
LE: 10.0 D.F. = 94'

164/180

B4

DE: 14 D.F. = 11' = 164 PVF

6x12[#] 1



LE: 10.0 D.F. = 180'

P K Zacher S.E.

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

Job #: 98-209

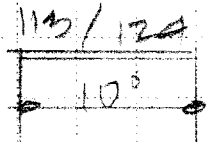
Date: 7/20/00

BS

CE 146 PSE 7' 11" PLF

LL 6' 0" - 124'

4x12 #1



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Title :
 Dsgnr:
 Description :
 Scope :

Job #
 Date: 10:42AM, 24 JUL 00

Rev: 510304
 User: KW-0602844, Ver: 5.1.3.12 Jun-1999, Win32
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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	vault	vault	B1	B2	B3	B4
Timber Section	2x6	2x6	2x10	4x12	4x12	4x12	6x12
Beam Width	in: 1.500	1.500	1.500	3.500	3.500	3.500	5.500
Beam Depth	in: 5.500	5.500	9.250	11.250	11.250	11.250	11.500
Le. Unbraced Length	ft: 0.00	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	Douglas Fir - Larch
Fb - Basic Allow	psi: 875.0	875.0	875.0	875.0	875.0	1,000.0	1,350.0
Fv - Basic Allow	psi: 95.0	95.0	95.0	95.0	95.0	95.0	85.0
Elastic Modulus	ksi: 1,600.0	1,600.0	1,600.0	1,600.0	1,600.0	1,700.0	1,600.0
Load Duration Factor	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Member Type	Sawn	Sawn	Sawn	Sawn	Sawn	Sawn	Sawn
Repetitive Status	Repetitive	Repetitive	Repetitive	No	No	No	No

Center Span Data

		rafter	vault	vault	B1	B2	B3	B4
Span	ft:	12.00	12.00	20.50	16.00	8.00	16.00	6.50
Dead Load	#/ft:	23.00	19.50	19.50	58.00	138.00	69.00	164.00
Live Load	#/ft:	32.00	21.30	21.30	80.00	192.00	96.00	180.00

Results

	Ratio =	rafter	vault	vault	B1	B2	B3	B4
Mmax @ Center	in-k:	11.88	8.81	25.72	52.99	31.68	63.36	21.80
@ X =	ft:	6.00	6.00	10.25	8.00	4.00	8.00	3.25
fb Actual	psi:	1,570.9	1,165.3	1,202.4	717.8	429.1	858.2	179.8
Fb : Allowable	psi:	1,635.2	1,635.2	1,383.6	1,203.1	1,203.1	1,375.0	1,687.5
		Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
Fv Actual	psi:	55.7	41.3	42.0	37.3	38.6	44.7	18.9
Fv : Allowable	psi:	118.8	118.8	118.8	118.8	118.8	118.8	106.3
		Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

		rafter	vault	vault	B1	B2	B3	B4
@ Left End	DL	lbs: 138.00	117.00	199.87	464.00	552.00	552.00	533.00
	LL	lbs: 192.00	127.80	218.32	640.00	768.00	768.00	585.00
	Max. DL+LL	lbs: 330.00	244.80	418.20	1,104.00	1,320.00	1,320.00	1,118.00
@ Right End	DL	lbs: 138.00	117.00	199.87	464.00	552.00	552.00	533.00
	LL	lbs: 192.00	127.80	218.32	640.00	768.00	768.00	585.00
	Max. DL+LL	lbs: 330.00	244.80	418.20	1,104.00	1,320.00	1,320.00	1,118.00

Deflections

		rafter	vault	vault	B1	B2	B3	B4
Center DL Defl	in:	-0.322	-0.273	-0.460	-0.129	-0.019	-0.144	-0.006
L/Defl Ratio		446.5	526.7	502.5	1,491.7	5,015.6	1,332.3	13,207.5
Center LL Defl	in:	-0.449	-0.299	-0.535	-0.178	-0.027	-0.201	-0.006
L/Defl Ratio		320.9	482.2	460.1	1,081.5	3,605.0	957.6	12,033.5
Center Total Defl	in:	-0.771	-0.572	-1.024	-0.306	-0.046	-0.345	-0.012
Location	ft:	6.000	6.000	10.250	8.000	4.000	8.000	3.250
L/Defl Ratio		186.7	251.7	240.2	627.0	2,097.4	557.1	6,296.6

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 (c) 1983-99 ENERCALC

Timber Beam & Joist

c:\enercalc\test.ecw\Calculations

Description BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

		B5
Timber Section		4x12
Beam Width	in	3.500
Beam Depth	in	11.250
Le: Unbraced Length	ft	0.00
Timber Grade		Douglas Fir Larch,
Fb - Basic Allow	psi	1,000.0
Fv - Basic Allow	psi	95.0
Elastic Modulus	ksi	1,700.0
Load Duration Factor		1.250
Member Type		Sawn
Repetitive Status		No

Center Span Data

Span	ft	10.00
Dead Load	#/ft	113.00
Live Load	#/ft	124.00

Results Ratio = 0.3502

Mmax @ Center	in-k	35.55
@ X =	ft	5.00
fb Actual	psi	481.5
Fb: Allowable	psi	1,375.0
		Bending OK
fv Actual	psi	36.8
Fv: Allowable	psi	118.8
		Shear OK

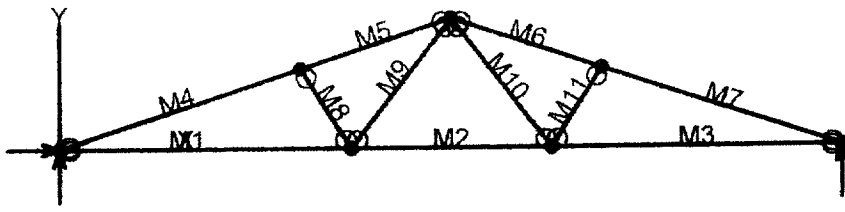
Reactions

@ Left End	DL	lbs	565.00
	LL	lbs	620.00
	Max. DL+LL	lbs	1,185.00
@ Right End	DL	lbs	565.00
	LL	lbs	620.00
	Max. DL+LL	lbs	1,185.00

Deflections

Ratio OK

Center DL Defl	in	-0.036
L/Defl Ratio		3,332.2
Center LL Defl	in	-0.040
L/Defl Ratio		3,036.6
Center Total Defl	in	-0.076
Location	ft	5.000
L/Defl Ratio		1,588.7



VisualAnalysis 3.50.c Report

07/24/00 10:53:30

Project: Truss 1

File: C:\Program Files\IES\VA35\truss 1.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	7.25	0.00	No	No	"
N3	12.25	0.00	"	"	"
N4	19.50	0.00	"	Yes	"
N5	6.00	2.00	"	No	"
N6	13.50	2.00	"	"	"
N7	9.75	3.25	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.25
M2	"	"	5.00
M3	"	"	7.25
M4	"	"	6.32
M5	"	"	3.95
M6	"	"	3.95
M7	"	"	6.32
M8	"	"	2.36
M9	"	"	4.10
M10	"	"	4.10
M11	"	"	2.36

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood Sha	SS2x4	5.25	5.36	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 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	612.30	-NA-
N4	"	-NA-	612.30	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1347.65	-28.15	-14.89	-0.1081
"	1347.65	-10.75	32.0182	-0.1055
"	1347.65	6.6462	36.9815	-0.0713
"	1347.65	24.0462	0.0000	-0.0000
M2	916.11	-18.00	-14.89	-0.1081
"	916.11	-6.0000	5.0600	-0.1099
"	916.11	6.0000	5.0600	-0.1099
"	916.11	18.0000	-14.89	-0.1081
M3	1347.65	-24.05	-0.0000	-0.0000
"	1347.65	-6.6462	36.9815	-0.0713
"	1347.65	10.7538	32.0182	-0.1055
"	1347.65	28.1538	-14.89	-0.1081
M4	-1464.51	131.90	0.0000	-0.0000
"	-1429.35	26.4098	166.32	-0.1443
"	-1394.18	-79.08	110.80	-0.1640
"	-1359.02	-184.58	-166.57	-0.1055
M5	-1280.42	141.04	-166.57	-0.1055
"	-1258.44	75.1059	-24.39	-0.1018
"	-1236.47	9.1724	31.1346	-0.1084
"	-1214.49	-56.76	-0.0000	-0.1072
M6	-1280.42	-141.04	-166.57	-0.0952
"	-1258.44	-75.11	-24.39	-0.0916
"	-1236.47	-9.1724	31.1346	-0.0982
"	-1214.49	56.7611	0.0000	-0.0969
M7	-1464.51	-131.90	0.0000	0.0103
"	-1429.35	-26.41	166.32	-0.1340
"	-1394.18	79.0837	110.80	-0.1537
"	-1359.02	184.58	-166.57	-0.0952
M8	-334.97	0.0000	0.0000	-0.0462
"	-334.97	0.0000	0.0000	-0.0429
"	-334.97	0.0000	0.0000	-0.0397
"	-334.97	0.0000	0.0000	-0.0364
M9	416.60	-0.0000	-0.0000	-0.0784
"	416.60	-0.0000	-0.0000	-0.0777
"	416.60	-0.0000	-0.0000	-0.0770
"	416.60	-0.0000	0.0000	-0.0763
M10	416.60	0.0000	0.0000	-0.0527
"	416.60	0.0000	0.0000	-0.0520
"	416.60	0.0000	0.0000	-0.0513
"	416.60	0.0000	0.0000	-0.0506
M11	-334.97	-0.0000	0.0000	-0.0737
"	-334.97	-0.0000	-0.0000	-0.0704
"	-334.97	-0.0000	-0.0000	-0.0672
"	-334.97	-0.0000	-0.0000	-0.0639

BENDING & COMP: TRUSS 1 - MEMBER 4

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

Grading:

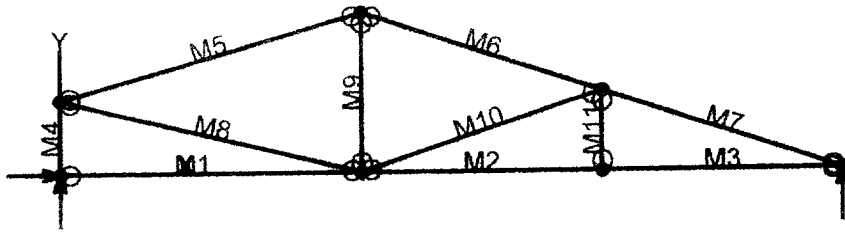
2x or 4x

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	6.32 feet
Max Axial Comp. C	1359 lbs
Max Reaction, R	184 lbs
Max Moment, M	167 ft-lbs
Max LL Deflection	0.04 inches
Max TL Deflection	0.11 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 =	1.18
fc =	259 psi
Fce =	1211 psi
Fc* =	1869 psi
F'c =	989 psi
fb =	654 psi
F'b = Fb* =	1887 psi
Shear D/C ratio	0.44 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.51 < 1.0, Member OK
Live Load defl ratio	0.13 < 1.0, Member OK
Total Load defl ratio	0.26 < 1.0, Member OK



VisualAnalysis 3.50.c Report

07/24/00 10:58:47

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	7.50	0.00	No		No		"	
N3	13.50	0.00	"		"		"	
N4	19.50	0.00	"		Yes		"	
N5	0.00	1.83	"		No		"	
N6	7.50	4.00	"		"		"	
N7	13.50	2.00	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.50
M2	"	"	6.00
M3	"	"	6.00
M4	"	"	1.83
M5	"	"	7.81
M6	"	"	6.32
M7	"	"	6.32
M8	"	"	7.72
M9	"	"	4.00
M10	"	"	6.32
M11	"	"	2.00

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood	Sha SS2x4	5.25	5.36	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 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	616.20	-NA-
N4	"	-NA-	616.20	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	-0.0000	-33.89	-40.45	-0.0688
"	-0.0000	-14.89	20.4176	-0.0708
"	-0.0000	4.1073	33.8994	-0.0532
"	-0.0000	23.1073	0.0000	-0.0000
M2	1390.22	-15.48	3.4911	-0.0972
"	1390.22	-0.2772	19.1696	-0.0967
"	1390.22	14.9228	4.5240	-0.0836
"	1390.22	30.1228	-40.45	-0.0688
M3	1390.22	-23.38	0.0000	-0.0000
"	1390.22	-8.1818	31.4877	-0.0547
"	1390.22	7.0182	32.6514	-0.0874
"	1390.22	22.2182	3.4911	-0.0972
M4	-593.09	0.0000	0.0000	-0.0085
"	-593.09	0.0000	0.0000	-0.0057
"	-593.09	0.0000	-0.0000	-0.0028
"	-593.09	0.0000	-0.0000	0.0000
M5	-808.64	200.29	0.0000	-0.0038
"	-770.00	66.7617	346.63	-0.4343
"	-731.37	-66.76	346.63	-0.4568
"	-692.74	-200.29	0.0000	-0.0710
M6	-824.69	-193.71	-224.34	-0.0911
"	-789.52	-88.22	72.2871	-0.1469
"	-754.36	17.2763	147.07	-0.1569
"	-719.19	122.77	0.0000	-0.0585
M7	-1506.35	-122.77	0.0000	0.0071
"	-1471.18	-17.28	147.07	-0.1132
"	-1436.02	88.2173	72.2871	-0.1250
"	-1400.85	193.71	-224.34	-0.0911
M8	742.27	-0.0000	-0.0000	-0.0669
"	742.27	-0.0000	-0.0000	-0.0444
"	742.27	-0.0000	-0.0000	-0.0219
"	742.27	-0.0000	0.0000	0.0006
M9	111.10	-0.0000	-0.0000	-0.0196
"	111.10	-0.0000	-0.0000	-0.0131
"	111.10	-0.0000	-0.0000	-0.0065
"	111.10	-0.0000	0.0000	0.0000
M10	-705.30	-0.0000	-0.0000	-0.0931
"	-705.30	-0.0000	-0.0000	-0.0838
"	-705.30	-0.0000	-0.0000	-0.0746
"	-705.30	-0.0000	0.0000	-0.0653
M11	37.6954	0.0000	0.0000	0.0031
"	37.6954	0.0000	0.0000	0.0058
"	37.6954	0.0000	0.0000	0.0085
"	37.6954	0.0000	0.0000	0.0112

BENDING & COMP: TRUSS 2 - MEMBER 5

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

Grading:

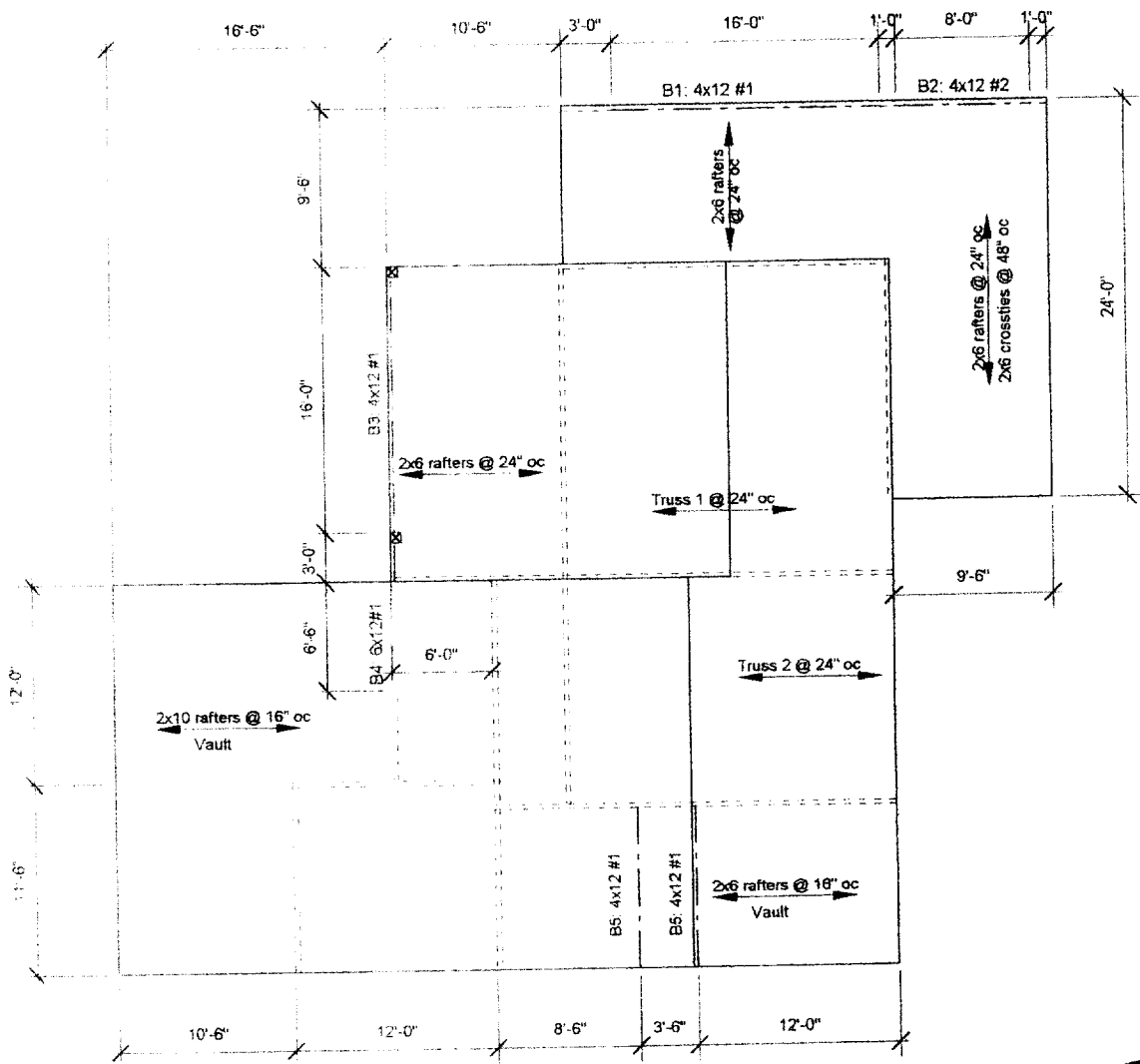
2x or 4x

Doug-fir larch No. 2

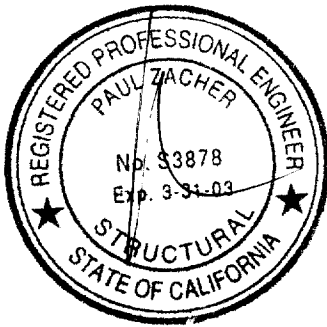
Assumptions:

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	7.81 feet
Max Axial Comp, C	770 lbs
Max Reaction, R	67 lbs
Max Moment, M	346 ft-lbs
Max LL Deflection	0.17 inches
Max TL Deflection	0.43 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 =	1.23
fc =	147 psi
Fce=	822 psi
Fc*=	1869 psi
F'c=	729 psi
fb=	1356 psi
F'b=Fb*=	1887 psi
Shear D/C ratio	0.16 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.92 < 1.0, Member OK
Live Load defl ratio	0.44 < 1.0, Member OK
Total Load defl ratio	0.83 < 1.0, Member OK



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.



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 rafters are 2x6 DF#2 and hips and valleys are 2x8 DF#2 unless otherwise noted.
3. All existing rafter, hips, valleys, rafter ties, and purlins are braced per UBC Section 2320.12 "Roof and Ceiling Framing" unless otherwise shown.
4. All structural wood members that were observed appear to be in sound condition and without structural defect.

1

ROOF PLAN - KONG

Not to Scale

16



See attached engineering report

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

ROOF SLOPE	12/12
DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? (YES/NO)	NO
TOTAL WEIGHT OF ROOF SYSTEM	910 lbs
WEIGHT OF ROOF SYSTEM PER SQUARE	180 lbs
TILE WEIGHT PER SQUARE	730 lbs
BRAND AND MODEL OF TILE	Flower Lite weight

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

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

TILE ROOF WORKSHEET

*Ed King
34 Vista Ct.
Sacramento, CA 95831*

1201 STREET
ROOM 200
SACRAMENTO, CA
95814-2978
710 264-7813
710 264-7813

CITY OF SACRAMENTO
CALIFORNIA

DEPARTMENT OF
PLANNING AND DEVELOPMENT

