

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0107726
Insp Area: 2

Site Address: 6 RIVERSTAR CR SAC
Parcel No: 031-0280-007

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

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

OWNER
CHIN HENRY D/PENNY W
6 RIVERSTAR CR
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: TO REROOF WITH LITE 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 C-39 License Number 557559 Date 2/19/01 Contractor Signature Dilly 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 2/19/01 Applicant/Agent Signature Dilly 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 713-00-2021 Exp Date 10/01/2001

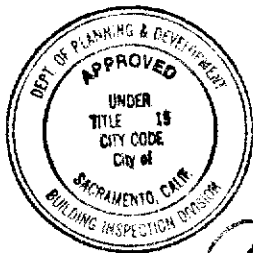
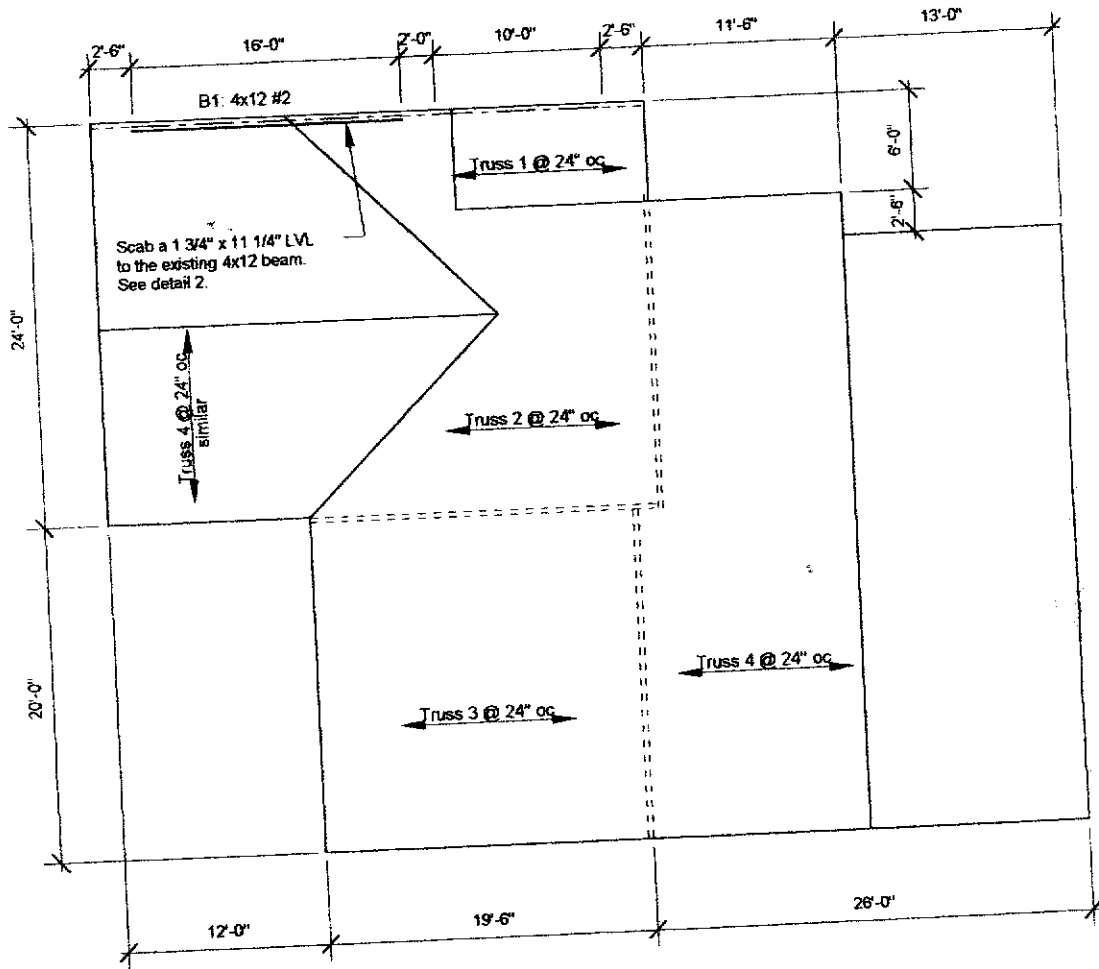
(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become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

Date 2/19/01 Applicant Signature Dilly 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.

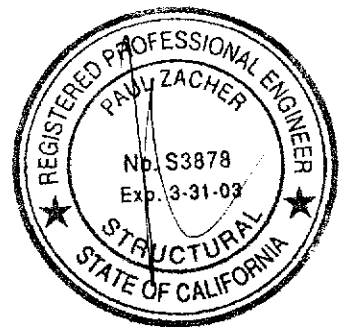
0107726



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 any one the violation of any City Ordinance or State Law.

Sulal 2/19/01

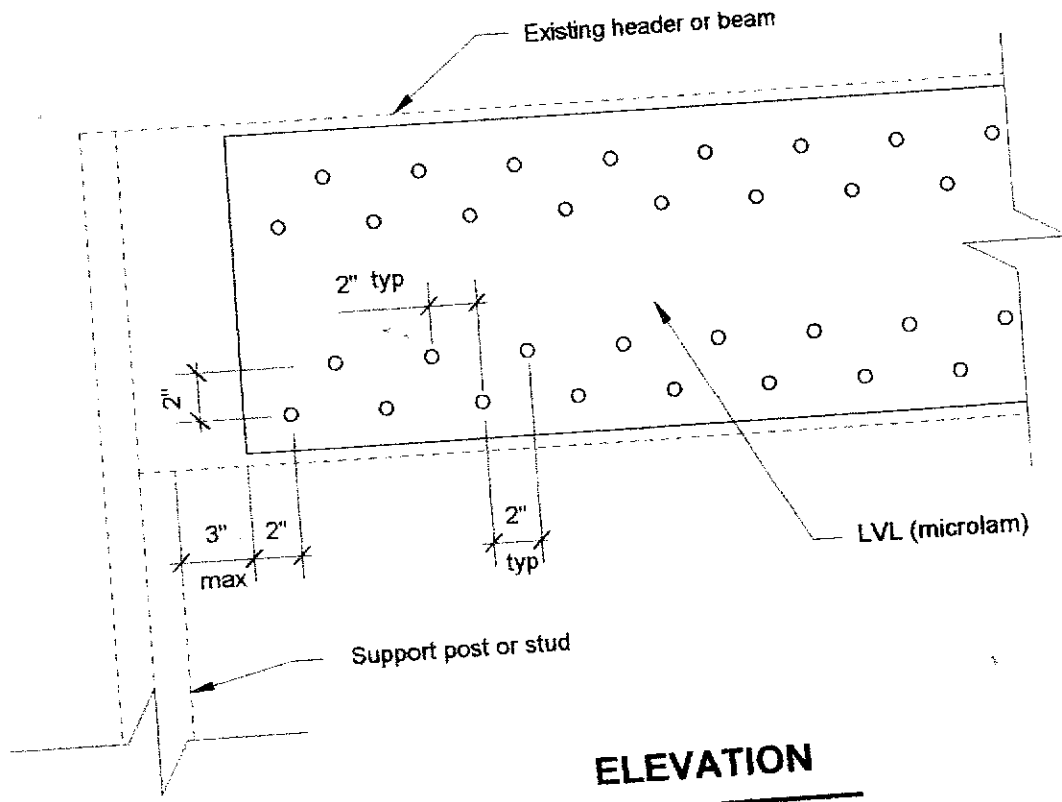


Notes:

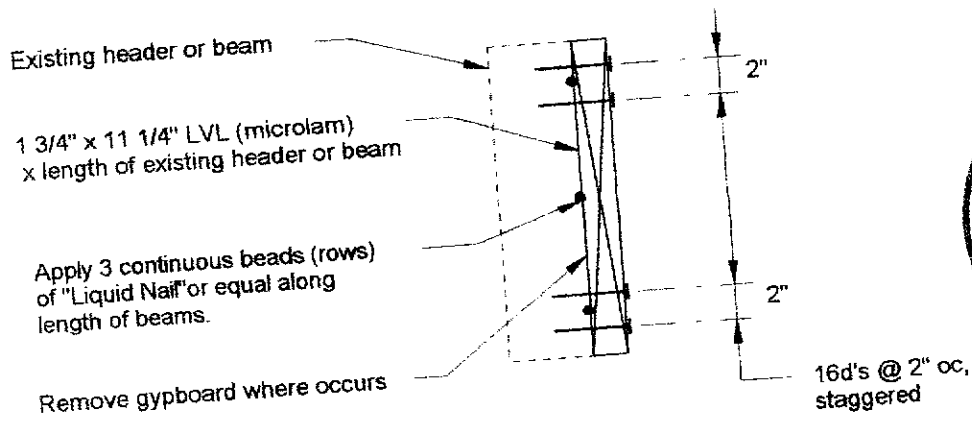
1. This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile. The tile shall weigh less than or equal to 7.0 psf.
2. All structural wood members that were observed appear to be in sound condition and without structural defect.



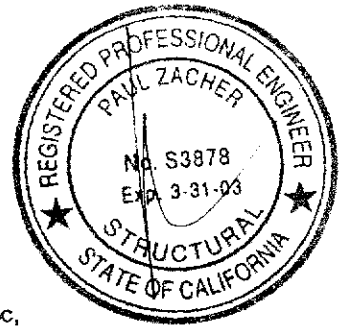
1 ROOF PLAN - CHIN
Not to Scale 22



ELEVATION



SECTION



2

HEADER DETAIL

scale: 1 1/2" = 1'-0"

zm

Chin



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.

Garage:

1. Scab a 1 3/4" x 11 1/4" LVL to the existing header. See details 1 and 2.

It shall be noted that small hairline cracking may occur at exterior stucco and interior gypsum 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: TOP CHORD

MATERIAL

WEIGHT

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>0.64</u>	psf
Load	10.5	psf
Roof Pitch Adjustment	<u>0.57</u>	psf
Total Load	11.1	psf

LOCATION: BOTTOM CHORD

MATERIAL

WEIGHT

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

P.K. Zacher, S.E.

Job #: 01-138

Date: 5/25/07

LOADING

B1

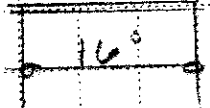
Op = 15.4 puf - 12' = 185 puf

Lp = 16.0 " " = 192 "

4 x 12" 2 +

1 5/8" x 11 1/4" LVL

185/192



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

Title :
 Dsgnr:
 Description :

Job #
 Date: 4:17PM, 24 MAY 01

Scope :

Timber Beam & Joist

c:\enercalc\test.ecw\Calculations

Rev 510304
 User: KW-0602844, Ver 5.1.3, 22 Jun-1999, Win32
 (c) 1983-99 ENERCALC

Description BEAMS

Timber Member Information Calculations are designed to 1997 NDS and 1997 UBC Requirements

Timber Section		B1
Beam Width	in	4x12 + 1.7 5.250
Beam Depth	in	11.250
Le: Unbraced Length	ft	2.00
Timber Grade		stom, DF#2 + LVL
Fb - Basic Allow	psi	1,450.0
Fv - Basic Allow	psi	158.0
Elastic Modulus	ksi	1,666.7
Load Duration Factor		1.250
Member Type		Manuf/Pine
Repetitive Status		No

Center Span Data

Span	ft	16.00
Dead Load	#/ft	185.00
Live Load	#/ft	192.00

Results Ratio = 0.7226

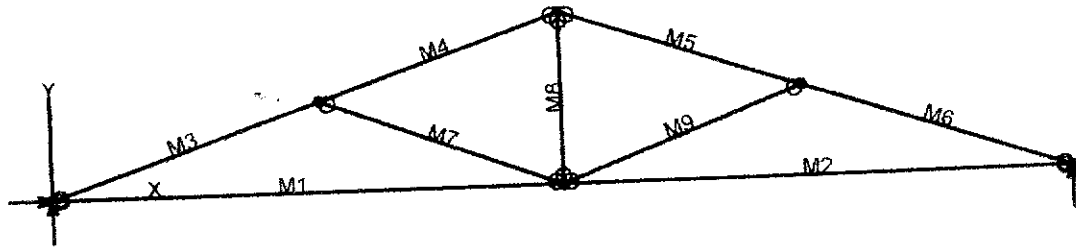
Mmax @ Center	in-k	144.77
@ X =	ft	8.00
fb : Actual	psi	1,307.3
Fb : Allowable	psi	1,809.1
		Bending OK
fv : Actual	psi	68.0
Fv : Allowable	psi	197.5
		Shear OK

Reactions

@ Left End	DL	lbs	1,480.00
	LL	lbs	1,536.00
	Max. DL+LL	lbs	3,016.00
@ Right End	DL	lbs	1,480.00
	LL	lbs	1,536.00
	Max. DL+LL	lbs	3,016.00

Deflections

			Ratio OK
Center DL Defl	in	-0.263	
L/Defl Ratio		730.7	
Center LL Defl	in	-0.273	
L/Defl Ratio		704.1	
Center Total Defl	in	-0.535	
Location	ft	8.000	
L/Defl Ratio		358.6	



VisualAnalysis 3.50.c Report

05/24/01 16:02:26

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	9.50	0.00	No	No	"
N3	19.00	0.00	"	Yes	"
N4	5.00	1.67	"	No	"
N5	14.00	1.67	"	"	"
N6	9.50	3.17	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	9.50
M2	"	"	9.50
M3	"	"	5.27
M4	"	"	4.74
M5	"	"	4.74
M6	"	"	5.27
M7	"	"	4.80
M8	"	"	3.17
M9	"	"	4.80

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	624.51	-NA-
N3	"	-NA-	624.51	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1422.83	-49.03	-77.70	-0.1102
"	1422.83	-21.80	34.2236	-0.1416
"	1422.83	5.4378	60.1235	-0.1211
"	1422.83	32.6711	0.0000	-0.0000
M2	1422.83	-32.67	0.0000	-0.0000
"	1422.83	-5.4378	60.1235	-0.1212
"	1422.83	21.7956	34.2236	-0.1416
"	1422.83	49.0289	-77.70	-0.1102
M3	-1537.04	110.61	0.0000	-0.0000
"	-1506.86	20.2738	114.59	-0.0864
"	-1476.69	-70.06	70.8524	-0.1135
"	-1446.52	-160.39	-131.22	-0.1066
M4	-1062.06	149.61	-131.22	-0.1066
"	-1034.96	68.3143	40.7432	-0.1285
"	-1007.86	-12.99	84.4842	-0.1360
"	-980.76	-94.29	-0.0000	-0.1085
M5	-1062.06	-149.61	-131.22	-0.0951
"	-1034.96	-68.31	40.7432	-0.1170
"	-1007.86	12.9857	84.4842	-0.1245
"	-980.76	94.2857	0.0000	-0.0970
M6	-1537.04	-110.61	0.0000	0.0115
"	-1506.86	-20.27	114.59	-0.0749
"	-1476.69	70.0595	70.8524	-0.1019
"	-1446.52	160.39	-131.22	-0.0950
M7	-493.41	0.0000	0.0000	-0.0970
"	-493.41	0.0000	0.0000	-0.0946
"	-493.41	0.0000	0.0000	-0.0921
"	-493.41	0.0000	0.0000	-0.0896
M8	441.39	0.0000	0.0000	-0.0182
"	441.39	0.0000	0.0000	-0.0182
"	441.39	0.0000	0.0000	-0.0182
"	441.39	0.0000	0.0000	-0.0182
M9	-493.41	0.0000	0.0000	-0.1097
"	-493.41	0.0000	0.0000	-0.1072
"	-493.41	0.0000	0.0000	-0.1047
"	-493.41	0.0000	0.0000	-0.1023

BENDING & COMP: TRUSS 1 - MEMBER 3

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

Grading:

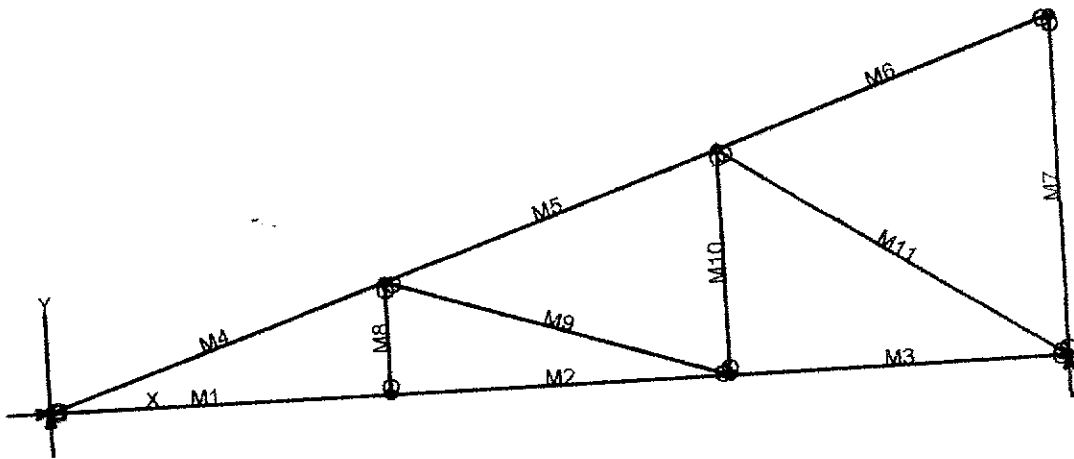
2x or 4x

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	5.27 feet
Max Axial Comp, C	1446 lbs
Max Reaction, R	160 lbs
Max Moment, M	131 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 =	1.15
fc =	275 psi
Fce =	1789 psi
Fc* =	2084 psi
F'c =	1326 psi
fb =	513 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.38 < 1.0, Member OK
Interaction equation: (fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.32 < 1.0, Member OK
Live Load defl ratio	0.15 < 1.0, Member OK
Total Load defl ratio	0.28 < 1.0, Member OK



VisualAnalysis 3.50.c Report

05/24/01 16:12:20

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	7.00	0.00	No	No	"
N3	14.00	0.00	"	"	"
N4	21.00	0.00	"	Yes	"
N5	7.00	2.33	"	No	"
N6	14.00	4.67	"	"	"
N7	21.00	7.00	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.00
M2	"	"	7.00
M3	"	"	7.00
M4	"	"	7.38
M5	"	"	7.38
M6	"	"	7.38
M7	"	"	7.00
M8	"	"	2.33
M9	"	"	7.38
M10	"	"	4.67
M11	"	"	8.41

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	690.18	-NA-
N4	"	-NA-	690.18	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1498.88	-32.41	-16.19	-0.1167
"	1498.88	-12.35	35.9130	-0.1128
"	1498.88	7.7207	41.3091	-0.0757
"	1498.88	27.7874	0.0000	-0.0000
M2	1498.88	-33.99	-43.39	-0.0746
"	1498.88	-13.92	12.3824	-0.1006
"	1498.88	6.1474	21.4497	-0.1177
"	1498.88	26.2140	-16.19	-0.1167
M3	759.49	-23.90	-0.0000	-0.0000
"	759.49	-3.8348	32.2418	-0.0492
"	759.49	16.2319	17.7785	-0.0691
"	759.49	36.2986	-43.39	-0.0746
M4	-1631.37	155.12	0.0000	-0.0000
"	-1589.27	28.6495	225.18	-0.2355
"	-1547.17	-97.82	140.13	-0.2425
"	-1505.08	-224.28	-255.15	-0.1177
M5	-862.98	186.01	-255.15	-0.1176
"	-820.71	59.5436	46.1394	-0.1218
"	-778.43	-66.92	37.0618	-0.1021
"	-736.16	-193.39	-282.38	-0.0687
M6	-75.88	227.98	-282.38	-0.0687
"	-33.79	101.51	121.98	-0.1904
"	8.3075	-24.96	216.10	-0.2012
"	50.4029	-151.42	0.0000	0.0063
M7	-159.59	0.0000	0.0000	-0.0245
"	-159.59	0.0000	0.0000	-0.0045
"	-159.59	0.0000	0.0000	0.0154
"	-159.59	0.0000	0.0000	0.0354
M8	58.6267	0.0000	0.0000	0.0141
"	58.6267	0.0000	0.0000	0.0169
"	58.6267	0.0000	0.0000	0.0196
"	58.6267	0.0000	0.0000	0.0224
M9	-779.27	0.0000	0.0000	-0.1035
"	-779.27	0.0000	0.0000	-0.0896
"	-779.27	0.0000	0.0000	-0.0757
"	-779.27	0.0000	0.0000	-0.0619
M10	316.40	0.0000	0.0000	-0.0282
"	316.40	0.0000	0.0000	-0.0186
"	316.40	0.0000	0.0000	-0.0090
"	316.40	0.0000	0.0000	0.0007
M11	-913.00	-0.0000	0.0000	-0.0608
"	-913.00	-0.0000	-0.0000	-0.0340
"	-913.00	-0.0000	-0.0000	-0.0072
"	-913.00	-0.0000	-0.0000	0.0196

BENDING & COMP: TRUSS 2 - MEMBER 4

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

Grading:

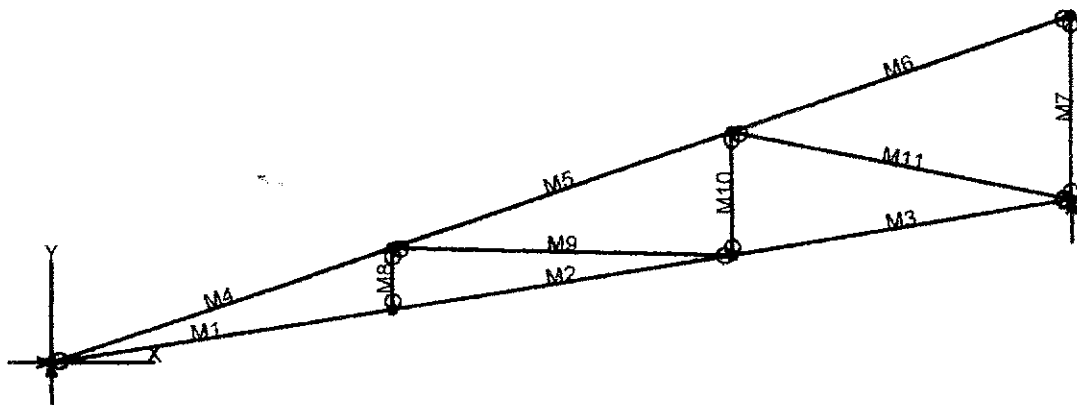
2x or 4x

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	1505 lbs
Max Reaction, R	224 lbs
Max Moment, M	255 ft-lbs
Max LL Deflection	0.05 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 =	1.20
fc =	287 psi
Fce =	958 psi
Fc* =	2084 psi
F'c =	844 psi
fb =	999 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.54 < 1.0, Member OK
Interaction equation:	
$(fc/F'c)^2 +$	
$fb/(F'b(1-fc/Fce)) =$	0.78 < 1.0, Member OK
Live Load defl ratio	0.14 < 1.0, Member OK
Total Load defl ratio	0.22 < 1.0, Member OK



VisualAnalysis 3.50.c Report

05/24/01 16:10:45

Project: Truss 3

File: Untitled.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	6.50	1.00	No	No	"
N3	13.00	2.00	"	"	"
N4	19.50	3.00	"	Yes	"
N5	6.50	2.17	"	No	"
N6	13.00	4.33	"	"	"
N7	19.50	6.50	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	6.58
M2	"	"	6.58
M3	"	"	6.58
M4	"	"	6.85
M5	"	"	6.85
M6	"	"	6.85
M7	"	"	3.50
M8	"	"	1.17
M9	"	"	6.50
M10	"	"	2.33
M11	"	"	6.63

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	641.87	-NA-
N4	"	-NA-	641.87	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	2498.02	35.1305	0.0000	-0.0000
"	2500.88	16.4972	56.4858	-0.1632
"	2503.75	-2.1362	72.2266	-0.2780
"	2506.62	-20.77	47.2223	-0.3302
M2	2501.23	14.2274	47.2223	-0.3302
"	2504.10	-4.4060	57.8852	-0.3305
"	2506.96	-23.04	27.8030	-0.2813
"	2509.83	-41.67	-43.02	-0.2097
M3	1329.11	34.4921	-43.02	-0.2097
"	1331.98	15.8588	12.0623	-0.1550
"	1334.85	-2.7745	26.4037	-0.0923
"	1337.71	-21.41	0.0000	-0.0086
M4	-2659.52	152.67	0.0000	-0.0000
"	-2620.32	35.2359	213.94	-0.2829
"	-2581.11	-82.20	160.30	-0.3762
"	-2541.91	-199.63	-160.91	-0.3325
M5	-1444.09	163.32	-160.91	-0.3325
"	-1405.07	45.8900	77.2583	-0.3329
"	-1366.04	-71.54	47.9729	-0.2787
"	-1327.02	-188.98	-248.76	-0.1983
M6	-70.93	212.45	-248.76	-0.1983
"	-31.72	95.0182	101.73	-0.2347
"	7.4832	-22.42	184.65	-0.1919
"	46.6879	-139.85	0.0000	0.0115
M7	-147.44	0.0000	0.0000	-0.0384
"	-147.44	0.0000	0.0000	-0.0067
"	-147.44	0.0000	0.0000	0.0250
"	-147.44	0.0000	0.0000	0.0567
M8	35.4086	0.0000	0.0000	0.0721
"	35.4086	0.0000	0.0000	0.0756
"	35.4086	0.0000	0.0000	0.0791
"	35.4086	0.0000	0.0000	0.0826
M9	-1155.80	-0.0000	0.0000	-0.3207
"	-1155.80	-0.0000	-0.0000	-0.2800
"	-1155.80	-0.0000	-0.0000	-0.2392
"	-1155.80	-0.0000	-0.0000	-0.1985
M10	285.03	-0.0000	0.0000	-0.0757
"	285.03	-0.0000	-0.0000	-0.0598
"	285.03	-0.0000	-0.0000	-0.0440
"	285.03	-0.0000	-0.0000	-0.0281
M11	-1346.23	-0.0000	0.0000	-0.1900
"	-1346.23	-0.0000	-0.0000	-0.1229
"	-1346.23	-0.0000	-0.0000	-0.0557
"	-1346.23	-0.0000	-0.0000	0.0114

BENDING & COMP: TRUSS 3 - MEMBER 4

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

Grading:

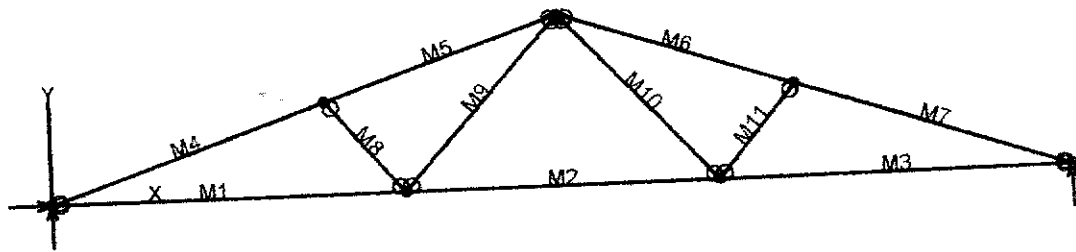
2x or 4x

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	6.85 feet
Max Axial Comp, C	2541 lbs
Max Reaction, R	199 lbs
Max Moment, M	166 ft-lbs
Max LL Deflection	0.15 inches
Max TL Deflection	0.33 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 =	1.19
fc =	484 psi
Fce =	1099 psi
Fc* =	2084 psi
F'c =	943 psi
fb =	650 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.48 < 1.0, Member OK
Interaction equation:	
$(fc/F'c)^2 +$	
$fb/(F'b(1-fc/Fce)) =$	0.80 < 1.0, Member OK
Live Load defl ratio	0.44 < 1.0, Member OK
Total Load defl ratio	0.72 < 1.0, Member OK



VisualAnalysis 3.50.c Report

05/24/01 16:25:15

Project: Truss 4

File: C:\Program Files\IES\VA35\truss 4.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	8.50	0.00	No	No	"
N3	17.50	0.00	"	"	"
N4	26.00	0.00	"	Yes	"
N5	6.50	2.17	"	No	"
N6	19.50	2.17	"	"	"
N7	13.00	4.33	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	8.50
M2	"	"	9.00
M3	"	"	8.50
M4	"	"	6.85
M5	"	"	6.85
M6	"	"	6.85
M7	"	"	6.85
M8	"	"	2.95
M9	"	"	6.24
M10	"	"	6.24
M11	"	"	2.95

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	854.46	-NA-
N4	"	-NA-	854.46	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	2035.42	-42.21	-48.10	-0.2073
"	2035.42	-17.84	36.8020	-0.1938
"	2035.42	6.5249	52.8342	-0.1327
"	2035.42	30.8916	0.0000	-0.0000
M2	1273.54	-38.70	-48.10	-0.2073
"	1273.54	-12.90	29.1101	-0.2462
"	1273.54	12.9000	29.1101	-0.2462
"	1273.54	38.7000	-48.10	-0.2073
M3	2035.42	-30.89	0.0000	-0.0000
"	2035.42	-6.5249	52.8342	-0.1327
"	2035.42	17.8417	36.8020	-0.1937
"	2035.42	42.2084	-48.10	-0.2073
M4	-2191.47	136.64	0.0000	-0.0000
"	-2152.26	19.2019	177.31	-0.1889
"	-2113.06	-98.23	87.0519	-0.2245
"	-2073.85	-215.66	-270.78	-0.1953
M5	-1880.83	215.68	-270.78	-0.1953
"	-1841.81	98.2497	86.9285	-0.2933
"	-1802.78	-19.18	177.19	-0.3267
"	-1763.76	-136.62	0.0000	-0.2070
M6	-1880.83	-215.68	-270.78	-0.1758
"	-1841.81	-98.25	86.9285	-0.2738
"	-1802.78	19.1836	177.19	-0.3072
"	-1763.76	136.62	0.0000	-0.1875
M7	-2191.47	-136.64	0.0000	0.0196
"	-2152.26	-19.20	177.31	-0.1693
"	-2113.06	98.2315	87.0519	-0.2049
"	-2073.85	215.66	-270.78	-0.1757
M8	-470.07	0.0000	0.0000	-0.1234
"	-470.07	0.0000	0.0000	-0.1149
"	-470.07	0.0000	0.0000	-0.1065
"	-470.07	0.0000	0.0000	-0.0980
M9	615.20	0.0000	0.0000	-0.1713
"	615.20	0.0000	0.0000	-0.1693
"	615.20	0.0000	0.0000	-0.1674
"	615.20	0.0000	0.0000	-0.1655
M10	615.20	0.0000	0.0000	-0.1283
"	615.20	0.0000	0.0000	-0.1264
"	615.20	0.0000	0.0000	-0.1245
"	615.20	0.0000	0.0000	-0.1226
M11	-470.07	-0.0000	0.0000	-0.1689
"	-470.07	-0.0000	-0.0000	-0.1605
"	-470.07	-0.0000	-0.0000	-0.1520
"	-470.07	-0.0000	-0.0000	-0.1435

