

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

**Permit No: 0106236**  
**Insp Area: 2**

**Site Address: 1230 42ND AV SAC**  
Parcel No: 024-0251-001

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

**CONTRACTOR**  
FERGUSON GARY DBA JOINT EFFORTS  
6729 WALNUT AVE  
ORANGEVILLE CA 95662

**OWNER**  
1230 42ND AV  
SACRAMENTO CA 95822

**ARCHITECT**  
LINEER GEORGE A/LORRAINE M

**Nature of Work: REROOF TEAR-OFF. INSTALL 35 SQ LIGHT WEIGHT 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 B License Number 602864 Date 5/16/01 Contractor Signature [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 \_\_\_\_\_ 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 above mentioned property for inspection purposes.

Date 5/16/01 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.

[Signature] 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 exempt 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 promptly comply with those provisions.

Date 5/16/01 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.**

3106730

# ANDERSON ENGINEERING CONSULTANTS

225 Vista Ridge Dr.  
Meadow Vista, CA 95722  
Phone: (530) 878-4770

Ventilated Roofing Systems  
P.O. Box 607  
Orangevale, CA. 95662

August 3, 2000

**ISSUED**

MAY 16 2001

Sacramento Building Division

Subject: Lightweight Tile Re-roof  
1230 42<sup>nd</sup> Avenue  
Sacramento, CA. 95822

Dear Gary,

Pursuant to your request, Anderson Engineering Consultants has reviewed the roof framing of the structure at the above address for structural adequacy. The house is approximately 35 years old and is conventionally framed. The roof is comprised of the following:

- 2x4 rafters at 24" o.c. with a 6'-6" maximum span and collar-tie system at house.
- 2x4 rafters at 24" o.c. with an 11'-0" span at the garage.
- 2x6 valley boards

The roof has a pitch of 10:12 and appears to be in sound condition. The valley boards are 2x6's and braced adequately to bearing members. The total dead load on the rafters including roofing material does not exceed 9 psf.

Calculations show the rafters spanning 6'-6" are adequate, as well as the valley boards spanning 8'. The 11'-0" rafters, however, are under capacity. Therefore the following modification is proposed.

**Modification:** Add 2x6 rafter to each 2x4 rafter at garage. Nail together with 16d's at 12" o.c. Install MST24 strap over ridge from rafter to rafter at 48" o.c.



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.

*Julia*  
5/16/01

It is our opinion that using your proposed re-roof system consisting of the following will not compromise the structural integrity of the roof system:

- 7/8" - 22 gage hat channel fastened to the rafters with 10d galvanized nails (or equal) at 24" o.c.
- "Thermo-ply" underlayment fastened to the hat channel with #8 self-tapping screws (or equal).
- 7/8" - 22 gage steel hat channel battens over the "Thermo-ply" underlayment fastened with #8 self tapping screws (or equal) at every rafter.
- Lightweight concrete tile (Bartile) weighing less than 7.0 psf.

The determination of the roof's structural integrity is based on observation and known mechanical properties of wood.

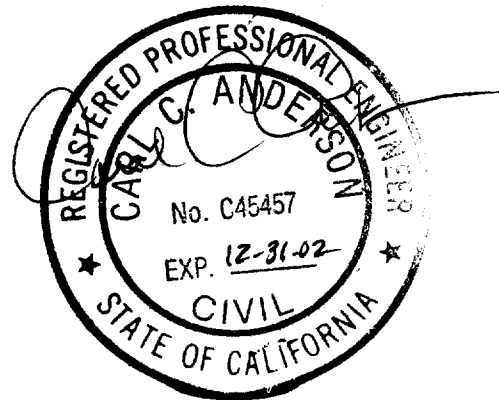
After re-roofing minor cracking of the ceiling and interior and exterior walls may occur. In addition, a small amount of deflection in the rafters may be observed. These conditions are cosmetic only and do not affect the structural integrity of the roof framing.

Should you have any questions, please do not hesitate to contact us.

Sincerely,



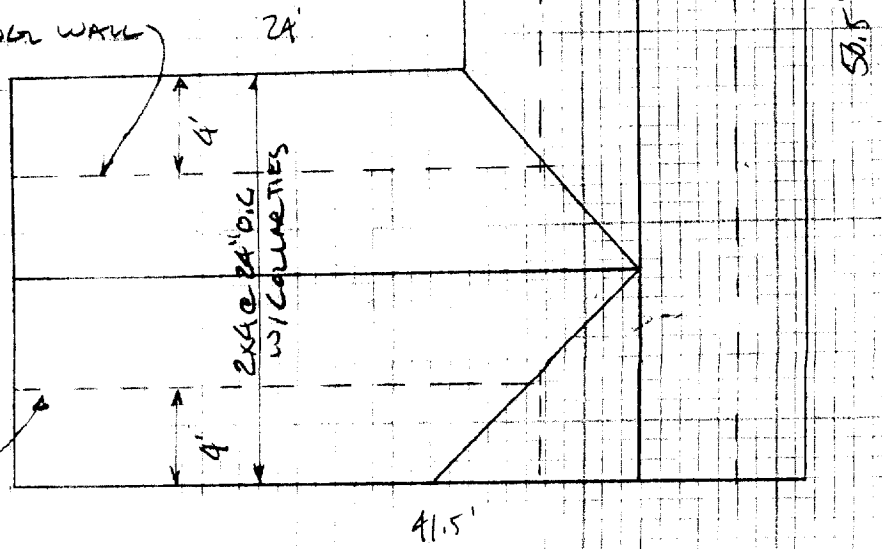
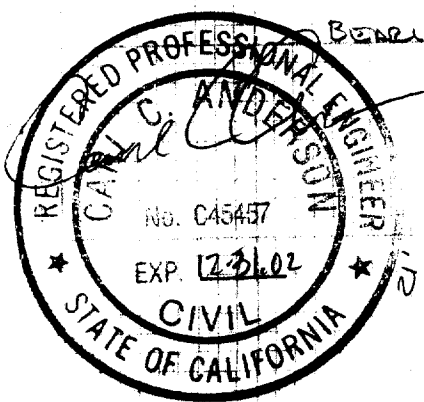
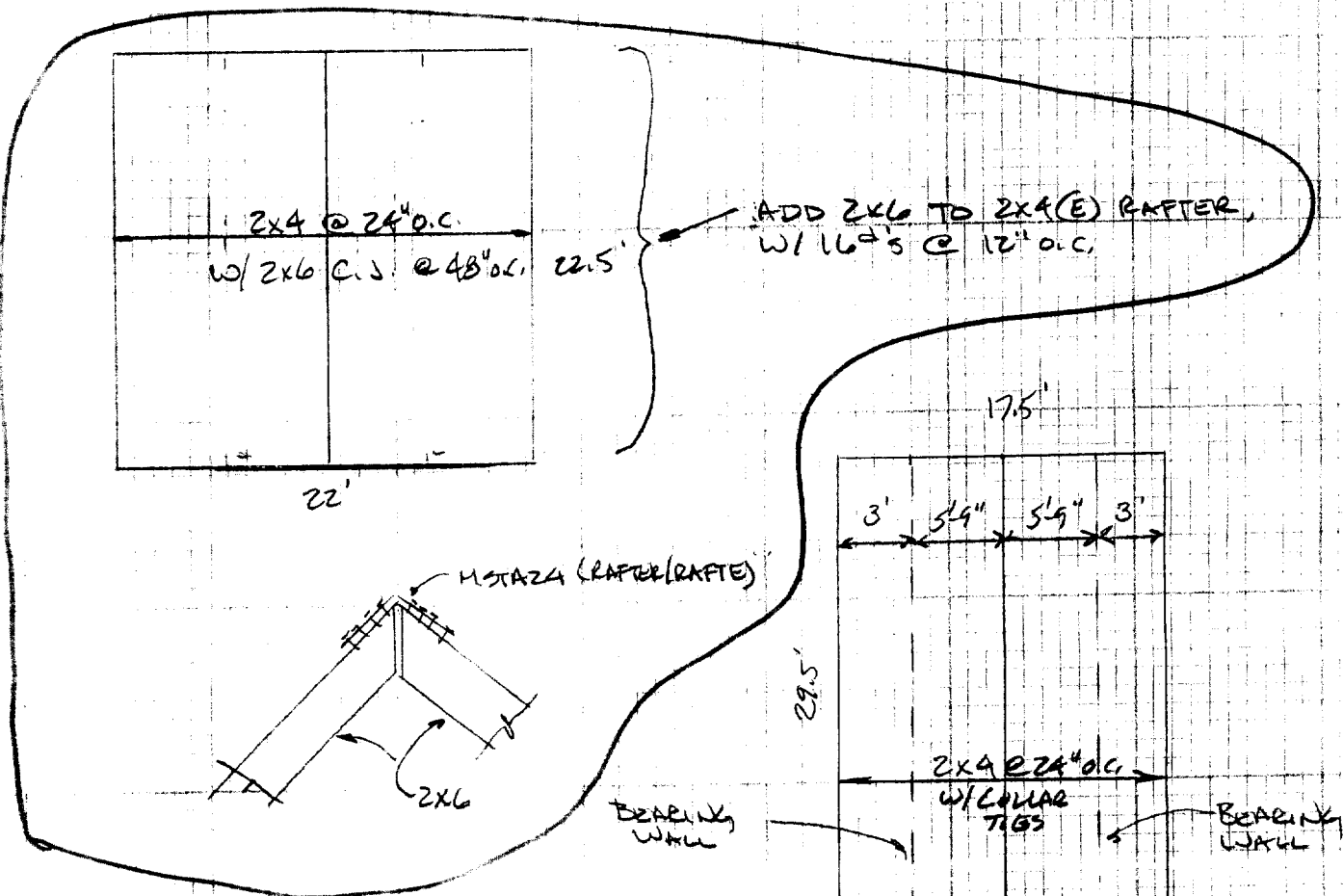
Carl Anderson, P.E.



# Anderson Engineering Consultants

Project: UNDER 42ND AVE Job No. \_\_\_\_\_ Sheet 1 of \_\_\_\_\_

Designed By: CCA Checked By: \_\_\_\_\_ Date: 8-2-00



Project: LINEER - Location. RAFTERS  
 Summary:

1.50 IN x 3.50 IN x 6.5 FT (Actual 8.461 FT) @ 24.00 O.C. / #2 - DOUGLAS FIR-LARCH - Dry Use  
 Section Adequate By: 28.2% Controlling Factor: Moment of Inertia / Depth Required 3.22 In

Deflections:			
Dead Load:	DLD=	0.19	IN
Live Load:	LLD=	0.25	IN = L/400
Total Load:	TLD=	0.44	IN = L/231
Rafter End Loads and Reactions:			
Upper Live Load:	LOADS: 52 PLF	RXNS: 104 LB	
Upper Dead Load:	38 PLF	76 LB	
Upper Total Load:	90 PLF	180 LB	
Lower Live Load:	52 PLF	104 LB	
Lower Dead Load:	38 PLF	76 LB	
Lower Total Load:	90 PLF	180 LB	
Upper Equiv. Tributary Width:	UTWeq=	4.231	FT
Lower Equiv. Tributary Width:	LTWeq=	4.231	FT
Rafter Data:			
Interior Span:	L=	6.5	FT
Cantilever Span:	CS1=	0.0	FT
Live Load Deflect. Criteria:	L/	240	
Total Load Deflect. Criteria:	L/	180	
Rafter Spacing:	SPC=	24.00	IN O.C.
Rafter Loads:			
Roof Live Load:	LL=	16	PSF
Roof Dead Load:	DL=	9	PSF
Rafter Pitch:	RP=	10.00	: 12
Rafter Unbraced Length:	Lu=	0.0	FT
Roof Duration Factor:	Cd=	1.15	
Slope Adjusted Spans And Loads:			
Interior Span:	Ladj=	8.5	FT
Cantilever Span:	CS1adj=	0.0	FT
Rafter Live Load:	wL=	19	PLF
Roof Loaded Area:	RLA=	17	SF
Roof Live Load Method: 1			
Rafter Dead Load:	wD=	14	PLF
Rafter Total Load:	wT=	33	PLF
Properties For: #2- DOUGLAS FIR-LARCH			
Bending Stress:	Fb=	875	PSI
Shear Stress:	Fv=	95	PSI
Modulus of Elasticity:	E=	1600000	PSI
Stress Perpendicular to Grain:	Fc_perp=	625	PSI
Adjusted Properties			
Fb' (Tension):	Fb'=	1736	PSI
Adjustment Factors: Cd=1.15 Cf=1.50 Cr=1.15			
Fv':	Fv'=	109	PSI
Adjustment Factors: Cd=1.15			
Design Requirements:			
Maximum Moment(Interior Span):	Mcent=	293	FT-LB
At Location(From Upper Support):	X=	4.231	FT
Moment At Cantilever:	Mcant=	0	FT-LB
Maximum Shear:	Vmax=	138	LB
Shear At Peak:	Vpeak=	138	LB
Required Cantilever Depth:	D(cant)=	0.00	IN
Comparisons With Required Sections			
Section Modulus:	Sreq=	2.1	IN3
	S=	3.0	IN3
Area:	Areq=	2.0	IN2
	A=	5.2	IN2
Moment of Inertia:	Ireq=	4.2	IN4
	I=	5.3	IN4



Project: LINEER - Location: 2X6 VALLEY  
 Summary:

1.50 IN x 5.50 IN x 8.0 FT / #2 - DOUGLAS FIR-LARCH - Dry Use  
 Section Adequate By: 176.9% Controlling Factor: Section Modulus / Depth Required 3.31 In

Deflections:

Dead Load: DLD= 0.04 IN  
 Live Load: LLD= 0.07 IN = L/1442  
 Total Load: TLD= 0.11 IN = L/876

End Reactions(Left Side):

Live Load: RL1= 64 LB  
 Dead Load: RD1= 44 LB  
 Total Load: RT1= 108 LB

End Reactions(Right Side):

Live Load: RL2= 128 LB  
 Dead Load: RD2= 80 LB  
 Total Load: RT2= 208 LB  
 Bearing Length Req.(Left) : BL1= 0.12 IN  
 Bearing Length Req.(Right): BL2= 0.22 IN

Beam Data:

Span: L= 8.0 FT  
 Maximum Unbraced Span: Lu= 0.0 FT  
 Live Load Duration Factor: Cd= 1.25  
 Live Load Deflect. Criteria: L/ 240  
 Total Load Deflect. Criteria: L/ 180

Uniform Load:

Live Load: wL= 0 PLF  
 Dead Load: wD= 0 PLF  
 Beam Self Weight: BSW= 2 PLF  
 Total Load: wT= 2 PLF

Triangular Load (Max. @ Right):

Live Load: wL TR= 48 PLF  
 Dead Load: wD TR= 27 PLF  
 Total Load: wT\_TR= 75 PLF

Properties For: #2- DOUGLAS FIR-LARCH

Bending Stress: Fb= 875 PSI  
 Shear Stress: Fv= 95 PSI  
 Modulus of Elasticity: E= 1600000 PSI  
 Stress Perpendicular to Grain: Fc\_perp= 625 PSI

Adjusted Properties:

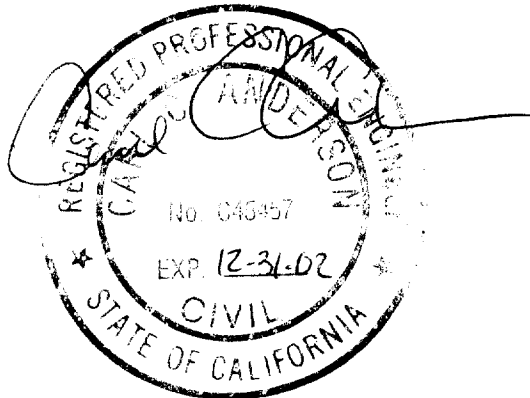
Fb' (Tension): Fb'= 1422 PSI  
 Adjustment Factors: Cd=1.25 Cf=1.30  
 Fv': Fv'= 119 PSI  
 Adjustment Factors: Cd=1.25

Design Requirements:

Maximum Moment: M= 324 FT-LB  
 4.591 FT From Left Support  
 Shear (@ d from beam end): V= 174 LB

Comparisons With Required Sections:

Section Modulus: Sreq= 2.8 IN3  
 S= 7.5 IN3  
 Area: Areq= 2.2 IN2  
 A= 8.2 IN2  
 Moment of Inertia: Ireq= 4.3 IN4  
 I= 20.7 IN4



Project: LINEER - Location. GARAGE

Summary:

( 2 ) 1.75 IN x 11.875 IN x 22.0 FT / 1.9E Microllam - TRUS JOIST-MACMILLAN

Section Adequate By: 8.2% Controlling Factor: Moment of Inertia / Depth Required 11.57 In

Deflections:

Dead Load:	DLD=	0.61	IN
Live Load:	LLD=	0.75	IN = L/352
Total Load:	TLD=	1.36	IN = L/195

Reactions (Each End):

Live Load:	RL=	1452	LB
Dead Load:	RD=	1174	LB
Total Load:	RT=	2626	LB
Bearing Length Req.:	BL=	1.00	IN

Beam Data:

Span:	L=	22.0	FT
Maximum Unbraced Span:	Lu=	0.0	FT
Pitch Of Roof:	RP=	10.00	: 12
Live Load Deflect. Criteria:	L/	240	
Total Load Deflect. Criteria:	L/	180	

Beam Loading:

Live Load:	LL=	16	PSF
Roof Loaded Area:	RLA=	182	SF
Roof Live Load Method: 1			
Side One: Roof Dead Load:	DL1=	9	PSF
Roof Rafter Tributary Width	TW1=	5.5	FT
Side Two: Roof Dead Load:	DL2=	9	PSF
Roof Rafter Tributary Width	TW2=	2.75	FT
Roof Duration Factor:	Cd=	1.25	

Slope Adjusted Lengths and Loads:

Adjusted Beam Length:	Ladj=	22.0	FT
Beam Live Load W/ Slope Red'n:	wL=	132	PLF
Beam Self Weight:	BSW=	10	PLF
Beam Total Dead Load:	wD=	107	PLF
Total Maximum Load:	wT=	239	PLF
Controlling Total Design Load:	wTcont=	239	PLF

Properties For: 1.9E Microllam- TRUS JOIST-MACMILLAN

Bending Stress:	Fb=	2600	PSI
Shear Stress:	Fv=	285	PSI
Modulus of Elasticity:	E=	1900000	PSI
Stress Perpendicular to Grain:	Fc_perp=	750	PSI

Adjusted Properties:

Fb' (Tension):	Fb'=	3255	PSI
Adjustment Factors: Cd=1.25 Cf=1.00			
Fv':	Fv'=	356	PSI
Adjustment Factors: Cd=1.25			

Design Requirements:

Maximum Moment:	M=	14445	FT-LB
Shear (@ d from beam end)	V=	2390	LB

Comparisons With Required Sections:

Section Modulus:	Sreq=	53.3	IN3
	S=	82.2	IN3
Area:	Areq=	10.1	IN2
	A=	41.5	IN2
Moment of Inertia	Ireq=	451.6	IN4
	I=	488.4	IN4

